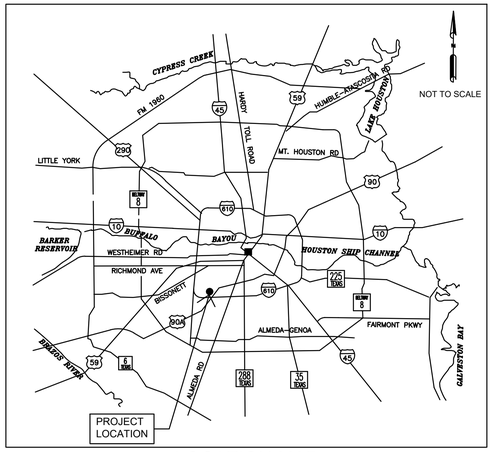
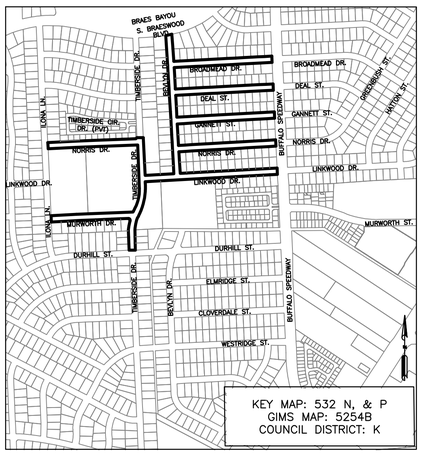
CITY OF HOUSTON

HOUSTON PUBLIC WORKS
CAPITAL PROJECTS
WESTRIDGE AND BRAES TERRACE
STREET IMPROVEMENTS

WBS No. M-410016-001A-3



LOCATION MAP



VICINITY MAP

N.T.S.

FIRM MAP # 48201C0860L 48201C0870L
PANELS # 0860L, 0870L
ZONE UNSHADED X, SHADED X, AE

MAYOR
JOHN WHITMIRE

CONTROLLER
CHRIS HOLLINS

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COUNCIL MEMBERS

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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
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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

PARKS–FORESTRY DEPT.

METRO

HOUSTON WATER

TRANSPORTATION & DRAINAGE OPERATIONS

CAPITAL PROJECTS

SURVEY

CITY ENGINEER DATE

DIRECTOR OF HOUSTON PUBLIC WORKS DATE

SHEET NO 1 OF 200 SHEETS

FOR CITY OF HOUSTON USE ONLY

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3.	INDEX OF DRAWINGS	(SHEET 2 OF 2)
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P.E.Reg No: 130533
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HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

INDEX OF DRAWINGS (SHEET 1 OF 2)

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DRAWING SCALE	
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CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 2 OF 200	

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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

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
- 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 TELCOMM LINE W/ VAULT
- AERIAL TELECOMM LINE
- RAILROAD LINE
- WATER LINE
- DIP W/RESTRAINED JOINTS
- RESTRAINED JOINT SECTION
- 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
- MATCH LINE

EXISTING PLAN VIEW

- 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 PLAN VIEW

- 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

MISC STANDARD ELEMENTS

- COH NORTH ARROW
- COH BAR SCALE
- REVISION CLOUD/DELTA
- DETAIL/SECTION TITLE

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 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
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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 KE7896@ATT.COM, IF CABLE LOCATE REQUESTS ARE NOT COMPLETED FOR 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 PIPELINE MARKINGS ARE NOT VISIBLE, CALL (713) 207-5463 OR (713) 945-8037 (7:00 A.M. TO 4:30 P.M.) FOR STATUS OF LINE LOCATION REQUEST BEFORE EXCAVATION BEGINS.
- WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18") OF THE INDICATED LOCATION OF CENTERPOINT ENERGY FACILITIES, ALL EXCAVATION MUST BE ACCOMPLISHED USING NON-MECHANIZED EXCAVATION PROCEDURES.
- WHEN CENTERPOINT ENERGY FACILITIES ARE EXPOSED, SUFFICIENT SUPPORT MUST BE PROVIDED TO THE FACILITIES TO PREVENT EXCESSIVE STRESS ON THE PIPING.
- FOR EMERGENCIES REGARDING GAS LINES CALL (713) 659-2111 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 PERSON OR THINGS MAY COME WITHIN SIX(6) FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES; AND
- OPERATING A CRANE, DERRICK, POWER SHOVEL, DRILLING RIG, PILE DRIVER, HOISTING EQUIPMENT, OR SIMILAR APPARATUS WITHIN 10 FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES.

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

ACTIVITIES ON/OR ACROSS CENTERPOINT ENERGY FEE OR EASEMENT PROPERTY

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

WARNING: UNDERGROUND ELECTRICAL LINES

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.

- 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.

GENERAL CONSTRUCTION NOTES

1. THE FLOW LINES AND LOCATIONS OF ALL UNDERGROUND UTILITIES MUST BE LOCATED BY WHATEVER MEANS MAY BE REQUIRED (METAL DETECTION EQUIPMENT, PROBES EXCAVATION, SURVEY, COORDINATION WITH UTILITY COMPANIES) BY THE CONTRACTOR PRIOR THE CONSTRUCTION. ALL FIELD VERIFICATION WORK AND UTILITY ADJUSTMENTS SHALL BE COMPLETED PRIOR TO EXCAVATION FOR PROPOSED UTILITIES. NO SEPARATE PAY: INCLUDE COST IN UNIT PRICE FOR WORK IN APPROPRIATE SECTIONS.

2. SERVICES ARE TO BE TRANSFERRED BETWEEN EXISTING AND PROPOSED WATER LINES WITH MINIMUM DISRUPTION OF SERVICE. EXISTING WATER LINES MUST BE MAINTAINED IN SERVICE UNTIL SERVICE WILL TRANSFER IS DONE

3. CALL THE TRAFFIC MANAGEMENT AND MAINTENANCE DIVISION OF THE CITY OF HOUSTON PUBLIC WORK AND ENGINEERING DEPARTMENT WHEN WORK IS SCHEDULED NEAR SIGNAL CONDUITS WITHIN THE CITY OF HOUSTON (713) 837-7280. CALL AT LEAST FIVE WORKING DAYS IN ADVANCE. THE CONTRACTOR SHALL RESPONSIBLE FOR ANY DAMAGES TO EXISTING TRAFFIC SIGNAL CABLES AS A RESULT OF CONSTRUCTION ACTIVITIES FOR FOR THE PROJECT. NO SEPARATE PAYMENT FOR REPAIR TO SIGNAL CONDUIT.

4. SERVICE LINE INSTALLATION COULD BE HINDERED BY THE CEMENT STABILIZED SAND BACKFILL. INCLUDE COST OF CROSSING CEMENT STABILIZED BACKFILL IF ENCOUNTERED DURING SERVICE LINE INSTALLATION IN THE UNIT PRICE OF SERVICES.

5. THE CONTRACTOR TO PROVIDE CUT SHEET GROUND ELEVATIONS AND PROPOSED LINE INVERTS WITH AMOUNT OF CUT, LOCATION OF BENDS, FIRE HYDRANTS, VALVES AND OTHERS FITTINGS AT EVERY 100 FEET IN TABULAR FORMAT ON EACH STREET TO THE CITY FOR APPROVAL PRIOR TO CONSTRUCTION AT NO ADDITIONAL COST TO THE CITY.

6. CONTRACTOR MUST REFER TO THE CITY OF HOUSTON STANDARD DETAIL DRAWINGS INCLUDED IN THE CITY OF HOUSTON "STANDARD CONSTRUCTION DETAIL FOR WASTEWATER COLLECTION SYSTEMS, WATER LINES, STORM DRAINAGE, AND STREET PAVING" DATED OCTOBER, 2002, FOR ANY OTHER DETAILS NOT INCLUDED IN THE CONSTRUCTION DRAWINGS.

7. CONTRACTOR SHALL COORDINATE AHEAD OF TIME WITH BUSINESS OWNERS AND RESIDENTS FOR INSTALLATION OF WATER LINES IN ENCROACHED AREAS OF THE PUBLIC RIGHT-OF-WAY. NO SEPARATE PAY.

8. FOR CONSTRUCTION ACTIVITIES WITHIN PIPELINE ROW, REFER TO GENERAL REQUIREMENTS FOR CROSSING GENESIS PIPELINES ATTACHED AS PART OF THE PROJECT MANUAL.

9. TO ALLOW BETTER ROADWAY ACCESS WHILE CONSTRUCTION NO TWO CONSECUTIVE CROSS ROADS BETWEEN TIMBERSIDE DR AND BEVLIN DR SHOULD BE IN CONSTRUCTION AT THE SAME TIME.

10. FOR WORKING ON A SATURDAY CITY OF HOUSTON APPROVAL TO BE ACQUIRED 48 HRS PRIOR FOR EACH DAY.

11. AS INDICATED ON THE PLANS, INFORMATION ON EXISTING WATERLINES ALONG MOST OF THE STREETS WITHIN THE PROJECT LIMITS ARE BASED ON AS-BUILT RECORDS. THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING WATERLINES PRIOR TO INSTALLING THE PROPOSED WATERLINES AND CONNECTIONS.

CITY OF HOUSTON - HOUSTON PUBLIC WORKS 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:

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 INSPECTIONAT 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 - HOUSTON PUBLIC WORKS 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.

ABBREVIATIONS

AB	ALL BELL
ABAN	ABANDONED
ABS	ABSOLUTE
ADJ	ADJUSTMENT
ALUM	ALUMINUM
APPROX	APPROXIMATE
BC	BACK OF CURB
℄	BASELINE
BLDG	BUILDING
CB	CATCH BASIN
℄	CENTER LINE
CLR	CLEARANCE
CMP	CORRUGATED METAL PIPE
COH	CITY OF HOUSTON
CONC	CONCRETE
CONT	CONTROL OR CONTINUATION
CPP	CORRUGATED PLASTIC PIPE
DI	DUCTILE IRON PIPE
DIA	DIAMETER
DWG	DRAWING
ELEV	ELEVATION
ELECT	ELECTRICAL
ESMT	EASEMENT
EQUIP	EQUIPMENT
EXIST	EXISTING
FF	FACE TO FACE
FH	FIRE HYDRANT
FL	FLOW LINE
FLR	FLOOR
FM	FORCE MAIN
HMAC	HOT MIXED ASPHALT CONCRETE
HP	HIGH PRESSURE
ID	INSIDE DIAMETER
INV	INVERT
IP	INTERMEDIATE PRESSURE
IPB	INLET PROTECTION BARRIER
LF	LINEAR FEET
MH	MANHOLE
MON	MONUMENT
MPLCo	MOBIL PIPELINE COMPANY
NA	NOT APPLICABLE
NFIF	NOT FOUND IN FIELD
NFV	NOT FIELD VERIFIED
NO	NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
PCCP	PRESTRESSED CONCRETE CYLINDER PIPE
PROP	PROPOSED
PH	POST HYDRANT
PLA	PLASTIC
PT	POINT OF TANGENCY
PVMT	PAVEMENT
R	FROM RECORD DWGS (NFV)
R	RADIUS
R & R	REMOVE AND REPLACE
RCP	REINFORCED CONCRETE PIPE
REF	REFERENCE
REINF	REINFORCING
REQ'D	REQUIRED
RFB	REINFORCED FILTER FABRIC BARRIER
ROW	RIGHT OF WAY
SAN	SANITARY
SC	SERVICE CONNECTION
SD	SANITARY DRAIN
SEB	SMALL END BELL
STL	STEEL
SWBT	SOUTHWESTERN BELL TELEPHONE COMPANY
SWR	SEWER
SHT	SHEET
STA	STATION
STM	STORM
TC	TOP OF CURB
TEMP	TEMPORARY
TP	TOP OF PAVEMENT
TYP	TYPICAL
UE	UTILITY EASEMENT
VCP	VITRIFIED CLAY PIPE
WL	WATER LINE
WV	WATER VALVE
WM	WATER METER

NO.	DATE	REVISION	APP.

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

VERIFICATION OF PRIVATE UTILITY LINES

Date

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

Signature valid for six months.

Date

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

Signature valid for six months.

Date

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

ISANI
civil \ design \ engineers
10448 Westoffice Drive
Houston, Texas 77042
P 713 747 2399
F 713 748 3748
TBPE Firm Reg. #4575

INTERIM REVIEW ONLY
DOCUMENT INCOMPLETE;
NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION
ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

SURVEYED BY: Kuo&Associates
FB NO. P-6396

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

GENERAL NOTES

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
NOT TO SCALE	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 5 OF 200	

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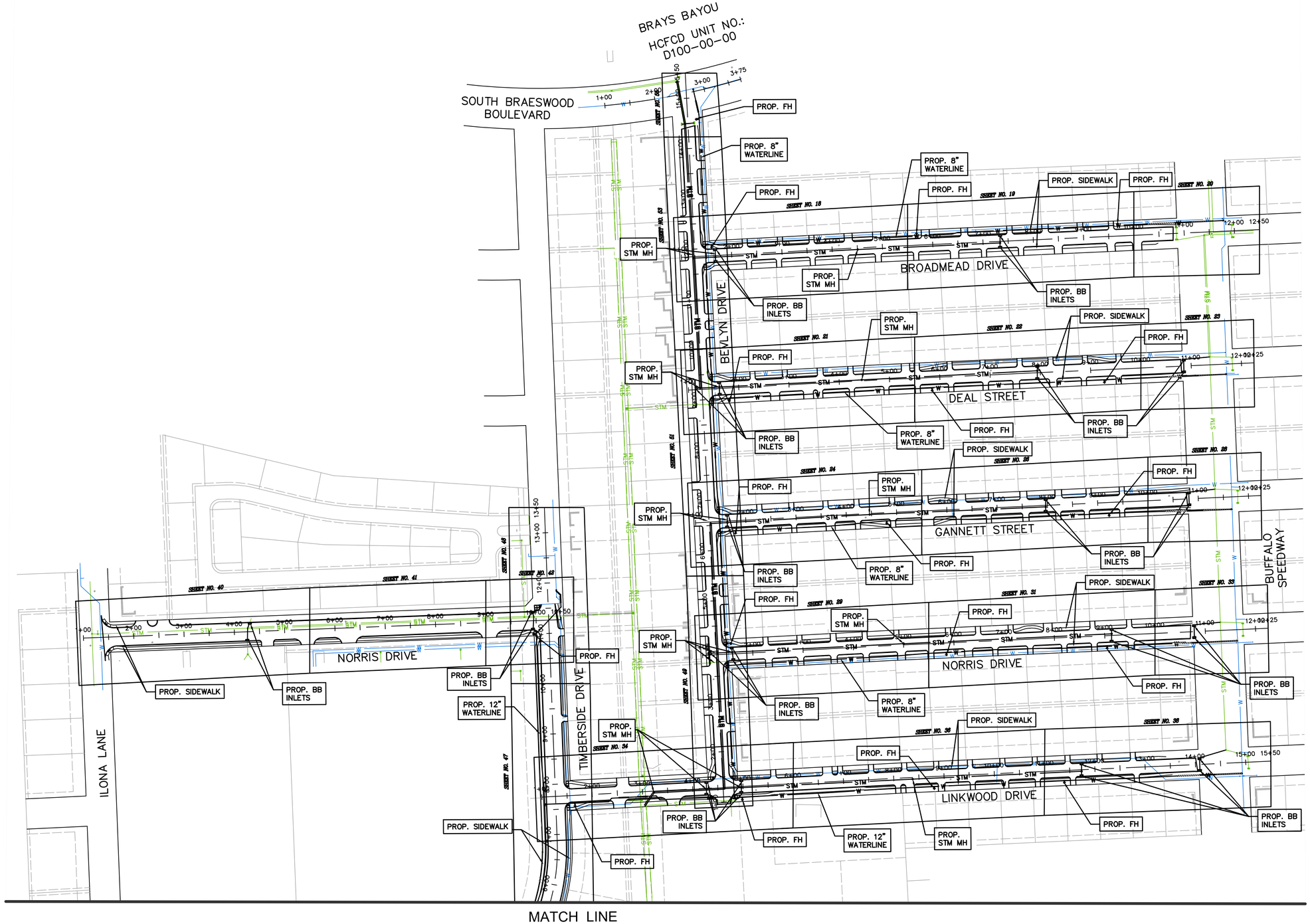

MATCH LINE
SHEET 2 OF 2

N

100 0 50 100 200

SCALE: 1" = 100'-0" FEET FOR 22"X34" SHEET

NO.	DATE	REVISION	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

OVERALL DRAINAGE AND PAVEMENT LAYOUT (SHEET 1 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1" = 100'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 6 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/9/2025 8:52 AM
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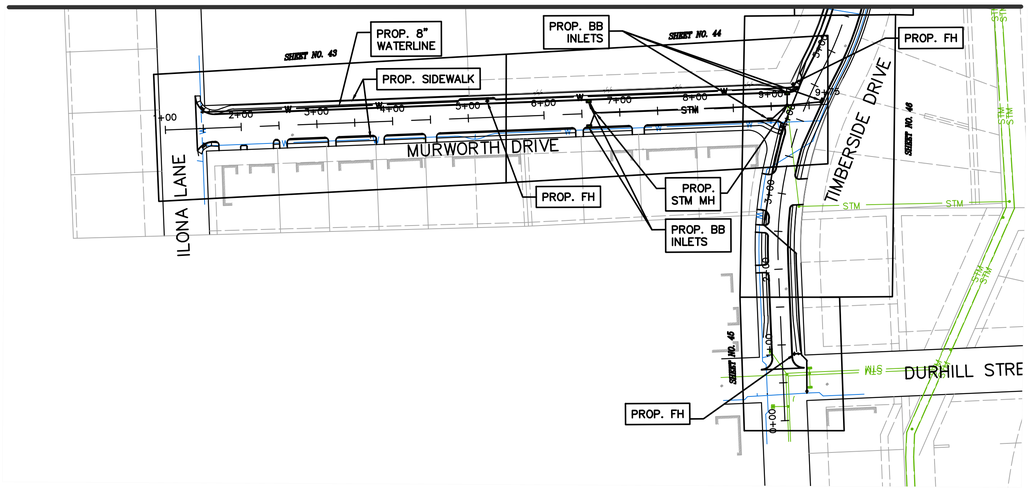
PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/9/2025 8:52 AM

MATCH LINE
SHEET 1 OF 2



N

100 0 50 100 200

SCALE: 1" = 100'-0" FEET FOR 22"X34" SHEET

NO.	DATE	REVISION	APP.

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

OVERALL DRAINAGE AND PAVEMENT LAYOUT (SHEET 2 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1" = 100'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 7 OF 200	

FILE PATH: P:\ACTIVE\150R30 SP1A\Ph II\Working\CAD\150R30-Overall Layout.dwg

Alignment Name: CL_BROADMEAD
Alignment Description:
Alignment Style: Alignment\Baseline

		Station	Northing	Easting
Element: Linear				
POT	( )	1+00.000 R1	13817399.8	3102026
PI	( )	1+26.998 R1	13817401.2	3102052.9
Tangential Direction:		N86.964°E		
Tangential Length:		26.998		
Element: Linear				
PI	( )	1+26.998 R1	13817401.2	3102052.9
PI	( )	4+82.349 R1	13817420.1	3102407.8
Tangential Direction:		N86.958°E		
Tangential Length:		355.351		
Element: Linear				
PI	( )	4+82.349 R1	13817420.1	3102407.8
POT	( )	12+50.003	13817455	3103174.7
Tangential Direction:		N87.393°E		
Tangential Length:		767.655		

Alignment Name: CL_NORRIS EAST
Alignment Description:
Alignment Style: Alignment\Baseline

		Station	Northing	Easting
Element: Linear				
POT	( )	1+00.000	13816608.	3102068
PI	( )	1+27.008	13816610.	3102095
Tangential Direction:		N86.965°E		
Tangential Length:		27.008		
Element: Linear				
PI	( )	1+27.008	13816610.	3102095
PI	( )	4+80.065	13816629.	3102447.
Tangential Direction:		N86.959°E		
Tangential Length:		353.057		
Element: Linear				
PI	( )	4+80.065	13816629.	3102447.
POT	( )	12+25.006	13816663	3103191.
Tangential Direction:		N87.393°E		
Tangential Length:		744.941		

Alignment Name: CL_DEAL
Alignment Description:
Alignment Style: Alignment\Baseline

		Station	Northing	Easting
Element: Linear				
POT	( )	1+00.000 R1	13817136.2	3102040
PI	( )	1+26.998 R1	13817137.6	3102067
Tangential Direction:		N86.943°E		
Tangential Length:		26.998		
Element: Linear				
PI	( )	1+26.998 R1	13817137.6	3102067
PI	( )	4+81.347 R1	13817156.4	3102420.8
Tangential Direction:		N86.959°E		
Tangential Length:		354.349		
Element: Linear				
PI	( )	4+81.347 R1	13817156.4	3102420.8
POT	( )	12+24.997	13817190.2	3103163.7
Tangential Direction:		N87.393°E		
Tangential Length:		743.649		

Alignment Name: CL_LINKWOOD
Alignment Description:
Alignment Style: Alignment\Baseline

		Station	Northing	Easting
Element: Linear				
POT	( )	1+00.000 R1	13816327.6	3101748.9
PI	( )	1+27.008 R1	13816329	3101775.9
Tangential Direction:		N86.965°E		
Tangential Length:		27.008		
Element: Linear				
PI	( )	1+27.008 R1	13816329	3101775.9
PI	( )	4+60.578 R1	13816346.7	3102109
Tangential Direction:		N86.958°E		
Tangential Length:		333.57		
Element: Linear				
PI	( )	4+60.578 R1	13816346.7	3102109
PI	( )	8+13.004 R1	13816365.4	3102460.9
Tangential Direction:		N86.958°E		
Tangential Length:		352.426		
Element: Linear				
PI	( )	8+13.004 R1	13816365.4	3102460.9
POT	( )	15+50.007	13816398.9	3103197.1
Tangential Direction:		N87.393°E		
Tangential Length:		737.003		

Alignment Name: CL_GANNETT
Alignment Description:
Alignment Style: Alignment\Baseline

		Station	Northing	Easting
Element: Linear				
POT	( )	1+00.000 R1	13816872.5	3102054
PI	( )	1+26.998 R1	13816874	3102081
Tangential Direction:		N86.943°E		
Tangential Length:		26.998		
Element: Linear				
PI	( )	1+26.998 R1	13816874	3102081
PI	( )	4+80.706 R1	13816892.7	3102434.2
Tangential Direction:		N86.960°E		
Tangential Length:		353.708		
Element: Linear				
PI	( )	4+80.706 R1	13816892.7	3102434.2
POT	( )	12+24.997 R1	13816926.6	3103177.7
Tangential Direction:		N87.393°E		
Tangential Length:		744.291		

Alignment Name: CL_BEVLYN
Alignment Description:
Alignment Style: Alignment\Baseline

		Station	Northing	Easting
Element: Linear				
POT	( )	1+00.000 R1	13816317.8	3102110.5
PI	( )	15+10.146	13817725.9	3102035.7
Tangential Direction:		N3.041°W		
Tangential Length:		1410.146		
Element: Linear				
PI	( )	15+10.146	13817725.9	3102035.7
POT	( )	15+50.002	13817765.7	3102033.6
Tangential Direction:		N3.035°W		
Tangential Length:		39.856		

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ENGINEER: V. N. MURTHY MADE, P.E
P.E. Reg No: 134936
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

HORIZONTAL ALIGNMENT DATA SHEET 1 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
NTS	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 08 OF 200	

FILE:P:\ACTIVE\15DR30 SP1A\Ph II\Working\Transportation\Sheets\Horizontal Alignment Sheets\30_HAD.dgn
DATE:12/8/2025

Alignment Name: CL_TIMBERSIDE
Alignment Description:
Alignment Style: Alignment\Baseline

		Station	Northing	Easting
Element: Linear				
POT	( )	0+00.000 R1	13815571	3101682.17
PC	( )	2+06.714 R1	13815777.5	3101673.34
Tangential Direction:		N2.448°W		
Tangential Length:		206.714		
Element: Circular				
PC	( )	2+06.714 R1	13815777.5	3101673.34
PI	( )	3+15.597 R1	13815886.3	3101668.69
CC	( )		13815798.9	3102172.83
PCC	( )	4+21.131 R1	13815987.2	3101709.69
Radius:		499.945		
Delta:		24.573° Right		
Degree of Curvature (Arc):		37.600°		
Length:		214.417		
Tangent:		108.883		
Chord:		212.777		
Middle Ordinate:		11.451		
External:		11.719		
Back Tangent DIrectIon:		N2.450°W		
Back Radial Direction:		N87.550°E		
Chord Direction:		N9.837°E		
Ahead Radial Direction:		S67.877°E		
Ahead Tangent Direction:		N22.123°E		
Element: Circular				
PCC	( )	4+21.131 R1	13815987.2	3101709.69
PI	( )	4+46.696 R1	13816010.9	3101719.36
CC	( )		13815791.8	3102188.08
PT	( )	4+72.220 R1	13816033.5	3101731.31
Radius:		516.753		
Delta:		5.664° Right		
Degree of Curvature (Arc):		36.377°		
Length:		51.088		
Tangent:		25.565		
Chord:		51.067		
Middle Ordinate:		0.631		
External:		0.632		
Back Tangent Direction:		N22.217°E		
Back Radial Direction:		S67.783°E		
Chord Direction:		N25.049°E		
Ahead Radial Direction:		S62.119°E		
Ahead Tangent Direction:		N27.881°E		
Element: Linear				
PT	( )	4+72.220 R1	13816033.5	3101731.31
PC	( )	4+75.463 R1	13816036.3	3101732.83
Tangential Direction:		N27.976°E		
Tangential Length:		3.243		
Element: Circular				
PC	( )	4+75.463 R1	13816036.3	3101732.83
PI	( )	5+83.343 R1	13816131.6	3101783.44
CC	( )		13816224	3101379.58
PT	( )	6+86.209 R1	13816239.4	3101779.28
Radius:		400		
Delta:		30.187° Left		
Degree of Curvature (Arc):		46.994°		
Length:		210.747		
Tangent:		107.88		
Chord:		208.317		
Middle Ordinate:		13.799		
External:		14.292		
Back Tangent Direction:		N27.976°E		
Back Radial Direction:		S62.024°E		
Chord Direction:		N12.883°E		
Ahead Radial Direction:		N87.789°E		
Ahead Tangent Direction:		N2.211°W		
Element: Linear				
PT	( )	6+86.209 R1	13816239.4	3101779.28
PI	( )	7+75.906 R1	13816329	3101775.82
Tangential Direction:		N2.211°W		
Tangential Length:		89.697		
Element: Linear				
PI	( )	7+75.906 R1	13816329	3101775.82
PI	( )	11+26.279 R1	13816679.1	3101762.3
Tangential Direction:		N2.211°W		
Tangential Length:		350.373		
Element: Linear				
PI	( )	11+26.279 R1	13816679.1	3101762.3
POT	( )	13+49.999 R1	13816902.7	3101753.67
Tangential Direction:		N2.211°W		
Tangential Length:		223.72		

Alignment Name: CL_NORRIS WEST
Alignment Description:
Alignment Style: Alignment\Baseline

		Station	Northing	Easting
Element: Linear				
POT	( )	1+00.000 R1	13816643.4	3100838
PI	( )	5+00.008 R1	13816658.9	3101237.7
Tangential Direction:		N87.789°E		
Tangential Length:		400.008		
Element: Linear				
PI	( )	5+00.008 R1	13816658.9	3101237.7
PI	( )	10+25.068 R1	13816679.1	3101762.4
Tangential Direction:		N87.790°E		
Tangential Length:		525.061		
Element: Linear				
PI	( )	10+25.068 R1	13816679.1	3101762.4
POT	( )	10+50.007 R1	13816680.1	3101787.3
Tangential Direction:		N87.771°E		
Tangential Length:		24.939		

Alignment Name: CL_MURWORTH
Alignment Description:
Alignment Style: Alignment\Baseline

		Station	Northing	Easting
Element: Linear				
POT	( )	1+00.000 R1	13815954.6	3100864.63
PI	( )	5+50.005 R1	13815971.9	3101314.3
Tangential Direction:		N87.790°E		
Tangential Length:		450.005		
Element: Linear				
PI	( )	5+50.005 R1	13815971.9	3101314.3
PI	( )	9+45.740 R1	13815987.2	3101709.74
Tangential Direction:		N87.789°E		
Tangential Length:		395.735		
Element: Linear				
PI	( )	9+45.740 R1	13815987.2	3101709.74
POT	( )	9+75.001 R1	13815988.3	3101738.98
Tangential Direction:		N87.787°E		
Tangential Length:		29.261		

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ENGINEER: V. N. MURTHY MADE, P.E
P.E. Reg No: 134936
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE
STREET IMPROVEMENTS

HORIZONTAL ALIGNMENT DATA
SHEET 2 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
NTS	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 09 OF 200	

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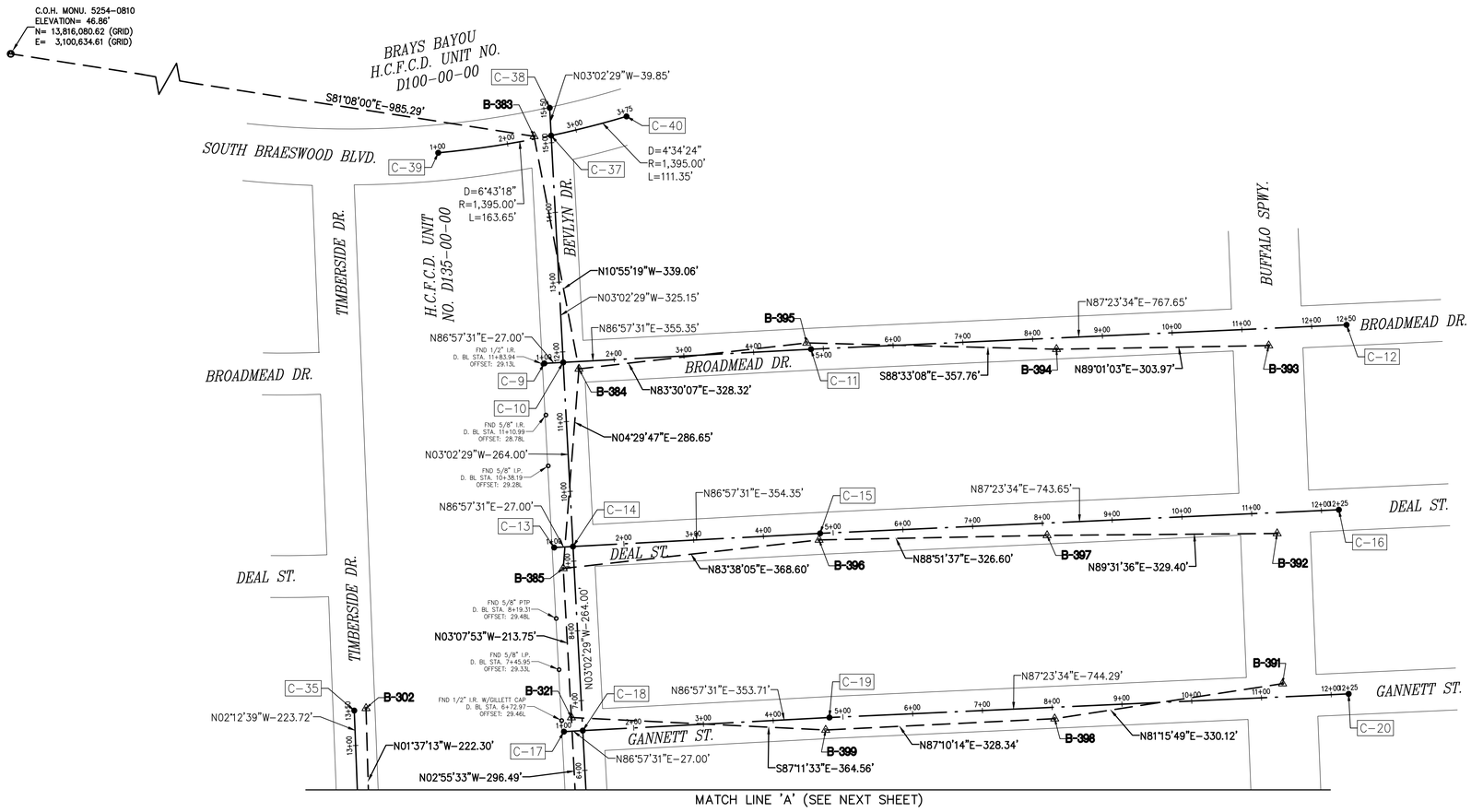


NO.	DATE	REVISION	APP.

BENCHMARK:

CITY OF HOUSTON MONUMENT 5254-0810, A BRASS DISK IN CONCRETE, LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF S BRAESWOOD BLVD AND LOOKOUT CT

ELEV. 46.86 Feet NAVD 1988 (GEOID '18)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED NOVEMBER 09, 2022.

VERTICAL DATUM ADJUSTMENT:

THE ELEVATION DIFFERENCE IN BETWEEN THE FLOODPLAIN REFERENCE MARKS (RM 040145) PUBLISHED DATUM NAVD 1988, 2001 ADJUSTMENT AND PROJECT DATUM NAVD 1988 (GEOID '18) IS 0.23'.

NAVD 1988, 2001 ADJ. ELEVATION
=NAVD 1988 (GEOID '18) ELEVATION – 0.23 FEET

NOTE:

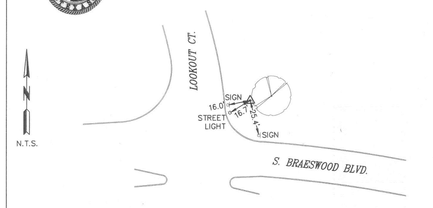
ALL BEARINGS AND DISTANCES ARE BASED ON TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NAD83. ALL DISTANCES ARE IN SURFACE.

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 — — —

CITY OF HOUSTON
CITY SURVEY 5254 0810
SITE CONTROL MONUMENT



Project WBS# M-410016-0001-3
Texas Coordinate System of 1983, South Central Zone, U. S. Survey Feet
X= 3,100,634.73
Y= 13,816,080.64
Lat.= 29° 41' 27.86566" (N)
Lon.= 95° 26' 00.96232" (W)
Reference Frame Used: NAD '83 (2011) (EPOCH: 2010)
Vertical Adjustment used: NAVD '88
General Location: NORTHEAST CORNER OF S. BRAESWOOD BLVD. AND LOOKOUT CT.
Date Set: 01-16-1976 Type of Mark: 4A
Keymap Page: 532P
Orthometric Elevation =46.86 FEET
Ellipsoid Height= -42.70 FEET
Geoid: GEOID '18
Datum Source & Adjustment: GPS STATIC (OBSERVED 11-09-22)

3 Nearest project control points (bearings and distances stated below):
1 N 65° 39' 36" W 776.14'
2 N 76° 47' 09" W 790.52'
3 N 78° 42' 12" W 872.98'

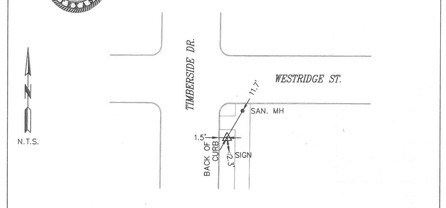
NOTE:
1. Bearings are grid bearings.
2. Scale Factor = (S.F.)=0.999870017
3. Surface= Grid / S.F.

Surveyed By: Kuo & Associates, Inc.
10300 Westoffice Dr., Suite 800
Houston, TX 77042

STATE OF TEXAS REGISTERED K-KUTUBUL A. M. MAINUDDIN 6404 PROFESSIONAL LAND SURVEYOR

Date Revised: 11-09-2022
City of Houston, Harris County, Texas

CITY OF HOUSTON
CITY SURVEY 5254 7905
SITE CONTROL MONUMENT



Project WBS# M-410016-0001-3
Texas Coordinate System of 1983, South Central Zone, U. S. Survey Feet
X= 3,101,328.55
Y= 13,812,900.95
Lat.= 29° 40' 56.19121" (N)
Lon.= 95° 25' 54.19885" (W)
Reference Frame Used: NAD '83 (2011) (EPOCH: 2010)
Vertical Adjustment used: NAVD '88
General Location: NORTHWEST CORNER OF TIMBERSIDE ST. AND WESTRIDGE ST.
Date Set: 03-29-1976 Type of Mark: 4A
Keymap Page: 532P
Orthometric Elevation =48.14 FEET
Ellipsoid Height= N/A
Geoid: GEOID '18
Datum Source & Adjustment: CONVENTIONAL (TIED TO MONU. 5254-0810)

3 Nearest project control points (bearings and distances stated below):
1 N 05° 27' 17" E 55.22'
2 S 07° 48' 13" E 82.31'
3 N 01° 19' 34" E 140.94'

NOTE:
1. Bearings are grid bearings.
2. Scale Factor = (S.F.)=0.999870017
3. Surface= Grid / S.F.

Surveyed By: Kuo & Associates, Inc.
10300 Westoffice Dr., Suite 800
Houston, TX 77042

STATE OF TEXAS REGISTERED K-KUTUBUL A. M. MAINUDDIN 6404 PROFESSIONAL LAND SURVEYOR

Date Revised: 11-09-2022
City of Houston, Harris County, Texas

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ENGINEERING + SURVEYING
10300 WESTOFFICE DR. SUITE 800
HOUSTON, TX 77042
713-975-8769
TX FIRM NO.: F-4578

SURVEYED BY:
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

SURVEY CONTROL MAP (SHEET 1 OF 4)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1"=100'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 10 OF 200	

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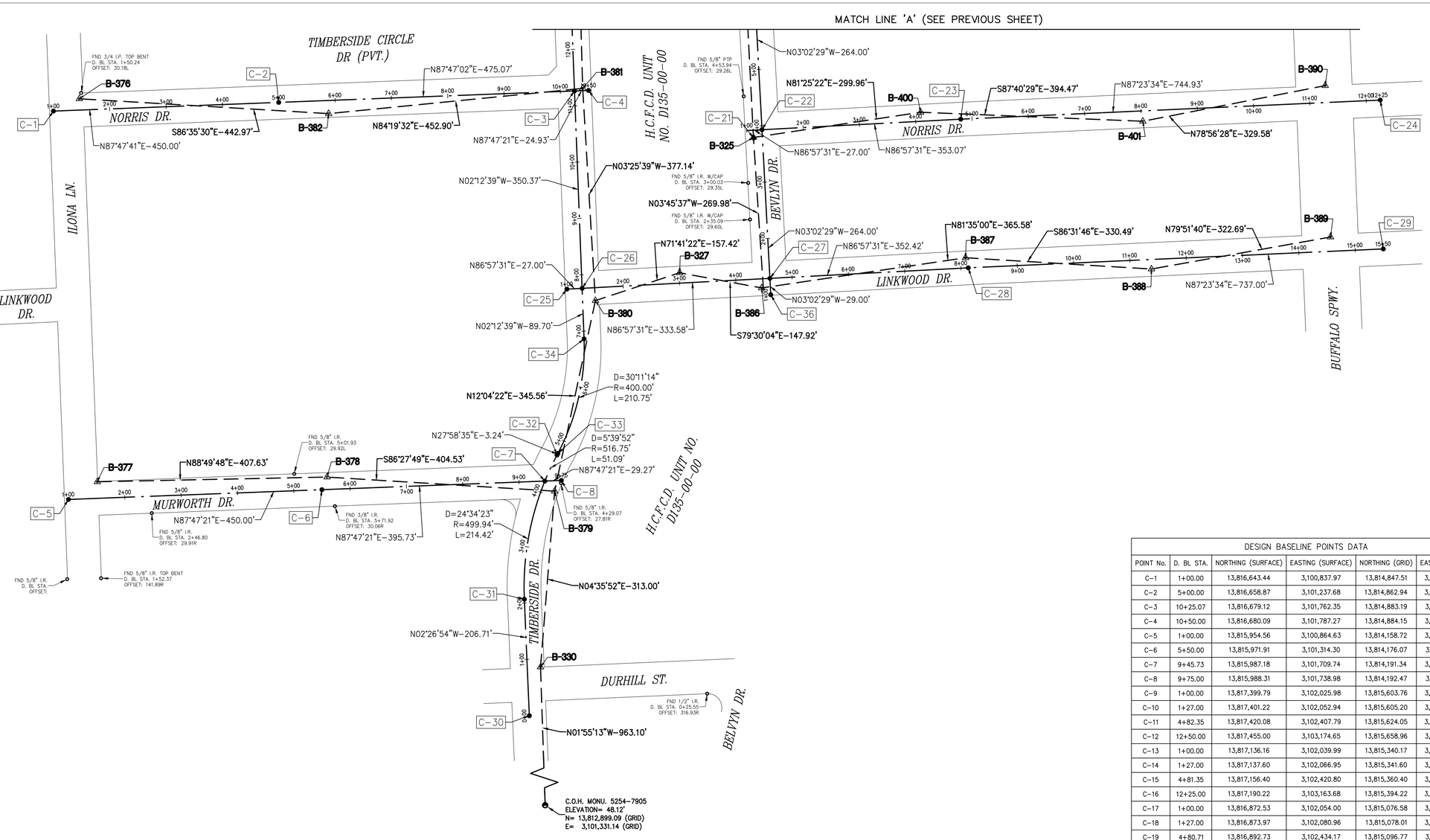

DESIGN BASELINE POINTS DATA					
POINT No.	D. BL STA.	NORTHING (SURFACE)	EASTING (SURFACE)	NORTHING (GRID)	EASTING (GRID)
C-1	1+00.00	13,816,643.44	3,100,837.97	13,814,847.51	3,100,434.92
C-2	5+00.00	13,816,658.87	3,101,237.68	13,814,862.94	3,100,834.57
C-3	10+25.07	13,816,679.12	3,101,762.35	13,814,883.19	3,101,359.18
C-4	10+50.00	13,816,680.09	3,101,787.27	13,814,884.15	3,101,384.09
C-5	1+00.00	13,815,954.56	3,100,864.63	13,814,158.72	3,100,461.57
C-6	5+50.00	13,815,971.91	3,101,314.30	13,814,176.07	3,100,911.18
C-7	9+45.73	13,815,987.18	3,101,709.74	13,814,191.34	3,101,306.57
C-8	9+75.00	13,815,988.31	3,101,738.98	13,814,192.47	3,101,335.81
C-9	1+00.00	13,817,399.79	3,102,025.98	13,815,603.76	3,101,622.77
C-10	1+27.00	13,817,401.22	3,102,052.94	13,815,605.20	3,101,649.73
C-11	4+82.35	13,817,420.08	3,102,407.79	13,815,624.05	3,102,004.53
C-12	12+50.00	13,817,455.00	3,103,174.65	13,815,658.96	3,102,771.29
C-13	1+00.00	13,817,136.16	3,102,039.99	13,815,340.17	3,101,636.78
C-14	1+27.00	13,817,137.60	3,102,066.95	13,815,341.60	3,101,663.74
C-15	4+81.35	13,817,156.40	3,102,420.80	13,815,360.40	3,102,017.54
C-16	12+25.00	13,817,190.22	3,103,163.68	13,815,394.22	3,102,760.32
C-17	1+00.00	13,816,872.53	3,102,054.00	13,815,076.58	3,101,650.78
C-18	1+27.00	13,816,873.97	3,102,080.96	13,815,078.01	3,101,677.74
C-19	4+80.71	13,816,892.73	3,102,434.17	13,815,096.77	3,102,030.91
C-20	12+25.00	13,816,926.59	3,103,177.69	13,815,130.63	3,102,774.33
C-21	1+00.00	13,816,608.91	3,102,068.00	13,814,812.98	3,101,664.79
C-22	1+27.00	13,816,610.34	3,102,094.97	13,814,814.41	3,101,691.75
C-23	4+80.07	13,816,629.07	3,102,447.53	13,814,833.14	3,102,044.27
C-24	12+25.00	13,816,662.96	3,103,191.70	13,814,867.03	3,102,788.34
C-25	1+00.00	13,816,327.58	3,101,748.90	13,814,531.69	3,101,345.73
C-26	1+27.00	13,816,329.01	3,101,775.87	13,814,533.12	3,101,372.69
C-27	4+60.58	13,816,346.71	3,102,108.97	13,814,550.82	3,101,705.75
C-28	8+13.00	13,816,365.41	3,102,460.90	13,814,569.52	3,102,057.63
C-29	15+50.00	13,816,398.93	3,103,197.14	13,814,603.04	3,102,793.77
C-30	0+00.00	13,815,571.01	3,101,682.22	13,813,775.22	3,101,279.05
C-31	2+06.71	13,815,777.53	3,101,673.39	13,813,981.71	3,101,270.22
C-32	4+72.22	13,816,033.44	3,101,731.36	13,814,237.60	3,101,328.19
C-33	4+75.46	13,816,036.31	3,101,732.88	13,814,240.46	3,101,329.71
C-34	6+86.21	13,816,239.38	3,101,779.33	13,814,443.51	3,101,376.15
C-35	13+50.00	13,816,902.68	3,101,753.72	13,815,106.72	3,101,350.55
C-36	1+00.00	13,816,317.75	3,102,110.51	13,814,521.87	3,101,707.29
C-37	15+10.15	13,817,725.91	3,102,035.69	13,815,929.84	3,101,632.48
C-38	15+50.00	13,817,765.71	3,102,033.58	13,815,969.63	3,101,630.37
C-39	1+00.00	13,817,701.31	3,101,874.00	13,815,905.24	3,101,470.80
C-40	3+75.00	13,817,753.41	3,102,143.56	13,815,957.33	3,101,740.34

SURVEY BASELINE POINTS DATA (TEMPORARY BENCHMARK)								
POINT No.	NORTHING (SURFACE)	EASTING (SURFACE)	NORTHING (GRID)	EASTING (GRID)	ELEVATION	D. BL STA.	OFFSET	DESCRIPTION
B-302	13,816,905.91	3,101,770.58	13,815,109.95	3,101,367.40	47.97'	13+52.58	49.49R	FND 'X' CUT ON CONC.
B-321	13,816,892.72	3,102,064.65	13,815,096.76	3,101,661.44	47.04'	1+11.71	19.59L	FND 'X' CUT ON CONC.
B-325	13,816,596.61	3,102,079.79	13,814,800.69	3,101,676.57	46.37'	1+11.11	12.90R	FND 'X' CUT ON CONC.
B-327	13,816,356.70	3,101,948.86	13,814,560.80	3,101,545.66	48.20'	3+01.22	18.47L	FND 5/8" I.R. W/CAP
B-330	13,815,657.33	3,101,702.05	13,813,861.53	3,101,298.88	46.49'	0+85.40	23.50R	FND 'X' CUT ON CONC.
B-376	13,816,665.26	3,100,884.00	13,814,869.33	3,100,480.94	48.10'	1+46.83	20.03L	SET 'X' CUT ON CONC.
B-377	13,815,985.95	3,100,915.82	13,814,190.11	3,100,512.76	48.08'	1+52.36	29.40L	SET 'X' CUT ON CONC.
B-378	13,815,994.28	3,101,323.37	13,814,198.43	3,100,920.25	47.46'	5+59.93	21.99L	SET 1/2" I.R. W/CAP
B-379	13,815,969.32	3,101,727.14	13,814,173.48	3,101,323.96	46.82'	4+10.66	22.74R	FND 'X' CUT ON CONC.
B-380	13,816,307.24	3,101,799.41	13,814,511.35	3,101,396.23	47.92'	7+53.24	22.69R	FND 'X' CUT ON CONC.
B-381	13,816,683.71	3,101,776.86	13,814,887.77	3,101,373.68	46.79'	11+30.30	14.68R	SET MAGNAIL W/SHINER
B-382	13,816,638.92	3,101,326.19	13,814,843.00	3,100,923.07	48.34'	5+87.67	23.31R	SET 'X' CUT ON CONC.
B-383	13,817,724.84	3,102,011.20	13,815,928.78	3,101,608.00	47.00'	2+39.41	3.84L	SET 'X' CUT ON CONC.
B-384	13,817,391.92	3,102,075.45	13,815,595.90	3,101,672.23	47.58'	1+48.98	10.48R	SET MAGNAIL W/SHINER
B-385	13,817,106.15	3,102,052.98	13,815,310.16	3,101,649.76	46.82'	1+11.38	30.66R	SET 'X' CUT ON CONC.
B-386	13,816,329.74	3,102,094.31	13,814,533.85	3,101,691.09	46.98'	4+45.03	16.17R	SET 'X' CUT ON CONC.

SURVEY BASELINE POINTS DATA (TEMPORARY BENCHMARK)								
POINT No.	NORTHING (SURFACE)	EASTING (SURFACE)	NORTHING (GRID)	EASTING (GRID)	ELEVATION	D. BL STA.	OFFSET	DESCRIPTION
B-387	13,816,383.25	3,102,455.95	13,814,587.36	3,102,052.68	48.36'	8+09.01	18.08L	SET 'X' CUT ON CONC.
B-388	13,816,363.24	3,102,785.84	13,814,567.35	3,102,382.53	48.45'	11+37.51	16.94R	SET 1/2" I.R. W/CAP
B-389	13,816,420.05	3,103,103.49	13,814,624.15	3,102,700.14	48.91'	14+57.41	25.35L	FND 'X' CUT ON CONC.
B-390	13,816,688.56	3,103,094.00	13,814,892.63	3,102,690.65	48.68'	11+28.57	30.02L	SET 'X' CUT ON CONC.
B-391	13,816,941.21	3,103,083.00	13,815,145.24	3,102,679.65	48.44'	11+31.07	18.91L	SET 'X' CUT ON CONC.
B-392	13,817,156.23	3,103,075.23	13,815,360.24	3,102,671.88	48.49'	11+35.09	29.93R	SET 'X' CUT ON CONC.
B-393	13,817,425.25	3,103,063.23	13,815,629.22	3,102,659.88	47.94'	11+37.34	24.65R	FND 'X' CUT ON CONC.
B-394	13,817,420.04	3,102,759.30	13,815,624.01	3,102,355.99	48.03'	8+33.49	16.03R	SET 'X' CUT ON CONC.
B-395	13,817,429.08	3,102,401.66	13,815,633.05	3,101,998.40	48.21'	4+76.70	9.31L	SET MAGNAIL
B-396	13,817,147.02	3,102,419.31	13,815,351.02	3,102,016.04	47.55'	4+79.36	9.29R	SET MAGNAIL W/SHINER
B-397	13,817,153.51	3,102,745.84	13,815,357.52	3,102,342.54	48.12'	8+05.92	17.67R	SET 'X' CUT ON CONC.
B-398	13,816,891.07	3,102,756.71	13,815,095.11	3,102,353.41	48.47'	8+02.84	16.33R	SET 1/2" I.R. W/CAP
B-399	13,816,874.86	3,102,428.78	13,815,078.90	3,102,025.51	48.40'	4+74.38	17.56R	SET 'X' CUT ON CONC.
B-400	13,816,641.35	3,102,376.39	13,814,845.42	3,101,973.14	47.91'	4+09.68	16.03L	SET 1/2" I.R. W/CAP
B-401	13,816,625.34	3,102,770.54	13,814,829.42	3,102,367.23	48.36'	8+02.57	18.42R	SET 'X' CUT ON CONC.

NO.	DATE	REVISION	APP.

100 0 50 100
SCALE: 1" = 100'

BENCHMARK:

CITY OF HOUSTON MONUMENT 5254-0810, A BRASS DISK IN CONCRETE, LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF S BRAESWOOD BLVD AND LOOKOUT CT

ELEV. 46.86 Feet NAVD 1988 (GEOID '18)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED NOVEMBER 09, 2022.

VERTICAL DATUM ADJUSTMENT:

THE ELEVATION DIFFERENCE IN BETWEEN THE FLOODPLAIN REFERENCE MARKS (RM 040145) PUBLISHED DATUM NAVD 1988, 2001 ADJUSTMENT AND PROJECT DATUM NAVD 1988 (GEOID '18) IS 0.23'.

NAVD 1988, 2001 ADJ. ELEVATION
=NAVD 1988 (GEOID '18) ELEVATION – 0.23 FEET

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

ISANI
civil \ design \ engineers
10448 Westoffice Drive
Houston, Texas 77042
P 713 747 2399
F 713 748 3748
TBPE Firm Reg. #4575

KUO & ASSOCIATES
ENGINEERING + SURVEYING
10300 WESTOFFICE DR. SUITE 800
HOUSTON, TX 77042
713-975-8769
TX FIRM NO.: F-4578

SURVEYED BY:
KUO & ASSOCIATES, LLC
FB NO.: P-6396

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

SURVEY CONTROL MAP (SHEET 2 OF 4)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1"=100'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 11 OF 200	

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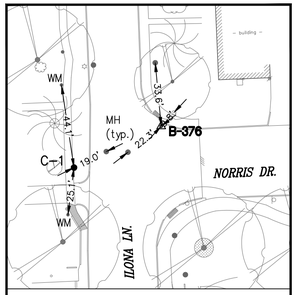

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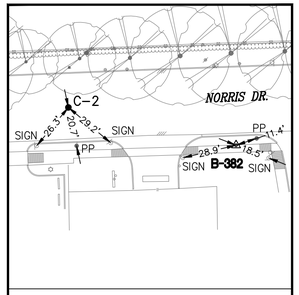

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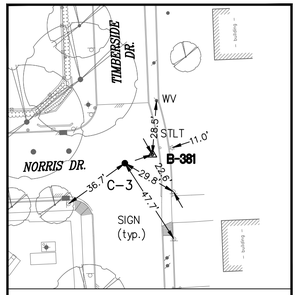

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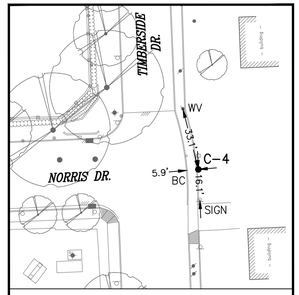

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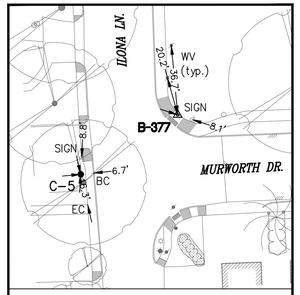

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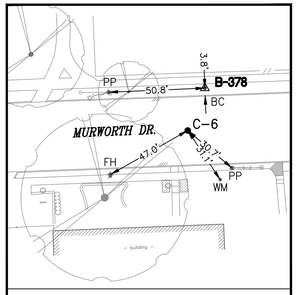

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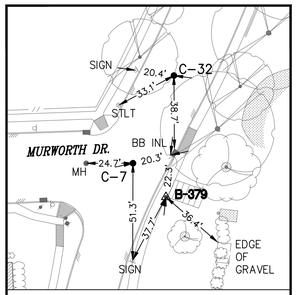

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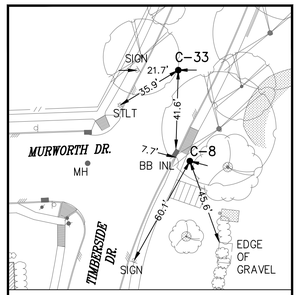

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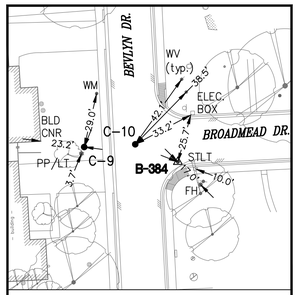

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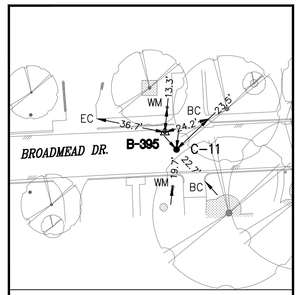

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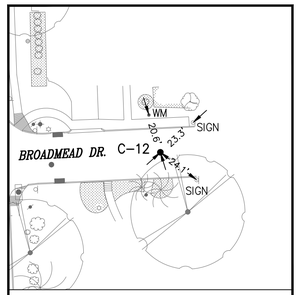

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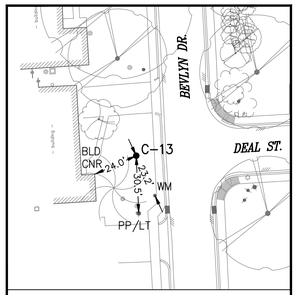

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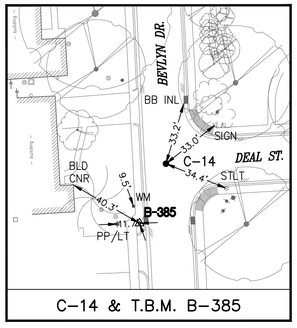

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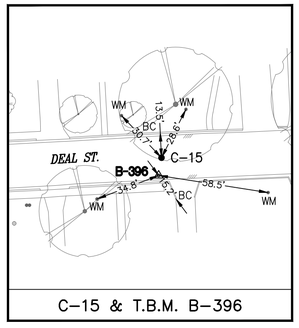

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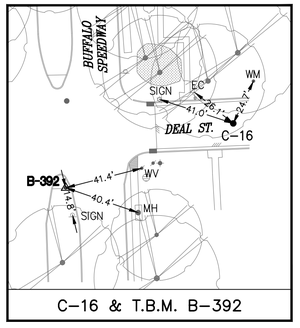

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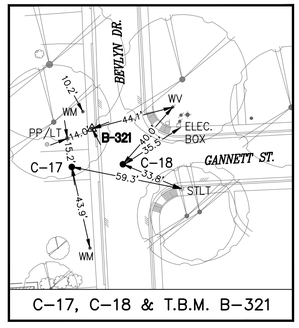

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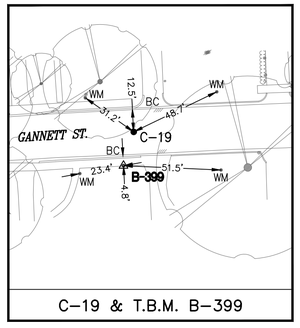

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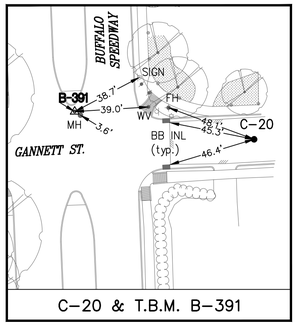

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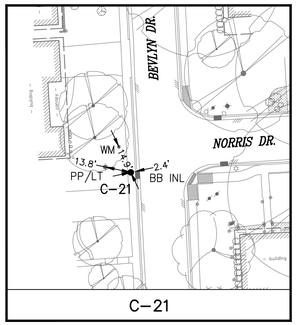

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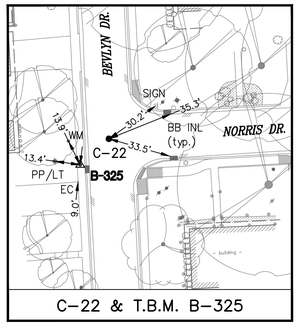

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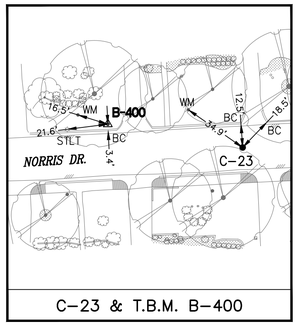

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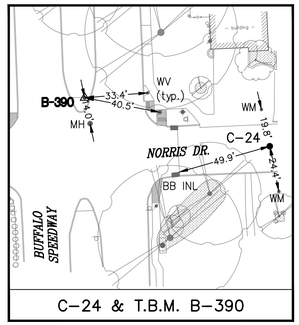

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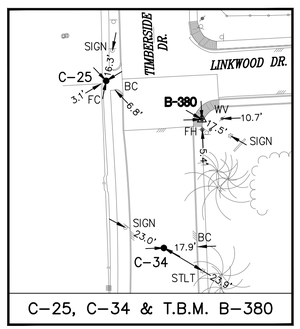

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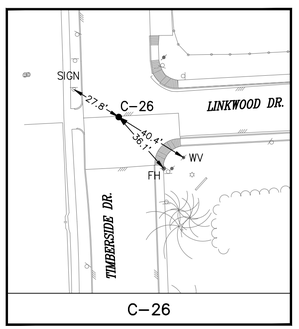

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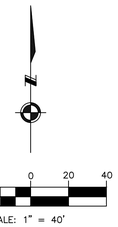

EXIST. TOPOGRAPHIC LEGEND

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

ABBREVIATIONS

FH – FIRE HYDRANT
FC – FENCE CORNER
LT – LIGHT POLE
MB – MAIL BOX
MH – MANHOLE
PP – POWER POLE
PP/LIGHT – POWER POLE W/LIGHT
STLT – STREET LIGHT
WM – WATER METER

NO.	DATE	REVISION	APP.

ISANI
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TBPE Firm Reg. #4575

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713-975-8769
TX FIRM NO.: F-4578

SURVEYED BY:
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FB NO.: P-6396

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

SURVEY CONTROL MAP (SHEET 3 OF 4)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1"=40'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 12 OF 200	

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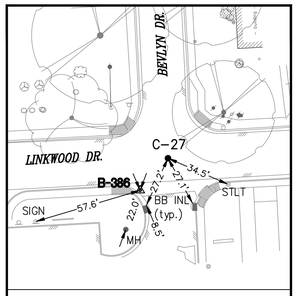

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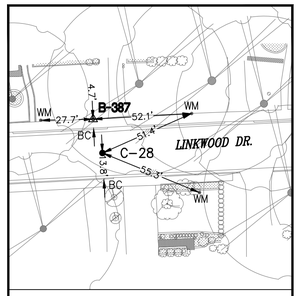

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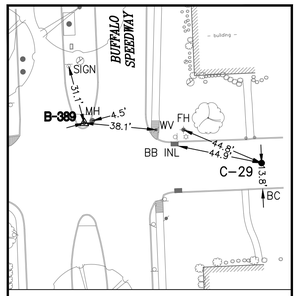

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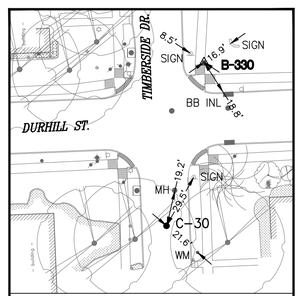

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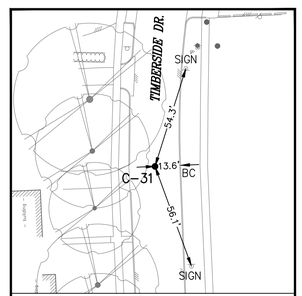
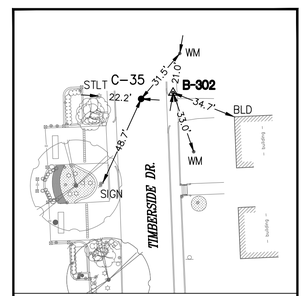
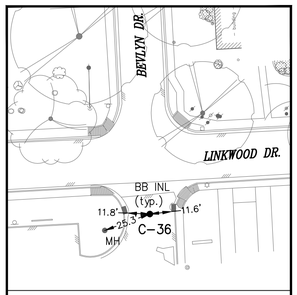


C-31



C-35 & T.B.M. B-302



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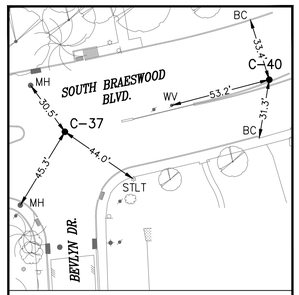

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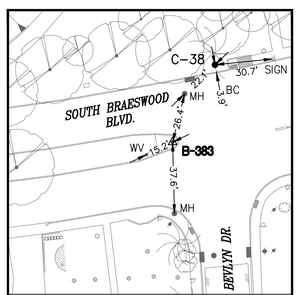
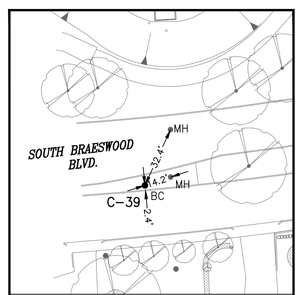


C-38 & T.B.M. B-383



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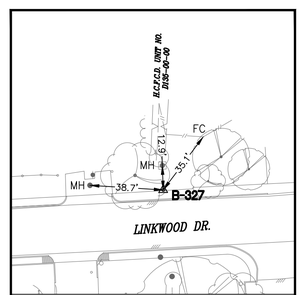

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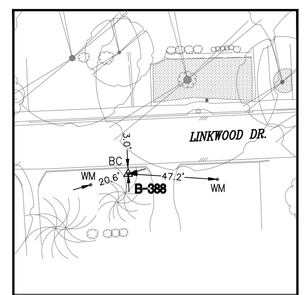

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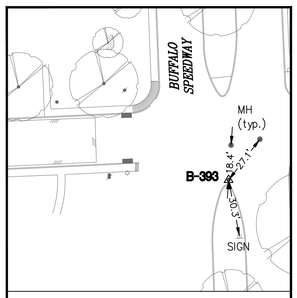

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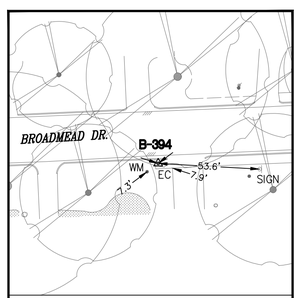

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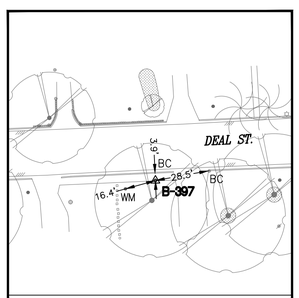

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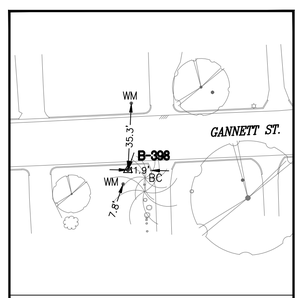

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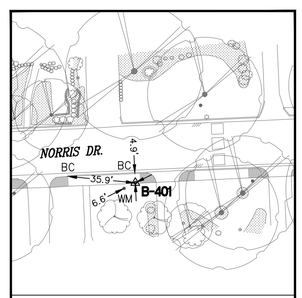

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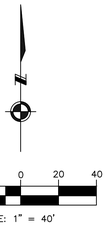

NO.	DATE	REVISION	APP.

EXIST. TOPOGRAPHIC LEGEND

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

ABBREVIATIONS

FH – FIRE HYDRANT
FC – FENCE CORNER
LT – LIGHT POLE
MB – MAIL BOX
MH – MANHOLE
PP – POWER POLE
PP/LIGHT – POWER POLE W/LIGHT
STLT – STREET LIGHT
WM – WATER METER

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HOUSTON, TX 77042
713-975-8769
TX FIRM NO.: F-4578

SURVEYED BY:
KUO & ASSOCIATES, LLC
FB NO.: P-6396

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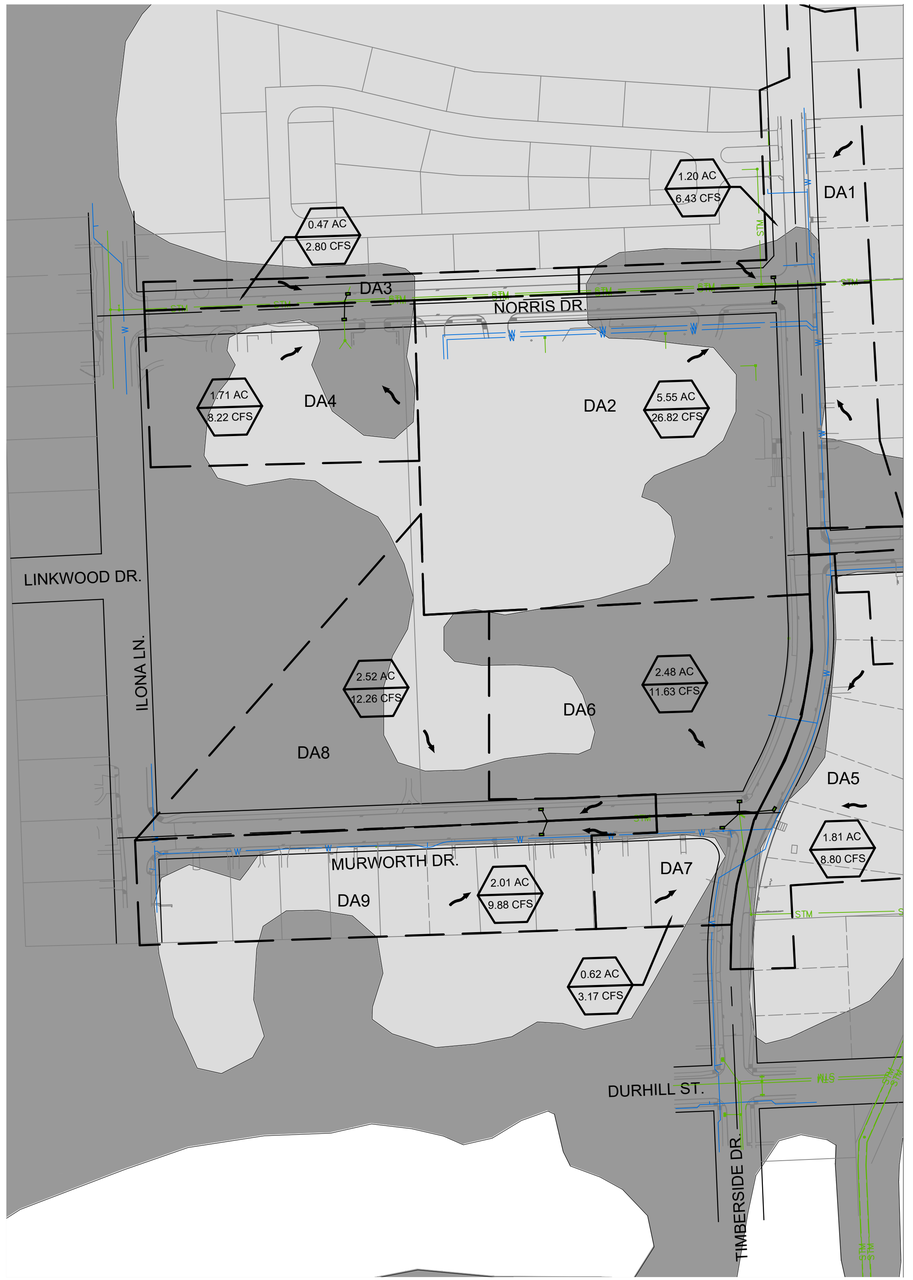
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

SURVEY CONTROL MAP (SHEET 4 OF 4)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1"=40'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 13 OF 200	

FILE PATH: S:\Proj-2024\24045 (P22050 WESTRIDGE & BRACE TERRACE)\Dwgs\SCM\Swingties-24045.dwg



MATCH LINE
SHEET 2 OF 2

N

100 0 50 100 200

SCALE: 1" = 100'-0" FEET FOR 22"X34" SHEET

NO.	DATE	REVISION	APP.

LEGEND

DAXX	DRAINAGE AREA
X.X / XX.XX	AREA (AC) / FLOW (CFS)
	BRAYS BAYOU (D100-00-00) FLOODPLAIN DATA
	FLOODWAY
	100 YEAR AE ZONE
	500 YEAR X SHADED
	OVERLAND FLOW DIRECTION

FIRM Nos: 48201C0860L, 48201C0870M
FIRM EFFECTIVE DATE: 6/18/2007 & 5/2/2019

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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P 713 747 2399
F 713 748 3748
TBPE Firm Reg. #4575

INTERIM REVIEW ONLY
DOCUMENT INCOMPLETE;
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BIDDING OR CONSTRUCTION
ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

SURVEYED BY: Kuo&Associates
FB NO. P-6396

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

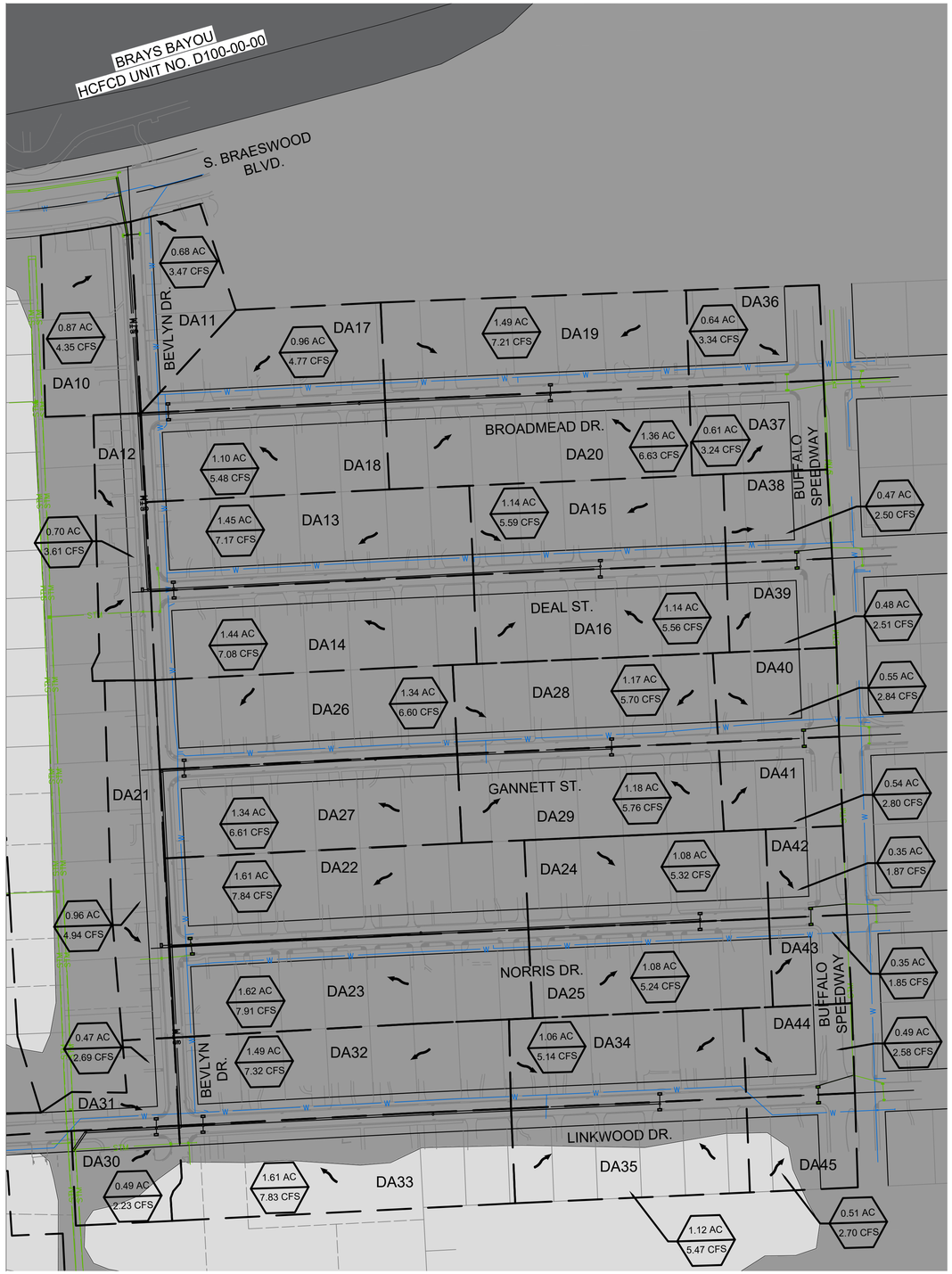
WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

DRAINAGE AREA DELINEATION AND FLOOD PLAIN MAPS (SHEET 1 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1" = 100'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 14 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/9/2025 8:59 AM

FILE PATH: P:\ACTIVE\15DR30 SP1A\Ph II\Working\CAD\15DR30_Drainage Area Delineation Maps And Flood Zone.dwg



MATCH LINE
SHEET 1 OF 2

N

100 0 50 100 200

SCALE: 1" = 100'-0" FEET FOR 22"X34" SHEET

NO.	DATE	REVISION	APP.

LEGEND

DAXX — DRAINAGE AREA

X.X / XX.XX — AREA (AC) / FLOW (CFS)

BRAYS BAYOU (D100-00-00) FLOODPLAIN DATA

- FLOODWAY
- 100 YEAR AE ZONE
- 500 YEAR X SHADED

OVERLAND FLOW DIRECTION

FIRM Nos: 48201C0860L, 48201C0870M
FIRM EFFECTIVE DATE: 6/18/2007 & 5/2/2019

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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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

SURVEYED BY: Kuo&Associates
FB NO. P-6396

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

DRAINAGE AREA DELINEATION AND FLOOD PLAIN MAPS (SHEET 2 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1" = 100'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 15 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/9/2025 8:59 AM
FILE PATH: P:\ACTIVE\15DR30 SP1A\Ph II\Working\CAD\15DR30_Drainage Area Delineation Maps And Flood Zone.dwg

Conduit Calculation Results Based on Atlas 14 Harris County Flood Control District Region 3 Rainfall Data -2 Yr Event

INLET/MH From	INLET/MH To	Area (Acres)	Runoff Coefficient C	Sum of C*A	Intensity I (In/hr)	Time of Conc (Min)	Flow (CIA, cfs)	Sum of Flows (cfs)	Reach Length (ft)	Diam or Rise (in)	Slope (%)	Manning's "n"	Design Capacity (cfs)	Design Velocity (fps)	Flowline Elevation Upstream (ft)	Flowline Elevation Downstream (ft)	Elevation HG Upstream (ft)	Elevation HG Downstream (ft)	Natural Ground Upstream(ft)	Natural Ground Downstream(ft)
INT1	(MH1)	1.20	0.63	0.76	3.73	25.32	2.82	2.82	12.00	24.00	0.20	0.013	10.14	3.23	42.48	42.46	46.46	46.46	47.03	46.79
INT2	(MH1)	5.55	0.60	3.35	3.49	28.52	11.72	11.72	25.00	24.00	0.20	0.013	10.14	3.23	42.11	42.06	46.13	46.06	47.03	46.79
INT3	(MH2)	0.47	0.68	0.32	3.85	23.76	1.23	1.23	12.00	24.00	0.20	0.013	10.14	3.23	42.47	42.45	46.45	46.45	46.97	46.73
INT4	(MH2)	1.71	0.57	0.98	3.68	25.99	3.61	3.61	25.00	24.00	0.20	0.013	10.14	3.23	42.40	42.35	46.36	46.35	46.97	46.73
INT8	MH4	2.52	0.59	1.49	3.62	26.77	5.38	5.38	15.00	24.00	0.20	0.013	10.14	3.23	41.74	41.70	45.66	45.65	46.63	46.39
INT9	MH4	2.01	0.59	1.19	3.65	26.30	4.33	4.33	17.00	24.00	0.20	0.013	10.14	3.23	41.74	41.70	45.66	45.65	46.63	46.39
MH4	MH3							9.71	252.00	24.00	0.20	0.013	10.14	3.23	41.70	41.19	45.65	45.19	46.39	46.6
INT5	MH3	1.81	0.58	1.05	3.67	26.10	3.86	3.86	42.00	24.00	0.20	0.013	10.14	3.23	41.23	41.19	45.20	45.19	46.84	46.6
INT6	MH3	2.48	0.57	1.41	3.62	26.73	5.10	5.10	13.00	24.00	0.20	0.013	10.14	3.23	41.74	41.19	45.20	45.19	46.84	46.6
INT7	MH3	0.62	0.59	0.37	3.82	24.19	1.40	1.40	26.00	24.00	0.20	0.013	10.14	3.23	41.29	41.19	45.19	45.19	46.84	46.6
INT19	MH14	1.49	0.58	0.86	3.70	25.73	3.17	3.17	12.00	24.00	0.20	0.013	10.14	3.23	34.79	34.77	42.62	42.62	47.7	47.72
INT20	MH14	1.36	0.58	0.79	3.71	25.56	2.91	2.91	6.00	24.00	0.20	0.013	10.14	3.23	34.78	34.77	42.62	42.62	47.73	47.72
MH14	MH13							6.08	281.00	24.00	0.20	0.013	10.14	3.23	34.77	34.20	42.62	42.41	47.72	47.76
MH13	MH12							13.84	281.00	24.00	0.20	0.013	10.14	3.23	34.20	33.64	42.41	41.36	47.76	47.73
INT17	MH12	0.96	0.58	0.56	3.76	24.93	2.10	2.10	12.00	24.00	0.20	0.013	10.14	3.23	33.67	33.64	41.36	41.36	47.7	47.72
INT18	MH12	1.10	0.59	0.64	3.74	25.16	2.41	2.41	6.00	24.00	0.20	0.013	10.14	3.23	33.65	33.64	41.36	41.36	4773	47.72
MH12	MH11							18.35	41.00	24.00	0.20	0.013	10.14	3.23	33.64	33.56	41.36	41.09	47.72	47.94
INT15	MH10	1.14	0.58	0.66	3.73	25.23	2.45	2.45	6.00	24.00	0.20	0.013	10.14	3.23	35.42	35.41	41.09	41.09	47.48	47.72
INT16	MH10	1.14	0.58	0.65	3.73	25.23	2.44	2.44	12.00	24.00	0.20	0.013	10.14	3.23	35.43	35.41	41.09	41.09	47.48	47.72
MH10	MH9							4.89	347.00	24.00	0.20	0.013	10.14	3.23	35.41	34.71	41.09	40.93	47.74	47.08
MH9	MH8							4.89	281.00	24.00	0.20	0.013	10.14	3.23	34.71	34.15	40.93	40.80	46.96	47.08
INT13	MH8	1.45	0.58	0.85	3.70	25.68	3.15	3.15	6.00	24.00	0.20	0.013	10.14	3.23	34.16	34.15	40.80	40.79	47.06	47.08
INT14	MH8	1.44	0.58	0.84	3.70	25.67	3.11	3.11	12.00	24.00	0.20	0.013	10.14	3.23	34.18	34.15	40.80	40.79	47.08	46.81
MH8	MH7							11.15	36.00	24.00	0.20	0.013	10.14	3.23	34.15	34.08	40.88	40.79	46.81	46.81
INT12	MH7	0.70	0.60	0.42	3.80	24.39	1.59	1.59	6.00	24.00	0.20	0.013	10.14	3.23	34.09	34.08	40.79	40.79	47.05	46.81
MH7	MH11							12.74	260.00	30.00	0.20	0.013	18.39	3.75	34.08	33.56	40.79	40.54	46.81	46.81
INT10	MHAB							4.35	4.00	24.00	0.20	0.013	10.14	3.23	33.03	33.02	40.54	40.54	47.9	47.94
INT11	MHAB							3.47	16.00	24.00	0.20	0.013	10.14	3.23	33.06	33.02	40.55	40.54	47.8	47.94
MH11	MHAB							38.90	268.00	30.00	0.20	0.013	18.39	3.75	33.56	33.02	40.54	38.13	47.94	46.81
MHAB	(MHAC)							38.90	87.00	30.00	0.20	0.013	18.39	3.75	33.02	32.85	38.13	37.35	46.81	49.34
INT28	MH23	1.17	0.57	0.67	3.73	25.28	2.50	2.50	12.00	24.00	0.20	0.013	10.14	3.23	30.96	30.94	36.33	36.33	47.9	47.72
INT29	MH23	1.18	0.58	0.68	3.73	25.29	2.53	2.53	6.00	24.00	0.20	0.013	10.14	3.23	30.95	30.94	36.33	36.33	47.9	47.72
MH23	MH22							5.04	348.00	24.00	0.20	0.013	10.14	3.23	30.94	30.24	36.33	36.16	47.72	47.74
MH22	MH21							5.04	281.00	24.00	0.20	0.013	10.14	3.23	30.24	29.68	36.16	36.02	47.74	47.32
INT26	MH21	1.34	0.58	0.78	3.71	25.53	2.90	2.90	12.00	24.00	0.20	0.013	10.14	3.23	29.70	29.68	36.02	36.02	47.27	47.32
INT27	MH21	1.34	0.58	0.78	3.71	25.53	2.90	2.90	6.00	24.00	0.20	0.013	10.14	3.23	29.69	29.68	36.02	36.02	46.88	47.32
MH21	MH20							10.83	31.00	24.00	0.20	0.013	10.14	3.23	29.68	29.62	36.02	35.95	47.32	47.29
MH20	MH16							10.83	255.00	30.00	0.20	0.013	18.39	3.75	29.62	29.11	35.95	35.77	47.29	46.1
INT24	MH19	1.08	0.58	0.62	3.74	25.14	2.34	2.34	6.00	24.00	0.20	0.013	10.14	3.23	29.85	29.84	36.16	36.16	47.7	47.72
INT25	MH19	1.08	0.57	0.62	3.74	25.13	2.30	2.30	12.00	24.00	0.20	0.013	10.14	3.23	29.86	29.84	36.16	36.16	47.73	47.72
MH19	MH18							4.64	413.00	24.00	0.20	0.013	10.14	3.23	30.67	29.84	36.16	35.98	47.72	47.74
MH18	MH17							4.64	340.00	24.00	0.20	0.013	10.14	3.23	29.84	29.16	35.98	35.84	47.74	46.25
INT22	MH17	1.61	0.58	0.93	3.68	25.87	3.44	3.44	6.00	24.00	0.20	0.013	10.14	3.23	29.17	29.16	35.84	35.84	46.1	46.25
INT23	MH17	1.62	0.58	0.94	3.68	25.89	3.47	3.47	12.00	24.00	0.20	0.013	10.14	3.23	29.18	29.16	35.84	35.84	46.03	46.25
MH17	MH16							11.54	27.00	24.00	0.20	0.013	10.14	3.23	29.16	29.11	35.84	35.77	46.25	46.76
INT21	MH16	0.96	0.60	0.58	3.76	24.93	2.17	2.17	6.00	24.00	0.20	0.013	10.14	3.23	29.12	29.11	35.77	35.77	46.76	46.71
MH16	MH15							24.54	270.00	30.00	0.20	0.013	18.39	3.75	29.11	28.57	35.77	34.80	46.76	46.76
INT34	MH30	1.06	0.57	0.60	3.75	25.10	2.26	2.26	12.00	24.00	0.20	0.013	10.14	3.23	30.00	29.97	34.26	34.26	47.64	47.4
INT35	MH30	1.12	0.57	0.64	3.74	25.20	2.40	2.40	6.00	24.00	0.20	0.013	10.14	3.23	29.99	29.97	34.26	34.26	47.64	47.4
MH30	MH29							4.67	334.00	24.00	0.20	0.013	10.14	3.23	29.97	29.31	34.26	34.12	47.4	47.74
MH29	MH28							4.67	338.00	24.00	0.20	0.013	10.14	3.23	29.31	28.63	34.12	33.98	47.74	47.72
INT32	MH28	1.49	0.58	0.87	3.70	25.73	3.22	3.22	12.00	24.00	0.20	0.013	10.14	3.23	28.65	28.63	33.98	33.98	47.74	47.5
INT33	MH28	1.61	0.58	0.93	3.68	25.87	3.43	3.43	6.00	24.00	0.20	0.013	10.14	3.23	28.64	28.63	33.98	33.98	47.74	47.5
MH28	MH15							11.32	32.00	24.00	0.20	0.013	10.14	3.23	28.63	28.57	33.98	33.90	47.5	47.68
MH15	MH27							35.86	36.00	24.00	0.20	0.013	10.14	3.23	28.57	28.49	34.80	33.90	47.5	47.68
INT30	MH27	0.49	0.52	0.25	3.85	23.83	0.98	0.98	6.00	24.00	0.20	0.013	10.14	3.23	28.51	28.49	33.90	33.90	47.15	47.78
INT31	MH27	0.47	0.65	0.31	3.85	23.76	1.19	1.19	12.00	24.00	0.20	0.013	10.14	3.23	28.52	28.49	33.90	33.90	47.15	47.78
MH27	MH26							38.03	105.00	30.00	0.20	0.013	18.39	3.75	28.49	28.28	33.90	33.00	47.78	48.27
MH26	(MHY)							38.03	32.00	30.00	0.20	0.013	18.39	3.75	28.28	28.22	33.00	32.72	48.27	49.46
INT39	INT38	0.47	0.61	0.29	3.85	23.78	1.10	1.10	20.00	24.00	0.20	0.013	10.14	3.23	44.02	43.90	47.76	47.75	47.74	47.65
INT38	MH32	0.48	0.60	0.29	3.85	23.76	1.10	2.20	48.00	24.00	0.20	0.013	10.14	3.23	43.85	43.75	47.75	47.75	47.65	48.07
INT41	INT4	0.55	0.59	0.33	3.84	23.97	1.25	1.25	20.00	24.00	0.20	0.013	10.14	3.23	44.20	44.06	47.96	47.96	47.9	47.75
INT40	MH33	0.54	0.60	0.32	3.83	24.00	1.23	2.48	48.00	24.00	0.20	0.013	10.14	3.23	44.05	43.95	47.96	47.95	47.75	48.41
INT43	INT42	0.35	0.61	0.21	3.89	23.31	0.82	0.82	20.00	24.00	0.20	0.013	10.14	3.23	44.27	44.07	47.93	47.93	47.77	47.83
INT42	MH34	0.35	0.60	0.21	3.89	23.30	0.81	1.64	48.00	24.00	0.20	0.013	10.14	3.23	44.03	43.93	47.93	47.93	47.83	48.23
INT45	INT44	0.49	0.60	0.29	3.84	23.90	1.13	1.13	20.00	24.00	0.20	0.013	10.14	3.23	44.87	44.86	48.68	48.68	47.57	47.58
INT44	MH35	0.51	0.60	0.31	3.85	23.83	1.19	2.32	72.00	24.00	0.20	0.013	10.14	3.23	44.82	44.67	48.68	48.67	47.58	47.98

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE
STREET IMPROVEMENTS

DRAINAGE CALCULATION
(SHEET 1 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
NOT TO SCALE	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 16 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/8/2025 6:19 PM
FILE PATH: P:\ACTIVE\15DR30_SP1A\Ph II\Working\CAD\15DR30_Drainage Calculation.dwg

Conduit Calculation Results Based on Atlas 14 Harris County Flood Control District Region 3 Rainfall Data -2 Yr Event

INLET/MH From	INLET/MH To	MH From	MH To	Area (Acres)	Runoff Coefficient C	Sum of C*A	Intensity I (In/hr)	Time of Conc (Min)	Flow (CIA, cfs)	Sum of Flows (cfs)	Reach Length (ft)	Diam or Rise (in)	Slope (%)	Manning's "n"	Design Capacity (cfs)	Design Velocity (fps)	Flowline Elevation Upstream (ft)	Flowline Elevation Downstream (ft)	Elevation HG Upstream (ft)	Elevation HG Downstream (ft)	Natural Ground Upstream(ft)	Natural Ground Downstream(ft)
INT1	(MH1)	Inlet 1	Inlet 2	1.20	0.63	0.76	3.73	25.32	2.82	2.82	12.00	24.00	0.20	0.013	10.14	3.23	42.48	42.46	44.46	44.46	47.03	46.79
INT2	(MH1)	Inlet 2	Inlet 3	5.55	0.60	3.35	3.49	28.52	11.72	11.72	25.00	24.00	0.20	0.013	10.14	3.23	42.11	42.06	44.13	44.06	47.03	46.79
INT3	(MH2)	Inlet 3	Inlet 4	0.47	0.68	0.32	3.85	23.76	1.23	1.23	12.00	24.00	0.20	0.013	10.14	3.23	42.67	42.65	44.65	44.65	46.97	46.73
INT4	(MH2)	Inlet 4	Inlet 5	1.71	0.57	0.98	3.68	25.99	3.61	3.61	25.00	24.00	0.20	0.013	10.14	3.23	42.40	42.35	44.36	44.35	46.97	46.73
INT8	MH4	MH 8	MH 9	2.52	0.59	1.49	3.62	26.77	5.38	5.38	15.00	24.00	0.20	0.013	10.14	3.23	42.51	42.47	44.42	44.41	46.63	46.39
INT9	MH4	MH 9	Inlet 10	2.01	0.59	1.19	3.65	26.30	4.33	4.33	17.00	24.00	0.20	0.013	10.14	3.23	42.75	42.71	44.42	44.41	46.63	46.39
MH4	MH3	Inlet 10	MH 11							9.71	252.00	24.00	0.20	0.013	10.14	3.23	42.46	41.95	44.41	43.95	46.39	46.6
INT5	MH3	Inlet 5	MH 6	1.81	0.58	1.05	3.67	26.10	3.86	3.86	42.00	24.00	0.20	0.013	10.14	3.23	41.23	41.95	43.96	43.95	46.84	46.6
INT6	MH3	MH 6	Inlet 7	2.48	0.57	1.41	3.62	26.73	5.10	5.10	13.00	24.00	0.20	0.013	10.14	3.23	41.98	41.95	43.96	43.95	46.84	46.6
INT7	MH3	Inlet 7	MH 8	0.62	0.59	0.37	3.82	24.19	1.40	1.40	26.00	24.00	0.20	0.013	10.14	3.23	42.05	41.95	43.95	43.95	46.84	46.6
INT19	MH14	MH 19	Inlet 20	1.49	0.58	0.86	3.70	25.73	3.17	3.17	12.00	24.00	0.20	0.013	10.14	3.23	34.79	34.77	40.62	40.62	47.7	47.72
INT20	MH14	Inlet 20	MH 21	1.36	0.58	0.79	3.71	25.56	2.91	2.91	6.00	24.00	0.20	0.013	10.14	3.23	34.78	34.77	40.62	40.62	47.73	47.72
MH14	MH13									6.08	281.00	24.00	0.20	0.013	10.14	3.23	34.77	34.20	40.62	40.41	47.72	47.76
MH13	MH12									13.84	281.00	24.00	0.20	0.013	10.14	3.23	34.20	33.64	40.41	39.36	47.76	47.73
INT17	MH12	Inlet 17	Inlet 18	0.96	0.58	0.56	3.76	24.93	2.10	2.10	12.00	24.00	0.20	0.013	10.14	3.23	33.67	33.64	39.36	39.36	47.7	47.72
INT18	MH12	Inlet 18	MH 19	1.10	0.59	0.64	3.74	25.16	2.41	2.41	6.00	24.00	0.20	0.013	10.14	3.23	33.65	33.64	39.36	39.36	4773	47.72
MH12	MH11									18.35	41.00	24.00	0.20	0.013	10.14	3.23	33.64	33.56	39.36	39.09	47.72	47.94
INT15	MH10	MH 15	Inlet 16	1.14	0.58	0.66	3.73	25.23	2.45	2.45	6.00	24.00	0.20	0.013	10.14	3.23	35.42	35.41	39.09	39.09	47.48	47.72
INT16	MH10	Inlet 16	Inlet 17	1.14	0.58	0.65	3.73	25.23	2.44	2.44	12.00	24.00	0.20	0.013	10.14	3.23	35.43	35.41	39.09	39.09	47.48	47.72
MH10	MH9	MH 14	MH 15							4.89	347.00	24.00	0.20	0.013	10.14	3.23	35.41	34.71	39.09	38.93	47.74	47.08
MH9	MH8	MH 13	MH 14							4.89	281.00	24.00	0.20	0.013	10.14	3.23	34.71	34.15	38.93	38.80	46.96	47.08
INT13	MH8	MH 13	MH 14	1.45	0.58	0.85	3.70	25.68	3.15	3.15	6.00	24.00	0.20	0.013	10.14	3.23	34.16	34.15	38.80	38.79	47.06	47.08
INT14	MH8	MH 14	MH 15	1.44	0.58	0.84	3.70	25.67	3.11	3.11	12.00	24.00	0.20	0.013	10.14	3.23	34.18	34.15	38.80	38.79	47.08	46.81
MH8	MH7	Inlet 12	MH 13							11.15	36.00	24.00	0.20	0.013	10.14	3.23	34.15	34.08	38.88	38.79	46.81	46.81
INT12	MH7	Inlet 12	MH 13	0.70	0.60	0.42	3.80	24.39	1.59	1.59	6.00	24.00	0.20	0.013	10.14	3.23	34.09	34.08	38.79	38.79	47.05	46.81
MH7	MH11	MH 11	Inlet 12							12.74	260.00	30.00	0.20	0.013	18.39	3.75	34.08	33.56	38.79	38.54	46.81	46.81
INT10	MHAB	Inlet 16	Inlet 17							4.35	4.00	24.00	0.20	0.013	10.14	3.23	33.03	33.02	38.54	38.54	47.9	47.94
INT11	MHAB	Inlet 17	Inlet 18							3.47	16.00	24.00	0.20	0.013	10.14	3.23	33.06	33.02	38.55	38.54	47.8	47.94
MH11	MHAB									38.90	268.00	30.00	0.20	0.013	18.39	3.75	33.56	33.02	38.54	36.13	47.94	46.81
MHAB	(MHAC)	MH 11	Inlet 12							38.90	87.00	30.00	0.20	0.013	18.39	3.75	33.02	32.85	36.13	35.35	46.81	49.34
INT28	MH23	Inlet 16	Inlet 17	1.17	0.57	0.67	3.73	25.28	2.50	2.50	12.00	24.00	0.20	0.013	10.14	3.23	30.96	30.94	34.33	34.33	47.9	47.72
INT29	MH23	Inlet 17	Inlet 18	1.18	0.58	0.68	3.73	25.29	2.53	2.53	6.00	24.00	0.20	0.013	10.14	3.23	30.95	30.94	34.33	34.33	47.9	47.72
MH23	MH22	Inlet 18	MH 19							5.04	348.00	24.00	0.20	0.013	10.14	3.23	30.94	30.24	34.33	34.16	47.72	47.74
MH22	MH21	Inlet 17	Inlet 18							5.04	281.00	24.00	0.20	0.013	10.14	3.23	30.24	29.68	34.16	34.02	47.74	47.32
INT26	MH21	MH 14	MH 15	1.34	0.58	0.78	3.71	25.53	2.90	2.90	12.00	24.00	0.20	0.013	10.14	3.23	29.70	29.68	34.02	34.02	47.27	47.32
INT27	MH21	MH 15	Inlet 16	1.34	0.58	0.78	3.71	25.53	2.90	2.90	6.00	24.00	0.20	0.013	10.14	3.23	29.69	29.68	34.02	34.02	46.88	47.32
MH21	MH20	Inlet 16	Inlet 17							10.83	31.00	24.00	0.20	0.013	10.14	3.23	29.68	29.62	34.02	33.95	47.32	47.29
MH20	MH16	MH 15	Inlet 16							10.83	255.00	30.00	0.20	0.013	18.39	3.75	29.62	29.11	33.95	33.77	47.29	46.1
INT24	MH19	Inlet 12	MH 13	1.08	0.58	0.62	3.74	25.14	2.34	2.34	6.00	24.00	0.20	0.013	10.14	3.23	29.85	29.84	34.16	34.16	47.7	47.72
INT25	MH19	MH 13	MH 14	1.08	0.57	0.62	3.74	25.13	2.30	2.30	12.00	24.00	0.20	0.013	10.14	3.23	29.86	29.84	34.16	34.16	47.73	47.72
MH19	MH18	MH 14	MH 15							4.64	413.00	24.00	0.20	0.013	10.14	3.23	30.67	29.84	34.16	33.98	47.72	47.74
MH18	MH17									4.64	340.00	24.00	0.20	0.013	10.14	3.23	29.84	29.16	33.98	33.84	47.74	46.25
INT22	MH17	Inlet 10	MH 11	1.61	0.58	0.93	3.68	25.87	3.44	3.44	6.00	24.00	0.20	0.013	10.14	3.23	29.17	29.16	33.84	33.84	46.1	46.25
INT23	MH17	MH 11	Inlet 12	1.62	0.58	0.94	3.68	25.89	3.47	3.47	12.00	24.00	0.20	0.013	10.14	3.23	29.18	29.16	33.84	33.84	46.03	46.25
MH17	MH16									11.54	27.00	24.00	0.20	0.013	10.14	3.23	29.16	29.11	33.84	33.77	46.25	46.76
INT21	MH16	MH 21	Outfall	0.96	0.60	0.58	3.76	24.93	2.17	2.17	6.00	24.00	0.20	0.013	10.14	3.23	29.12	29.11	33.77	33.77	46.76	46.71
MH16	MH15									24.54	270.00	30.00	0.20	0.013	18.39	3.75	29.11	28.57	33.77	32.80	46.76	46.76
INT34	MH30	MH 9	Inlet 10	1.06	0.57	0.60	3.75	25.10	2.26	2.26	12.00	24.00	0.20	0.013	10.14	3.23	30.00	29.97	33.17	33.17	47.64	47.4
INT35	MH30	Inlet 10	MH 11	1.12	0.57	0.64	3.74	25.20	2.40	2.40	6.00	24.00	0.20	0.013	10.14	3.23	29.99	29.97	33.17	33.17	47.64	47.4
MH30	MH29	MH 9	Inlet 10							4.67	334.00	24.00	0.20	0.013	10.14	3.23	29.97	29.31	33.17	33.03	47.4	47.74
MH29	MH28	MH 21	Outfall							4.67	338.00	24.00	0.20	0.013	10.14	3.23	29.31	28.63	33.03	32.88	47.74	47.72
INT32	MH28	Inlet 20	MH 21	1.49	0.58	0.87	3.70	25.73	3.22	3.22	12.00	24.00	0.20	0.013	10.14	3.23	28.65	28.63	32.88	32.88	47.74	47.5
INT33	MH28	MH 21	Outfall	1.61	0.58	0.93	3.68	25.87	3.43	3.43	6.00	24.00	0.20	0.013	10.14	3.23	28.64	28.63	32.88	32.88	47.74	47.5
MH28	MH15	Inlet 20	MH 21							11.32	32.00	24.00	0.20	0.013	10.14	3.23	28.63	28.57	32.88	32.80	47.5	47.68
MH15	MH27									35.86	36.00	24.00	0.20	0.013	10.14	3.23	28.57	28.49	32.80	31.90	47.5	47.68
INT30	MH27	Inlet 18	MH 19	0.49	0.52	0.25	3.85	23.83	0.98	0.98	6.00	24.00	0.20	0.013	10.14	3.23	28.51	28.49	31.90	31.90	47.15	47.78
INT31	MH27	MH 19	Inlet 20	0.47	0.65	0.31	3.85	23.76	1.19	1.19	12.00	24.00	0.20	0.013	10.14	3.23	28.52	28.49	31.90	31.90	47.15	47.78
MH27	MH26	MH 19	Inlet 20							38.03	105.00	30.00	0.20	0.013	18.39	3.75	28.49	28.28	31.90	31.00	47.78	48.27
MH26	(MHY)	MH 19	Inlet 20							38.03	32.00	30.00	0.20	0.013	18.39	3.75	28.28	28.22	31.00	30.72	48.27	49.46
INT39	INT38	MH 13	MH 14	0.47	0.61	0.29	3.85	23.78	1.10	1.10	20.00	24.00	0.20	0.013	10.14	3.23	44.02	43.90	45.76	45.75	47.74	47.65
INT38	MH32	MH 14	MH 15	0.48	0.60	0.29	3.85	23.76	1.10	2.20	48.00	24.00	0.20	0.013	10.14	3.23	43.85	43.75	45.75	45.75	47.65	48.07
INT41	INT4	MH 15	Inlet 16	0.55	0.59	0.33	3.84	23.97	1.25	1.25	20.00	24.00	0.20	0.013	10.14	3.23	44.20	44.06	45.96	45.96	47.9	47.75
INT40	MH33	Inlet 16	Inlet 17	0.54	0.60	0.32	3.83	24.00	1.23	2.48	48.00	24.00	0.20	0.013	10.14	3.23	44.05	43.95	45.96	45.95	47.75	48.41
INT43	INT42	Inlet 17	Inlet 18	0.35	0.61	0.21	3.89	23.31	0.82	0.82	20.00	24.00	0.20	0.013	10.14	3.23	44.27	44.07	45.93	45.93	47.77	47.83
INT42	MH34	Inlet 18	MH 19	0.35	0.60	0.21	3.89	23.30	0.81	1.64	48.00	24.00	0.20	0.013	10.14	3.23	44.03	43.93	45.93	45.93	47.83	48.23
INT45	INT44	MH 19	Inlet 20	0.49	0.60	0.29	3.84	23.90	1.13	1.13	20.00	24.00	0.20	0.013	10.14	3.23	44.87	44.86	46.68	46.68	47.57	47.58
INT44	MH35	Inlet 20	MH 21	0.51	0.60	0.31	3.85	23.83	1.19	2.32	72.00	24.00	0.20	0.013	10.14	3.23	44.82	44.67	46.68	46.67	47.58	47.98

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE
STREET IMPROVEMENTS

DRAINAGE CALCULATION
(SHEET 2 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
NOT TO SCALE	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 17 OF 200	

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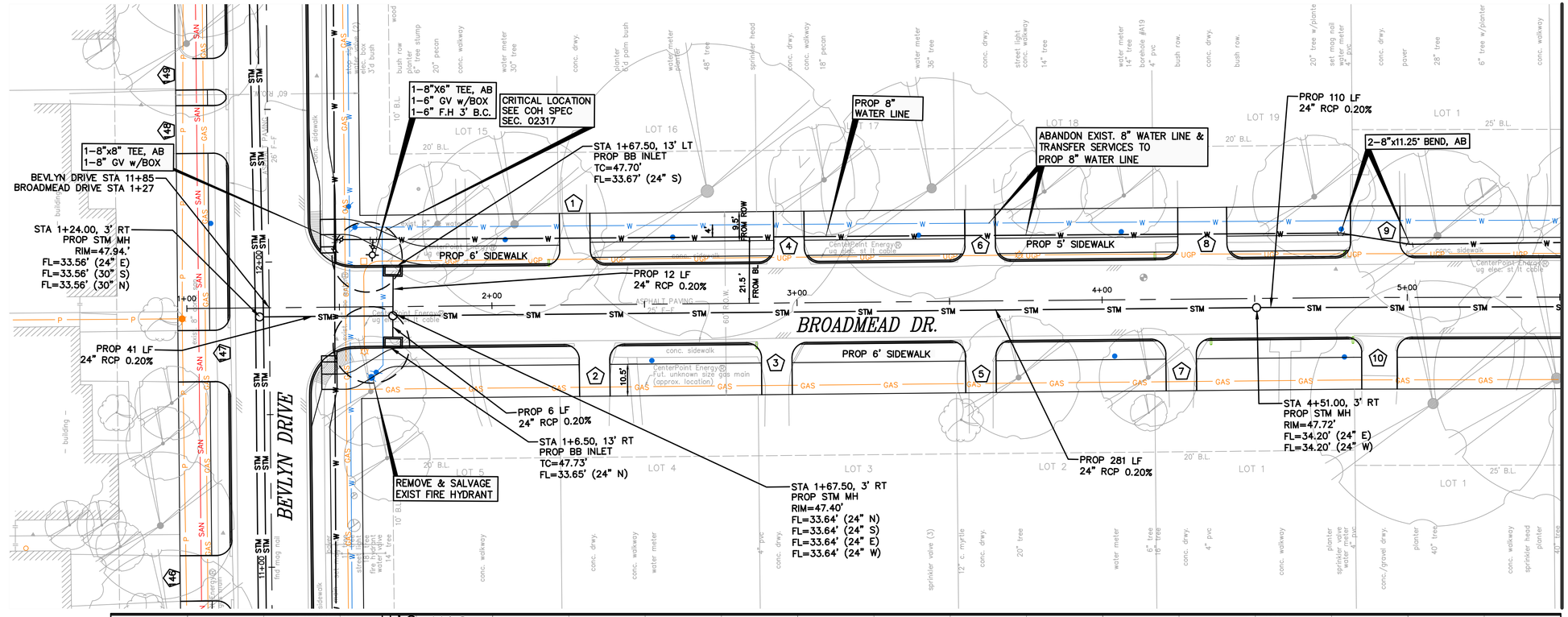
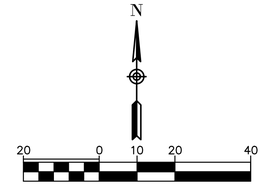


MATCH LINE STA 5+50
SEE SHEET 19



SCALE: 1" = 20'–0" FEET FOR 22"X34" SHEET

NO.	DATE	REVISION	APP.

BENCHMARK:

CITY OF HOUSTON MONUMENT 5254–0810, A BRASS DISK IN CONCRETE, LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF S BRAESWOOD BLVD AND LOOKOUT CT

ELEV. 46.86 Feet NAVD 1988 (GEOID '18)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED NOVEMBER 09, 2022.

VERTICAL DATUM ADJUSTMENT:

THE ELEVATION DIFFERENCE IN BETWEEN THE FLOODPLAIN REFERENCE MARK'S (RM 040145) PUBLISHED DATUM NAVD 1988, 2001 ADJUSTMENT AND PROJECT DATUM NAVD 1988 (GEOID '18) IS 0.23'.

NAVD 1988, 2001 ADJ. ELEVATION
= NAVD 1988 (GEOID '18) ELEVATION – 0.23 FEET

HORIZONTAL DATUM:

ALL HORIZONTAL COORDINATES ARE BASED ON TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NAD83. THE COORDINATES & DISTANCES SHOWN ARE SURFACE AND MAY BE CONVERTED TO GRID BY MULTIPLYING BY A SCALE FACTOR OF 0.999870017.

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

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ISANI
civil \ design \ engineers
10448 Westoffice Drive
Houston, Texas 77042
P 713 747 2399
F 713 748 3748
TBPE Firm Reg. #4575

SURVEYED BY: Kuo&Associates
FB NO. P–6396

INTERIM REVIEW ONLY
DOCUMENT INCOMPLETE;
NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION
ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

PLAN & PROFILE BROADMEAD DRIVE (STA 1+00 TO 5+50)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–410016–001A–3	
DRAWING SCALE	
1"= 20' H, 1"= 2' V	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 18 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/10/2025 10:23 AM
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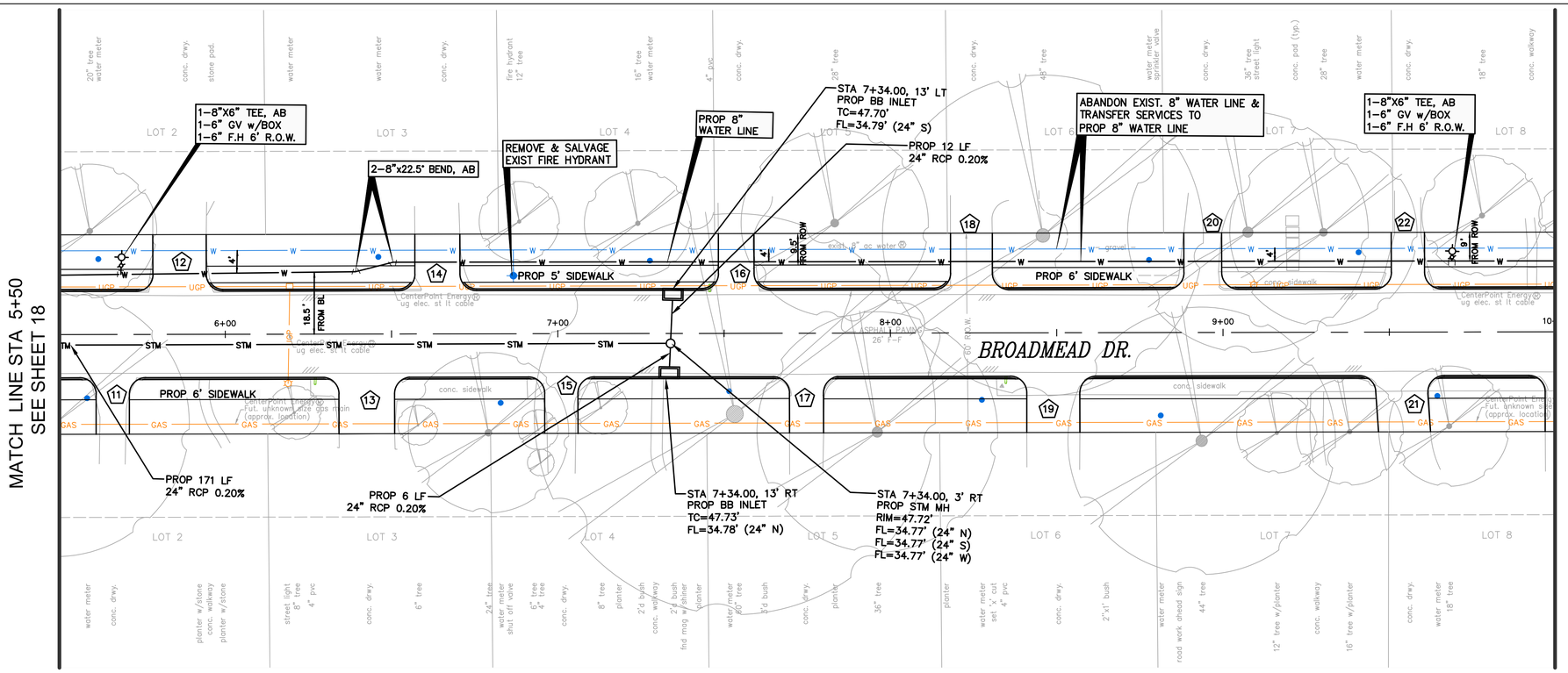

N

20 0 10 20 40

SCALE: 1" = 20'–0" FEET FOR 22"X34" SHEET

NO.	DATE	REVISION	APP.

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CITY OF HOUSTON MONUMENT 5254–0810, A BRASS DISK IN CONCRETE, LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF S BRAESWOOD BLVD AND LOOKOUT CT

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FB NO. P–6396

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

PLAN & PROFILE BROADMEAD DRIVE (STA 5+50 TO 10+00)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–410016–001A–3	
DRAWING SCALE	
1"= 20' H, 1"= 2' V	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 19 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/10/2025 10:25 AM

FILE PATH: P:\ACTIVE\150R30 SP1A\Ph II\Working\CAD\PR_PP_01 Broadmead Dr.dwg

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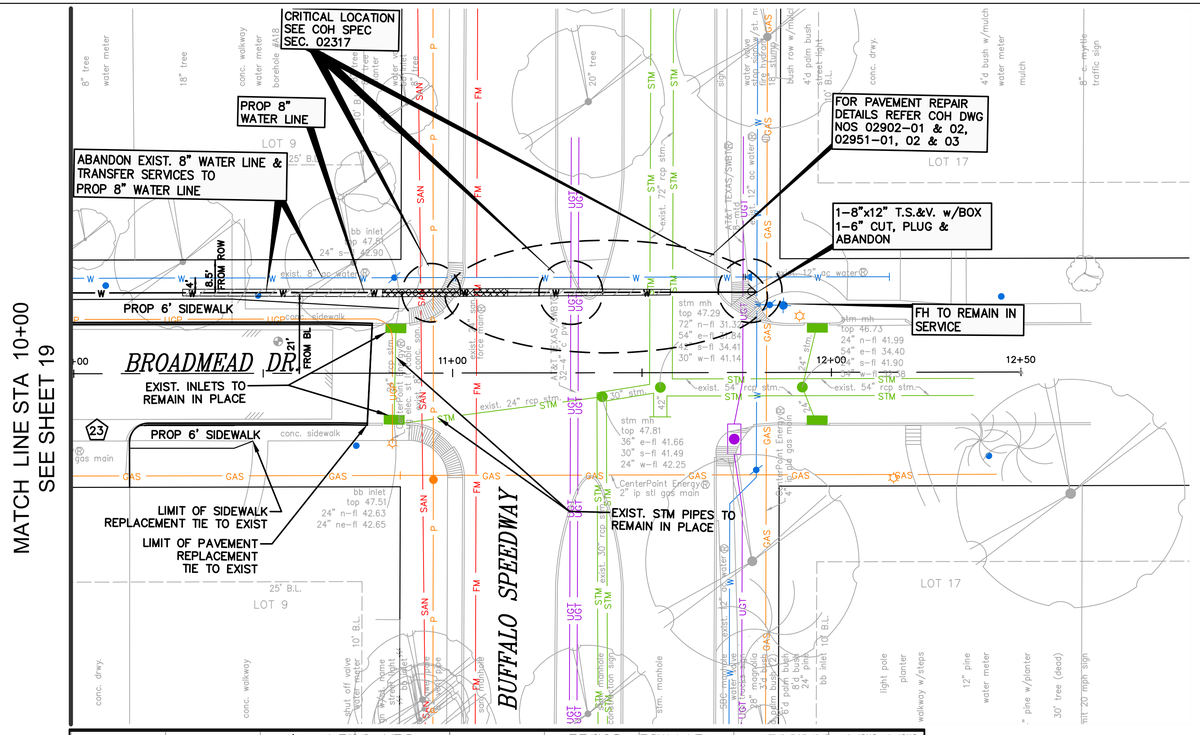
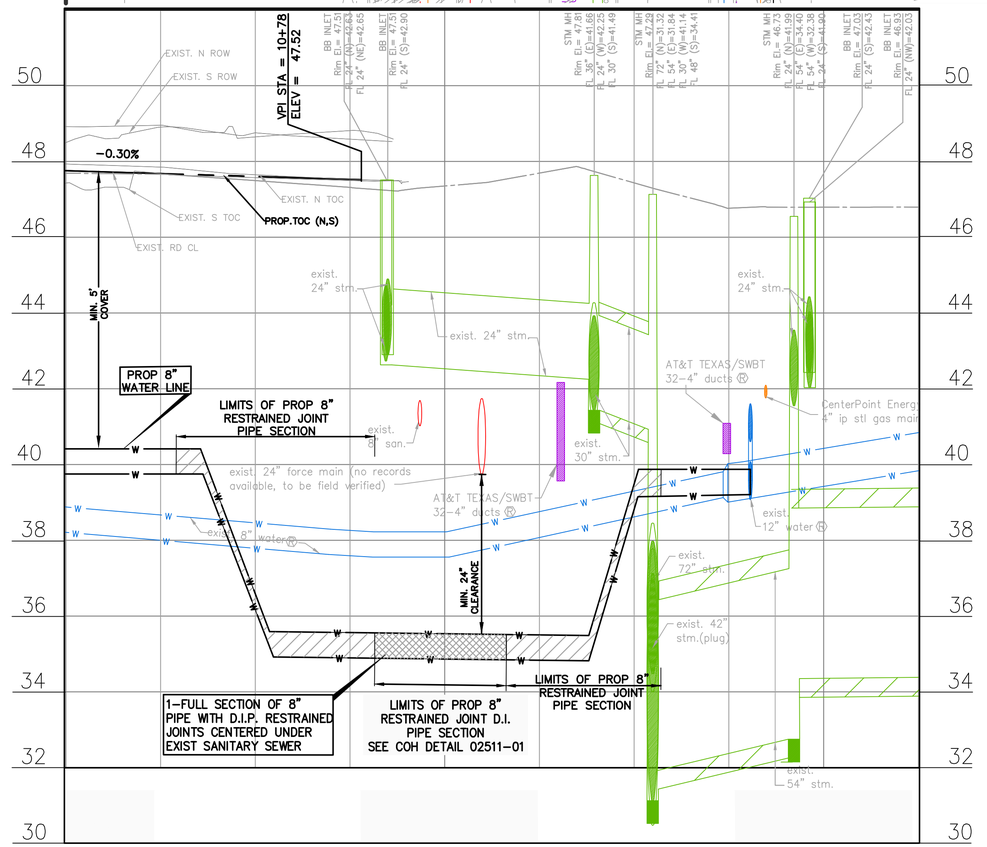
FILE PATH: P:\ACTIVE\15DR30 SP1A\Ph II\Working\CAD\PR_PP_01 Broadmead Dr.dwg

MATCH LINE STA 10+00
SEE SHEET 19





N

20 0 10 20 40

SCALE: 1" = 20'-0" FEET FOR 22"X34" SHEET

NO.	DATE	REVISION	APP.

BENCHMARK:

CITY OF HOUSTON MONUMENT 5254-0810, A BRASS DISK IN CONCRETE, LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF S BRAESWOOD BLVD AND LOOKOUT CT

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VERTICAL DATUM ADJUSTMENT:

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TBPE Firm Reg. #4575

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ENGINEER: RAHUL R MENON, P.E
P.E.Reg No: 130533
DATE: DECEMBER 2025

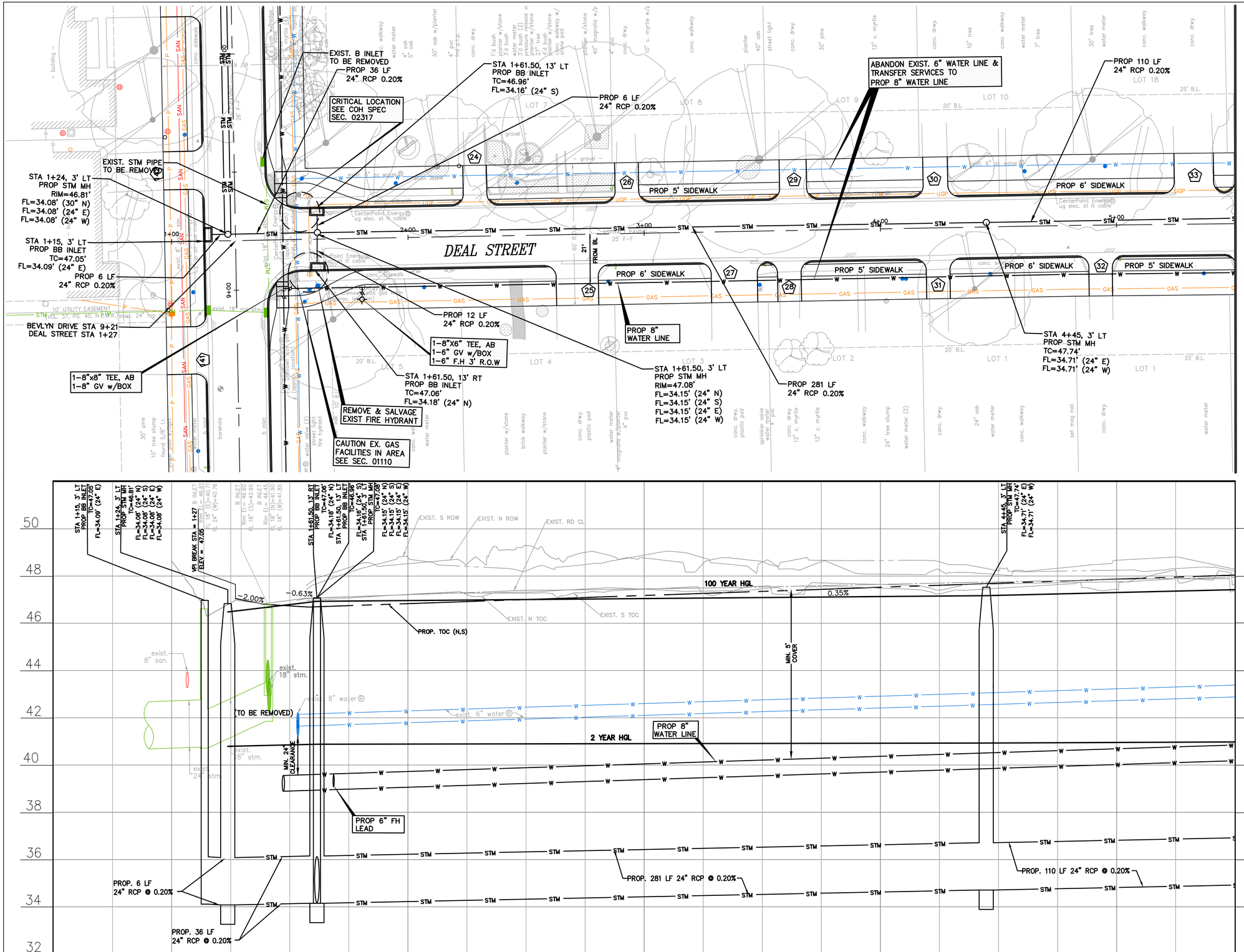
SURVEYED BY: Kuo&Associates
FB NO. P-6396

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

PLAN & PROFILE BROADMEAD DRIVE (STA 10+00 TO END)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1"= 20' H, 1"= 2' V	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 20 OF 200	



MATCH LINE STA 5+50
SEE SHEET 22

N

20 0 10 20 40

SCALE: 1" = 20'-0" FEET FOR 22"X34" SHEET

NO.	DATE	REVISION	APP.

BENCHMARK:

CITY OF HOUSTON MONUMENT 5254-0810, A BRASS DISK IN CONCRETE, LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF S BRAESWOOD BLVD AND LOOKOUT CT

ELEV. 46.86 Feet NAVD 1988 (GEOID '18)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED NOVEMBER 09, 2022.

VERTICAL DATUM ADJUSTMENT:

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TBPE Firm Reg. #4575

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

SURVEYED BY: Kuo&Associates
FB NO. P-6396

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

PLAN & PROFILE DEAL STREET (STA 1+00 TO 5+50)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1"=20' H, 1"=2' V	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 21 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/10/2025 10:55 AM

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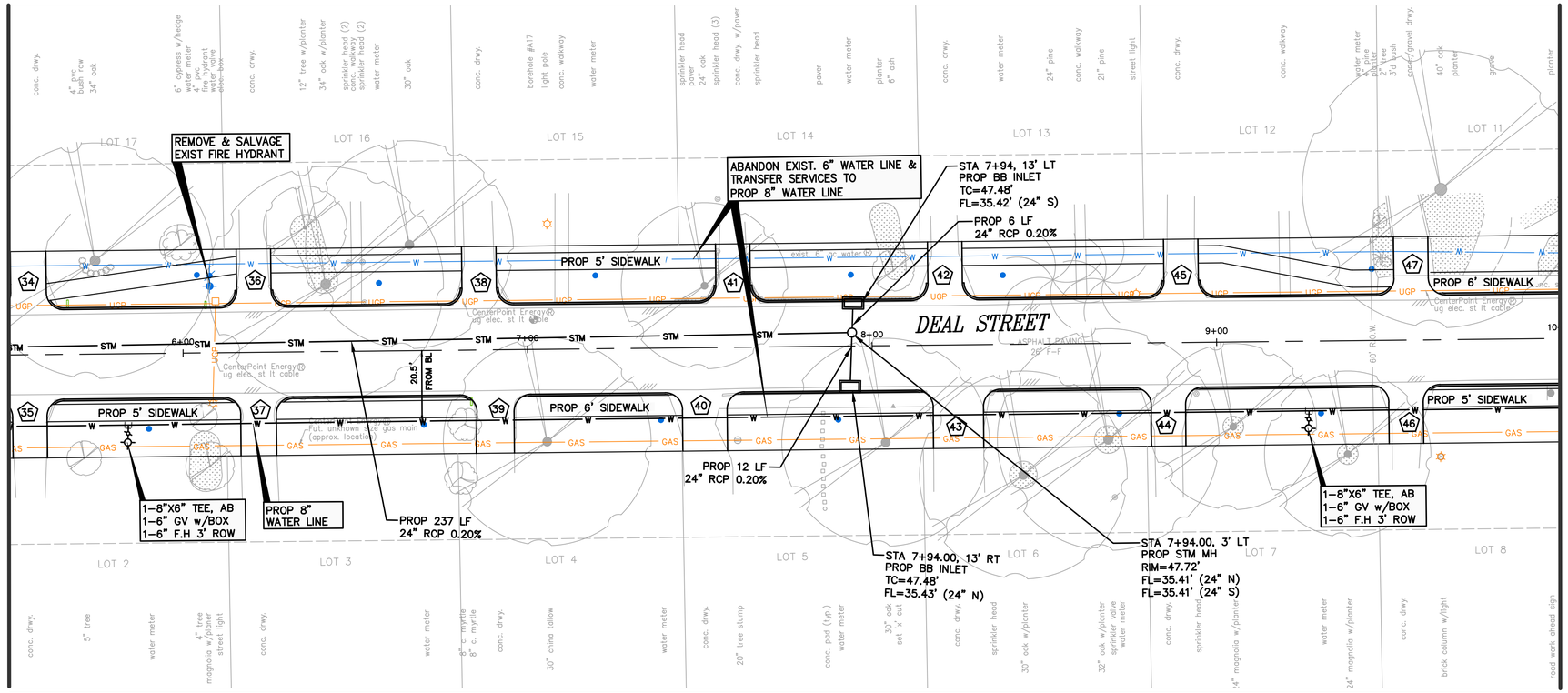
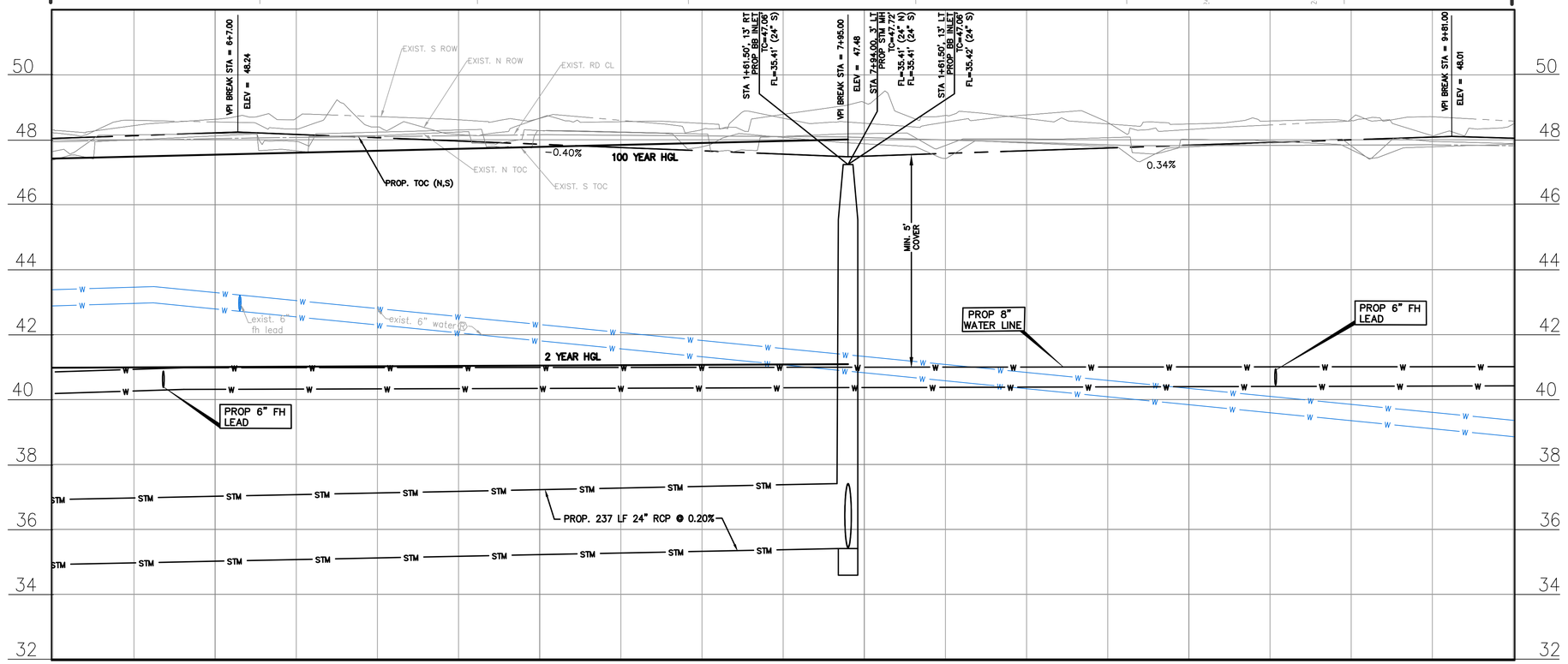
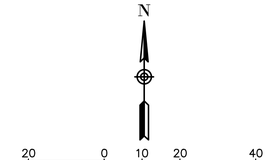
MATCH LINE STA 5+50
SEE SHEET 21



MATCH LINE STA 10+00
SEE SHEET 23





SCALE: 1" = 20'-0" FEET FOR 22"X34" SHEET

NO.	DATE	REVISION	APP.

BENCHMARK:

CITY OF HOUSTON MONUMENT 5254-0810, A BRASS DISK IN CONCRETE, LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF S BRAESWOOD BLVD AND LOOKOUT CT

ELEV. 46.86 Feet NAVD 1988 (GEOID '18)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED NOVEMBER 09, 2022.

VERTICAL DATUM ADJUSTMENT:

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HORIZONTAL DATUM:

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Date

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Signature valid for one year.

ISANI
civil \ design \ engineers
10448 Westoffice Drive
Houston, Texas 77042
P 713 747 2399
F 713 748 3748
TBPE Firm Reg. #4575

INTERIM REVIEW ONLY
DOCUMENT INCOMPLETE;
NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION
ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

SURVEYED BY: Kuo&Associates
FB NO. P-6396

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

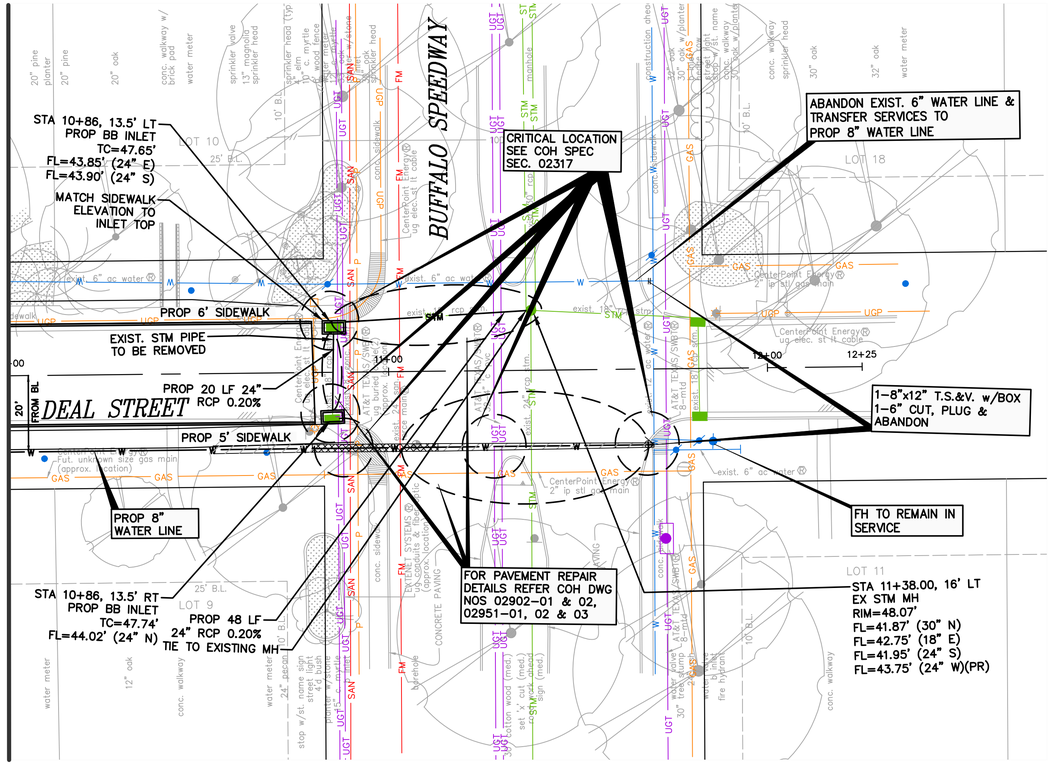
PLAN & PROFILE
DEAL STREET
(STA 5+50 TO 10+00)

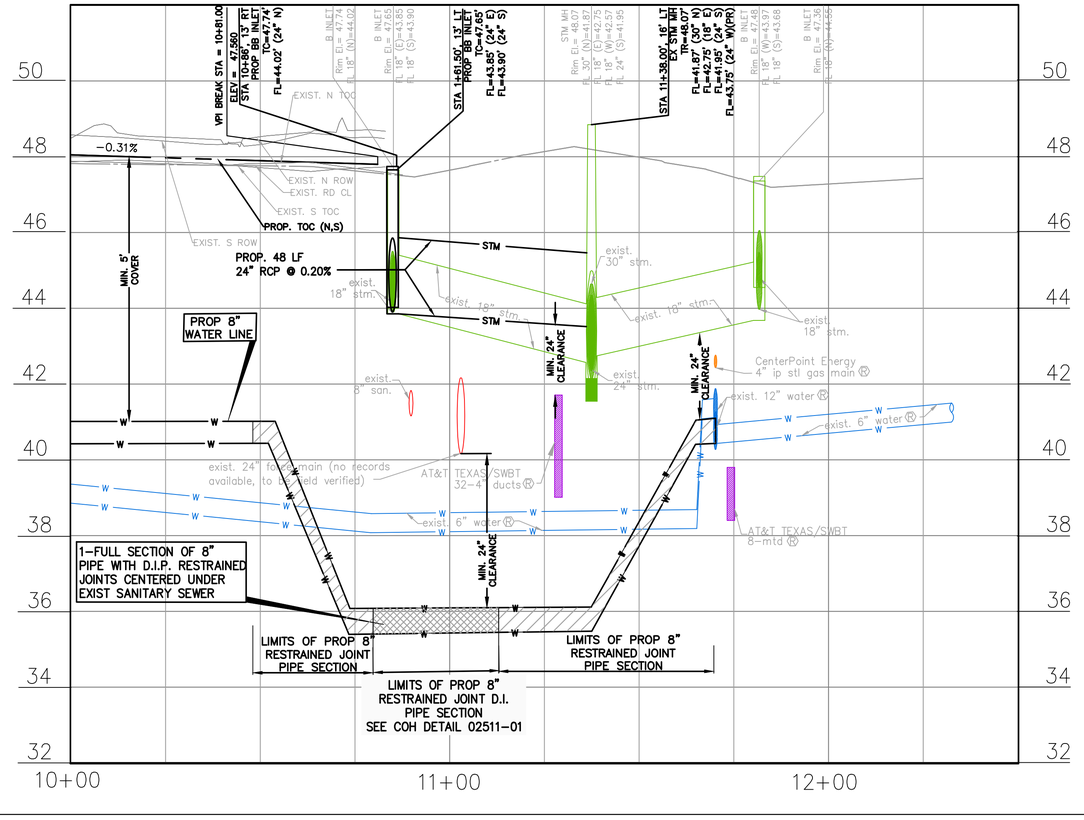
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1"=20' H, 1"=2' V	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 22 OF 200	

FILE PATH: P:\ACTIVE\150R30_SP1A\Ph II\Working\CAD\PR_PP_02 Deal St.dwg

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/10/2025 10:49 AM

MATCH LINE STA 10+00
SEE SHEET 22





FILE PATH: P:\ACTIVE\150R30 SP1A\Ph II\Working\CAD\PR_PP_02 Deal St.dwg

N

20 0 10 20 40

SCALE: 1" = 20'-0" FEET FOR 22"X34" SHEET

NO.	DATE	REVISION	APP.

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ENGINEER: RAHUL B MENON, P.E
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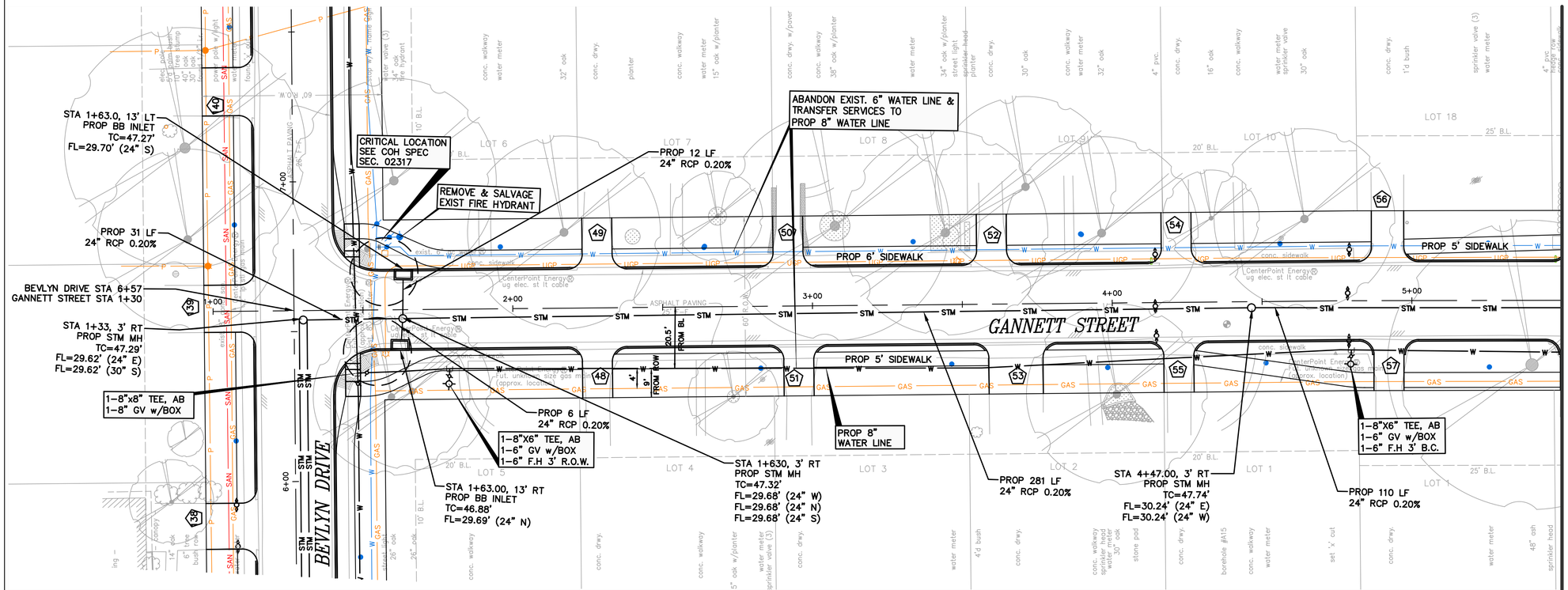
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

PLAN & PROFILE DEAL STREET (STA 10+00 TO END)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1"=20' H, 1"=2' V	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 23 OF 200	



N

20 0 10 20 40

SCALE: 1" = 20'-0" FEET FOR 22"X34" SHEET

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P.E. Reg No: 130533
DATE: DECEMBER 2025

SURVEYED BY: Kuo&Associates
FB NO. P-6396

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HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

PLAN
GANNETT STREET
(STA 1+00 TO 5+50)

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DRAWING SCALE	
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LUCIA L. LEE, P.E.	
SHEET NO. 24 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/10/2025 9:10 AM

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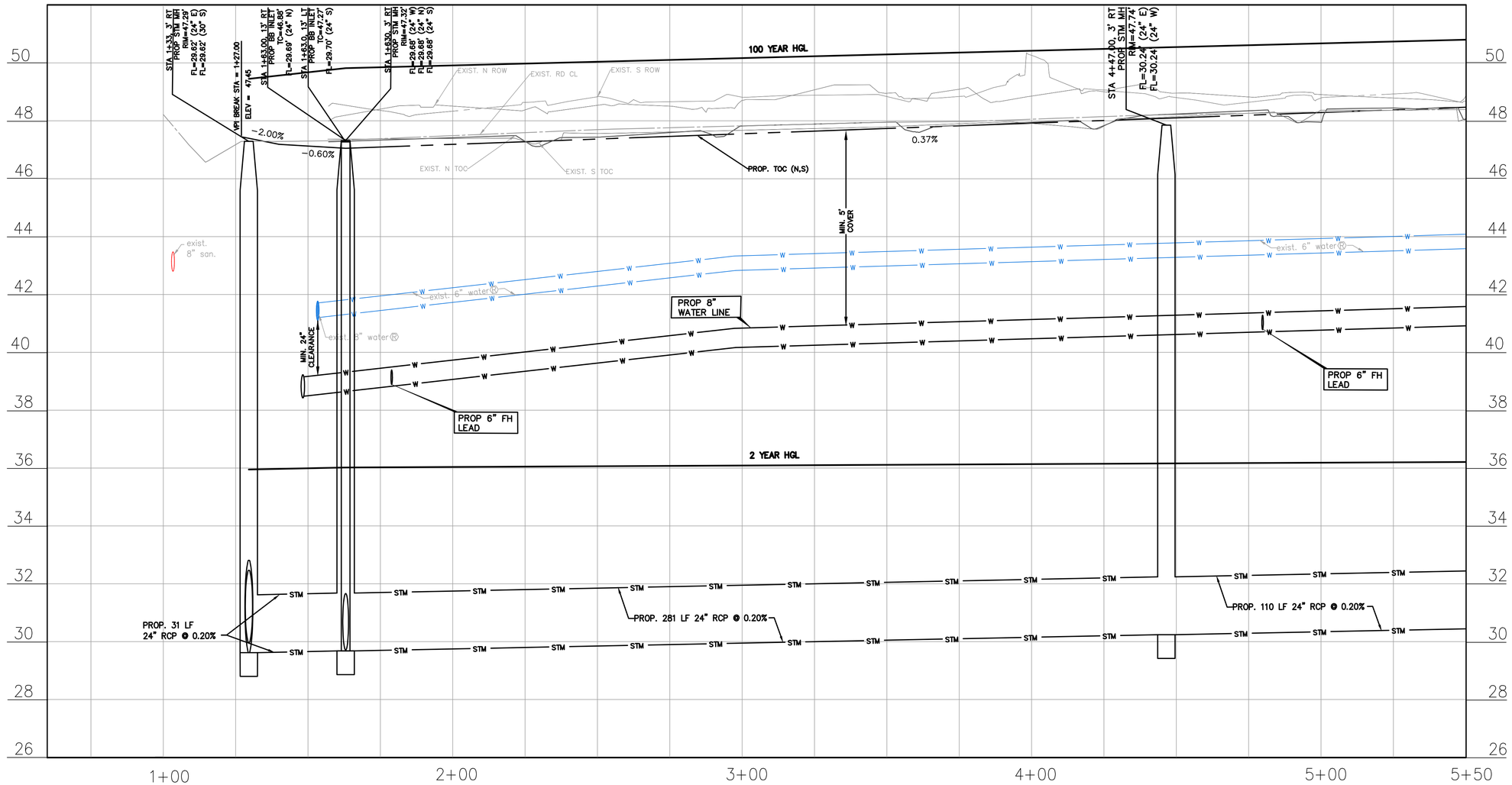

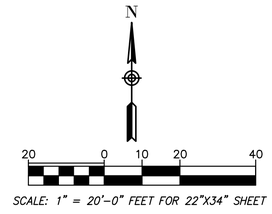

SCALE: 1" = 20'-0" FEET FOR 22"X34" SHEET

NO.	DATE	REVISION	APP.

BENCHMARK:

CITY OF HOUSTON MONUMENT 5254-0810, A BRASS DISK IN CONCRETE, LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF S BRAESWOOD BLVD AND LOOKOUT CT

ELEV. 46.86 Feet NAVD 1988 (GEOID '18)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED NOVEMBER 09, 2022.

VERTICAL DATUM ADJUSTMENT:

THE ELEVATION DIFFERENCE IN BETWEEN THE FLOODPLAIN REFERENCE MARK'S (RM 040145) PUBLISHED DATUM NAVD 1988, 2001 ADJUSTMENT AND PROJECT DATUM NAVD 1988 (GEOID '18) IS 0.23'.

NAVD 1988, 2001 ADJ. ELEVATION
= NAVD 1988 (GEOID '18) ELEVATION – 0.23 FEET

HORIZONTAL DATUM:

ALL HORIZONTAL COORDINATES ARE BASED ON TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NAD83. THE COORDINATES & DISTANCES SHOWN ARE SURFACE AND MAY BE CONVERTED TO GRID BY MULTIPLYING BY A SCALE FACTOR OF 0.999870017.

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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.

ISANI
civil \ design \ engineers
10448 Westoffice Drive
Houston, Texas 77042
P 713 747 2399
F 713 748 3748
TBPE Firm Reg. #4575

INTERIM REVIEW ONLY
DOCUMENT INCOMPLETE;
NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION
ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

SURVEYED BY: Kuo&Associates
FB NO. P-6396

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

PROFILE GANNETT STREET (STA 1+00 TO 5+50)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1"= 20' H, 1"= 2' V	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 25 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/10/2025 9:12 AM
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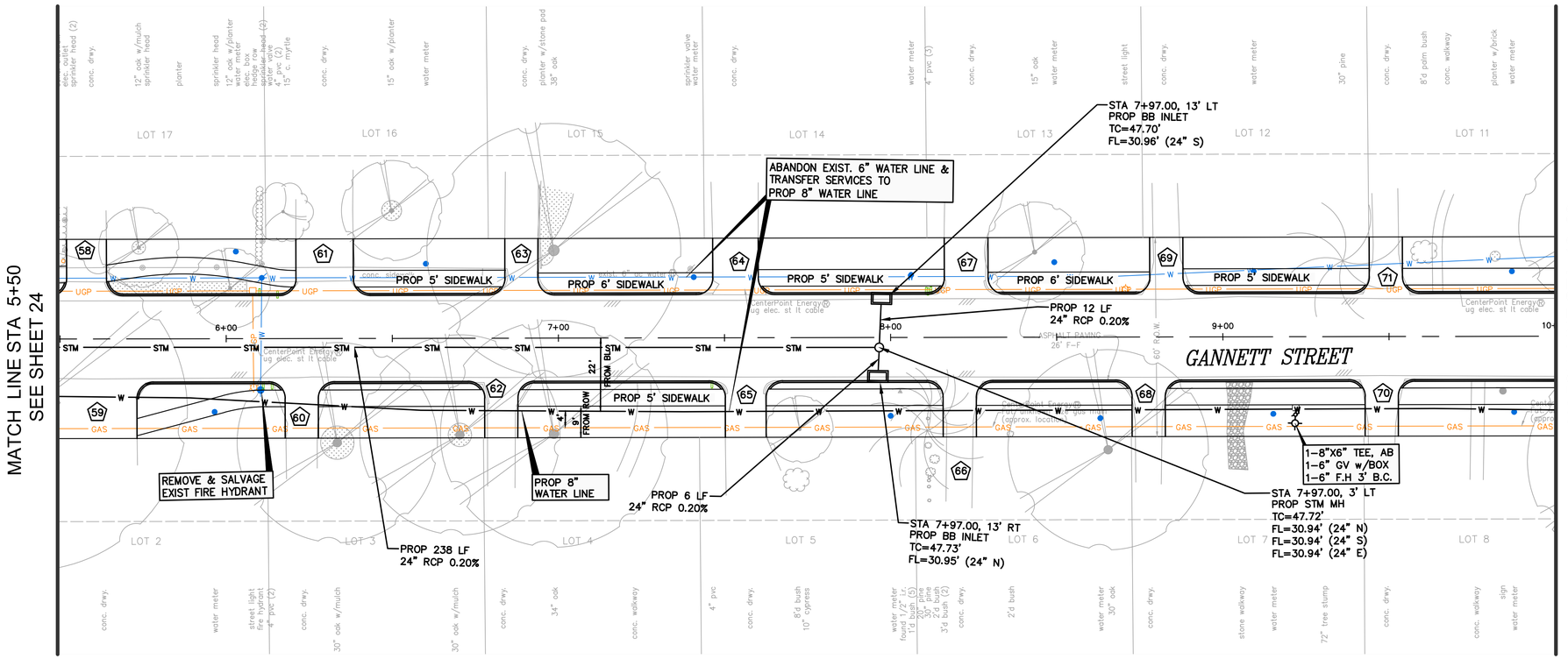

N

20 0 10 20 40

SCALE: 1" = 20'-0" FEET FOR 22"X34" SHEET

BENCHMARK:

CITY OF HOUSTON MONUMENT 5254-0810, A BRASS DISK IN CONCRETE, LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF S BRAESWOOD BLVD AND LOOKOUT CT

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TBPE Firm Reg. #4575

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

SURVEYED BY: Kuo&Associates
FB NO. P-6396

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

PLAN
GANNETT STREET
(STA 5+50 TO 10+00)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1"= 20' H, 1"= 2' V	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 26 OF 200	

NO.	DATE	REVISION	APP.

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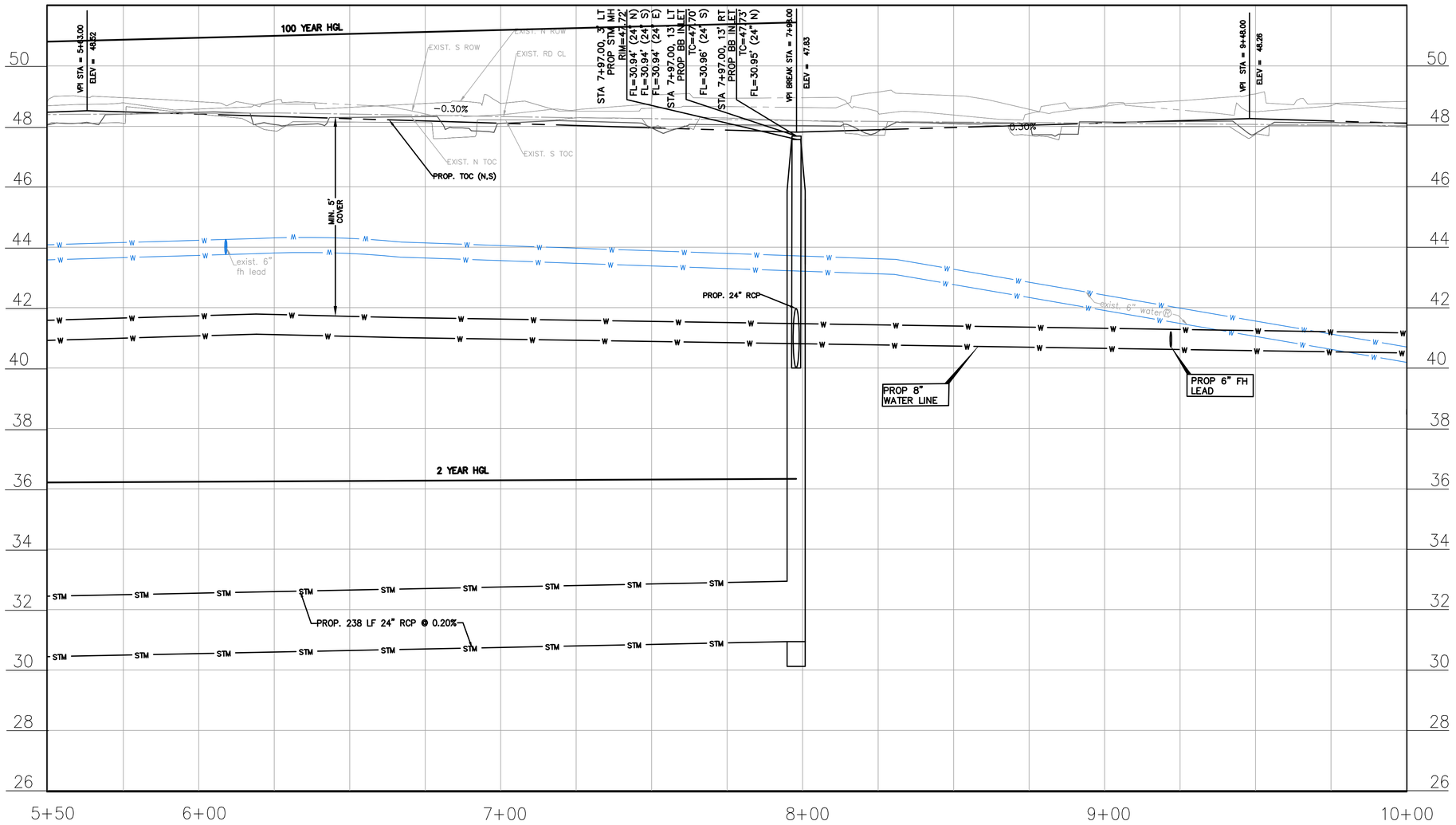

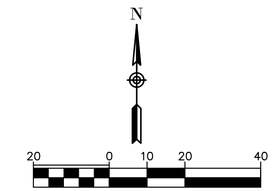

SCALE: 1" = 20'-0" FEET FOR 22"X34" SHEET

NO.	DATE	REVISION	APP.

BENCHMARK:

CITY OF HOUSTON MONUMENT 5254-0810, A BRASS DISK IN CONCRETE, LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF S BRAESWOOD BLVD AND LOOKOUT CT

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TBPE Firm Reg. #4575

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

SURVEYED BY: Kuo&Associates
FB NO. P-6396

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

PROFILE
GANNETT STREET
(STA 5+50 TO 10+00)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1"= 20' H, 1"= 2' V	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 27 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/10/2025 9:17 AM
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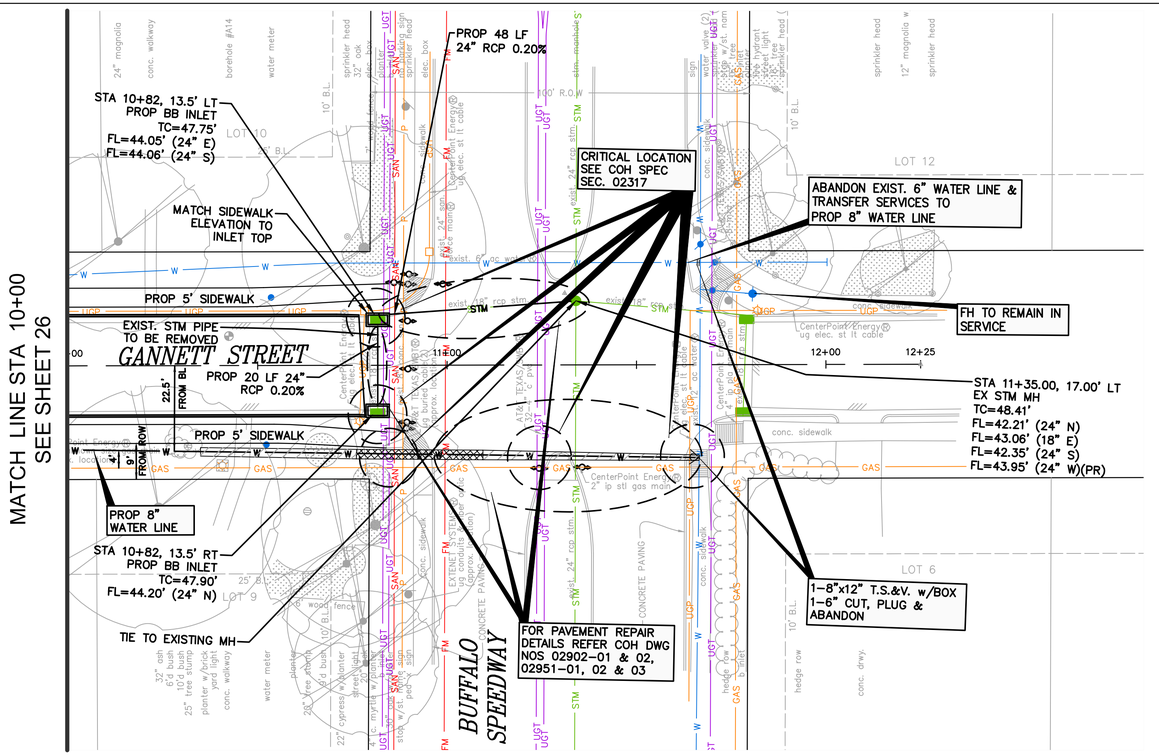

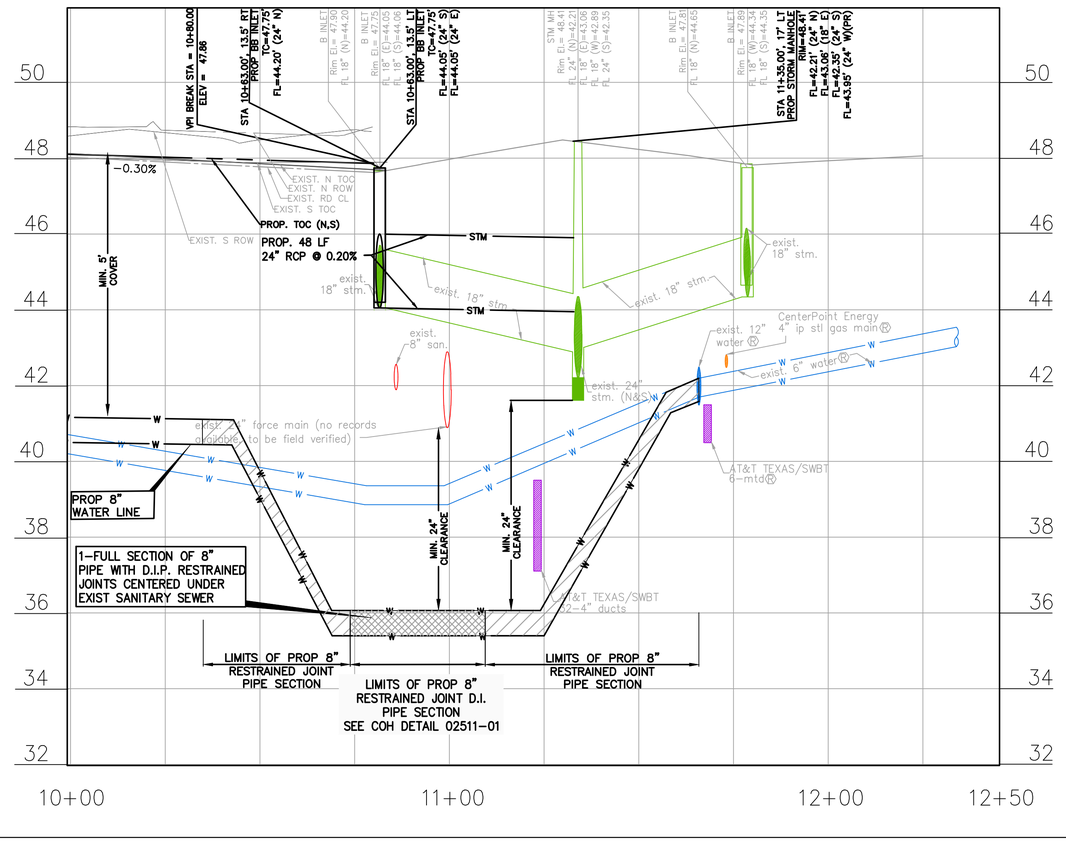

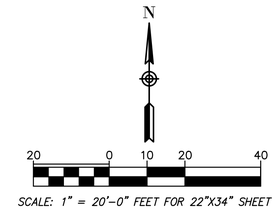

SCALE: 1" = 20'-0" FEET FOR 22"X34" SHEET

NO.	DATE	REVISION	APP.

BENCHMARK:

CITY OF HOUSTON MONUMENT 5254-0810, A BRASS DISK IN CONCRETE, LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF S BRAESWOOD BLVD AND LOOKOUT CT

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TBPE Firm Reg. #4575

SURVEYED BY: Kuo&Associates
FB NO. P-6396

INTERIM REVIEW ONLY
DOCUMENT INCOMPLETE;
NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION
ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

PLAN & PROFILE GANNETT STREET (STA 10+00 TO END)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1"= 20' H, 1"= 2' V	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 28 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/10/2025 9:26 AM
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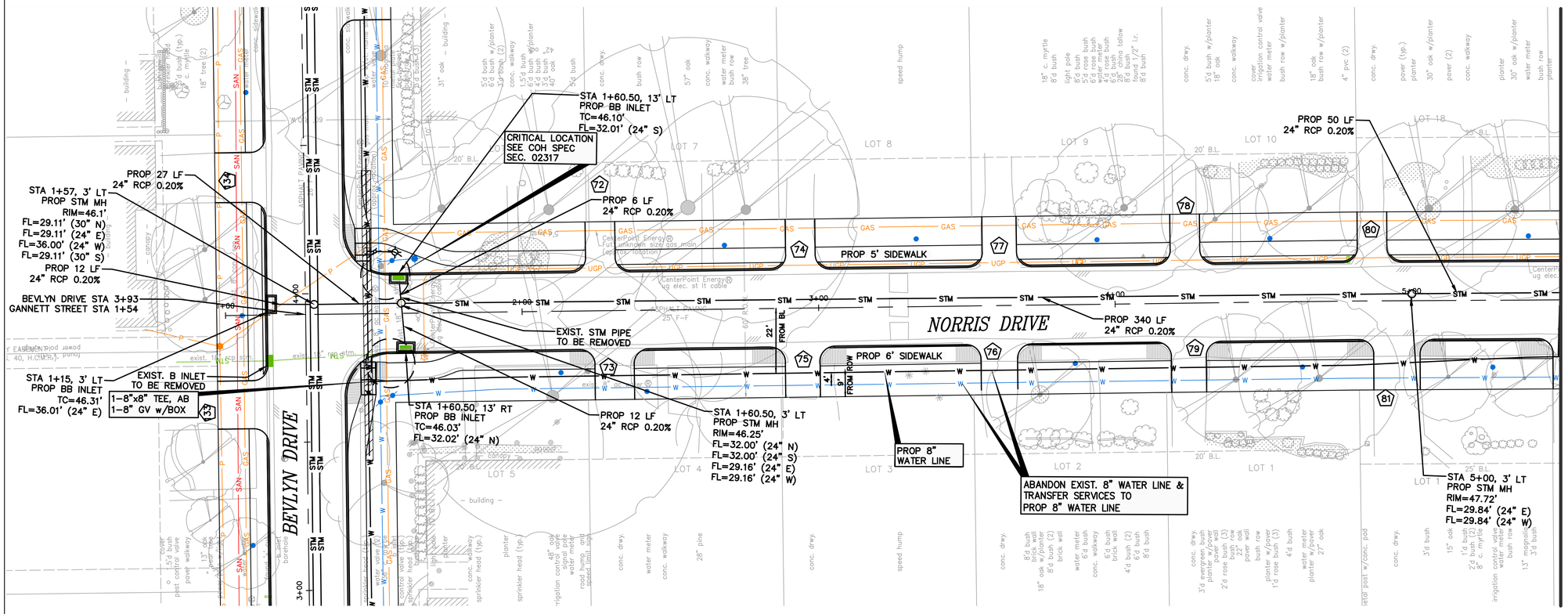

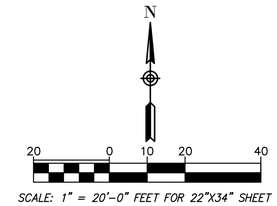

SCALE: 1" = 20'-0" FEET FOR 22"X34" SHEET

NO.	DATE	REVISION	APP.

BENCHMARK:

CITY OF HOUSTON MONUMENT 5254-0810, A BRASS DISK IN CONCRETE, LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF S BRAESWOOD BLVD AND LOOKOUT CT

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

SURVEYED BY: Kuo&Associates
FB NO. P-6396

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

PLAN
NORRIS DRIVE (EAST)
(STA 1+00 TO 5+50)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1"=20' H, 1"=2' V	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 29 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/10/2025 3:46 PM

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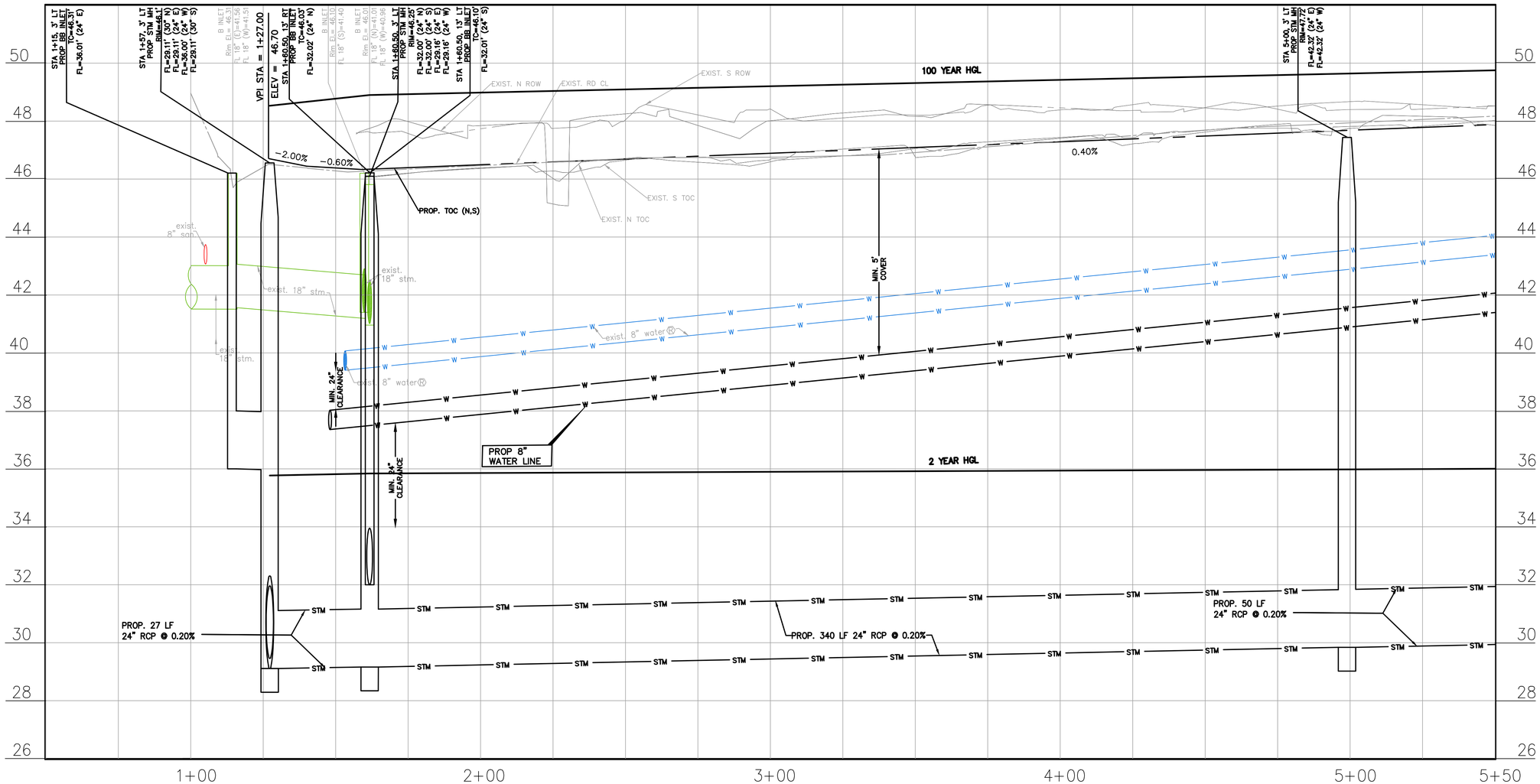

N

20 0 10 20 40

SCALE: 1" = 20'-0" FEET FOR 22"X34" SHEET

NO.	DATE	REVISION	APP.

BENCHMARK:

CITY OF HOUSTON MONUMENT 5254-0810, A BRASS DISK IN CONCRETE, LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF S BRAESWOOD BLVD AND LOOKOUT CT

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ENGINEER: RAHUL B MENON, P.E
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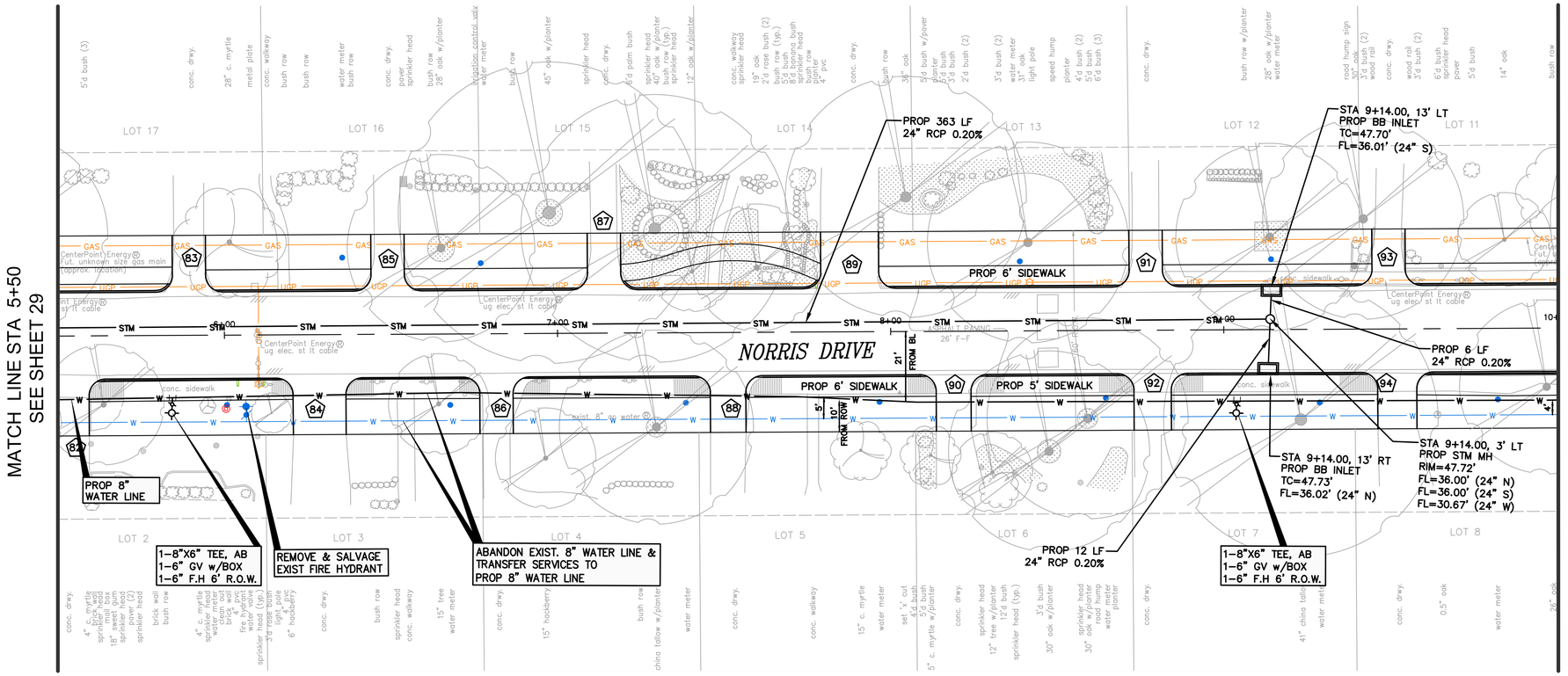
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

PROFILE
NORRIS DRIVE (EAST)
(STA 1+00 TO 5+50)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1"=20' H, 1"=2' V	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 30 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/10/2025 9:33 AM
FILE PATH: P:\ACTIVE\15DR30 SP1A\Ph II\Working\CAD\PR_PP_04 Norris Dr (East).dwg



N

20 0 10 20 40

SCALE: 1" = 20'-0" FEET FOR 22"X34" SHEET

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HOUSTON PUBLIC WORKS

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(STA 5+50 TO 10+00)

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CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 31 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/10/2025 9:34 AM
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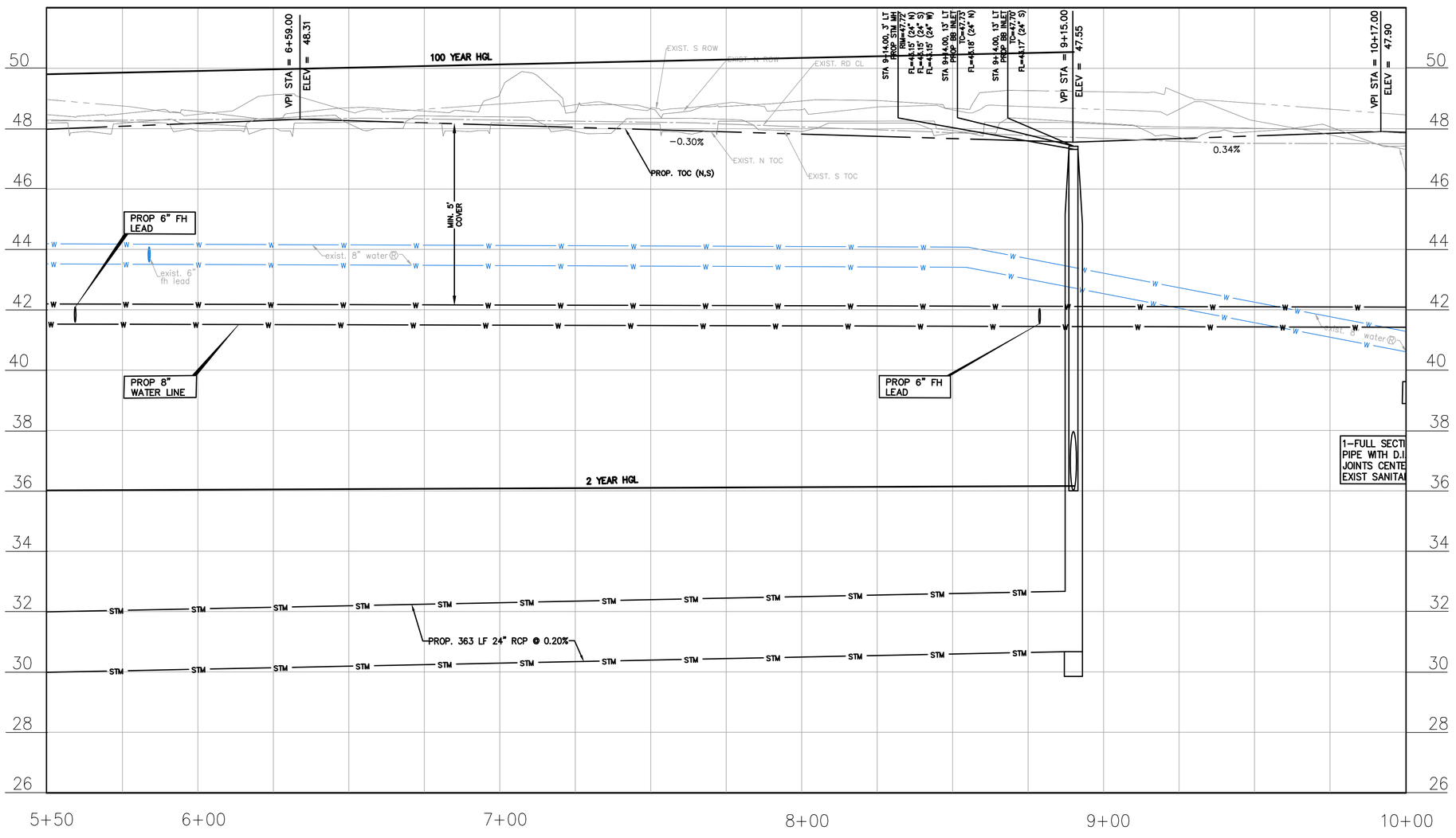

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20 0 10 20 40

SCALE: 1" = 20'-0" FEET FOR 22"X34" SHEET

NO.	DATE	REVISION	APP.

BENCHMARK:

CITY OF HOUSTON MONUMENT 5254-0810, A BRASS DISK IN CONCRETE, LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF S BRAESWOOD BLVD AND LOOKOUT CT

ELEV. 46.86 Feet NAVD 1988 (GEOID '18)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED NOVEMBER 09, 2022.

VERTICAL DATUM ADJUSTMENT:

THE ELEVATION DIFFERENCE IN BETWEEN THE FLOODPLAIN REFERENCE MARK'S (RM 040145) PUBLISHED DATUM NAVD 1988, 2001 ADJUSTMENT AND PROJECT DATUM NAVD 1988 (GEOID '18) IS 0.23'.

NAVD 1988, 2001 ADJ. ELEVATION
= NAVD 1988 (GEOID '18) ELEVATION - 0.23 FEET

HORIZONTAL DATUM:

ALL HORIZONTAL COORDINATES ARE BASED ON TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NAD83. THE COORDINATES & DISTANCES SHOWN ARE SURFACE AND MAY BE CONVERTED TO GRID BY MULTIPLYING BY A SCALE FACTOR OF 0.999870017.

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.

ISANI
civil | design | engineers
10448 Westoffice Drive
Houston, Texas 77042
P 713 747 2399
F 713 748 3748
TBPE Firm Reg. #4575

SURVEYED BY: Kuo&Associates
FB NO. P-6396

INTERIM REVIEW ONLY
DOCUMENT INCOMPLETE;
NOT INTENDED FOR PERMIT,
BIDDING OR CONSTRUCTION
ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

PROFILE
NORRIS DRIVE (EAST)
(STA 5+50 TO 10+00)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1"=20' H, 1"=2' V	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 32 OF 200	

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PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/10/2025 9:39 AM
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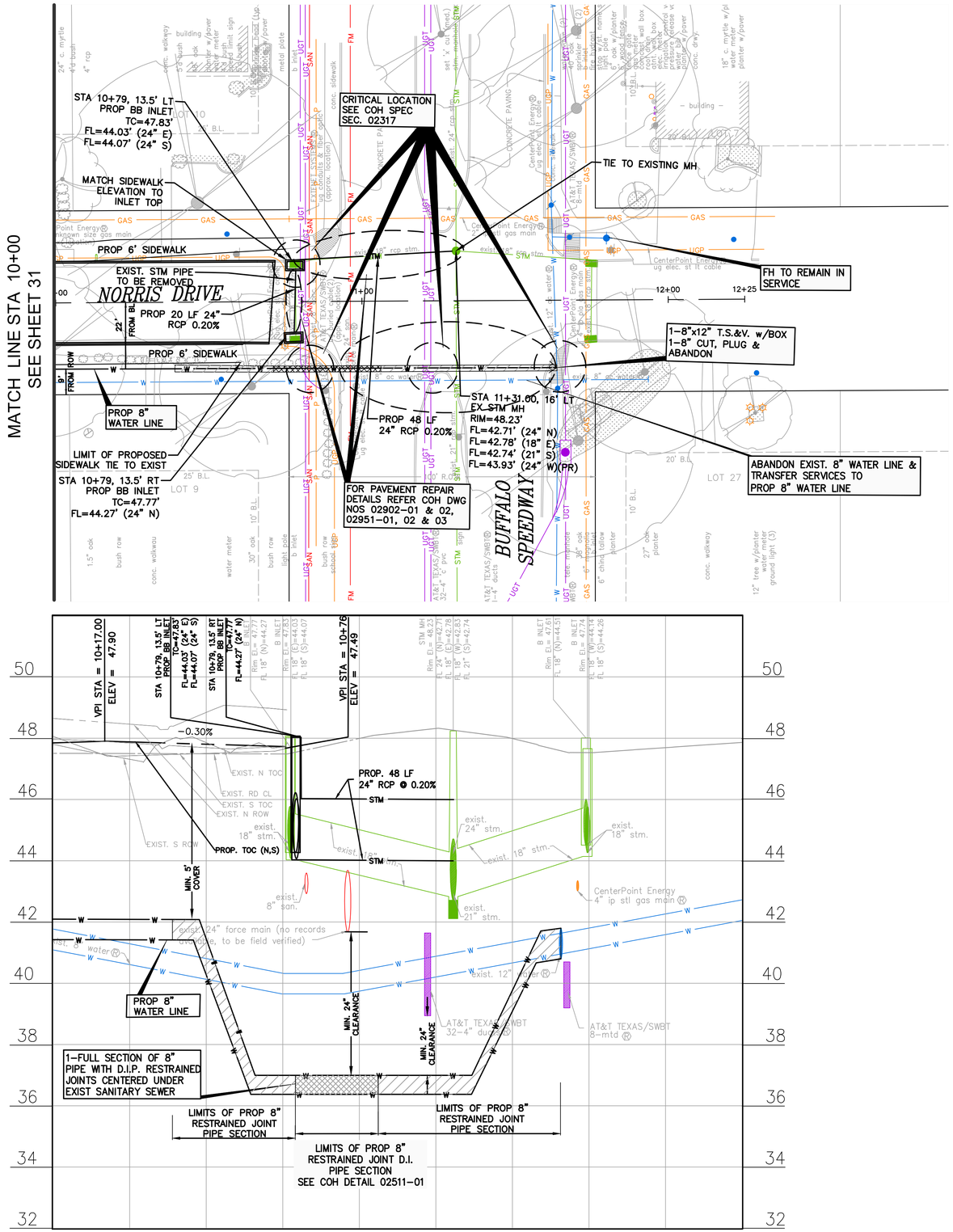

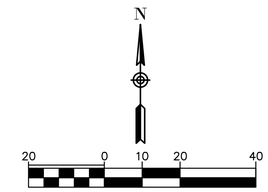

SCALE: 1" = 20'-0" FEET FOR 22"X34" SHEET

NO.	DATE	REVISION	APP.

BENCHMARK:

CITY OF HOUSTON MONUMENT 5254-0810, A BRASS DISK IN CONCRETE, LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF S BRAESWOOD BLVD AND LOOKOUT CT

ELEV. 46.86 Feet NAVD 1988 (GEOID '18)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED NOVEMBER 09, 2022.

VERTICAL DATUM ADJUSTMENT:

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NAVD 1988, 2001 ADJ. ELEVATION
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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

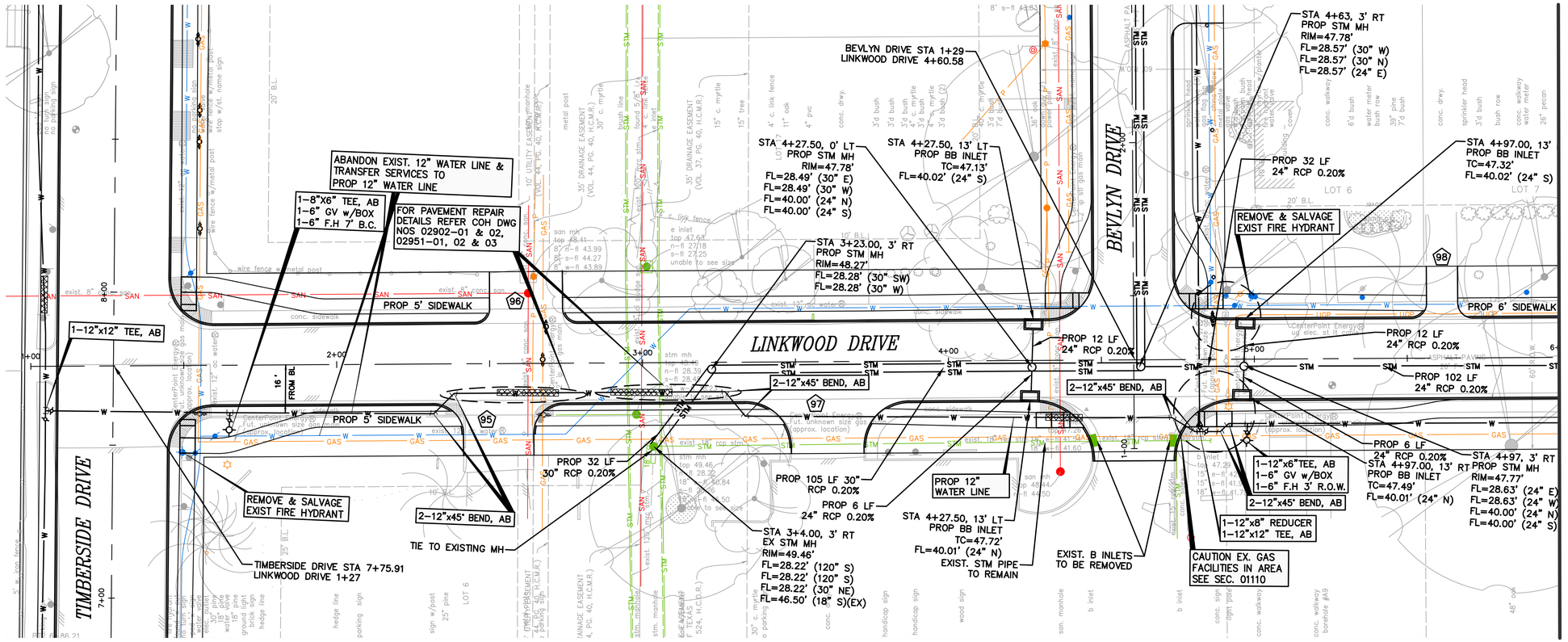
SURVEYED BY: Kuo&Associates
FB NO. P-6396

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

PLAN & PROFILE NORRIS DRIVE (EAST) (STA 10+00 TO END)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1"= 20' H, 1"= 2' V	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 33 OF 200	



BENCHMARK:

CITY OF HOUSTON MONUMENT 5254-0810, A BRASS DISK IN CONCRETE, LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF S BRAESWOOD BLVD AND LOOKOUT CT

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VERTICAL DATUM ADJUSTMENT:

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ENGINEER: RAHUL B MENON, P.E
P.E.Reg No: 130533
DATE: DECEMBER 2025

SURVEYED BY: Kuo&Associates
FB NO. P-6396

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

PLAN
LINKWOOD DRIVE
(STA 1+00 TO 6+00)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1"= 20' H, 1"= 2' V	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 34 OF 200	

NO.	DATE	REVISION	APP.

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/10/2025 9:56 AM

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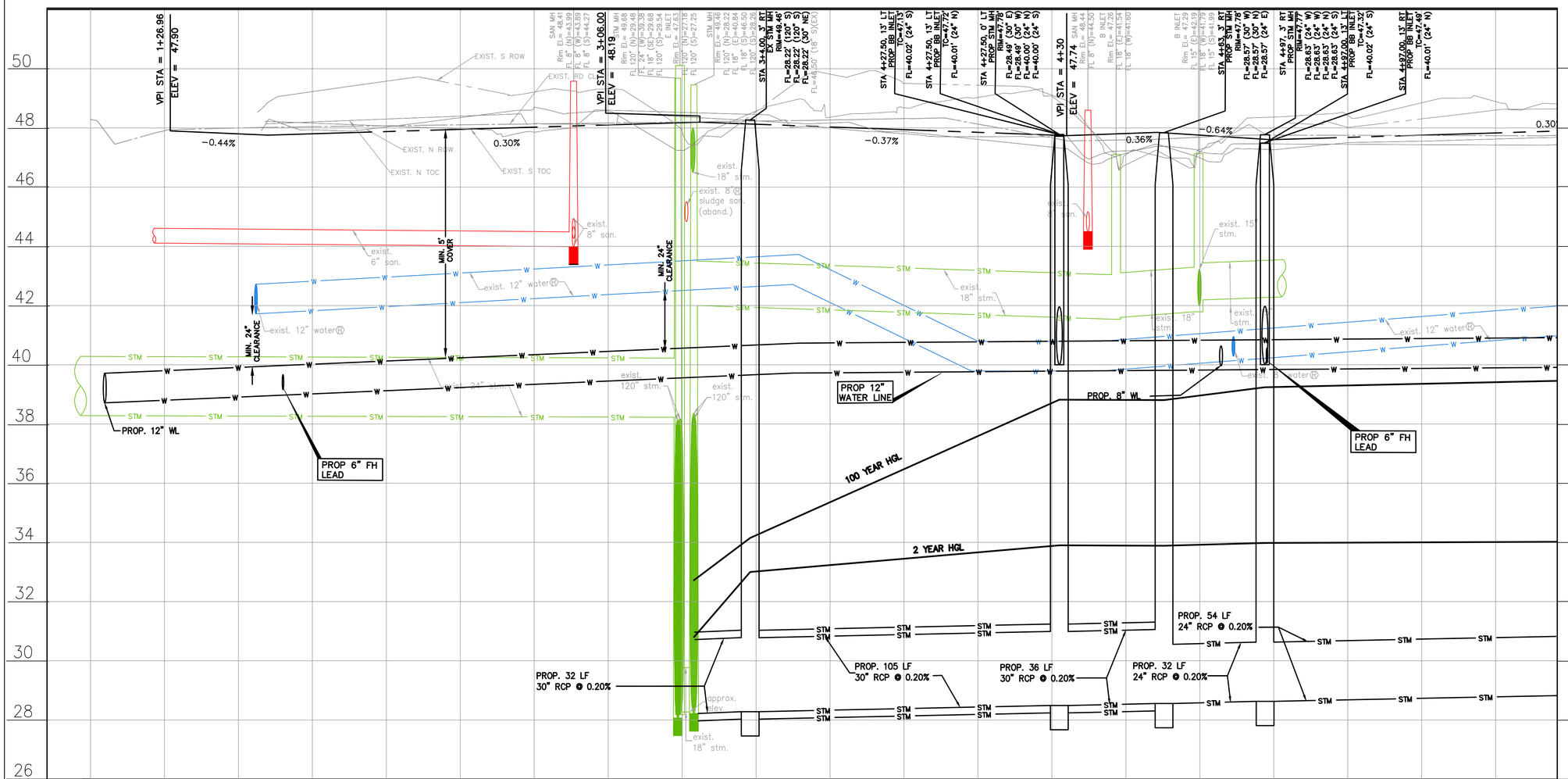

N

20 0 10 20 40

SCALE: 1" = 20'-0" FEET FOR 22"X34" SHEET

NO.	DATE	REVISION	APP.

BENCHMARK:

CITY OF HOUSTON MONUMENT 5254-0810, A BRASS DISK IN CONCRETE, LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF S BRAESWOOD BLVD AND LOOKOUT CT

ELEV. 46.86 Feet NAVD 1988 (GEOID '18)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED NOVEMBER 09, 2022.

VERTICAL DATUM ADJUSTMENT:

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civil \ design \ engineers
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TBPE Firm Reg. #4575

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

SURVEYED BY: Kuo&Associates
FB NO. P-6396

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

PROFILE
LINKWOOD DRIVE
(STA 1+00 TO 6+00)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1"= 20' H, 1"= 2' V	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 35 OF 200	

PLOTTED: 12/10/2025 10:09 AM
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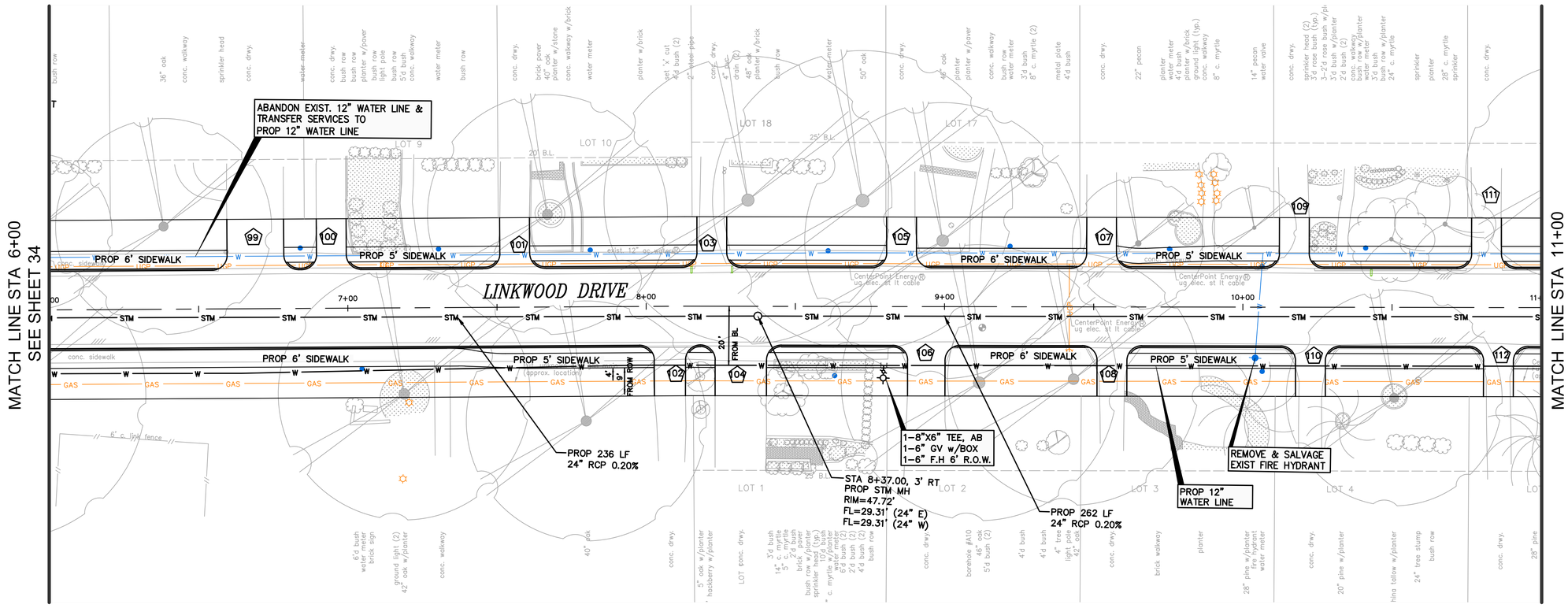

N

20 0 10 20 40

SCALE: 1" = 20'-0" FEET FOR 22"X34" SHEET

NO.	DATE	REVISION	APP.

BENCHMARK:

CITY OF HOUSTON MONUMENT 5254-0810, A BRASS DISK IN CONCRETE, LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF S BRAESWOOD BLVD AND LOOKOUT CT

ELEV. 46.86 Feet NAVD 1988 (GEOID '18)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED NOVEMBER 09, 2022.

VERTICAL DATUM ADJUSTMENT:

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VERIFICATION OF PRIVATE UTILITY LINES

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civil | design | engineers
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Houston, Texas 77042
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TBPE Firm Reg. #4575

SURVEYED BY: Kuo&Associates
FB NO. P-6396

INTERIM REVIEW ONLY
DOCUMENT INCOMPLETE;
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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

PLAN
LINKWOOD DRIVE
(STA 6+00 TO 11+00)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1"= 20' H, 1"= 2' V	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 36 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/10/2025 10:10 AM
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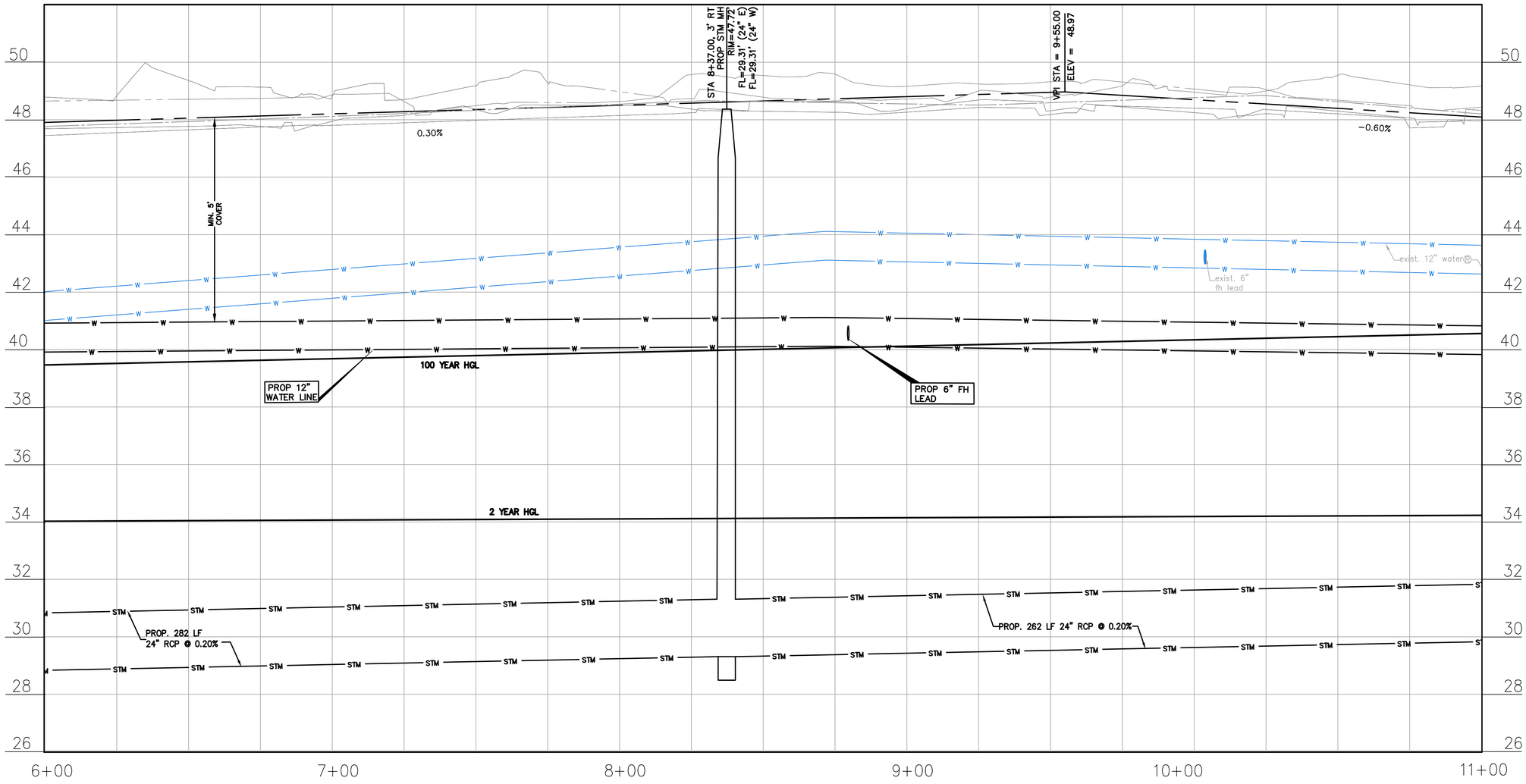

N

20 0 10 20 40

SCALE: 1" = 20'-0" FEET FOR 22"X34" SHEET

NO.	DATE	REVISION	APP.

BENCHMARK:

CITY OF HOUSTON MONUMENT 5254-0810, A BRASS DISK IN CONCRETE, LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF S BRAESWOOD BLVD AND LOOKOUT CT

ELEV. 46.86 Feet NAVD 1988 (GEOID '18)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED NOVEMBER 09, 2022.

VERTICAL DATUM ADJUSTMENT:

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

SURVEYED BY: Kuo&Associates
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

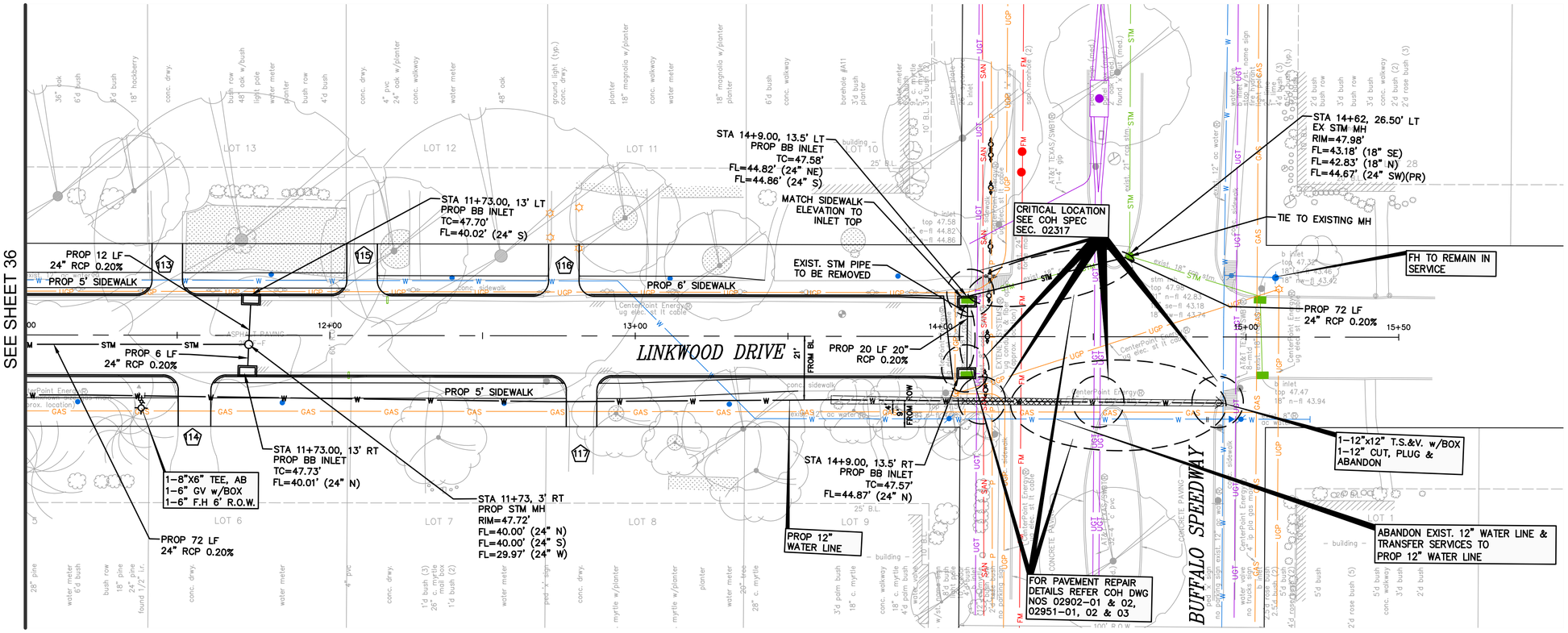
WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

PROFILE LINKWOOD DRIVE (STA 6+00 TO 11+00)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1"= 20' H, 1"= 2' V	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 37 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/10/2025 10:13 AM

FILE PATH: P:\ACTIVE\15DR30 SP1A\Ph II\Working\CAD\PR_PP_05 Linkwood Dr.dwg



N

20 0 10 20 40

SCALE: 1" = 20'-0" FEET FOR 22"X34" SHEET

NO.	DATE	REVISION	APP.

BENCHMARK:

CITY OF HOUSTON MONUMENT 5254-0810, A BRASS DISK IN CONCRETE, LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF S BRAESWOOD BLVD AND LOOKOUT CT

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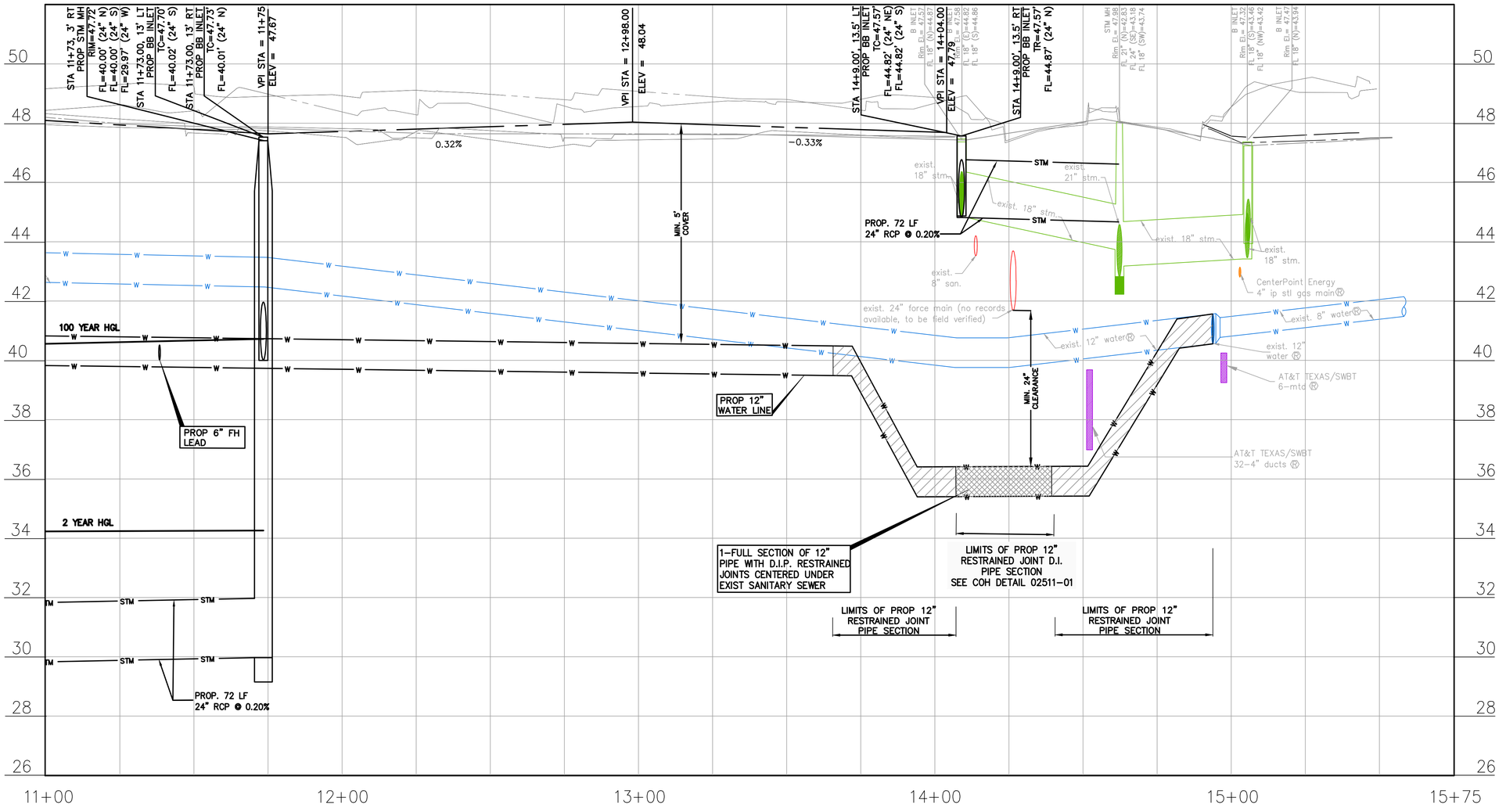
WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

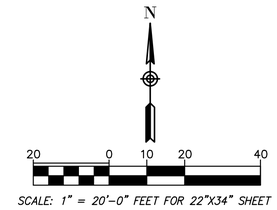
PLAN
LINKWOOD DRIVE
(STA 11+00 TO END)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1"= 20' H, 1"= 2' V	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 38 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/10/2025 10:13 AM

FILE PATH: P:\ACTIVE\15DR30 SP1A\Ph II\Working\CAD\PR_PP_05 Linkwood Dr.dwg





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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.

ISANI
civil \ design \ engineers
10448 Westoffice Drive
Houston, Texas 77042
P 713 747 2399
F 713 748 3748
TBPE Firm Reg. #4575

INTERIM REVIEW ONLY
DOCUMENT INCOMPLETE; NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION
ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

SURVEYED BY: Kuo&Associates
FB NO. P-6396

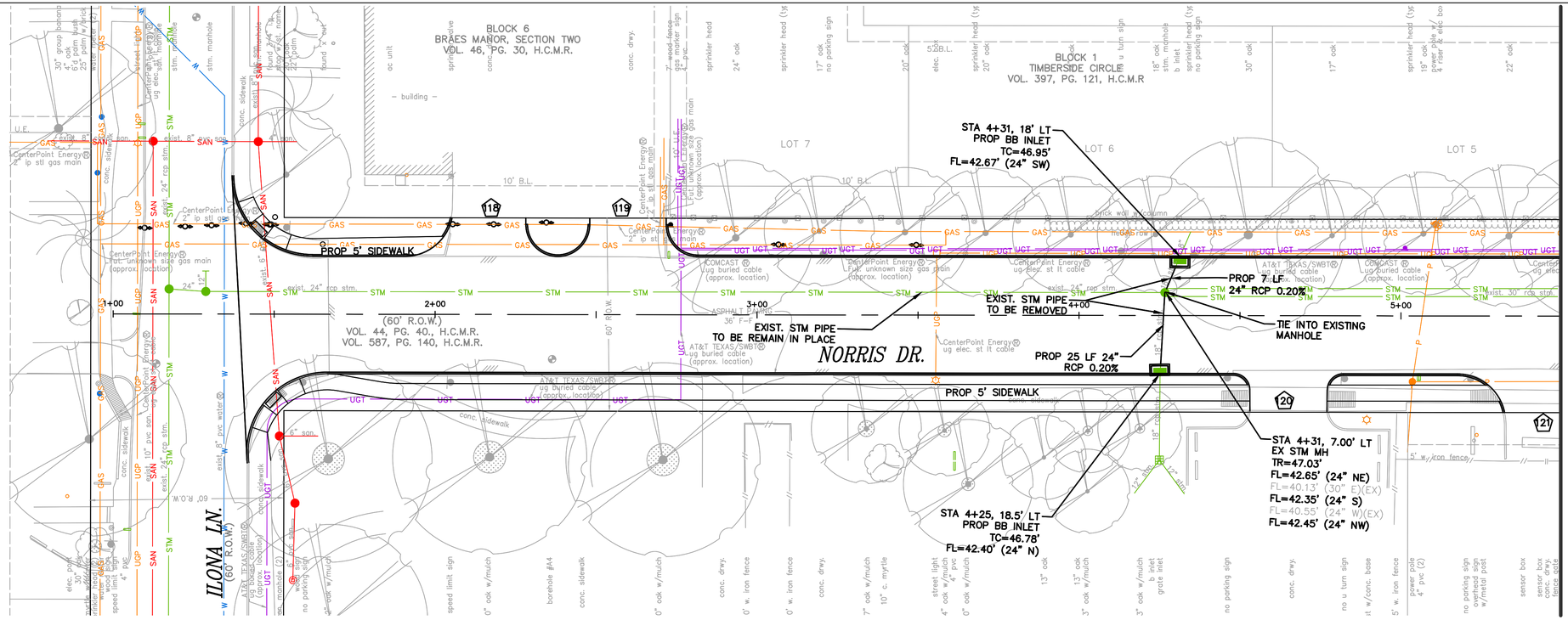
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

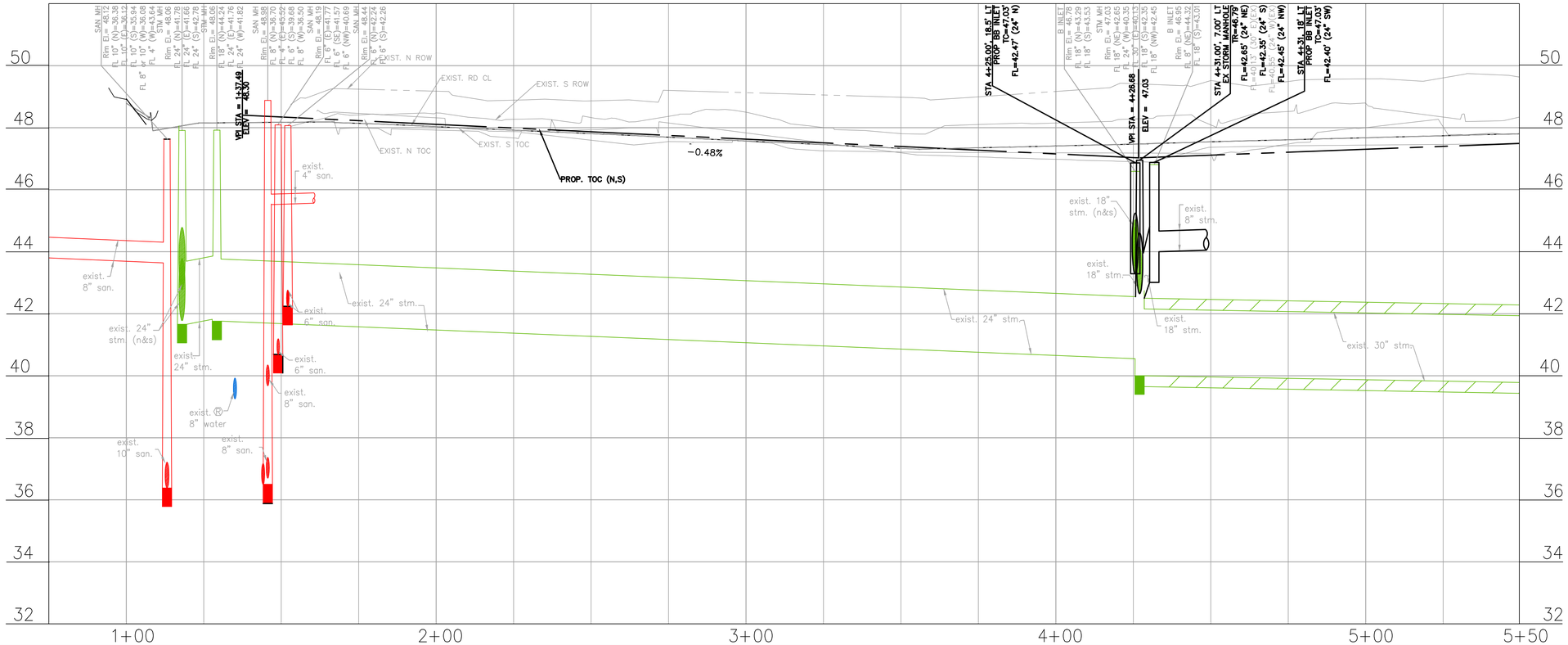
WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

PROFILE LINKWOOD DRIVE (STA 11+00 TO END)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1"= 20' H, 1"= 2' V	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 39 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/10/2025 10:14 AM
FILE PATH: P:\ACTIVE\15DR30 SP1A\Ph II\Working\CAD\PR_PP_05 Linkwood Dr.dwg





SCALE: 1" = 20'-0" FEET FOR 22"X34" SHEET

NO.	DATE	REVISION	APP.

BENCHMARK:

CITY OF HOUSTON MONUMENT 5254-0810, A BRASS DISK IN CONCRETE, LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF S BRAESWOOD BLVD AND LOOKOUT CT

ELEV. 46.86 Feet NAVD 1988 (GEOID '18)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED NOVEMBER 09, 2022.

VERTICAL DATUM ADJUSTMENT:

THE ELEVATION DIFFERENCE IN BETWEEN THE FLOODPLAIN REFERENCE MARK'S (RM 040145) PUBLISHED DATUM NAVD 1988, 2001 ADJUSTMENT AND PROJECT DATUM NAVD 1988 (GEOID '18) IS 0.23'.

NAVD 1988, 2001 ADJ. ELEVATION
= NAVD 1988 (GEOID '18) ELEVATION – 0.23 FEET

HORIZONTAL DATUM:

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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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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

PLAN & PROFILE NORRIS DRIVE (WEST) (STA 1+00 TO 5+50)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1"=20' H, 1"=2' V	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 40 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/10/2025 10:18 AM
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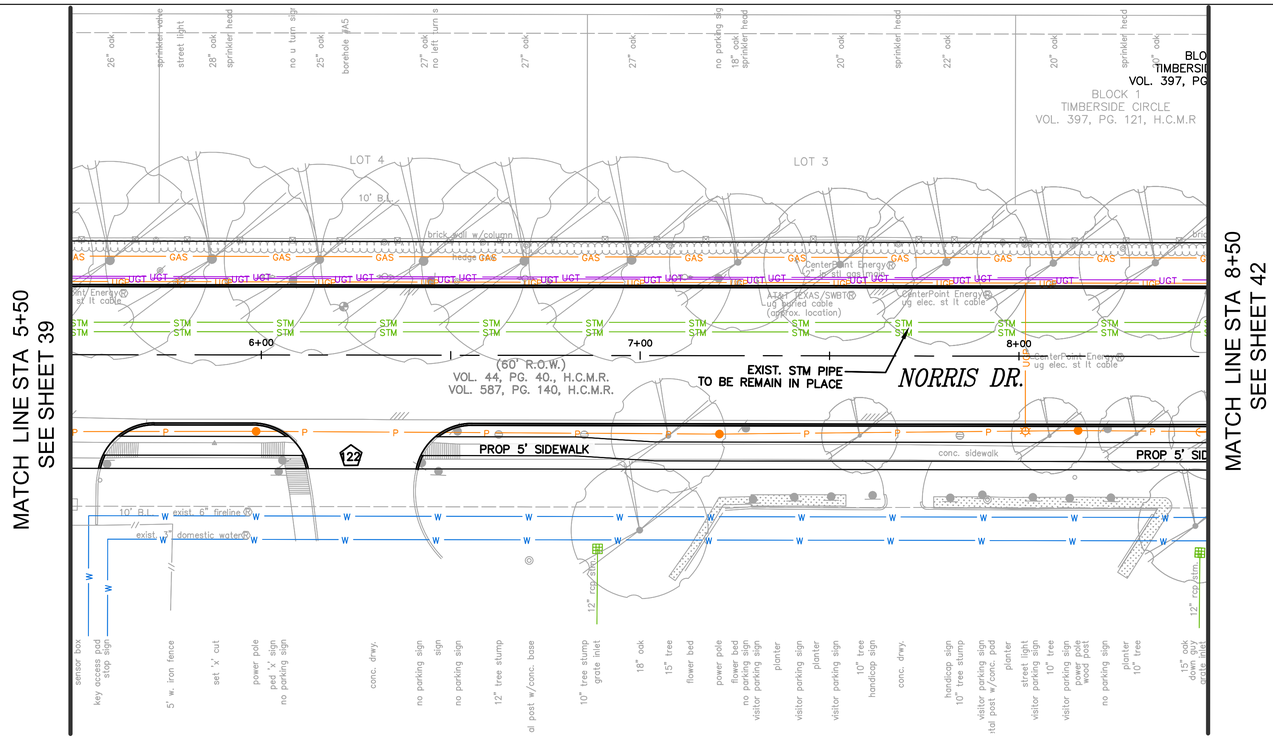

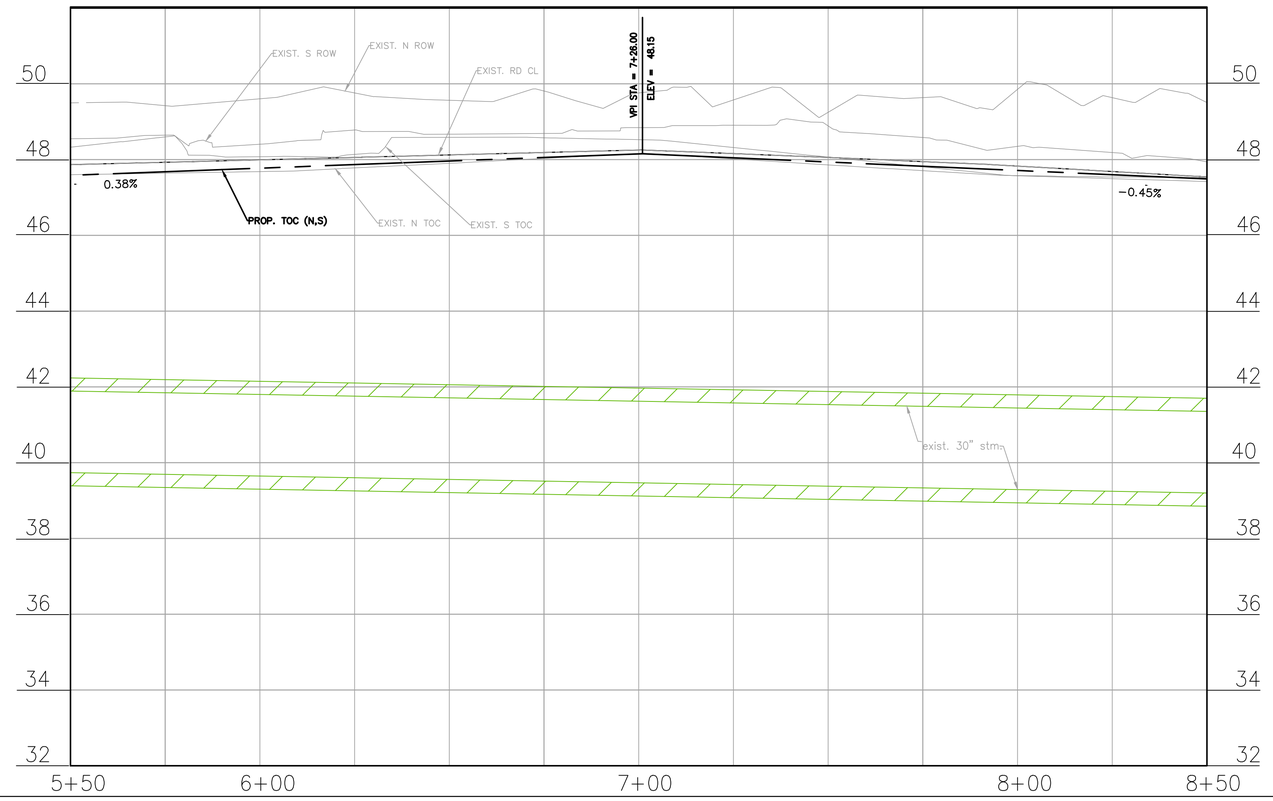

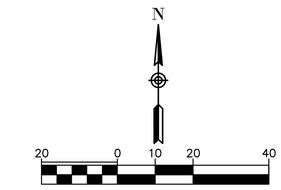

SCALE: 1" = 20'-0" FEET FOR 22"X34" SHEET

NO.	DATE	REVISION	APP.

BENCHMARK:

CITY OF HOUSTON MONUMENT 5254-0810, A BRASS DISK IN CONCRETE, LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF S BRAESWOOD BLVD AND LOOKOUT CT

ELEV. 46.86 Feet NAVD 1988 (GEOID '18)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED NOVEMBER 09, 2022.

VERTICAL DATUM ADJUSTMENT:

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NAVD 1988, 2001 ADJ. ELEVATION
= NAVD 1988 (GEOID '18) ELEVATION − 0.23 FEET

HORIZONTAL DATUM:

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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.

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civil \ design \ engineers
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Houston, Texas 77042
P 713 747 2399
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TBPE Firm Reg. #4575

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

SURVEYED BY: Kuo&Associates
FB NO. P-6396

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

PLAN & PROFILE NORRIS DRIVE (WEST) (STA 5+50 TO 8+50)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1"=20' H, 1"=2' V	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 41 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/10/2025 10:23 AM
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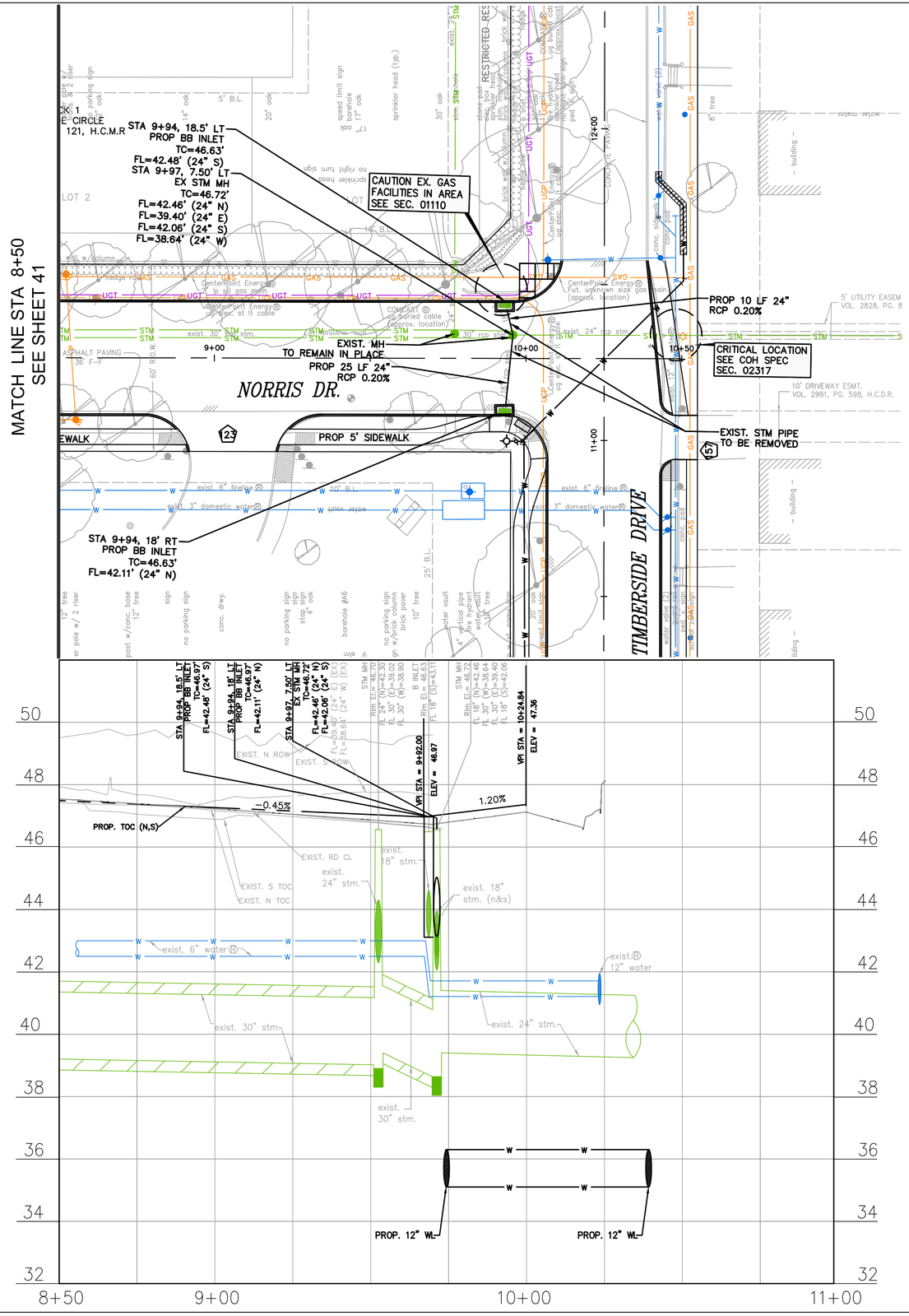

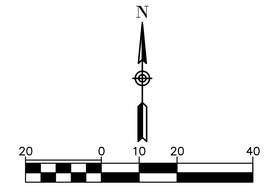

SCALE: 1" = 20'-0" FEET FOR 22"X34" SHEET

NO.	DATE	REVISION	APP.

BENCHMARK:

CITY OF HOUSTON MONUMENT 5254-0810, A BRASS DISK IN CONCRETE, LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF S BRAESWOOD BLVD AND LOOKOUT CT

ELEV. 46.86 Feet NAVD 1988 (GEOID '18)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED NOVEMBER 09, 2022.

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Date

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ENGINEER: RAHUL B MENON, P.E
P.E.Reg No: 130533
DATE: DECEMBER 2025

SURVEYED BY: Kuo&Associates
FB NO. P-6396

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

PLAN & PROFILE
NORRIS DRIVE (WEST)
(STA 8+50 TO 11+00)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1"=20' H, 1"=2' V	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 42 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/10/2025 10:25 AM
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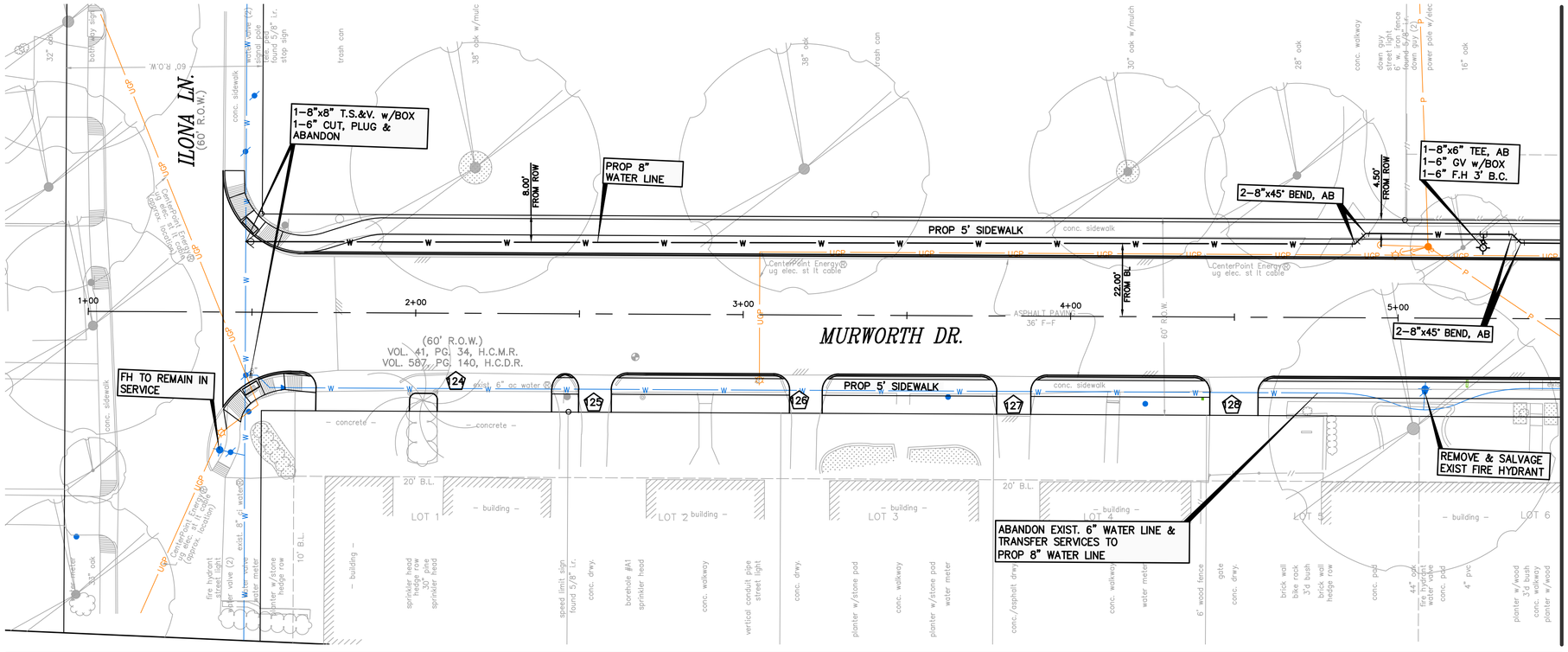

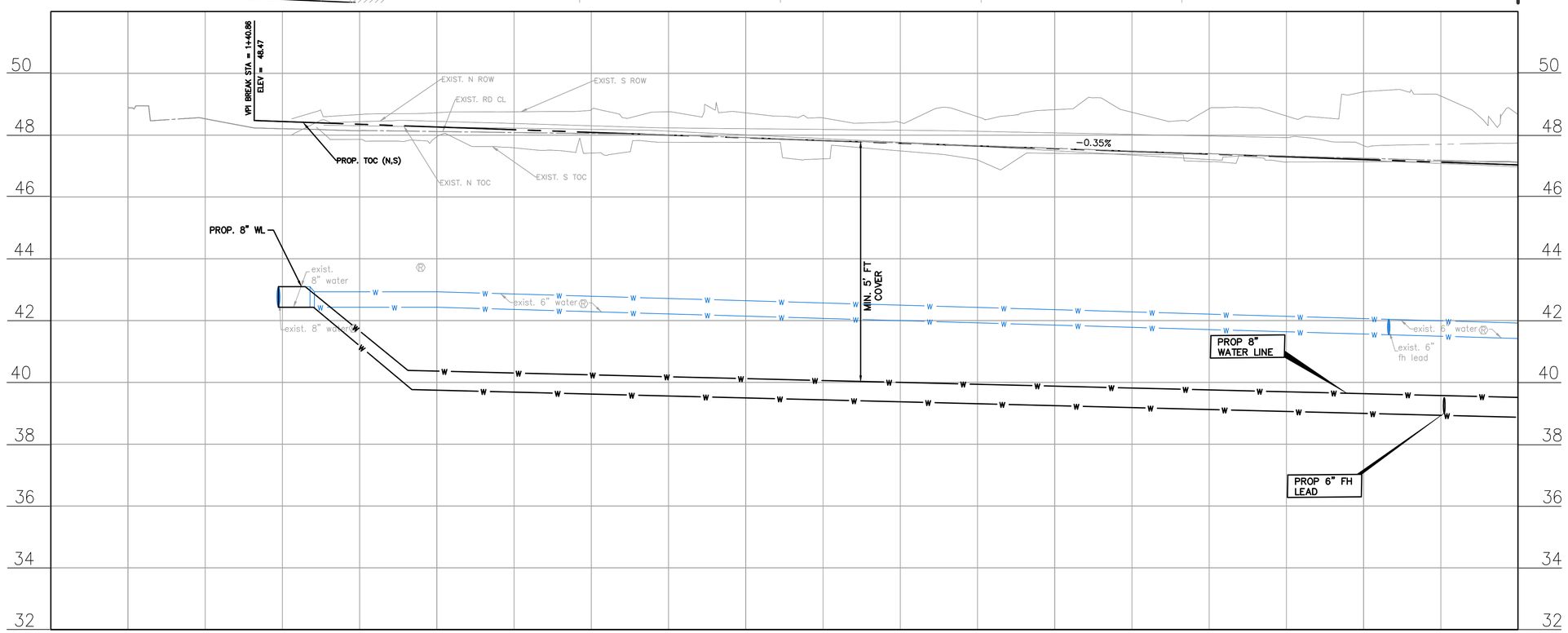

N

20 0 10 20 40

SCALE: 1" = 20'-0" FEET FOR 22"X34" SHEET

NO.	DATE	REVISION	APP.

BENCHMARK:

CITY OF HOUSTON MONUMENT 5254-0810, A BRASS DISK IN CONCRETE, LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF S BRAESWOOD BLVD AND LOOKOUT CT

ELEV. 46.86 Feet NAVD 1988 (GEOID '18)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED NOVEMBER 09, 2022.

VERTICAL DATUM ADJUSTMENT:

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VERIFICATION OF PRIVATE UTILITY LINES

Date

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FB NO. P-6396

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

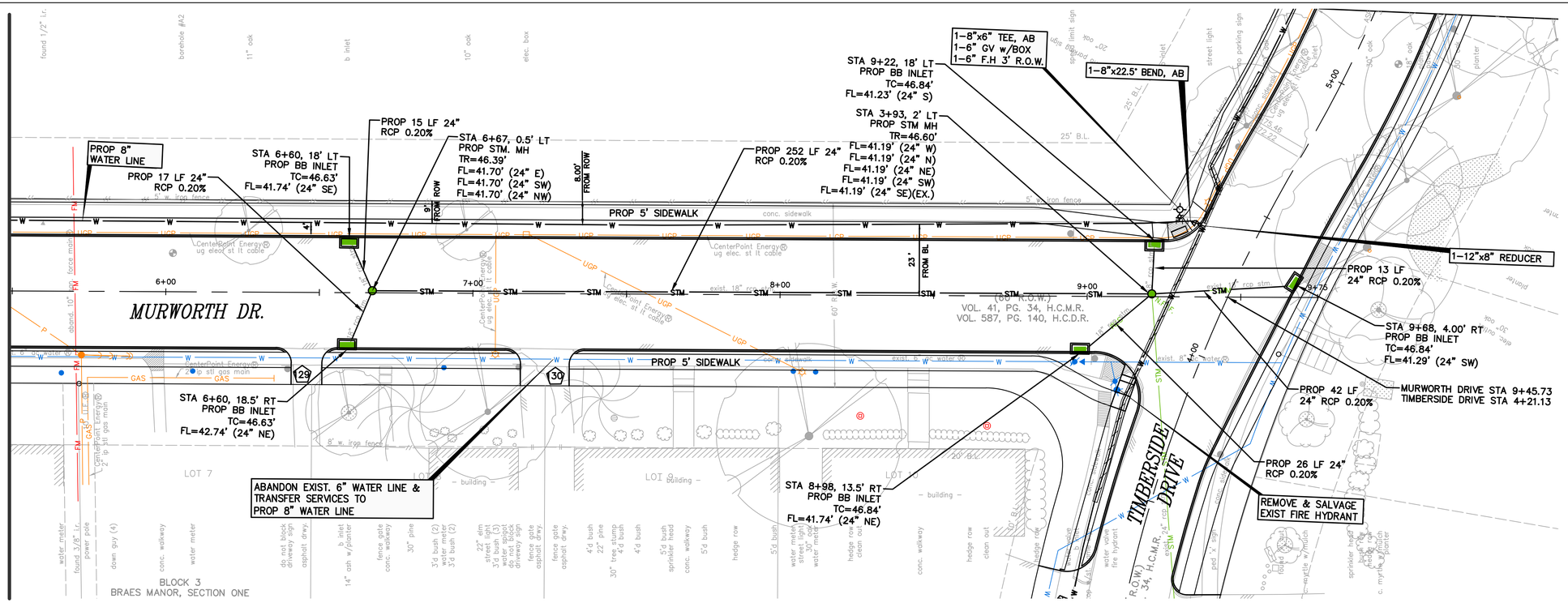
PLAN & PROFILE MURWORTH DRIVE (STA 1+00 TO 5+50)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1"=20' H, 1"=2' V	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 43 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/10/2025 10:31 AM

FILE PATH: P:\ACTIVE\150R30 SP1A\Ph II\Working\CAD\PR_PP_07 Murworth Dr.dwg

MATCH LINE STA 5+50
SEE SHEET 43


MURWORTH DR.
TIMBERSIDE DRIVE
BLOCK 3
BRAES MANOR, SECTION ONE
LOT 7
LOT 8
LOT 29
LOT 30
PROP 8" WATER LINE
PROP 17 LF 24" RCP 0.20%
STA 6+60, 18' LT
PROP BB INLET
TC=46.63'
FL=41.74' (24" SE)
PROP 15 LF 24" RCP 0.20%
STA 6+67, 0.5' LT
PROP STM. MH
TR=46.39'
FL=41.70' (24" E)
FL=41.70' (24" SW)
FL=41.70' (24" NW)
PROP 252 LF 24" RCP 0.20%
STA 9+22, 18' LT
PROP BB INLET
TC=46.84'
FL=41.23' (24" S)
STA 3+93, 2' LT
PROP STM MH
TR=46.60'
FL=41.19' (24" W)
FL=41.19' (24" N)
FL=41.19' (24" NE)
FL=41.19' (24" SW)
FL=41.19' (24" SE)(EX.)
1-8"x6" TEE, AB
1-6" GV w/BOX
1-6" F.H 3' R.O.W.
1-8"x22.5° BEND, AB
1-12"x8" REDUCER
PROP 13 LF
24" RCP 0.20%
STA 9+68, 4.00' RT
PROP BB INLET
TC=46.84'
FL=41.29' (24" SW)
PROP 42 LF
24" RCP 0.20%
MURWORTH DRIVE STA 9+45.73
TIMBERSIDE DRIVE STA 4+21.13
PROP 26 LF 24"
RCP 0.20%
REMOVE & SALVAGE
EXIST FIRE HYDRANT
STA 6+60, 18.5' RT
PROP BB INLET
TC=46.63'
FL=42.74' (24" NE)
ABANDON EXIST. 6" WATER LINE &
TRANSFER SERVICES TO
PROP 8" WATER LINE
STA 8+98, 13.5' RT
PROP BB INLET
TC=46.84'
FL=41.74' (24" NE)
PROP 5' SIDEWALK
(50' R.O.W.)
VOL. 41, PG. 34, H.C.M.R.
VOL. 587, PG. 140, H.C.D.R.
CenterPoint Energy
ug elec. st lt cable
exist 18" rcp stm
exist. 6" water
exist. 8" water
exist. 12" water
exist. 24" stm.
exist. 18" stm.
aband. 10" san. force main
exist. 6" fh lead
power pole
down guy (4)
conc. walkway
water meter
b inlet
fence gate
asphalt drwy.
30" pine
3'd bush (2)
4'd bush
5'd bush
sprinkler head
hedge row
clean out
water valve
fire hydrant
street light
ped x-ing
stop sign
speed limit sign
no parking sign
traffic signal pull box
traffic signal ug cable
c. myrtle w/mulch planter
sprinkler head
bush w/mulch
c. wax myrtle
c. eleagnus
c. texas sage
c. yaupon holly
c. indian hawthorn
c. loropetalum
c. dwarf yaupon holly
c. dwarf nandina
c. dwarf burford holly
c. dwarf pittosporum
c. dwarf wax myrtle
c. dwarf eleagnus
c. dwarf texas sage
c. dwarf yaupon holly
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c. dwarf loropetalum
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c. dwarf

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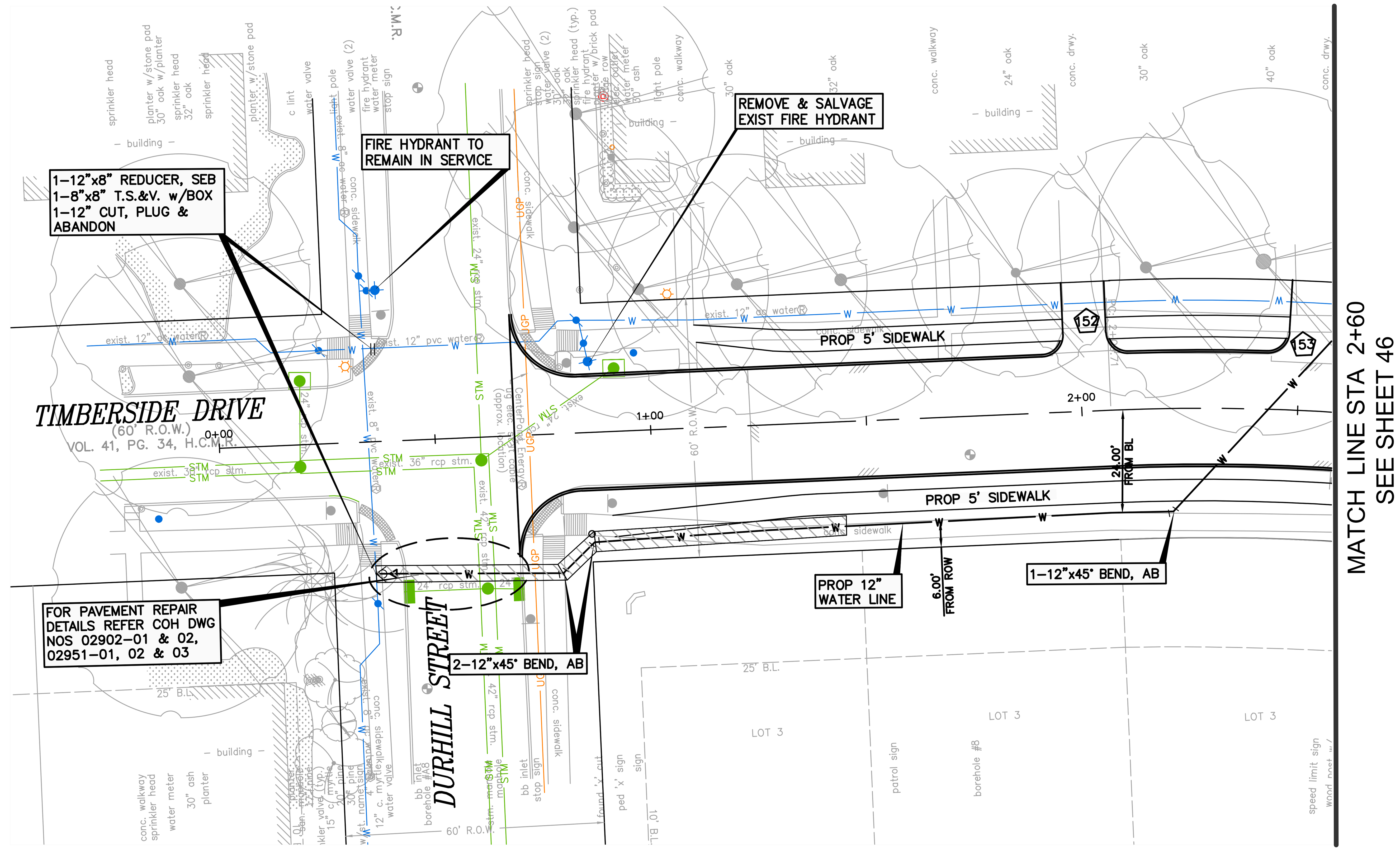

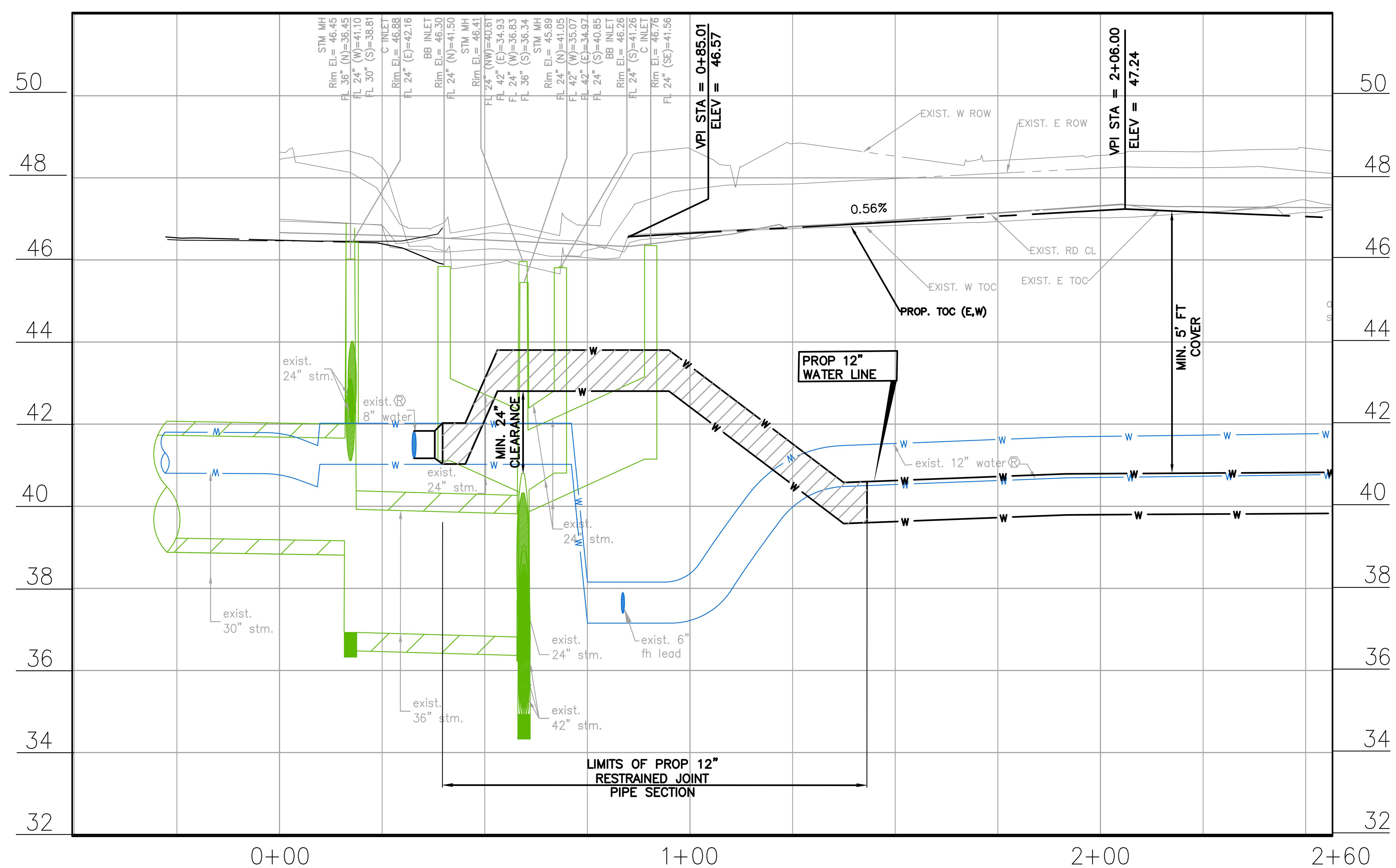

NO.	DATE	REVISION	APP.

SCALE: 1" = 20'-0" FEET FOR 22"X34" SHEET

BENCHMARK:

CITY OF HOUSTON MONUMENT 5254–0810, A BRASS DISK IN CONCRETE, LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF S BRAESWOOD BLVD AND LOOKOUT CT

ELEV. 46.86 Feet NAVD 1988 (GEOID '18)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED NOVEMBER 09, 2022.

VERTICAL DATUM ADJUSTMENT:

THE ELEVATION DIFFERENCE IN BETWEEN THE FLOODPLAIN REFERENCE MARK'S (RM 040145) PUBLISHED DATUM NAVD 1988, 2001 ADJUSTMENT AND PROJECT DATUM NAVD 1988 (GEOID '18) IS 0.23'.

NAVD 1988, 2001 ADJ. ELEVATION
= NAVD 1988 (GEOID '18) ELEVATION – 0.23 FEET

HORIZONTAL DATUM:

ALL HORIZONTAL COORDINATES ARE BASED ON TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NAD83. THE COORDINATES & DISTANCES SHOWN ARE SURFACE AND MAY BE CONVERTED TO GRID BY MULTIPLYING BY A SCALE FACTOR OF 0.999870017.

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

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Signature valid for one year.

ISANI
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10448 Westoffice Drive
Houston, Texas 77042
P 713 747 2399
F 713 748 3748
TBPE Firm Reg. #4575

SURVEYED BY: Kuo&Associates
FB NO. P–6396

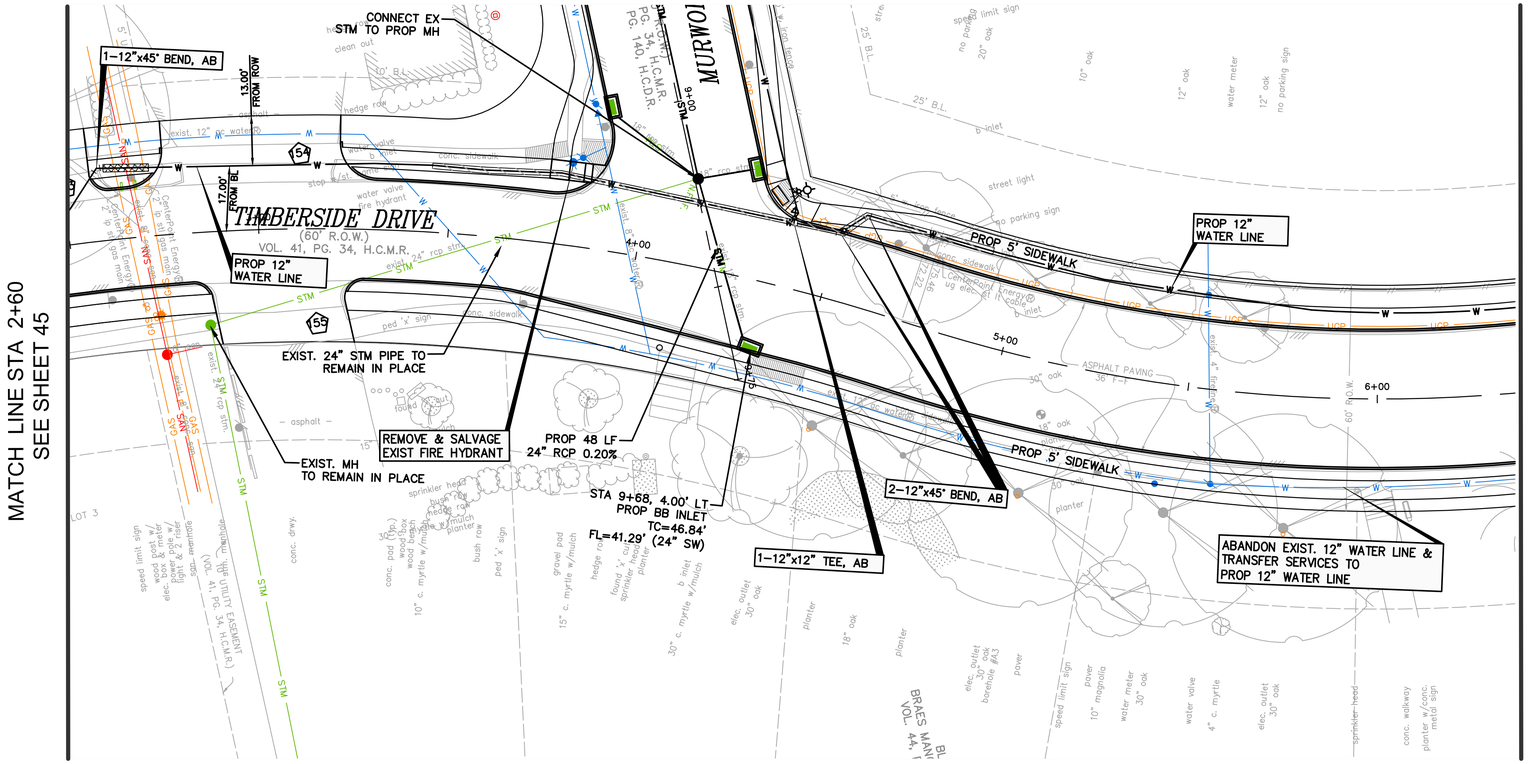
INTERIM REVIEW ONLY
DOCUMENT INCOMPLETE;
NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION
ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

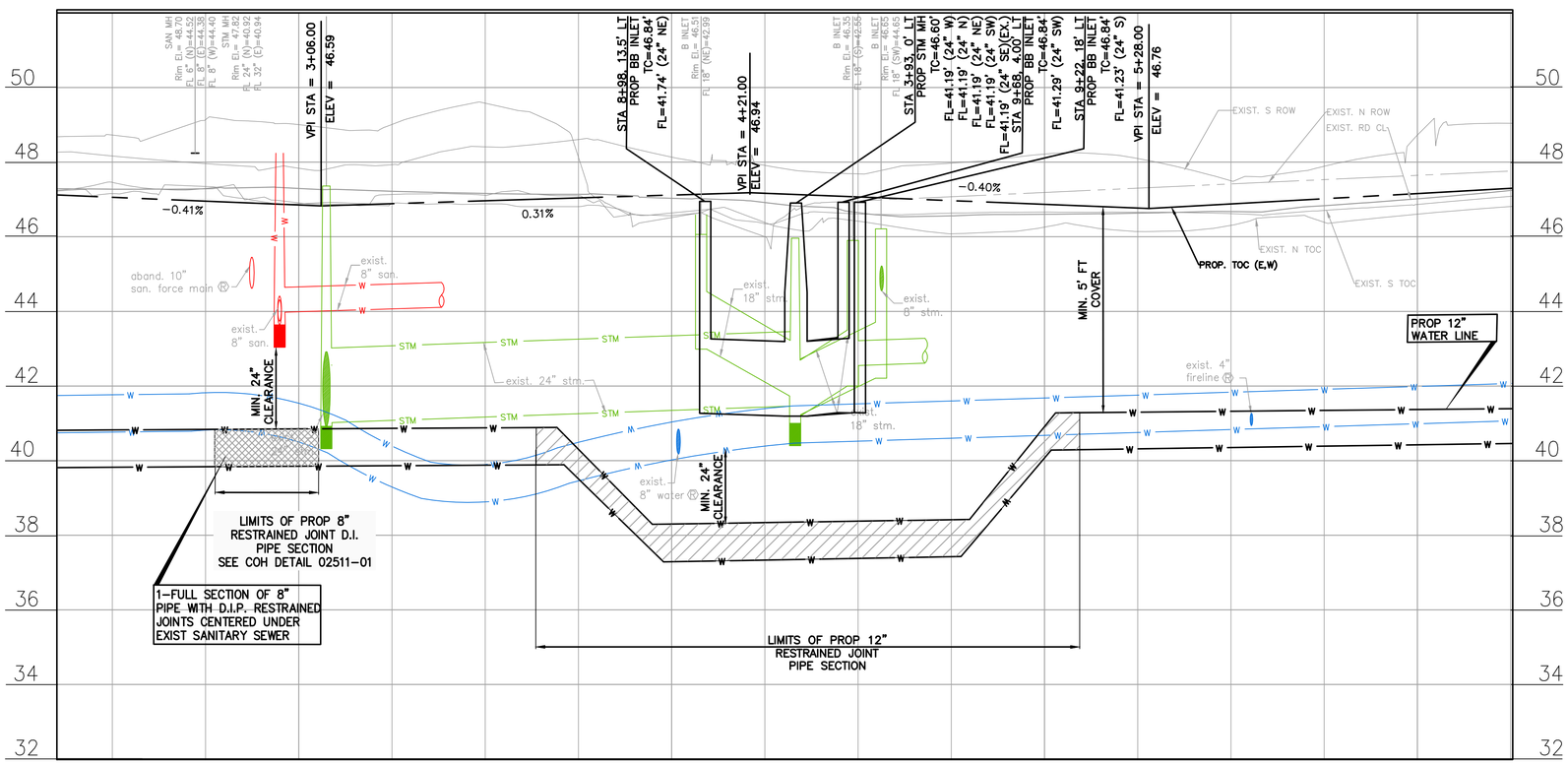
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

PLAN & PROFILE
TIMBERSIDE DRIVE
(STA 0+00 TO 2+60)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–410016–001A–3	
DRAWING SCALE	
1"=20' H, 1"=2' V	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 45 OF 200	





NO.	DATE	REVISION	APP.

N

20 0 10 20 40

SCALE: 1" = 20'-0" FEET FOR 22"X34" SHEET

BENCHMARK:

CITY OF HOUSTON MONUMENT 5254-0810, A BRASS DISK IN CONCRETE, LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF S BRAESWOOD BLVD AND LOOKOUT CT

ELEV. 46.86 Feet NAVD 1988 (GEOID '18)*

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TBPE Firm Reg. #4575

SURVEYED BY: Kuo&Associates
FB NO. P-6396

INTERIM REVIEW ONLY
DOCUMENT INCOMPLETE; NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION
ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

PLAN & PROFILE TIMBERSIDE DRIVE (STA 2+60 TO 6+50)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1"=20' H, 1"=2' V	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 46 OF 200	

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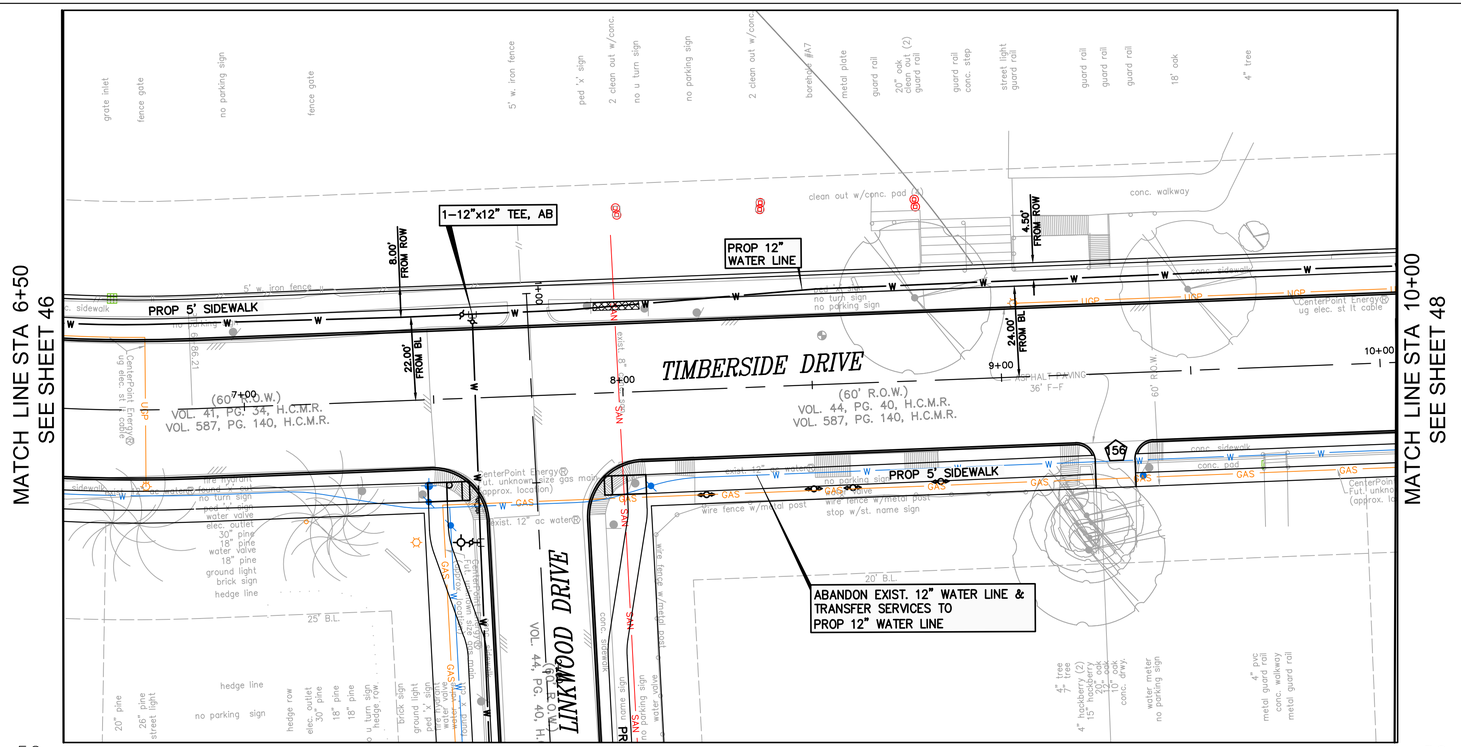

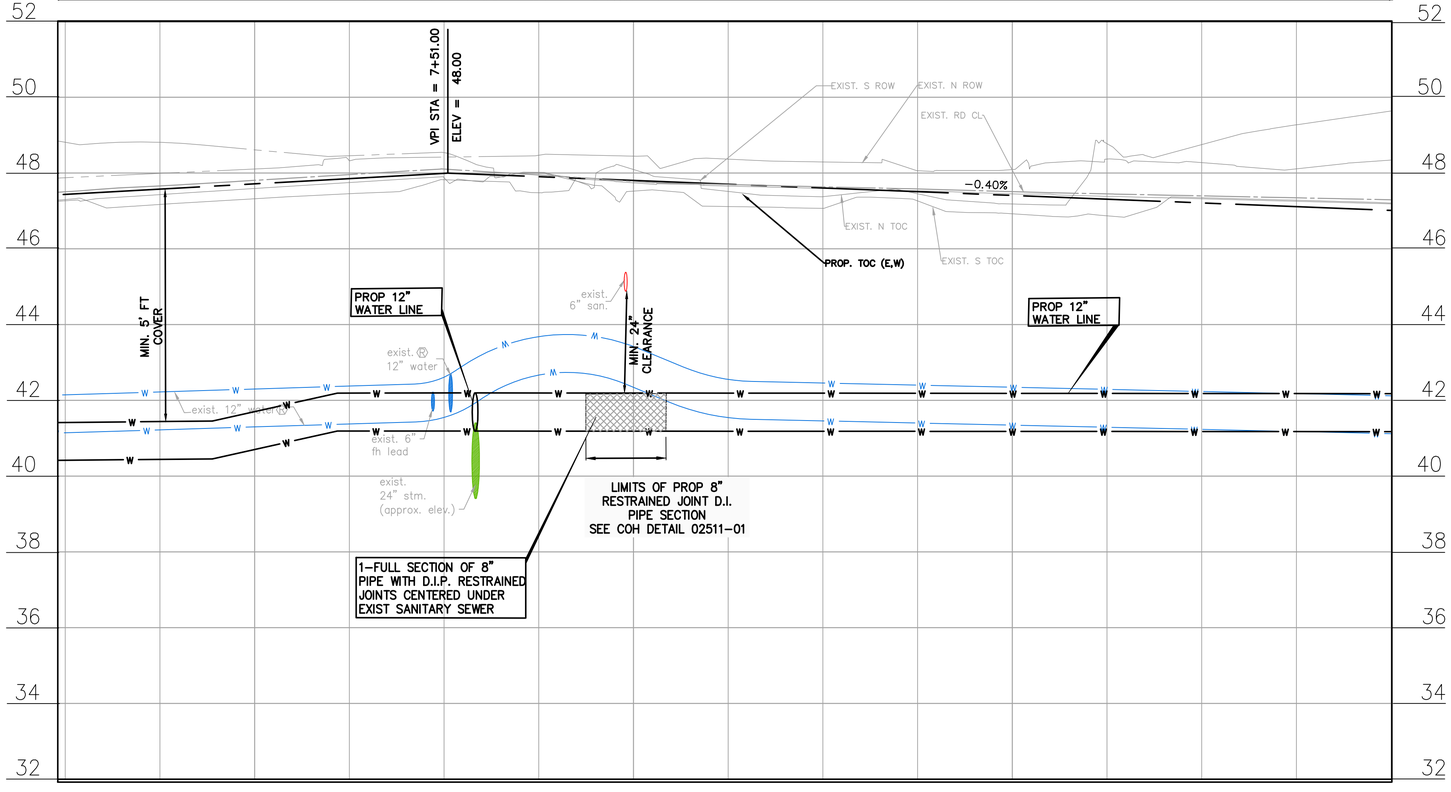

SCALE: 1" = 20'–0" FEET FOR 22"X34" SHEET

NO.	DATE	REVISION	APP.

BENCHMARK:

CITY OF HOUSTON MONUMENT 5254–0810, A BRASS DISK IN CONCRETE, LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF S BRAESWOOD BLVD AND LOOKOUT CT

ELEV. 46.86 Feet NAVD 1988 (GEOID '18)*

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VERTICAL DATUM ADJUSTMENT:

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ISANI
civil \ design \ engineers
10448 Westoffice Drive
Houston, Texas 77042
P 713 747 2399
F 713 748 3748
TBPE Firm Reg. #4575

INTERIM REVIEW ONLY
DOCUMENT INCOMPLETE;
NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION
ENGINEER: RAHUL R MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

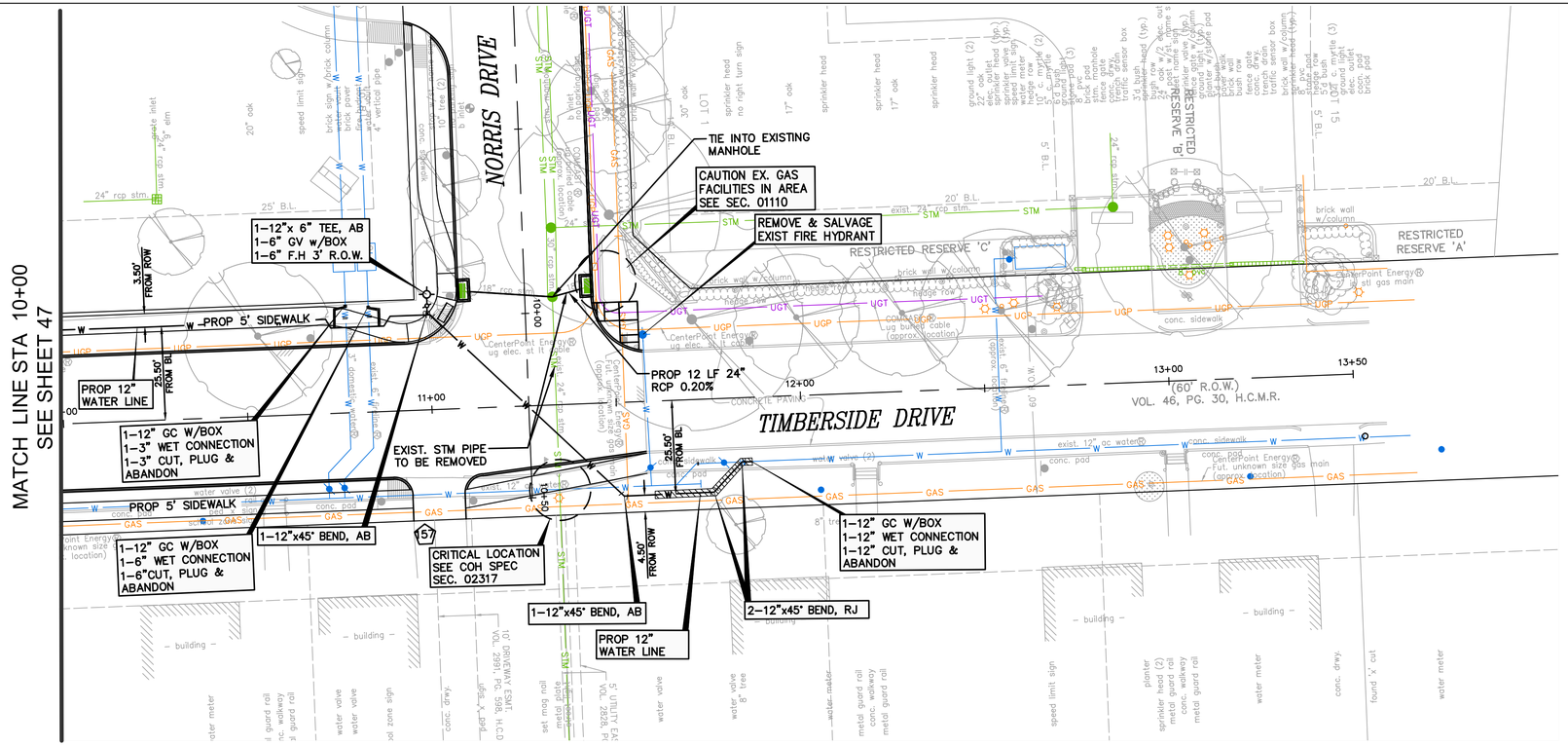
SURVEYED BY: Kuo&Associates
FB NO. P–6396

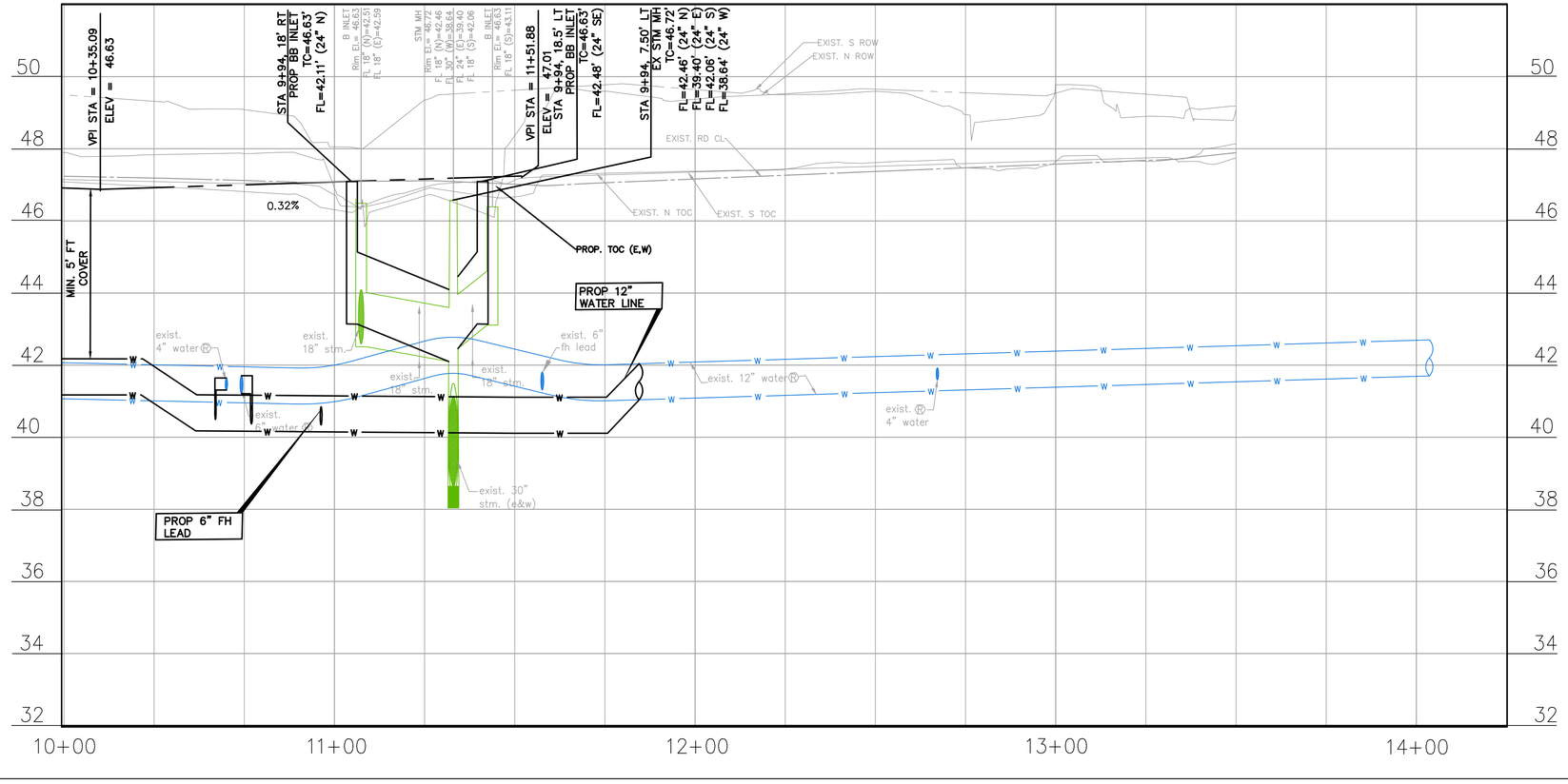
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

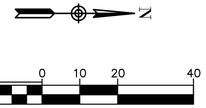
WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

PLAN & PROFILE TIMBERSIDE DRIVE (STA 6+50 TO 10+00)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–410016–001A–3	
DRAWING SCALE	
1"=20' H, 1"=2' V	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 47 OF 200	







SCALE: 1" = 20'-0" FEET FOR 22"X34" SHEET

NO.	DATE	REVISION	APP.

BENCHMARK:

CITY OF HOUSTON MONUMENT 5254-0810, A BRASS DISK IN CONCRETE, LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF S BRAESWOOD BLVD AND LOOKOUT CT

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P 713 747 2399
F 713 748 3748
TBPE Firm Reg. #4575

INTERIM REVIEW ONLY
DOCUMENT INCOMPLETE; NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION
ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

SURVEYED BY: Kuo&Associates
FB NO. P-6396

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

PLAN & PROFILE TIMBERSIDE DRIVE (STA 10+00 TO END)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1"=20' H, 1"=2' V	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 48 OF 200	

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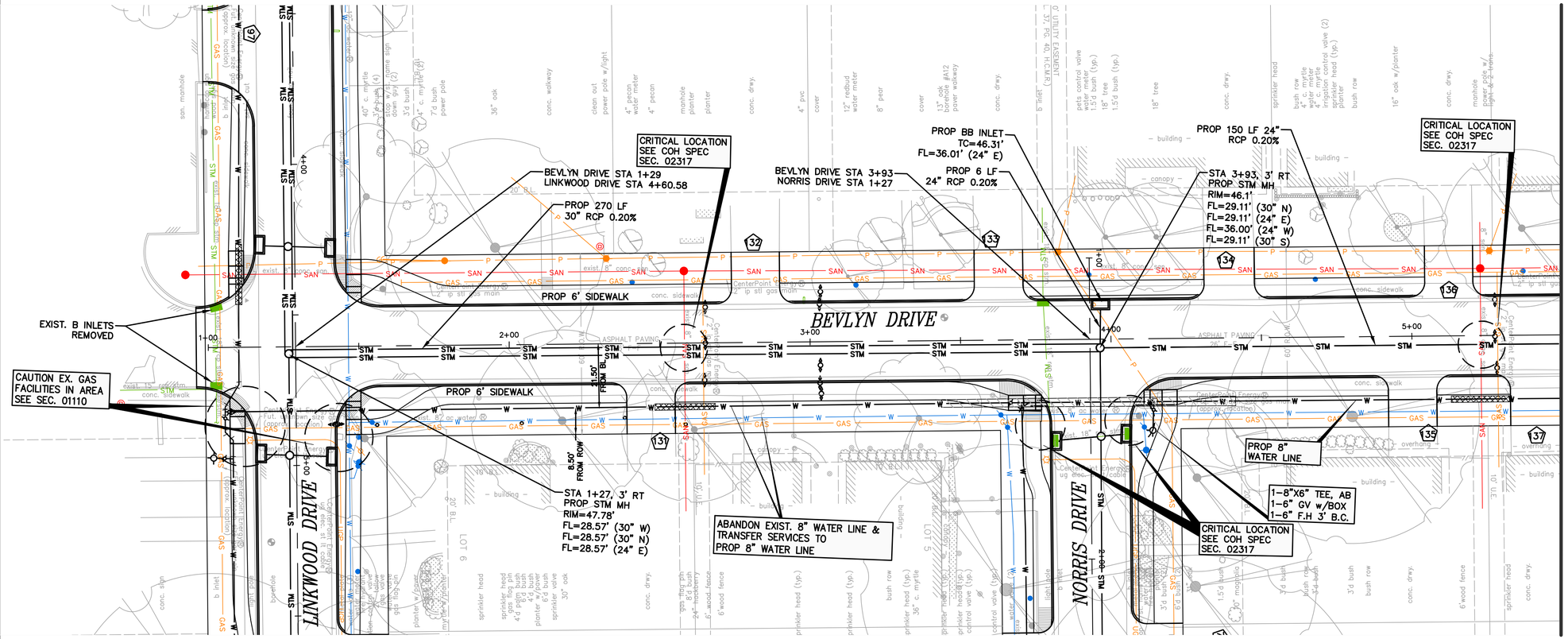

SCALE: 1" = 20'-0" FEET FOR 22"X34" SHEET

BENCHMARK:

CITY OF HOUSTON MONUMENT 5254-0810, A BRASS DISK IN CONCRETE, LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF S BRAESWOOD BLVD AND LOOKOUT CT

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

SURVEYED BY: Kuo&Associates
FB NO. P-6396

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

PLAN
BEVLYN DRIVE
(STA 1+00 TO 5+50)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1"=20' H, 1"=2' V	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 49 OF 200	

NO.	DATE	REVISION	APP.

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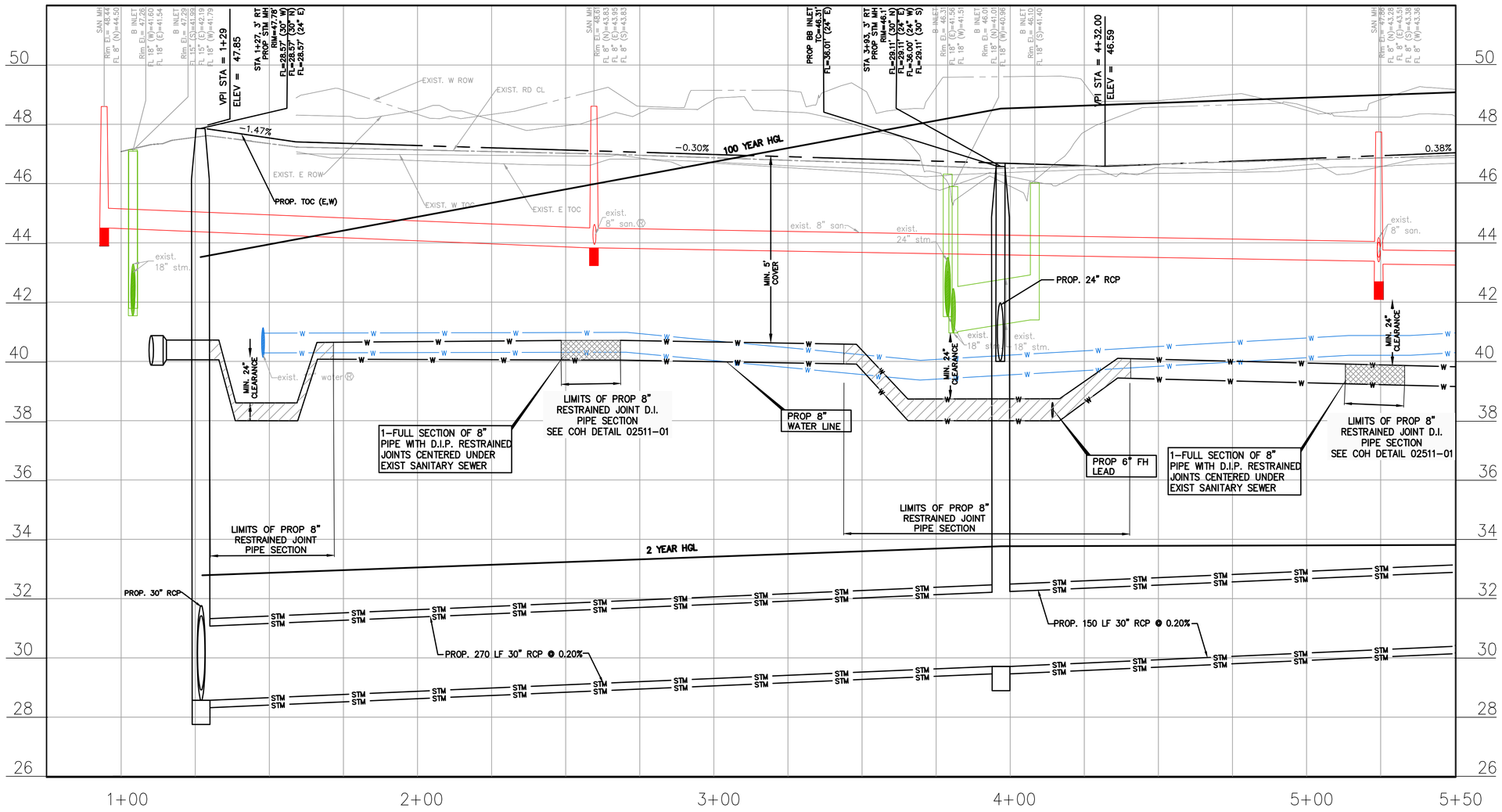

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= NAVD 1988 (GEOID '18) ELEVATION – 0.23 FEET

HORIZONTAL DATUM:

ALL HORIZONTAL COORDINATES ARE BASED ON TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NAD83. THE COORDINATES & DISTANCES SHOWN ARE SURFACE AND MAY BE CONVERTED TO GRID BY MULTIPLYING BY A SCALE FACTOR OF 0.999870017.

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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

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Signature valid for one year.

ISANI
civil \ design \ engineers
10448 Westoffice Drive
Houston, Texas 77042
P 713 747 2399
F 713 748 3748
TBPE Firm Reg. #4575

INTERIM REVIEW ONLY
DOCUMENT INCOMPLETE;
NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION
ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

SURVEYED BY: Kuo&Associates
FB NO. P-6396

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

PROFILE
BEVLYN DRIVE
(STA 1+00 TO 5+50)

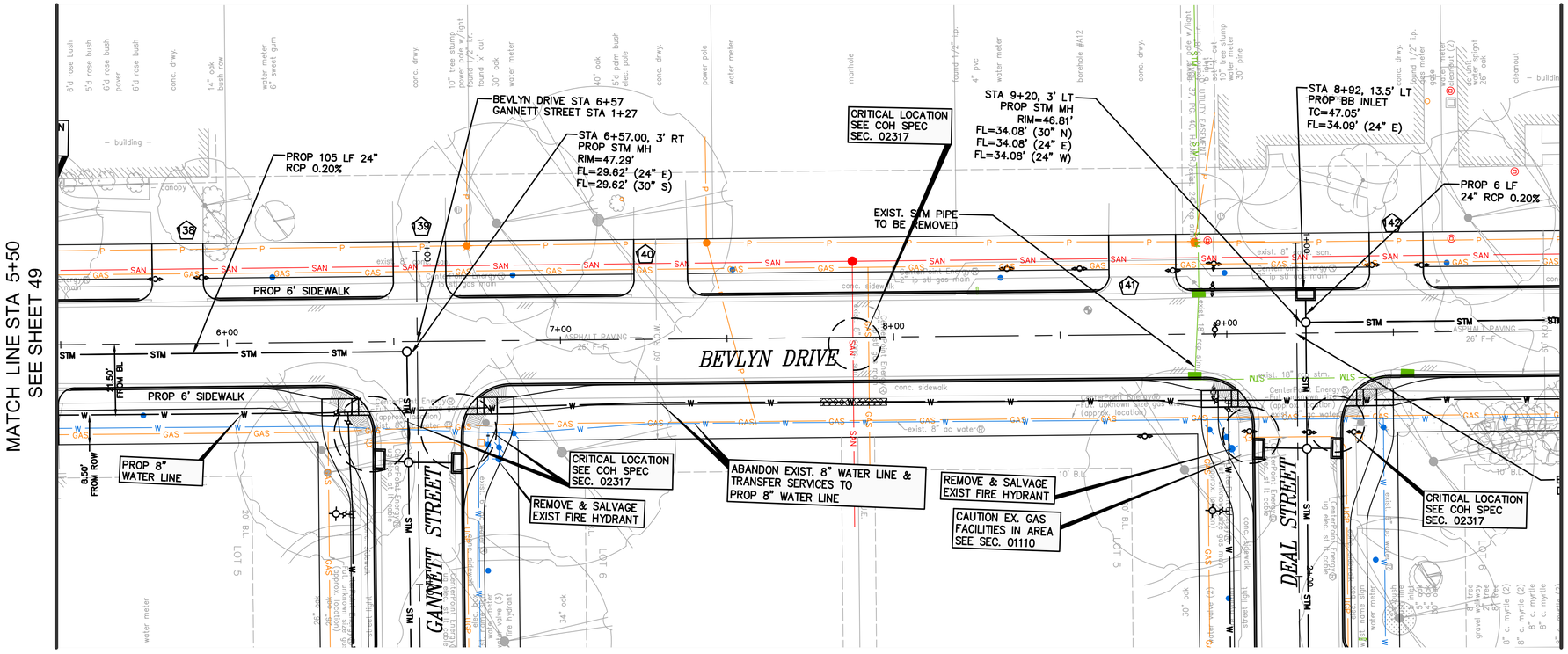
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1"=20' H, 1"=2' V	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 50 OF 200	

NO.	DATE	REVISION	APP.

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/10/2025 10:57 AM

FILE PATH: P:\ACTIVE\15DR30 SP1A\Ph II\Working\CAD\PR_PP_09 Bevlyn Dr.dwg

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/10/2025 11:00 AM



N

20 0 10 20 40

SCALE: 1" = 20'-0" FEET FOR 22"X34" SHEET

NO.	DATE	REVISION	APP.

BENCHMARK:

CITY OF HOUSTON MONUMENT 5254-0810, A BRASS DISK IN CONCRETE, LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF S BRAESWOOD BLVD AND LOOKOUT CT

ELEV. 46.86 Feet NAVD 1988 (GEOID '18)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED NOVEMBER 09, 2022.

VERTICAL DATUM ADJUSTMENT:

THE ELEVATION DIFFERENCE IN BETWEEN THE FLOODPLAIN REFERENCE MARK'S (RM 040145) PUBLISHED DATUM NAVD 1988, 2001 ADJUSTMENT AND PROJECT DATUM NAVD 1988 (GEOID '18) IS 0.23'.

NAVD 1988, 2001 ADJ. ELEVATION
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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

SURVEYED BY: Kuo&Associates
FB NO. P-6396

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

PLAN
BEVLYN DRIVE
(STA 5+50 TO 10+00)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1"=20' H, 1"=2' V	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 51 OF 200	

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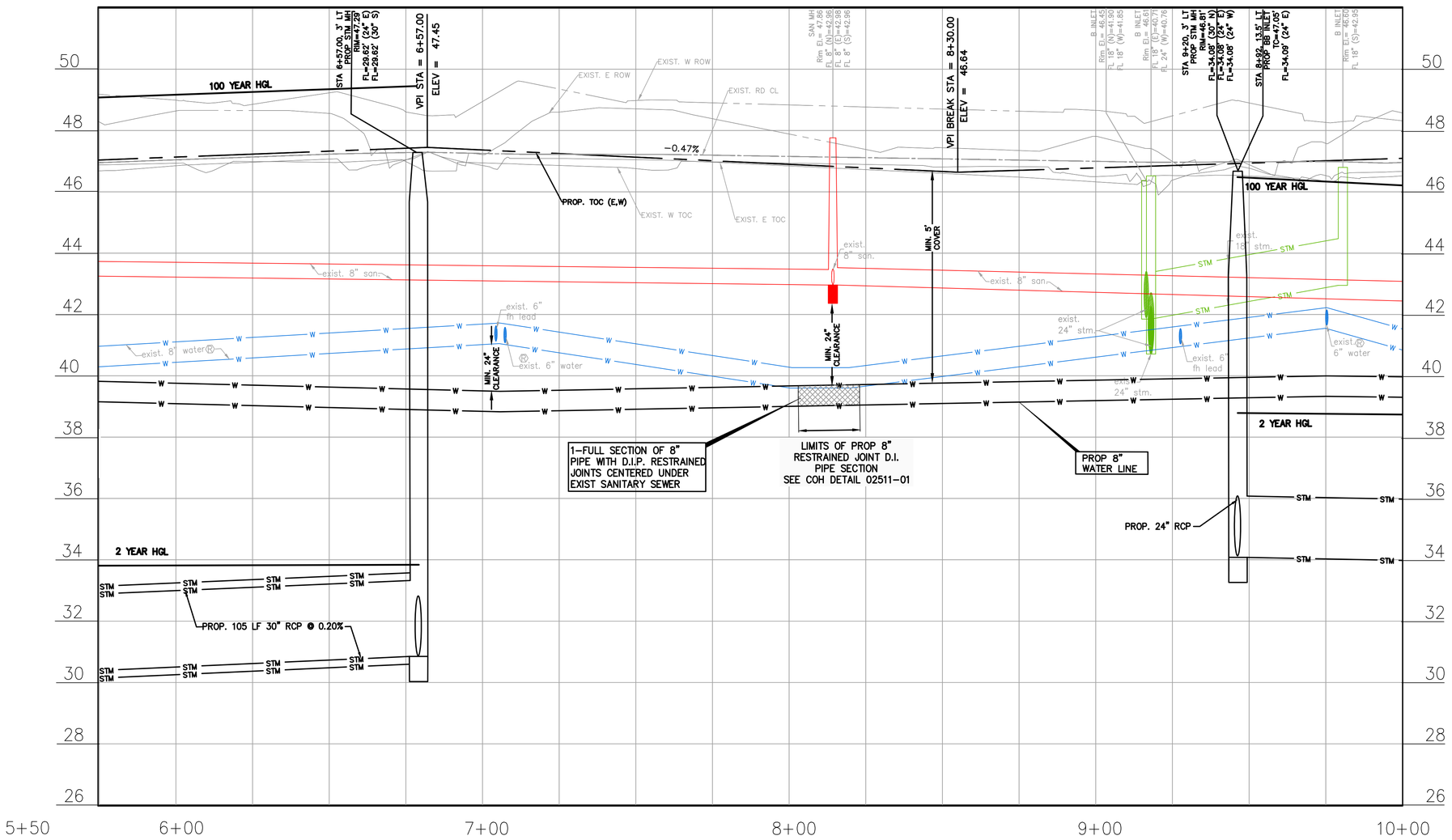

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NO.	DATE	REVISION	APP.

N

20 0 10 20 40

SCALE: 1" = 20'-0" FEET FOR 22"X34" SHEET

BENCHMARK:

CITY OF HOUSTON MONUMENT 5254-0810, A BRASS DISK IN CONCRETE, LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF S BRAESWOOD BLVD AND LOOKOUT CT

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

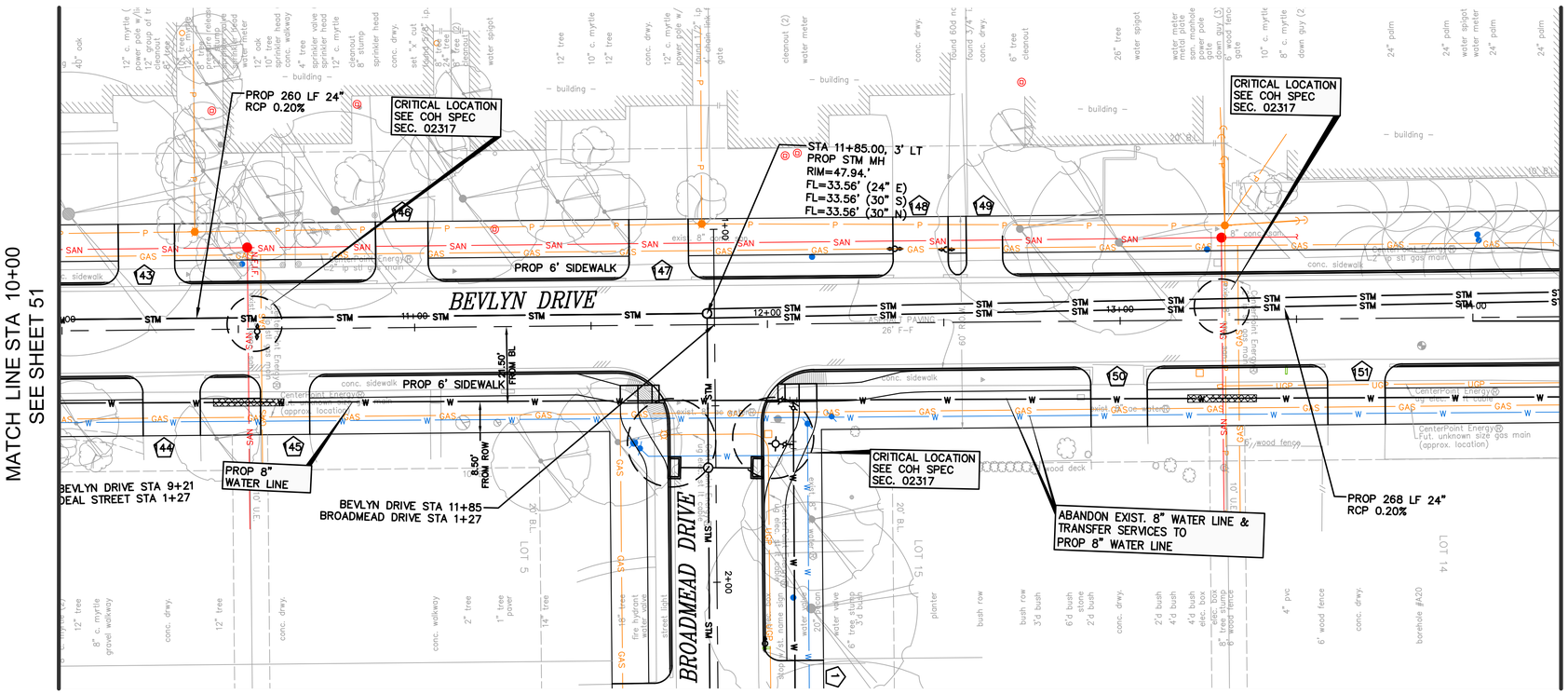
SURVEYED BY: Kuo&Associates
FB NO. P-6396

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

PROFILE
BEVLYN DRIVE
(STA 5+50 TO 10+00)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1"=20' H, 1"=2' V	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 52 OF 200	



20 0 10 20 40

SCALE: 1" = 20'-0" FEET FOR 22"X34" SHEET

NO.	DATE	REVISION	APP.

BENCHMARK:

CITY OF HOUSTON MONUMENT 5254-0810, A BRASS DISK IN CONCRETE, LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF S BRAESWOOD BLVD AND LOOKOUT CT

ELEV. 46.86 Feet NAVD 1988 (GEOID '18)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED NOVEMBER 09, 2022.

VERTICAL DATUM ADJUSTMENT:

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VERIFICATION OF PRIVATE UTILITY LINES

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

SURVEYED BY: Kuo&Associates
FB NO. P-6396

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

PLAN
BEVLYN DRIVE
(STA 10+00 TO 14+25)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1"=20' H, 1"=2' V	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 53 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/10/2025 11:07 AM
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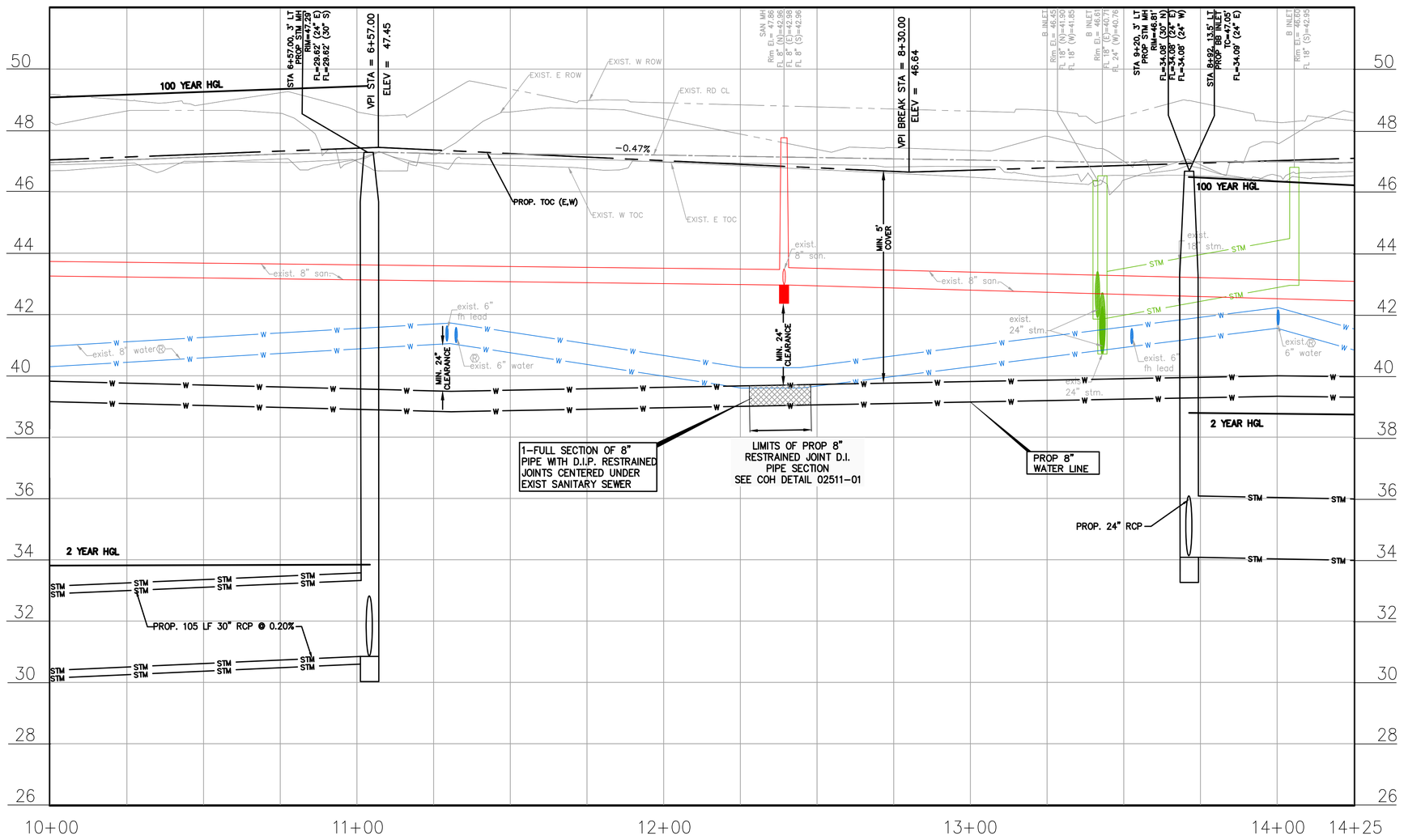

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/10/2025 11:11 AM
FILE PATH: P:\ACTIVE\15DR30 SP1A\Ph II\Working\CAD\PR_PP_09 Bevlyn Dr.dwg

NO.	DATE	REVISION	APP.

N

20 0 10 20 40

SCALE: 1" = 20'-0" FEET FOR 22"X34" SHEET

BENCHMARK:

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

SURVEYED BY: Kuo&Associates
FB NO. P-6396

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

PROFILE BEVLYN DRIVE (STA 10+00 TO 14+25)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1"=20' H, 1"=2' V	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 54 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/10/2025 11:15 AM
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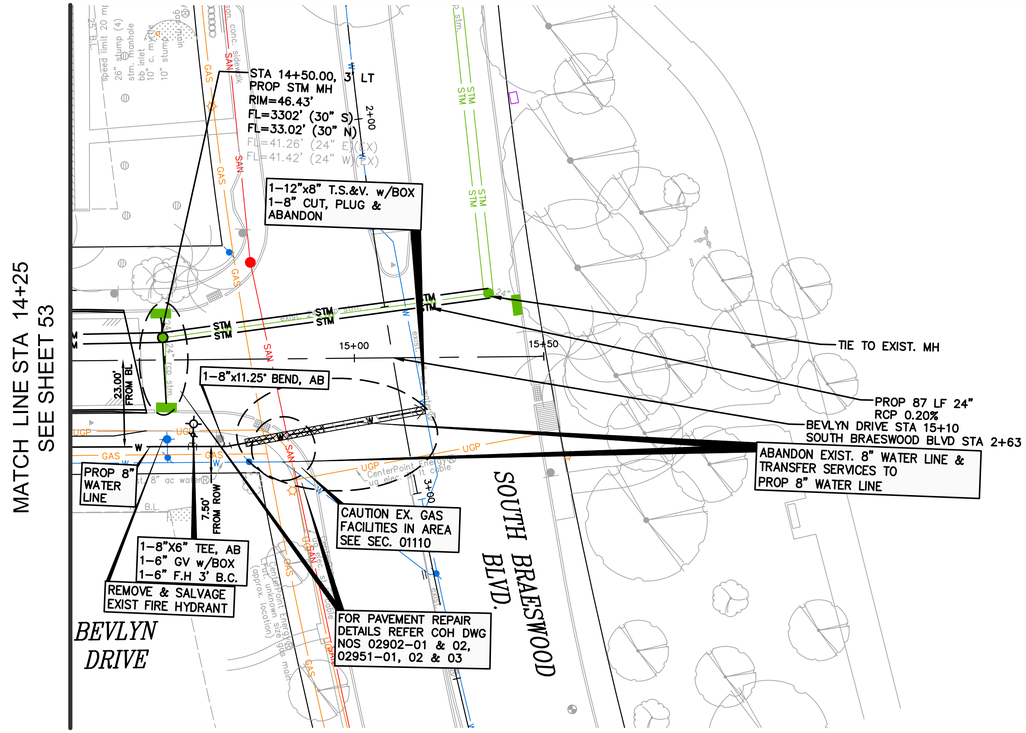

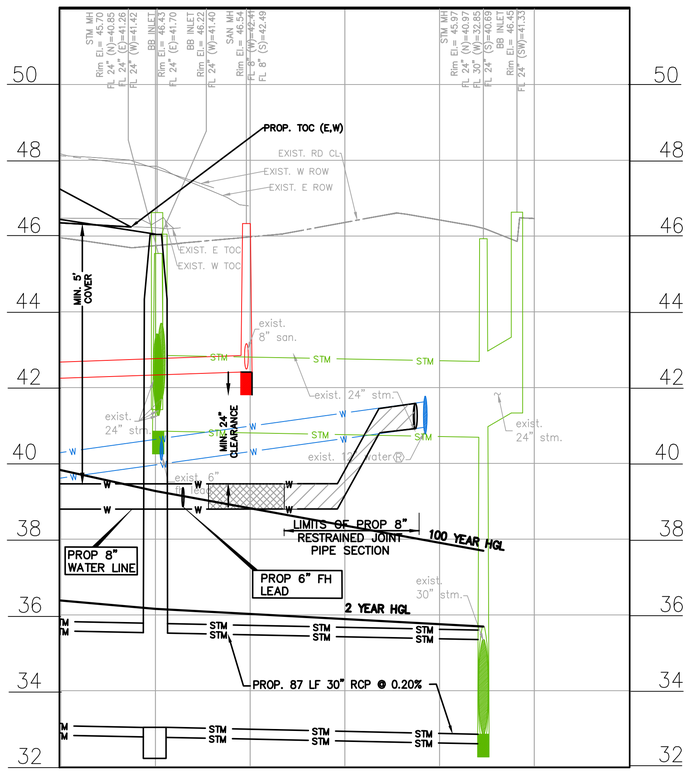

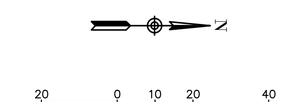

SCALE: 1" = 20'-0" FEET FOR 22"X34" SHEET

NO.	DATE	REVISION	APP.

BENCHMARK:

CITY OF HOUSTON MONUMENT 5254-0810, A BRASS DISK IN CONCRETE, LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF S BRAESWOOD BLVD AND LOOKOUT CT

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TBPE Firm Reg. #4575

SURVEYED BY: Kuo&Associates
FB NO. P-6396

INTERIM REVIEW ONLY
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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

PLAN & PROFILE BEVLYN DRIVE (STA 14+25 TO END)

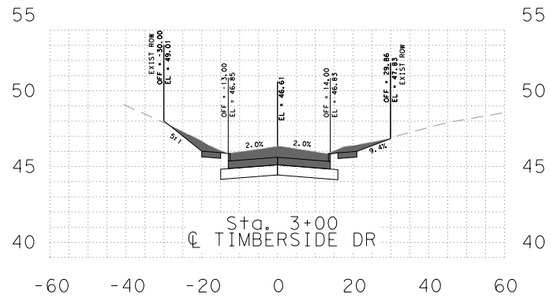
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1"=20' H, 1"=2' V	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 55 OF 200	

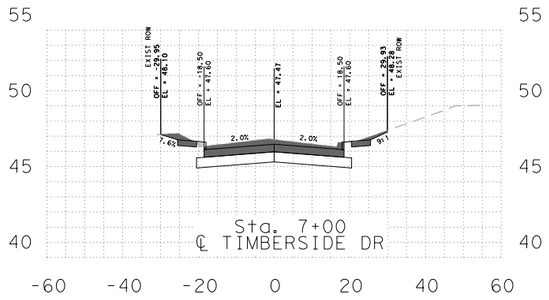
SCALE: 1"=20' HORIZ., 1"=5' VERT.

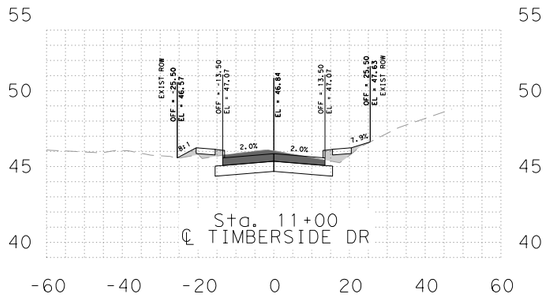
LEGEND:

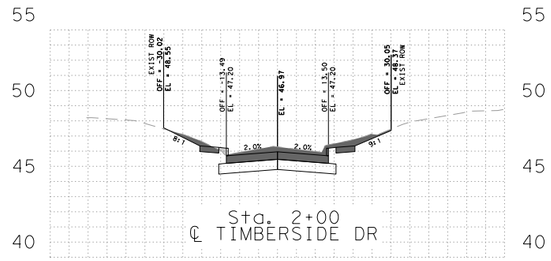
CUT VOLUME

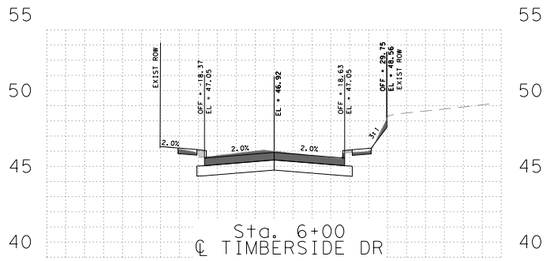
FILL VOLUME

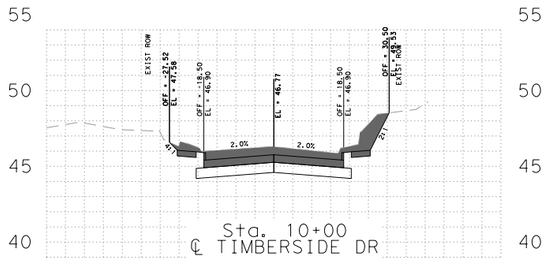


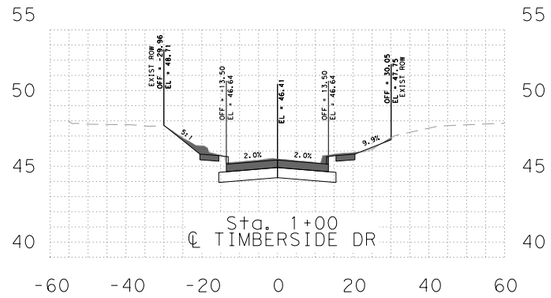


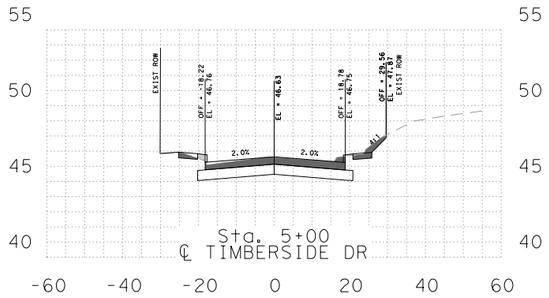


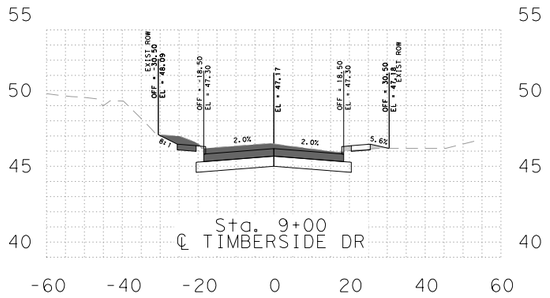


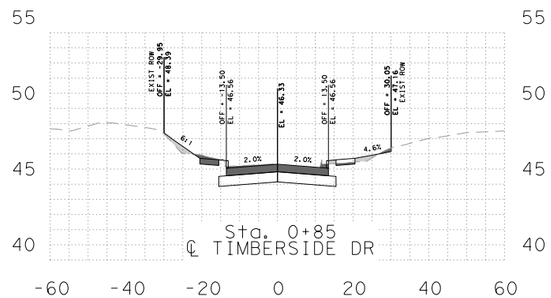


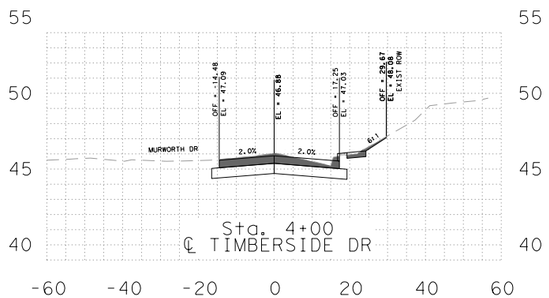


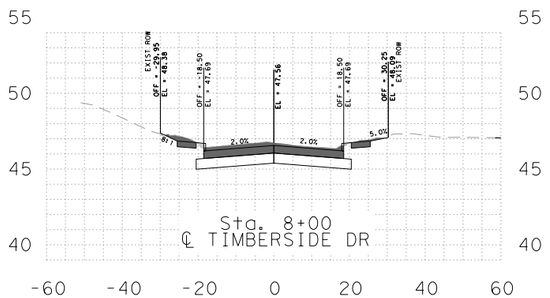












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F 713 748 3748
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INTERIM REVIEW ONLY
DOCUMENT INCOMPLETE;
NOT INTENDED FOR PERMIT,
BIDDING OR CONSTRUCTION
ENGINEER: V. N. MURTHY MADE, P.E
P.E. Reg No: 134936
DATE: DECEMBER 2025

SURVEYED BY: Kuo&Associates
FB NO. P-6396

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

TIMBERSIDE DR CROSS SECTIONS

STA. 0+85 TO STA. 11+00

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
HORIZ.1"=20' VERT.1"=5'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 56 OF 200	

FILE:P:\ACTIVE\15DR30 SP1A\Ph II\Working\Transportation\xref\30_OR_XS_KS.dgn
DATE:12/8/2025

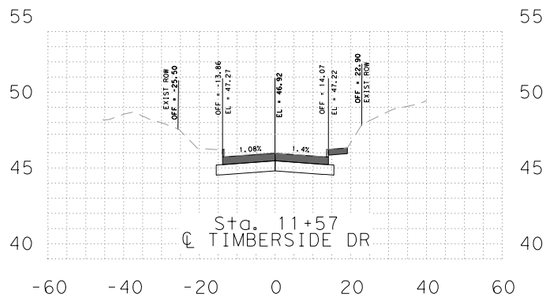
0 10 20 40

SCALE: 1"=20' HORIZ., 1"=5' VERT.

LEGEND:

CUT VOLUME

FILL VOLUME



ISANI
civil \ design \ engineers
10448 Westoffice Drive
Houston, Texas 77042
P 713 747 2399
F 713 748 3748
TBPE Firm Reg. #4575

SURVEYED BY: Kuo&Associates

FB NO. P-6396

INTERIM REVIEW ONLY
DOCUMENT INCOMPLETE;
NOT INTENDED FOR PERMIT,
BIDDING OR CONSTRUCTION
ENGINEER: V. N. MURTHY MADE, P.E
P.E. Reg No: 134936
DATE: DECEMBER 2025

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

TIMBERSIDE DR CROSS SECTIONS

STA. 11+57

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
HORIZ. 1"=20' VERT. 1"=5'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 57 OF 200	

FILE:P:\ACTIVE\15DR30 SP1A\Ph II\Working\Transportation\xref\30_OR_XS_KS.dgn
DATE:12/8/2025

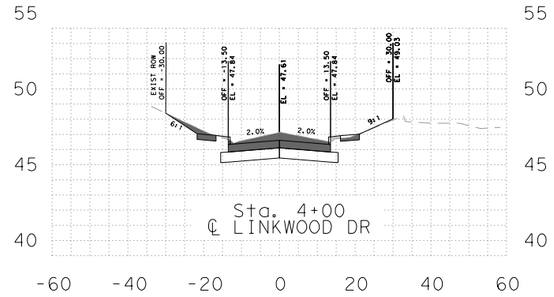
0 10 20 40

SCALE: 1"=20' HORIZ., 1"=5' VERT.

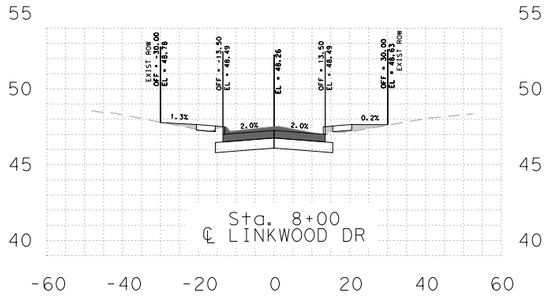
LEGEND:

CUT VOLUME

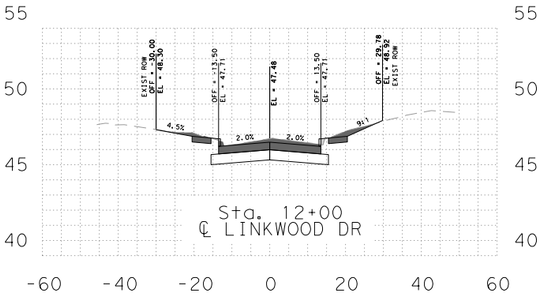
FILL VOLUME



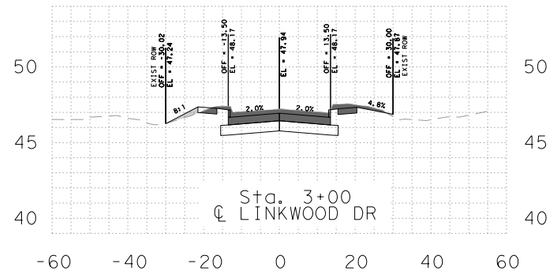
Sta. 4+00
℄ LINKWOOD DR



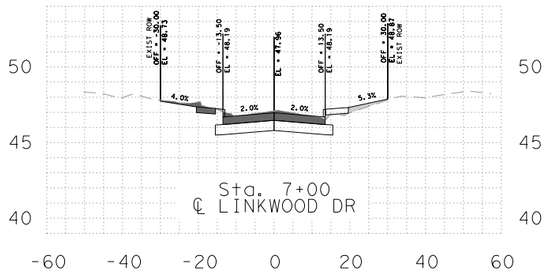
Sta. 8+00
℄ LINKWOOD DR



Sta. 12+00
℄ LINKWOOD DR



Sta. 3+00
℄ LINKWOOD DR



Sta. 7+00
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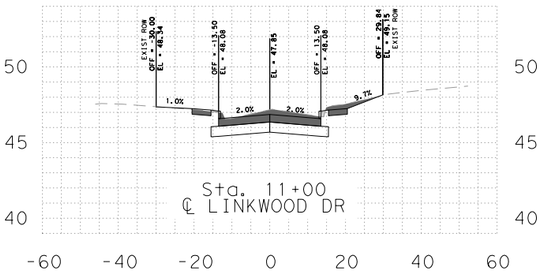

Sta. 11+00
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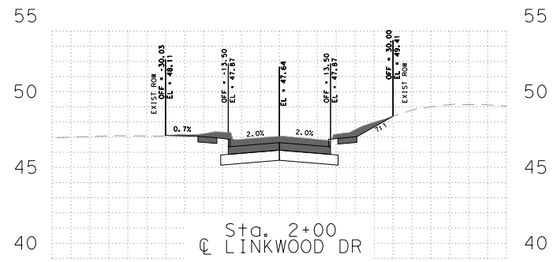
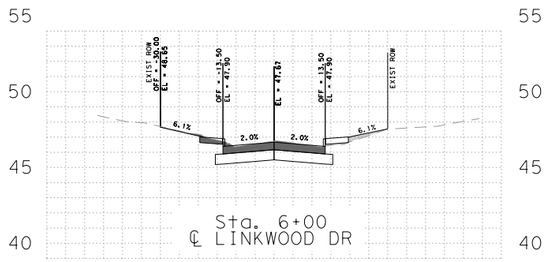
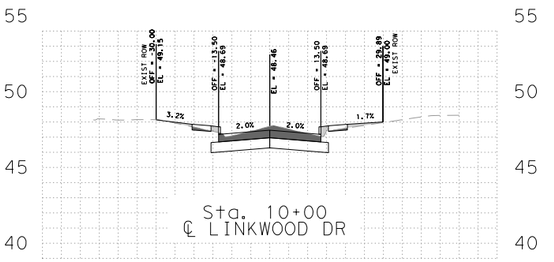


Sta. 2+00
℄ LINKWOOD DR



Sta. 6+00
℄ LINKWOOD DR



Sta. 10+00
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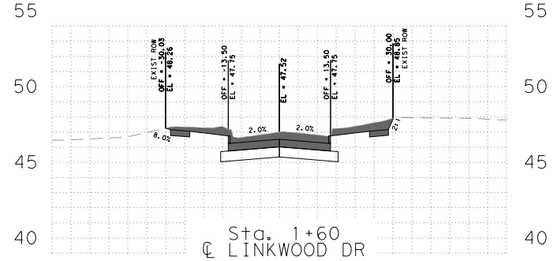
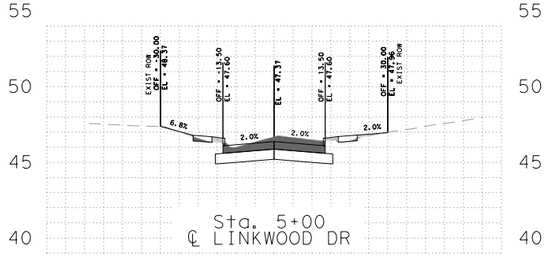
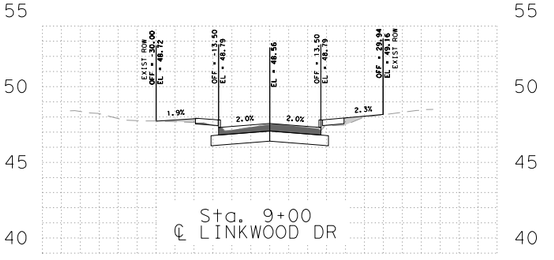


Sta. 1+60
℄ LINKWOOD DR



Sta. 5+00
℄ LINKWOOD DR



Sta. 9+00
℄ LINKWOOD DR

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TBPE Firm Reg. #4575

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FB NO. P-6396

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ENGINEER: V. N. MURTHY MADE, P.E
P.E. Reg No: 134936
DATE: DECEMBER 2025

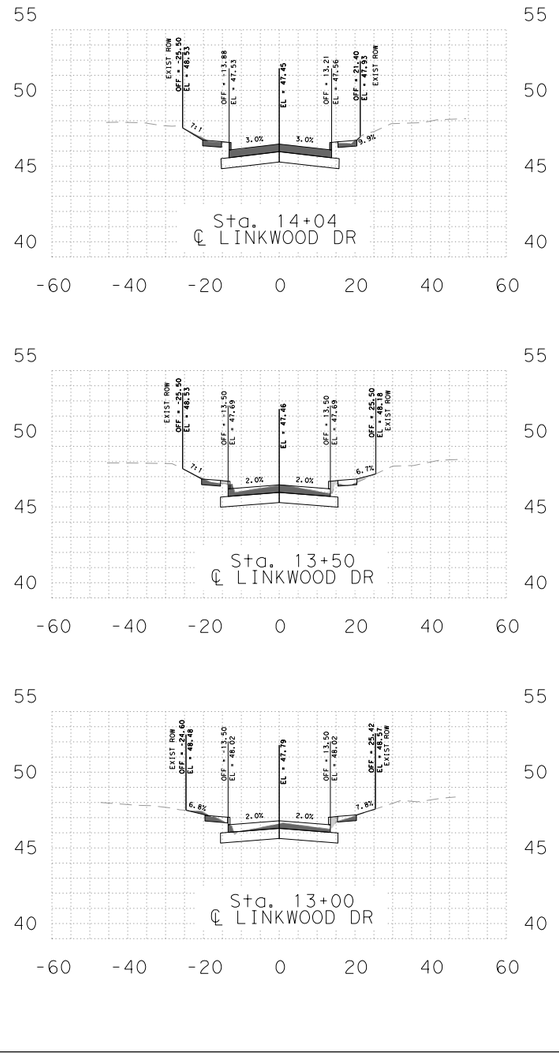
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

LINKWOOD DR
CROSS SECTIONS
STA. 1+60 TO STA. 12+00

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
HORIZ.1"=20' VERT.1"=5'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 58 OF 200	

FILE:P:\ACTIVE\15DR30 SP1A\Ph II\Working\Transportation\xref\30_OR_XS_KS.dgn
DATE:12/8/2025



0 10 20 40

SCALE: 1"=20' HORIZ., 1"=5' VERT.

LEGEND:

CUT VOLUME

FILL VOLUME

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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

LINKWOOD DR CROSS SECTIONS

STA. 13+00 TO STA. 14+04

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M-410016-001A-3	
DRAWING SCALE	
HORIZ.1"=20' VERT.1"=5'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 59 OF 200	

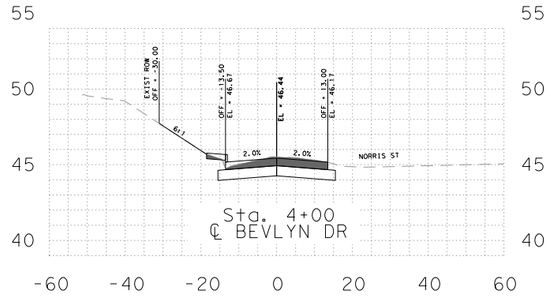
FILE:P:\ACTIVE\15DR30 SP1A\Ph II\Working\Transportation\xref\30_OR_XS_KS.dgn
DATE:12/8/2025

SCALE: 1"=20' HORIZ., 1"=5' VERT.

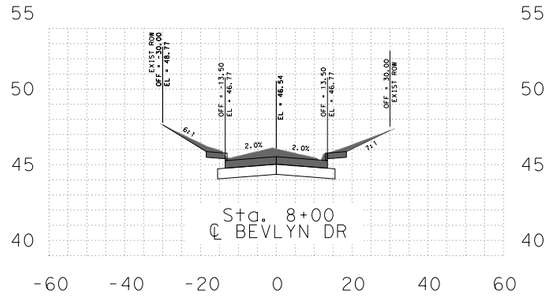
LEGEND:

CUT VOLUME

FILL VOLUME



Sta. 4+00
℄ BEVLYN DR



Sta. 8+00
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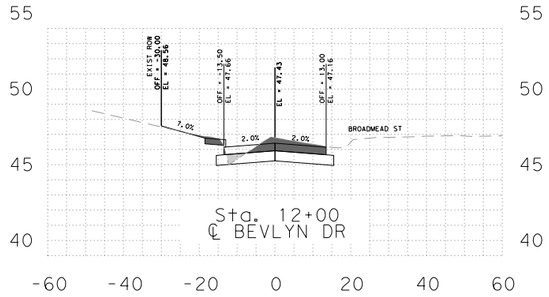

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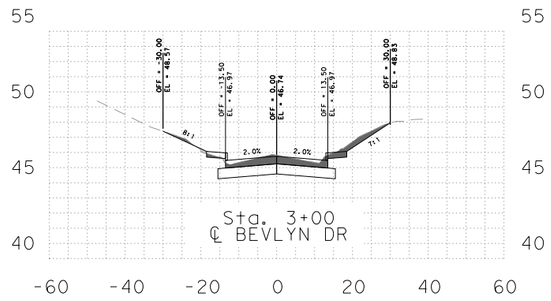

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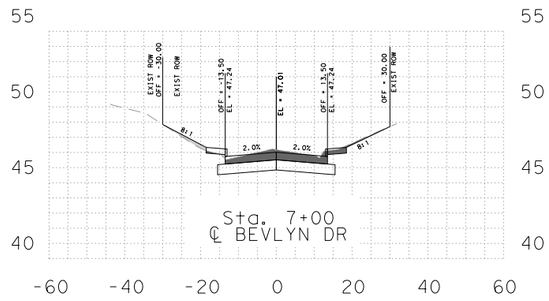

Sta. 7+00
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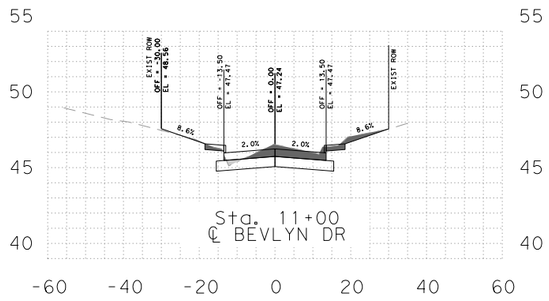
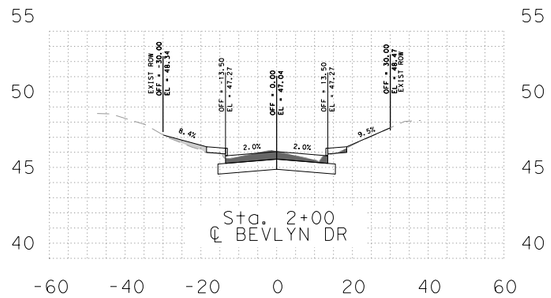
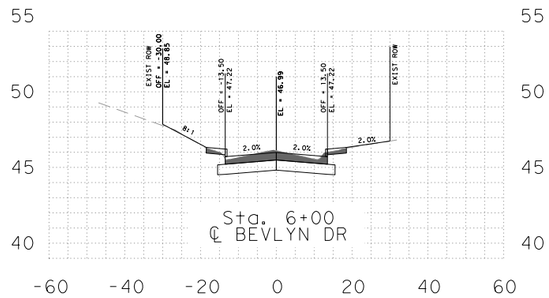


Sta. 11+00
℄ BEVLYN DR



Sta. 2+00
℄ BEVLYN DR



Sta. 6+00
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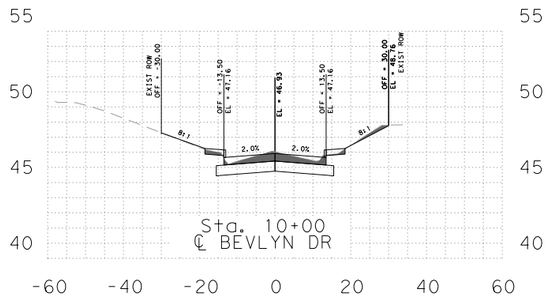
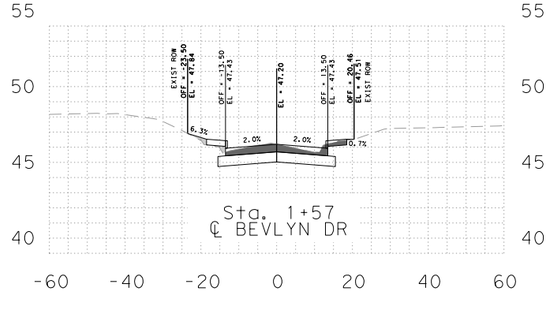
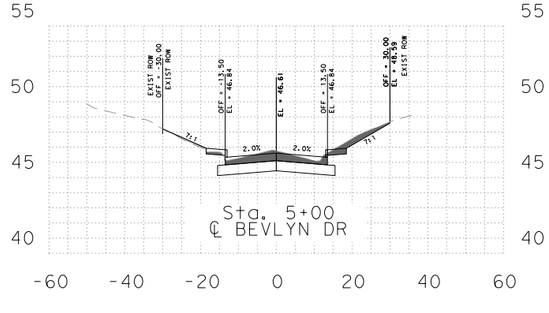


Sta. 10+00
℄ BEVLYN DR



Sta. 1+57
℄ BEVLYN DR



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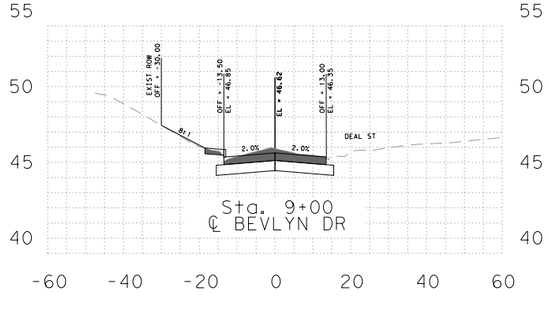
℄ BEVLYN DR



Sta. 9+00
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P.E. Reg No: 134936
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

BEVLYN DR
CROSS SECTIONS

STA. 1+57 TO STA. 12+00

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
HORIZ. 1"=20' VERT. 1"=5'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 60 OF 200	

FILE:P:\ACTIVE\15DR30 SP1A\Ph II\Working\Transportation\xref\30_OR_XS_KS.dgn
DATE:12/8/2025

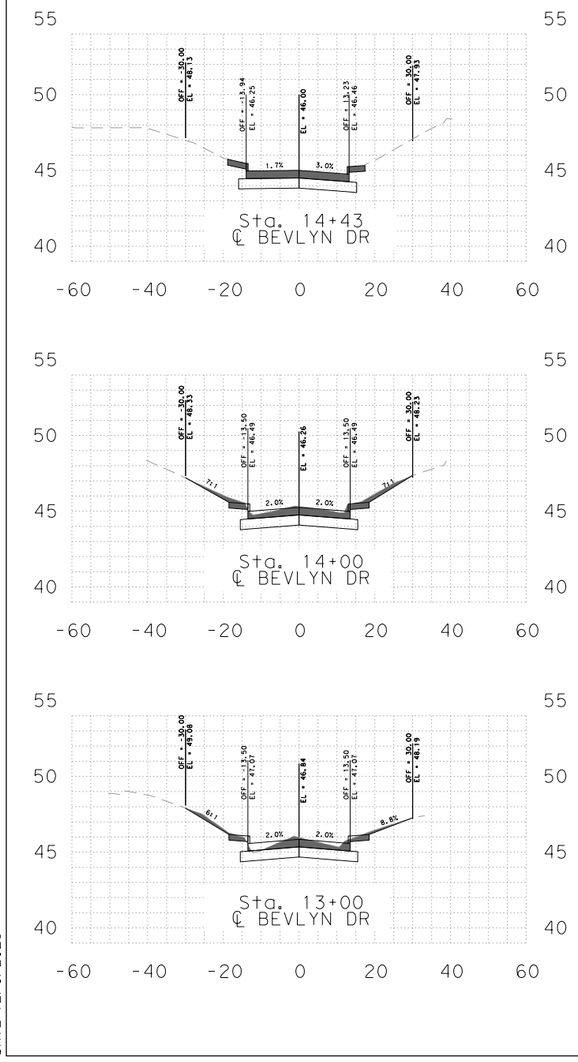
0 10 20 40

SCALE: 1"=20' HORIZ., 1"=5' VERT.

LEGEND:

CUT VOLUME

FILL VOLUME



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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

BEVLYN DR CROSS SECTIONS

STA. 13+00 TO STA. 14+43

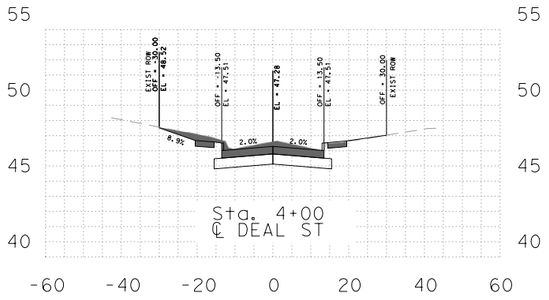
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
HORIZ.1"=20' VERT.1"=5'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 61 OF 200	

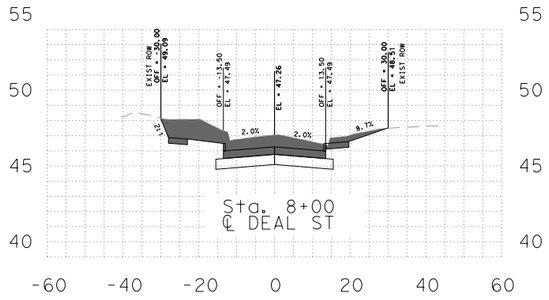
SCALE: 1"=20' HORIZ., 1"=5' VERT.

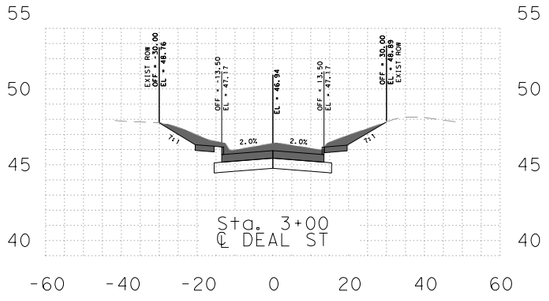
LEGEND:

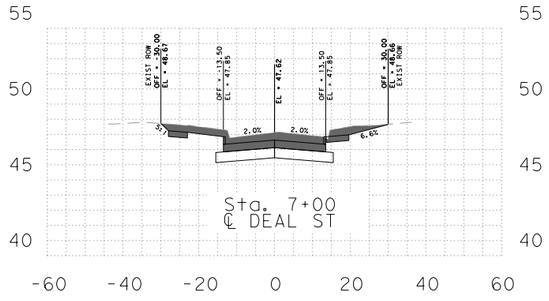
CUT VOLUME

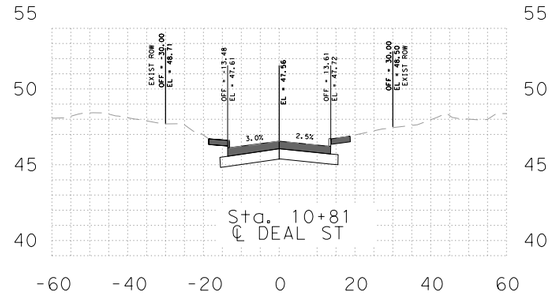
FILL VOLUME

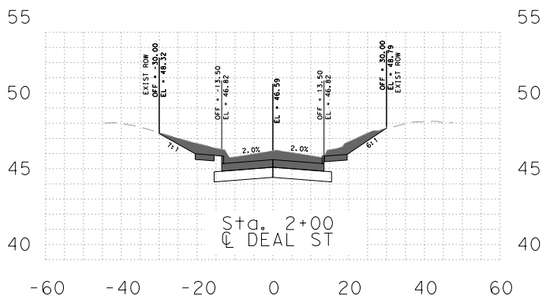


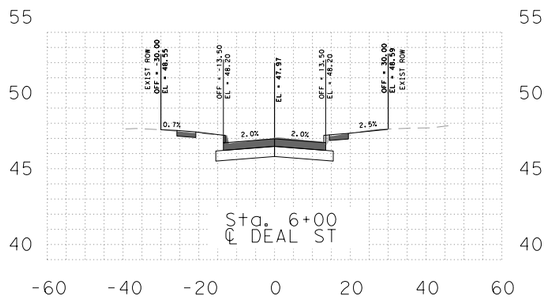


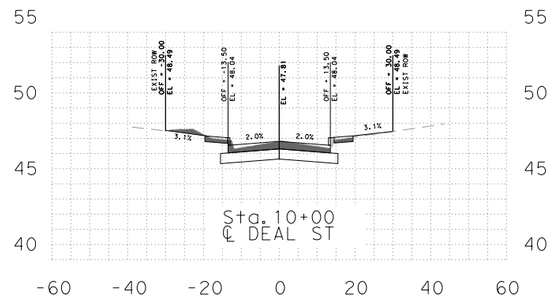


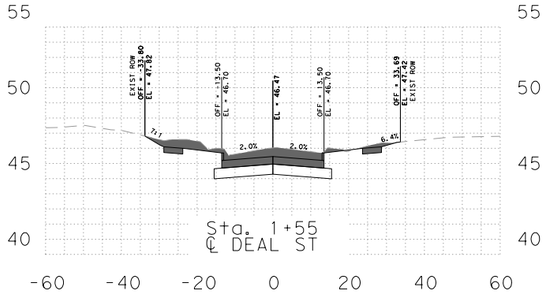


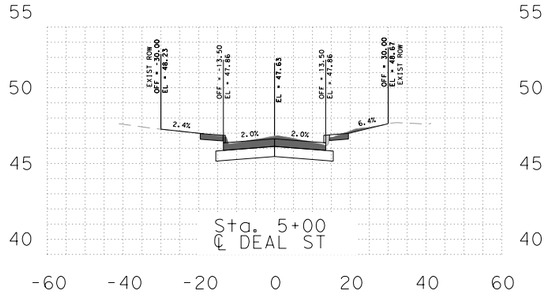


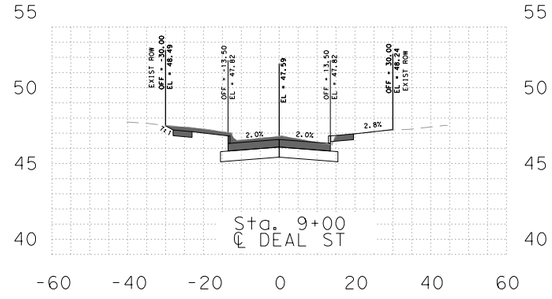












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P 713 747 2399
F 713 748 3748
TBPE Firm Reg. #4575

SURVEYED BY: Kuo&Associates
FB NO. P-6396

INTERIM REVIEW ONLY
DOCUMENT INCOMPLETE;
NOT INTENDED FOR PERMIT,
BIDDING OR CONSTRUCTION
ENGINEER: V. N. MURTHY MADE, P.E
P.E. Reg No: 134936
DATE: DECEMBER 2025

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

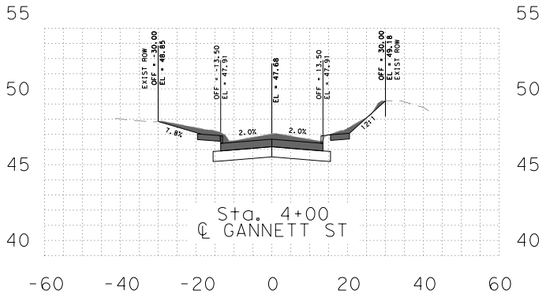
WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

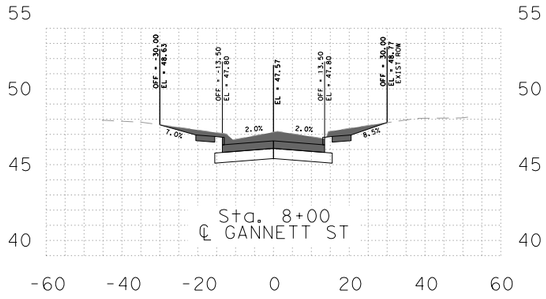
DEAL ST
CROSS SECTIONS

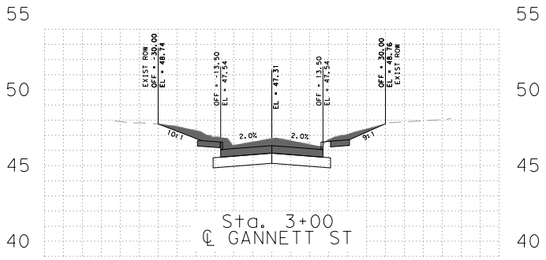
STA. 1+55 TO STA. 10+81

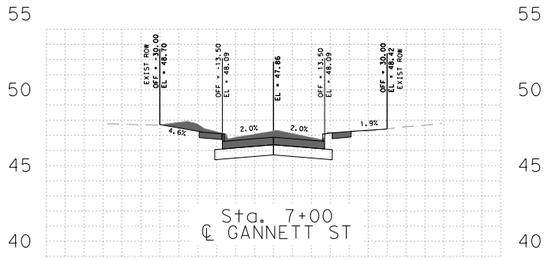
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
HORIZ.1"=20' VERT.1"=5'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 62 OF 200	

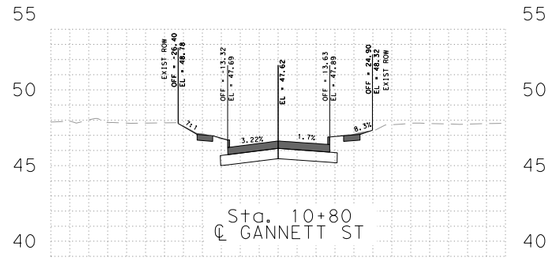
FILE:P:\ACTIVE\15DR30 SP1A\Ph II\Working\Transportation\xref\30_OR_XS_KS.dgn
DATE:12/8/2025

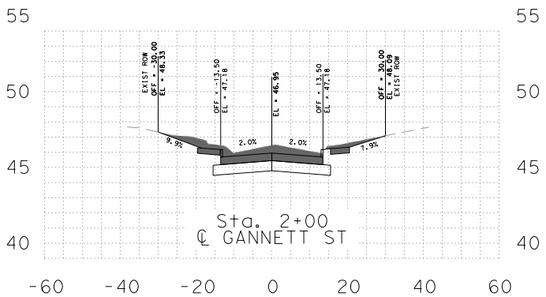


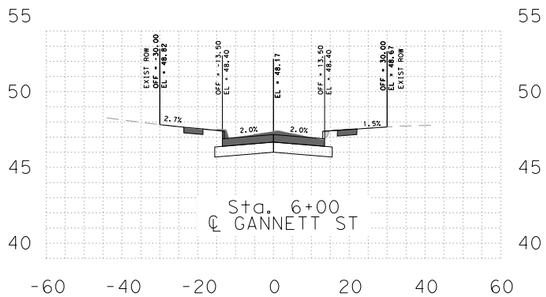


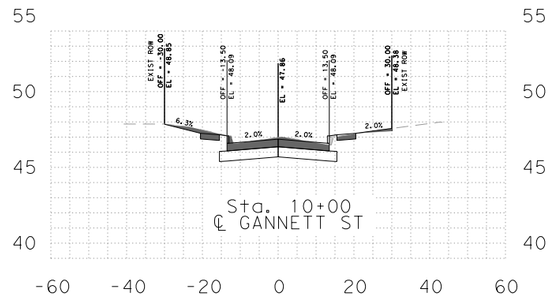


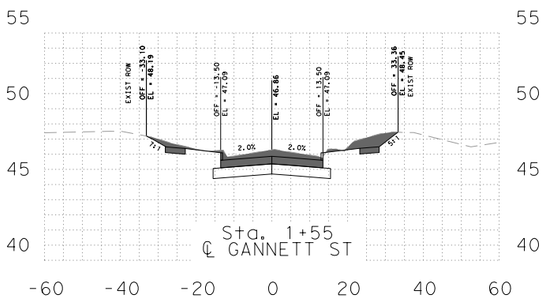


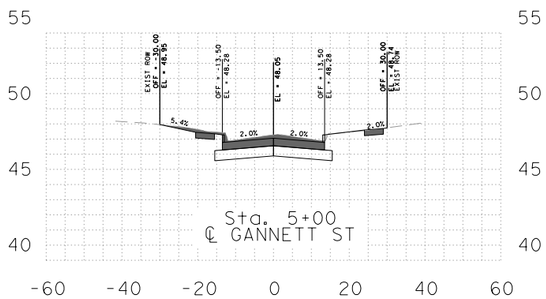


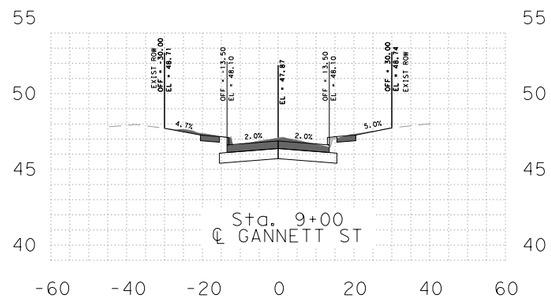












0 10 20 40

SCALE: 1"=20' HORIZ., 1"=5' VERT.

LEGEND:

CUT VOLUME

FILL VOLUME

ISANI
civil \ design \ engineers
10448 Westoffice Drive
Houston, Texas 77042
P 713 747 2399
F 713 748 3748
TBPE Firm Reg. #4575

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FB NO. P-6396

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ENGINEER: V. N. MURTHY MADE, P.E
P.E. Reg No: 134936
DATE: DECEMBER 2025

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

GANNETT ST
CROSS SECTIONS

STA. 1+55 STA. 10+80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
HORIZ.1"=20' VERT.1"=5'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 63 OF 200	

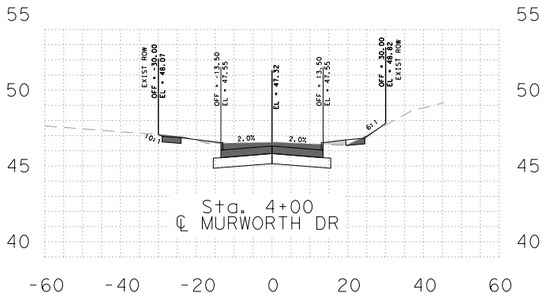
FILE:P:\ACTIVE\15DR30 SP1A\Ph II\Working\Transportation\xref\30_OR_XS_KS.dgn
DATE:12/8/2025

SCALE: 1"=20' HORIZ., 1"=5' VERT.

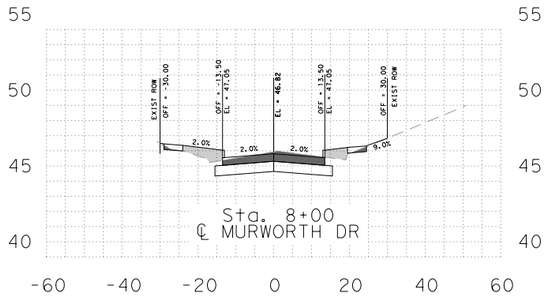
LEGEND:

CUT VOLUME

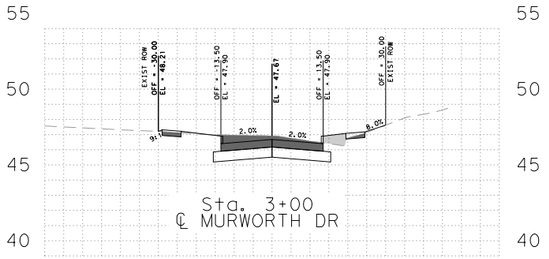
FILL VOLUME



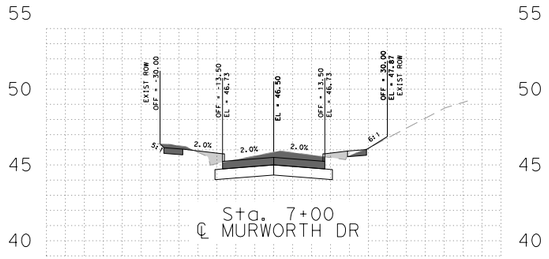
Sta. 4+00
℄ MURWORTH DR



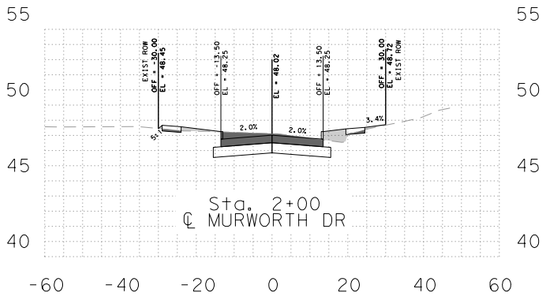
Sta. 8+00
℄ MURWORTH DR



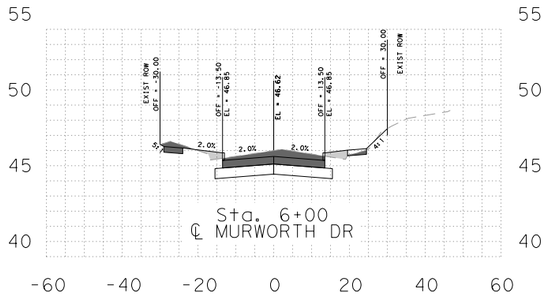
Sta. 3+00
℄ MURWORTH DR



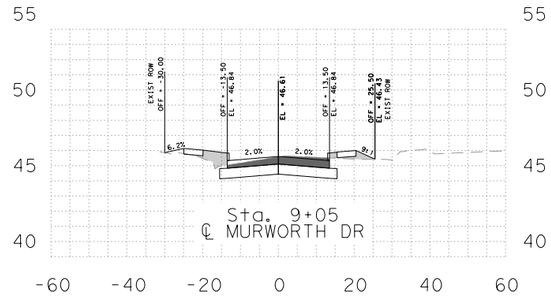
Sta. 7+00
℄ MURWORTH DR



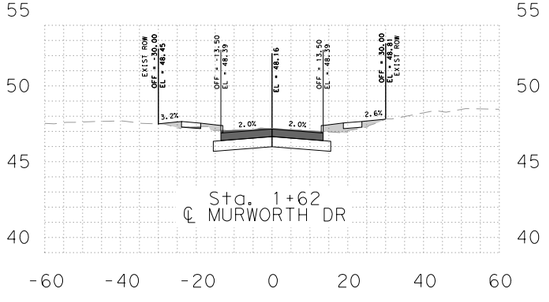
Sta. 2+00
℄ MURWORTH DR



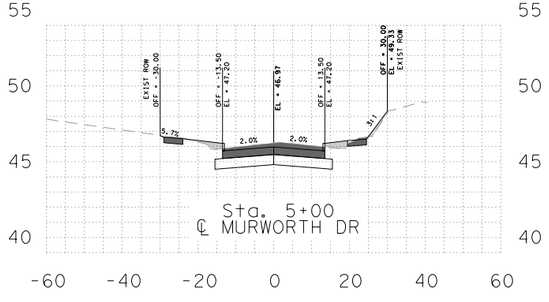
Sta. 6+00
℄ MURWORTH DR



Sta. 9+05
℄ MURWORTH DR



Sta. 1+62
℄ MURWORTH DR



Sta. 5+00
℄ MURWORTH DR

Sta. 8+50
℄ MURWORTH DR

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civil \ design \ engineers
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ENGINEER: V. N. MURTHY MADE, P.E
P.E. Reg No: 134936
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

MURWORTH DR CROSS SECTIONS

STA. 1+62 TO STA. 9+05

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
HORIZ.1"=20' VERT.1"=5'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 64 OF 200	

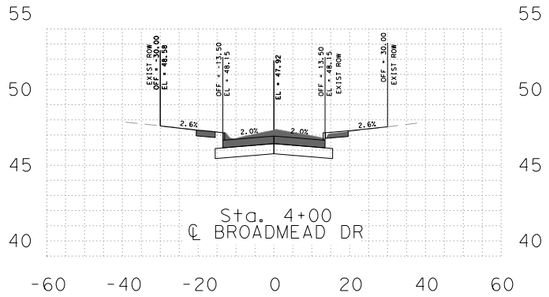
FILE:P:\ACTIVE\15DR30 SP1A\Ph II\Working\Transportation\xref\30_OR_XS_KS.dgn
DATE:12/8/2025

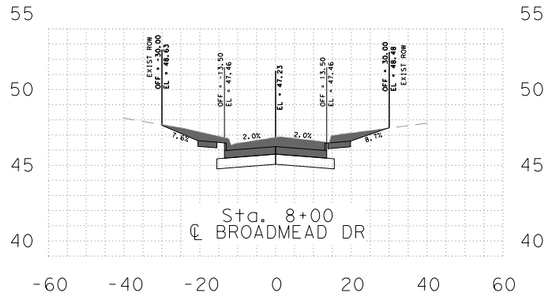
SCALE: 1"=20' HORIZ., 1"=5' VERT.

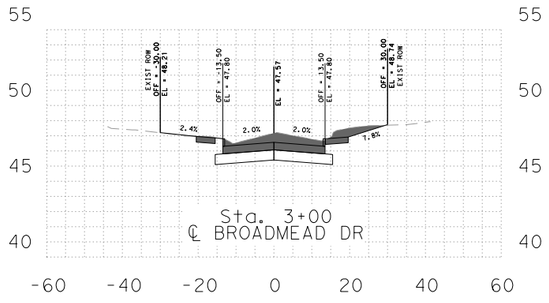
LEGEND:

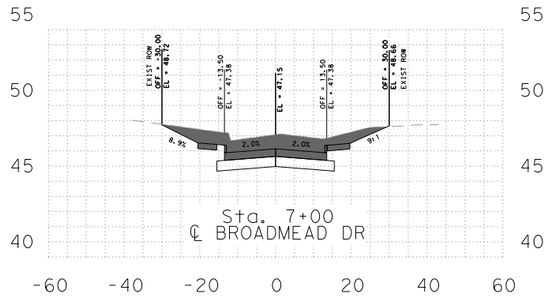
CUT VOLUME

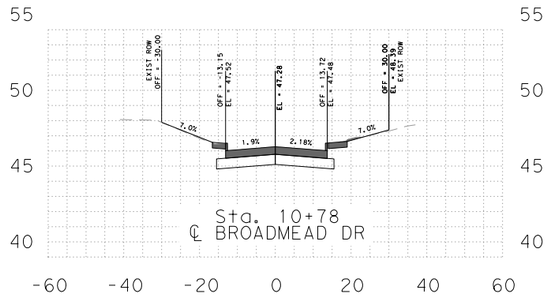
FILL VOLUME

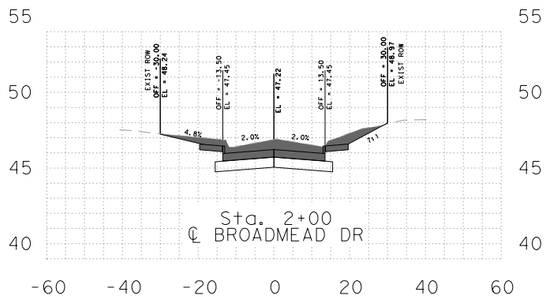


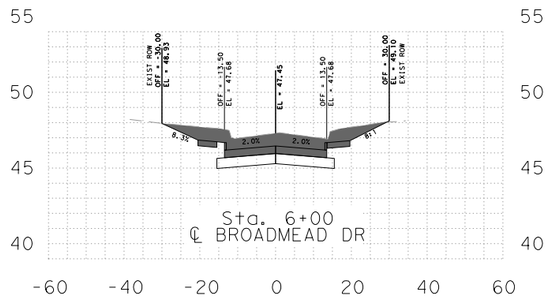


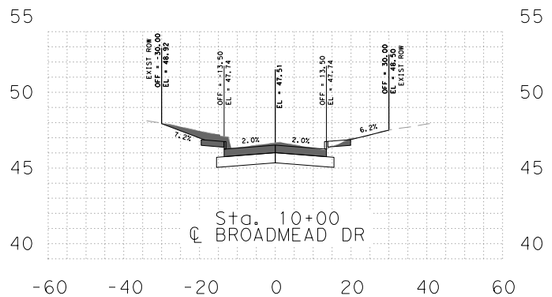


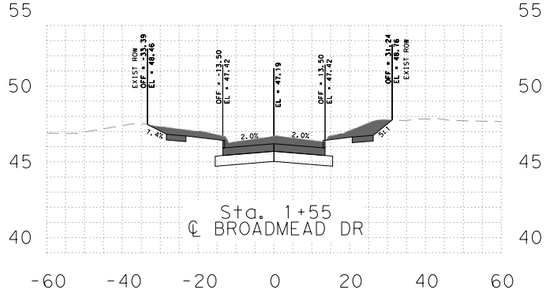


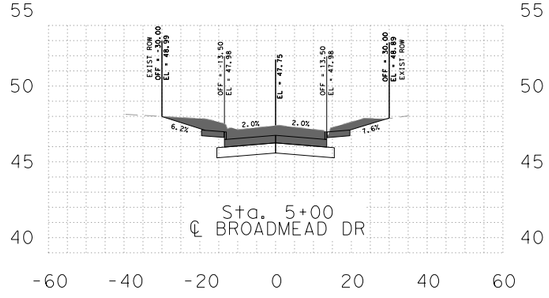


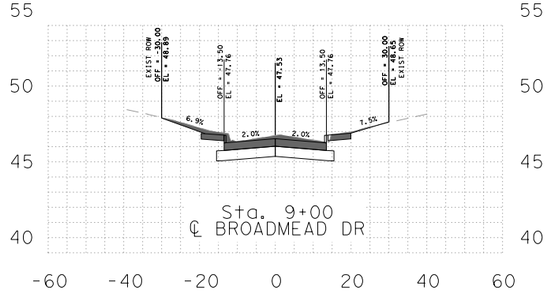












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ISANI
civil \ design \ engineers
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ENGINEER: V. N. MURTHY MADE, P.E
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DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

BROADMEAD DR CROSS SECTIONS

STA. 1+55 TO STA. 10+78

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
HORIZ. 1"=20' VERT. 1"=5'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 65 OF 200	

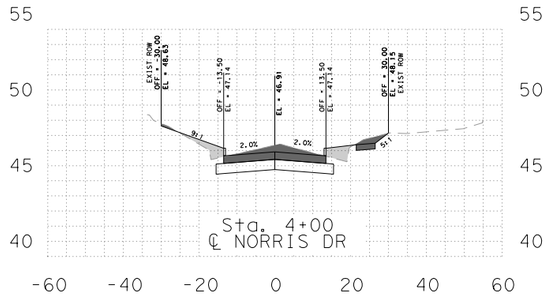
0 10 20 40

SCALE: 1"=20' HORIZ., 1"=5' VERT.

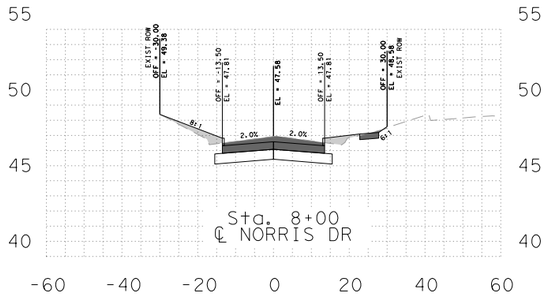
LEGEND:

CUT VOLUME

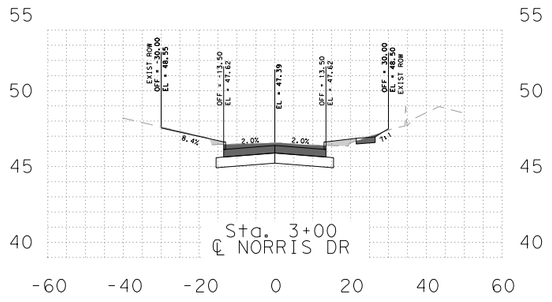
FILL VOLUME



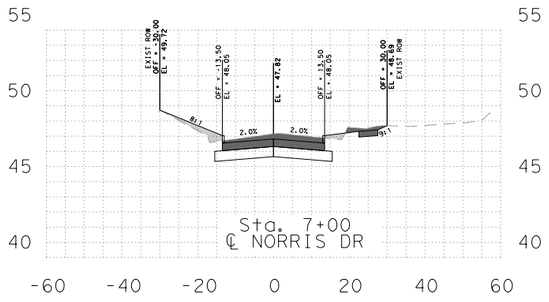
Sta. 4+00
℄ NORRIS DR



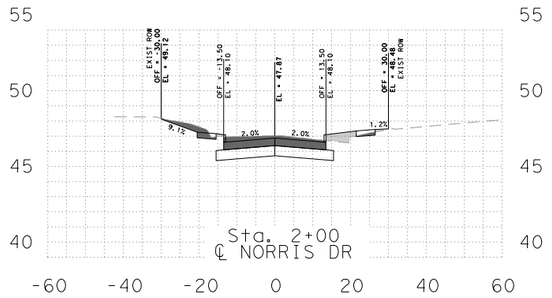
Sta. 8+00
℄ NORRIS DR



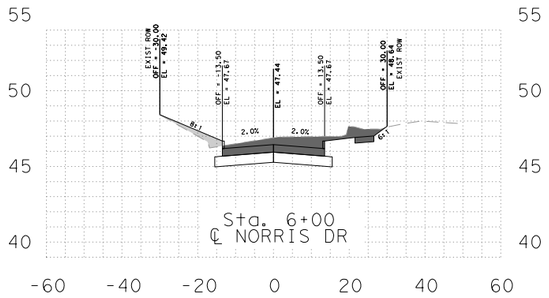
Sta. 3+00
℄ NORRIS DR



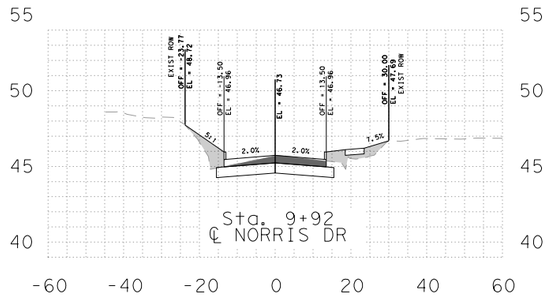
Sta. 7+00
℄ NORRIS DR



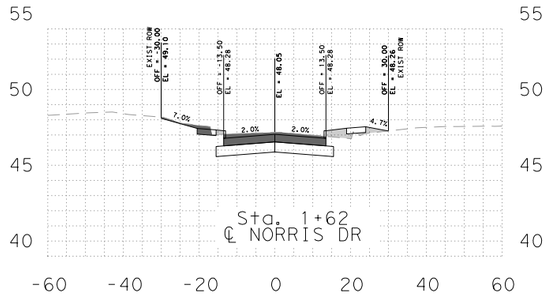
Sta. 2+00
℄ NORRIS DR



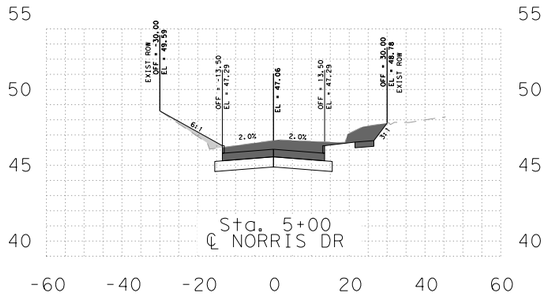
Sta. 6+00
℄ NORRIS DR



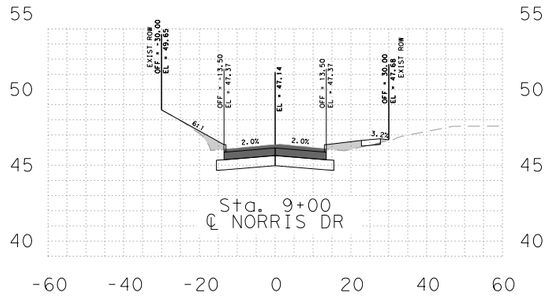
Sta. 9+92
℄ NORRIS DR



Sta. 1+62
℄ NORRIS DR



Sta. 5+00
℄ NORRIS DR



Sta. 9+00
℄ NORRIS DR

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ENGINEER: V. N. MURTHY MADE, P.E
P.E. Reg No: 134936
DATE: DECEMBER 2025

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

NORRIS DR (WEST) CROSS SECTIONS

STA. 1+62 TO STA. 9+92

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
HORIZ.1"=20' VERT.1"=5'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 66 OF 200	

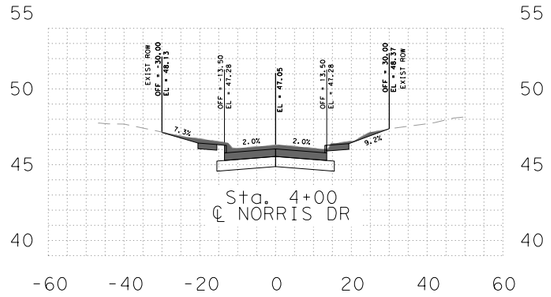
FILE:P:\ACTIVE\15DR30 SP1A\Ph II\Working\Transportation\xref\30_OR_XS_KS.dgn
DATE:12/8/2025

0 10 20 40
SCALE: 1"=20' HORIZ., 1"=5' VERT.

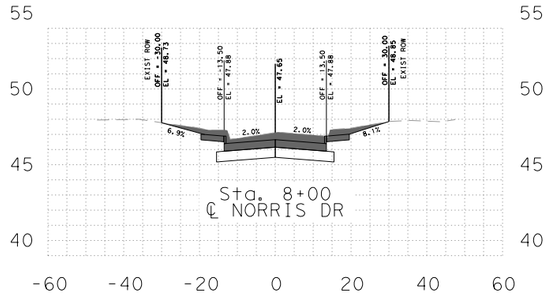
LEGEND:

CUT VOLUME

FILL VOLUME



Sta. 4+00
℄ NORRIS DR



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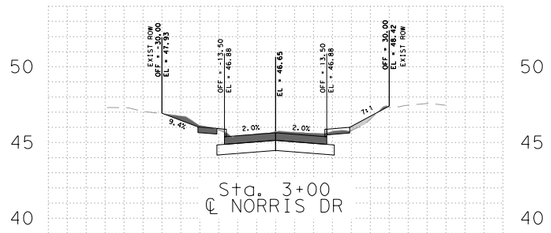

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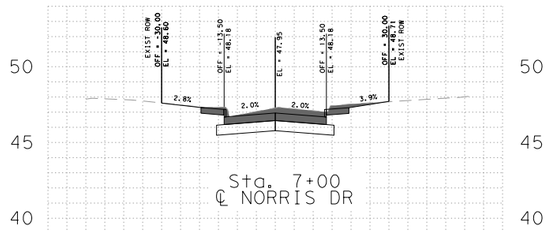
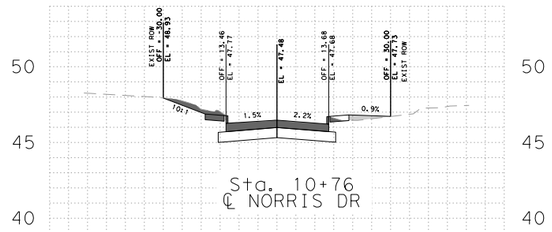
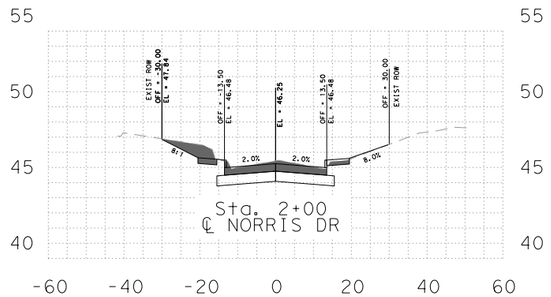
℄ NORRIS DR



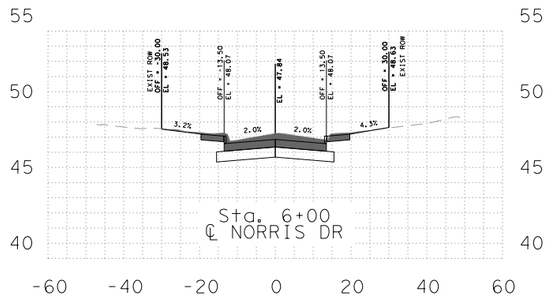
Sta. 7+00
℄ NORRIS DR



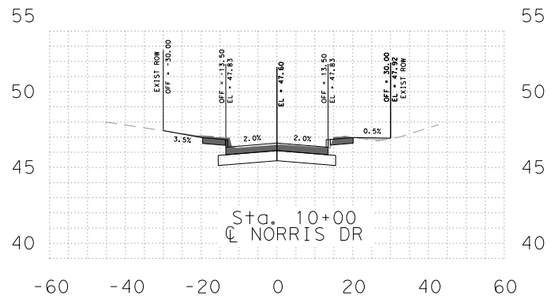
Sta. 10+76
℄ NORRIS DR



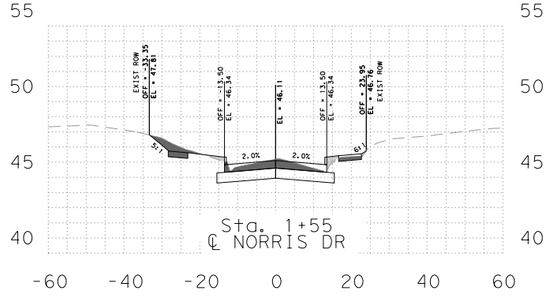
Sta. 2+00
℄ NORRIS DR



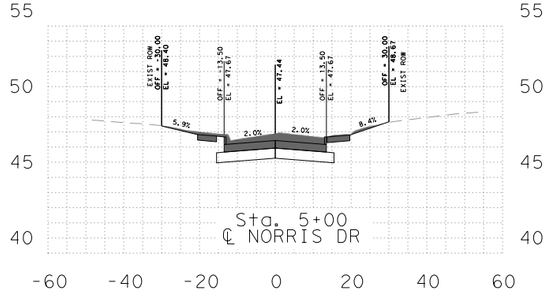
Sta. 6+00
℄ NORRIS DR



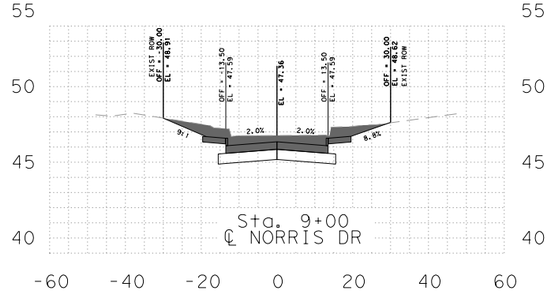
Sta. 10+00
℄ NORRIS DR



Sta. 1+55
℄ NORRIS DR



Sta. 5+00
℄ NORRIS DR



Sta. 9+00
℄ NORRIS DR

ISANI
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Houston, Texas 77042
P 713 747 2399
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TBPE Firm Reg. #4575

SURVEYED BY: Kuo&Associates
FB NO. P-6396

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BIDDING OR CONSTRUCTION
ENGINEER: V. N. MURTHY MADE, P.E
P.E. Reg No: 134936
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

NORRIS DR (EAST) CROSS SECTIONS

STA. 1+55 TO STA. 10+76

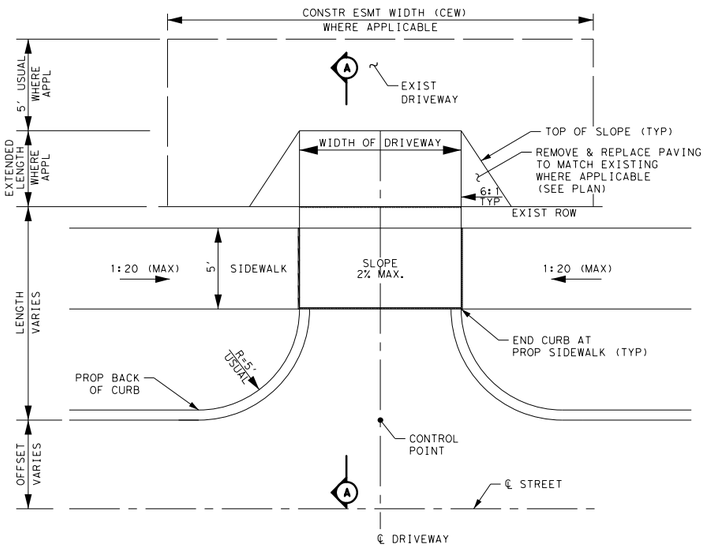
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
HORIZ.1"=20' VERT.1"=5'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 67 OF 200	

FILE:P:\ACTIVE\15DR30 SP1A\Ph II\Working\Transportation\xref\30_OR_XS_KS.dgn
DATE:12/8/2025

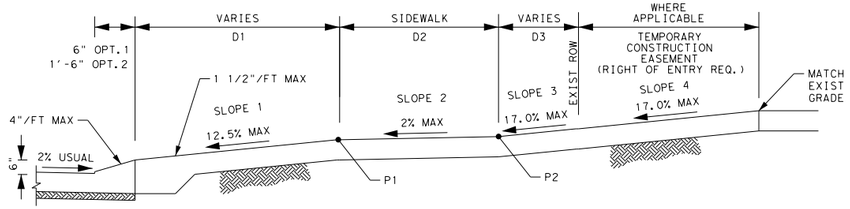
DRIVEWAY NO.	DRWY TYPE			STA	OFFSET	DRIVEWAY WIDTH	DRIVEWAY LENGTH	LEFT	RIGHT	DRIVEWAY AREA	ELEVATION AT GUTTER	ELEVATION AT CURB/CL	ELEVATION AT ROW	DELTA ELEVATION	OVERALL SLOPE	SIDEWALK									CONSTRUCTION EASEMENT		
	DECORATIVE	COMMERCIAL	RESIDENTIAL					CURB RETURN RADIUS								SLOPE	DISTANCE	OPT1 or OPT2	ELEVATION	SLOPE	DISTANCE	ELEVATION	DISTANCE	SLOPE	DISTANCE (ROW TO EASE.)	ELEVATION AT EASEMENT	SLOPE
																S1	D1		P1	S2	D2	P2	D3	S3			S4
						(FT)	(FT)	(FT)	(FT)	(SF)	(FT)	(FT)	(FT)	(FT)	(%)	(%)	(FT)	(FT)	(FT)	(%)	(FT)	(FT)	(FT)	(%)	(FT)	(FT)	(%)
DRIVEWAY SUMMARY - BROADMEAD DR																											
1			X	2+27.38	13.0' LT	10.0	17.0	5.0	5.0	180.6	47.06	47.56	48.09	1.03	-	7.8%	2.5		47.25	2.0%	5.0	47.35	9.5	7.8%			
2			X	2+33.45	13.0' RT	10.0	17.0	5.0	5.0	180.6	47.08	47.58	48.77	1.69	-	33.3%		0.5	47.25	2.0%	6.0	47.37	10.5	13.4%			
3			X	2+93.16	13.0' RT	10.0	17.0	5.0	5.0	180.6	47.29	47.79	48.80	1.52	-	33.3%		0.5	47.45	2.0%	6.0	47.57	10.5	11.7%			
4			X	2+97.55	13.0' LT	10.0	17.0	5.0	5.0	180.6	47.30	47.80	48.29	0.98	-	7.4%	2.5		47.49	2.0%	5.0	47.59	9.5	7.4%			
5			X	3+60.03	13.0' RT	10.0	17.0	5.0	5.0	180.6	47.52	48.02	48.84	1.32	-	33.3%		0.5	47.69	2.0%	6.0	47.81	10.5	9.8%			
6			X	3+60.19	13.0' LT	10.0	17.0	5.0	5.0	180.6	47.52	48.02	48.37	0.85	-	6.2%	2.5		47.67	2.0%	5.0	47.77	9.5	6.3%			
7			X	4+25.72	13.0' RT	10.0	17.0	5.0	5.0	180.6	47.71	48.21	48.67	0.96	-	33.3%		0.5	47.88	2.0%	6.0	48.00	10.5	6.4%			
8			X	4+33.07	13.0' LT	16.0	17.0	5.0	5.0	282.6	47.69	48.19	48.59	0.90	-	6.6%	2.5		47.85	2.0%	5.0	47.95	9.5	6.7%			
9			X	4+89.57	13.0' LT	16.2	17.0	5.0	5.0	286.0	47.52	48.02	48.94	1.42	-	11.0%	2.5		47.79	2.0%	5.0	47.89	9.5	11.0%			
10			X	4+90.86	13.0' RT	11.6	17.0	5.0	5.0	207.8	47.51	48.01	49.12	1.60	-	33.3%		0.5	47.68	2.0%	6.0	47.80	10.5	12.5%			
11			X	5+66.12	13.0' RT	10.0	17.0	5.0	5.0	180.6	47.29	47.79	49.00	1.71	-	33.3%		0.5	47.45	2.0%	6.0	47.57	10.5	13.6%			
12			X	5+86.30	13.0' LT	16.1	17.0	5.0	5.0	284.3	47.23	47.73	49.08	1.85	-	12.5%	2.5		47.54	2.0%	5.0	47.64	9.5	15.2%			
13			X	6+42.53	13.0' RT	16.7	17.0	5.0	5.0	294.5	47.06	47.56	48.98	1.92	-	33.3%		0.5	47.22	2.0%	6.0	47.34	10.5	15.6%			
14			X	6+63.81	13.0' LT	13.5	17.0	5.0	5.0	240.1	46.99	47.49	48.60	1.61	-	12.5%	2.5		47.31	2.0%	5.0	47.41	9.5	12.6%			
15			X	7+01.01	13.0' RT	10.0	17.0	5.0	5.0	180.6	46.88	47.38	48.62	1.74	-	33.3%		0.5	47.05	2.0%	6.0	47.17	10.5	13.8%			
16			X	7+53.67	13.0' LT	10.7	17.0	5.0	5.0	192.5	46.84	47.34	48.50	1.66	-	12.5%	2.5		47.15	2.0%	5.0	47.25	9.5	13.1%			
17			X	7+74.73	13.0' RT	10.2	17.0	5.0	5.0	184.0	46.90	47.40	48.64	1.74	-	33.3%		0.5	47.06	2.0%	6.0	47.18	10.5	13.8%			
18			X	8+24.39	13.0' LT	12.6	17.0	5.0	5.0	224.8	47.04	47.54	49.01	1.96	-	12.5%	2.5		47.36	2.0%	5.0	47.46	9.5	16.3%			
19			X	8+48.92	13.0' RT	16.0	17.0	5.0	5.0	282.6	47.12	47.62	48.78	1.66	-	33.3%		0.5	47.28	2.0%	6.0	47.40	10.5	13.1%			
20			X	8+93.93	13.0' LT	11.4	17.0	5.0	5.0	204.4	47.25	47.75	48.91	1.66	-	33.3%		0.5	47.42	2.0%	6.0	47.54	10.5	13.1%			
21			X	9+54.51	13.0' RT	15.6	17.0	5.0	5.0	275.8	47.39	47.89	48.66	1.27	-	33.3%		0.5	47.56	2.0%	6.0	47.68	10.5	9.4%			
22			X	9+55.61	13.0' LT	10.0	17.0	5.0	5.0	180.6	47.39	47.89	48.74	1.35	-	33.3%		0.5	47.55	2.0%	6.0	47.67	10.5	10.1%			
23			X	10+05.75	13.0' RT	17.9	17.0	5.0	5.0	314.9	47.24	47.74	48.69	1.46	-	33.3%		0.5	47.40	2.0%	6.0	47.52	10.5	11.1%			

NOTES:

1. REFER TO CITY OF HOUSTON DRIVEWAY DETAIL STD DWG NO: 02754-01B AND 02754-03.
2. REFER TO DRIVEWAY TABLE FOR DETAILS ON D1, D2, D3, P1, P2, S2, S3 AND S4.



TYPICAL CONCRETE DRIVEWAY DETAIL W/SIDEWALK
N. T. S.



TYPICAL CONCRETE DRIVEWAY SECTION W/SIDEWALK
(SECTION A-A)
N. T. S.

ISANI
civil | design | engineers
10448 Westoffice Drive
Houston, Texas 77042
P 713 747 2399
F 713 748 3748
TBPE Firm Reg. #4575

SURVEYED BY: Kuo&Associates
FB NO. P-6396

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ENGINEER: V. N. MURTHY MADE, P.E
P.E. Reg No: 134936
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

DRIVEWAY SUMMARY AND LAYOUT
SHEET 1 OF 4

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
N/A	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 68 OF 200	

FILE:P:\ACTIVE\15DR30 SP1A\Ph II\Working\Transportation\Sheets\Driveway Summary Table\30_DRWY.dgn
DATE:12/9/2025

DRIVEWAY NO.	DRWY TYPE			STA	OFFSET	DRIVEWAY WIDTH	DRIVEWAY LENGTH	LEFT CURB RETURN RADIUS	RIGHT CURB RETURN RADIUS	DRIVEWAY AREA	ELEVATION AT GUTTER	ELEVATION AT CURB/CL	ELEVATION AT ROW	DELTA ELEVATION	OVERALL SLOPE	SIDEWALK									CONSTRUCTION EASEMENT		
	DECORATIVE	COMMERCIAL	RESIDENTIAL													SLOPE S1	DISTANCE D1	OPT1 or OPT2	ELEVATION P1	SLOPE S2	DISTANCE D2	ELEVATION P2	DISTANCE D3	SLOPE S3	DISTANCE (ROW TO EASE.)	ELEVATION AT EASEMENT	SLOPE S4
						(FT)	(FT)	(FT)	(FT)	(SF)	(FT)	(FT)	(FT)	(FT)	(%)	(%)	(FT)	(FT)	(FT)	(%)	(FT)	(FT)	(FT)	(%)	(FT)	(FT)	(%)
DRIVEWAY SUMMARY - DEAL STREET																											
24			X	2+28.73	13.0' LT	10.0	17.0	5.0	5.0	196.6	46.43	46.93	48.82	2.38	-	12.5%	2.5		46.75	2.0%	5.0	46.85	9.5	17.0%	1.6	48.73	17.0%
25			X	2+71.33	13.0' RT	17.8	17.0	5.0	5.0	313.2	46.58	47.08	48.44	1.86	-	33.3%		0.5	46.75	2.0%	6.0	46.87	10.5	15.0%			
26			X	2+93.01	13.0' LT	10.0	17.0	5.0	5.0	186.6	46.65	47.15	48.78	2.13	-	12.5%	2.5		46.97	2.0%	5.0	47.07	9.5	17.0%	0.6	48.79	17.0%
27			X	3+37.80	13.0' RT	19.5	17.0	5.0	5.0	342.1	46.81	47.31	48.46	1.66	-	33.3%		1.5	47.31	2.0%	5.0	47.41	10.5	10.1%			
28			X	3+61.12	13.0' RT	10.0	17.0	5.0	5.0	180.6	46.89	47.39	48.30	1.41	-	33.3%		1.5	47.39	2.0%	5.0	47.49	10.5	7.8%			
29			X	3+63.38	13.0' LT	11.4	17.0	5.0	5.0	204.4	46.90	47.40	48.68	1.78	-	12.5%	2.5		47.21	2.0%	5.0	47.31	9.5	14.4%			
30			X	4+23.66	13.0' LT	10.4	17.0	5.0	5.0	187.4	47.11	47.61	48.63	1.53	-	11.9%	2.5		47.40	2.0%	5.0	47.50	9.5	11.9%			
31			X	4+24.11	13.0' RT	10.0	17.0	5.0	5.0	180.6	47.11	47.61	48.30	1.19	-	33.3%		1.5	47.61	2.0%	5.0	47.71	10.5	5.7%			
32			X	4+93.07	13.0' RT	10.0	17.0	5.0	5.0	180.6	47.35	47.85	48.49	1.15	-	33.3%		1.5	47.85	2.0%	5.0	47.95	10.5	5.2%			
33			X	5+32.92	13.0' LT	16.6	17.0	5.0	5.0	292.8	47.48	47.98	48.36	0.88	-	6.5%	2.5		47.65	2.0%	5.0	47.75	9.5	6.5%			
34			X	5+55.34	13.0' LT	10.3	17.0	5.0	5.0	185.7	47.56	48.06	48.16	0.60	-	4.2%	2.5		47.67	2.0%	5.0	47.77	9.5	4.2%			
35			X	5+55.34	13.0' RT	10.0	17.0	5.0	5.0	180.6	47.56	48.06	48.26	0.70	-	33.3%		1.5	48.06	2.0%	5.0	48.16	10.5	0.9%			
36			X	6+20.73	13.0' LT	10.0	17.0	5.0	5.0	180.6	47.68	48.18	48.34	0.66	-	4.6%	10.0		48.14	2.0%	5.0	48.24	2.0	5.0%			
37			X	6+21.11	13.0' RT	10.4	17.0	5.0	5.0	187.4	47.68	48.18	48.62	0.94	-	33.3%		1.5	48.18	2.0%	5.0	48.28	10.5	3.2%			
38			X	6+86.12	13.0' LT	10.0	17.0	5.0	5.0	180.6	47.41	47.91	48.21	0.80	-	5.8%	10.0		47.99	2.0%	5.0	48.09	2.0	5.9%			
39			X	6+90.33	13.0' RT	11.1	17.0	5.0	5.0	199.3	47.40	47.90	48.65	1.24	-	33.3%		1.5	47.90	2.0%	5.0	48.00	10.5	6.1%			
40			X	7+51.23	13.0' RT	13.0	17.0	5.0	5.0	231.6	47.16	47.66	48.35	1.19	-	33.3%		0.5	47.32	2.0%	6.0	47.44	10.5	8.6%			
41			X	7+59.81	13.0' LT	10.0	17.0	5.0	5.0	180.6	47.12	47.62	48.31	1.19	-	9.1%	10.0		48.03	2.0%	5.0	48.13	2.0	9.1%			
42			X	8+21.37	13.0' LT	10.0	17.0	5.0	5.0	180.6	47.07	47.57	48.71	1.64	-	12.5%	10.0		48.32	2.0%	5.0	48.42	2.0	14.7%			
43			X	8+24.81	13.0' RT	14.6	17.0	5.0	5.0	258.8	47.08	47.58	48.54	1.46	-	33.3%		0.5	47.25	2.0%	6.0	47.37	10.5	11.2%			
44			X	8+85.77	13.0' RT	10.0	17.0	5.0	5.0	180.6	47.29	47.79	48.30	1.02	-	33.3%		0.5	47.45	2.0%	6.0	47.57	10.5	7.0%			
45			X	8+89.87	13.0' LT	10.0	17.0	5.0	5.0	180.6	47.30	47.80	48.54	1.25	-	9.5%	10.0		48.25	2.0%	5.0	48.35	2.0	9.8%			
46			X	9+54.76	13.0' RT	10.0	17.0	5.0	5.0	180.6	47.52	48.02	48.66	1.14	-	33.3%		1.5	48.02	2.0%	5.0	48.12	10.5	5.1%			
47			X	9+56.59	13.0' LT	10.0	17.0	5.0	5.0	180.6	47.52	48.02	48.58	1.05	-	7.9%	2.5		47.72	2.0%	5.0	47.82	9.5	7.9%			
DRIVEWAY SUMMARY - GANNETT STREET																											
48			X	2+28.07	13.0' RT	10.0	17.0	5.0	5.0	180.6	46.79	47.29	48.65	1.86	-	12.5%	2.5		47.10	2.0%	5.0	47.20	9.5	15.2%			
49			X	2+28.28	13.0' LT	10.0	17.0	5.0	5.0	180.6	46.79	47.29	48.48	1.69	-	33.3%		0.5	46.96	2.0%	6.0	47.08	10.5	13.4%			
50			X	2+91.99	13.0' LT	10.0	17.0	5.0	5.0	180.6	47.02	47.52	48.43	1.41	-	33.3%		0.5	47.19	2.0%	6.0	47.31	10.5	10.7%			
51			X	2+95.27	13.0' RT	10.0	17.0	5.0	5.0	180.6	47.04	47.54	48.91	1.87	-	12.5%	2.5		47.35	2.0%	5.0	47.45	9.5	15.4%			
52			X	3+59.91	13.0' LT	10.0	17.0	5.0	5.0	180.6	47.27	47.77	48.75	1.48	-	33.3%		0.5	47.44	2.0%	6.0	47.56	10.5	11.4%			
53			X	3+67.71	13.0' RT	18.0	17.0	5.0	5.0	316.6	47.30	47.80	48.79	1.48	-	11.5%	2.5		47.59	2.0%	5.0	47.69	9.5	11.5%			
54			X	4+21.53	13.0' LT	10.0	17.0	5.0	5.0	180.6	47.50	48.00	49.04	1.54	-	33.3%		0.5	47.67	2.0%	6.0	47.79	10.5	11.9%			
55			X	4+22.06	13.0' RT	10.0	17.0	5.0	5.0	180.6	47.50	48.00	49.07	1.56	-	12.2%	2.5		47.81	2.0%	5.0	47.91	9.5	12.2%			
56			X	4+91.91	13.0' LT	10.0	17.0	5.0	5.0	180.6	47.76	48.26	48.99	1.23	-	9.4%	2.5		47.99	2.0%	5.0	48.09	9.5	9.4%			
57			X	4+92.31	13.0' RT	10.0	17.0	5.0	5.0	180.6	47.76	48.26	48.89	1.13	-	8.6%	11.0		48.70	2.0%	5.0	48.80	1.0	8.6%			
58			X	5+57.99	13.0' LT	12.0	17.0	5.0	5.0	214.6	48.00	48.50	49.01	1.01	-	7.6%	4.0		48.30	2.0%	5.0	48.40	8.0	7.6%			
59			X	5+61.31	13.0' RT	23.6	17.0	5.0	5.0	411.8	48.01	48.51	48.73	0.72	-	5.1%	11.0		48.57	2.0%	5.0	48.67	1.0	5.5%			
60			X	6+22.70	13.0' RT	10.0	17.0	5.0	5.0	180.6	47.84	48.34	48.80	0.96	-	7.1%	2.5		48.01	2.0%	5.0	48.11	9.5	7.2%			
61			X	6+29.65	13.0' LT	17.3	17.0	5.0	5.0	304.7	47.82	48.32	48.74	0.92	-	6.8%	2.5		47.99	2.0%	5.0	48.09	9.5	6.9%			
62			X	6+82.77	13.0' RT	10.0	17.0	5.0	5.0	180.6	47.66	48.16	48.36	0.70	-	5.0%	2.5		47.78	2.0%	5.0	47.88	9.5	5.0%			
63			X	6+88.89	13.0' LT	10.0	17.0	5.0	5.0	180.6	47.64	48.14	48.82	1.18	-	9.0%	2.5		47.86	2.0%	5.0	47.96	9.5	9.0%			
64			X	7+53.33	13.0' LT	13.7	17.0	5.0	5.0	243.5	47.44	47.94	48.60	1.16	-	8.8%	2.5		47.66	2.0%	5.0	47.76	9.5	8.8%			
65			X	7+56.33	13.0' RT	12.3	17.0	5.0	5.0	219.7	47.43	47.93	49.06	1.63	-	12.5%	2.5		47.75	2.0%	5.0	47.85	9.5	12.8%			
66			X	8+20.75	13.0' RT	10.0	17.0	5.0	5.0	180.6	47.38	47.88	48.59	1.21	-	9.3%	2.5		47.61	2.0%	5.0	47.71	9.5	9.3%			
67			X	8+22.76	13.0' LT	13.2	17.0	5.0	5.0	235.0	47.38	47.88	49.11	1.73	-	12.5%	2.5		47.69	2.0%	5.0	47.79	9.5	13.9%			
68			X	8+77.61	13.0' RT	10.0	17.0	5.0	5.0	180.6	47.55	48.05	48.48	0.93	-	6.9%	2.5		47.72	2.0%	5.0	47.82	9.5	6.9%			
69			X	8+83.01	13.0' LT	10.0	17.0	5.0	5.0	180.6	47.56	48.06	48.72	1.16	-	8.8%	2.5		47.78	2.0%	5.0	47.88	9.5	8.9%			
70			X	9+47.77	13.0' RT	10.0	17.0	5.0	5.0	180.6	47.76	48.26	48.50	0.75	-	5.4%	2.5		47.89	2.0%	5.0	47.99	9.5	5.4%			
71			X	9+49.08	13.0' LT	10.0	17.0	5.0	5.0	180.6	47.75	48.25	49.06	1.31	-	10.0%	2.5		48.00	2.0%	5.0	48.10	9.5	10.1%			

NOTES:

1. REFER TO CITY OF HOUSTON DRIVEWAY DETAIL STD DWG NO: 02754-01B AND 02754-03.
2. REFER TO DRIVEWAY TABLE FOR DETAILS ON D1, D2, D3, P1, P2, S2, S3 AND S4.

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BIDDING OR CONSTRUCTION
ENGINEER: V. N. MURTHY MADE, P.E
P.E. Reg No: 134936
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE
STREET IMPROVEMENTS

DRIVEWAY SUMMARY
SHEET 2 OF 4

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
N/A	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 69 OF 200	

FILE:P:\ACTIVE\15DR30 SP1A\Ph II\Working\Transportation\Sheets\Driveway Summary Table\30_DRWY.dgn
DATE:12/9/2025

DRIVEWAY NO.	DRWY TYPE			STA	OFFSET	DRIVEWAY WIDTH	DRIVEWAY LENGTH	LEFT / RIGHT CURB RETURN RADIUS		DRIVEWAY AREA	ELEVATION AT GUTTER	ELEVATION AT CURB/CL	ELEVATION AT ROW	DELTA ELEVATION	OVERALL SLOPE	SIDEWALK									CONSTRUCTION EASEMENT		
	DECORATIVE	COMMERCIAL	RESIDENTIAL					LEFT	RIGHT							SLOPE S1	DISTANCE D1	OPT1 or OPT2	ELEVATION P1	SLOPE S2	DISTANCE D2	ELEVATION P2	DISTANCE D3	SLOPE S3	DISTANCE (ROW TO EASE.)	ELEVATION AT EASEMENT	SLOPE S4
						(FT)	(FT)	(FT)	(FT)	(SF)	(FT)	(FT)	(FT)	(FT)	(%)	(%)	(FT)	(FT)	(FT)	(%)	(FT)	(FT)	(FT)	(%)	(FT)	(FT)	(%)
DRIVEWAY SUMMARY - NORRIS DRIVE																											
72			X	2+26.61	13.0' LT	10.0	17.0	5.0	5.0	180.6	46.10	46.60	45.11	-0.99	-	2.0%	2.5		46.15	2.0%	5.0	46.25	9.5	-12.0%			
73			X	2+30.98	13.0' RT	13.3	17.0	5.0	5.0	236.7	46.11	46.61	47.78	1.66	-	33.3%		0.5	46.28	2.0%	6.0	46.40	10.5	13.1%			
74			X	2+94.08	13.0' LT	10.0	17.0	5.0	5.0	180.6	46.37	46.87	47.73	1.36	-	10.5%	2.5		46.63	2.0%	5.0	46.73	9.5	10.5%			
75			X	2+94.41	13.0' RT	11.7	17.0	5.0	5.0	209.5	46.37	46.87	48.38	2.02	-	33.3%		0.5	46.53	2.0%	6.0	46.65	10.5	16.5%			
76			X	3+60.70	13.0' RT	12.3	17.0	5.0	5.0	219.7	46.63	47.13	48.21	1.58	-	33.3%		0.5	46.80	2.0%	6.0	46.92	10.5	12.3%			
77			X	3+61.19	13.0' LT	11.5	17.0	5.0	5.0	206.1	46.63	47.13	48.28	1.65	-	12.5%	2.5		46.94	2.0%	5.0	47.04	9.5	13.0%			
78			X	4+23.78	13.0' LT	10.0	17.0	5.0	5.0	180.6	46.88	47.38	48.36	1.48	-	11.5%	2.5		47.17	2.0%	5.0	47.27	9.5	11.5%			
79			X	4+24.63	13.0' RT	11.7	17.0	5.0	5.0	209.5	46.88	47.38	48.56	1.68	-	33.3%		0.5	47.05	2.0%	6.0	47.17	10.5	13.3%			
80			X	4+86.73	13.0' LT	10.0	17.0	5.0	5.0	180.6	47.13	47.63	48.56	1.43	-	11.1%	2.5		47.41	2.0%	5.0	47.51	9.5	11.1%			
81			X	4+94.95	13.0' RT	15.7	17.0	5.0	5.0	277.5	47.16	47.66	48.64	1.48	-	33.3%		0.5	47.33	2.0%	6.0	47.45	10.5	11.4%			
82			X	5+53.42	13.0' RT	11.7	17.0	5.0	5.0	209.5	47.39	47.89	48.51	1.12	-	33.3%		0.5	47.56	2.0%	6.0	47.68	10.5	7.9%			
83			X	5+89.45	13.0' LT	10.0	17.0	5.0	5.0	180.6	47.54	48.04	48.44	0.90	-	6.7%	2.5		47.71	2.0%	5.0	47.81	9.5	6.7%			
84			X	6+28.50	13.0' RT	15.8	17.0	5.0	5.0	279.2	47.69	48.19	48.51	0.82	-	33.3%		0.5	47.86	2.0%	6.0	47.98	10.5	5.0%			
85			X	6+49.10	13.0' LT	10.0	17.0	5.0	5.0	180.6	47.77	48.27	48.32	0.55	-	33.3%		0.5	47.94	2.0%	6.0	48.06	10.5	2.5%			
86			X	6+81.56	13.0' RT	10.0	17.0	5.0	5.0	180.6	47.75	48.25	48.63	0.89	-	33.3%		0.5	47.91	2.0%	6.0	48.03	10.5	5.7%			
87			X	7+14.05	13.0' LT	10.0	17.0	5.0	5.0	180.6	47.65	48.15	48.59	0.94	-	7.0%	2.5		47.83	2.0%	5.0	47.93	9.5	7.0%			
88			X	7+51.11	13.0' RT	10.7	17.0	5.0	5.0	192.5	47.54	48.04	48.81	1.27	-	33.3%		0.5	47.71	2.0%	6.0	47.83	10.5	9.3%			
89			X	7+87.81	13.0' LT	17.4	17.0	5.0	5.0	306.4	47.43	47.93	48.58	1.15	-	8.7%	2.5		47.65	2.0%	5.0	47.75	9.5	8.8%			
90			X	8+18.80	13.0' RT	10.5	17.0	5.0	5.0	189.1	47.34	47.84	48.61	1.27	-	33.3%		0.5	47.51	2.0%	6.0	47.63	10.5	9.4%			
91			X	8+76.67	13.0' LT	10.0	17.0	5.0	5.0	180.6	47.17	47.67	48.67	1.50	-	33.3%		0.5	47.33	2.0%	6.0	47.45	10.5	11.6%			
92			X	8+78.55	13.0' RT	11.2	17.0	5.0	5.0	201.0	47.16	47.66	48.55	1.39	-	33.3%		0.5	47.33	2.0%	6.0	47.45	10.5	10.5%			
93			X	9+49.55	13.0' LT	10.0	17.0	5.0	5.0	180.6	47.17	47.67	49.19	2.02	-	33.3%		0.5	47.34	2.0%	6.0	47.46	10.5	16.5%			
94			X	9+51.98	13.0' RT	11.7	17.0	5.0	5.0	209.5	47.18	47.68	48.74	1.56	-	33.3%		0.5	47.35	2.0%	6.0	47.47	10.5	12.1%			
DRIVEWAY SUMMARY - LINKWOOD DRIVE																											
95			X	2+52.81	13.0' RT	23.0	17.0	10.0	10.0	401.6	47.53	48.03	49.26	1.73	-	12.5%	2.5		47.85	2.0%	5.0	47.95	9.5	13.9%			
96			X	2+62.02	13.0' LT	23.8	17.0	5.0	5.0	415.2	47.56	48.06	48.50	0.93	-	6.9%	3.5		47.80	2.0%	5.0	47.90	8.5	7.0%			
97			X	3+60.37	13.0' RT	23.7	17.0	15.0	15.0	413.5	47.50	48.00	48.48	0.99	-	7.4%	2.5		47.68	2.0%	5.0	47.78	9.5	7.4%			
98			X	5+61.49	13.0' LT	10.0	17.0	5.0	5.0	180.6	47.29	47.79	49.01	1.72	-	12.5%	2.5		47.60	2.0%	5.0	47.70	9.5	13.7%			
99			X	6+69.10	13.0' LT	19.0	17.0	5.0	5.0	333.6	47.61	48.11	49.15	1.54	-	12.0%	2.5		47.91	2.0%	5.0	48.01	9.5	12.0%			
100			X	6+94.57	13.0' LT	10.0	17.0	5.0	5.0	180.6	47.69	48.19	48.87	1.18	-	9.0%	2.5		47.91	2.0%	5.0	48.01	9.5	9.0%			
101			X	7+56.06	13.0' LT	10.0	17.0	5.0	5.0	180.6	47.87	48.37	49.39	1.52	-	11.8%	2.5		48.17	2.0%	5.0	48.27	9.5	11.8%			
102			X	8+07.80	13.0' RT	10.4	17.0	5.0	5.0	187.4	48.03	48.53	48.71	0.68	-	4.8%	2.5		48.15	2.0%	5.0	48.25	9.5	4.8%			
103			X	8+21.96	13.0' LT	10.0	17.0	5.0	5.0	180.6	48.07	48.57	48.73	0.66	-	4.6%	2.5		48.18	2.0%	5.0	48.28	9.5	4.7%			
104			X	8+31.74	13.0' RT	17.2	17.0	5.0	5.0	303.0	48.10	48.60	49.57	1.47	-	11.4%	2.5		48.38	2.0%	5.0	48.48	9.5	11.4%			
105			X	8+85.55	13.0' LT	10.0	17.0	5.0	5.0	180.6	48.26	48.76	48.70	0.44	-	2.8%	2.5		48.33	2.0%	5.0	48.43	9.5	2.8%			
106			X	8+93.91	13.0' RT	12.5	17.0	5.0	5.0	223.1	48.29	48.79	49.15	0.87	-	6.4%	2.5		48.45	2.0%	5.0	48.55	9.5	6.4%			
107			X	9+52.61	13.0' LT	10.0	17.0	5.0	5.0	180.6	48.46	48.96	48.83	0.37	-	2.2%	2.5		48.52	2.0%	5.0	48.62	9.5	2.2%			
108			X	9+56.15	13.0' RT	10.0	17.0	5.0	5.0	180.6	48.46	48.96	49.34	0.88	-	6.5%	2.5		48.62	2.0%	5.0	48.72	9.5	6.5%			
109			X	10+17.20	13.0' LT	10.0	17.0	5.0	5.0	180.6	48.09	48.59	49.14	1.04	-	7.8%	2.5		48.29	2.0%	5.0	48.39	9.5	7.9%			
110			X	10+22.67	13.0' RT	10.0	17.0	5.0	5.0	180.6	48.06	48.56	48.96	0.90	-	6.7%	2.5		48.23	2.0%	5.0	48.33	9.5	6.7%			
111			X	10+81.61	13.0' LT	10.0	17.0	5.0	5.0	180.6	47.70	48.20	48.36	0.65	-	4.6%	2.5		47.82	2.0%	5.0	47.92	9.5	4.6%			
112			X	10+85.67	13.0' RT	10.0	17.0	5.0	5.0	180.6	47.68	48.18	49.12	1.44	-	11.1%	2.5		47.96	2.0%	5.0	48.06	9.5	11.2%			
113			X	11+46.72	13.0' LT	10.0	17.0	5.0	5.0	180.6	47.31	47.81	48.39	1.08	-	8.1%	2.5		47.51	2.0%	5.0	47.61	9.5	8.2%			
114			X	11+55.71	13.0' RT	10.7	17.0	5.0	5.0	192.5	47.26	47.76	48.93	1.67	-	12.5%	2.5		47.57	2.0%	5.0	47.67	9.5	13.2%			
115			X	12+10.51	13.0' LT	10.0	17.0	5.0	5.0	180.6	47.25	47.75	48.47	1.21	-	9.2%	2.5		47.48	2.0%	5.0	47.58	9.5	9.3%			
116			X	12+76.57	13.0' LT	10.0	17.0	5.0	5.0	180.6	47.47	47.97	48.53	1.06	-	33.3%		0.5	47.63	2.0%	6.0	47.75	10.5	7.4%			
117			X	12+82.45	13.0' RT	10.0	17.0	5.0	5.0	180.6	47.49	47.99	48.98	1.50	-	11.6%	2.5		47.78	2.0%	5.0	47.88	9.5	11.7%			

NOTES:

1. REFER TO CITY OF HOUSTON DRIVEWAY DETAIL STD DWG NO: 02754-01B AND 02754-03.
2. REFER TO DRIVEWAY TABLE FOR DETAILS ON D1, D2, D3, P1, P2, S2, S3 AND S4.

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ENGINEER: V. N. MURTHY MADE, P.E
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE
STREET IMPROVEMENTS

DRIVEWAY SUMMARY
SHEET 3 OF 4

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
N/A	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 70 OF 200	

FILE:P:\ACTIVE\15DR30 SP1A\Ph II\Working\Transportation\Sheets\Driveway Summary Table\30_DRWY.dgn
DATE:12/9/2025

DRIVEWAY NO.	DRWY TYPE			STA	OFFSET	DRIVEWAY WIDTH	DRIVEWAY LENGTH	LEFT CURB RETURN RADIUS	RIGHT CURB RETURN RADIUS	DRIVEWAY AREA	ELEVATION AT GUTTER	ELEVATION AT CURB/CL	ELEVATION AT ROW	DELTA ELEVATION	OVERALL SLOPE	SIDEWALK									CONSTRUCTION EASEMENT		
	DECORATIVE	COMMERCIAL	RESIDENTIAL													SLOPE S1	DISTANCE D1	OPT1 or OPT2	ELEVATION P1	SLOPE S2	DISTANCE D2	ELEVATION P2	DISTANCE D3	SLOPE S3	DISTANCE (ROW TO EASE.)	ELEVATION AT EASEMENT	SLOPE S4
						(FT)	(FT)	(FT)	(FT)	(SF)	(FT)	(FT)	(FT)	(FT)	(%)	(%)	(FT)	(FT)	(FT)	(%)	(FT)	(FT)	(FT)	(%)	(FT)	(FT)	(%)
DRIVEWAY SUMMARY - NORRIS DRIVE																											
118			X	2+16.67	18.0' LT	22.9	12.0	15.0	10.0	285.4	47.43	47.93	48.87	1.44	-	12.0%	6.0		48.15	2.0%	0.0	48.15	6.0	12.0%			
119			X	2+59.85	18.0' LT	23.7	12.0	10.0	10.0	295.0	47.22	47.72	48.89	1.67	-	12.5%	6.0		47.97	2.0%	0.0	47.97	6.0	15.3%			
120			X	4+65.11	18.0' RT	23.9	12.0	5.0	5.0	471.9	46.57	47.07	48.43	1.86	-	12.5%	3.5		47.01	2.0%	5.0	47.11	3.5	16.8%	7.3	48.92	16.8%
121			X	5+44.68	18.0' RT	24.8	12.0	15.0	15.0	355.3	46.87	47.37	48.23	1.36	-	12.5%	3.5		47.31	2.0%	5.0	47.41	3.5	16.8%	1.9	48.32	16.8%
122			X	6+26.69	18.0' RT	28.5	12.0	15.0	15.0	372.6	47.18	47.68	48.42	1.24	-	12.5%	3.5		47.62	2.0%	5.0	47.72	3.5	17.0%	0.7	48.43	17.0%
123			X	9+05.93	18.0' RT	27.8	12.0	15.0	15.0	344.2	46.75	47.25	47.64	0.88	-	11.5%	4.8		47.30	2.0%	5.0	47.40	2.2	10.6%			
DRIVEWAY SUMMARY - MURWORTH DRIVE																											
124			X	2+05.63	18.0' RT	72.0	12.0	5.0	5.0	874.6	47.64	48.14	48.73	1.08	-	33.3%		1.5	48.14	2.0%	5.0	48.24	5.5	8.8%			
125			X	2+54.85	18.0' RT	10.0	12.0	5.0	5.0	130.6	47.47	47.97	48.78	1.30	-	33.3%		1.5	47.97	2.0%	5.0	48.07	5.5	12.8%			
126			X	3+19.26	18.0' RT	10.0	12.0	5.0	5.0	130.6	47.25	47.75	48.61	1.36	-	33.3%		1.5	47.75	2.0%	5.0	47.85	5.5	13.8%			
127			X	3+82.74	18.0' RT	10.5	12.0	5.0	5.0	153.4	47.02	47.52	48.61	1.58	-	33.3%		1.5	47.52	2.0%	5.0	47.62	5.5	17.0%	1.6	48.83	17.0%
128			X	4+50.00	18.0' RT	14.8	12.0	5.0	5.0	263.7	46.79	47.29	48.86	2.07	-	33.3%		1.5	47.29	2.0%	5.0	47.39	5.5	17.0%	5.1	49.19	17.0%
129			X	6+45.93	18.0' RT	10.0	12.0	5.0	5.0	250.6	46.10	46.60	47.95	1.85	-	33.3%		1.5	46.60	2.0%	5.0	46.70	5.5	17.0%	12.0	49.67	17.0%
130			X	7+23.51	18.0' RT	15.9	12.0	5.0	5.0	333.4	46.21	46.71	48.06	1.84	-	33.3%		1.5	46.71	2.0%	5.0	46.81	5.5	17.0%	8.3	49.16	17.0%
DRIVEWAY SUMMARY - BEVLYN DRIVE																											
131			X	2+46.94	13.0' RT	16.0	17.0	5.0	5.0	282.6	46.64	47.14	47.92	1.28	-	33.3%		0.5	46.81	2.0%	6.0	46.93	10.5	9.4%			
132			X	2+82.04	13.0' LT	16.0	17.0	5.0	5.0	282.6	46.54	47.04	48.59	2.05	-	33.3%		0.5	46.70	2.0%	6.0	46.82	10.5	16.8%			
133			X	3+62.83	13.0' LT	16.2	17.0	5.0	5.0	326.5	46.29	46.79	48.50	2.21	-	33.3%		0.5	46.46	2.0%	6.0	46.58	10.5	16.9%	2.5	48.78	16.9%
134			X	4+39.45	13.0' LT	16.8	17.0	5.0	5.0	430.6	46.11	46.61	48.78	2.67	-	33.3%		0.5	46.28	2.0%	6.0	46.40	10.5	17.0%	8.0	49.54	17.0%
135			X	5+00.01	13.0' RT	16.0	17.0	5.0	5.0	322.6	46.35	46.85	48.58	2.24	-	33.3%		0.5	46.51	2.0%	6.0	46.63	10.5	16.8%	2.5	48.82	16.8%
136			X	5+12.42	13.0' LT	16.0	17.0	5.0	5.0	282.6	46.39	46.89	48.41	2.02	-	33.3%		0.5	46.56	2.0%	6.0	46.68	10.5	16.5%			
137			X	5+40.86	13.0' RT	16.5	17.0	5.0	5.0	291.1	46.50	47.00	48.35	1.85	-	33.3%		0.5	46.67	2.0%	6.0	46.79	10.5	14.9%			
138			X	5+85.30	13.0' LT	15.3	17.0	5.0	5.0	301.3	46.67	47.17	48.89	2.22	-	33.3%		0.5	46.84	2.0%	6.0	46.96	10.5	16.9%	2.0	49.07	16.9%
139			X	6+57.89	13.0' LT	15.8	17.0	5.0	5.0	279.2	46.94	47.44	48.48	1.54	-	33.3%		0.5	47.11	2.0%	6.0	47.23	10.5	11.9%			
140			X	7+30.28	13.0' LT	16.0	17.0	5.0	5.0	338.6	46.61	47.11	49.00	2.39	-	33.3%		0.5	46.77	2.0%	6.0	46.89	10.5	16.9%	3.5	49.26	16.9%
141			X	8+74.86	13.0' LT	20.0	17.0	5.0	5.0	570.6	46.28	46.78	48.66	2.38	-	33.3%		0.5	46.45	2.0%	6.0	46.57	10.5	16.9%	11.0	50.19	16.9%
142			X	9+51.08	13.0' LT	16.1	17.0	5.0	5.0	284.3	46.52	47.02	48.25	1.74	-	33.3%		0.5	46.68	2.0%	6.0	46.80	10.5	13.8%			
143			X	10+24.89	13.0' LT	16.0	17.0	5.0	5.0	282.6	46.75	47.25	48.20	1.45	-	33.3%		0.5	46.91	2.0%	6.0	47.03	10.5	11.1%			
144			X	10+30.88	13.0' RT	16.2	17.0	5.0	5.0	286.0	46.77	47.27	48.32	1.56	-	33.3%		0.5	46.93	2.0%	6.0	47.05	10.5	12.1%			
145			X	10+63.04	13.0' RT	13.9	17.0	5.0	5.0	246.9	46.87	47.37	48.64	1.77	-	33.3%		0.5	47.03	2.0%	6.0	47.15	10.5	14.2%			
146			X	10+96.58	13.0' LT	14.9	17.0	5.0	5.0	263.9	46.97	47.47	48.71	1.74	-	33.3%		0.5	47.14	2.0%	6.0	47.26	10.5	13.8%			
147			X	11+69.39	13.0' LT	16.8	17.0	5.0	5.0	296.2	47.20	47.70	48.94	1.74	-	33.3%		0.5	47.36	2.0%	6.0	47.48	10.5	13.8%			
148			X	12+43.64	13.0' LT	15.7	17.0	5.0	4.0	277.5	46.91	47.41	48.86	1.95	-	33.3%		0.5	47.08	2.0%	6.0	47.20	10.5	15.8%			
149			X	12+61.73	13.0' LT	10.3	17.0	4.0	5.0	185.7	46.81	47.31	48.45	1.64	-	33.3%		0.5	46.97	2.0%	6.0	47.09	10.5	12.9%			
150			X	12+99.49	13.0' RT	16.0	17.0	5.0	5.0	282.6	46.58	47.08	48.19	1.60	-	33.3%		0.5	46.75	2.0%	6.0	46.87	10.5	12.5%			
151			X	13+66.76	13.0' RT	16.3	17.0	5.0	5.0	287.7	46.19	46.69	47.92	1.73	-	33.3%		0.5	46.36	2.0%	6.0	46.48	10.5	13.7%			
DRIVEWAY SUMMARY - TIMBERSIDE DRIVE																											
152			X	2+01.31	13.0' LT	10.0	17.0	5.0	5.0	180.6	46.71	47.21	48.55	1.84	-	12.5%	5.0		47.34	2.0%	5.0	47.44	7.0	15.9%			
153			X	2+52.33	13.0' LT	10.0	17.0	5.0	5.0	205.6	46.55	47.05	48.71	2.16	-	12.5%	5.0		47.17	2.0%	5.0	47.27	7.0	17.0%	2.5	48.89	17.0%
154			X	2+98.65	13.0' LT	48.0	17.0	10.0	10.0	1306.6	46.36	46.86	48.96	2.61	-	12.5%	5.0		46.98	2.0%	5.0	47.08	7.0	17.0%	10.0	49.98	17.0%
155			X	3+07.45	13.0' RT	34.6	17.0	5.0	5.0	598.8	46.33	46.83	47.82	1.49	-	11.5%	5.0		46.91	2.0%	5.0	47.01	7.0	11.6%			
156			X	9+29.11	18.0' RT	10.5	12.0	5.0	5.0	225.9	46.69	47.19	48.47	1.77	-	12.5%	3.5		47.13	2.0%	5.0	47.23	3.5	17.0%	8.5	49.28	17.0%
157			X	11+01.00	18.0' RT	14.2	12.0	5.0	5.0	283.2	46.48	46.98	48.05	1.57	-	12.5%	3.5		46.92	2.0%	5.0	47.02	3.5	17.0%	7.2	48.84	17.0%

NOTES:

1. REFER TO CITY OF HOUSTON DRIVEWAY DETAIL STD DWG NO: 02754-01B AND 02754-03.
2. REFER TO DRIVEWAY TABLE FOR DETAILS ON D1, D2, D3, P1, P2, S2, S3 AND S4.

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ENGINEER: V. N. MURTHY MADE, P.E
P.E. Reg No: 134936
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

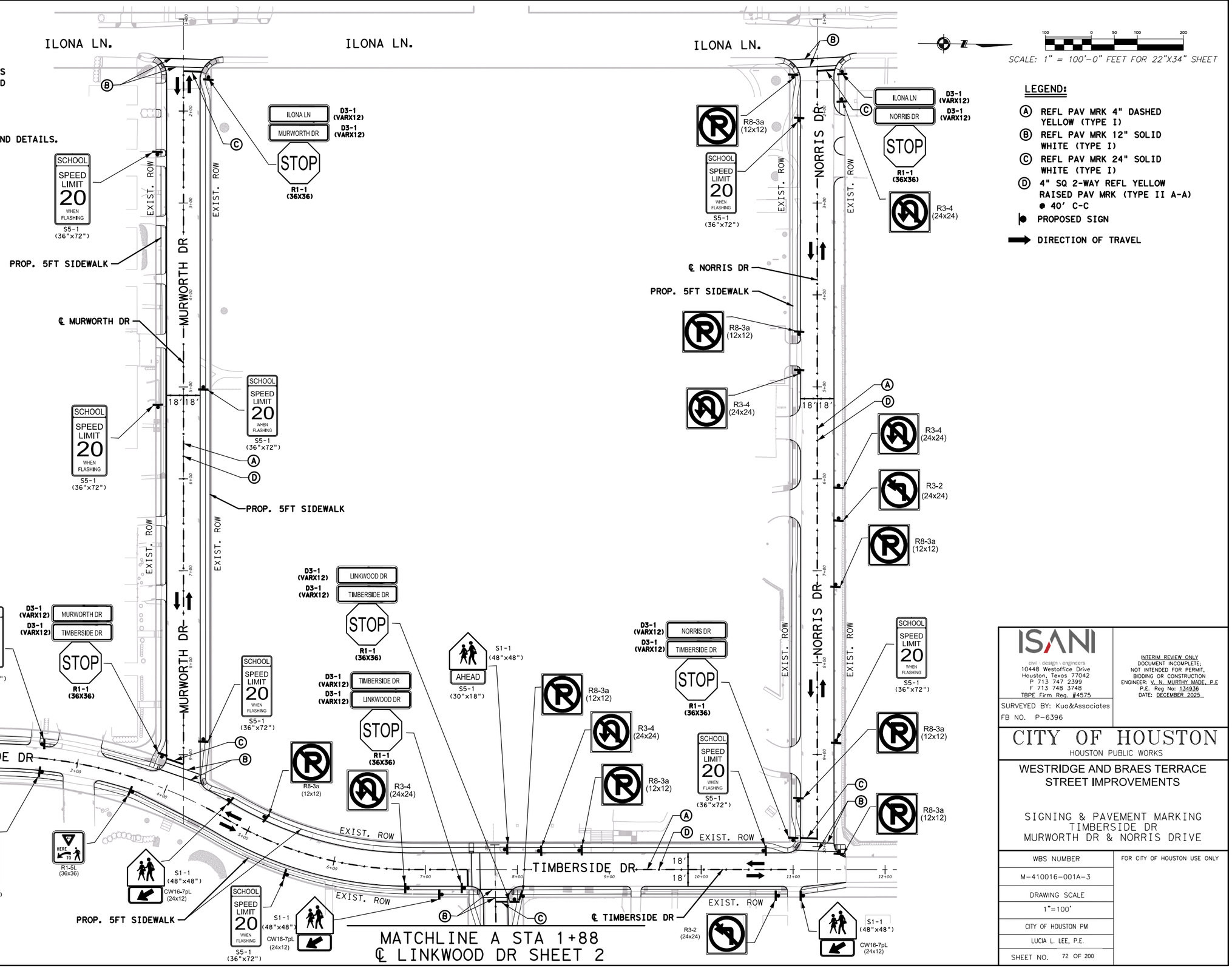
DRIVEWAY SUMMARY
SHEET 4 OF 4

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
N/A	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 71 OF 200	

FILE:P:\ACTIVE\150R30 SP1A\Ph II\Working\Transportation\Sheets\Driveway Summary Table\30_DRWY.dgn
DATE:12/9/2025

NOTES:

1. PAVEMENT MARKINGS AND SIGNING SHALL BE INSTALLED IN ACCORDANCE WITH CITY OF HOUSTON (COH) TRAFFIC MANAGEMENT AND MAINTAINANCE DIVISION'S PAVEMENT MARKINGS AND SIGNING DETAILS (3700 SERIES), TMUTCD STANDARDS AND SPECIFICATIONS.
2. PERMANENT PAVEMENT MARKINGS SHALL BE THERMOPLASTIC MATERIAL PER THE CITY OF HOUSTON SPECIFICATIONS.
3. SEE SHEETS 4-10 FOR TYPICAL DIMENSIONS AND DETAILS.



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P.E. Reg No: 134936
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

SIGNING & PAVEMENT MARKING
TIMBERSIDE DR
MURWORTH DR & NORRIS DRIVE

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1"=100'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 72 OF 200	

FILE:P:\ACTIVE\150R30 SP1A\Ph II\Working\Transportation\Sheets\Signing and Pavement Marking\30_SPM -01.dgn
DATE:12/8/2025

℄ LINKWOOD DR SHEET 1 MATCHLINE A STA 1+88

MATCHLINE B STA 7+58
℄ BELVYN DR SHEET 3

℄ BELVYN DR

℄ GANNETT ST

℄ NORRIS DR

℄ LINKWOOD DR

BUFFALO SPEEDWAY

EXIST. ROW

PROP. 5FT SIDEWALK

GANNETT ST

NORRIS DR

LINKWOOD DR

BELVYN DR

GANNETT ST — D3-1 (VARX12)
BEVLYN DR — D3-1 (VARX12)
STOP — R1-1 (36X36)

NORRIS DR — D3-1 (VARX12)
BEVLYN DR — D3-1 (VARX12)
STOP — R1-1 (36X36)
ALL WAY — R1-4 (18X6)

BUFFALO SPEEDWAY — D3-1 (VARX12)
GANNETT ST — D3-1 (VARX12)
STOP — R1-1 (36X36)

W3-1 (30x30)

W17-1 (36x36) SPEED HUMP
CW13-1 (18x18) 20 MPH

SPEED LIMIT 30 — R2-1 (36x48)

BEVLYN DR — D3-1 (VARX12)
LINKWOOD DR — D3-1 (VARX12)
STOP — R1-1 (36X36)

S1-1 (48"x48") CW16-7pL (24x12)

R8-3a (12x12)

BUFFALO SPEEDWAY — D3-1 (VARX12)
NORRIS DR — D3-1 (VARX12)
STOP — R1-1 (36X36)

BUFFALO SPEEDWAY — D3-1 (VARX12)
LINKWOOD DR — D3-1 (VARX12)
STOP — R1-1 (36X36)

S1-1 (48"x48") AHEAD S5-1 (30"x18")

SCALE: 1" = 100'-0" FEET FOR 22"X34" SHEET

LEGEND:

- (A) REFL PAV MRK 4" DASHED YELLOW (TYPE I)
- (B) REFL PAV MRK 12" SOLID WHITE (TYPE I)
- (C) REFL PAV MRK 24" SOLID WHITE (TYPE I)
- (D) 4" SQ 2-WAY REFL YELLOW RAISED PAV MRK (TYPE II A-A) @ 40' C-C
- PROPOSED SIGN
- DIRECTION OF TRAVEL

NOTES:

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3. SEE SHEETS 4-10 FOR TYPICAL DIMENSIONS AND DETAILS.

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P.E. Reg No: 134936
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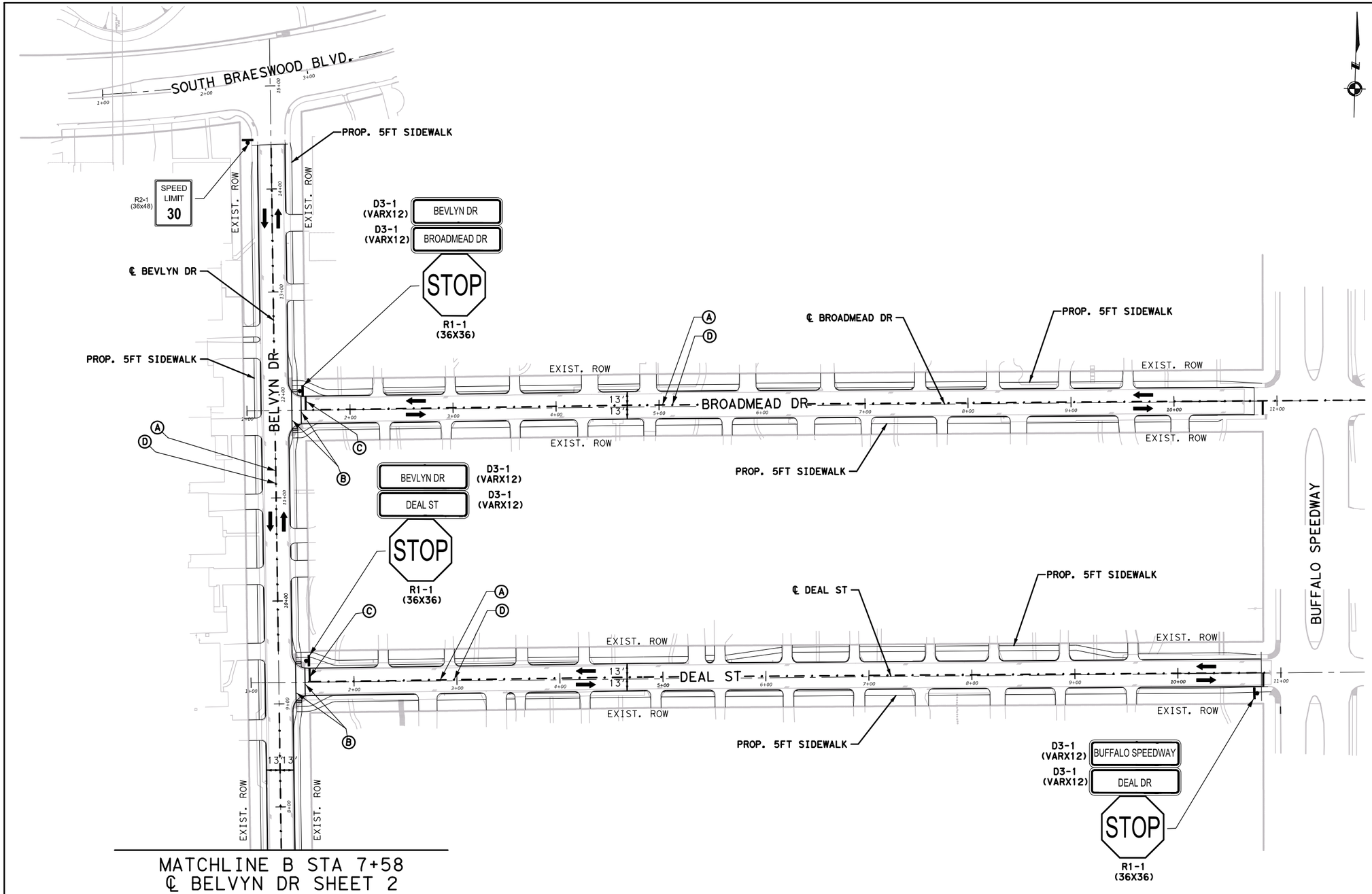
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

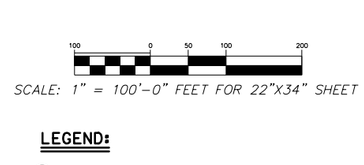
WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

SIGNING & PAVEMENT MARKING
LINKWOOD DR & BELVYN DR
NORRIS DR & GANNETT ST

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1"=100'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 73 OF 200	

FILE:\\Isani-Server\Projects\ACTIVE\15DR30 SP1A\Ph II\Working\Transportation\Sheets\Signing and Pavement Marking\30_SPM -02.dgn
DATE:12/9/2025





NOTES:

1. PAVEMENT MARKINGS AND SIGNING SHALL BE INSTALLED IN ACCORDANCE WITH CITY OF HOUSTON (COH) TRAFFIC MANAGEMENT AND MAINTAINANCE DIVISION'S PAVEMENT MARKINGS AND SIGNING DETAILS (3700 SERIES), TMUTCD STANDARDS AND SPECIFICATIONS.
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ENGINEER: V. N. MURTHY MADE, P.E
P.E. Reg No: 134936
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE
STREET IMPROVEMENTS

SIGNING & PAVEMENT MARKING
BELVYN DR
DEAL ST & BROADMEAD DR

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1"=100'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 74 OF 200	

FILE:\\Isani-Server\Projects\ACTIVE\15DR30 SP1A\Ph II\Working\Transportation\Sheets\Signing and Pavement Marking\30_SPM -03.dgn
DATE:12/9/2025

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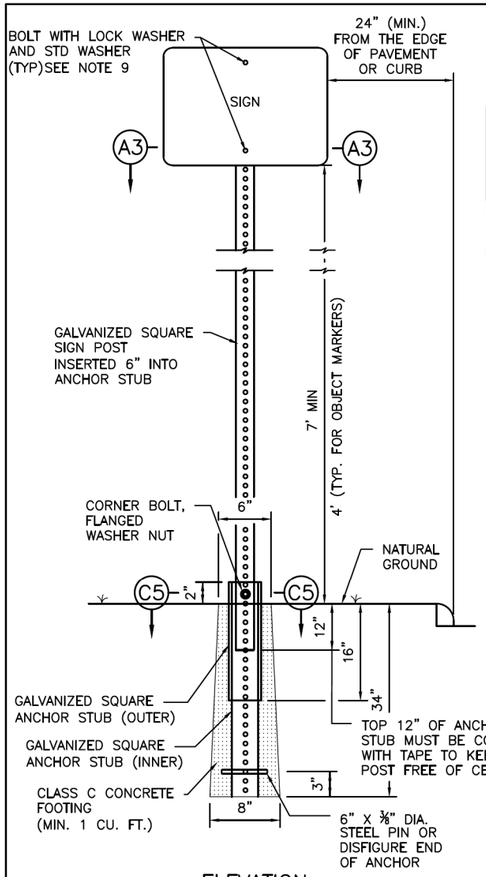
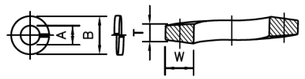


ELEVATION

TYPICAL GROUND SIGN INSTALLATION
PERFORATED SQUARE METAL TUBING

TABLE A	
GALVANIZED SQUARE SIGN POST (PERFORATED)	1–3/4"x–1–3/4" (14 GAUGE)
GALVANIZED SQUARE ANCHOR STUB (PREFORATAED) (INNER)	2"x2"x36" (14 GAUGE)
GALVANIZED SQUARE ANCHOR STUB (PERFORATED) (OUTER)	2 1/4" x 2 1/4" x 18" (14 GAUGE)



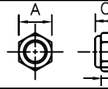
	A		B	T	W
NOMINAL WASHER SIZE	INSIDE DIAMETER		OUTSIDE DIAMETER	MEAN SECTION (THICKNESS)	SECTION WIDTH
	MAX	MIN	MAX		
5/16"	0.332"	0.314"	0.583"	0.078"	0.125"

DIMENSIONS: ASME B18.21.1

MATERIAL: ALLOY STEEL PER ASME B18.21.1

FINISH: MECHANICAL ZINC PER ASTM B695, CLASS 5, TYPE 2 (YELLOW)

5/16" SPLIT LOCK WASHER, HIGH ALLOY MECHANICAL DEPOSITED YELLOW SINK



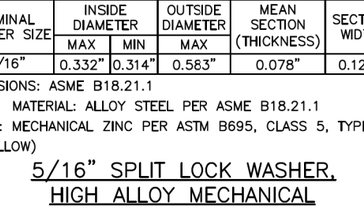
	C		A		D
SIZE	THICKNESS		WIDTH ACROSS FLATS		HEX HEIGHT
	MAX	MIN	MAX	MIN	MIN
0.313"	0.359"	0.329"	0.502"	0.489"	0.250"

DIMENSIONS: ASME B18.16.6

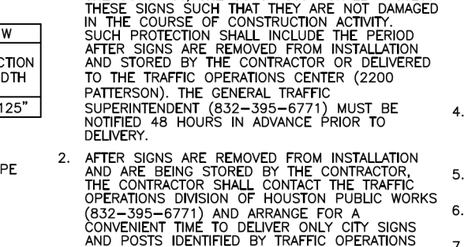
MATERIAL: CARBON STEEL, GRADE 8 PER ASME B18.16.6, NYLON ⅝

THREAD REQUIREMENTS: ASME B1.1 UNC & UNF CLASS 2B

HEX NYLON INSERT LOCKNUTS (NE), GRADE 8, YELLOW ZINC PLATED



STANDARD ORIENTATION

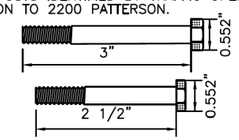


NON–STANDARD ORIENTATION

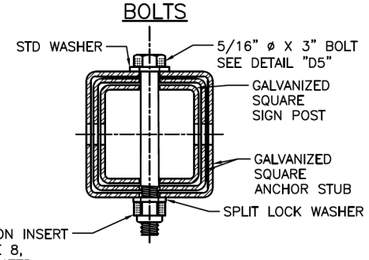
SECTION A3: SIGN CONNECTION DETAILS

NOTES:

1. THE EXISTING SIGNS LOCATED ON PUBLIC CONSTRUCTION SITE ARE THE PROPERTY OF THE CITY OF HOUSTON. THROUGHOUT THE PERIOD OF THE CONTRACT, THE CONTRACTOR SHALL PROTECT THESE SIGNS SUCH THAT THEY ARE NOT DAMAGED IN THE COURSE OF CONSTRUCTION ACTIVITY. SUCH PROTECTION SHALL INCLUDE THE PERIOD AFTER SIGNS ARE REMOVED FROM INSTALLATION AND STORED BY THE CONTRACTOR OR DELIVERED TO THE TRAFFIC OPERATIONS CENTER (2200 PATTERSON). THE GENERAL TRAFFIC SUPERINTENDENT (832–395–6771) MUST BE NOTIFIED 48 HOURS IN ADVANCE PRIOR TO DELIVERY.
2. AFTER SIGNS ARE REMOVED FROM INSTALLATION AND ARE BEING STORED BY THE CONTRACTOR, THE CONTRACTOR SHALL CONTACT THE TRAFFIC OPERATIONS DIVISION OF HOUSTON PUBLIC WORKS (832–395–6771) AND ARRANGE FOR A CONVENIENT TIME TO DELIVER ONLY CITY SIGNS AND POSTS IDENTIFIED BY TRAFFIC OPERATIONS DIVISION TO 2200 PATTERSON.



SECTION D5
BOLTS



SECTION C5
CORNER BOLT

3. PRIOR TO THE START OF CONSTRUCTION, ALL EXISTING SIGNS WITHIN THE AREA OF CONSTRUCTION WILL BE INVENTORIED AND DOCUMENTED JOINTLY BY THE CITY INSPECTOR AND THE CONTRACTOR. THIS DOCUMENT WILL BE JOINTLY SIGNED BY BOTH PARTIES REFLECTING THE SIGN TYPE, SIGN SIZE, SIGN CONDITION, SIGN LOCATION, REFLECTIVITY ADEQUACY, ETC. THE CONTRACTOR IS HELD ACCOUNTABLE FOR THESE SIGNS THROUGHOUT THE PROJECT AND AT THE PROJECTS COMPLETION.
4. ALL GROUND MOUNTED STOP SIGNS, WARNING SIGNS, AND OTHER REGULATORY SIGNS SHALL USE AT A MINIMUM HIGH INTENSITY PRISMATIC REFLECTIVE SHEETING.
5. ALL OVERHEAD SIGNS SHALL USE DIAMOND GRADE REFLECTIVE SHEETING.
6. ALL OTHER SIGNS SHALL USE SUPER ENGINEER GRADE SHEETING.
7. ALL BLANKS TO BE INSTALLED SHALL BE ALUMINUM ALLOY 6061–T–6 OR 5052–H38 IN ACCORDANCE WITH ASTM B209.
8. ALL HOLES SHALL BE ⅜" DIAMETER DRILLED OR PUNCHED AS SHOWN ON EACH BLANK DETAIL AND SHALL BE FREE OF BURRS AND / OR ROUGH EDGES. WHERE NON–STANDARD ORIENTATION OF SIGN IS USED, ENLARGE HOLE IN SIGN POST AT SIGN CONNECTION NOT GREATER THAN 11/16" IN DIAMETER.
9. BOLT SIZE REQUIREMENTS FOR SIGN CONNECTION:
   - 9.1. STANDARD ORIENTATION = 5/16" DIA X 2 1/2" BOLT
   - 9.2. NON STANDARD ORIENTATION = 5/16" DIA X 3" BOLT
10. SIGN BLANK CORNERS TO BE ROUNDED AS SHOWN ON EACH DETAIL ON SHEET 01554–06.
11. ALL SIGN BLANKS ARE TO BE ETCHED, DEGREASED, AND HAVE A COATING MEETING THE REQUIREMENTS OF ASTM B449, CLASS 2, OR ASTM B921, CLASS 2. PRIOR TO APPLICATION OF LEGENDS.
12. ALL SIGNS SHALL BE MANUFACTURED AND INSTALLED IN CONFORMANCE TO THE LATEST TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD) AND STANDARD HIGHWAY SIGNS LATEST EDITION.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

GENERAL NOTES AND GROUND MOUNTING SIGN

(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Suhail Kanwar — 9EF8B0C641F5478...
CITY ENGINEER

DocuSigned by: KHANG NGUYEN — 95A29EFDA75B4CD...
CITY TRAFFIC ENGINEER

DocuSigned by: Carol Haddock — A93C410B72D3453...
DIRECTOR OF HPW

EFF DATE: NOV–27–2023 | DWG NO: 01554–01

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Houston, Texas 77042
P 713 747 2399
F 713 748 3748
TBPE Firm Reg. #4575

SURVEYED BY: Kuo&Associates
FB NO. P–6396

INTERIM REVIEW ONLY
DOCUMENT INCOMPLETE;
NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION
ENGINEER: V. N. MURTHY MADE, P.E
P.E. Reg No: 134936
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

GENERAL NOTES AND GROUND MOUNTING SIGN

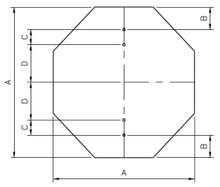
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–410016–001A–3	
DRAWING SCALE	
NA	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 75 OF 200	

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

FILE:P:\ACTIVE\15DR30 SP1A\Ph II\Working\Transportation\Sheets\Signing and Pavement Marking\SPM_STD_Sign.dgn
DATE:12/8/2025

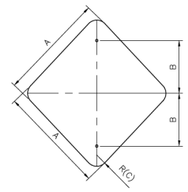
DocuSign Envelope ID: CB71C116-B716-4899-A5EE-0D2F2CC55AF6

DISCLAIMER:
THE USE OF THIS STANDARD IS GOVERNED BY THE TEXAS ENGINEERING PRACTICE ACT. THE DESIGN REQUIREMENTS ON THIS STANDARD DO NOT PURPORT TO ADDRESS ALL OF THE SAFETY CONCERNS ASSOCIATED WITH THEIR USE. ANY PERSON WHO USES THIS STANDARD FOR DESIGN PURPOSES AGREES BY SUCH USE TO INDEMNIFY AND HOLD HARMLESS THE CITY OF HOUSTON FOR ANY AND ALL LIABILITY, DEMANDS, CLAIMS, SUITS OR DAMAGES OF ANY KIND WHATSOEVER. THE CITY OF HOUSTON ASSUMES NO RESPONSIBILITY FOR INCORRECT RESULTS OR DAMAGES RESULTING FROM ITS USE. WARRANTY OF ANY KIND IS MADE BY THE CITY OF HOUSTON FOR ANY PURPOSES WHATSOEVER.



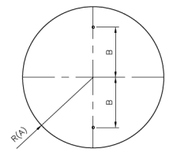
OCTAGONAL

A	B	C	D	T
24	3	3	12	0.08
36	3	3	24	0.08



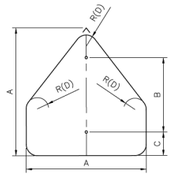
DIAMOND

A	B	C	T
24	12	1 1/2	0.08
30	15	1 1/2	0.08
36	18	1 1/2	0.08



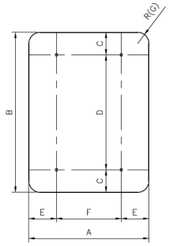
CIRCLE

A	B	T
15	15	0.08
18	12	0.08



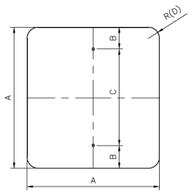
PENTAGON (SCHOOL)

A	B	C	D	T
36	24	3	1 1/2	0.08



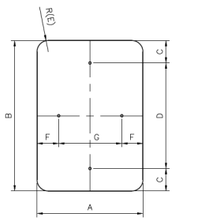
VERTICAL RECTANGLE

A	B	C	D	E	F	G	T
36	48	6	36	6	24	1 1/2	0.08
48	60	6	48	9	30	1 1/2	0.08
18	30	3	24	–	–	1 1/2	0.08



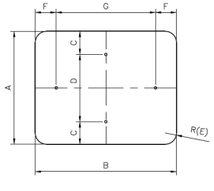
SQUARE (A)

A	B	C	D	T
18	3	12	1 1/2	0.08
24	3	18	1 1/2	0.08
36	3	30	1 1/2	0.08



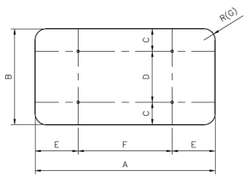
VERTICAL/HORIZONTAL RECTANGLE

A	B	C	D	E	F	G	T
12	18	1 1/2	15	1 1/2	1 1/2	9	0.08
12	36	3	30	1 1/2	1 1/2	9	0.08
18	24	3	18	1 1/2	1 1/2	15	0.08
24	30	3	24	1 1/2	3	18	0.08
24	36	3	30	1 1/2	3	18	0.08
24	48	3	36	1 1/2	3	18	0.08
30	36	3	30	1 1/2	3	24	0.08



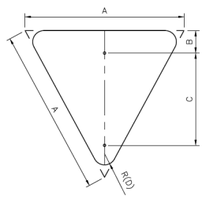
HORIZONTAL/VERTICAL RECTANGLE

A	B	C	D	E	F	G	T
12	6	–	–	1 1/2	1	4	0.08
18	6	–	–	1 1/2	1	4	0.08
12	9	1	10	1 1/2	–	–	0.08
24	12	1 1/2	9	1 1/2	2	8	0.08
24	18	3	12	1 1/2	2	14	0.08
30	24	3	18	1 1/2	3	18	0.08
36	12	1 1/2	9	1 1/2	2	8	0.08



HORIZONTAL RECTANGLE

A	B	C	D	E	F	G	T
36	24	3	18	6	24	1 1/2	0.08
48	24	3	18	9	30	1 1/2	0.08
48	36	6	24	9	30	1 1/2	0.08
60	24	3	18	12	36	1 1/2	0.08
60	36	6	24	12	36	1 1/2	0.08



EQUILATERAL TRIANGLE

A	B	C	D	T
36	3	21	1 1/2	0.08

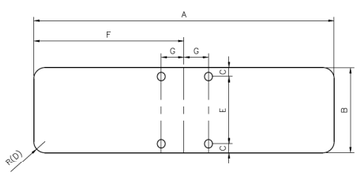


TABLE – D3 SIGNS (BRACKETS)

A	B	C	D	E	F	G	T
30	9	5/16	1 1/2	8 3/8	15	1 3/4	0.125
36	9	5/16	1 1/2	8 3/8	18	1 3/4	0.125
42	9	5/16	1 1/2	8 3/8	21	1 3/4	0.125
48	9	5/16	1 1/2	8 3/8	24	1 3/4	0.125

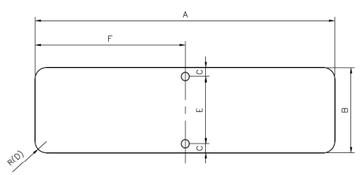


TABLE – D3 SIGNS

A	B	C	D	E	F	T
30	9	1 1/2	1 1/2	6	15	0.125
36	9	1 1/2	1 1/2	6	18	0.125
42	9	1 1/2	1 1/2	6	21	0.125
48	9	1 1/2	1 1/2	6	24	0.125

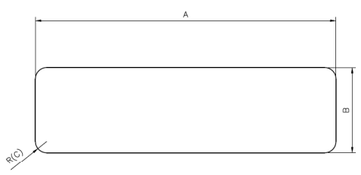
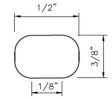


TABLE – D1 SIGNS

A	B	C	T
60	24	1 1/2	0.08
72	24	1 1/2	0.08
84	24	1 1/2	0.08
96	24	1 1/2	0.08

NOTES:

1. A 30" LONG OR GREATER PLATE SHALL BE USED WHEN A "NO OUTLET" SUPPLEMENT IS REQUIRED.
2. THE CITY OF HOUSTON "STOP" AND "YIELD" SIGNS SHALL BE A MINIMUM 36". SPECIAL PERMISSION FROM THE CITY TRAFFIC ENGINEER IS REQUIRED FOR LESS THAN 36" SIGNS.
3. ALL PUNCHED HOLES ARE 3/8"x 1/2" OVAL.
4. ALL CORNER RADII ARE 1 1/2".
5. ALL DIMENSIONS ARE IN INCHES.
6. T = THICKNESS



APPROVED BY:	APPROVED BY:
DocuSigned by: Sukai Kanwar 3D7180D0041F3479...	DocuSigned by: KHANG NGUYEN 1DA2B0704728403...
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carol Haddock A65C41667B2645...	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 01554-06

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

GROUND MOUNTED
SIGN SIZES

	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
NOT TO SCALE	

ISANI
civil \ design \ engineers
10448 Westoffice Drive
Houston, Texas 77042
P 713 747 2399
F 713 748 3748
TBPE Firm Reg. #4575

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BIDDING OR CONSTRUCTION
ENGINEER: V. N. MURTHY MADE, P.E
P.E. Reg No: 134936
DATE: DECEMBER 2025

SURVEYED BY: Kuo&Associates
FB NO. P-6396

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE
STREET IMPROVEMENTS

GROUND MOUNTED
SIGN SIZES

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
NA	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 76 OF 200	

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DATE:12/8/2025

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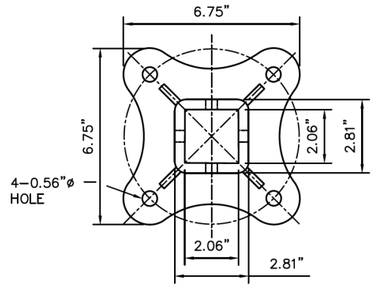
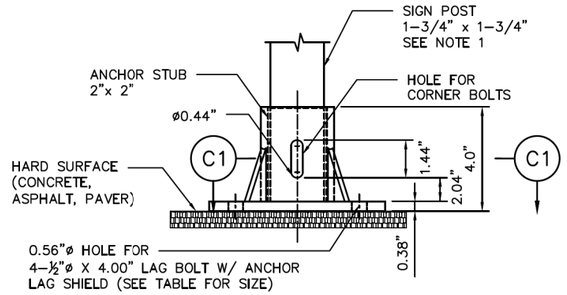


TOP VIEW



SIDE VIEW

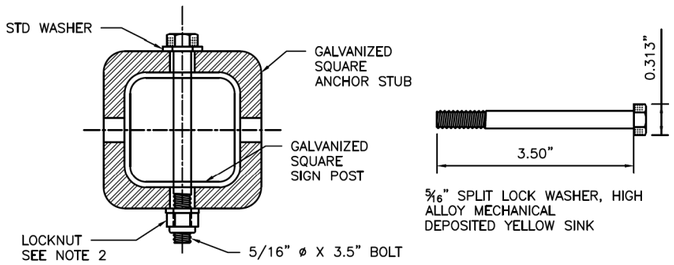
TYPICAL HARD SURFACE INSTALLATION GALVANIZED SIGN BASE

NOTES:

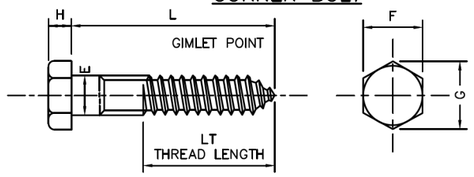
1. REFER TO COH STD DWG 01554–01 FOR SIGN AND POST REQUIREMENTS.
2. REFER TO DETAIL "C5" ON COH STD DWG 01554–01 FOR NUT AND BOLT REQUIREMENTS.

BASE PLATE NOTES:

1. MATERIAL: ASTM A–536 GRADE 65–45–12 DUCTILE IRON
2. HOT DIP GALVANIZE PER ASTM A–153
3. ALL DIMENSIONS ARE IN INCHES



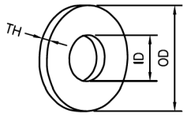
SECTION C1
CORNER BOLT



DIAMETER	E		F		G		H		L	LT
	BODY DIAMETER		WIDTH ACROSS FLATS		WIDTH ACRSS CORNERS		HEIGHT		LENGTH	THREAD LENGTH
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN		
1/2"	0.515"	0.482"	0.750"	0.725"	0.866"	0.826"	0.364"	0.302"	4.00"	3.84"

MATERIAL:PER A307 GRADE A
COATING: HOT DIP ZINC PER ASTM F2329 OR IN ACCORDANCE WITH CLASS C OF ASTM A153 AND CLASS D FOR ⅜" DIAMETER AND LESS

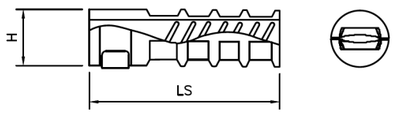
4" HEX LAG SCREWS, HOT DIPPED GALVANIZED



SAE FLAT WASHERS									
SIZE	ID			OD			THICKNESS – TH		
	BASIC	TOLERANCE		BASIC	TOLERANCE		BASIC	MAX	MIN
		PLUS	MINUS		PLUS	MINUS			
1/2"	0.531	0.015"	0.005"	1.062"	0.030"	0.007"	0.95"	0.121"	0.74"

DIMENSIONS: ASME B18.21.1, TYPE A PLAIN WASHERS
MATERIAL: CARBON STEEL
FINISH: Fe/Zn 3AT PER ASTM F1941

1/2" FLAT WASHERS, LOW CARBON, SAE, ZINC PLATED



TH	LS	H	L
LAG THREAD SIZE	LENGTH OF SHIELD	DRILLED HOLE SIZE	BOLT LENGTH REQ
	NOMINAL		
1/2"	3.00"	0.75"	4.00"

ANCHOR LAG SHIELD – ZINC ALLOY

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

SIGN BASE
HARD SURFACE
MOUNTING DETAILS
(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Suhail Kanwar — CITY ENGINEER
DocuSigned by: KHANG NGUYEN — CITY TRAFFIC ENGINEER
DocuSigned by: Carol Haddock — DIRECTOR OF HPW

EFF DATE: NOV–27–2023 | DWG NO: 01554–02

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civil · design · engineers
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ENGINEER: V. N. MURTHY MADE, P.E
P.E. Reg No: 134936
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE
STREET IMPROVEMENTS

SIGN BASE
MOUNTING DETAIL

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DRAWING SCALE	
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CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 77 OF 200	

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DATE:12/8/2025

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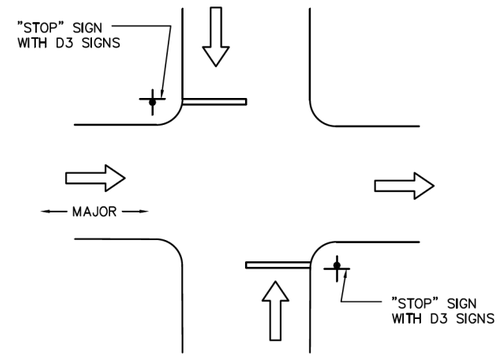
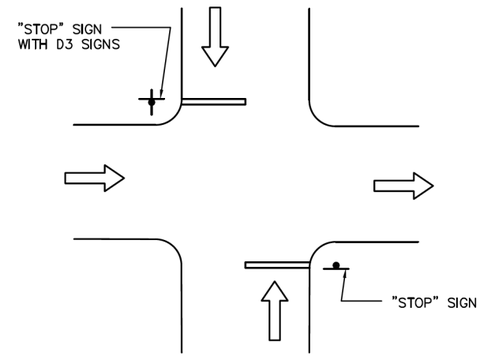
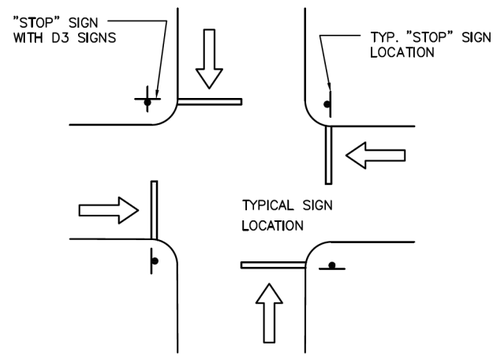
TYPICAL SIGN PLACEMENT



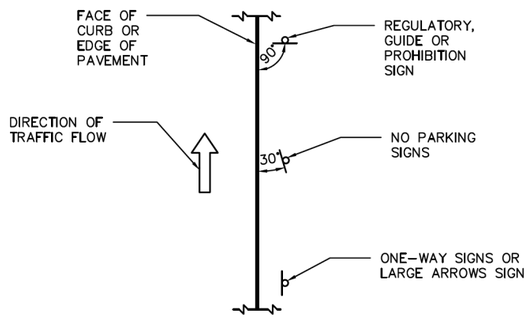
TWO-WAY STOP
AND ONE-WAY OPERATION
ON MAJOR/LOCAL INTERSECTION



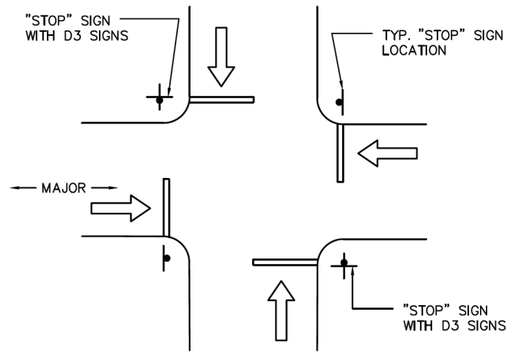
TWO-WAY STOP
AND ONE-WAY OPERATION
ON LOCAL/LOCAL INTERSECTION



FOUR-WAY STOP CONTROL
ON LOCAL/LOCAL INTERSECTION



MAST ARM INSTALLATION
REFER TO TRAFFIC SIGNAL DETAILS
FOR ADDITIONAL INFORMATION.



FOUR-WAY STOP CONTROL
ON MAJOR/LOCAL INTERSECTION

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TYPICAL SIGN PLACEMENT

(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Suhail Kanwar — 9EF8B0C641F5478...
CITY ENGINEER

DocuSigned by: KHANG NGUYEN — 95A29EFDA75B4CD...
CITY TRAFFIC ENGINEER

DocuSigned by: Carol Haddock — A93C410D7283453...
DIRECTOR OF HPW

EFF DATE: NOV-27-2023 | DWG NO: 01554-07

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HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE
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DESCRIPTION AND APPLICATION OF PAVEMENT MARKING LINES

LINE SERIES	COLOR	DESCRIPTION	WIDTH (INCHES)	TYPICAL APPLICATIONS
WB	WHITE	BROKEN (10' STRIPE W/30' GAP)	4"	LANE LINES BETWEEN TRAVEL LANES IN THE SAME DIRECTION WHERE CHANGING OF LANES IS PERMITTED.
WS	WHITE	SOLID	4"	EDGE LINES TO DELINEATE THE RIGHT EDGE OF THE ROADWAY.
			6"	LEFT EDGE OF BICYCLE LANE AND LANE LINES BETWEEN TRAVEL LANES IN THE SAME DIRECTION WHERE CHANGING OF LANES IS DISCOURAGED.
			12"	PERPENDICULAR CROSSWALK LINES.
			24"	STOP BARS AT INTERSECTIONS (SIGNALIZED AND UNSIGNALIZED).
				HATCHING AT HIGH VISIBILITY CROSSWALKS.
			12", 24"	DIAGONAL HATCHING USED IN GORES BETWEEN SAME DIRECTION OF TRAVEL LANES.
WG	WHITE	GUIDE (2' STRIPE W/6' GAP)	6"	GUIDE LINES THROUGH INTERSECTIONS.
				TAPER LINES FOR TURN LANES.
				GUIDE LINES FOR BICYCLE LANES.
YS	YELLOW	SOLID	4"	EDGE LINES TO DELINEATE THE LEFT EDGE OF A DIVIDED ROADWAY, A ONE-WAY ROAD, OR RAMP.
			6"	BIDIRECTIONAL BICYCLE LANE PAVEMENT MARKING.
			12", 24"	DIAGONAL HATCHING USED IN GORES BETWEEN OPPOSING DIRECTION OF TRAVEL LANES.
YDS	YELLOW	DOUBLE SOLID	4" – (4") – 4" (GAP)	CENTERLINE THAT SEPARATES OPPOSING TRAVEL LANES AND DELINEATION OF MEDIAN ISLANDS.
YDB	YELLOW	DOUBLE BROKEN	4" – (4") – 4" (GAP)	DEFINES THE EDGES OF CENTER REVERSIBLE LANES THAT ARE USED AS TWLTLS DURING INTERMITTENT PERIODS.
YB	YELLOW	BROKEN (10' STRIPE W/30' GAP)	4"	SEPARATES TRAVEL LANES IN OPPOSITE DIRECTIONS WHERE PASSING IS PERMITTED IN BOTH DIRECTIONS OF TRAVEL.
YB (BIKE)	YELLOW	BROKEN (3' STRIPE W/9' GAP)	4"	SEPARATES BICYCLE TRAVEL LANES IN OPPOSITE DIRECTIONS WHERE PASSING IS PERMITTED IN BOTH DIRECTIONS OF TRAVEL.
YSB	YELLOW	SOLID & BROKEN BROKEN (10' STRIPE W/30' GAP)	4" – (4") – 4" (GAP)	SEPARATES TRAVEL LANES IN OPPOSITE DIRECTIONS WHERE PASSING IS PERMITTED IN ONE DIRECTION AND PROHIBITED IN THE OPPOSITE DIRECTION.
				USED FOR EDGE OF TWO-WAY LEFT TURN LANES (TWLTL).
BICYCLE GREEN	GREEN	SOLID COLORED PAVEMENT	VARIES	PED/BIKE CROSSING
				VEHICLE / BIKE/ CONFLICT AREA
YIELD LINE	WHITE	TRIANGLE	16" x 24"	MID-BLOCK CROSSING.

DESCRIPTION AND APPLICATION OF REFLECTIVE RAISED PAVEMENT MARKERS (RPM)

RRPM TYPES	COLOR	COH SPEC. SEC. 02764 EQUIVALENT	DESCRIPTION
C	CLEAR	TYPE I-C	APPROACH FACE THAT REFLECTS WHITE LIGHT, AND THE OTHER SIDE DOES NOT REFLECT.
R	CLEAR & RED	TYPE II-C-R	APPROACH FACE THAT REFLECTS WHITE LIGHT, AND THE OTHER SIDE REFLECTS RED LIGHT.
A	AMBER & AMBER	TYPE II-A-A	APPROACH FACE AND THE OTHER SIDE BOTH REFLECT AMBER LIGHT.

LINE STYLE DESIGNATION : YSB4 – A40/A40

- COLOR
- PATTERN
- WIDTH OF STRIPE
- RPM SPACING
- RPM TYPE
- RPM SPACING
- RPM TYPE

GENERAL PAVEMENT MARKING NOTES:

1. PRIOR TO START OF CONSTRUCTION, ALL EXISTING PAVEMENT MARKINGS WITHIN THE AREA OF CONSTRUCTION SHALL BE INVENTORIED AND DOCUMENTED JOINTLY BY THE CITY INSPECTOR AND THE CONTRACTOR. THIS DOCUMENT WILL BE JOINTLY SIGNED BY BOTH PARTIES REFLECTING ALL EXISTING PAVEMENT MARKINGS AND LANE CONFIGURATIONS WILL BE DUPLICATED AGAIN. THIS REVIEW CAN BE DONE IN CONJUNCTION WITH SIGN INVENTORY. THE CONTRACTOR IS HELD ACCOUNTABLE FOR EXISTING AND TEMPORARY CONSTRUCTION PAVEMENT MARKINGS THROUGHOUT THE PROJECT AND AT THE PROJECT'S COMPLETION.
2. ALL PAVEMENT MARKINGS SHALL CONFORM TO CITY OF HOUSTON STANDARDS AND SPECIFICATIONS AND GENERAL GUIDELINES OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD).
3. THE PERMANENT PAVEMENT MARKINGS MAY BE MODIFIED AS DIRECTED BY THE CITY TRAFFIC ENGINEER.
4. THE DESIGN SPEED FOR THE ROAD IS: _____. THE POSTED SPEED LIMIT IS: _____.
5. ALL LANE DIMENSIONS ARE FROM CENTER OF LANE LINE, CENTER OF DOUBLE LANE LINE, FACE OF CURB, OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
6. THE PAVEMENT MARKING DRAWINGS ARE SCHEMATIC ONLY. THE CONTRACTOR SHALL FOLLOW ALL DIMENSIONS, DETAILS, AND STANDARDS WHEN INSTALLING PAVEMENT MARKINGS AND SYMBOLS.
7. THE FINAL LONGITUDINAL STRIPINGS SHALL BE 60 MIL (0.060") THICK HOT-SPRAYED THERMOPLASTIC PLACED OVER THE TEMPORARY STRIPING WITHIN 14 TO 30 CALENDAR DAYS AFTER COMPLETION OF THE FINAL PAVEMENT SURFACE, OR AS DIRECTED BY THE CITY TRAFFIC ENGINEER. ALL OTHER PAVEMENT MARKINGS SHALL BE APPLIED AT THE SAME TIME. TEMPORARY STRIPING SHALL BE WATER BASED PAINT.
8. ALL FINAL TRANSVERSE MARKINGS SHALL BE 90 MIL (0.090") HOT-SPRAYED THERMOPLASTIC. ALL PAVEMENT ARROWS AND LEGENDS SHALL ALSO BE 90 MIL (0.090") HOT-SPRAYED THERMOPLASTIC. PREFORMED THERMOPLASTIC APPLICATIONS MAY BE USED IF ONLY APPROVED BY THE CITY TRAFFIC ENGINEER.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LAYOUT AND INSTALLATION OF PAVEMENT MARKINGS OF FINAL SURFACE COURSE FOLLOWING CONTROL POINTS THAT HAVE BEEN SET NO MORE THAN 50 FEET APART ALONG THE LINES TO BE IMPLEMENTED. IN TANGENT SECTIONS OF A ROAD WHERE THE PAVEMENT MARKING PATTERN DOES NOT CHANGE, CONTROL POINTS CAN BE SET AT 200 FEET SPACING. THE LAYOUT AND INSPECTION OF ALL PAVEMENT MARKINGS SHALL BE APPROVED BY CITY OF HOUSTON REPRESENTATIVE PRIOR TO THE APPLICATION OF MATERIALS.
10. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE FINAL SURFACE COURSE IS PLACED SO THAT THE STRIPING IS OFFSET NO MORE THAN ONE FOOT CLEAR OF THE CONSTRUCTION JOINT, UNLESS OTHERWISE DIRECTED BY THE CITY TRAFFIC ENGINEER.
11. ALL RAISED PAVEMENT MARKERS (RPMS) SHALL BE INSTALLED SO THAT THE REFLECTIVE FACE OF EACH MARKER IS FACING THE DIRECTION OF TRAFFIC AND IS PERPENDICULAR TO THE DIRECTION OF TRAFFIC FLOW. TYPE C PAVEMENT MARKERS SHALL BE INSTALLED SO THAT THE CLEAR FACE OF EACH MARKER IS FACING THE APPROACHING TRAFFIC FLOW AND PERPENDICULAR TO THE DIRECTION OF TRAFFIC FLOW.
12. ALL REMOVAL OF EXISTING PAVEMENT MARKINGS SHALL BE ACCOMPLISHED IN ACCORDANCE TO CITY OF HOUSTON STANDARD SPECIFICATION 02762. APPLYING OVER EXISTING PAVEMENT MARKINGS DOES NOT CONSTITUTE AS APPROVED OBLITERATION METHOD.
13. THE ENGINEER OF RECORD SHALL BE REQUIRED TO PRODUCE AS-BUILT OF PAVEMENT MARKING PLANS WITHIN 30 DAYS AFTER COMPLETION OF PAVEMENT MARKING IMPLEMENTATION.
14. BLUE RPMS MAY BE PLACED ADJACENT TO FIRE HYDRANTS WITH THE APPROVAL OF THE CITY TRAFFIC ENGINEER.
15. FOR ALL CONSTRUCTION, ALL PAVEMENT MARKINGS AND SIGNING SHALL BE INSTALLED AND SHALL BE PAID BY THE PROJECT OWNER/DEVELOPER.
16. FINAL INSPECTION AND ACCEPTANCE OF PAVEMENT MARKINGS SHALL BE PERFORMED BY TRANSPORTATION & DRAINAGE OPERATION REPRESENTATIVE (713-803-3054).

APPROVED BY:	APPROVED BY:
Docusigned by: Sulad Kawar	Docusigned by: HIEN NGUYEN
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: Docusigned by: Carol Haddock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 02760-01

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

PAVEMENT MARKINGS GENERAL NOTES AND LEGENDS

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P.E. Reg No: 134936
DATE: DECEMBER 2025

SURVEYED BY: Kuo&Associates
FB NO. P-6396

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

PAVEMENT MARKING GENERAL NOTES AND LEGENDS

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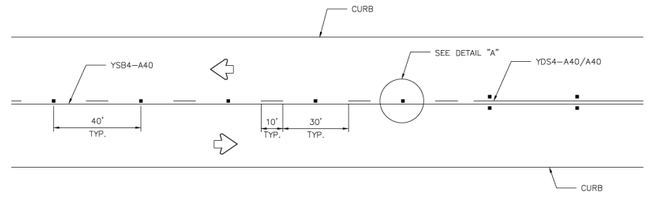
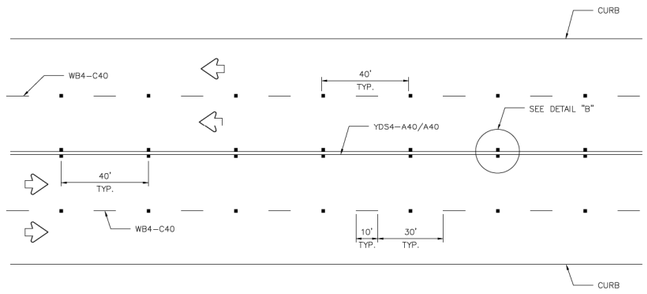
CENTERLINE & FOR ALL TWO LANE STREETS WITH PASSING ZONE

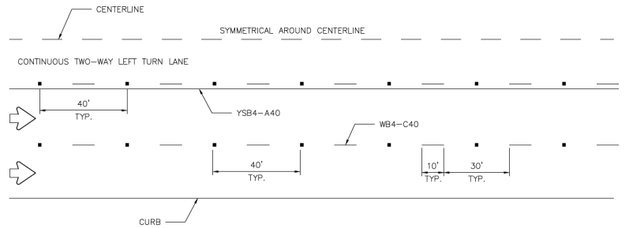


CENTERLINE & LANE LINES FOR FOUR LANE TWO–WAY STREETS

RRPM TYPE C, CLEAR FACE TOWARD NORMAL TRAFFIC, SHALL BE PLACED ON 40–FOOT CENTERS.

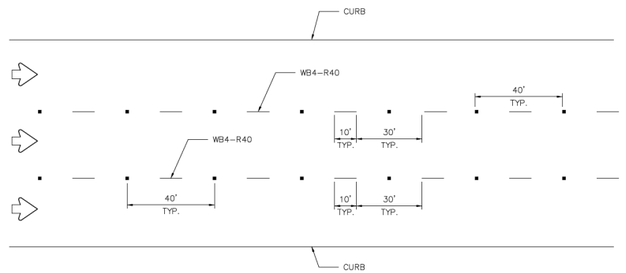


CENTERLINE & LANE LINES FOR TWO–WAY LEFT TURN LANE



LANE LINES FOR ONE–WAY MULTILANE STREET

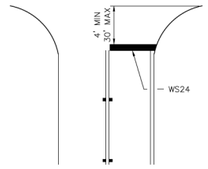
RRPM TYPE R SHALL HAVE CLEAR FACE TOWARD NORMAL TRAFFIC AND RED FACE TOWARD WRONG–WAY TRAFFIC.



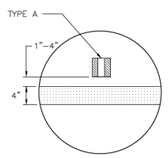
GENERAL NOTES:

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"



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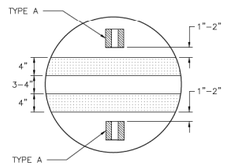
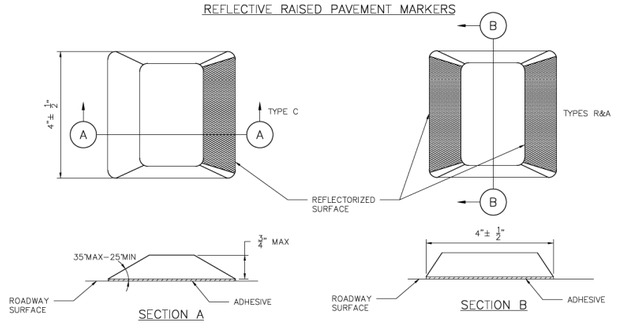


REFLECTIVE RAISED PAVEMENT MARKERS



APPROVED BY:	APPROVED BY:
DocuSigned by: Sukait Kanuwar	DocuSigned by: LIHONG MATHEW
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carol Haddock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV–27–2023	DWG NO: 02760–05

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

STANDARD PAVEMENT MARKINGS WITH REFLECTIVE RAISED PAVEMENT MARKERS FOR POSITION GUIDANCE

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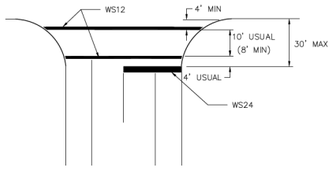
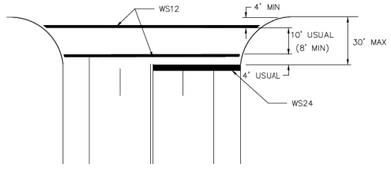
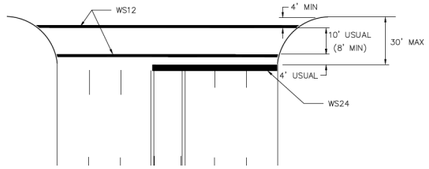
TWO LANES WITH SHOULDERS



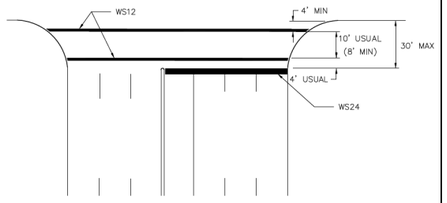
FOUR LANES WITH SHOULDERS



MULTI – LANES



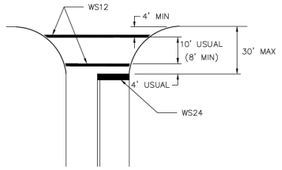
MULTI – LANE WITH MEDIAN



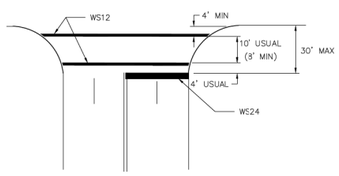
NOTES:

1. CROSSWALKS AND STOP LINES SHALL BE WHITE.
2. "D" IS EQUAL TO ONE HALF THE WIDTH OF TRAVEL LANE.

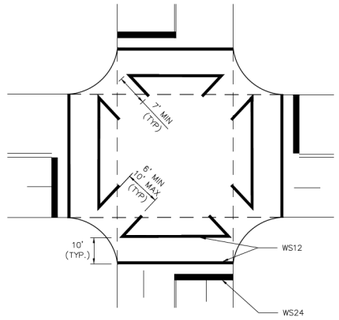
TWO LANES



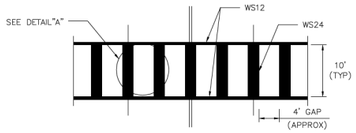
FOUR LANES



EXCLUSIVE PEDESTRIAN PHASE

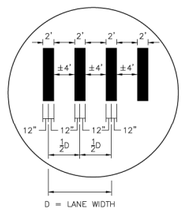


HIGH VISIBILITY
CROSSWALK DETAIL

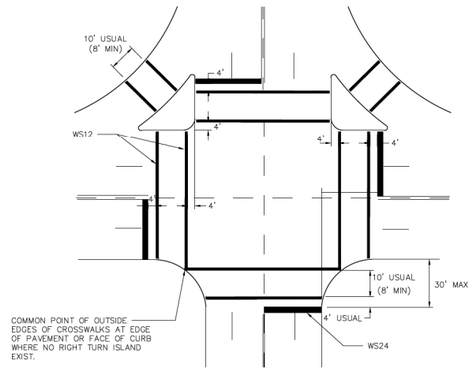


TYPICALLY USED AT SIGNALIZED AND NON-SIGNALIZED CROSSINGS ON COLLECTOR AND ARTERIAL ROADWAYS AND AT LOCATIONS REQUIRING EXTRA EMPHASIS.

DETAIL "A"



INTERSECTION WITH RIGHT – TURN ISLANDS



DISCLAIMER:
THE USE OF THIS STANDARD IS GOVERNED BY THE TEXAS ENGINEERING PRACTICE ACT. THE DESIGN REQUIREMENTS ON THIS STANDARD DO NOT PURPORT TO ADDRESS ALL OF THE SAFETY CONCERNS ASSOCIATED WITH ITS USE. THE ENGINEER OF RECORD IS TO REVIEW THESE DESIGN REQUIREMENTS AND BY AUTHORIZING THEIR USE, ACCEPTS RESPONSIBILITY FOR THEIR APPLICABILITY, ADEQUACY AND SAFETY. NO WARRANTY OF ANY KIND IS MADE BY THE CITY OF HOUSTON FOR HAZARDS RESULTS OR DAMAGES RESULTING FROM ITS USE.

APPROVED BY:	APPROVED BY:
DocuSigned by: Sukut Kanswar	DocuSigned by: KHANG NGUYEN
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carl Haddock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 02760-12

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TYPICAL CROSSWALK DETAILS

DRAWING SCALE	FOR CITY OF HOUSTON USE ONLY
NOT TO SCALE	

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civil design | engineers
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Houston, Texas 77042
P 713 747 2399
F 713 748 3748
TBPE Firm Reg. #4575

SURVEYED BY: Kuo&Associates
FB NO. P-6396

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ENGINEER: V. N. MURTHY MADE, P.E
P.E. Reg No: 134936
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE
STREET IMPROVEMENTS

TYPICAL CROSSWALK DETAILS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
NA	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 81 OF 200	

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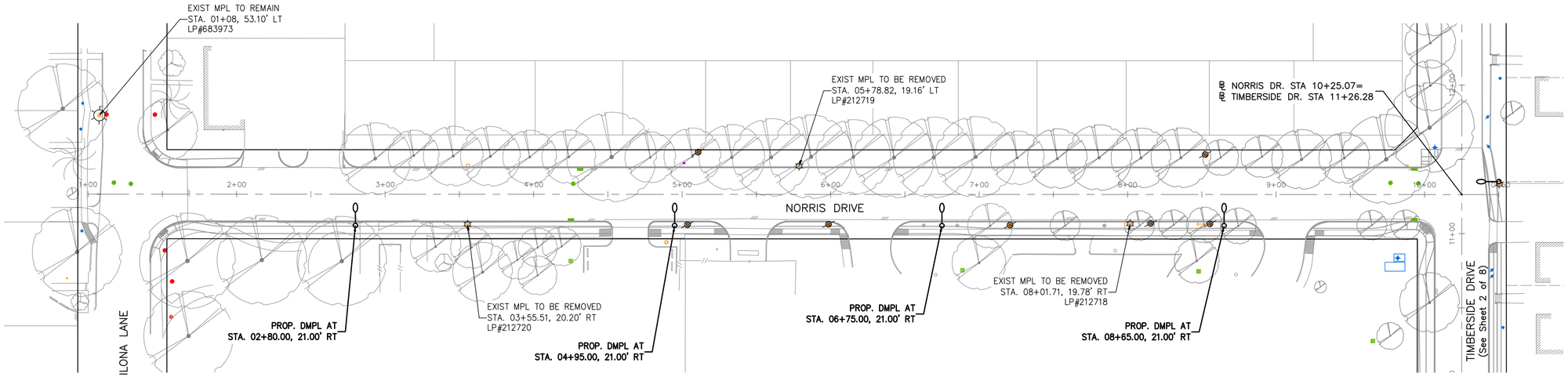
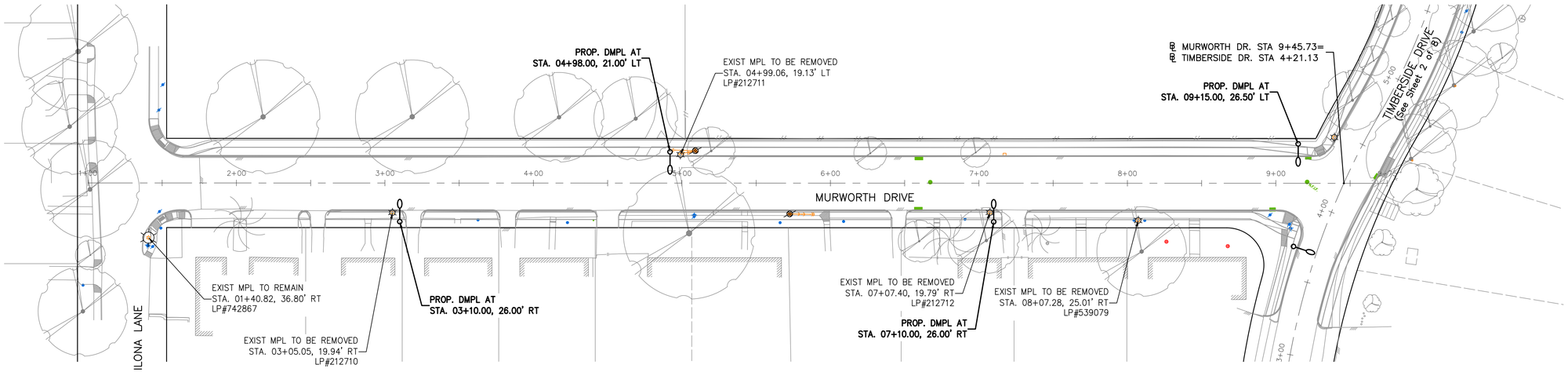
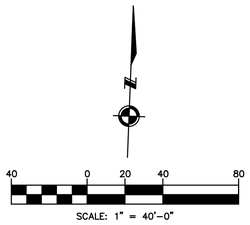
DATE:12/8/2025







NO.	DATE	REVISION	APP.

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- EXISTING DECORATIVE METAL POLE LIGHT (DMPL) TO REMAIN
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- PROPOSED PULL BOX
- PROPOSED 2" PVC CONDUIT

NOTES:

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10300 WESTOFFICE DR. SUITE 800
HOUSTON, TX 77042
713-975-8769
TX FIRM NO.: F-4578

SURVEYED BY:
Kuo & Associates, LLC
FB NO.: P-6396

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TEXAS REG. NO.: 111684
ON 12/08/2025
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TBPELS FIRM NO. F-4578

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

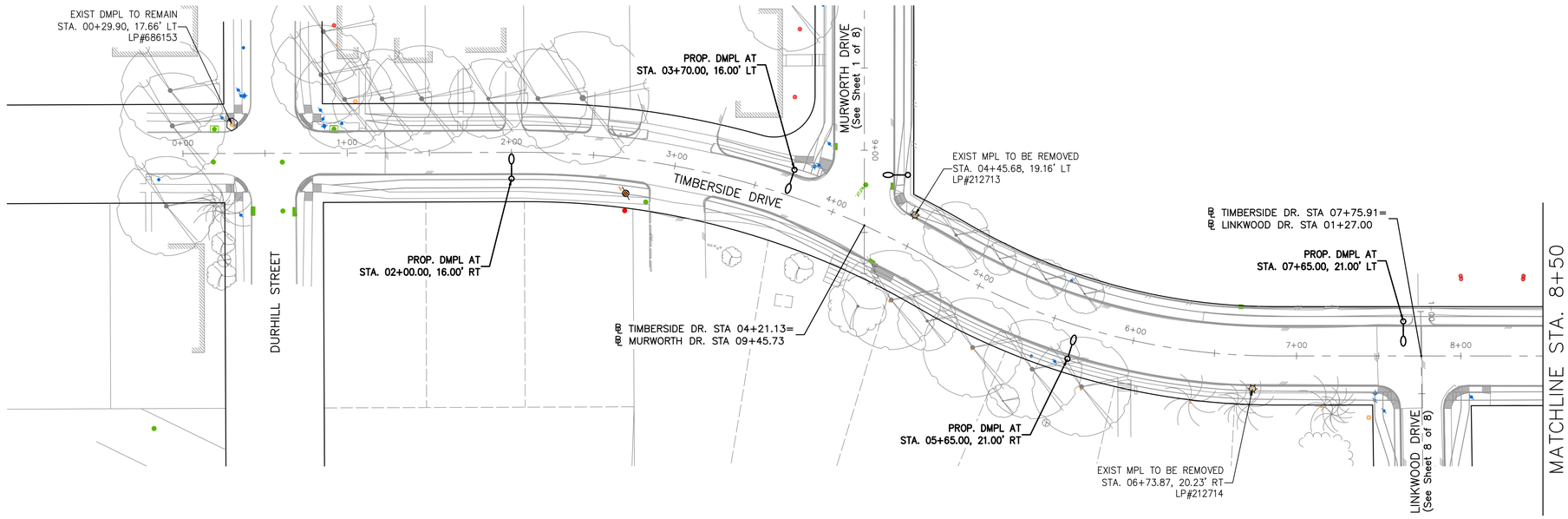
WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

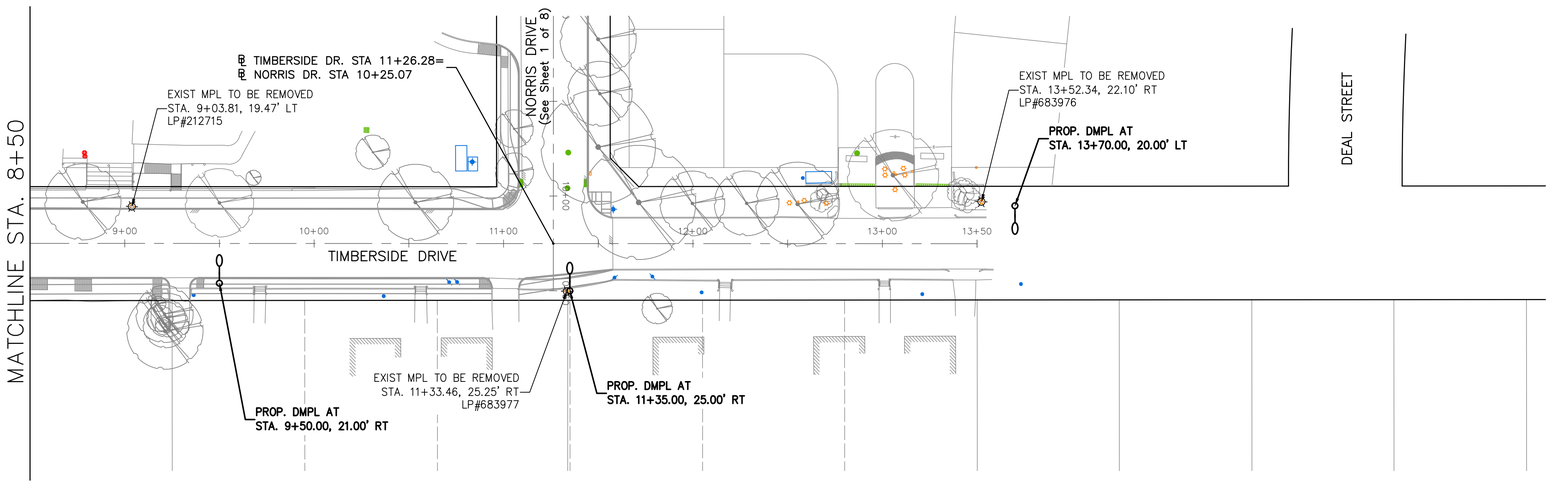
STREET LIGHTING PLANS
MURWORTH DRIVE & NORRIS DRIVE

(SHEET 1 OF 8)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
HORIZ: 1"=40'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 82 OF 200	

FILE PATH: S:_00PROJECTS\02014 (P24045 Westridge And Braes Terrace -SLP)\4-0 SURVEY-DESIGN Production\02_DESIGN\4-02-27 Street Lighting\02014-Street Lighting Sheets.dwg PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/8/2025 1:52 PM





40 0 20 40 80

SCALE: 1" = 40'-0"

NO.	DATE	REVISION	APP.

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TBPE Firm Reg. #4575

KUO & ASSOCIATES
ENGINEERING & SURVEYING
10300 WESTOFFICE DR. SUITE 800
HOUSTON, TX 77042
713-975-8769
TX FIRM NO.: F-4578

SURVEYED BY:
Kuo & Associates, LLC
FB NO.: P-6396

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TEXAS REG. NO.: 111684

ON 12/08/2025
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TBPELS FIRM NO. F-4578

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

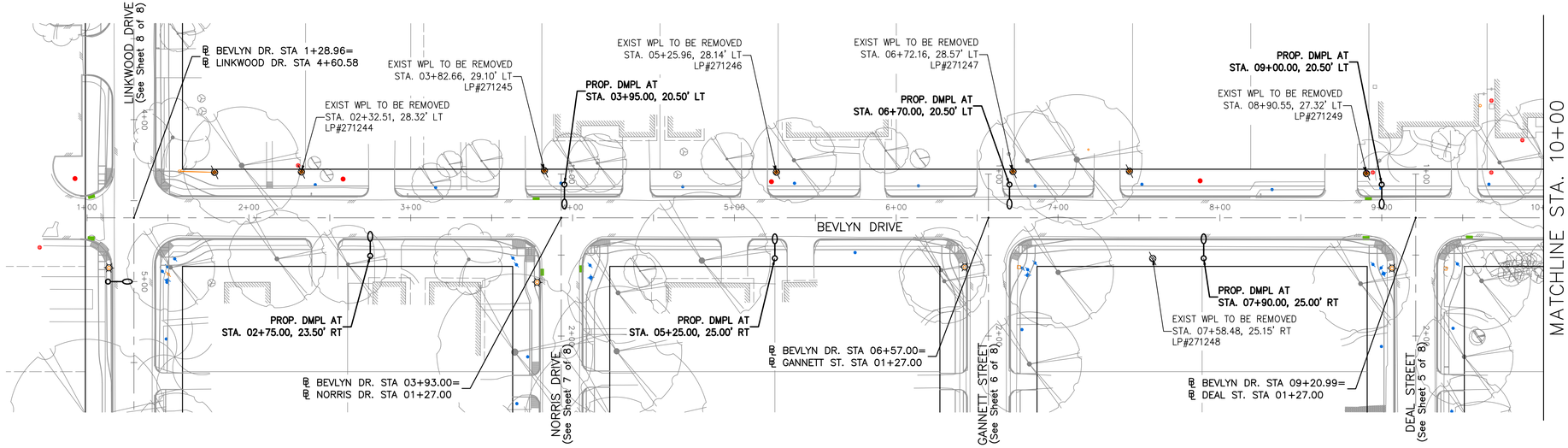
WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

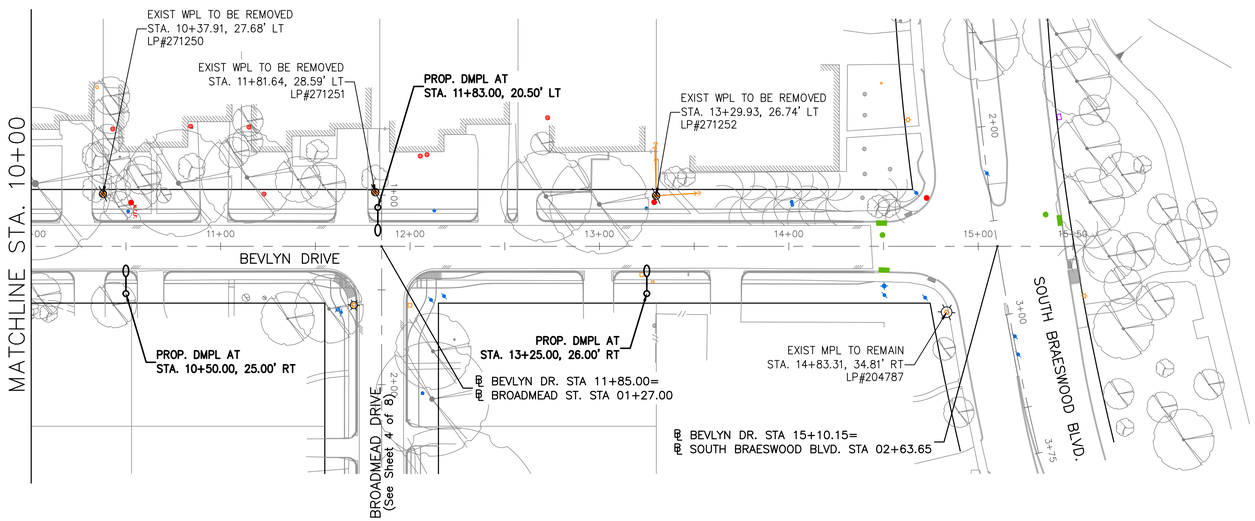
STREET LIGHTING PLANS
TIMBERSIDE DRIVE

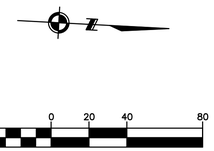
(SHEET 2 OF 8)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
HORIZ: 1"=40'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 83 OF 200	

FILE PATH: S:_00PROJECTS\02014 (P24045 Westridge And Braes Terrace -SLP)\4-0 SURVEY-DESIGN Production\02_DESIGN\4-02-27 Street Lighting\02014-Street Lighting Sheets.dwg PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/8/2025 2:01 PM







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SURVEYED BY:
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

STREET LIGHTING PLANS
BEVLYN DRIVE

(SHEET 3 OF 8)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
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HORIZ: 1"=40'	
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LUCIA L. LEE, P.E.	
SHEET NO. 84 OF 200	

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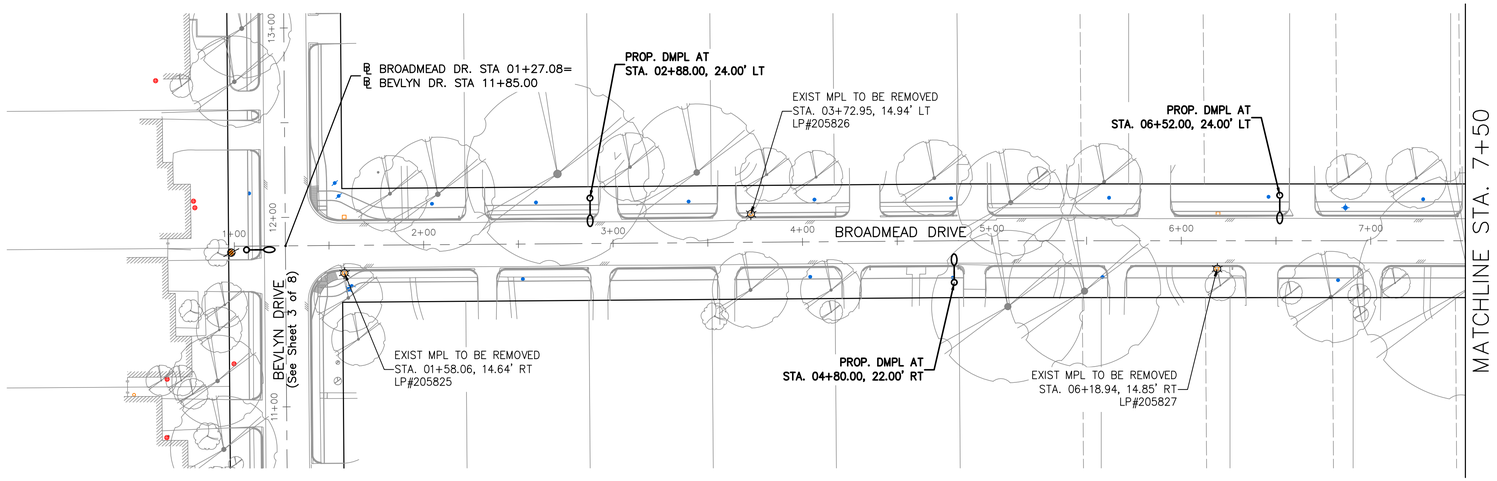

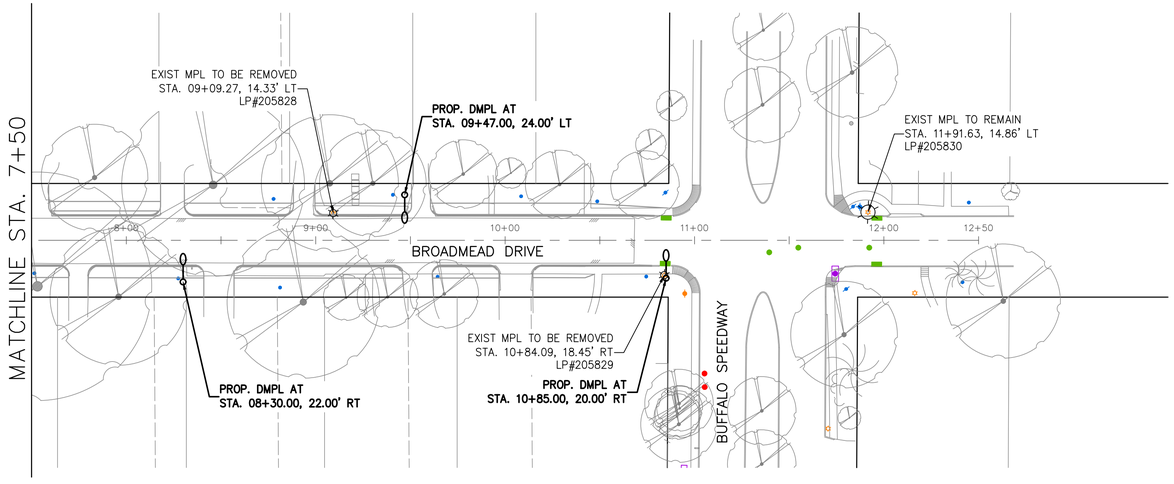

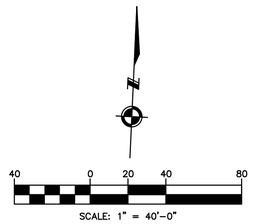

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KUO & ASSOCIATES, LLC.
TBPELS FIRM NO. F-4578

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

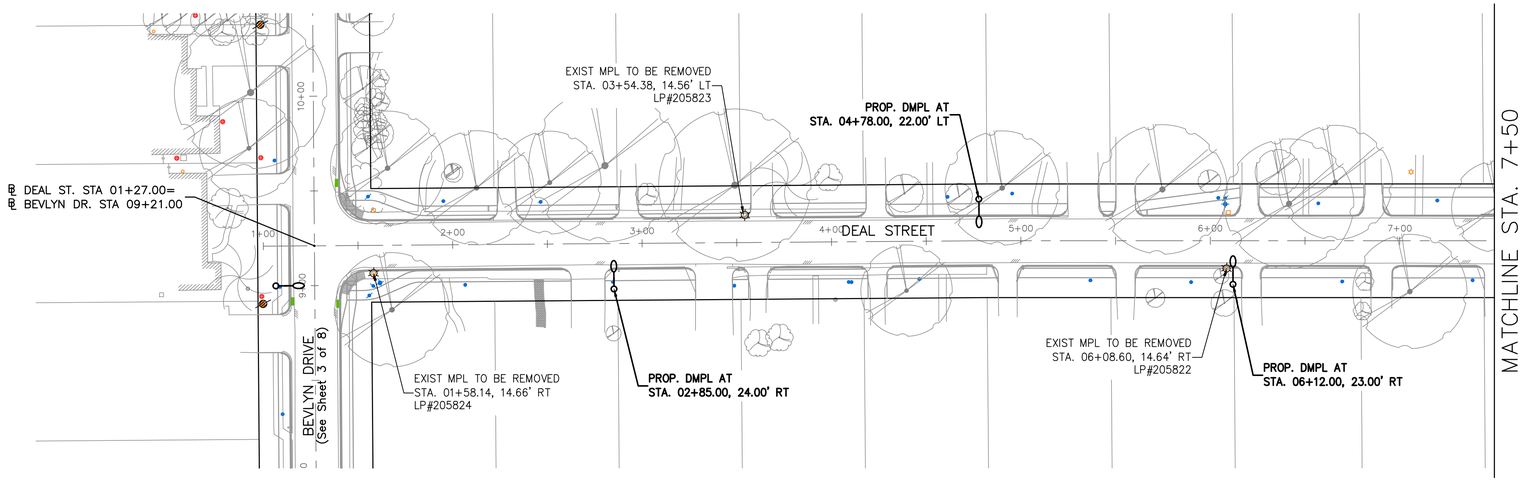
WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

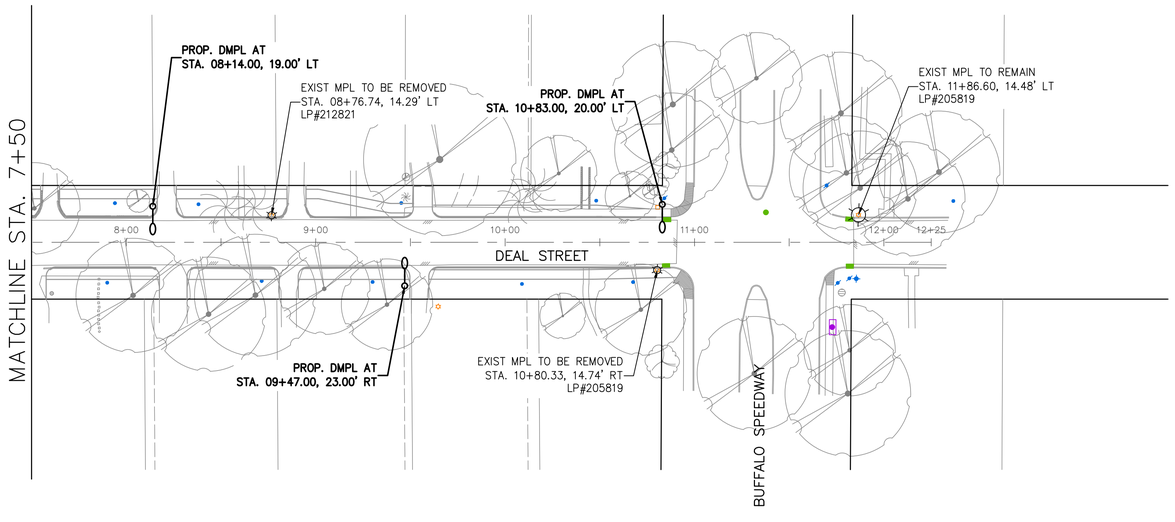
STREET LIGHTING PLANS
BROADMEAD DRIVE

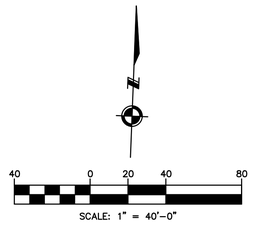
(SHEET 4 OF 8)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
HORIZ: 1"=40'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 85 OF 200	

FILE PATH: S:_00PROJECTS\02014 (P24045 Westridge And Braes Terrace -SLP)\4-0 SURVEY-DESIGN Production\02_DESIGN\4-02-27 Street Lighting\02014-Street Lighting Sheets.dwg PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/8/2025 2:03 PM







NO.	DATE	REVISION	APP.

LEGENDS:

- EXISTING WOOD POLE W/ REMOVED OR NO LIGHT
- EXISTING WOOD POLE LIGHT (WPL) TO REMAIN
- EXISTING METAL POLE LIGHT (MPL) TO BE REMOVED
- EXISTING METAL POLE LIGHT (MPL) TO REMAIN
- EXISTING DECORATIVE METAL POLE LIGHT (DMPL) TO REMAIN
- PROPOSED DECORATIVE METAL POLE LIGHT (DMPL)
- PROPOSED PULL BOX
- PROPOSED 2" PVC CONDUIT

NOTES:

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2. CONTRACTOR TO REFER TO CENTERPOINT ENERGY SPECIFICATION NO. 007-371-08, LATEST REVISION FOR INFORMATION REGARDING STREET LIGHT CONDUIT INSTALLATION.
3. CONDUIT/ PULL BOX LAYOUT AS DETERMINED BY CENTERPOINT ENERGY.
4. FOR CONDUIT INSTALLATION IN EASEMENTS, AND SIDEWALKS, USE SCHEDULE 40 PVC. FOR CONDUIT INSTALLATION UNDER ROADWAYS. UNDER DRIVEWAYS, DITCH CROSSINGS, AND PIPELINE EASEMENTS USE SCHEDULE 80 PVC.
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6. REFER TO DESIGN PLAN & PROFILE SHEETS FOR OTHER UTILITIES, LOCATED IN THE VICINITY OF THE PROPOSED STREET LIGHT POLES.
7. DO NOT PLACE PROPOSED STREETLIGHTS ON SIDEWALKS, WHEELCHAIR RAMPS OR HEAVY TREE CANOPIES WITHOUT APPROVAL FROM THE CITY OF HOUSTON CONSTRUCTION MANAGER.

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civil \ design \ engineers
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Houston, Texas 77042
P 713 747 2399
F 713 748 3748
TBPE Firm Reg. #4575

KUO & ASSOCIATES
ENGINEERING & SURVEYING
10300 WESTOFFICE DR. SUITE 800
HOUSTON, TX 77042
713-975-8769
TX FIRM NO.: F-4578

SURVEYED BY:
Kuo & Associates, LLC
FB NO.: P-6396

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TEXAS REG. NO.: 111684

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

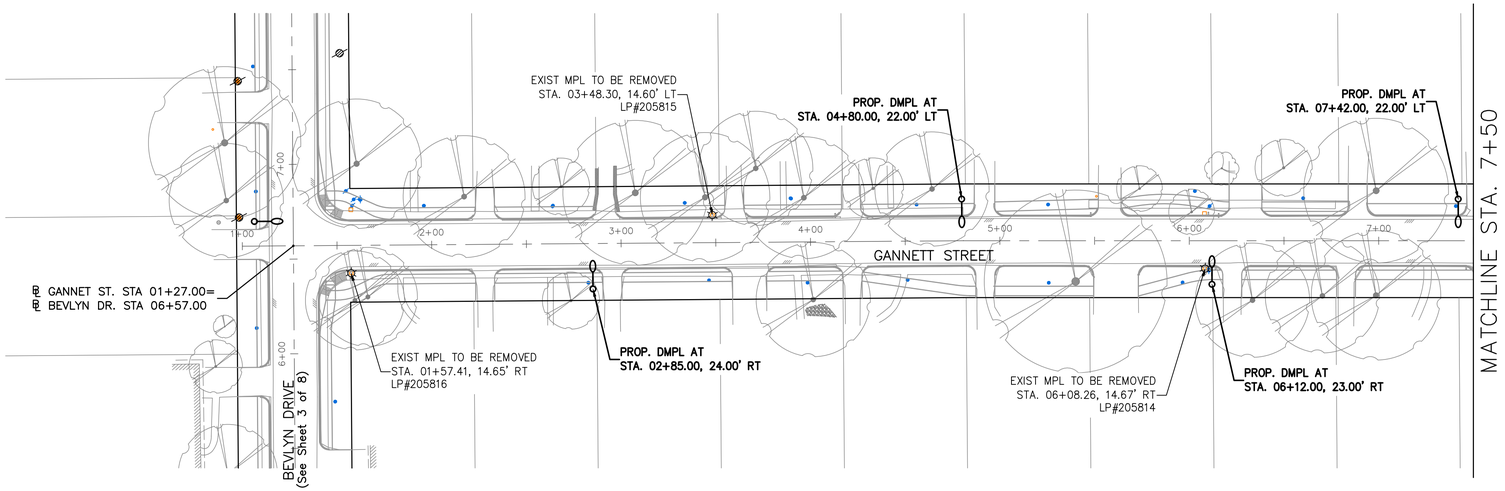
WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

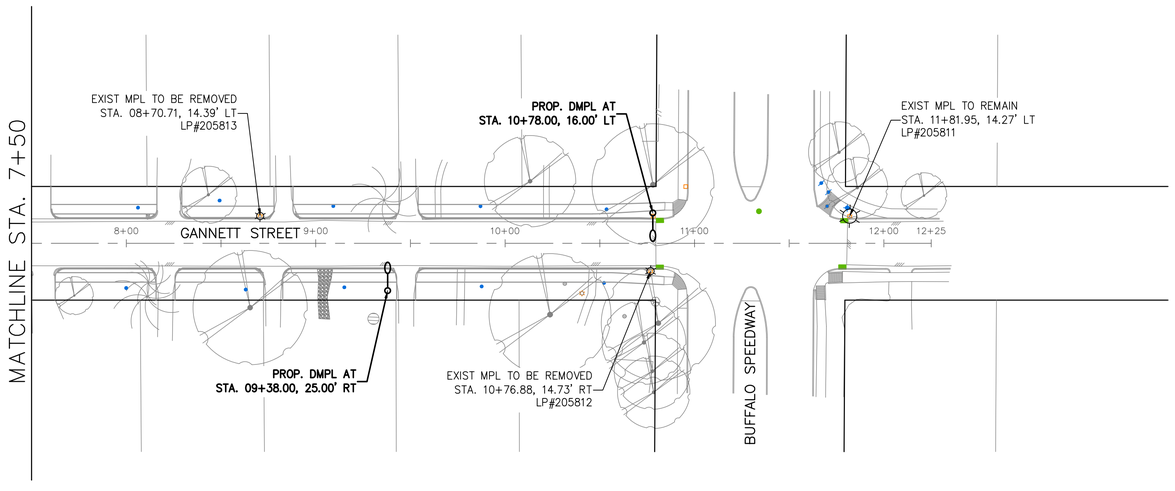
STREET LIGHTING PLANS
DEAL STREET

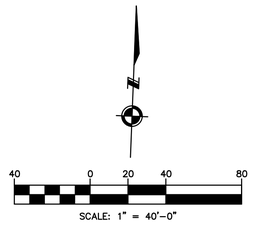
(SHEET 5 OF 8)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
HORIZ: 1"=40'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 86 OF 200	

FILE PATH: S:_00PROJECTS\02014 (P24045 Westridge And Braes Terrace -SLP)\4-0 SURVEY-DESIGN Production\02_DESIGN\4-02-27 Street Lighting\02014-Street Lighting Sheets.dwg PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/8/2025 2:05 PM







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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

STREET LIGHTING PLANS
GANNETT STREET

(SHEET 6 OF 8)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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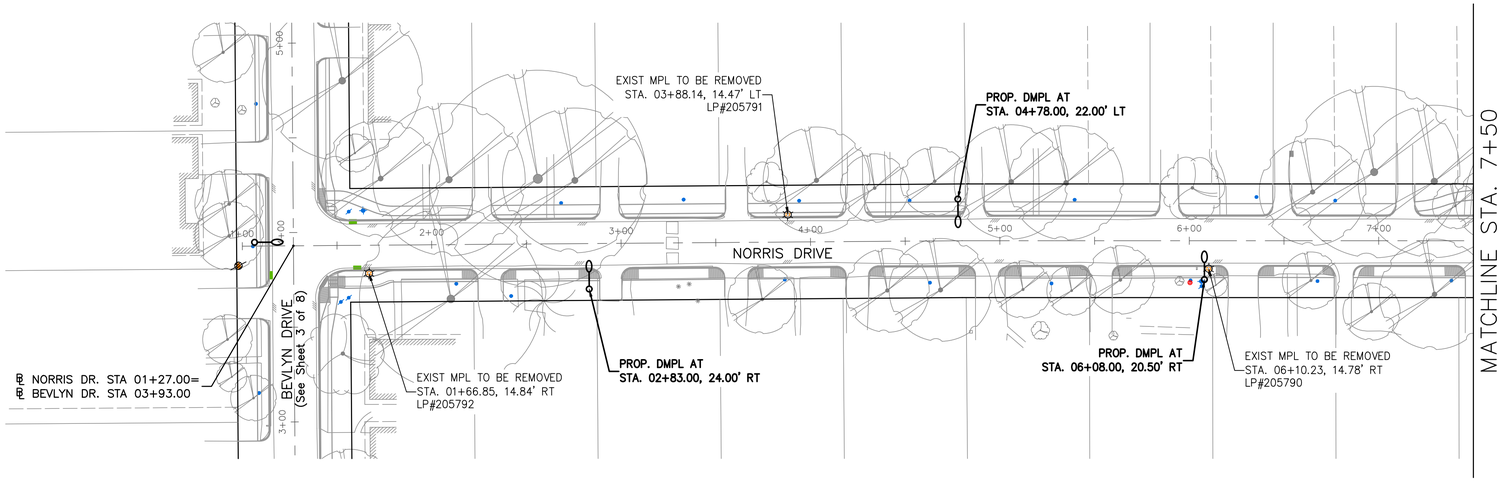

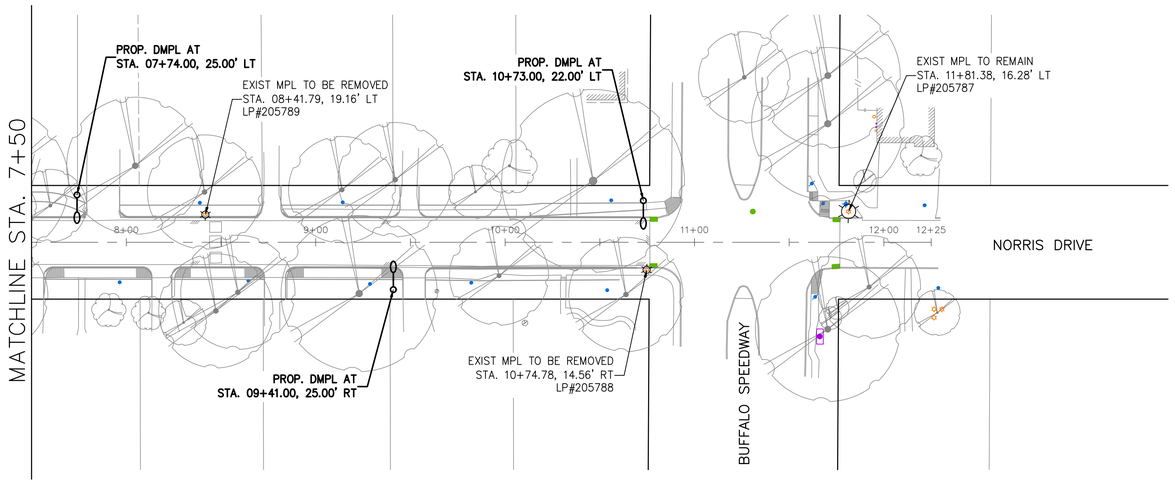

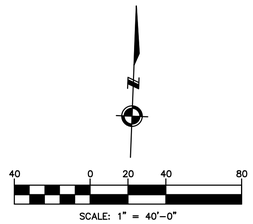

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FB NO.: P-6396

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

STREET LIGHTING PLANS
NORRIS DRIVE

(SHEET 7 OF 8)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
HORIZ: 1"=40'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 88 OF 200	

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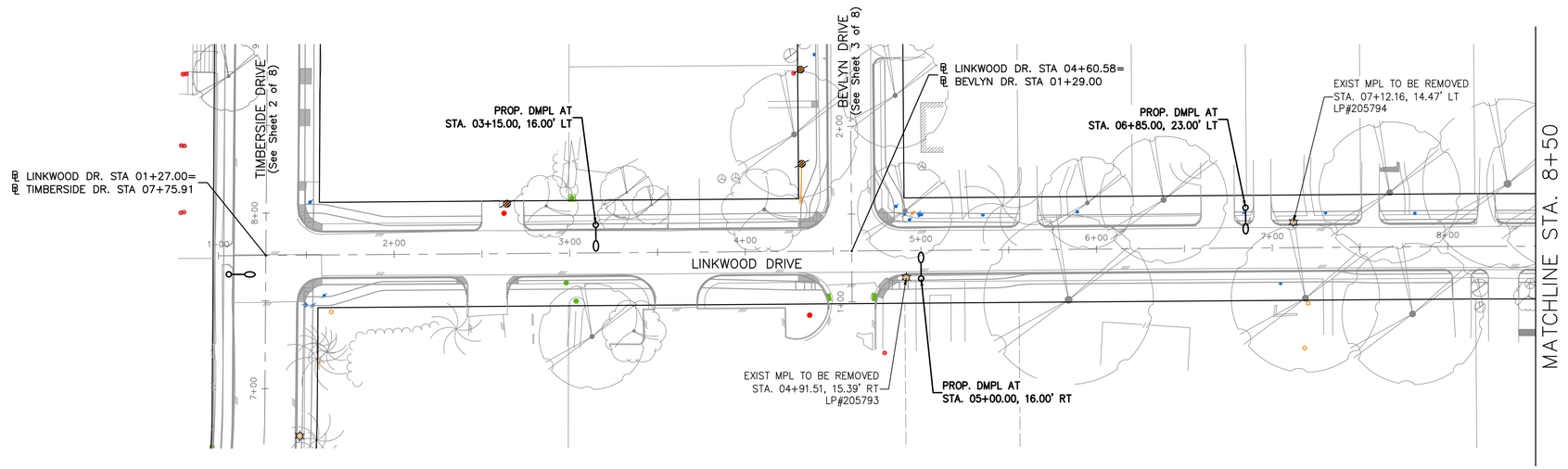

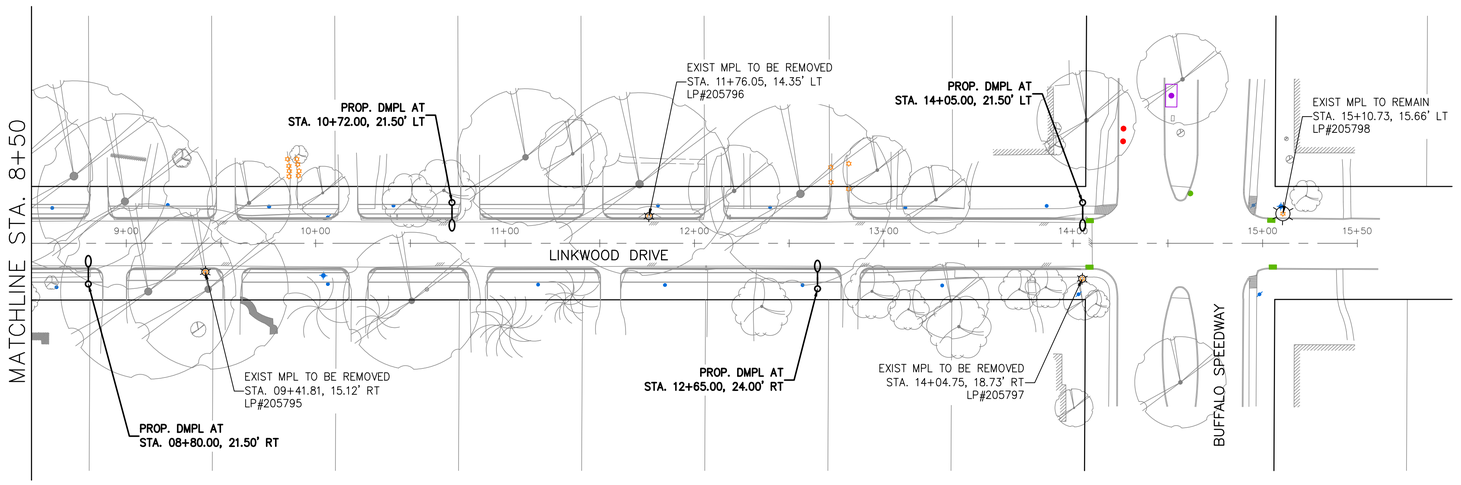

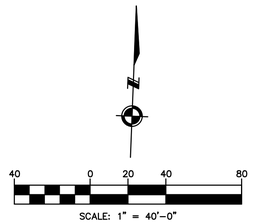

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

STREET LIGHTING PLANS
LINKWOOD DRIVE

(SHEET 8 OF 8)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
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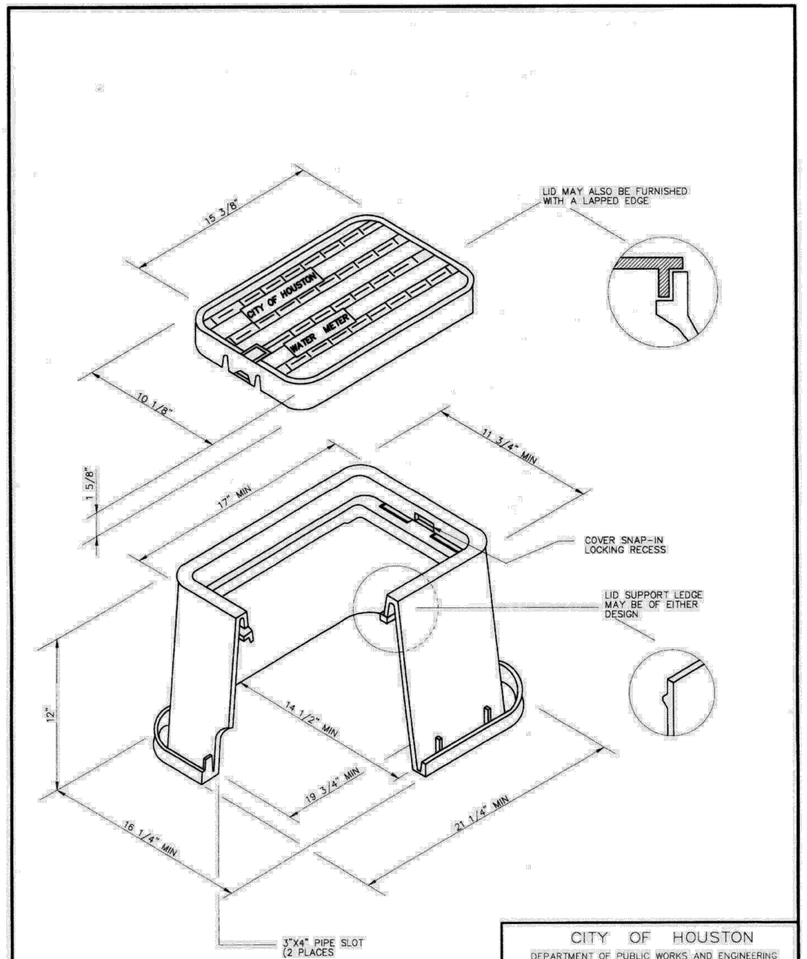
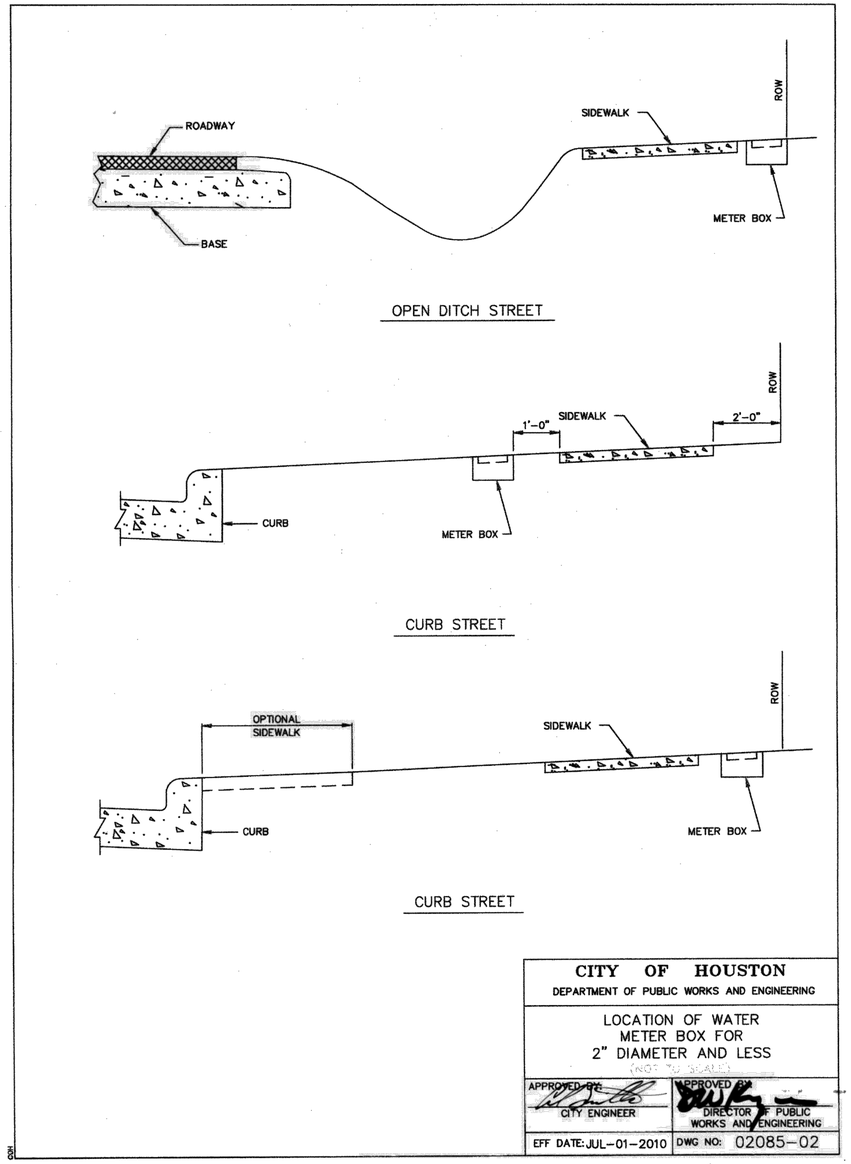


NOTE

1. LID MUST BE ABLE TO ACCEPT THE CITY'S AMR TRANSMITTING ENDPOINT.

CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
STANDARD PLASTIC METER BOX FOR ⅝" AND 1" METERS (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2010	DWG NO: 02085-01



OPEN DITCH STREET

CURB STREET

CURB STREET

CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
LOCATION OF WATER METER BOX FOR 2" DIAMETER AND LESS (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2010	DWG NO: 02085-02

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INTERIM REVIEW ONLY
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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

WATERLINE DETAILS
SHEET 1 OF 6

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M-410016-001A-3	
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NTS	
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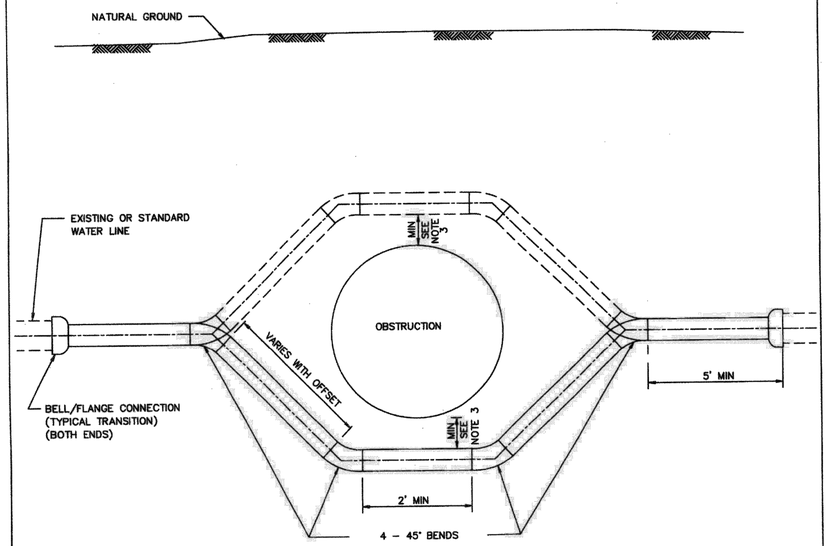
PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/8/2025 12:58 AM

NOTE:

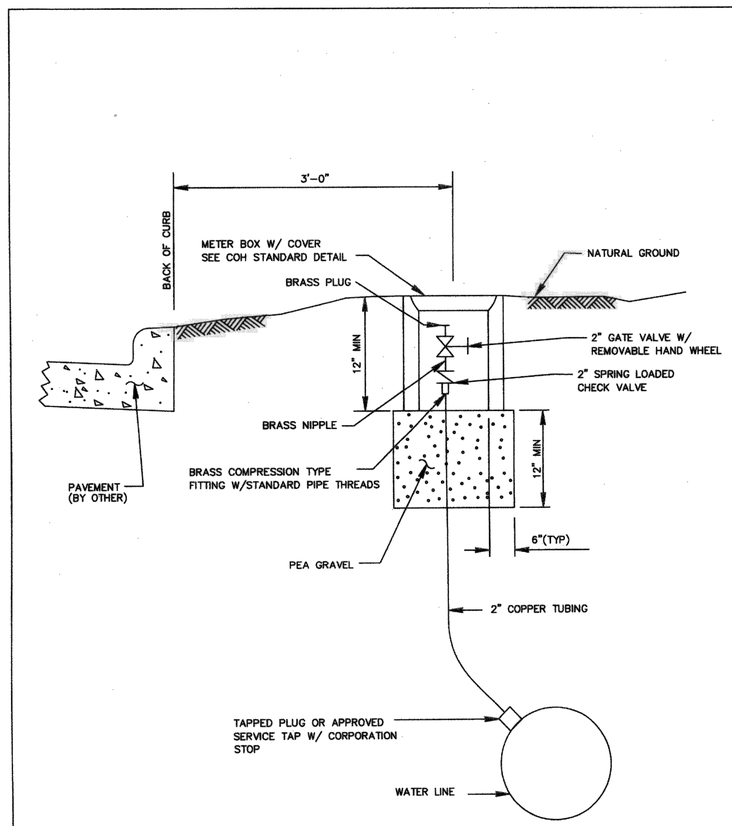
1. MATERIALS AND COATINGS TO BE IN ACCORDANCE WITH WATER LINE STANDARD SPECIFICATIONS.
2. RESTRAIN EXISTING PIPING BEYOND STEEL SECTION AS REQUIRED TO PREVENT MOVEMENT.
3. AS PER DESIGN GUIDELINE.



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



GENERAL NOTES:

1. PLACE GATE VALVE VERTICAL TO GROUND WITH END OF BRASS PLUG 3 INCHES FROM SURFACE
2. PLACE METER BOX CENTER AROUND GATE VALVE BOX WITH LONG SIDE PARALLEL TO VALVE.

CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
PERMANENT BLOW-OFF-DETAIL (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE:JULY-01-2010	DWG NO: 02524-01

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

WATERLINE DETAILS
SHEET 2 OF 6

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
NTS	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 91 OF 200	

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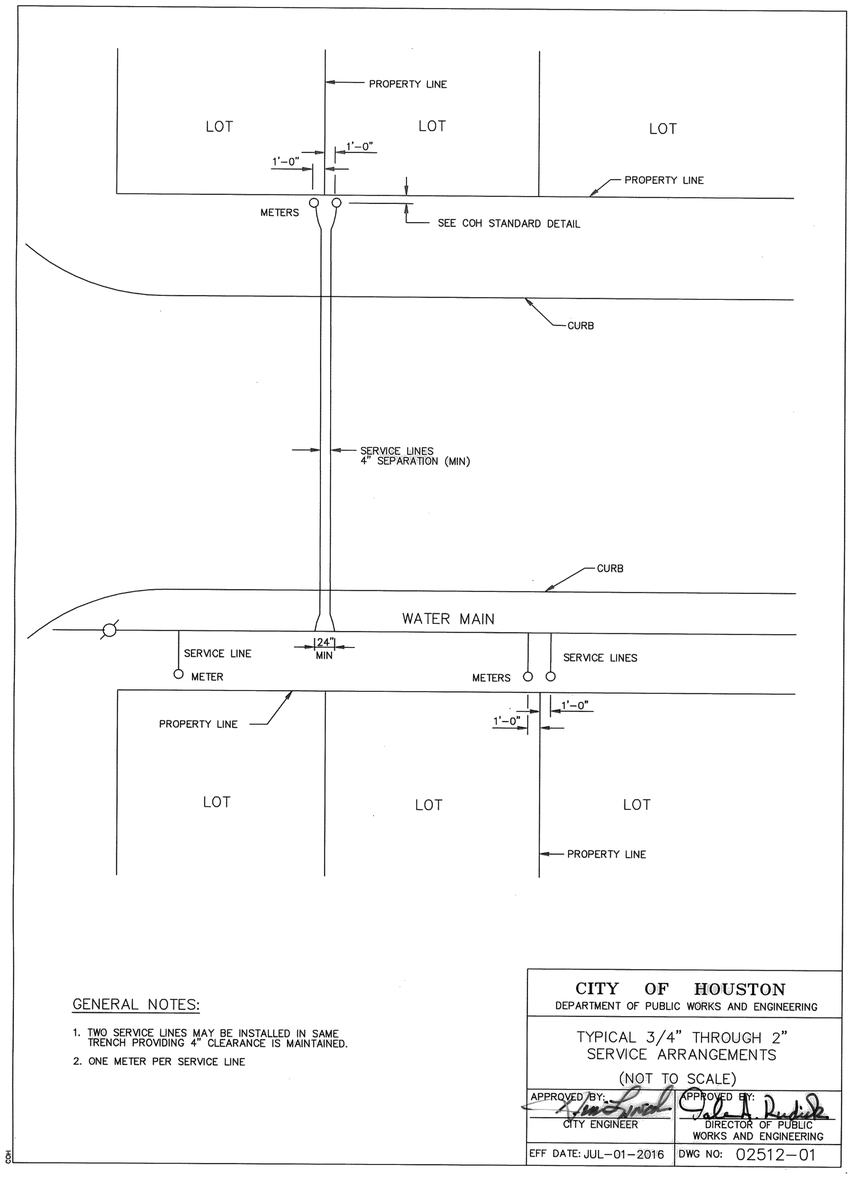


GENERAL NOTES:

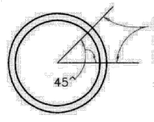
1. TWO SERVICE LINES MAY BE INSTALLED IN SAME TRENCH PROVIDING 4" CLEARANCE IS MAINTAINED.
2. ONE METER PER SERVICE LINE

CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
TYPICAL 3/4" THROUGH 2" SERVICE ARRANGEMENTS (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2016	DWG NO: 02512-01

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



SERVICE TAPS TO BE MADE IN THIS ZONE EXCEPT FOR PVC FASTTAP

BLOW-OFF & CHLORINATION TAPS ARE MADE IN VERTICAL POSITION

WIDE BAND SINGLE SADDLE OR DUAL SADDLES

CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
SERVICE TAPS (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2010	DWG NO: 02512-02

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

WATERLINE DETAILS
SHEET 3 OF 6

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
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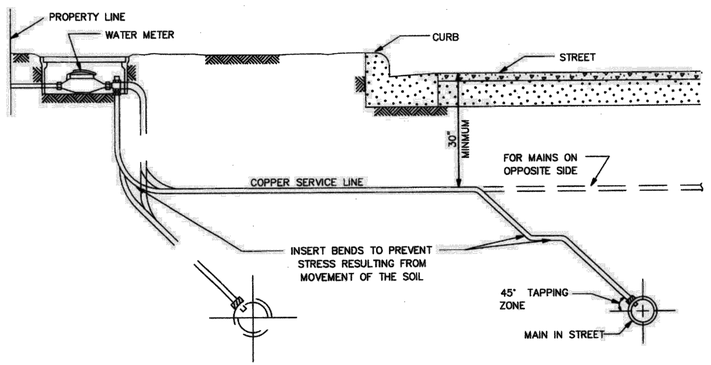
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 92 OF 200	

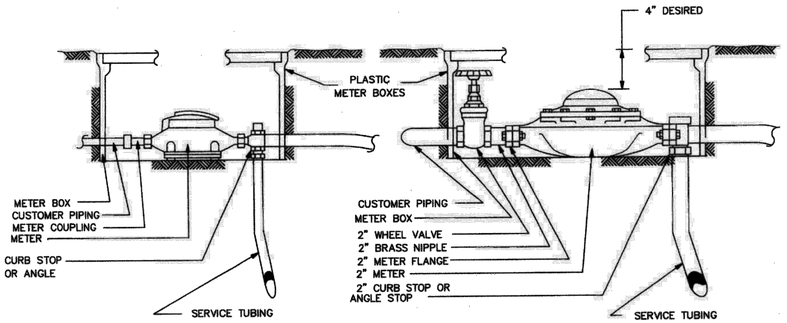
PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/8/2025 1:00 AM

NOTES:

1 1/2" METER SET IS SAME AS 2" EXCEPT WHEEL VALVE IS NOT REQUIRED.



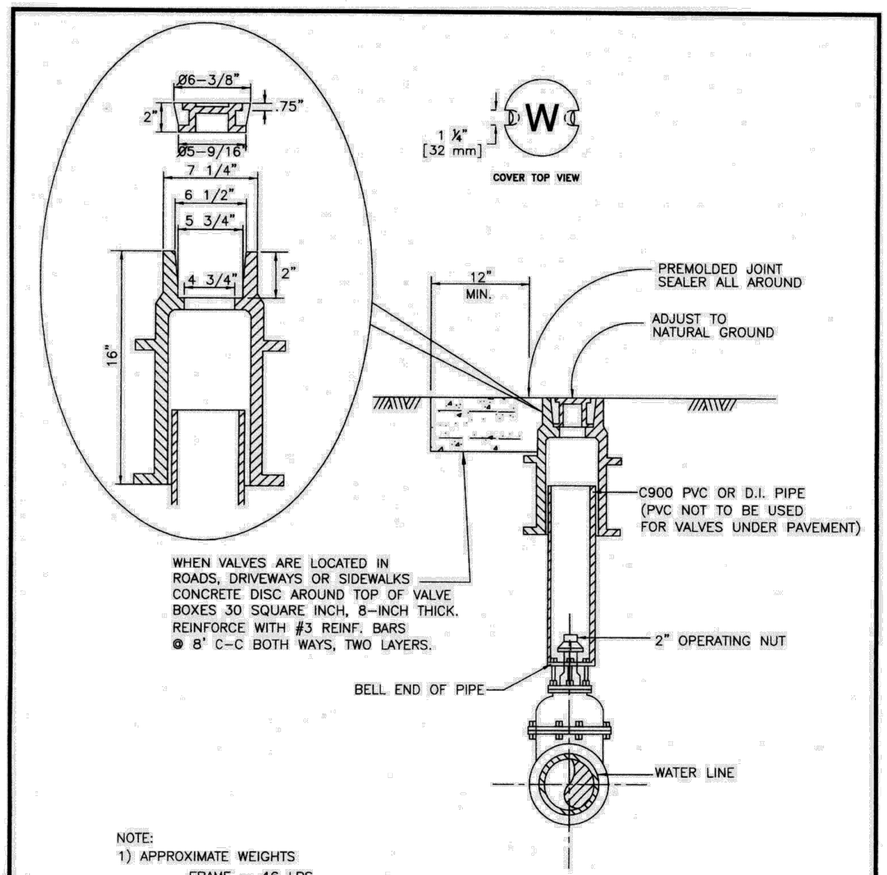
TYPICAL SECTION SERVICE LINE



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



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)	
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EFF. DATE: JULY 01, 2010	DWG. NO: 02085-03

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P.E. Reg No: 130533
DATE: DECEMBER 2025

SURVEYED BY: Kuo&Associates
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

WATERLINE DETAILS
SHEET 4 OF 6

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
NTS	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 93 OF 200	

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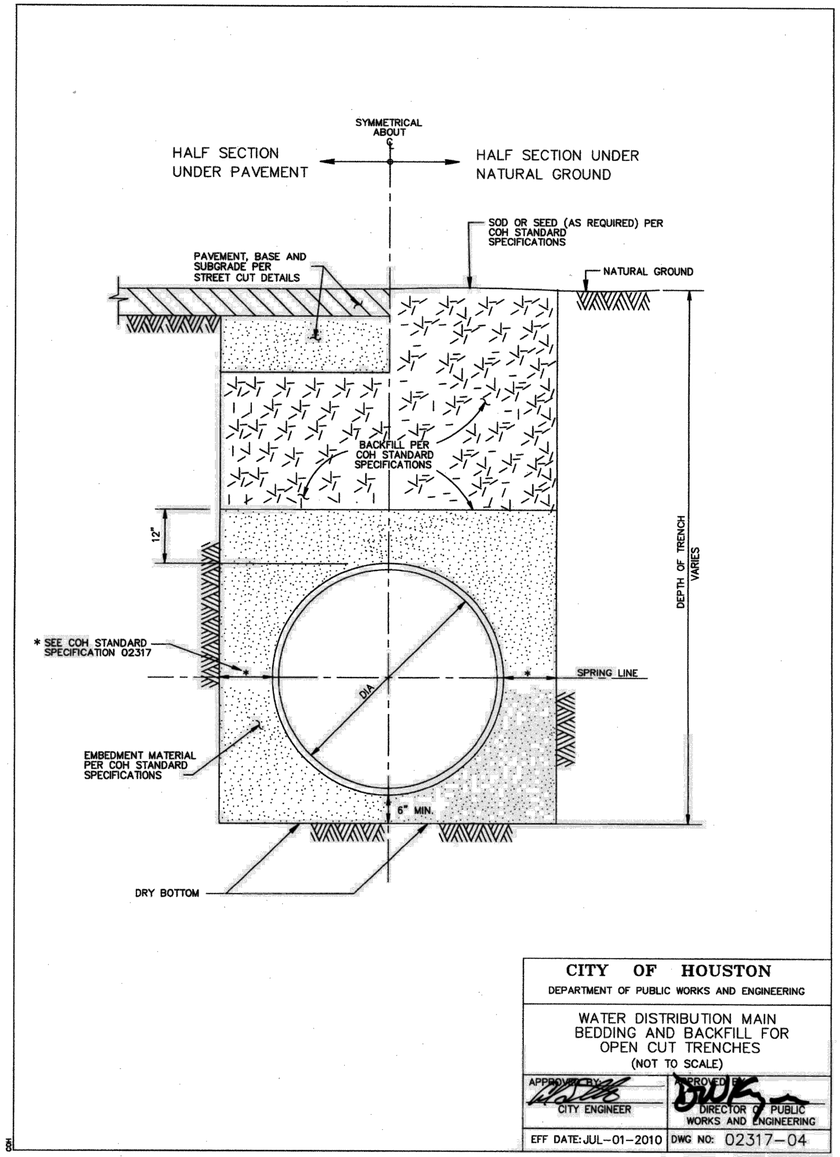
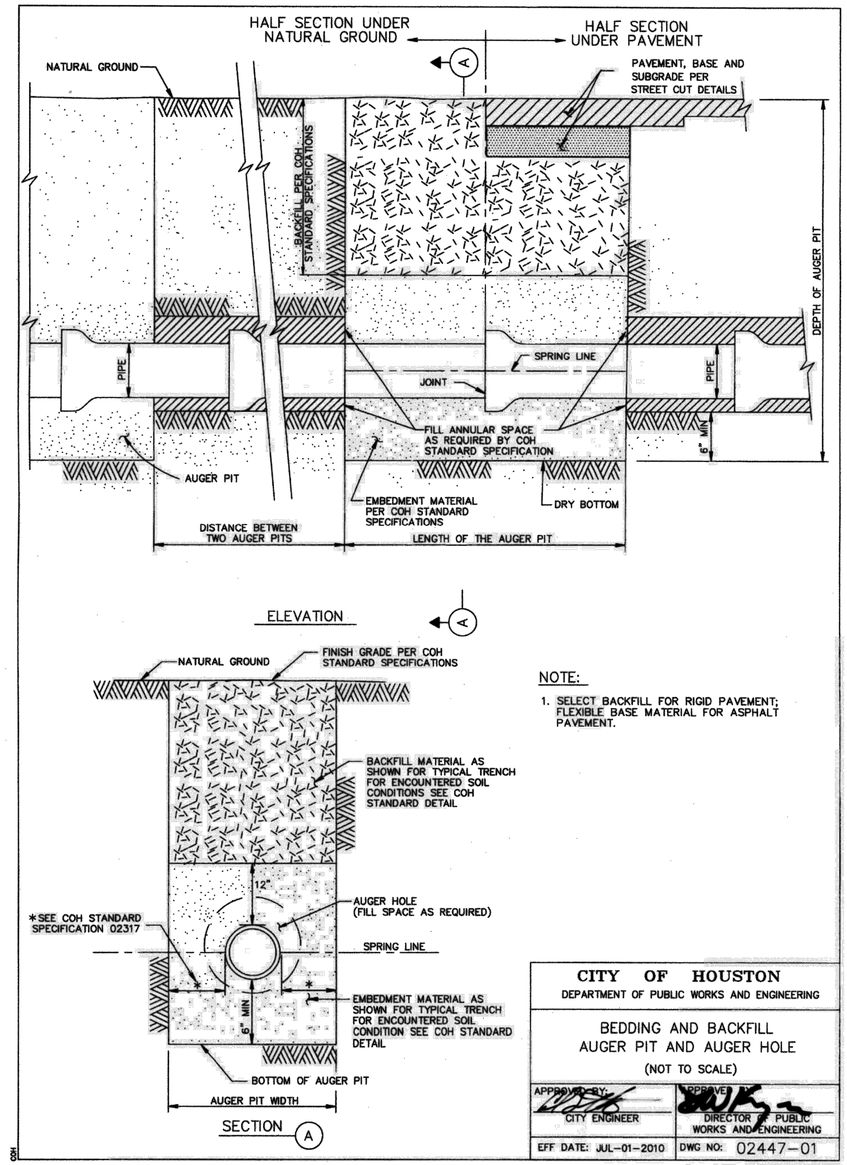


CITY OF HOUSTON	
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
WATER DISTRIBUTION MAIN BEDDING AND BACKFILL FOR OPEN CUT TRENCHES (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2010	DWG NO: 02317-04



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

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

WATERLINE DETAILS
SHEET 5 OF 6

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SHEET NO. 94 OF 200	

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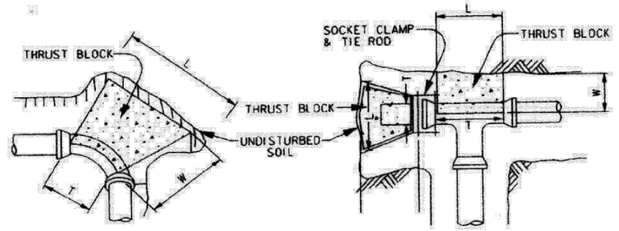
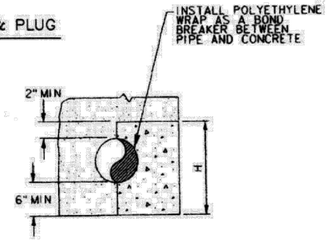


90° BEND

(45° BENDS SIMILAR)

TEE & PLUG



PIPE CROSS SECTION

MINIMUM BLOCKING DIMENSION IN INCHES												
PIPE SIZE	90° BEND				45° BEND				TEE/PLUG			
	W	H	L	T	W	H	L	T	W	H	L	T
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

CORRECTION FACTORS		
SOIL TYPE	SOIL BEARING STRENGTH S_b (lb/ft²)	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

NOTES:

1. DEPTH "W" MAY BE GREATER THAN SPECIFIED TO ALLOW WORKING SPACE.
2. 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.
3. PROVIDE CONCRETE IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 03315 – CONCRETE FOR UTILITY CONSTRUCTION.
4. 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.

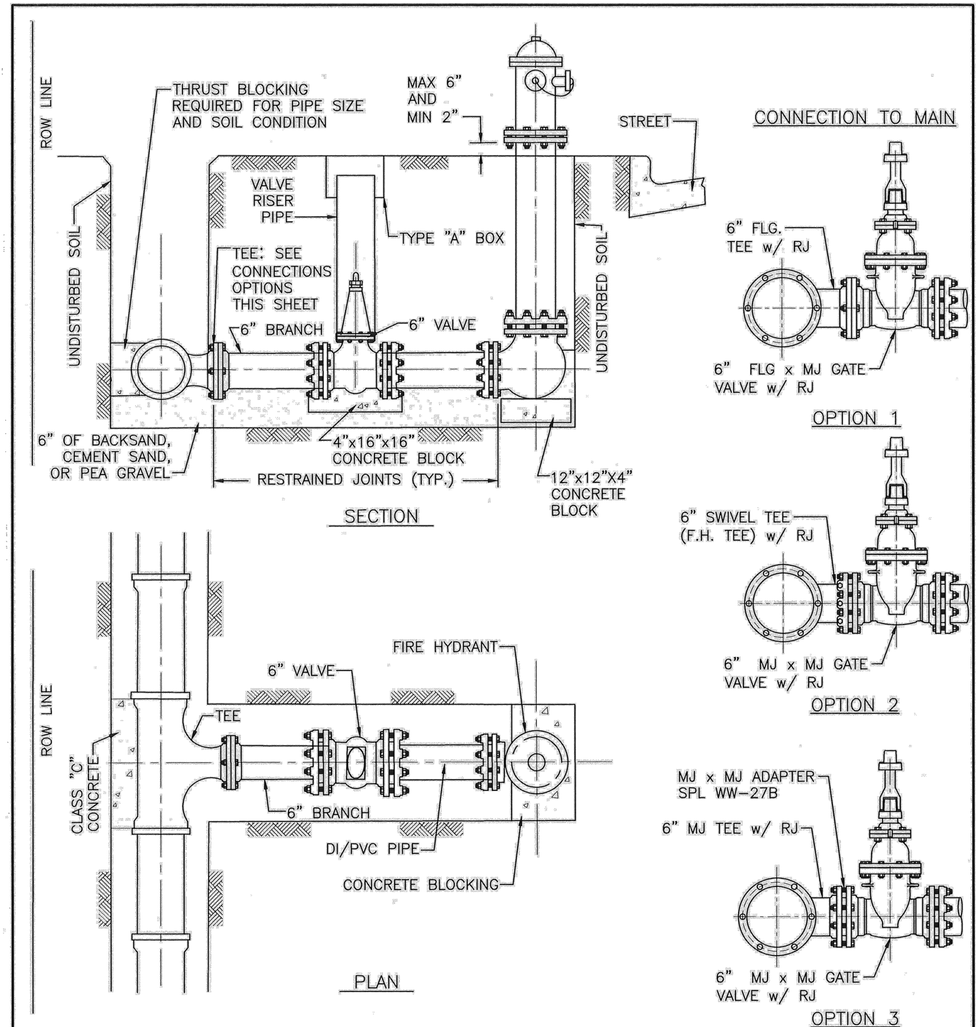
CITY OF HOUSTON

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



SECTION

PLAN

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.

CONNECTION TO MAIN

OPTION 1

OPTION 2

OPTION 3

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

STANDARD FIRE HYDRANT DETAIL

(NOT TO SCALE)

APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL-01-2021	DWG NO: 02520-01

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ENGINEER: RAHUL B MENON, P.E
P.E.Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

WATERLINE DETAILS

SHEET 6 OF 6

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 95 OF 200	

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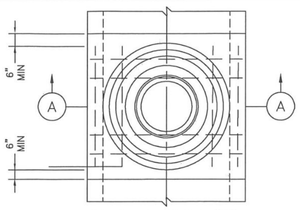
02081–05

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



PLAN OF TYPE "E"
COVER NOT SHOWN

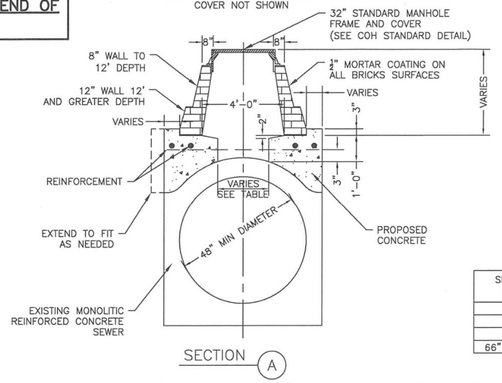
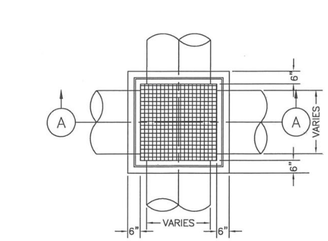


TABLE
SEWER SIZE VS OPENING

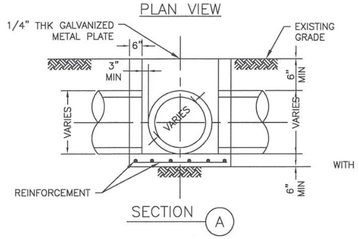
SEWER SIZE (INCHES)	MANHOLE BASE DIAMETER
48"	36"
54"	36"
60"	42"
66" OR GREATER	48"

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

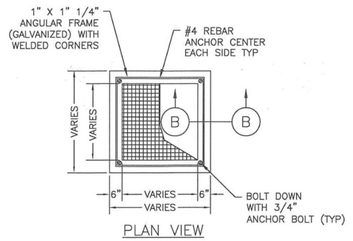
02081–06



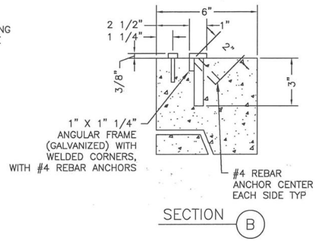
PLAN VIEW



JUNCTION BOX DETAIL



PLAN VIEW



LID FRAME DETAIL

NOTES:

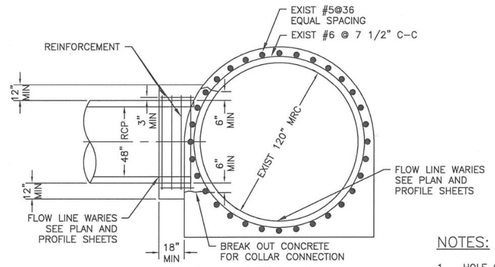
1. DETAIL TO BE USED WHERE STORM SEWER SIZE IS 24" DIA OR LESS.
2. FOR SEWER GREATER 24" DIA USE TYPE 'C' MANHOLE.

NOTES TO SPECIFIER:

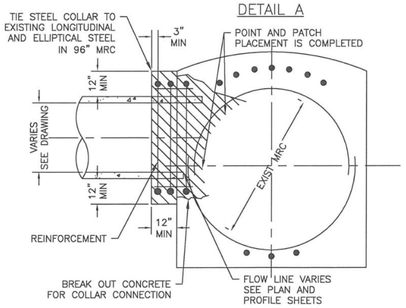
1. WALL TO BE 6" CONCRETE
2. NOT TO BE USED IN STREET. FOR AREA BETWEEN CURB AND PROPERTY LINE ONLY.

STORM SEWER JUNCTION BOX WITH LID OR GRATE TOP FOR MAXIMUM OF 24" DIAMETER STORM SEWE4R5
NTS

02081–07



DETAIL A



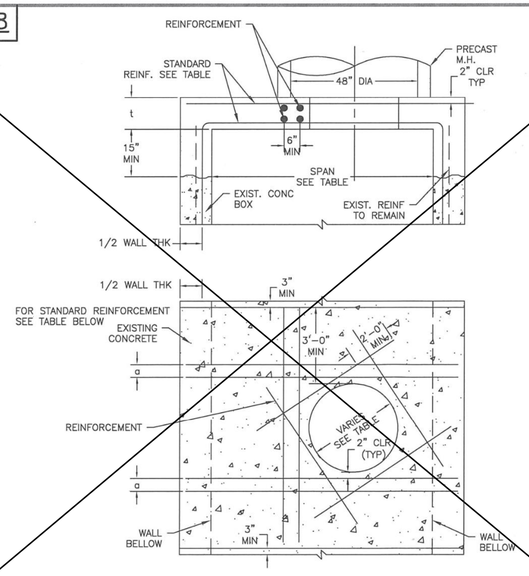
CONCRETE COLLAR DETAIL

NOTES:

1. HOLE CUT IN WALL OF 120" MRC TO BE NEAT AND DONE IN WORKMAN LIKE MANNER.
2. THE STEEL COLLAR TO EXIST LONGITUDINAL AND ELLIPTICAL STEEL WHERE APPLICABLE.
3. CONCRETE COLLAR SHALL BE CONSTRUCTED AT EACH CONNECTION OF A PROPOSED RCP TO AN EXISTING MRC. HOLE CUT IN WALL OF EXISTING 96" MRC TO BE NEAT AND DONE IN WORKMAN LIKE MANNER.

LATERAL CONNECTION TO EXISTING MONOLITHIC REINFORCED CONCRETE STORM SEWER
NTS

02081–08



PROPOSED MANHOLE ON EXISTING BOX STORM SEWER
NTS

FIRM INFORMATION | ENGINEER'S SEAL

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

STORM SEWER
02081–05 THROUGH 08

APPROVED BY: CITY ENGINEER | APPROVED BY: DEPUTY DIRECTOR

APPROVED BY: DIRECTOR

EFFECTIVE DATE: JUL–01–2019

FOR CITY OF HOUSTON USE ONLY

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SURVEYED BY: Kuo&Associates
FB NO. P–6396

INTERIM REVIEW ONLY
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ENGINEER: RAHUL B MENON, P.E
P.E.Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

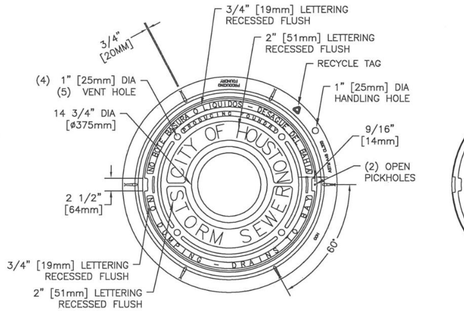
WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

STORM DETAILS
SHEET 1 OF 8

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–410016–001A–3	
DRAWING SCALE	
NTS	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 96 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/8/2025 1:03 AM

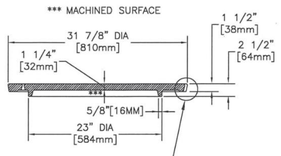
02084-02



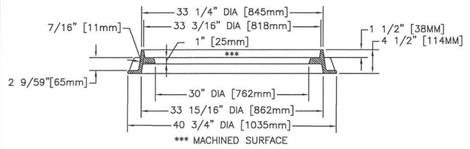
BOTTOM VIEW OF COVER

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



COVER SECTION



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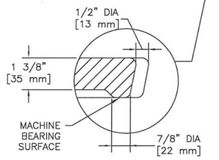
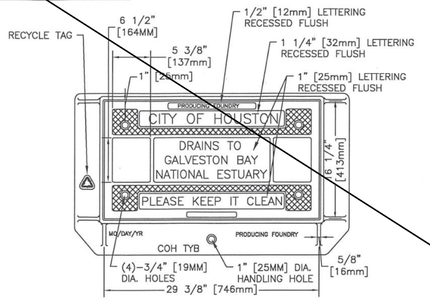
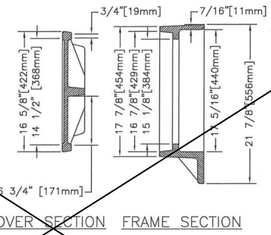


OPEN PICKHOLE DETAIL

STORM SEWER MANHOLE FRAME AND COVER
NTS

02084-03

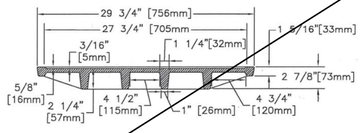




COVER SECTION FRAME SECTION

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-4241 ASY OR APPROVED EQUAL



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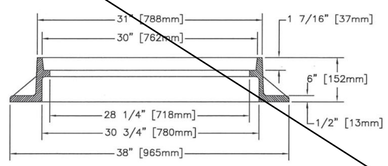
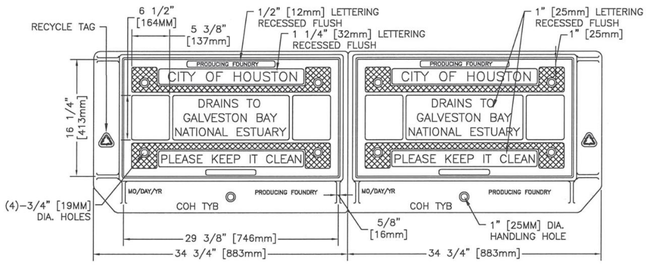
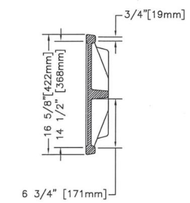


FRAME SECTION

STORM SEWER TYPE "B" INLET ASSEMBLY
NTS

02084-04





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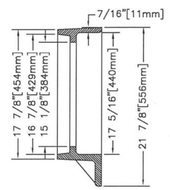
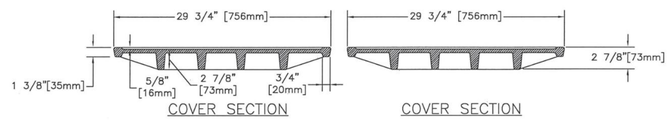


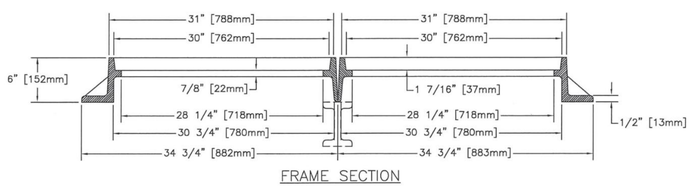
FRAME SECTION

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



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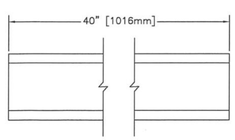

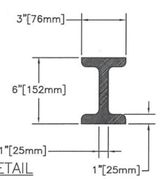

I BEAM DETAIL

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:	APPROVED BY:
CITY ENGINEER	DEPUTY DIRECTOR

APPROVED BY:
DIRECTOR

EFFECTIVE DATE: JUL-01-2019
FOR CITY OF HOUSTON USE ONLY

SHEET NO.

ISANI
civil \ design \ engineers
10448 Westoffice Drive
Houston, Texas 77042
P 713 747 2399
F 713 748 3748
TBPE Firm Reg. #4575

SURVEYED BY: Kuo&Associates
FB NO. P-6396

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ENGINEER: RAHUL B MENON, P.E
P.E.Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

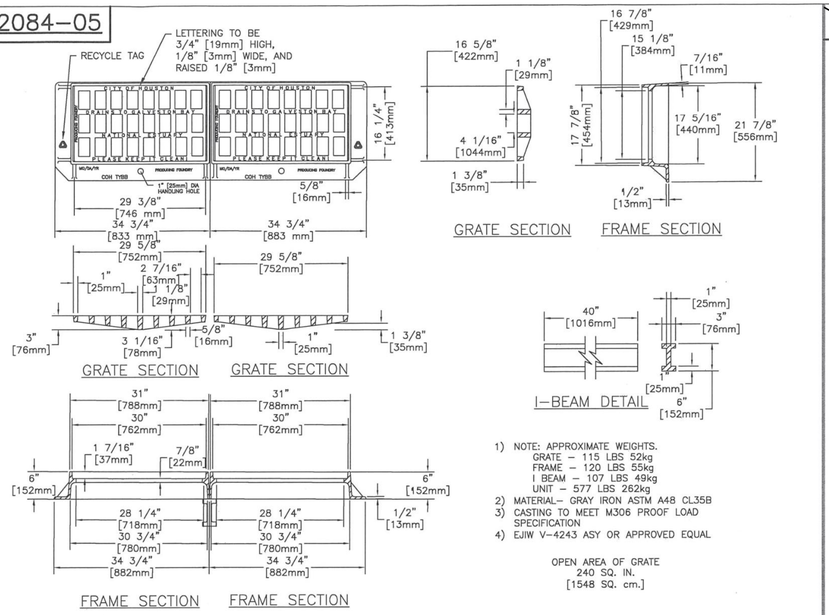
WESTRIDGE AND BRAES TERRACE
STREET IMPROVEMENTS

STORM DETAILS
SHEET 2 OF 8

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
NTS	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 97 OF 200	

FILE PATH: P:\ACTIVE\15DR30 SP1A\Ph II\Working\CAD\15DR30-Details-Storm_0718.dwg

02084–05

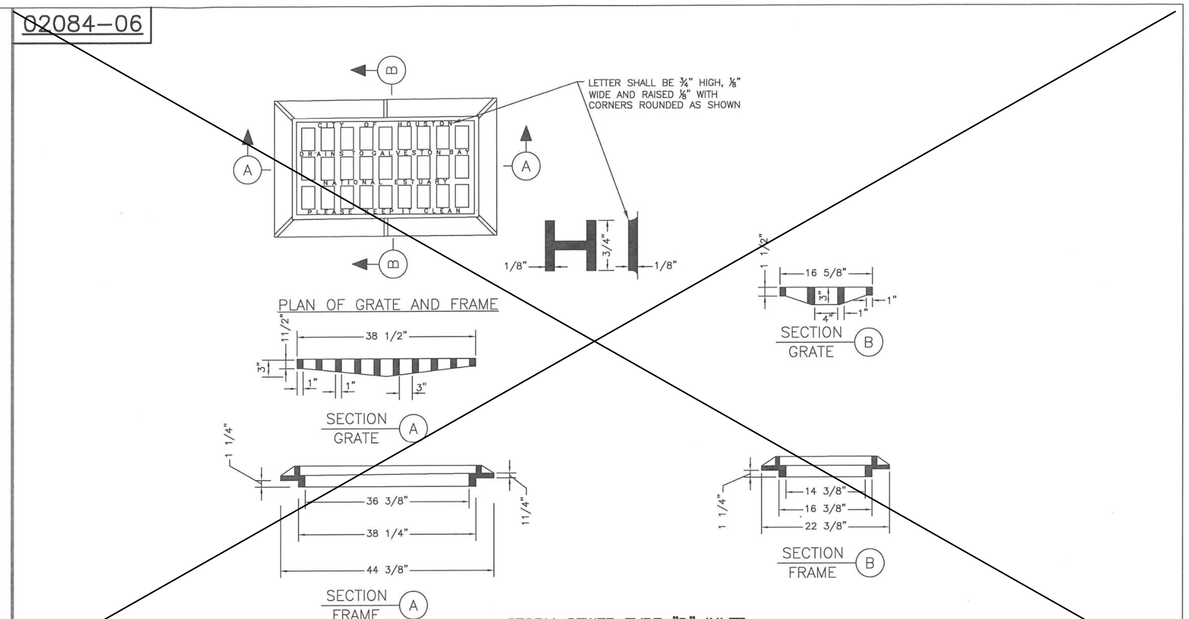


1) NOTE: APPROXIMATE WEIGHTS.
   GRATE – 115 LBS 52kg
   FRAME – 120 LBS 55kg
   I BEAM – 107 LBS 49kg
   UNIT – 577 LBS 262kg
2) MATERIAL– GRAY IRON ASTM A48 CL35B
3) CASTING TO MEET M306 PROOF LOAD SPECIFICATION
4) EJIW V–4243 ASY OR APPROVED EQUAL

OPEN AREA OF GRATE
240 SQ. IN.
[1548 SQ. cm.]

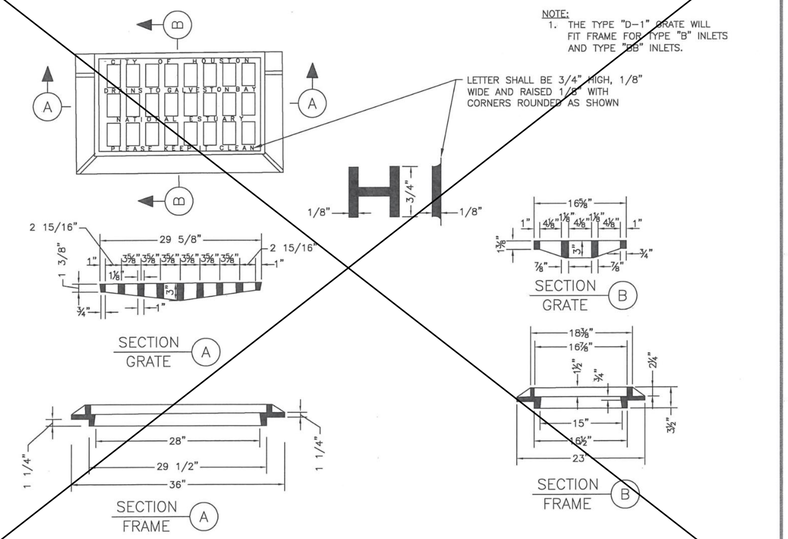
STORM SEWER FRAME AND GRATE FOR TYPE B–B INLET DOUBLE ASSEMBLY
NTS

02084–06



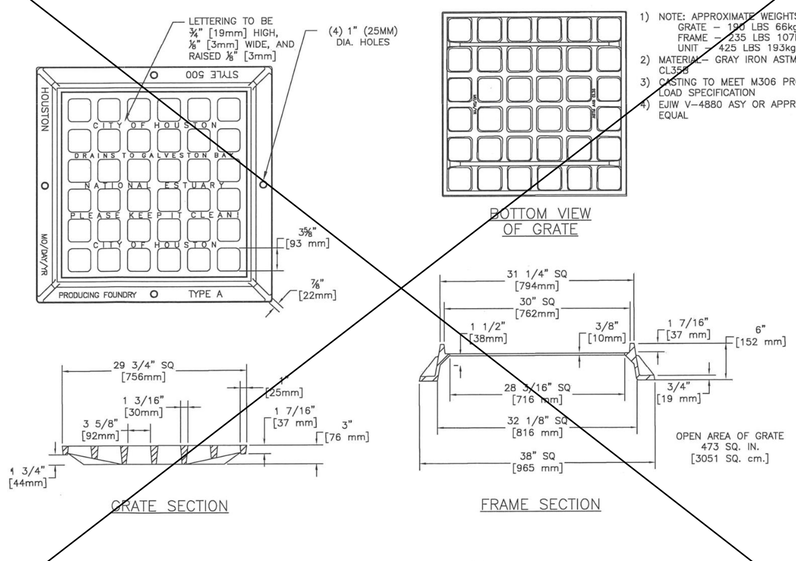
STORM SEWER TYPE "D" INLET GRATE AND FRAME
NTS

02084–07



STORM SEWER TYPE "D–1" INLET GRATE AND FRAME
NTS

02084–08



1) NOTE: APPROXIMATE WEIGHTS.
   GRATE – 150 LBS 66kg
   FRAME – 235 LBS 107kg
   UNIT – 425 LBS 193kg
2) MATERIAL– GRAY IRON ASTM A48 CL35B
3) CASTING TO MEET M306 PROOF LOAD SPECIFICATION
4) EJIW V–4880 ASY OR APPROVED EQUAL

OPEN AREA OF GRATE
473 SQ. IN.
[3051 SQ. cm.]

STORM SEWER TYPE "A" INLET GRATE AND FRAME
NTS

FIRM INFORMATION | ENGINEER'S SEAL

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

STORM SEWER
02084–05 THROUGH 08

APPROVED BY: CITY ENGINEER | APPROVED BY: DEPUTY DIRECTOR

APPROVED BY: DIRECTOR

EFFECTIVE DATE: JUL–01–2019

FOR CITY OF HOUSTON USE ONLY

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ENGINEER: RAHUL B MENON, P.E
P.E.Reg No: 130533
DATE: DECEMBER 2025

SURVEYED BY: Kuo&Associates
FB NO. P–6396

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

STORM DETAILS
SHEET 3 OF 8

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–410016–001A–3	
DRAWING SCALE	
NTS	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 98 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/8/2025 1:04 AM
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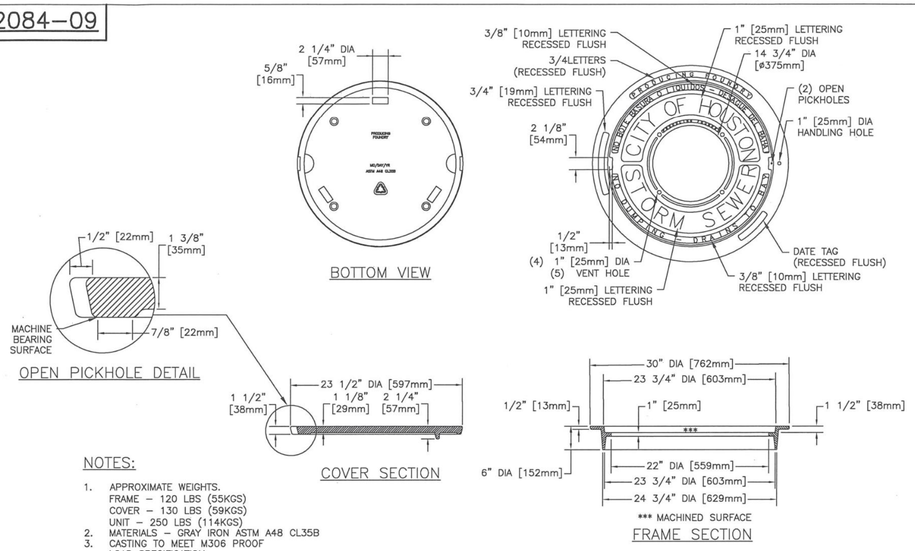
02084-09

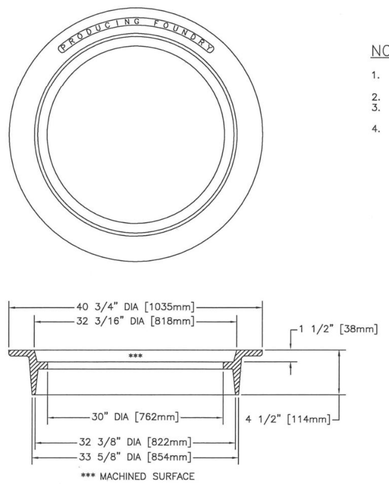


NOTES:

1. APPROXIMATE WEIGHTS.
   FRAME – 120 LBS (55KGS)
   COVER – 130 LBS (59KGS)
   UNIT – 250 LBS (114KGS)
2. MATERIALS – GRAY IRON ASTM A48 CL35B
3. CASTING TO MEET M306 PROOF LOAD SPECIFICATION
4. EJIW V-1814 ASY OR APPROVED EQUAL

STORM SEWER TYPE "C-1, C-2, C-2A" AND "H-2" INLET FRAME AND COVER
NTS

02084-10

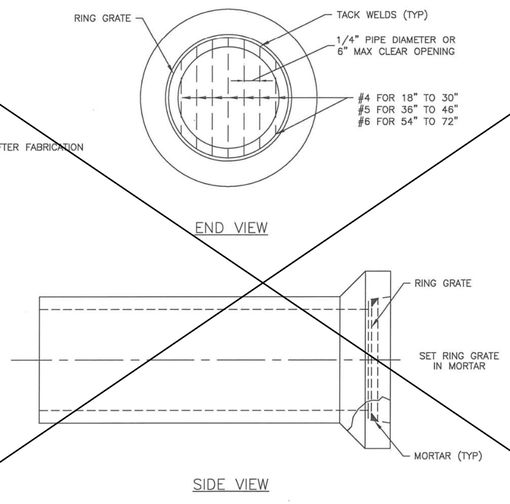


NOTES:

1. APPROXIMATE WEIGHTS.
   FRAME – 190 LBS (86KGS)
2. MATERIALS – GRAY IRON ASTM A48 CL35B
3. CASTING TO MEET M306 PROOF LOAD SPECIFICATION
4. EJIW V-1816 ASY OR APPROVED EQUAL

32" INVERTED MANHOLE FRAME
NTS

02084-11

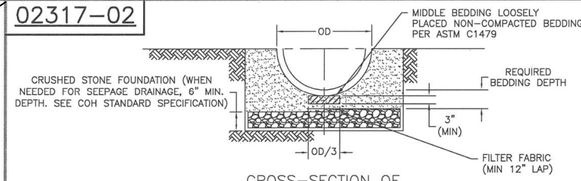


NOTES:

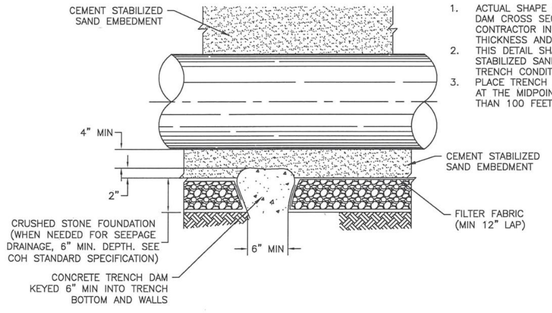
1. GALVANIZED GRATE AFTER FABRICATION

STORM SEWER RING GRATE FOR OPEN END OF 18" TO 72" RCP STUBS TO DITCH
NTS

02317-02



CROSS-SECTION OF CRUSHED STONE FOUNDATION



NOTES:

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

LONGITUDINAL SECTION ALONG PIPE ℄ AT FOUNDATION TRENCH DAM

SANITARY OR STORM SEWER CRUSHED STONE FOUNDATION FOR WET STABLE TRENCH
NTS

FIRM INFORMATION | ENGINEER'S SEAL

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

STORM SEWER
02084-09 THROUGH 11
AND 02317-02

APPROVED BY: CITY ENGINEER | APPROVED BY: DEPUTY DIRECTOR

APPROVED BY: DIRECTOR

EFFECTIVE DATE: JUL-01-2019

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ENGINEER: RAHUL B MENON, P.E
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

STORM DETAILS
SHEET 4 OF 8

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NTS	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 99 OF 200	

FILE PATH: P:\ACTIVE\15DR30 SP1A\Ph II\Working\CAD\15DR30-Details-Storm_0718.dwg

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/8/2025 1:05 AM

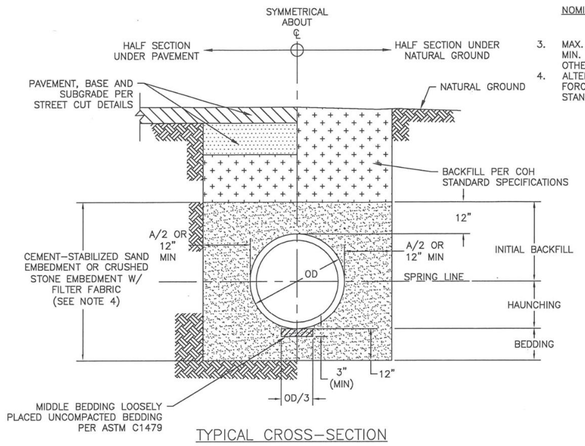
02317–03

NOTES:

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

NOMINAL PIPE SIZE	"A"
18" TO 30"	24"
OVER 30"	36"

3. MAX. TRENCH WIDTH SHALL BE NOT GREATER THAN MIN. TRENCH WIDTH PLUS 24 INCHES, UNLESS OTHERWISE NOTED.
4. ALTERNATIVE EMBEDMENT BACKFILL MATERIALS FOR FORCE MAINS MAY BE ALLOWED. SEE COH STANDARD SPECIFICATIONS.



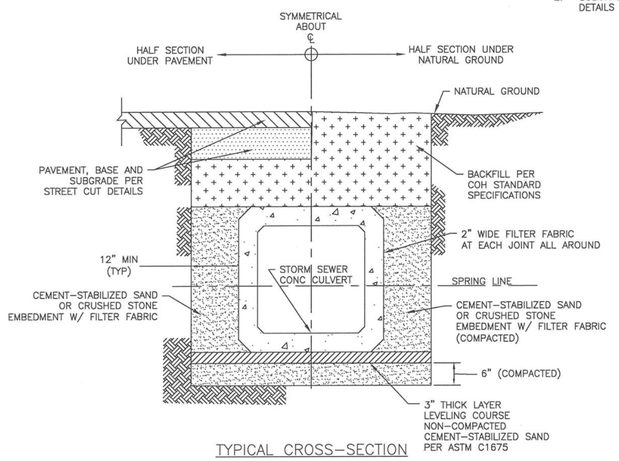
TYPICAL CROSS–SECTION

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

02317–05

NOTES:

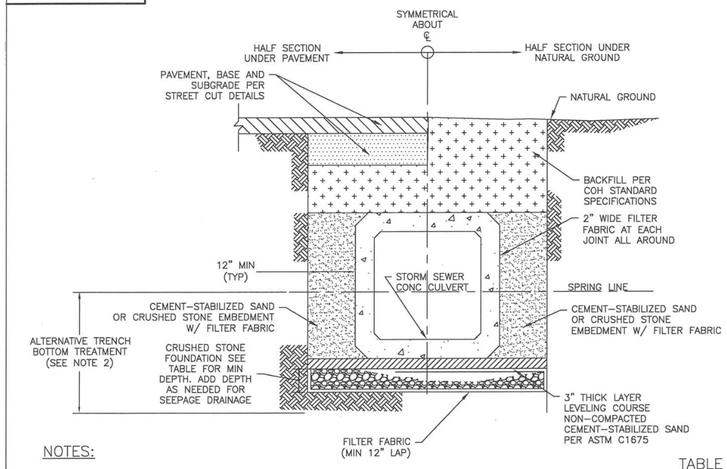
1. WHERE MULTIPLE BOX SEWER ARE USED IN THE SAME TRENCH, MIN. OUTSIDE TO OUTSIDE BOX SEWER SEPERATION SHALL BE 6".
2. SUBGRADE AND PAVEMENT FOR STREET CUT DETAILS – 02951.



TYPICAL CROSS–SECTION

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

02317–06



NOTES:

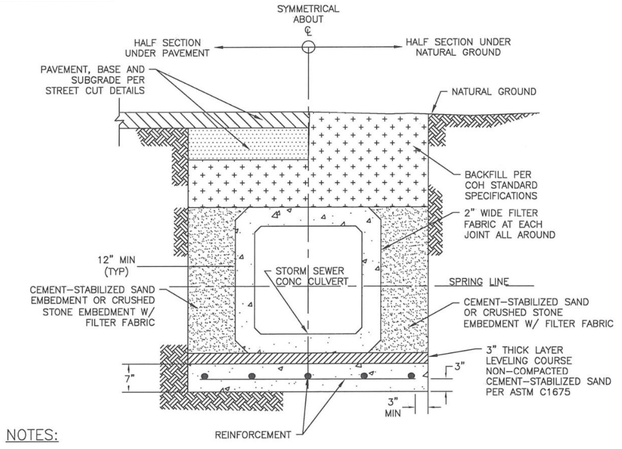
1. WHERE MULTIPLE BOX SEWER ARE USED IN THE SAME TRENCH, MIN. OUTSIDE TO OUTSIDE BOX SEWER SEPERATION SHALL BE 6".
2. ALTERNATIVE TRENCH BOTTOM TREATMENT MAY BE USED AS APPROVED BY THE CITY OF ENGINEERS AND AS PAID FOR IN THE PROPOSAL.

TABLE

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

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

02317–07



NOTES:

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

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

FIRM INFORMATION | ENGINEER'S SEAL

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

STORM SEWER
02317–03 THROUGH 07

APPROVED BY: CITY ENGINEER | APPROVED BY: DEPUTY DIRECTOR

APPROVED BY: DIRECTOR

EFFECTIVE DATE: JUL–01–2019

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

STORM DETAILS
SHEET 5 OF 8

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–410016–001A–3	
DRAWING SCALE	
NTS	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 100 OF 200	

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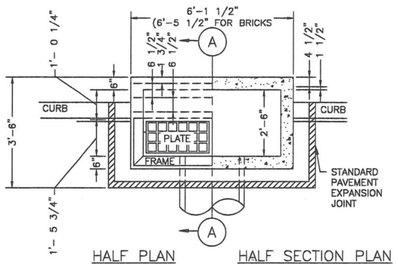
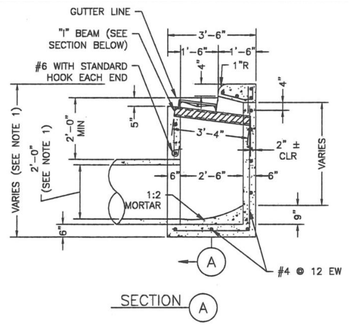
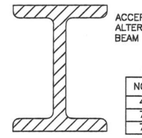
02632-04



HALF PLAN HALF SECTION PLAN



SECTION A



CURB BEAM BAR LIST

NO	SIZE	LENGTH	SHAPE	LOC
4	#4	5'-10'	ST	HOR
7	#4	0'-10'	ST	VERT
7	#3	1'-6'	BT	

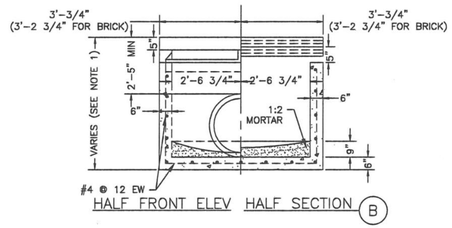
SECTION THRU BEAM

NOTES:

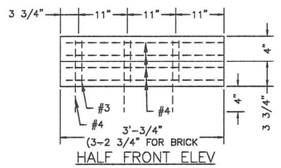
1. DIMENSION VARIES BASED ON PIPE DIAMETER AND WALL THICKNESS.
2. CENTER REINFORCING IN SLAB AND WALLS. CENTER STEEL BEAM ON INLET AND CAST INTO WALLS AS SHOWN.
3. WHEN TOP OF CURB TO FLOWLINE IS GREATER THAN 8 FEET USE TYPE "C" INLET.

GENERAL NOTES:

USE STANDARD CAST IRON FRAME & PLATES. LEAD SHALL LEAVE INLET AT LOCATION AND GRADE REQUIRED.



HALF FRONT ELEV HALF SECTION B



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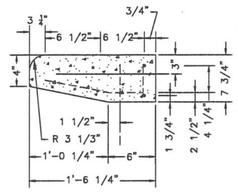


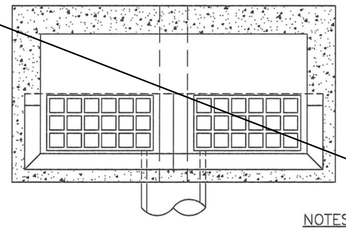
TRANSVERSE SECTION

PRECAST CURB BEAM

STORM SEWER TYPE "B-B" INLET
NTS

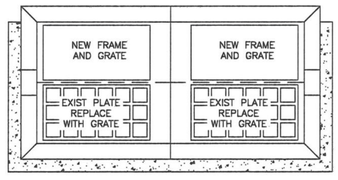
02632-05

STEP 1: EXIST TYPE "B" INLET



TOP VIEW

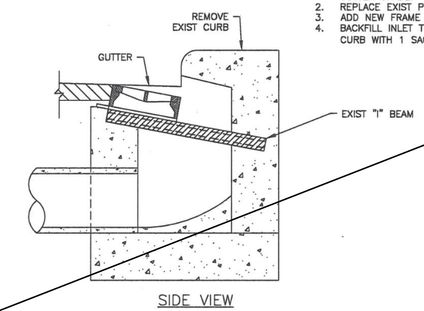
STEP 2:



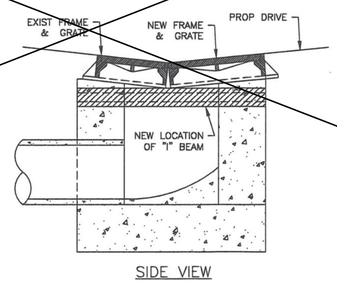
TOP VIEW

NOTES:

1. AFTER REMOVING EXIST CURB, RAISE EXIST FRAME TO GUTTER GRADE.
2. REPLACE EXIST PLATE WITH A GRATE.
3. ADD NEW FRAME AND GRATE NEXT TO EXIST FRAME.
4. BACKFILL INLET TO A POINT ONE FOOT BEHIND THE CURB WITH 1 SACK/TON CEMENT STABILIZED SAND.



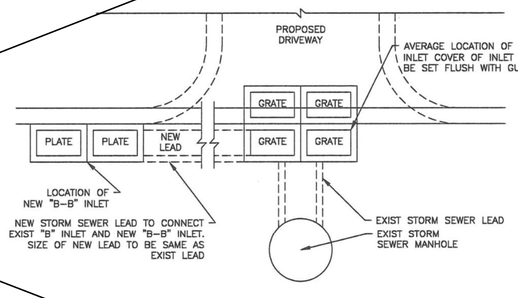
SIDE VIEW



SIDE VIEW

STORM SEWER TYPE "B" INLET RELOCATION
NTS

STEP 3: CONSTRUCT NEW TYPE "B-B" INLET ON CURB RETURN OF PROPOSED DRIVEWAY



FIRM INFORMATION | ENGINEER'S SEAL

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

STORM SEWER
02632-04 THROUGH 05

APPROVED BY:	APPROVED BY:
CITY ENGINEER	DEPUTY DIRECTOR
APPROVED BY:	
DIRECTOR	
EFFECTIVE DATE: JUL-01-2019	
FOR CITY OF HOUSTON USE ONLY	
SHEET NO.	

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FB NO. P-6396

INTERIM REVIEW ONLY
DOCUMENT INCOMPLETE;
NOT INTENDED FOR PERMIT,
BIDDING OR CONSTRUCTION
ENGINEER: RAHUL B MENON, P.E
P.E.Reg No: 130533
DATE: DECEMBER 2025

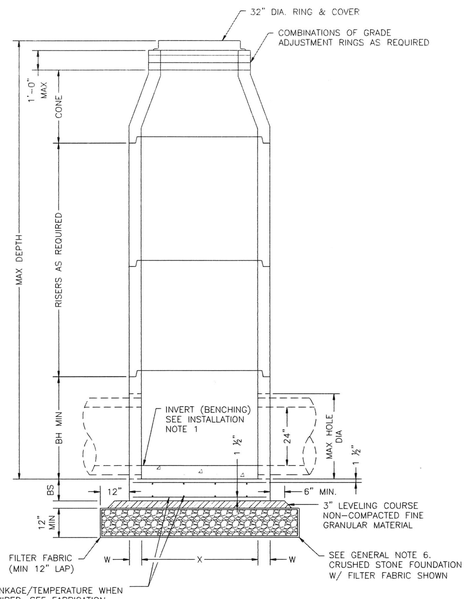
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE
STREET IMPROVEMENTS

STORM DETAILS
SHEET 6 OF 8

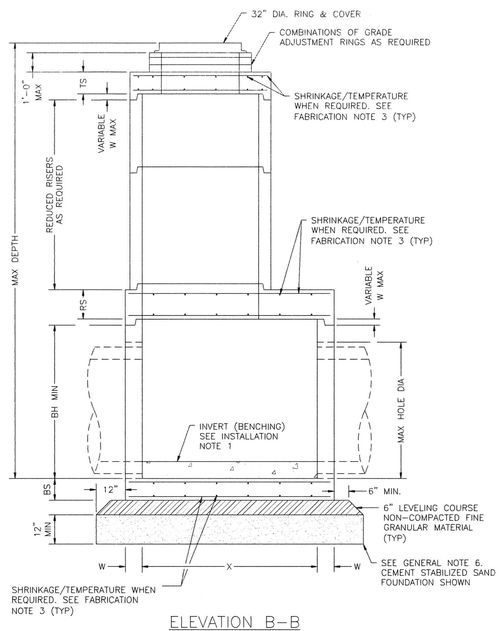
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
NTS	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 101 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/8/2025 1:05 AM
FILE PATH: P:\ACTIVE\15DR30 SP1A\Ph II\Working\CAD\15DR30-Details-Storm_0718.dwg



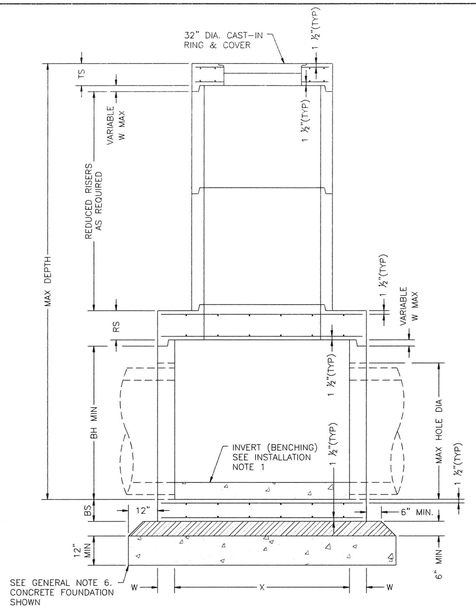
ELEVATION A–A

CONE TOP WITH SHIP LOOSE RING & COVER OPTION



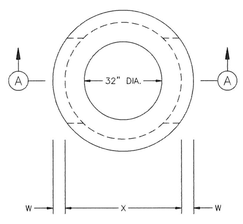
ELEVATION B–B

FLAT SLAB TOP WITH SHIP LOOSE RING & COVER OPTION



ELEVATION C–C

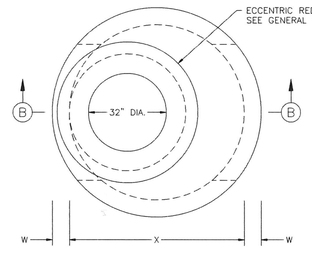
FLAT SLAB TOP WITH INVERTED RING & COVER OPTION



PLAN VIEW A

COVER NOT SHOWN

4–FT DIA MANHOLE



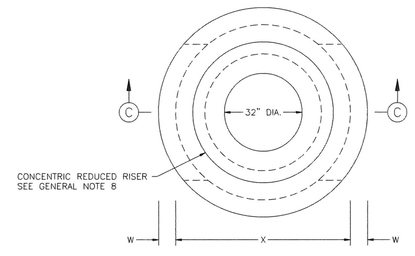
PLAN VIEW B

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)

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 ½" 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.

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	BS	W	ID	RS	TS	MAX DEPTH	BH MIN	MAX HOLE DIA
	FT.	IN.	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.

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

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

STORM SEWER TYPE 'C'
PRECAST ROUND MANHOLE

(NOT TO SCALE)

APPROVED BY:	APPROVED BY:
Suhail Kanwar	Carol Haddock
CITY ENGINEER	DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL–01–2021	DWG NO: 02082–12

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FB NO. P–6396

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

STORM DETAILS
SHEET 7 OF 8

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–410016–001A–3	
DRAWING SCALE	
NTS	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 102 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/8/2025 1:08 AM
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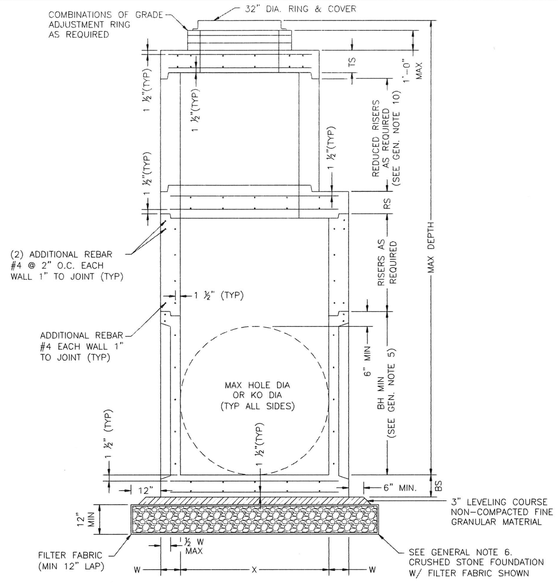
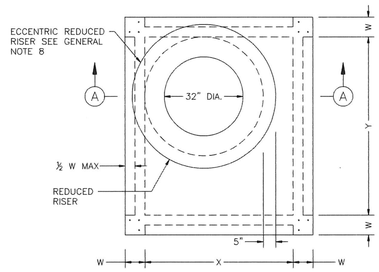


ELEVATION A–A

FLAT SLAB TOP WITH SHIP LOOSE RING & COVER OPTION

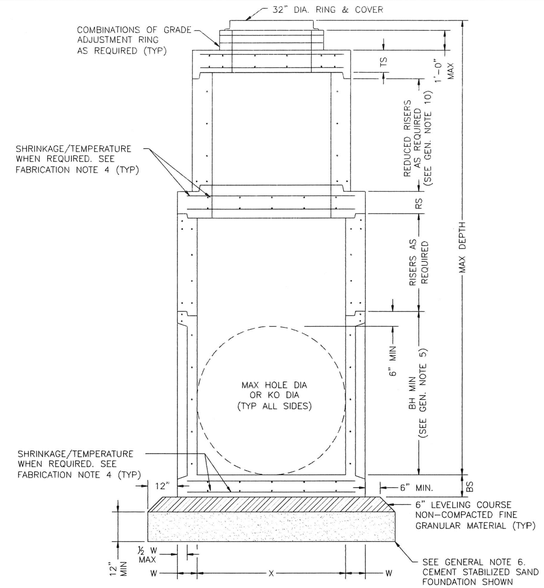


PLAN VIEW A

COVER NOT SHOWN

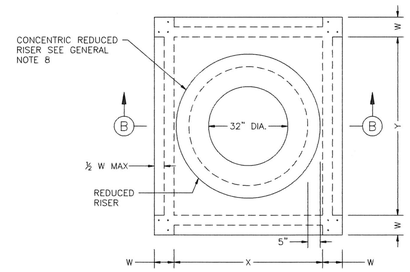
ECCENTRIC MANHOLE

(PREFERRED CONFIGURATION)



ELEVATION B–B

FLAT SLAB TOP WITH SHIP LOOSE RING & COVER OPTION

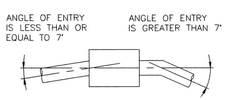


PLAN VIEW B

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.	FT.	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 8".
10. AT MANUFACTURERS OPTION, PROVIDE CAST OR CORED HOLES OR THIN WALL PANELS (KO) TO THE MAXIMUM DIA SHOWN FOR EACH. WHEN NO PENETRATION IS REQUIRED, IT IS ACCEPTABLE TO PROVIDE A WALL WITH NO SECTIONAL REDUCTION.
11. THREE DIFFERENT OPTIONS FOR CAPPING THE MANHOLE RISER NEAR THE FINISHED GRADE ARE ALLOWED. CONES CAN BE USED WHEN COVER IS SUFFICIENT TO ALLOW FOR PROPER PLACEMENT. FLAT LIDS ARE TO BE USED WHERE COVER IS LIMITED. REFER TO 02082-12 FOR OPTIONS.
12. BASES AND RISERS MAY HAVE CAST, CUT OR THIN WALL PANEL (KO) THAT ARE ROUND AND DO NOT EXTEND INTO THE FLOOR, INTO WALLS, OR WITHIN 6" OF THE JOINT ABOVE OR BELOW.

INSTALLATION NOTES:

1. IF REQUIRED ELSEWHERE, INVERTS (BENCHING) TO BE PROVIDED BY CONTRACTOR. CONCRETE OR MORTAR USED FOR INVERT IS SUBSIDIARY TO MANHOLE. REFER TO CITY OF HOUSTON SPECIFICATION SECTION 02082 FOR INVERT (BENCHING) REQUIREMENTS.
2. SEAL TONGUE AND GROOVE JOINTS WITH PREFORMED OR BULK MASTIC IN CONFORMANCE WITH MANUFACTURER'S RECOMMENDATIONS. TONGUE AND GROOVE JOINTS MAY BE GROUTED NO MORE THAN 1" BETWEEN EACH SECTION, OR 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. MIN HEIGHT SHOWN FOR STOCK BASE UNITS. USE STOCK BASE UNITS WHENEVER PRACTICAL. SMALLER HEIGHT BASE UNITS CAN BE USED IN SPECIAL INSTALLATION CIRCUMSTANCES, WHEN NOTED ELSEWHERE IN THE PLANS. ABSOLUTE MINIMUM HEIGHT OF BASE UNITS IS 2'-6".
6. FOUNDATION/SUBGRADE TO BE DESIGNED BY ENGINEER AND MEET MINIMUM REQUIREMENTS ACCORDING TO SECTION 02082.
7. ALL STORM WATER MANHOLES ARE TO BE PRECAST CONCRETE, UNLESS OTHERWISE NOTED ELSEWHERE IN THE PLANS.
8. ECCENTRIC REDUCED RISER WITH RESPECT TO BASE IS THE PREFERRED MANHOLE CONFIGURATION. CONCENTRIC REDUCED RISER WITH RESPECT TO BASE MANHOLE CONFIGURATION IS AN ALTERNATIVE DESIGN THAT WILL BE ACCEPTED BASED ON THE NEEDS OF THE CITY OF HOUSTON.
9. MANHOLE SIZE SHALL CONSIDER ENGINEERING ECONOMY. THIS DETAIL IS NOT APPLICABLE TO BOX MANHOLES LARGER THAN 8-FOOT BY 8-FOOT.
10. REFER TO STORM SEWER TYPE 'C' PRECAST ROUND MANHOLE DETAIL (02082-12) FOR REDUCED RISER DESIGN REQUIREMENTS.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

STORM SEWER
PRECAST BOX MANHOLE

(NOT TO SCALE)

APPROVED BY:	APPROVED BY:
CITY ENGINEER	DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL-01-2021	DWG NO: 02082-13

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SURVEYED BY: Kuo&Associates
FB NO. P-6396

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

STORM DETAILS
SHEET 8 OF 12

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
NTS	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 103 OF 200	

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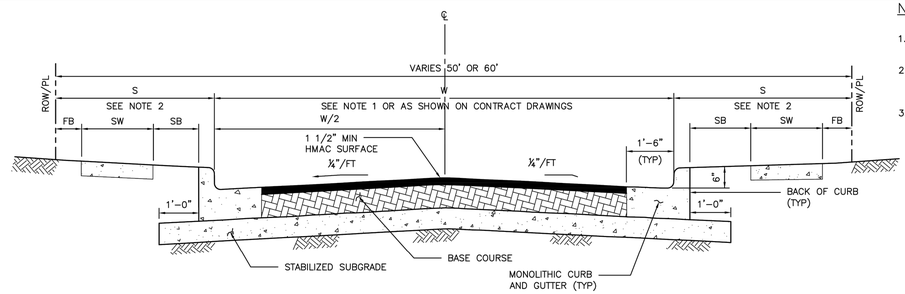
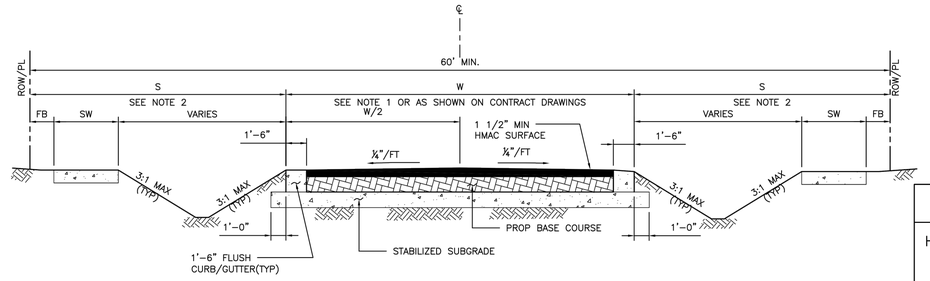


HMAC PAVEMENT – CURB & GUTTER SECTION

(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: Suhail Kanwar — CITY ENGINEER
DocuSigned by: KHANG NGUYEN — CITY TRAFFIC ENGINEER
DocuSigned by: Carol Haddock — DIRECTOR OF HPW

EFF DATE: NOV–27–2023 DWG NO: 02741–01

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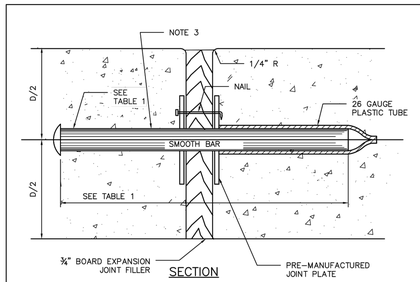
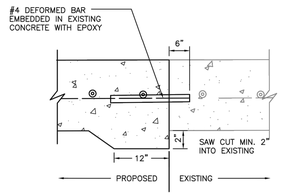
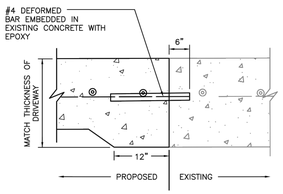


DOWEL TYPE EXPANSION JOINT



SECTION
SIDEWALK TO EXISTING SIDEWALK



SECTION
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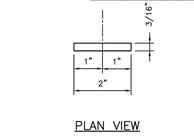
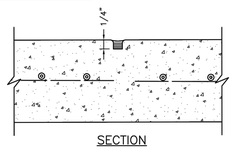
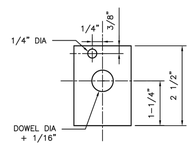


PLAN VIEW
JOINT PLATE



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

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: Carol Haddock — DIRECTOR OF HPW

EFF DATE: NOV–27–2023 DWG NO: 02752–02

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SURVEYED BY: Kuo&Associates
FB NO. P–6396

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

STANDARD DETAILS
STREET PAVING AND SIDEWALK
SHEET 1 OF 14

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–410016–001A–3	
DRAWING SCALE	
NTS	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
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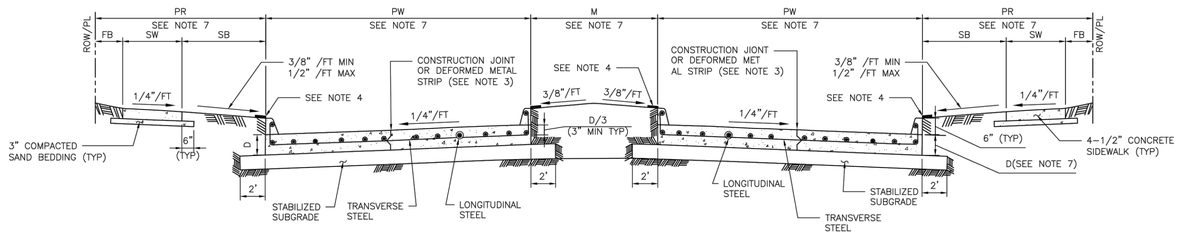
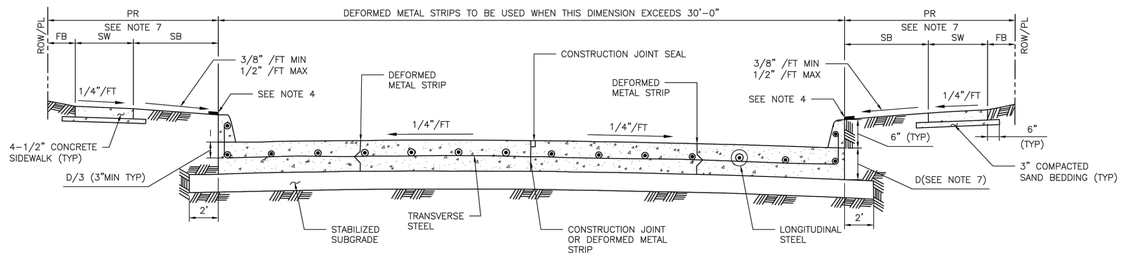


TYPICAL DOUBLE ROADWAY SECTION FOR CONCRETE PAVEMENT WITH CURBS



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	SPACING (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

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:	APPROVED BY:
DocuSigned by: Sukut Kunwar -5EF980C6041F547B...	DocuSigned by: KHANG NGUYEN -95A28EFDA76B4CD...
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carol Haddock -ABDCA15B13E4A4A...	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 02751-01

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

CONCRETE PAVEMENT DETAILS

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

SURVEYED BY: Kuo&Associates
FB NO. P-6396

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

STANDARD DETAILS
STREET PAVING AND SIDEWALK
SHEET 2 OF 14

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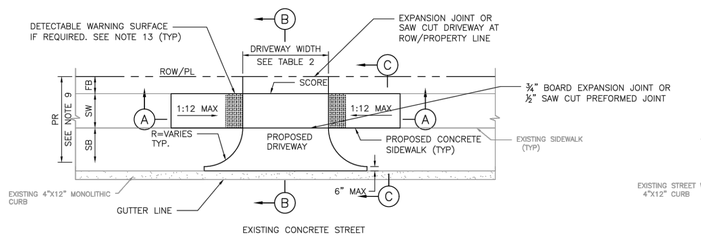
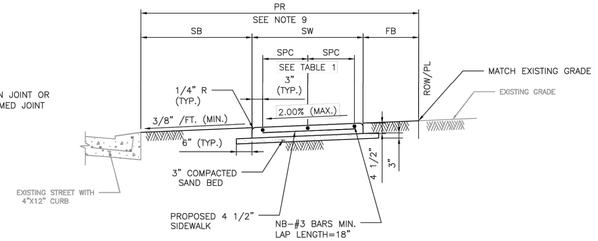
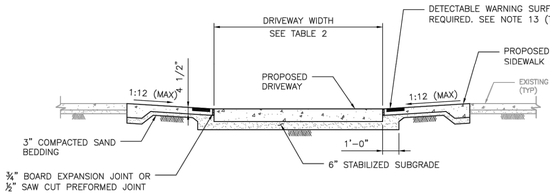


PLAN VIEW
DRIVEWAY



SECTION C–C
TYPICAL SIDEWALK SECTION

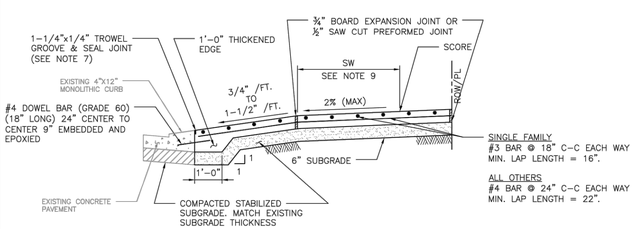


SECTION A–A
PROPOSED SIDEWALK, THROUGH DRIVEWAY WITH EXCESSIVE GRADES

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			TRANSVERSE STEEL #3 BARS SPACING (IN)
		#3 BARS			
		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



SECTION B–B
TYPICAL DRIVEWAY SECTION

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. IF AVAILABLE ROW IS NOT SUFFICIENT TO ACCOMMODATE SIDEWALK WIDTH (SW) ACCORDING TO IDM REQUIREMENTS, ENGINEER SHALL OBTAIN A VARIANCE FROM THE CITY ENGINEER.
4. DRIVEWAYS SHALL BE 6" THICK FOR SINGLE FAMILY OR DUPLEXES.
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. THE OUTER DOWEL BARS ARE TO BE LOCATED 12" FROM END OF PROPOSED EDGE OF DRIVEWAY RETURN. EXTEND DOWEL 3" INCHES INTO PROPOSED DRIVEWAY AND BEND REMAINING BAR TO EXTEND TO RADIUS RETURN BOTH SIDES.
7. TROWEL GROOVE SEALANT SHALL BE LOW MODULUS SILICONE OR POLYURETHANE SEALANT.
8. ALL JOINTS ALONG THE SIDEWALK SHALL BE CONSTRUCTED ACCORDING TO DRAWING 02752–02 AND SPECIFICATION 02752.
9. REFER TO CONTRACT DRAWINGS FOR PEDESTRIAN REALM (PR), SIDEWALK (SW), FRONTAGE BUFFER (FB), AND SAFETY BUFFER (SB) WIDTHS.
10. CEMENT STABILIZED SAND 1.5 SACKS OF CEMENT PER TON OF DRY SAND.
11. 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.
12. CURB RAMPS THAT ARE STEEPER THAN A 1:12 MAX SLOPE WILL NOT BE ACCEPTED BY THE CITY OF HOUSTON.
13. DETECTABLE WARNING SURFACES:
    - 13.1. SIDEWALK SHALL HAVE A DETECTABLE WARNING SURFACE WHERE:
      - 13.1.1. SIDEWALK INTERSECTS TYPE C DRIVEWAYS (COMMERCIAL DRIVEWAYS) THAT ARE STOP, YIELD OR TRAFFIC SIGNAL CONTROLLED; OR
      - 13.1.2. SIDEWALK SLOPE IS GREATER THAN 1:20 AND INTERSECTS A TYPE C DRIVEWAY (COMMERCIAL DRIVEWAY)
    - 13.2. DETECTABLE WARNING SURFACES ARE OPTIONAL WHERE SIDEWALKS INTERSECT TYPE A DRIVEWAYS (SINGLE FAMILY RESIDENTIAL HOUSES OR DUPLEXES) OR TYPE B DRIVEWAYS (SHARED ACCESS/SHARED DRIVEWAYS).
    - 13.3. REFER TO STANDARD DETAILS 02775–06 TO 02775–07 FOR DETECTABLE WARNING SURFACE STANDARDS.

APPROVED BY:	APPROVED BY:
DocuSigned by: Sukut Kanwar	DocuSigned by: HIEU NGUYEN
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carol Haddock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV–27–2023	DWG NO: 02754–01A

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

DRIVEWAY DETAIL WITH 4"x12" CURB FOR LOCAL RESIDENTIAL STREETS

FOR CITY OF HOUSTON USE ONLY

DRAWING SCALE
NOT TO SCALE

ISANI
civil | design | engineers
10448 Westoffice Drive
Houston, Texas 77042
P 713 747 2399
F 713 748 3748
TBPE Firm Reg. #4575

SURVEYED BY: Kuo&Associates
FB NO. P–6396

INTERIM REVIEW ONLY
DOCUMENT INCOMPLETE;
NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION
ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

STANDARD DETAILS
STREET PAVING AND SIDEWALK
SHEET 3 OF 14

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–410016–001A–3	
DRAWING SCALE	
NTS	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 106 OF 200	

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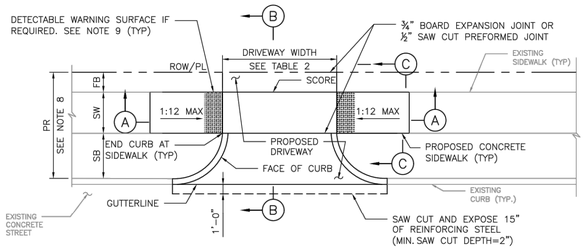
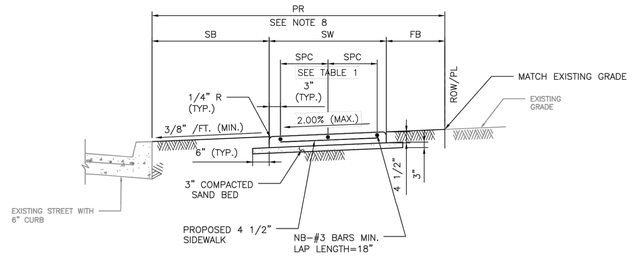
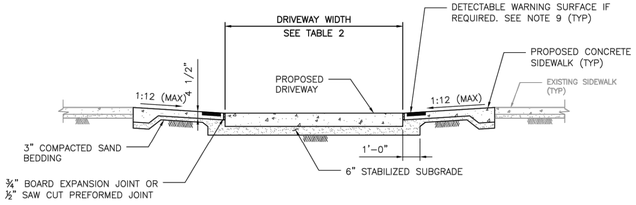
DISCLAIMER:
THE USE OF THIS STANDARD IS GOVERNED BY THE TEXAS ENGINEERING PRACTICE ACT. THE DESIGN REQUIREMENTS ON THIS STANDARD DO NOT PURPORT TO ADDRESS ALL OF THE SAFETY CONCERNS ASSOCIATED WITH THEIR USE. THE DESIGN ENGINEER IS RESPONSIBLE FOR THE SAFETY OF DESIGNS PREPARED USING THIS STANDARD. ANY REVISIONS TO THIS STANDARD MADE BY THE CITY OF HOUSTON FOR ANY PURPOSES WHATSOEVER, THE CITY OF HOUSTON ASSUMES NO RESPONSIBILITY FOR INCORRECT RESULTS OR DAMAGES RESULTING FROM ITS USE.
WARRANTY OF ANY KIND IS MADE BY THE CITY OF HOUSTON FOR ANY PURPOSE.



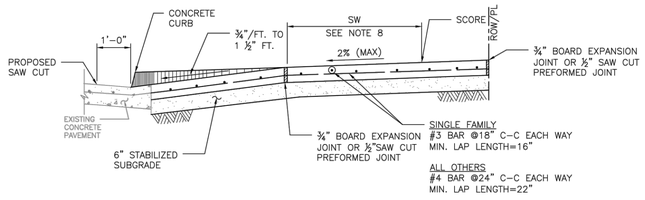
PLAN VIEW
DRIVEWAY



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

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 HOUSES 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.

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			TRANSVERSE STEEL #3 BARS SPACING (IN)
		#3 BARS			
		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.

APPROVED BY:	APPROVED BY:
Docusigned by: Sukut Kamwar 5EF8B0DC61F947B...	Docusigned by: kitding Nguyen 35A2B3FDA7594D3...
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: Docusigned by: Curtis Hollock 4E5C47C6B73E4A5...	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV–27–2023	DWG NO: 02754–01B

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

DRIVEWAY DETAIL WITH 6" CURBED STREETS

	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
NOT TO SCALE	

ISANI
civil \ design \ engineers
10448 Westoffice Drive
Houston, Texas 77042
P 713 747 2399
F 713 748 3748
TBPE Firm Reg. #4575

SURVEYED BY: Kuo&Associates
FB NO. P–6396

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

STANDARD DETAILS
STREET PAVING AND SIDEWALK
SHEET 4 OF 14

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–410016–001A–3	
DRAWING SCALE	
NTS	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 107 OF 200	

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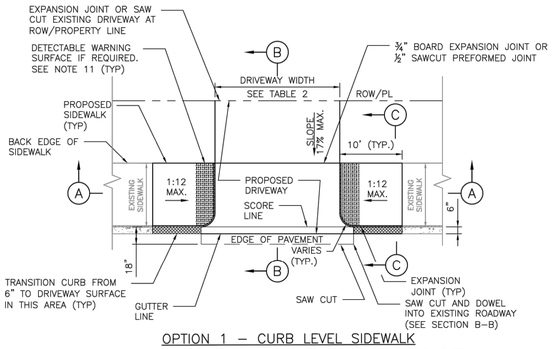
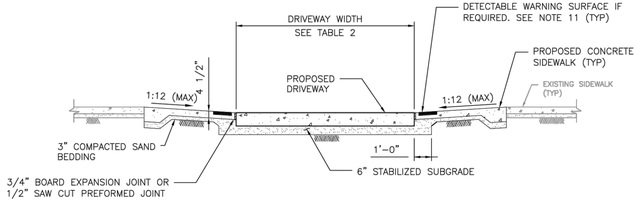
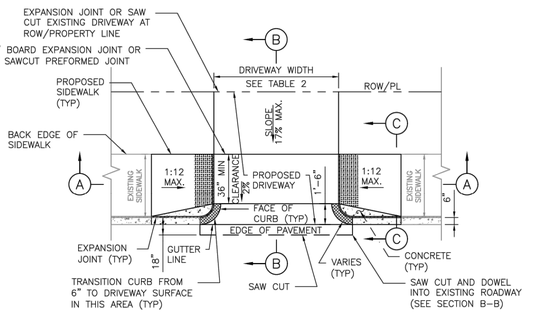


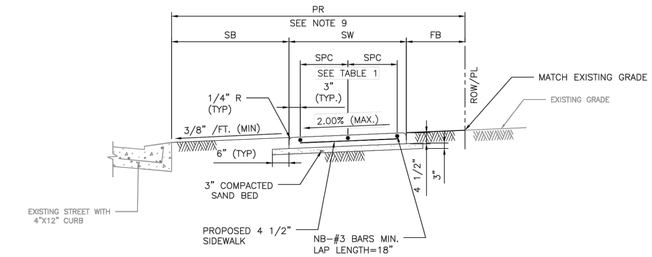
OPTION 1 – CURB LEVEL SIDEWALK
PLAN VIEW – DRIVEWAY WITHOUT CURB AT CURB RETURN



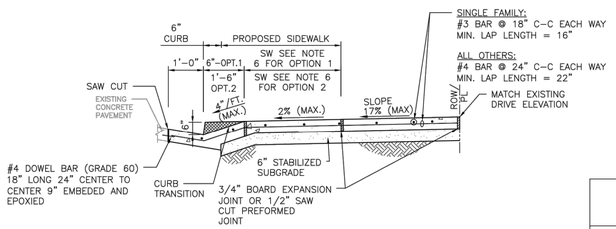
SECTION A–A
PROPOSED SIDEWALK THROUGH DRIVEWAY



OPTION 2 – CURB LEVEL SIDEWALK
PLAN VIEW – DRIVEWAY WITH CURB AT CURB RETURN



SECTION C–C
TYPICAL SIDEWALK SECTION



SECTION B–B
TYPICAL DRIVEWAY SECTION THROUGH DRIVEWAY

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			TRANSVERSE STEEL #3 BARS SPACING (IN)
		#3 BARS			
		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. PROPOSED SIDEWALKS THAT DO NOT FALL WITHIN THE SCOPE DEFINED IN NOTE 2 SHALL BE DESIGNED ACCORDING TO IDM REQUIREMENTS AND CONSTRUCTED ACCORDING TO THE CONTRACT DRAWINGS.
4. DRIVEWAY WIDTH VARIES TO MATCH EXISTING DRIVE.
5. DRIVEWAY DETAIL TO PROVIDE FOR SIDEWALK TRANSITION FROM EXISTING BACK OF CURB TO PROPOSED DRIVEWAY EDGE.
6. DRIVEWAY WITH WIDTH >5' @ 2% CROSS SLOPE QUALIFIES AS PASSING SPACE. (SEE OPTION 1 AND OPTION 2 PLANS)
7. 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.
8. CURB RAMPS THAT ARE STEEPER THAN A 1:12 MAX SLOPE WILL NOT BE ACCEPTED BY THE CITY OF HOUSTON.
9. REFER TO CONTRACT DRAWINGS FOR PEDESTRIAN REALM (PR), SIDEWALK (SW), FRONTAGE BUFFER (FB), AND SAFETY BUFFER (SB) WIDTHS.
10. 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.)
11. DETECTABLE WARNING SURFACES:
    - 11.1. SIDEWALK SHALL HAVE A DETECTABLE WARNING SURFACE WHERE:
      - 11.1.1. SIDEWALK INTERSECTS TYPE C DRIVEWAYS (COMMERCIAL DRIVEWAYS) THAT ARE STOP, YIELD OR TRAFFIC SIGNAL CONTROLLED; OR
      - 11.1.2. SIDEWALK SLOPE IS GREATER THAN 1:20 AND INTERSECTS A TYPE C DRIVEWAY (COMMERCIAL DRIVEWAY)
    - 11.2. DETECTABLE WARNING SURFACES ARE OPTIONAL WHERE SIDEWALKS INTERSECT TYPE A DRIVEWAYS (SINGLE FAMILY RESIDENTIAL HOUSES OR DUPLEXES) OR TYPE B DRIVEWAYS (SHARED ACCESS/SHARED DRIVEWAYS).
    - 11.3. REFER TO STANDARD DETAILS 02775–06 TO 02775–07 FOR DETECTABLE WARNING SURFACE STANDARDS.

APPROVED BY:	APPROVED BY:
Docusigned by: Sukut Iamwar	Docusigned by: Hung Nguyen
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: Docusigned by: Carl Haddock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV–27–2023	DWG NO: 02754–03

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

PROPOSED SIDEWALK THROUGH DRIVEWAY WITH EXCESSIVE ELEVATION DIFFERENCE

	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
NOT TO SCALE	

ISANI
civil \ design \ engineers
10448 Westoffice Drive
Houston, Texas 77042
P 713 747 2399
F 713 748 3748
TBPE Firm Reg. #4575

SURVEYED BY: Kuo&Associates
FB NO. P–6396

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

STANDARD DETAILS
STREET PAVING AND SIDEWALK
SHEET 5 OF 14

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–410016–001A–3	
DRAWING SCALE	
NTS	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 108 OF 200	

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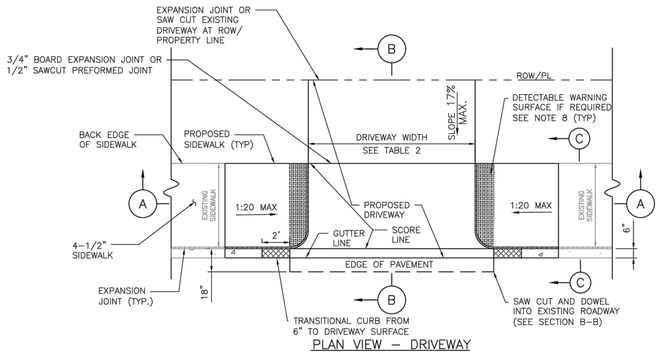
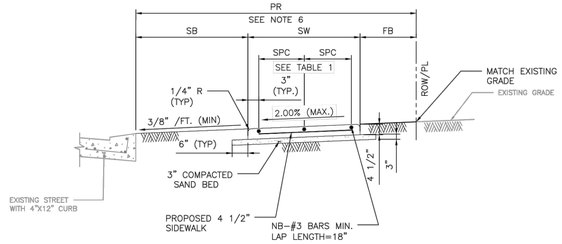
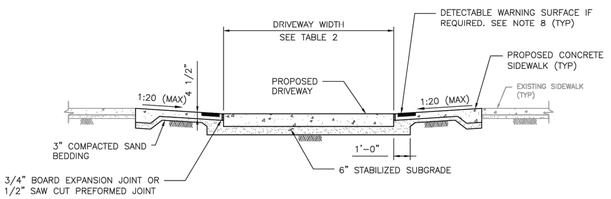


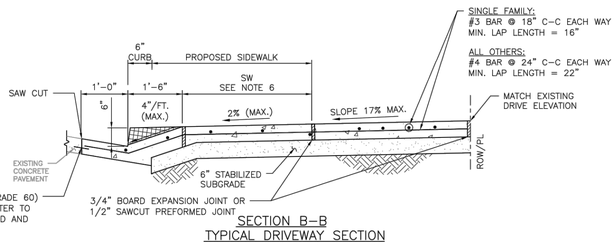
PLAN VIEW – DRIVEWAY



SECTION C–C
TYPICAL SIDEWALK SECTION



SECTION A–A
PROPOSED SIDEWALK THROUGH DRIVEWAY



SECTION B–B
TYPICAL DRIVEWAY SECTION

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. PROPOSED SIDEWALKS THAT DO NOT FALL WITHIN THE SCOPE DEFINED IN NOTE 2 SHALL BE DESIGNED ACCORDING TO IDM REQUIREMENTS AND CONSTRUCTED ACCORDING TO THE CONTRACT DRAWINGS.
4. 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.
5. CURB RAMPS THAT ARE STEEPER THAN A 1:20 MAX SLOPE WILL NOT BE ACCEPTED BY THE CITY OF HOUSTON.
6. REFER TO CONTRACT DRAWINGS FOR PEDESTRIAN REALM (PR), SIDEWALK (SW), FRONTAGE BUFFER (FB), AND SAFETY BUFFER (SB) WIDTHS.
7. 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.)
8. DETECTABLE WARNING SURFACES:
   - 8.1. SIDEWALK SHALL HAVE A DETECTABLE WARNING SURFACE WHERE SIDEWALK INTERSECTS TYPE C DRIVEWAYS (COMMERCIAL DRIVEWAYS) THAT ARE STOP, YIELD, OR TRAFFIC SIGNAL CONTROLLED.
   - 8.2. DETECTABLE WARNING SURFACES ARE OPTIONAL WHERE SIDEWALKS INTERSECT TYPE A DRIVEWAYS (SINGLE FAMILY RESIDENTIAL HOUSES OR DUPLEXES) OR TYPE B DRIVEWAYS (SHARED ACCESS/SHARED DRIVEWAYS).
   - 8.3. REFER TO STANDARD DETAILS 02775-06 TO 02775-07 FOR DETECTABLE WARNING SURFACE STANDARDS.

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 NO. OF BARS "NB"	LONGITUDINAL STEEL #3 BARS SPACING "SPC" (IN)	LONGITUDINAL STEEL #3 BARS END BAR SPACING (IN)	TRANSVERSE STEEL #3 BARS 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) WIDTH (FT) MIN	TYPE A MAX	TYPE A RADIUS (FT) MIN	TYPE A MAX	TYPE B DRIVEWAY (SHARED ACCESS/SHARED DRIVEWAY) WIDTH (FT) MIN	TYPE B MAX	TYPE B RADIUS (FT) MIN	TYPE B MAX	TYPE C DRIVEWAY (COMMERCIAL DRIVEWAY) WIDTH (FT) MIN	TYPE C MAX	TYPE C RADIUS (FT) MIN	TYPE C 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.

APPROVED BY:	APPROVED BY:
Sukud Kunwar	Hoang Nguyen
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: Carol Haddock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV–27–2023	DWG NO: 02754–04

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

PROPOSED SIDEWALK THROUGH DRIVEWAY WITH MINIMAL ELEVATION DIFFERENCE

	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
NOT TO SCALE	

ISANI
civil \ design \ engineers
10448 Westoffice Drive
Houston, Texas 77042
P 713 747 2399
F 713 748 3748
TBPE Firm Reg. #4575

SURVEYED BY: Kuo&Associates
FB NO. P–6396

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

STANDARD DETAILS
STREET PAVING AND SIDEWALK
SHEET 6 OF 14

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–410016–001A–3	
DRAWING SCALE	
NTS	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 109 OF 200	

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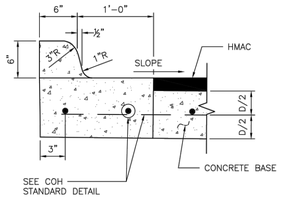
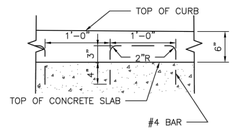
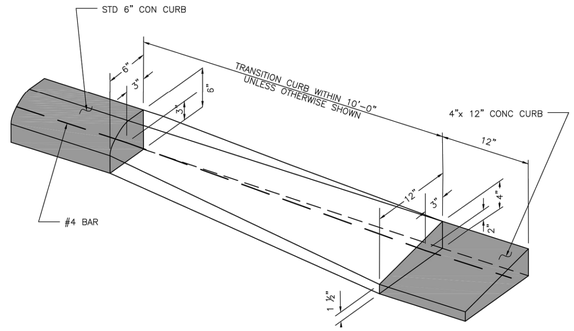


ESPLANADE CURB CONNECTED TO CONCRETE BASE

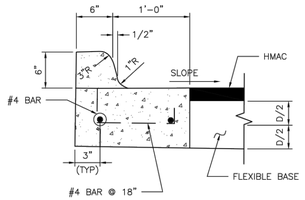


ALTERNATE CONCRETE CURB REINFORCEMENT

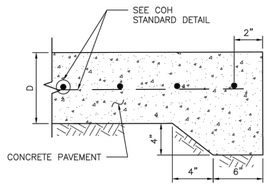


CURB TRANSITION

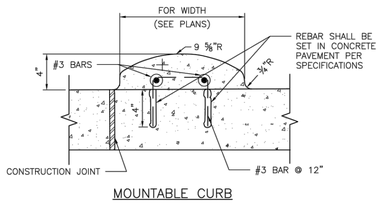
(SEE NOTES)



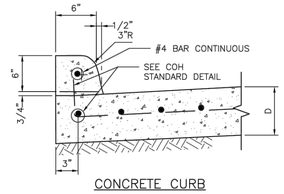
ESPLANADE CURB CONNECTED TO FLEXIBLE BASE



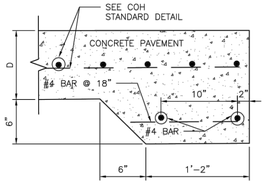
STANDARD CONCRETE PAVING HEADER



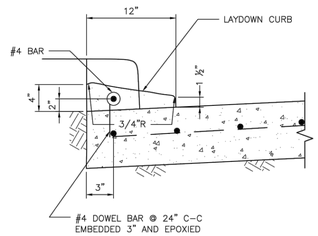
MOUNTABLE CURB



CONCRETE CURB



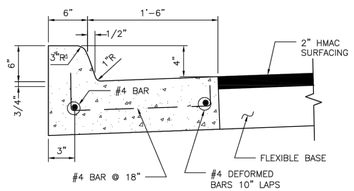
STANDARD RAILROAD HEADER



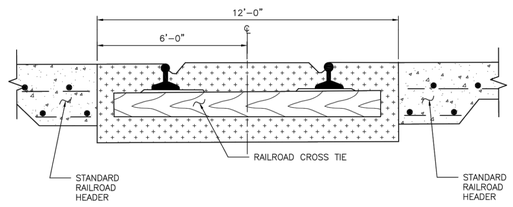
4–INCH x 12–INCH TRANSITION CURB

(SEE NOTES)

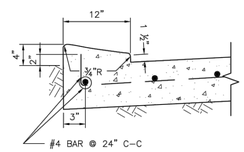
WHEN CONCRETE CURB IS TO BE PLACED EXISTING CONCRETE USE BASE #4 BAR @ 18x10" LONG, DOWELED AND SET IN EPOXY GROUT.
SET #4 DOWEL BARS, 25" LONG AT 12" C-C WHEN PAVEMENT SECTION POURED.



MONOLITHIC CURB AND GUTTER



STANDARD RAILROAD CROSSING – SINGLE TRACK



4–INCH x 12–INCH 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.

APPROVED BY:	APPROVED BY:
DocuSigned by: Sukut Kunwar	DocuSigned by: LEANG NGUYEN
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carl Haddock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV–27–2023	DWG NO: 02771–01

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

CURB, CURB AND GUTTER AND HEADER DETAILS

	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
NOT TO SCALE	

ISANI
civil | design | engineers
10448 Westoffice Drive
Houston, Texas 77042
P 713 747 2399
F 713 748 3748
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SURVEYED BY: Kuo&Associates
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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

STANDARD DETAILS
STREET PAVING AND SIDEWALK
SHEET 7 OF 14

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
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CITY OF HOUSTON PM	
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SHEET NO. 110 OF 200	

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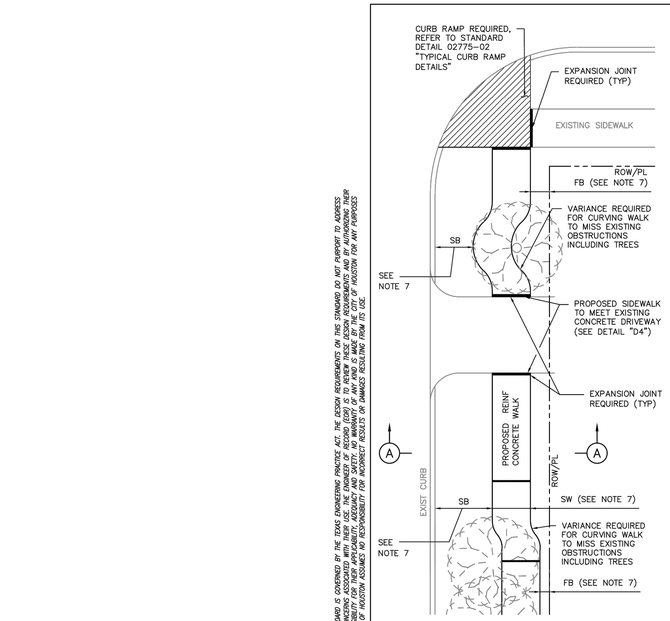
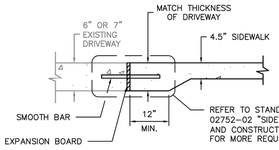


PLAN VIEW

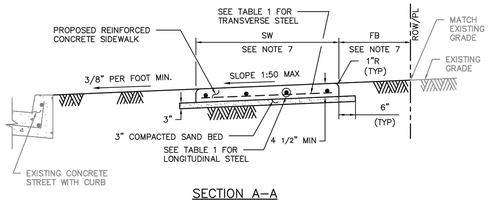


DETAIL D4
DRIVEWAY/SIDEWALK HEADER

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			TRANSVERSE STEEL #3 BARS SPACING (IN)
		#3 BARS			
		NO. OF BARS	SPACING (IN)	END BAR SPACING (IN)	
4.5	5	3	27	3	48
4.5	6	4	22	3	48



SECTION A–A

NOTES:

1. 6X6 – W2.9XW2.9 WELDED WIRE FABRIC MAY BE USED IN LIEU OF THE REINFORCING STEEL GIVEN IN TABLE 1.
2. REINFORCED CONCRETE SIDEWALKS THRU DRIVEWAYS OPENINGS SHALL BE EITHER 6" THICK OR 7" THICK AS SPECIFIED ON 6" STABILIZED SUBGRADE. FOR THE REINFORCING STEEL REQUIREMENTS, SEE CITY OF HOUSTON STANDARD DETAILS 02754-01A, 02754-01B, 02754-03, AND 02754-04.
3. MAXIMUM SPACING FOR EXPANSION JOINTS SHALL BE 40 FEET.
4. CONTRACTOR SHALL CONSTRUCT SIDEWALK IN A MANNER NOT TO BLOCK THE NATURAL DRAINAGE FROM ADJACENT PROPERTY.
5. 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.
6. CURB RAMPS THAT ARE STEEPER THAN A 1:12 MAX SLOPE WILL NOT BE ACCEPTED BY THE CITY OF HOUSTON UNLESS NOTED OTHERWISE.
7. REFER TO CONTRACT DRAWINGS FOR SIDEWALK (SW), FRONTAGE BUFFER (FB), AND SAFETY BUFFER (SB) WIDTHS.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TYPICAL SIDEWALK LAYOUT AND DETAILS FOR STREETS WITH CURBS
(SCALE: NOT TO SCALE)

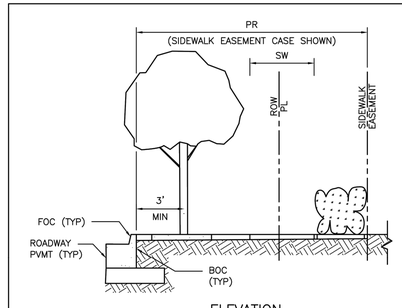
APPROVED BY:

DocuSigned by: Suhail Kanwar — CITY ENGINEER
DocuSigned by: KHANG NGUYEN — CITY TRAFFIC ENGINEER
DocuSigned by: Carl Hallbloch — DIRECTOR OF HPW

EFF DATE: NOV-27-2023 | DWG NO: 02775-01

DocuSign Envelope ID: 9B122261-CF05-457B-9A65-2650F40B66D5

DISCLAIMER:
THE USE OF THIS STANDARD IS GOVERNED BY THE TEXAS ENGINEERING PRACTICE ACT. THE DESIGN REQUIREMENTS ON THIS STANDARD DO NOT PURPORT TO ADDRESS ALL OF THE SAFETY CONCERNS ASSOCIATED WITH THEIR USE. THE ENGINEER OF RECORD (EOR) IS TO REVIEW THESE DESIGN REQUIREMENTS AND BY AUTHORIZING THEIR USE AT A SPECIFIC LOCATION, THE EOR ASSUMES RESPONSIBILITY FOR ADDRESSING ALL SAFETY CONCERNS DIRECTLY RELATED TO THE USE OF THESE DESIGN REQUIREMENTS AT THAT LOCATION. THE EOR IS RESPONSIBLE FOR PROTECTING THE PUBLIC IN SUCH A MANNER THAT CONTRACTOR MISTAKES DO NOT BECOME THE EOR'S OR THE CITY OF HOUSTON'S MISTAKES. IN ADDITION, THE EOR IS RESPONSIBLE FOR ERRORS AND OMISSIONS ON PLANS SEALED BY THE EOR, EVEN AFTER PLANS HAVE BEEN ACCEPTED BY THE CITY OF HOUSTON. THE CITY OF HOUSTON REVIEWS PLANS SUBMITTED BY THE EOR FOR GENERAL COMPLIANCE WITH THE CITY'S DESIGN STANDARDS BUT ASSUMES NO RESPONSIBILITY FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, WHICH REMAIN THE RESPONSIBILITY OF THE EOR. THE CITY OF HOUSTON REVIEW SHALL NOT BE CONSTRUED AS A SAFETY REVIEW OF THE PLANS. THE CITY OF HOUSTON ASSUMES NO RESPONSIBILITY FOR CONSTRUCTION SAFETY OR CONDITIONS AT THE JOB SITE, INCLUDING BUT NOT LIMITED TO, TRENCH SAFETY AND SHORING. THE CITY OF HOUSTON ASSUMES NO RESPONSIBILITY FOR INCORRECT RESULTS OR DAMAGES RESULTING FROM ITS USE.



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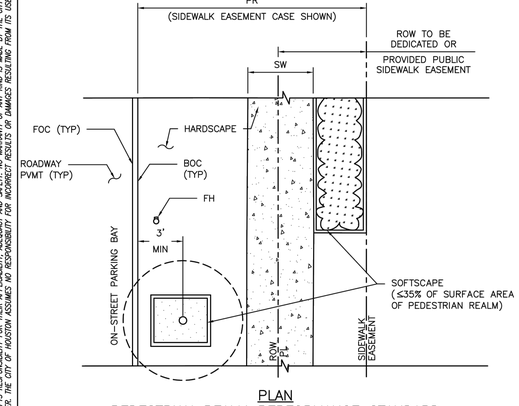
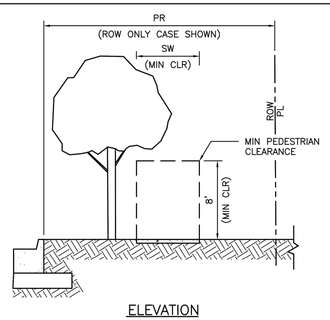


PLAN
PEDESTRIAN REALM PERFORMANCE STANDARD



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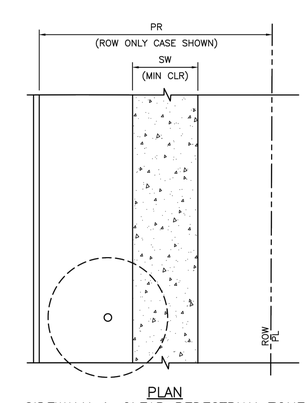

PLAN
SIDEWALK & CLEAR PEDESTRIAN ZONE
MANDATORY MINIMUM REQUIREMENT

NOTES

1. REFER TO CONTRACT DRAWINGS FOR PEDESTRIAN REALM (PR), AND SIDEWALK (SW) WIDTHS.
2. THE MINIMUM UNOBSTRUCTED VERTICAL CLEARANCE OF A SIDEWALK IS EIGHT (8) FEET AS MEASURED VERTICALLY FROM THE SURFACE OF THE SIDEWALK. FOR VERTICAL CLEARANCE TO IMPROVEMENTS CONSTRUCTED OVER A SIDEWALK WITHIN THE PEDESTRIAN REALM, REFER TO THE CONTRACT DRAWINGS.
3. FOR PEDESTRIAN REALM DESIGN BACKGROUND, REFER TO CHAPTER 42 OF THE CODE OF ORDINANCES, ARTICLE IV – ENHANCED PEDESTRIAN REALM STANDARDS AND THE USERS' GUIDE FOR WALKABLE PLACES AND TRANSIT-ORIENTED DEVELOPMENT.
4. FOR ADDITIONAL PLANTING REQUIREMENTS, REFER TO CHAPTER 33 OF THE CODE OF ORDINANCES, SECTION 129 – GENERAL PLANTING STANDARDS.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

SIDEWALK AND CLEAR ZONE TRANSIT CORRIDOR STREET
(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Suhail Kanwar — CITY ENGINEER
DocuSigned by: KHANG NGUYEN — CITY TRAFFIC ENGINEER
DocuSigned by: Carl Hallbloch — DIRECTOR OF HPW

EFF DATE: NOV-27-2023 | DWG NO: 02775-08

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10448 Westoffice Drive
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TBPE Firm Reg. #4575

SURVEYED BY: Kuo&Associates
FB NO. P-6396

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

STANDARD DETAILS
STREET PAVING AND SIDEWALK
SHEET 8 OF 14

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
NTS	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 111 OF 200	

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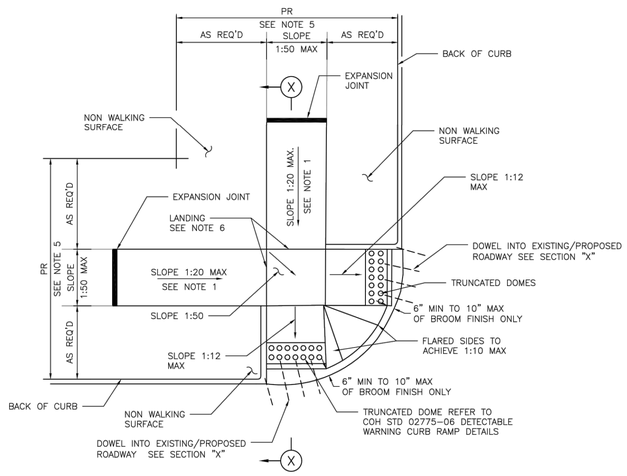
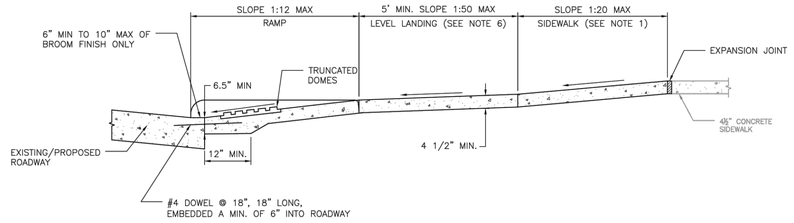


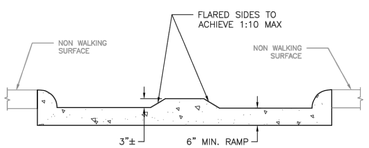
STREETS WITH NON- WALKING SURFACE BEHIND CURB
SEE NOTE-7



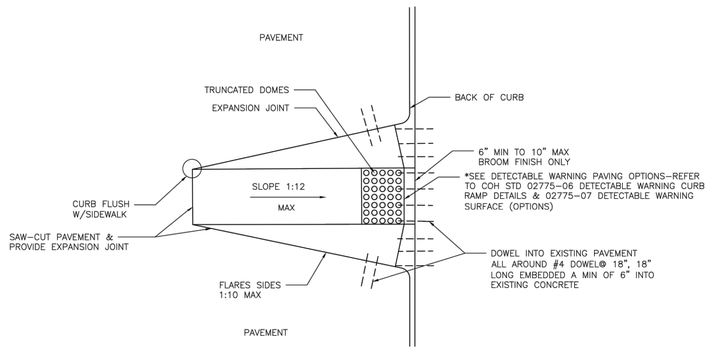
SECTION X-X

NOTES:

1. REPLACE EXISTING SIDEWALK FROM LEVEL LANDING AS NECESSARY TO ACHIEVE 1:20 SLOPE
2. BROOM FINISH IS MEASURED FROM FACE OF CURB.
3. 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.
4. CURB RAMPS THAT ARE STEEPER THAN A 1:12 MAX SLOPE WILL NOT BE ACCEPTED BY THE CITY OF HOUSTON UNLESS NOTED OTHERWISE.
5. REFER TO CONTRACT DRAWINGS FOR PEDESTRIAN REALM (PR) WIDTH.
6. MINIMUM 5'x5' LANDING PAD ACCORDING TO ADA REQUIREMENTS. WHEN THE APPROACHING SIDEWALK IS WIDER THAN 5', THE LANDING PAD AND RAMP WIDTH MUST MATCH THE SIDEWALK WIDTH.
7. FOR STREETS WITH WALKABLE SURFACES IMMEDIATELY BEHIND THE CURB A FLARE IS REQUIRED ON BOTH SIDES OF THE RAMP.



ELEVATION
LOOKING UP RAMP



CURB RAMP CONSTRUCTION FOR EXISTING PAVEMENT

APPROVED BY:	APPROVED BY:
DocuSigned by: Sukul Kanwar	DocuSigned by: LEHING NGUYEN
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carl Haddock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 02775-02

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TYPICAL CURB RAMP DETAILS

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NOT TO SCALE	

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SURVEYED BY: Kuo&Associates
FB NO. P-6396

INTERIM REVIEW ONLY
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ENGINEER: RAHUL B MENON, P.E
P.E.Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

STANDARD DETAILS
STREET PAVING AND SIDEWALK
SHEET 9 OF 14

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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NTS	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 112 OF 200	

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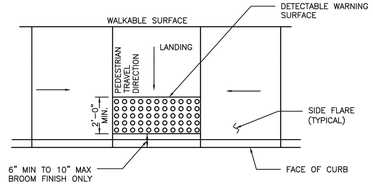
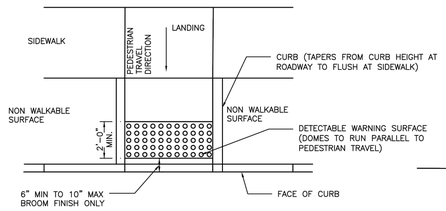
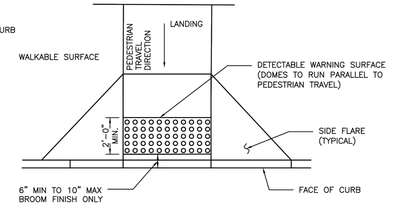


TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON LANDING AT STREET EDGE





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.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

DETECTABLE WARNING CURB RAMP DETAILS

(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Sukul Tanwar — CITY ENGINEER
DocuSigned by: HANG NGUYEN — CITY TRAFFIC ENGINEER
DocuSigned by: Carl Haddock — DIRECTOR OF HPW

EFF DATE: NOV-27-2023 | DWG NO: 02775-06

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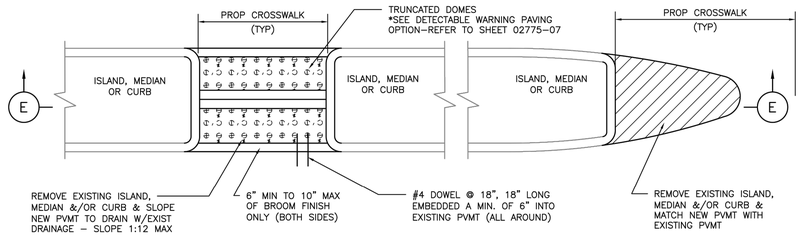

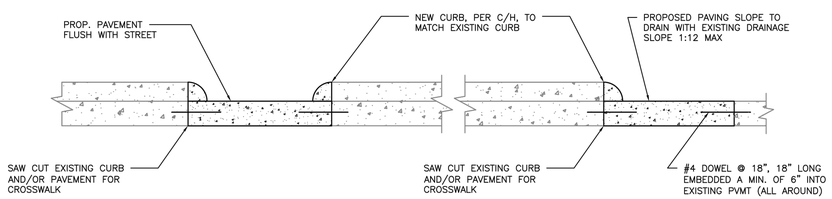

SECTION E-E
FOR ISLAND, MEDIAN, OR CURB MODIFICATIONS FOR CROSSWALKS

NOTES:

1. SEE COH STANDARD DETAIL FOR PAVEMENT MARKING DETAILS.
2. 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.
3. CURB RAMPS THAT ARE STEEPER THAN A 1:12 MAX SLOPE WILL NOT BE ACCEPTED BY THE CITY OF HOUSTON.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

CURB MODIFICATION FOR CURB RAMPS & CROSSWALKS

(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Sukul Tanwar — CITY ENGINEER
DocuSigned by: HANG NGUYEN — CITY TRAFFIC ENGINEER
DocuSigned by: Carl Haddock — DIRECTOR OF HPW

EFF DATE: NOV-27-2023 | DWG NO: 02775-04

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TBPE Firm Reg. #4575

SURVEYED BY: Kuo&Associates
FB NO. P-6396

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

STANDARD DETAILS
STREET PAVING AND SIDEWALK
SHEET 10 OF 14

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
NTS	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 113 OF 200	

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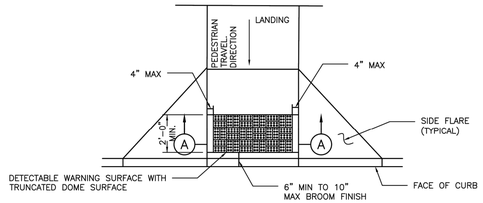
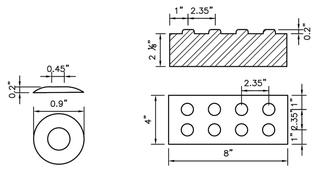


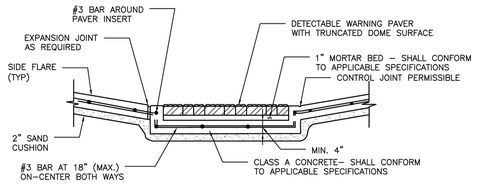
PLAN VIEW

DETECTABLE WARNING SURFACE



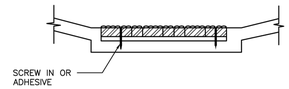
DETAIL

DETECTABLE WARNING PAVER



SECTION A–A

PAVER



DETAIL A–5

NOTES:

GENERAL NOTES

1. 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.
2. CURB RAMPS THAT ARE STEEPER THAN A 1:12 MAX SLOPE WILL NOT BE ACCEPTED BY THE CITY OF HOUSTON.

PAVERS

1. FURNISH DETECTABLE WARNING SURFACE UNITS MEETING ALL REQUIREMENTS OF ASTM C–936, C–33. LAY IN A TWO BY TWO UNIT BASKET WEAVE PATTERN OR AS DIRECTED.
2. LAY FULL–SIZE UNITS FIRST FOLLOWED BY CLOSURE UNITS CONSISTING OF AT LEAST 25 PERCENT OF A FULL UNIT. CUT DETECTABLE WARNING POWER UNITS USING A POWER SAW.

POLYMER CONCRETE

1. DETECTABLE WARNING TILES SHALL BE MADE OF POLYMER CONCRETE MATERIALS.
2. DETECTABLE WARNING TILES SHALL BE INSTALLED INTO FRESH CONCRETE (CAST–IN–PLACE) UTILIZING AN ANCHORING SYSTEM.
3. DETECTABLE WARNING TILES SHALL BE OF TERRACOTTA (BRICK–RED) COLOR AND COLORED THROUGHOUT TO GUARANTEE THE ADA REQUIRED COLOR CONTRAST.
4. DETECTABLE WARNING TILES SHALL MEET OR EXCEED THE FOLLOWING ASTM–BASED "STANDARDS" FOR CONCRETE MATERIALS.
   A. COMPRESSION STRENGTH > 12,500 PSI PER ASTM C 39–04
   B. WATER ABSORPTION < 0.25% PER ASTM C 97–09

PADS

1. FURNISH REQUIREMENTS OF ADAAG (MARCH 2003).
2. OTHER MATERIALS MAY BE USED IF APPROVED BY THE CITY ENGINEER

DISCLAIMER:
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CITY OF HOUSTON HOUSTON PUBLIC WORKS STANDARD	
DETECTABLE WARNING SURFACE (OPTIONS) (SCALE: NOT TO SCALE)	
APPROVED BY:	
DocuSigned by: Sukut Kanwar CITY ENGINEER	DocuSigned by: Carl Haddock DIRECTOR OF HPW
DocuSigned by: KHANG NGUYEN CITY TRAFFIC ENGINEER	
EFF DATE: NOV–27–2023	DWG NO: 02775–07

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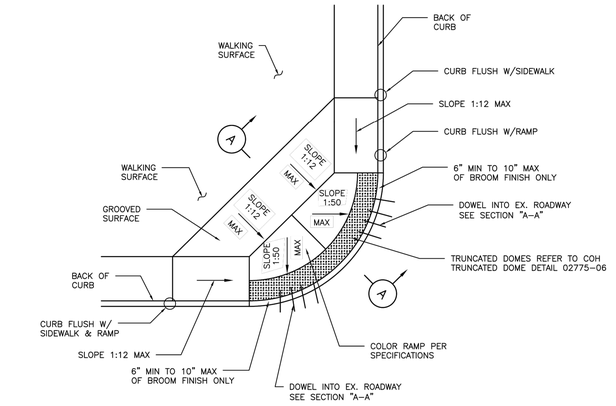

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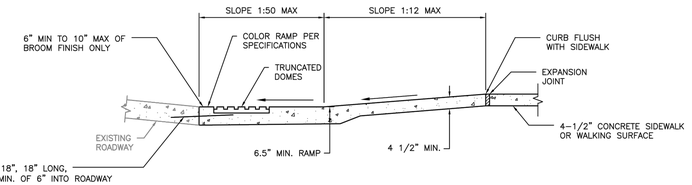

SECTION A–A

NOTES:

1. 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.
2. CURB RAMPS THAT ARE STEEPER THAN A 1:12 MAX SLOPE WILL NOT BE ACCEPTED BY THE CITY OF HOUSTON.
3. THIS STANDARD DETAIL SHALL BE USED ONLY IF THE ROADWAY GEOMETRIC DOESN'T ALLOW STANDARD DETAILS 02775–02, 02775–03, AND 02775–09 TO BE USED.
4. THIS STANDARD DETAIL SHALL NOT BE USED IN LIEU OF STANDARD DETAILS 02775–02, 02775–03, AND 02775–09 UNLESS APPROVED BY THE CITY.

DISCLAIMER:
THE USE OF THIS STANDARD IS GOVERNED BY THE TEXAS ENGINEERING PRACTICE ACT. THE LICENSED REQUIREMENTS ON THIS STANDARD DO NOT PURPORT TO ADDRESS ALL OF THE SAFETY CONCERNS ASSOCIATED WITH THEIR USE. THE ENGINEER OF RECORD (EOR) IS TO REVIEW THESE LICENSED REQUIREMENTS AND BY AUTHORIZING THEIR USE, ACCEPTS RESPONSIBILITY FOR THEIR APPLICABILITY, ADEQUACY AND SAFETY. NO WARRANTY OF ANY KIND IS MADE BY THE CITY OF HOUSTON FOR ANY PURPOSES WHATSOEVER. THE CITY OF HOUSTON ASSUMES NO RESPONSIBILITY FOR INCORRECT RESULTS OR DAMAGES RESULTING FROM ITS USE.

CITY OF HOUSTON HOUSTON PUBLIC WORKS STANDARD	
COMMERCIAL & HIGH DENSITY CONDITIONS CURB RAMP DETAILS (SCALE: NOT TO SCALE)	
APPROVED BY:	
DocuSigned by: Sukut Kanwar CITY ENGINEER	DocuSigned by: Carl Haddock DIRECTOR OF HPW
DocuSigned by: KHANG NGUYEN CITY TRAFFIC ENGINEER	
EFF DATE: NOV–27–2023	DWG NO: 02775–05

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F 713 748 3748
TBPE Firm Reg. #4575

SURVEYED BY: Kuo&Associates
FB NO. P–6396

INTERIM REVIEW ONLY
DOCUMENT INCOMPLETE;
NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION
ENGINEER: RAHUL B. MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

STANDARD DETAILS
STREET PAVING AND SIDEWALK
SHEET 11 OF 14

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–410016–001A–3	
DRAWING SCALE	
NTS	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 114 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/8/2025 1:13 AM
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DISCLAIMER:
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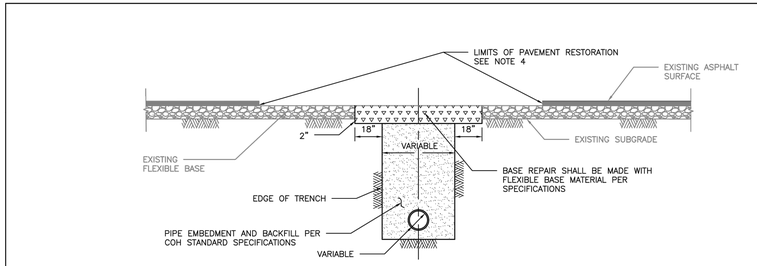
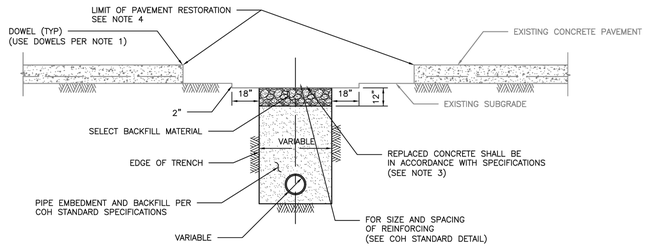


ELEVATION A
REPAIR OF FLEXIBLE BASE PAVEMENT



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: Sulad Kaunar — CITY ENGINEER
DocuSigned by: HUNG NGUYEN — CITY TRAFFIC ENGINEER
DocuSigned by: Carl Hubbuch — DIRECTOR OF HPW

EFF DATE: NOV-27-2023 | DWG NO: 02951-04

DocuSign Envelope ID: CB71C116-B716-4899-A5EE-0D2F2CC55AF6

DISCLAIMER:
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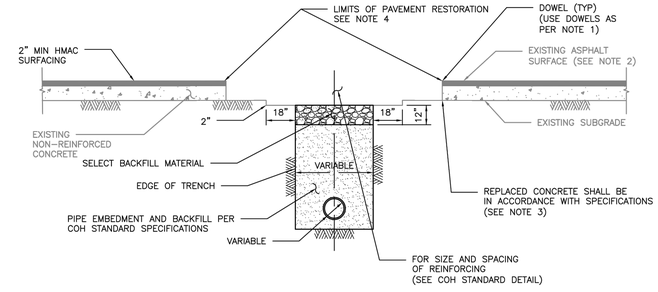
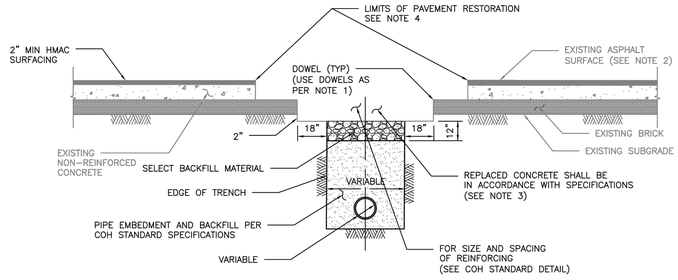


ELEVATION C
REPAIR OF NON-REINFORCED CONCRETE PAVEMENT



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: Sulad Kaunar — CITY ENGINEER
DocuSigned by: HUNG NGUYEN — CITY TRAFFIC ENGINEER
DocuSigned by: Carl Hubbuch — DIRECTOR OF HPW

EFF DATE: NOV-27-2023 | DWG NO: 02951-05

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TBPE Firm Reg. #4575

SURVEYED BY: Kuo&Associates
FB NO. P-6396

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BIDDING OR CONSTRUCTION
ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

STANDARD DETAILS
STREET PAVING AND SIDEWALK
SHEET 12 OF 14

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
NTS	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 115 OF 200	

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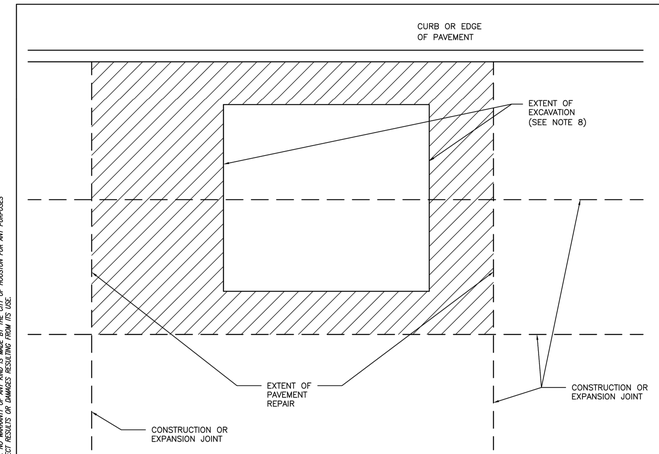

NOTES:

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).

DISCLAIMER:
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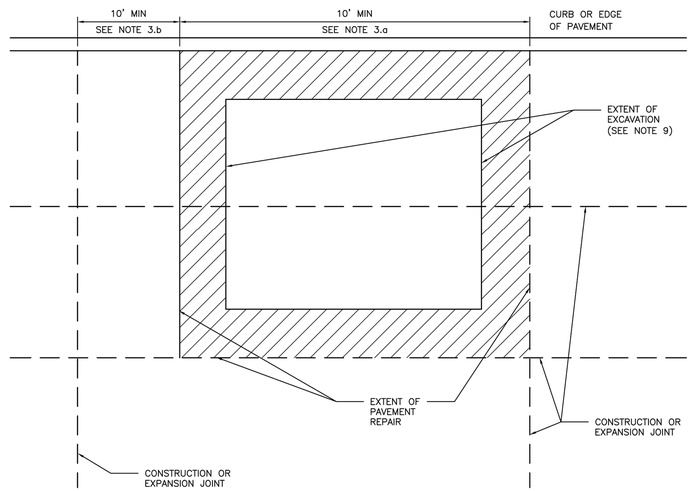
CITY OF HOUSTON HOUSTON PUBLIC WORKS STANDARD	
STREET CUT FOR CONCRETE PAVEMENT REPLACEMENT/RESTORATION AGE OF PAVEMENT ≤ 5YRS (SCALE: NOT TO SCALE)	
APPROVED BY:	
DocuSigned by: Sukut Kanwar CITY ENGINEER DocuSigned by: KHANG NGUYEN CITY TRAFFIC ENGINEER	DocuSigned by: Carl Stallbaum DIRECTOR OF HPW
EFF DATE: NOV–27–2023	DWG NO: 02951–01

DocuSign Envelope ID: CB71C116-B716-4899-A5EE-0D2F2CC55AF6



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).

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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: Sukut Kanwar CITY ENGINEER DocuSigned by: KHANG NGUYEN CITY TRAFFIC ENGINEER	DocuSigned by: Carl Stallbaum DIRECTOR OF HPW
EFF DATE: NOV–27–2023	DWG NO: 02951–02

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TBPE Firm Reg. #4575

SURVEYED BY: Kuo&Associates
FB NO. P–6396

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

STANDARD DETAILS
STREET PAVING AND SIDEWALK
SHEET 13 OF 14

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–410016–001A–3	
DRAWING SCALE	
NTS	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 116 OF 200	

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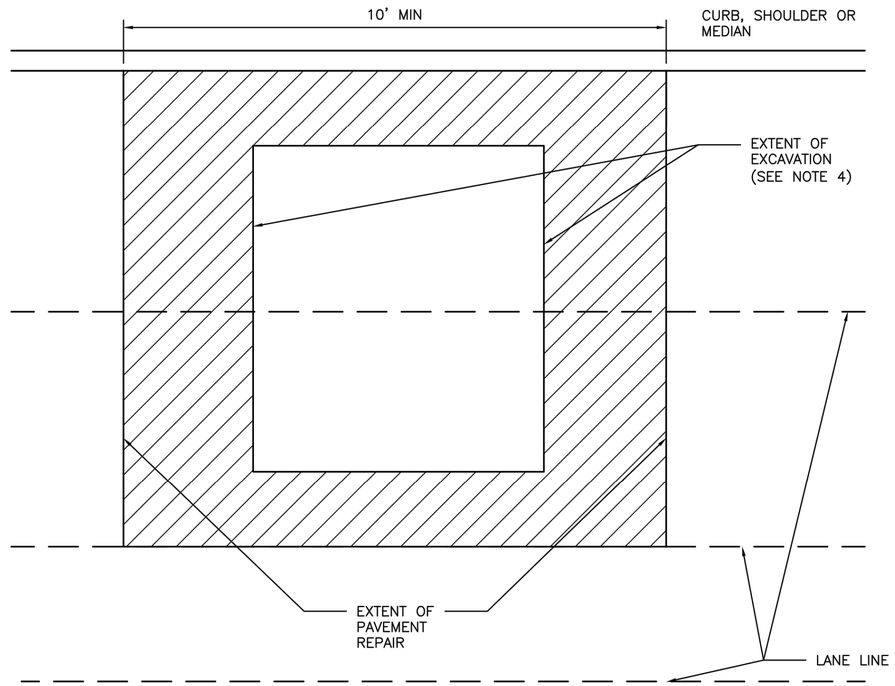

NOTES:

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.

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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: Suhail Kanwar 9EF8B0C641F5478...
CITY ENGINEER

DocuSigned by: KHANG NGUYEN 95A29EFDA75B4CD...
CITY TRAFFIC ENGINEER

DocuSigned by: Carol Haddock A93C410B72B3453...
DIRECTOR OF HPW

EFF DATE: NOV–27–2023 | DWG NO: 02951–03

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TBPE Firm Reg. #4575

SURVEYED BY: Kuo&Associates
FB NO. P–6396

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

STANDARD DETAILS
STREET PAVING AND SIDEWALK
SHEET 14 OF 14

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–410016–001A–3	
DRAWING SCALE	
NTS	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 117 OF 200	

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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 WITH 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://gechub.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.

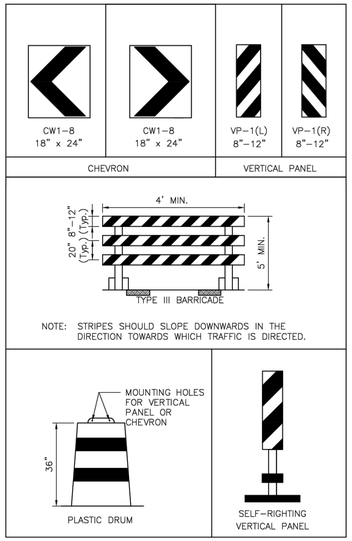
J. SPACING MAY BE ADJUSTED TO PROVIDE DRIVEWAYS, INTERSECTIONS AND /OR MEDIAN OPENINGS.

TABLE C3 – TYPICAL SIGN SPACING, TAPER LENGTHS, AND SUGGESTED SPACING OF CHANNELIZATION DEVICES

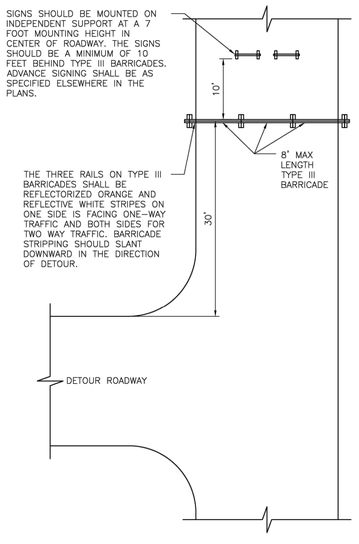
POSTED SPEED (MPH)	SIGN SPACING "x" (FEET)	MIN. DESIRABLE TAPER LENGTH "L"			SUGGESTED MAXIMUM SPACING OF DEVICE	
		10' OFFSET	11' OFFSET	12' OFFSET	ON A TAPER	ON A TANGENT
30	120'	150'	165'	180'	30'	60'–75'
35	160'	205'	225'	245'	35'	70'–90'
40	240'	265'	295'	320'	40'	80'–100'
45	320'	450'	495'	540'	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: Suhail Kanwar 9EFB80C84 9F5479...	Docusigned by: KHANG NGUYEN 84A35EFDA758405D...
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: Docusigned by: Carol Haddock 4F6CA1BE1BD4451...	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV–27–2023	DWG NO: 01555–01

CITY OF HOUSTON
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TCP NOTES CHANNELIZING DEVICES AND BARRICADES

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P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

TRAFFIC CONTROL PLANS

NOTES, CHANNELIZING DEVICES AND BARRICADES

TCP SHEET: 1

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DISCLAIMER:
THE USE OF THIS STANDARD IS GOVERNED BY THE TEXAS ENGINEERING PRACTICE ACT. THE DESIGN REQUIREMENTS ON THIS STANDARD DO NOT PURPORT TO ADDRESS ALL OF THE SAFETY CONCERNS ASSOCIATED WITH THE USE OF THIS STANDARD. ANY RELIANCE ON THIS STANDARD WILL BE AT THE USER'S SOLE RISK. NO RESPONSIBILITY IS MADE BY THE CITY OF HOUSTON FOR ANY PURPOSES WHATSOEVER. THE CITY OF HOUSTON ASSUMES NO RESPONSIBILITY FOR INCORRECT RESULTS OR DAMAGES RESULTING FROM ITS USE.
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TRAFFIC CONTROL PLAN GENERAL NOTES:

1. PLACE ADVANCE WARNING SIGNS ALONG THE PROJECT AREA DURING CONSTRUCTION FOR ALL PHASES/STEPS.
2. PLACE DETOUR SIGNS ALONG THE PROJECT AREA WHERE APPLICABLE AND/OR AS SHOWN ON PLANS.
3. RESTORE TRAFFIC TO NEW CONSTRUCTED PAVEMENT BY PROCEEDING THROUGH CONSTRUCTION WITH BLOCKS AT A TIME.
4. MAINTAIN THE CONSTRUCTION ZONE SPEED LIMIT OF 30 MPH.
5. MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES DURING CONSTRUCTION. LPCB'S SHOULD NOT BLOCK THE DRIVEWAY ACCESS DURING CONSTRUCTION.
6. AVOID EXISTING DRIVEWAYS FOR PLACING THE TRAFFIC CONTROL SIGNS.
7. CONTRACTOR SHOULD CONSTRUCT THE UNDERGROUND UTILITIES AND TEMPORARY ASPHALT PAVEMENT PER THE TRAFFIC CONTROL PLAN IN BLOCKS AND MOVE TO NEXT BLOCK BY OPENING TWO WAY TRAFFIC PAVEMENT. CONTRACTOR TO RESTORE TRAFFIC ON CROSS STREETS AS SOON AS CONSTRUCTION IS COMPLETED ACROSS INTERSECTION. CONTRACTOR SHALL INSTALL LOW PROFILE CONCRETE BARRIER AT STORM SEWER WORK LOCATIONS. LOW PROFILE CONCRETE BARRIER TO REMAIN AT LOCATIONS WHERE ELEVATION DIFFERENCE BETWEEN THE DRIVING SURFACE AND WORK AREA EXCEEDS 18 INCHES.THE TRAFFIC WILL BE SEPARATED BY LPCB WHERE AN ELEVATION DIFFERENCE IN THE EXISTING AND PROPOSED PAVEMENTS EXISTS.
8. PROPOSED STORM SEWER INCLUDES THE TRUNK LINE, LATERALS, JUNCTION BOXES, MANHOLES AND INLETS.
9. PROPOSED CONCRETE PAVEMENT INCLUDES THE CURBS, PAVEMENT, SIDEWALK (IF ANY) AND THE DRIVEWAYS.
10. SEE ROADWAY PLAN AND PROFILE DRAWINGS FOR EXACT WIDTH OF THE PAVEMENT.
11. SEE ROADWAY PLAN AND PROFILE DRAWINGS FOR LIMITS OF PROPOSED ASPHALT TRANSITION, ASPHALT PAVEMENT AND CONCRETE PAVEMENT.
12. CONTRACTOR SHALL NOT CLOSE ANY TWO (2) CONSECUTIVE CROSS STREETS SIMULTANEOUSLY.
13. CONTRACTOR SHALL MAINTAIN ACCESS TO DRIVEWAYS AT ALL TIMES DURING CONSTRUCTION. "ONE WAY" SIGNS SHALL BE PLACED AT ALL DRIVEWAYS BY CONTRACTOR APPROPRIATELY. CONTRACTOR TO NOTIFY RESIDENTS 48 HOUR IN ADVANCE IF THEIR DRIVEWAY IS NOT ACCESSIBLE FOR ANY REASON DURING CONSTRUCTION.
14. CONSTRUCTION AT DEAD END STREETS WILL BE PERFORMED AS TWO HALVES.
15. CONTRACTOR SHALL INSTALL LOW PROFILE CONCRETE BARRIER ONLY FOR THE LENGTH OF THE CONSTRUCTION ZONE. CONTRACTOR SHALL NOT BLOCK THE ENTIRE LENGTH OF THE PROJECT DURING CONSTRUCTION.
16. CONTRACTOR SHALL USE HIGH EARLY STRENGTH CONCRETE FOR ALL INTERSECTIONS.
17. USE "TYPICAL ONE LANE ROAD CLOSURE" DETAIL FROM STANDARDS FOR FLAGGING OPERATION FOR APPLICABLE PHASES/STEPS.
18. WHERE APPLICABLE, DITCHES SHALL BE OPENED AT END OF EACH DAY TO ASSURE ADEQUATE DRAINAGE.
19. ALL ADVANCED WARNING SIGNS TO BE PLACED PER THE TEXAS MUTCD LATEST VERSION.
20. CONTRACTOR TO PROVIDE TEMPORARY TIE IN TO THE EXISTING STORM SEWER SYSTEM WHILE DOING INTERSECTIONS.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE
STREET IMPROVEMENTS

TRAFFIC CONTROL PLANS

GENERAL NOTES

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TCP NARRATIVE:

FOR ALL PHASES AND STEPS:

1. PLACE CONSTRUCTION ADVANCED WARNING SIGNS, DRUMS, LPCB, CHEVRON, BARRICADES, AND SIGNS PER TMUTCD AND CITY OF HOUSTON TRAFFIC CONTROL STANDARDS 01512-01 THROUGH 01512-12.
2. PLACE FILTER FABRIC FENCING, INLET PROTECTION BARRIERS, AND OTHER SWPPP MEASURES AS NEEDED.
3. ALL INTERSECTIONS ARE CONSTRUCTED FIRST AND WILL BE OPENED TO TRAFFIC FIRST WITHIN THE SPECIFIC PHASE/STEP. NO TWO ADJACENT SIDE STREETS ARE TO BE CLOSED AT ONE TIME.
4. MAINTAIN ACCESS TO ALL DRIVEWAYS.
5. CONSTRUCT PROPOSED STORM SEWER FROM DOWNSTREAM TO UPSTREAM.

PHASE 0

CONSTRUCT THE FOLLOWING DURING THIS STEP

- PROPOSED WATERLINE WHERE EVER SHOWN ON PLANS, PIPE SIZE VARIES.

PHASE 1 (STEPS 1 TO 2)

STEP 1: (BUFFALO SPEEDWAY/DEAL ST INTERSECTION, BUFFALO SPEEDWAY/GANNETT ST INTERSECTION)

CONSTRUCT THE FOLLOWING DURING THIS STEP

- PROPOSED STORM SEWER AND INLETS AND CONCRETE REPAIR

STEP 2: (BUFFALO SPEEDWAY/NORRIS DR INTERSECTION, BUFFALO SPEEDWAY/LINKWOOD DR INTERSECTIONS)

CONSTRUCT THE FOLLOWING DURING THIS STEP

- PROPOSED STORM SEWER AND INLETS AND CONCRETE REPAIR

PHASE 2 (STEPS 1 TO 7)

STEP 1: (EASTBOUND OF LINKWOOD DRIVE)

CONSTRUCT THE FOLLOWING DURING THIS STEP

- PROPOSED STORM SEWER (24-INCH & 30-INCH RCPS), MANHOLES AND INLETS
- PROPOSED PAVEMENT (13-FEET) AND SIDEWALKS

STEP 2: (WESTBOUND OF LINKWOOD DRIVE)

CONSTRUCT THE FOLLOWING DURING THIS STEP

- PROPOSED STORM SEWER AND INLETS
- PROPOSED PAVEMENT (13-FEET) AND SIDEWALKS

STEP 3: (NORTHBOUND OF BEVLYN DR FROM LINKWOOD DR TO GANNETT ST)

CONSTRUCT THE FOLLOWING DURING THIS STEP

- PROPOSED STORM SEWER (24-INCH & 30-INCH RCP), MANHOLES AND INLETS.
- TEMPORARY ASPHALT PAVEMENT (13-FEET).

STEP 4: (SOUTHBOUND OF BEVLYN DR FROM LINKWOOD DR TO GANNETT ST)

CONSTRUCT THE FOLLOWING DURING THIS STEP

- PROPOSED INLETS, PROPOSED PAVEMENT (13-FEET) AND SIDEWALKS.

STEP 5: (NORTHBOUND OF BEVLYN DR FROM LINKWOOD DR TO GANNETT ST)

CONSTRUCT THE FOLLOWING DURING THIS STEP

- PROPOSED PAVEMENT (13-FEET) AND SIDEWALKS.

STEP 6: (WESTBOUND OF NORRIS DR AND EASTBOUND OF GANNETT ST)

CONSTRUCT THE FOLLOWING DURING THIS STEP

- PROPOSED STORM SEWER (24-INCH RCP), MANHOLES AND INLETS.
- PROPOSED PAVEMENT (13-FEET) AND SIDEWALKS

STEP 7: (EASTBOUND OF NORRIS DR AND WESTBOUND OF GANNETT ST)

CONSTRUCT THE FOLLOWING DURING THIS STEP

- PROPOSED STORM SEWER (24-INCH RCP) AND INLETS.
- PROPOSED PAVEMENT (13-FEET) AND SIDEWALKS

PHASE 3 (STEPS 1 TO 7)

STEP 1: (WESTBOUND OF SOUTH BRAESWOOD BLVD AT BEVLYN DR INTERSECTION)

CONSTRUCT THE FOLLOWING DURING THIS STEP

- PROPOSED STORM SEWER (30-INCH RCP) AND CONCRETE REPAIR

STEP 2: (EASTBOUND OF SOUTH BRAESWOOD BLVD AT BEVLYN DR INTERSECTION)

CONSTRUCT THE FOLLOWING DURING THIS STEP

- PROPOSED STORM SEWER (30-INCH RCP) AND CONCRETE REPAIR UNTIL THE EXISTING MANHOLE

STEP 3: (SOUTHBOUND OF BEVLYN DR FROM SOUTH BRAESWOOD BLVD TO DEAL ST)

CONSTRUCT THE FOLLOWING DURING THIS STEP

- PROPOSED STORM SEWER (24-INCH & 30-INCH RCPS), MANHOLES, AND INLETS.
- TEMPORARY ASPHALT PAVEMENT (13-FEET).

STEP 4: (NORTHBOUND OF BEVLYN DR FROM SOUTH BRAESWOOD BLVD TO GANNETT ST)

CONSTRUCT THE FOLLOWING DURING THIS STEP

- PROPOSED STORM SEWER, PROPOSED PAVEMENT (13-FEET) AND SIDEWALKS.

STEP 5: (SOUTHBOUND OF BEVLYN DR FROM SOUTH BRAESWOOD BLVD TO GANNETT ST)

CONSTRUCT THE FOLLOWING DURING THIS STEP

- PROPOSED PAVEMENT (13-FEET) AND SIDEWALKS.

STEP 6: (WESTBOUND OF DEAL ST DR AND EASTBOUND OF BROADMEAD DR)

CONSTRUCT THE FOLLOWING DURING THIS STEP

- PROPOSED STORM SEWER (24-INCH RCP), MANHOLES AND INLETS.
- PROPOSED PAVEMENT (13-FEET) AND SIDEWALKS

STEP 7: (EASTBOUND OF DEAL ST DR AND EASTBOUND OF BROADMEAD DR)

CONSTRUCT THE FOLLOWING DURING THIS STEP

- PROPOSED STORM SEWER (24-INCH RCP) AND INLETS.
- PROPOSED PAVEMENT (13-FEET) AND SIDEWALKS

PHASE 4 (STEPS 1 TO 6)

STEP 1: (NORRIS DRIVE/TIMBERSIDE DRIVE INTERSECTION)

CONSTRUCT THE FOLLOWING DURING THIS STEP

- PROPOSED STORM SEWER AND INLETS AND HIGH EARLY STRENGTH CONCRETE PAVEMENT
- PROPOSED SIDEWALK

STEP 2: (MURWORTH DRIVE/TIMBERSIDE DRIVE INTERSECTION)

CONSTRUCT THE FOLLOWING DURING THIS STEP

- PROPOSED STORM SEWER AND INLETS AND HIGH EARLY STRENGTH CONCRETE PAVEMENT
- PROPOSED SIDEWALK

STEP 3: (WESTBOUND OF MURWORTH DR AND EASTBOUND OF NORRIS DR)

CONSTRUCT THE FOLLOWING DURING THIS STEP

- ROUTE TRAFFIC ON NORRIS DR EAST
- PROPOSED STORM SEWER (24-INCH RCP), MANHOLES AND INLETS.
- PROPOSED PAVEMENT (18-FEET) AND SIDEWALKS

STEP 4: (WESTBOUND OF NORRIS DR AND EASTBOUND OF MURWORTH DR)

CONSTRUCT THE FOLLOWING DURING THIS STEP

- PROPOSED LATERAL STORM SEWER (24-INCH RCP) AND INLETS.
- PROPOSED PAVEMENT (18-FEET) AND SIDEWALKS

STEP 5: (SOUTHBOUND OF TIMBERSIDE DR FROM DURHILL ST TO NORRIS DRIVE)

CONSTRUCT THE FOLLOWING DURING THIS STEP

- PROPOSED PAVEMENT (VARIES FROM 13-FEET TO 18-FEET) AND SIDEWALKS

STEP 6: (NORTHBOUND OF TIMBERSIDE DR FROM DURHILL ST TO NORRIS DRIVE)

CONSTRUCT THE FOLLOWING DURING THIS STEP

- PROPOSED PAVEMENT (VARIES FROM 13-FEET TO 18-FEET) AND SIDEWALKS

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PHASING NARRATIVE

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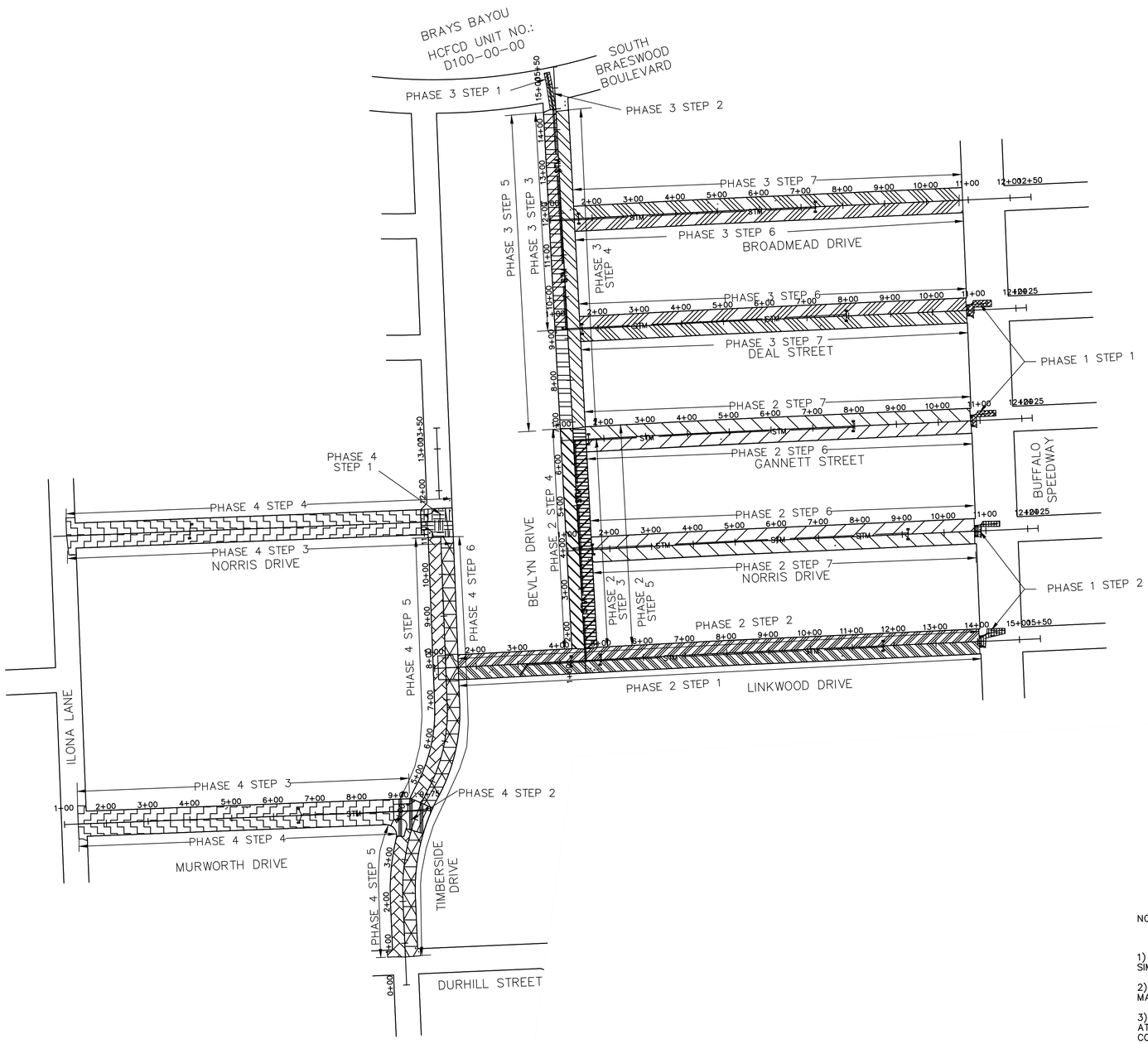

N

150 0 75 150 300

SCALE: 1" = 150'-0" FEET FOR 22"X34" SHEET

LEGEND:

PHASE 1 STEP 1	PHASE 2 STEP 7	PHASE 4 STEP 1
PHASE 1 STEP 2	PHASE 3 STEP 1	PHASE 4 STEP 2
PHASE 2 STEP 1	PHASE 3 STEP 2	PHASE 4 STEP 3
PHASE 2 STEP 2	PHASE 3 STEP 3	PHASE 4 STEP 4
PHASE 2 STEP 3	PHASE 3 STEP 4	PHASE 4 STEP 5
PHASE 2 STEP 4	PHASE 3 STEP 5	PHASE 4 STEP 6
PHASE 2 STEP 5	PHASE 3 STEP 6	
PHASE 2 STEP 6	PHASE 3 STEP 7	

NOTES:
REFER TO GENERAL NOTES AS SHOWN IN TCP SHEET 2 FOR TRAFFIC NOTES.

NOTES:

1) NO TWO ADJACENT ROADS/INTERSECTIONS SHALL BE CLOSED SIMULTANEOUSLY.

2) ACCESS TO EXISTING BUSINESSES AND RESIDENCES SHALL BE MAINTAINED AT ALL TIMES.

3) INTERSECTIONS WILL BE CLOSED AND PAVEMENT CONSTRUCTION AT INTERSECTIONS SHOULD BE DONE USING HIGH EARLY STRENGTH CONCRETE.

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F 713 748 3748
TBPE Firm Reg. #4575

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FB NO. P-6396

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DOCUMENT INCOMPLETE;
NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION
ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

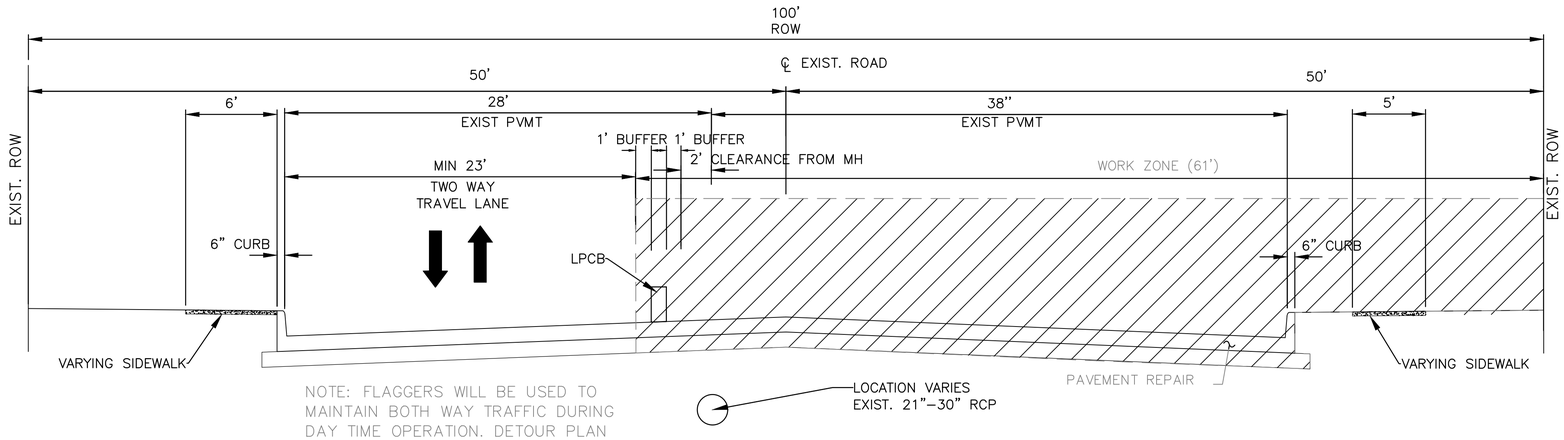
TRAFFIC CONTROL PLANS

OVERALL PHASING LAYOUT

TCP SHEET: 4

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1" = 150'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 121 OF 200	

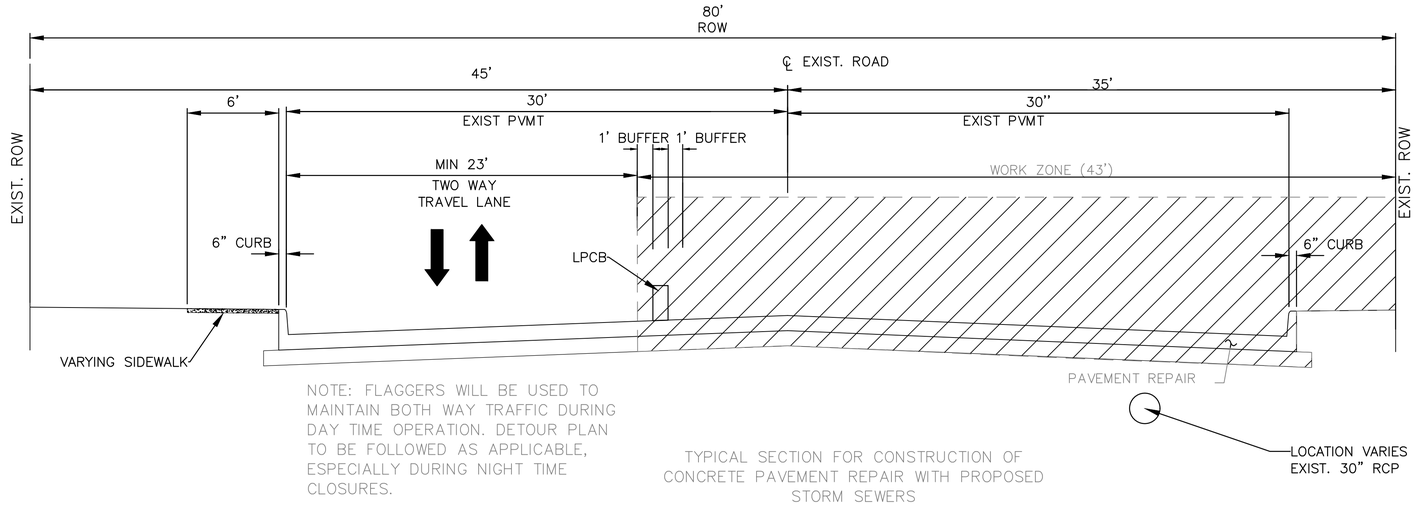
PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/8/2025 2:40 PM
FILE PATH: P:\ACTIVE\15DR30 SP1A\Ph II\Working\CAD\TCP\15DR30-TCP Overall Layout.dwg



NOTE: FLAGGERS WILL BE USED TO MAINTAIN BOTH WAY TRAFFIC DURING DAY TIME OPERATION. DETOUR PLAN TO BE FOLLOWED AS APPLICABLE, ESPECIALLY DURING NIGHT TIME CLOSURES.

TYPICAL SECTION FOR CONSTRUCTION OF CONCRETE PAVEMENT REPAIR WITH PROPOSED LATERAL STORM SEWERS

STREET NAMES
BUFFALO SPEEDWAY SOUTHBOUND – PHASE 1 STEP 1 & STEP 2



NOTE: FLAGGERS WILL BE USED TO MAINTAIN BOTH WAY TRAFFIC DURING DAY TIME OPERATION. DETOUR PLAN TO BE FOLLOWED AS APPLICABLE, ESPECIALLY DURING NIGHT TIME CLOSURES.

TYPICAL SECTION FOR CONSTRUCTION OF CONCRETE PAVEMENT REPAIR WITH PROPOSED STORM SEWERS

STREET NAMES
SOUTH BRAESWOOD BLVD– PHASE 3 STEP 1 & STEP 2

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P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

TRAFFIC CONTROL PLANS

TYPICAL SECTIONS
1 OF 2

TCP SHEET: 5

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–410016–001A–3	
DRAWING SCALE	
NOT TO SCALE	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 122 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/8/2025 2:42 PM
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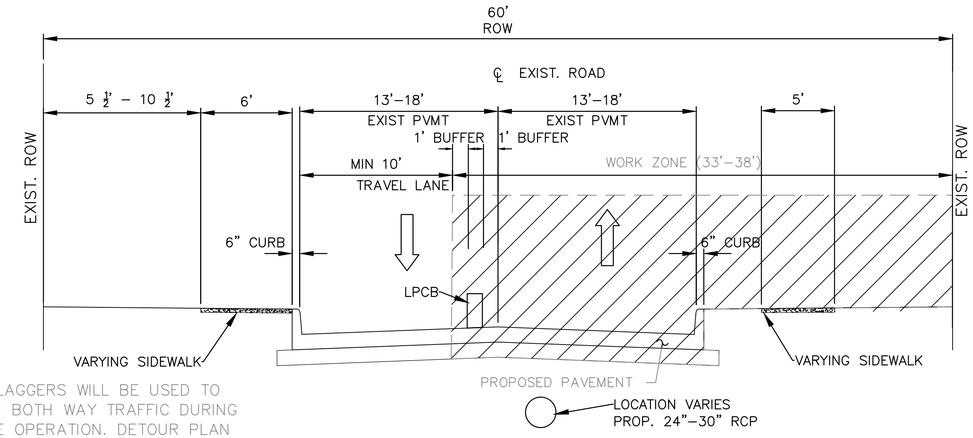
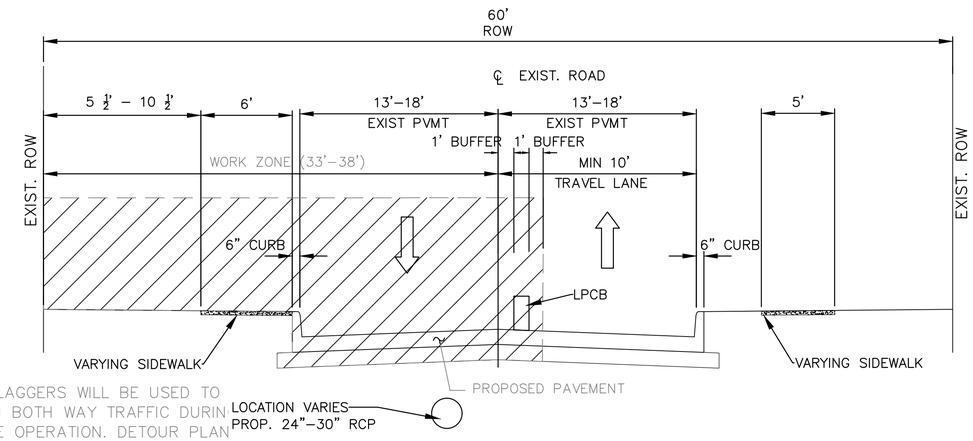


NOTE: FLAGGERS WILL BE USED TO MAINTAIN BOTH WAY TRAFFIC DURING DAY TIME OPERATION. DETOUR PLAN TO BE FOLLOWED AS APPLICABLE, ESPECIALLY DURING NIGHT TIME CLOSURES.

TYPICAL SECTION FOR CONSTRUCTION OF CONCRETE PAVEMENT WITH CURB AND GUTTER

STREET NAMES

BROADMEAD DRIVE EASTBOUND – PHASE 3 STEP 6
DEAL STREET EASTBOUND – PHASE 3 STEP 7
GANNETT STREET EASTBOUND – PHASE 2 STEP 6
NORRIS DRIVE (EAST) EASTBOUND – PHASE 2 STEP 7
LINKWOOD DRIVE EASTBOUND – PHASE 2 STEP 1
NORRIS DRIVE (WEST) EASTBOUND – PHASE 4 STEP 3
MURWORTH DRIVE EASTBOUND – PHASE 4 STEP 4
TIMBERSIDE DRIVE NORTHBOUND – PHASE 4 STEP 6
BEVLYN DRIVE NORTHBOUND – PHASE 2 STEP 3 & STEP 5, PHASE 3 STEP 4
N.T.S.



NOTE: FLAGGERS WILL BE USED TO MAINTAIN BOTH WAY TRAFFIC DURIN DAY TIME OPERATION. DETOUR PLAN TO BE FOLLOWED AS APPLICABLE, ESPECIALLY DURING NIGHT TIME CLOSURES.

TYPICAL SECTION FOR CONSTRUCTION OF CONCRETE PAVEMENT WITH CURB AND GUTTER

STREET NAMES

BROADMEAD DRIVE WESTBOUND – PHASE 3 STEP 7
DEAL STREET WESTBOUND – PHASE 3 STEP 6
GANNETT STREET WESTBOUND – PHASE 2 STEP 7
NORRIS DRIVE (EAST) WESTBOUND – PHASE 2 STEP 6
LINKWOOD DRIVE WESTBOUND – PHASE 2 STEP 2
NORRIS DRIVE (WEST) WESTBOUND – PHASE 4 STEP 4
MURWORTH DRIVE WESTBOUND – PHASE 4 STEP 3
TIMBERSIDE DRIVE SOUTHBOUND – PHASE 4 STEP 5
BEVLYN DRIVE SOUTHBOUND – PHASE 2 STEP 4, PHASE 3 STEP 3 & STEP 5
N.T.S.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

TRAFFIC CONTROL PLANS

TYPICAL SECTIONS
2 OF 2

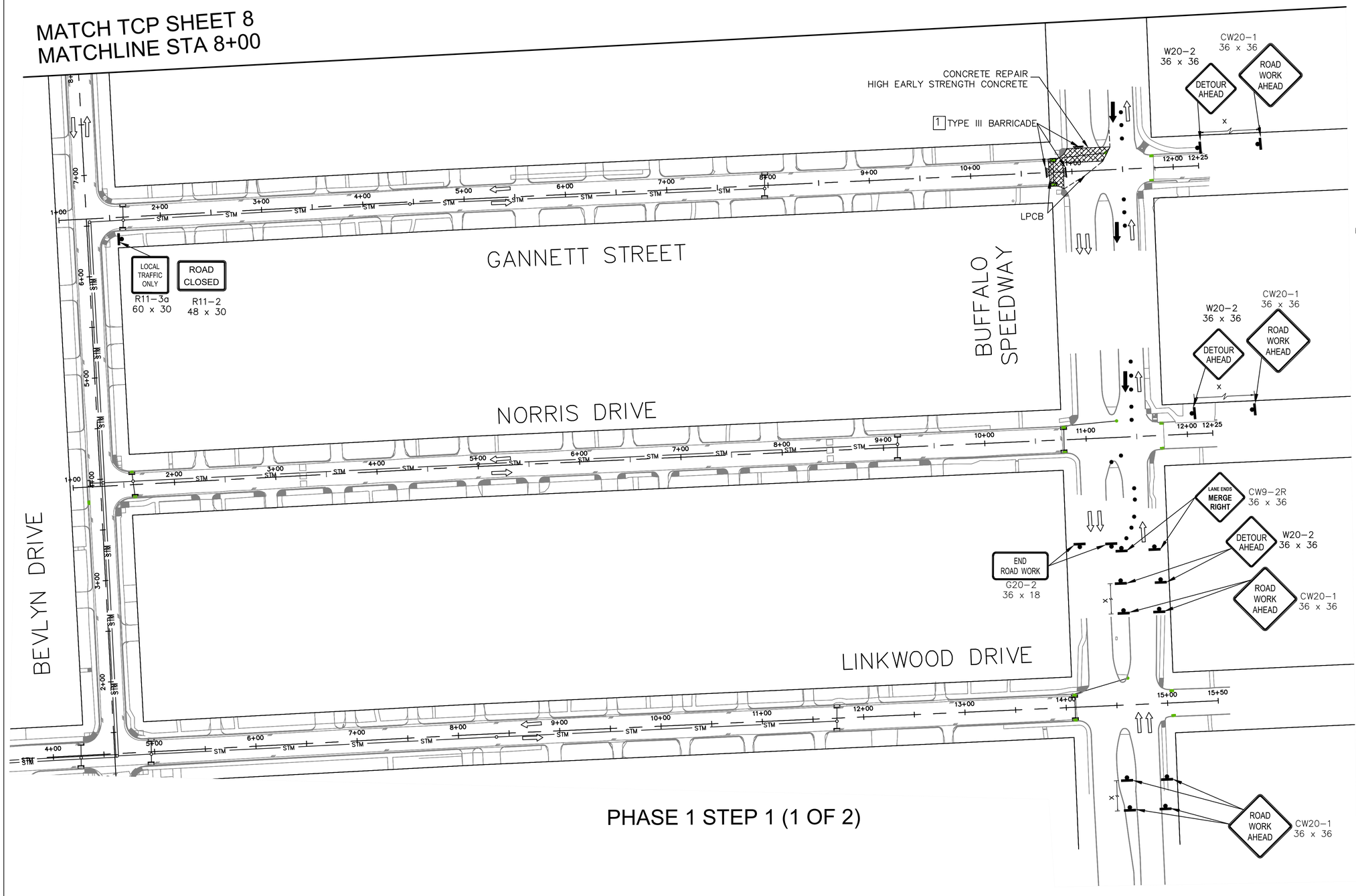
TCP SHEET: 6

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–410016–001A–3	
DRAWING SCALE	
NOT TO SCALE	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 123 OF 200	

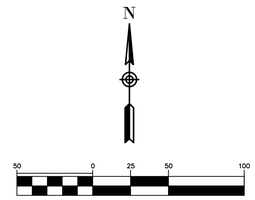
PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/8/2025 2:42 PM
FILE PATH: P:\ACTIVE\15DR30 SP1A\Ph II\Working\CAD\TCP\15DR30–TCP Cross Sections.dwg

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/9/2025 9:10 AM
FILE PATH: P:\ACTIVE\15DR30 SP1A\Ph II\Working\CAD\TCP\15DR30-TCP Plans_Ph1.1.dwg

MATCH TCP SHEET 8
MATCHLINE STA 8+00



PHASE 1 STEP 1 (1 OF 2)



SCALE: 1" = 50'-0" FEET FOR 22"X34" SHEET

LEGEND:

- PERMANENT CONSTRUCTION WORK ZONE (PHASE 1 STEP 1)
- PROPOSED SIGN POST
- TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- PLASTIC DRUM, CONE, OR TUBULAR MARKER

NOTES:

1) ACCESS TO EXISTING BUSINESSES, RESIDENCIES, DRIVEWAYS, ETC SHALL BE MAINTAINED AT ALL TIMES.
2) CHANNELLING DEVICES, BARRICADES, TRAFFIC SIGNS AND TEMPORARY PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH LATEST VERSION OF TEXAS MUTCD.
3) FOR TRAFFIC SIGNS AT INTERSECTIONS AND CROSS-STREET CONSTRUCTION, PLEASE REFER SHEET FROM TCP:44 TO TCP:47.
4) USE FLAGGER OPERATION FOR TRAFFIC FLOW DURING WORKING HOURS ONLY.
5) CONSTRUCTION WILL BE DONE 300 FT AT A TIME TO ENSURE EFFECTIVE FLAGGERS OPERATION.
6) CONTRACTOR SHOULD AVOID SIMULTANEOUS WORK AT ADJACENT INTERSECTIONS.

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

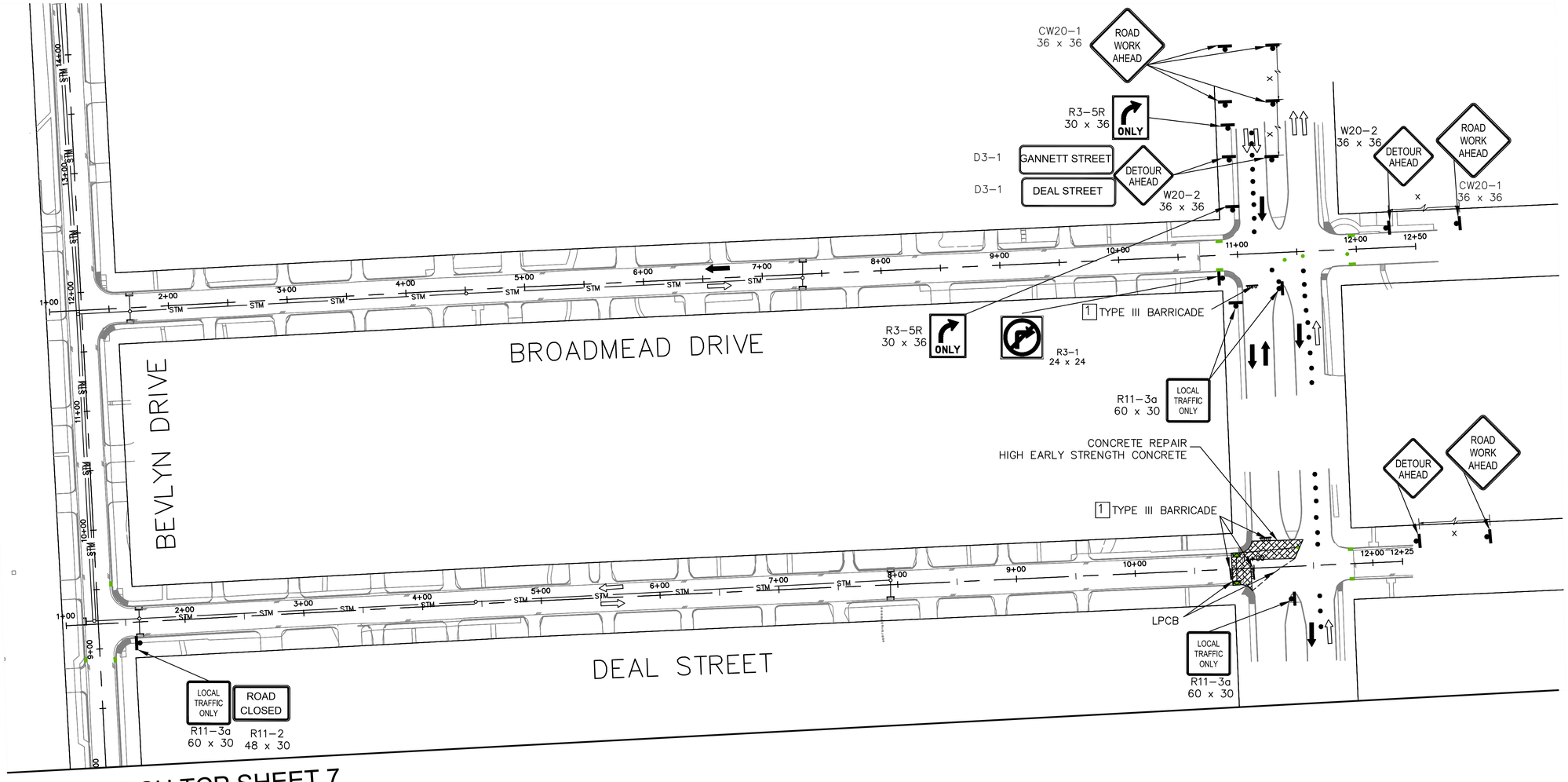
WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

TRAFFIC CONTROL PLANS

LAYOUT FOR
PHASE 1 STEP 1

TCP SHEET: 7 1 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1" =50'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 124 OF 200	



MATCH TCP SHEET 7
MATCHLINE STA 8+00

PHASE 1 STEP 1 (2 OF 2)

N

50 0 25 50 100

SCALE: 1" = 50'-0" FEET FOR 22"X34" SHEET

LEGEND:

- PERMANENT CONSTRUCTION WORK ZONE (PHASE 1 STEP 1)
- PROPOSED SIGN POST
- TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- PLASTIC DRUM, CONE, OR TUBULAR MARKER

NOTES:

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4) USE FLAGGER OPERATION FOR TRAFFIC FLOW DURING WORKING HOURS ONLY.
5) CONSTRUCTION WILL BE DONE 300 FT AT A TIME TO ENSURE EFFECTIVE FLAGGERS OPERATION.
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

TRAFFIC CONTROL PLANS

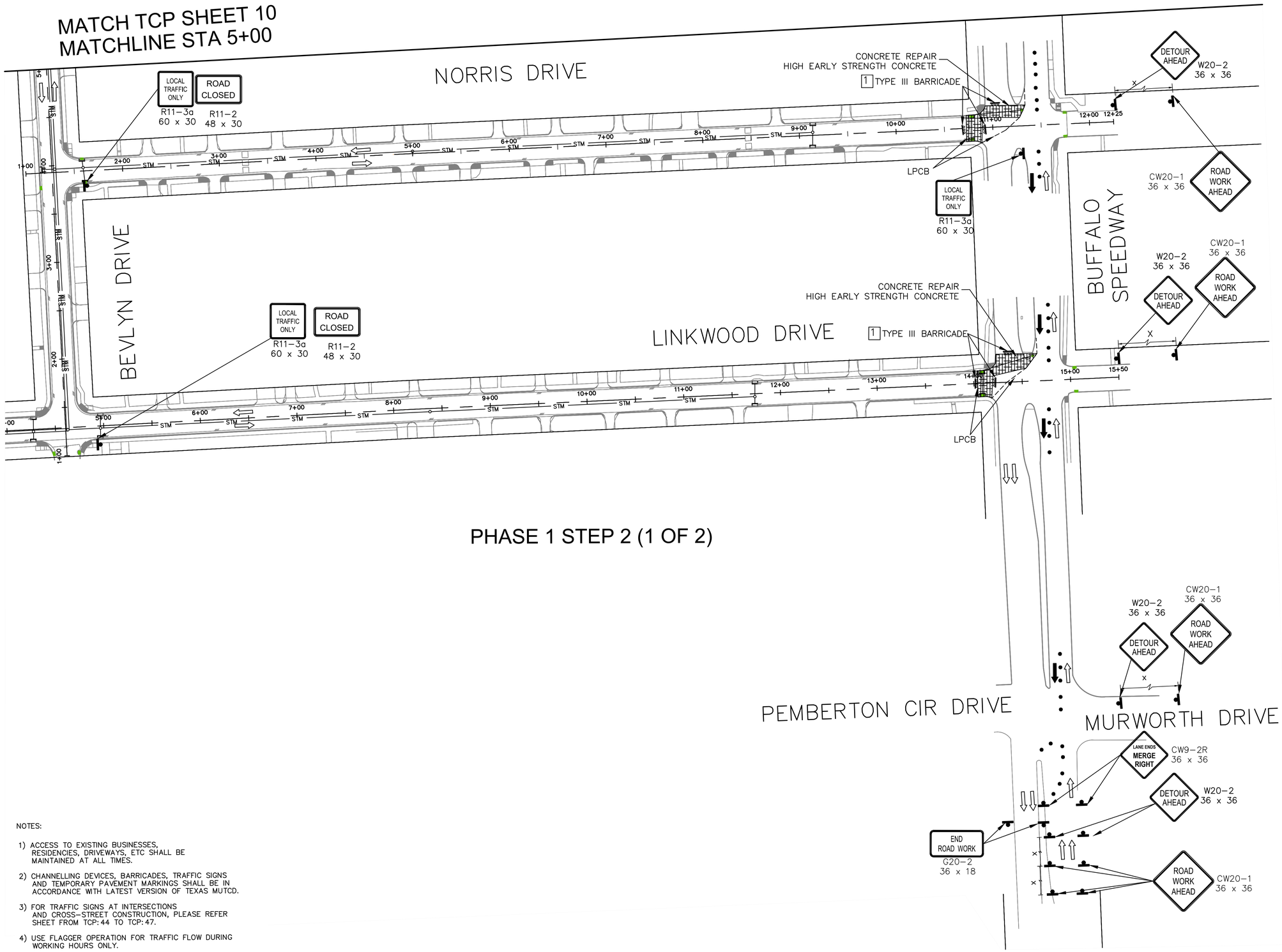
LAYOUT FOR
PHASE 1 STEP 1

TCP SHEET: 8 2 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1" =50'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 125 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/9/2025 9:11 AM
FILE PATH: P:\ACTIVE\15DR30 SP1A\Ph II\Working\CAD\TCP\15DR30-TCP Plans_Ph1.1.dwg

MATCH TCP SHEET 10
MATCHLINE STA 5+00



PHASE 1 STEP 2 (1 OF 2)

N

SCALE: 1" = 50'-0" FEET FOR 22"X34" SHEET

LEGEND:

- PERMANENT CONSTRUCTION WORK ZONE (PHASE 1 STEP 2)
- PROPOSED SIGN POST
- TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- PLASTIC DRUM, CONE, OR TUBULAR MARKER
- PREVIOUS PERMANENT CONSTRUCTION

NOTES:

1) ACCESS TO EXISTING BUSINESSES, RESIDENCIES, DRIVEWAYS, ETC SHALL BE MAINTAINED AT ALL TIMES.
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

TRAFFIC CONTROL PLANS

LAYOUT FOR
PHASE 1 STEP 2

TCP SHEET: 9 1 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1" =50'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 126 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/9/2025 9:13 AM
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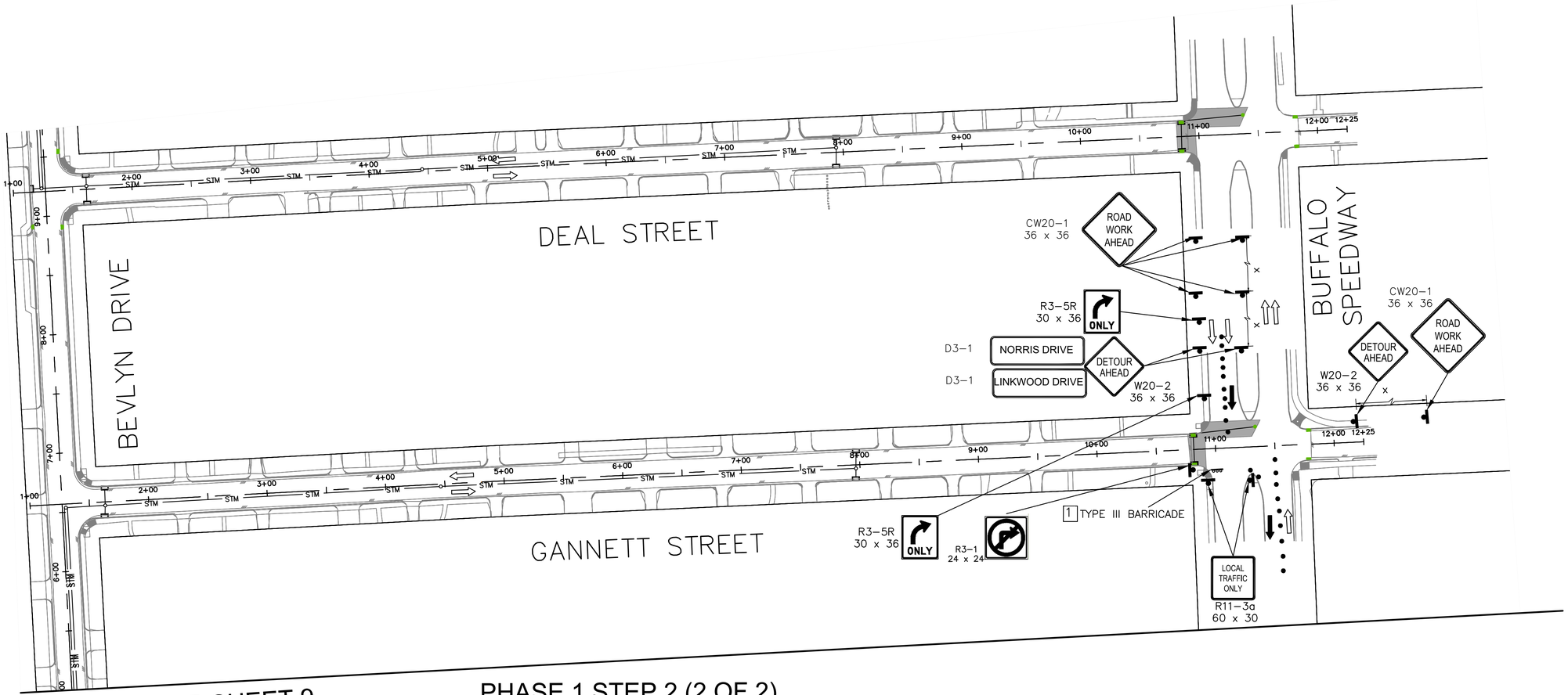

MATCH TCP SHEET 9
MATCHLINE STA 5+00

PHASE 1 STEP 2 (2 OF 2)

N

50 0 25 50 100

SCALE: 1" = 50'-0" FEET FOR 22"X34" SHEET

LEGEND:

- PERMANENT CONSTRUCTION WORK ZONE (PHASE 1 STEP 2)
- PROPOSED SIGN POST
- TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- PLASTIC DRUM, CONE, OR TUBULAR MARKER
- PREVIOUS PERMANENT CONSTRUCTION

NOTES:

1) ACCESS TO EXISTING BUSINESSES, RESIDENCIES, DRIVEWAYS, ETC SHALL BE MAINTAINED AT ALL TIMES.
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

TRAFFIC CONTROL PLANS

LAYOUT FOR
PHASE 1 STEP 2
TCP SHEET: 10 2 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1" =50'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 127 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/9/2025 9:12 AM
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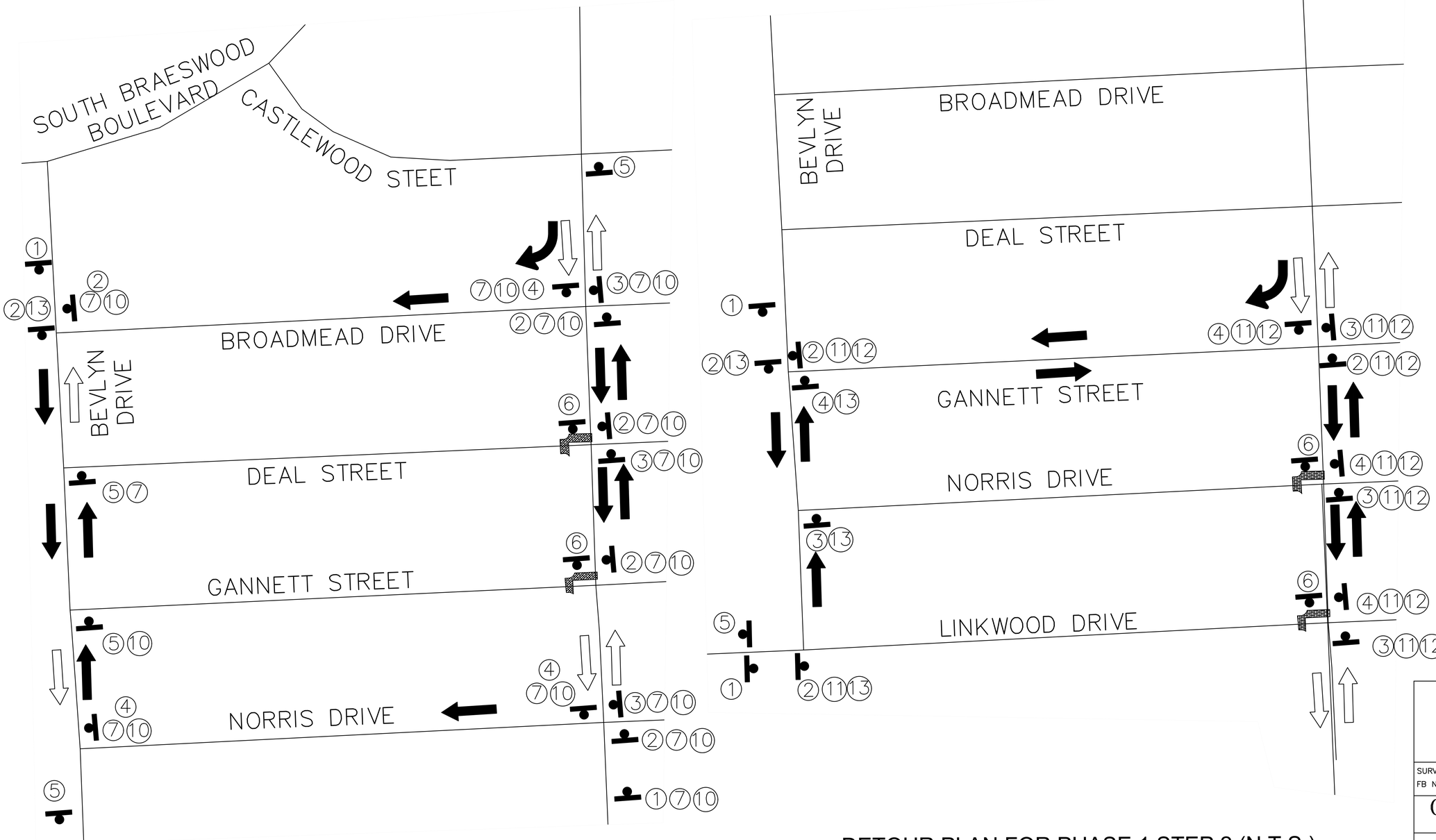

DETOUR PLAN FOR PHASE 1 STEP 1 (N.T.S.)

DETOUR PLAN FOR PHASE 1 STEP 2 (N.T.S.)

N

SCALE: 1" = 50'-0" FEET FOR 22"X34" SHEET

LEGEND:

- PERMANENT CONSTRUCTION WORK ZONE (PHASE 1 STEP 1)
- PERMANENT CONSTRUCTION WORK ZONE (PHASE 1 STEP 2)
- PROPOSED SIGN POST
- TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- PLASTIC DRUM, CONE, OR TUBULAR MARKER

NOTES:

1) ACCESS TO EXISTING BUSINESSES, RESIDENCIES, DRIVEWAYS, ETC SHALL BE MAINTAINED AT ALL TIMES.
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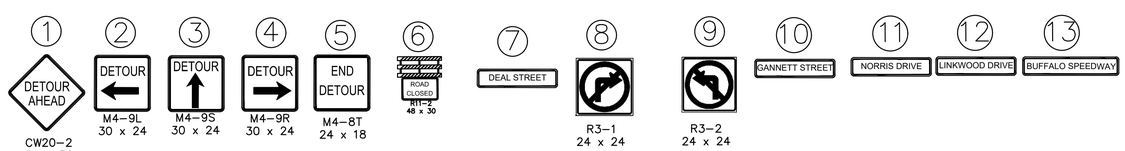
5) CONSTRUCTION WILL BE DONE 300 FT AT A TIME TO ENSURE EFFECTIVE FLAGGERS OPERATION.



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FB NO. P-6396

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

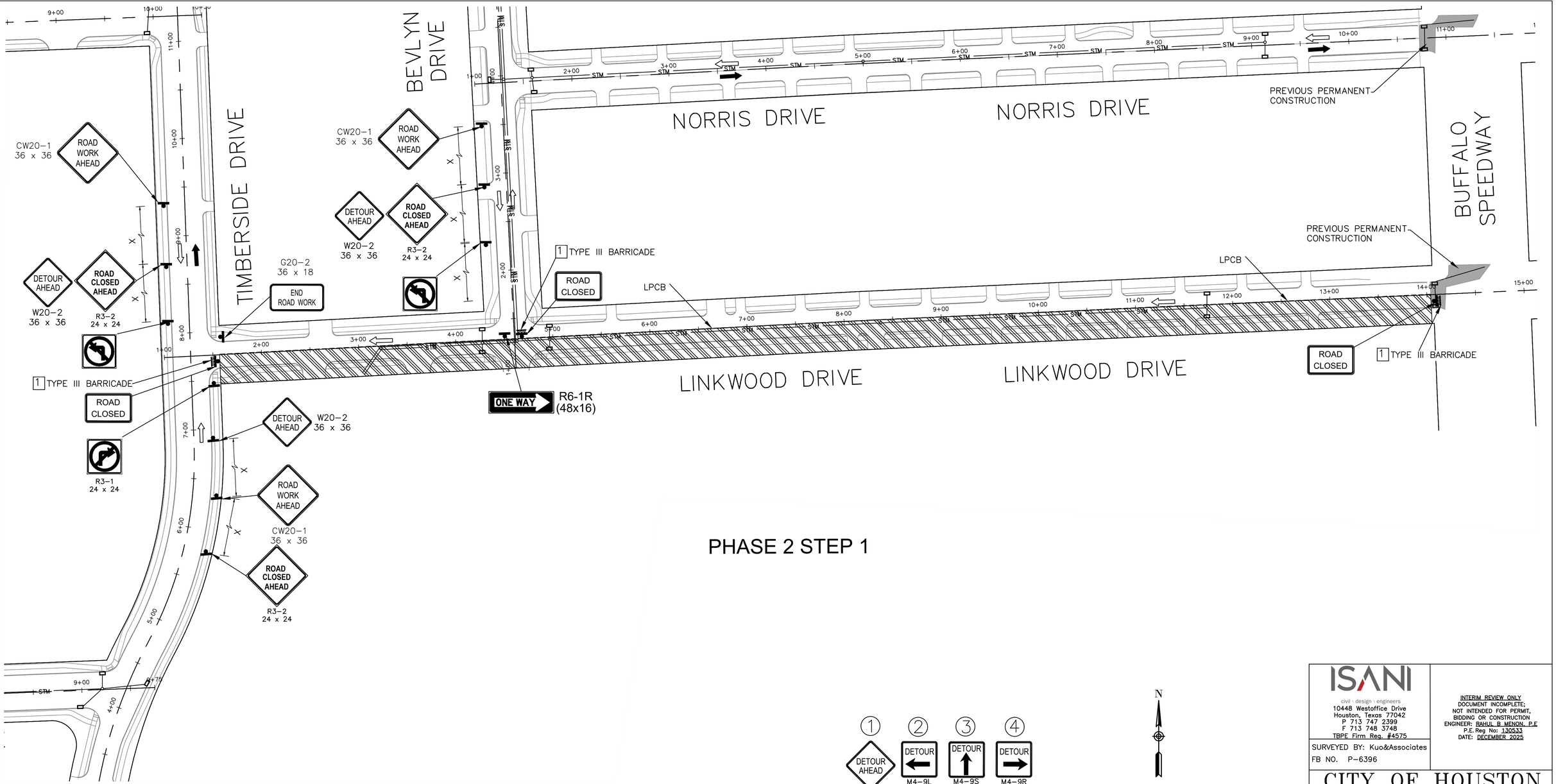
TRAFFIC CONTROL PLANS

DETOUR PLANS FOR PHASE 1 STEP 1 & STEP 2

TCP SHEET: 11

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 128 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/8/2025 2:49 PM
FILE PATH: P:\ACTIVE\15DR30 SP1A\Ph II\Working\CAD\TCP\15DR30-TCP Plans_Ph1.1.dwg



PHASE 2 STEP 1

NOTES:

1) ACCESS TO EXISTING BUSINESSES, RESIDENCIES, DRIVEWAYS, ETC SHALL BE MAINTAINED AT ALL TIMES.
2) CHANNELLING DEVICES, BARRICADES, TRAFFIC SIGNS AND TEMPORARY PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH LATEST VERSION OF TEXAS MUTCD.
3) FOR TRAFFIC SIGNS AT INTERSECTIONS AND CROSS-STREET CONSTRUCTION, PLEASE REFER SHEET FROM TCP: 44 TO TCP: 47.
4) USE FLAGGER OPERATION FOR TRAFFIC FLOW DURING WORKING HOURS ONLY.
5) CONSTRUCTION WILL BE DONE 300 FT AT A TIME TO ENSURE EFFECTIVE FLAGGERS OPERATION.

1 DETOUR AHEAD CW20-2 36 x 36
2 DETOUR M4-9L 30 x 24
3 DETOUR M4-9S 30 x 24
4 DETOUR M4-9R 30 x 24
5 END DETOUR M4-8T 24 x 18
6 ROAD CLOSED R11-2 48 x 30
7 LINKWOOD DRIVE
8 R3-1 24 x 24
9 R3-2 24 x 24

N

50 0 25 50 100

SCALE: 1" = 50'-0" FEET FOR 22"X34" SHEET

LEGEND:

- PERMANENT CONSTRUCTION WORK ZONE (PHASE 2 STEP 1)
- PROPOSED SIGN POST
- TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- PLASTIC DRUM, CONE, OR TUBULAR MARKER

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F 713 748 3748
TBPE Firm Reg. #4575

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FB NO. P-6396

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

TRAFFIC CONTROL PLANS

PHASE 2 STEP 1

TCP SHEET: 12

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1" = 50'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 129 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/8/2025 2:50 PM
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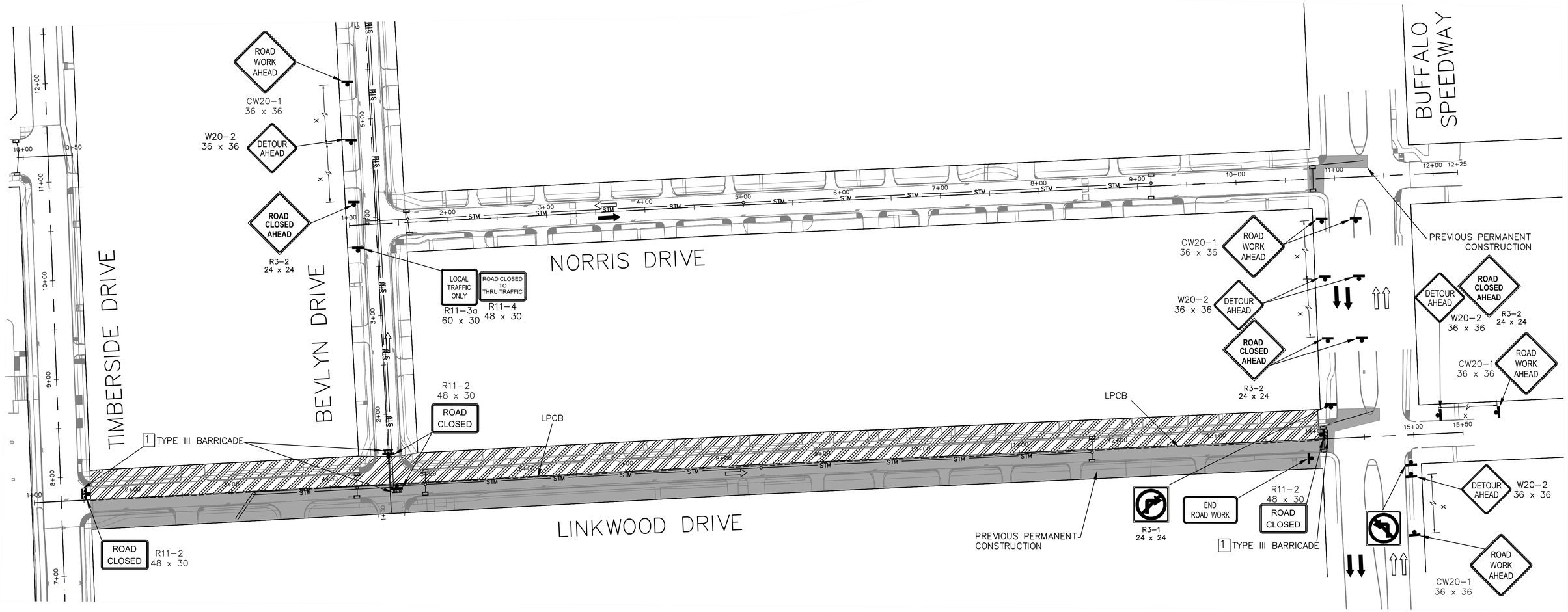
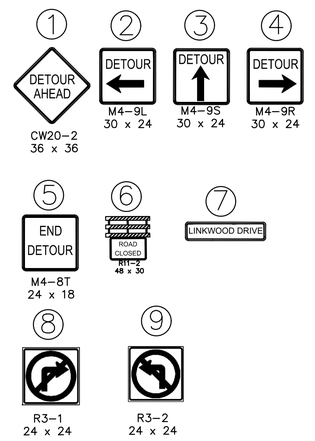
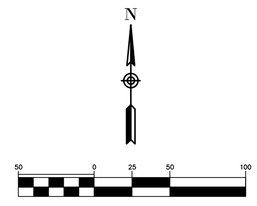


PHASE 2 STEP 2

NOTES:

1) ACCESS TO EXISTING BUSINESSES, RESIDENCIES, DRIVEWAYS, ETC SHALL BE MAINTAINED AT ALL TIMES.
2) CHANNELLING DEVICES, BARRICADES, TRAFFIC SIGNS AND TEMPORARY PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH LATEST VERSION OF TEXAS MUTCD.
3) FOR TRAFFIC SIGNS AT INTERSECTIONS AND CROSS-STREET CONSTRUCTION, PLEASE REFER SHEET FROM TCP: 44 TO TCP: 47.
4) USE FLAGGER OPERATION FOR TRAFFIC FLOW DURING WORKING HOURS ONLY.
5) CONSTRUCTION WILL BE DONE 300 FT AT A TIME TO ENSURE EFFECTIVE FLAGGERS OPERATION.





LEGEND:

- PERMANENT CONSTRUCTION WORK ZONE (PHASE 2 STEP 2)
- PROPOSED SIGN POST
- TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- PLASTIC DRUM, CONE, OR TUBULAR MARKER

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FB NO. P-6396

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ENGINEER: RAHUL R MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

TRAFFIC CONTROL PLANS

PHASE 2 STEP 2

TCP SHEET: 13

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1" = 50'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 130 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/8/2025 2:52 PM
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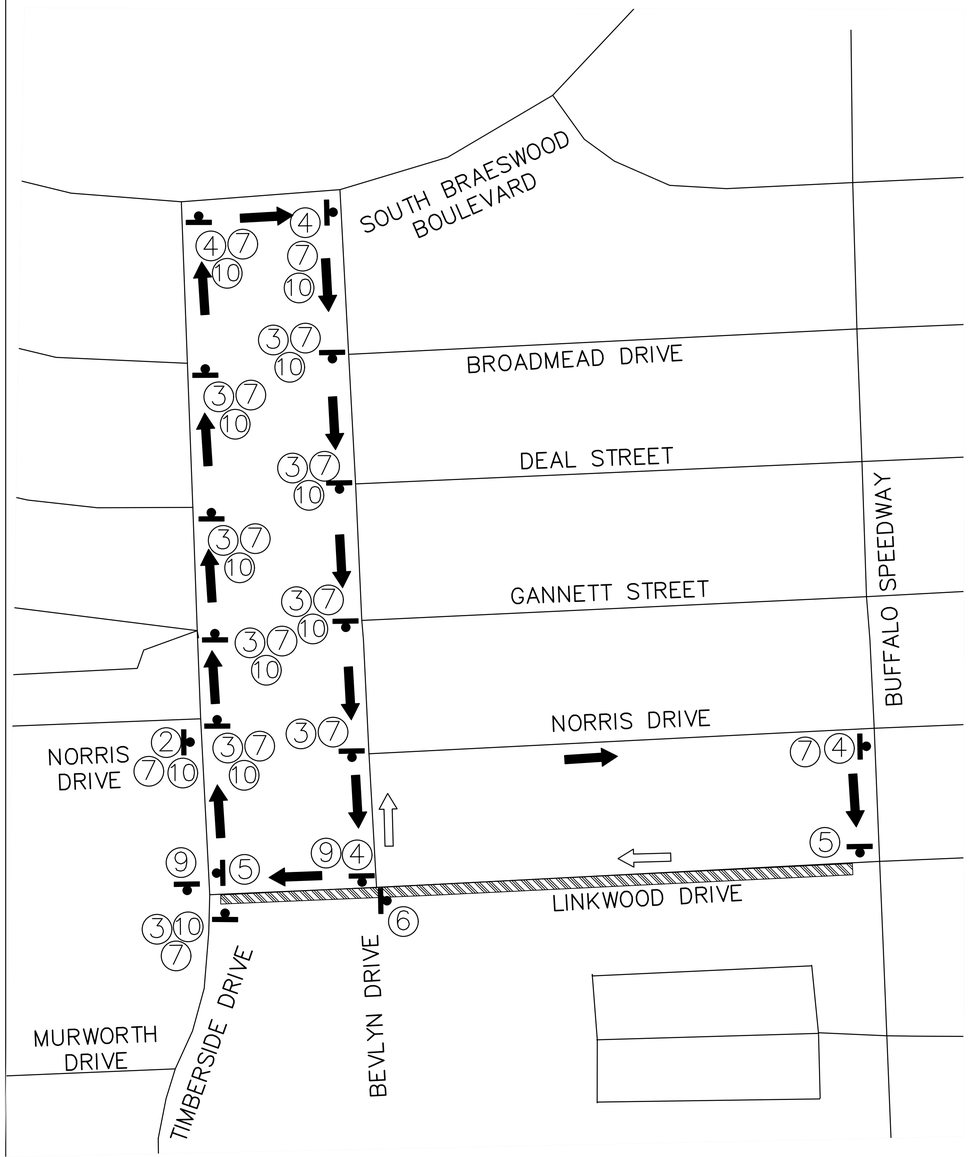
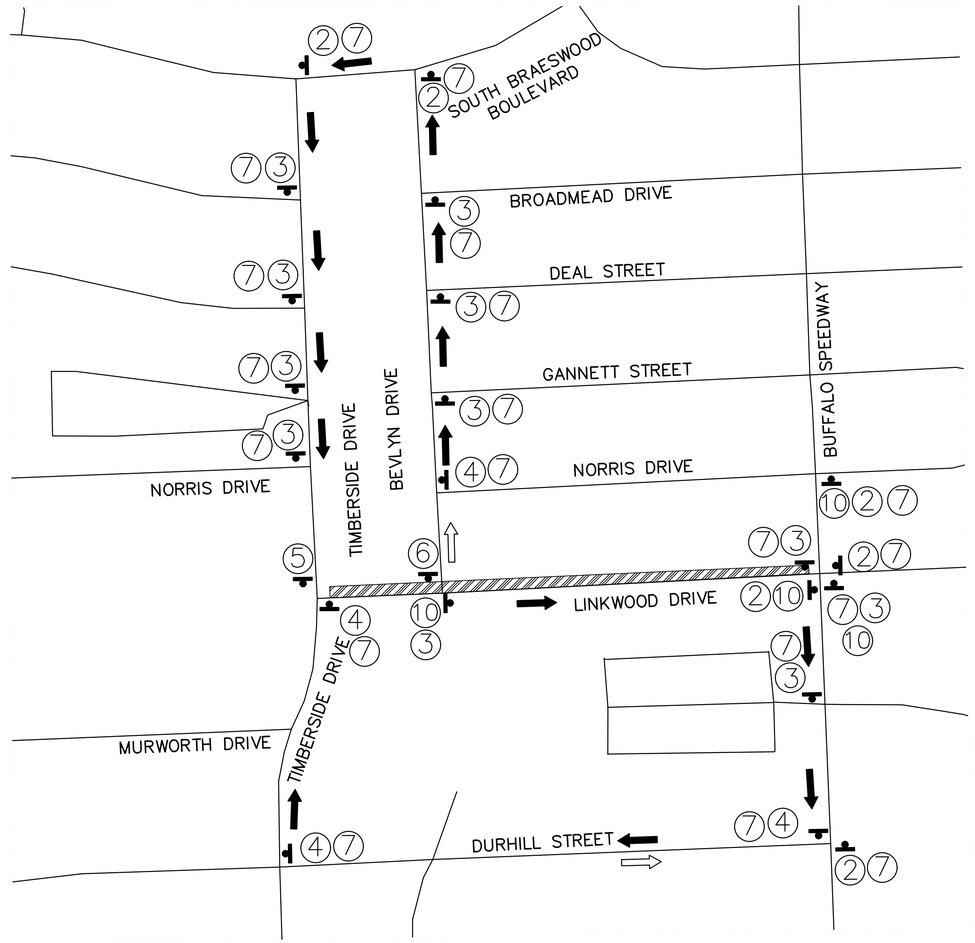
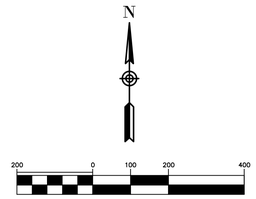


DETOUR PLAN FOR PHASE 2 STEP 1 (N.T.S.)



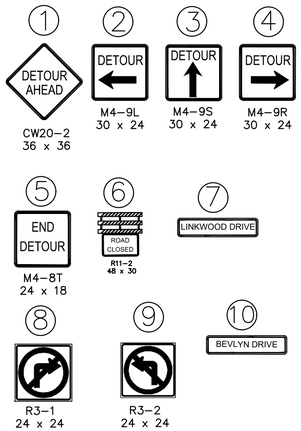
DETOUR PLAN FOR PHASE 2 STEP 2 (N.T.S.)



SCALE: 1" = 50'-0" FEET FOR 22"X34" SHEET

LEGEND:

- PERMANENT CONSTRUCTION WORK ZONE (PHASE 2 STEP 1)
- PERMANENT CONSTRUCTION WORK ZONE (PHASE 2 STEP 2)
- PROPOSED SIGN POST
- TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- PLASTIC DRUM, CONE, OR TUBULAR MARKER



NOTES:

1) ACCESS TO EXISTING BUSINESSES, RESIDENCIES, DRIVEWAYS, ETC SHALL BE MAINTAINED AT ALL TIMES.
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3) FOR TRAFFIC SIGNS AT INTERSECTIONS AND CROSS-STREET CONSTRUCTION, PLEASE REFER SHEET FROM TCP: 44 TO TCP: 47.
4) USE FLAGGER OPERATION FOR TRAFFIC FLOW DURING WORKING HOURS ONLY.
5) CONSTRUCTION WILL BE DONE 300 FT AT A TIME TO ENSURE EFFECTIVE FLAGGERS OPERATION.

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

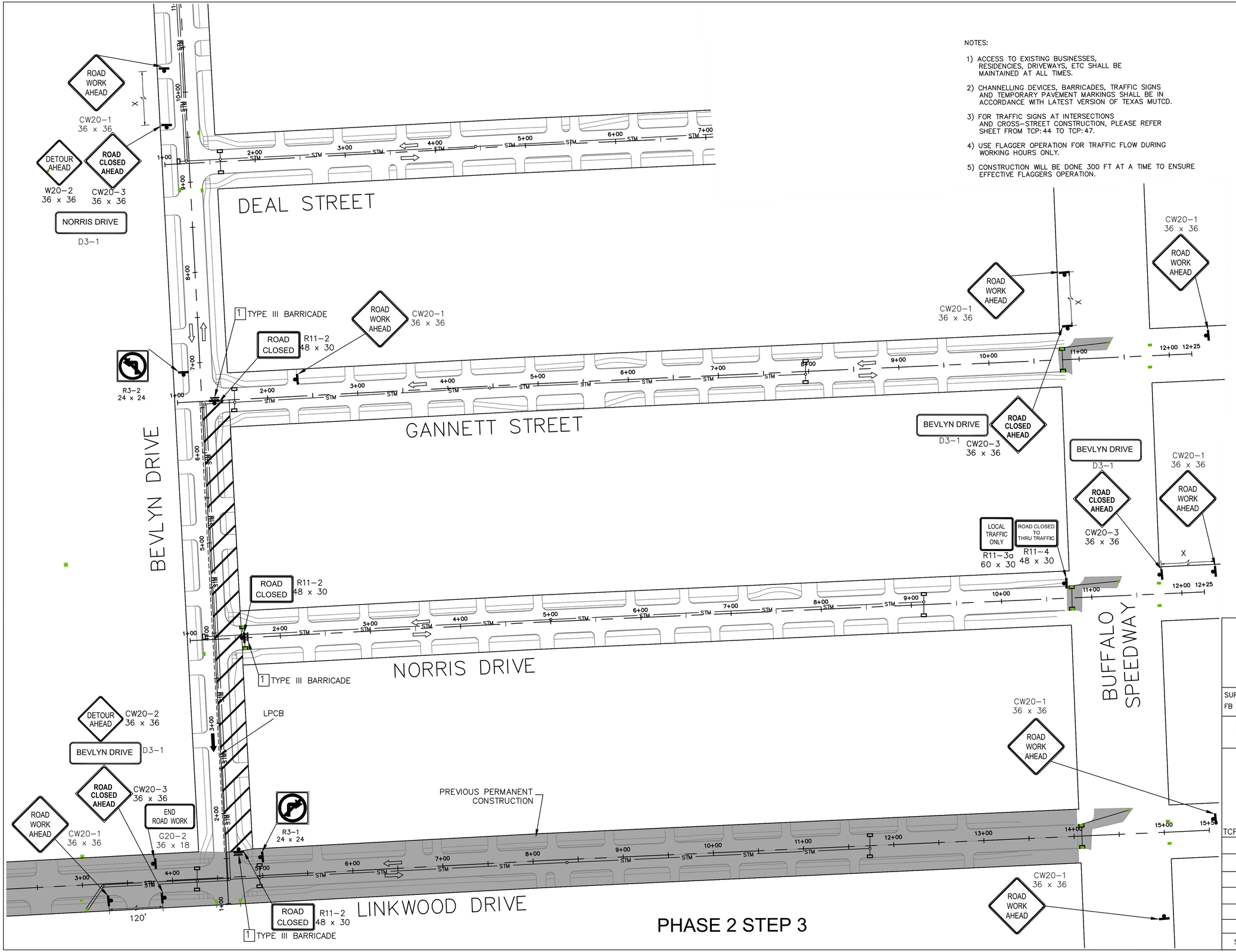
TRAFFIC CONTROL PLANS

DETOUR PLANS FOR PHASE 2 STEP 1 & STEP 2

TCP SHEET: 14

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 131 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/9/2025 9:15 AM
FILE PATH: P:\ACTIVE\15DR30 SP1A\Ph II\Working\CAD\TCP\15DR30-TCP Plans_Ph2.1.dwg



NOTES:

1) ACCESS TO EXISTING BUSINESSES, RESIDENCIES, DRIVEWAYS, ETC SHALL BE MAINTAINED AT ALL TIMES.
2) CHANNELLING DEVICES, BARRICADES, TRAFFIC SIGNS AND TEMPORARY PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH LATEST VERSION OF TEXAS MUTCD.
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4) USE FLAGGER OPERATION FOR TRAFFIC FLOW DURING WORKING HOURS ONLY.
5) CONSTRUCTION WILL BE DONE 300 FT AT A TIME TO ENSURE EFFECTIVE FLAGGERS OPERATION.

N

50 0 25 50 100

SCALE: 1" = 50'-0" FEET FOR 22"X34" SHEET

LEGEND:

- PERMANENT CONSTRUCTION WORK ZONE (PHASE 2 STEP 3)
- PROPOSED SIGN POST
- TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- PLASTIC DRUM, CONE, OR TUBULAR MARKER

PHASE 2 STEP 3

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P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

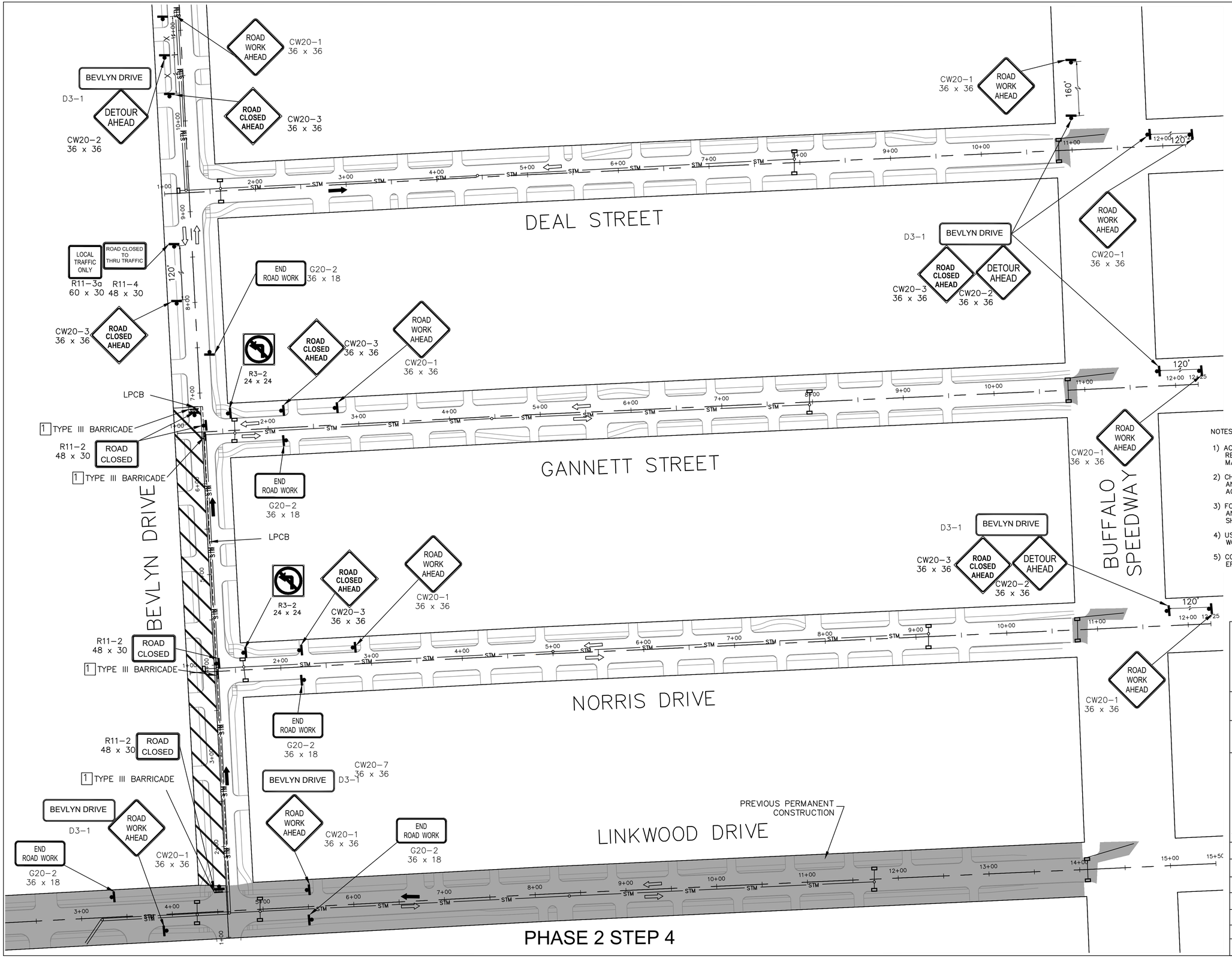
TRAFFIC CONTROL PLANS

PHASE 2 STEP 3

TCP SHEET: 15

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1" =50'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 132 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/8/2025 3:39 PM
FILE PATH: P:\ACTIVE\150R30 SP1A\Ph II\Working\CAD\TCP\150R30-TCP Plans_Ph2.3.dwg



NOTES:

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS
TRAFFIC CONTROL PLANS

PHASE 2 STEP 4

TCP SHEET: 16

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1" =50'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 133 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/8/2025 3:41 PM
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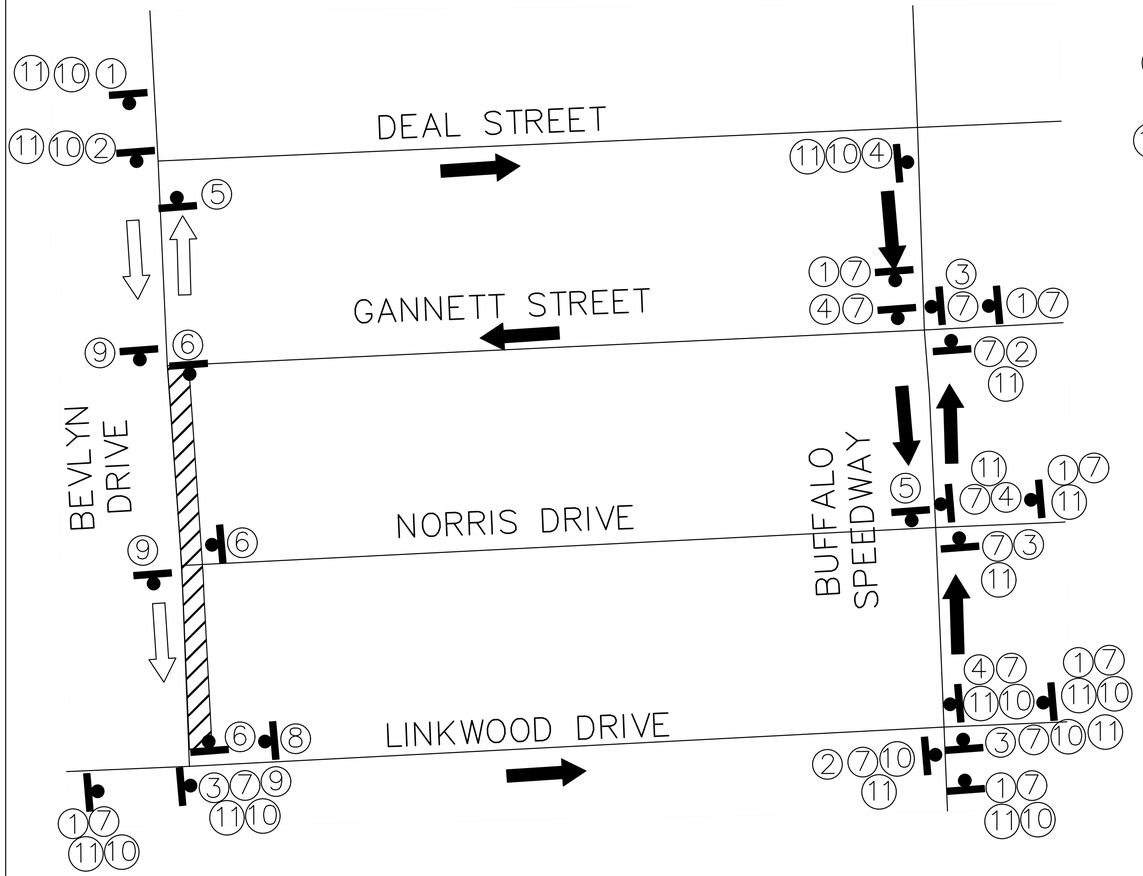
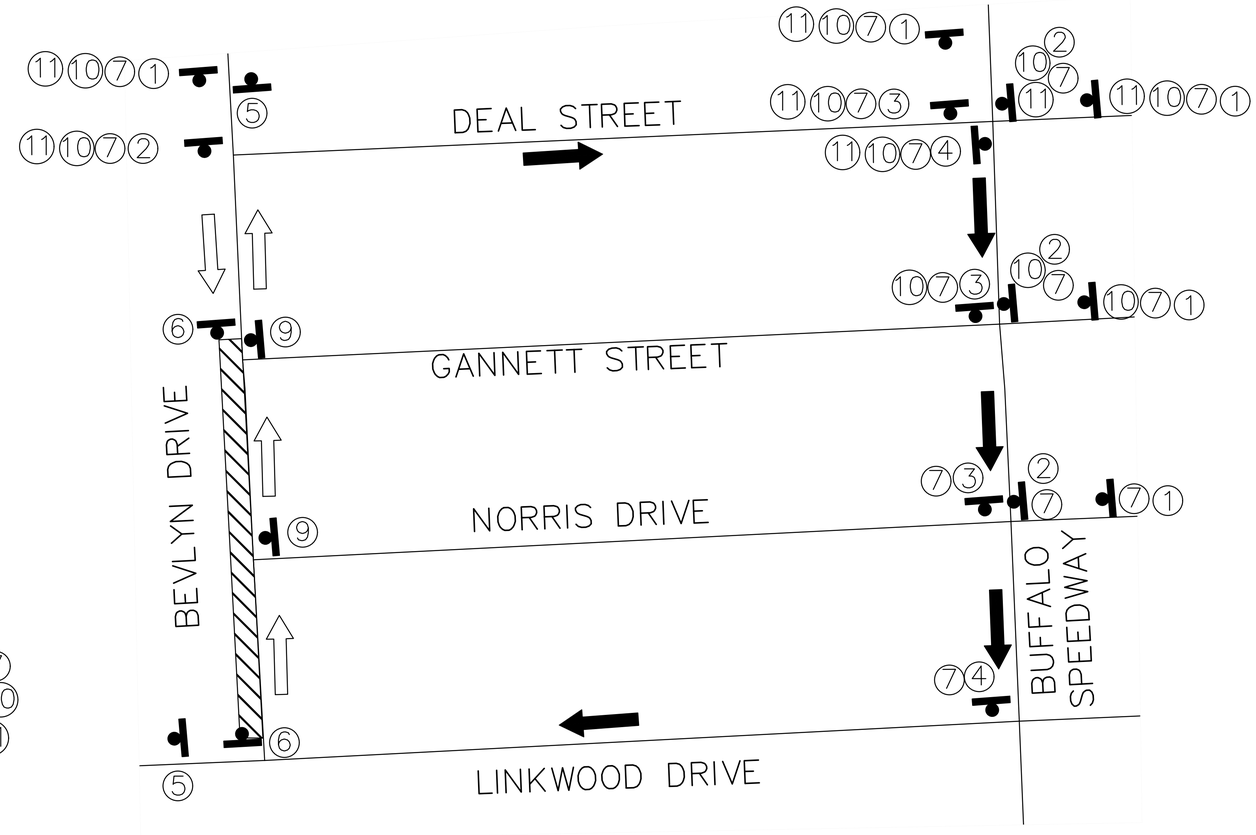


DETOUR PLAN FOR PHASE 2 STEP 3 (N.T.S.)



DETOUR PLAN FOR PHASE 2 STEP 4 (N.T.S.)

NOTES:

1) ACCESS TO EXISTING BUSINESSES, RESIDENCIES, DRIVEWAYS, ETC SHALL BE MAINTAINED AT ALL TIMES.
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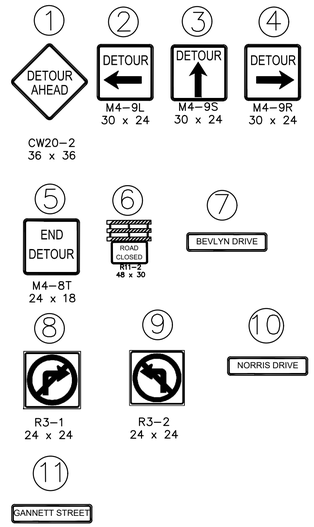
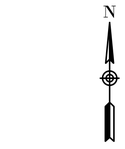
5) CONSTRUCTION WILL BE DONE 300 FT AT A TIME TO ENSURE EFFECTIVE FLAGGERS OPERATION.





LEGEND:

- PERMANENT CONSTRUCTION WORK ZONE (PHASE 2 STEP 3)
- PERMANENT CONSTRUCTION WORK ZONE (PHASE 2 STEP 4)
- PROPOSED SIGN POST
- TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- PLASTIC DRUM, CONE, OR TUBULAR MARKER

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

TRAFFIC CONTROL PLANS

DETOUR PLANS FOR PHASE 2 STEP 3 & STEP 4

TCP SHEET: 17

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 134 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/8/2025 3:55 PM
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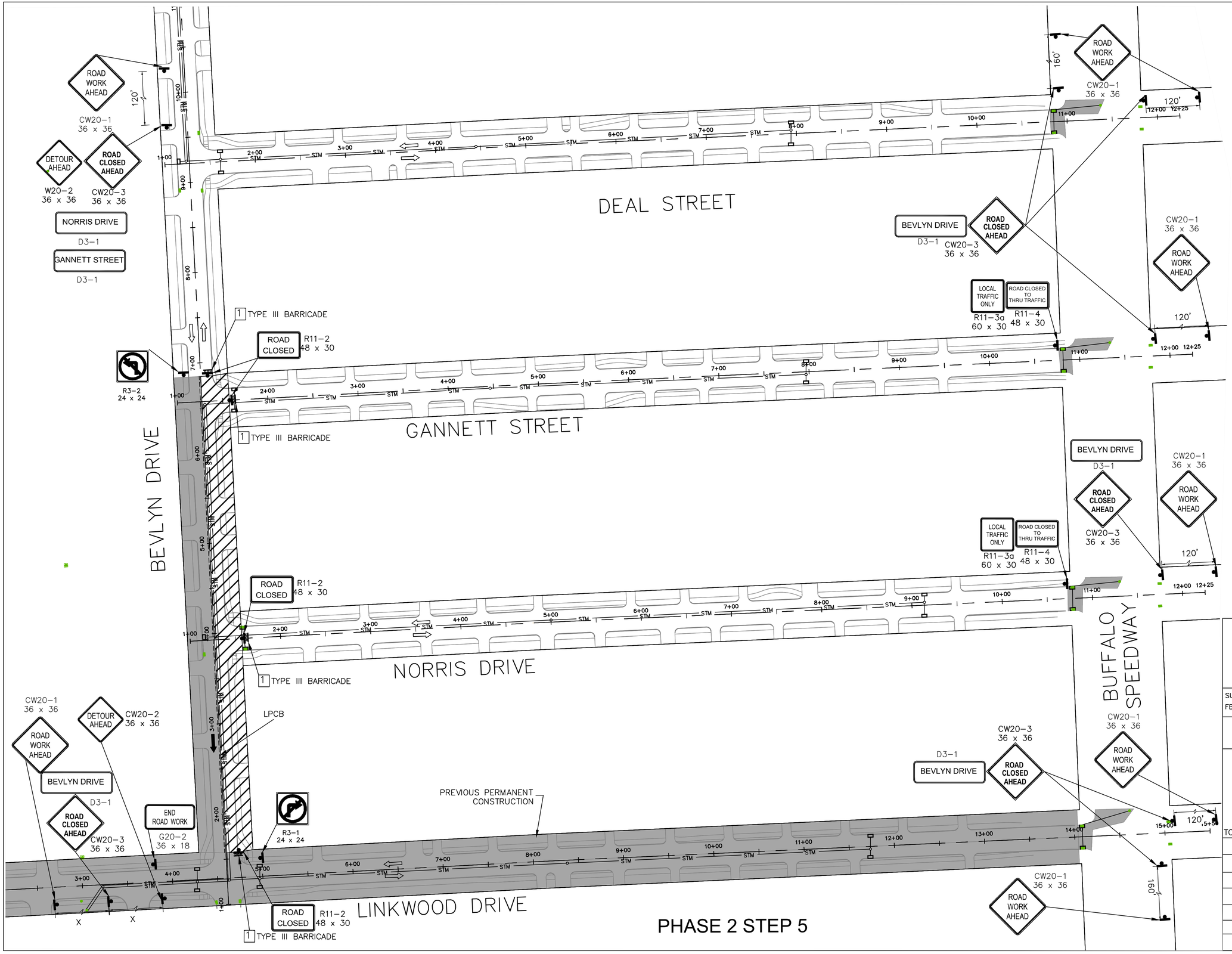

NOTES:

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5) CONSTRUCTION WILL BE DONE 300 FT AT A TIME TO ENSURE EFFECTIVE FLAGGERS OPERATION.

PHASE 2 STEP 5

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TBPE Firm Reg. #4575

SURVEYED BY: Kuo&Associates
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ENGINEER: RAHUL R MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS
TRAFFIC CONTROL PLANS

PHASE 2 STEP 5

TCP SHEET: 18

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1" =50'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 135 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/8/2025 3:57 PM
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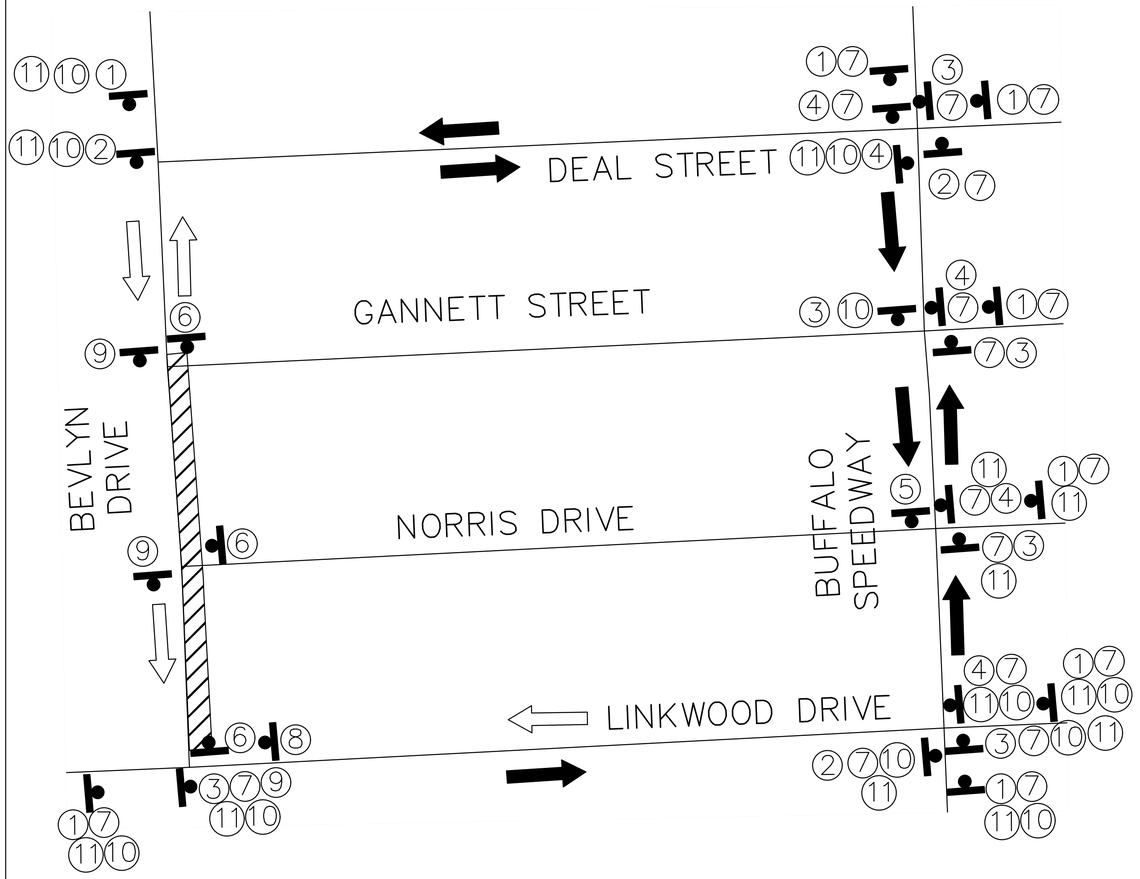

DETOUR PLAN FOR PHASE 2 STEP 5 (N.T.S.)

1. DETOUR AHEAD — CW20-2, 36 x 36
2. DETOUR — M4-9L, 30 x 24
3. DETOUR — M4-9S, 30 x 24
4. DETOUR — M4-9R, 30 x 24
5. END DETOUR — M4-8T, 24 x 18
6. ROAD CLOSED — R11-2, 48 x 30
7. BEVLYN DRIVE
8. R3-1, 24 x 24
9. R3-2, 24 x 24
10. NORRIS DRIVE
11. GANNETT STREET

N

LEGEND:

- PERMANENT CONSTRUCTION WORK ZONE (PHASE 2 STEP 5)
- PROPOSED SIGN POST
- TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- PLASTIC DRUM, CONE, OR TUBULAR MARKER

NOTES:

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P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

TRAFFIC CONTROL PLANS

DETOUR PLAN FOR PHASE 2 STEP 5

TCP SHEET: 19

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 136 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/8/2025 3:59 PM
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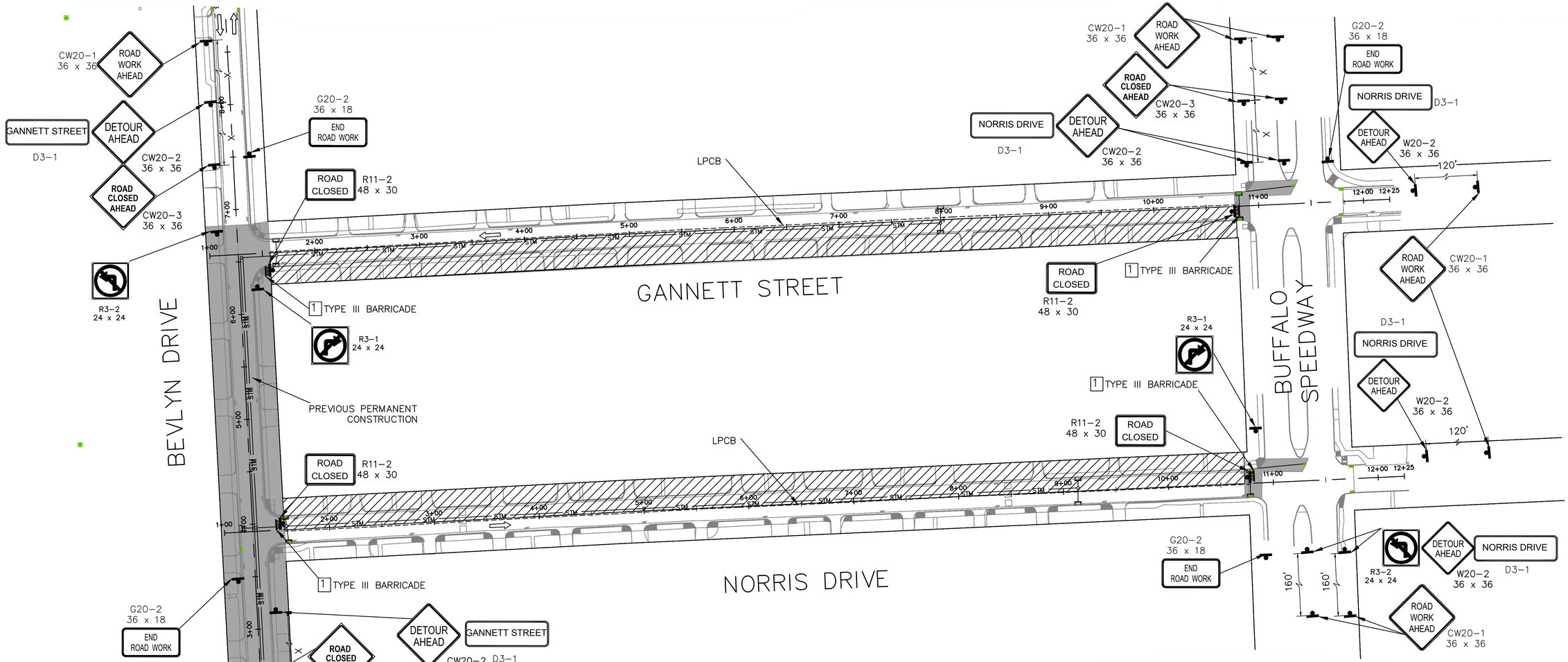

PHASE 2 STEP 6

NOTES:

1) ACCESS TO EXISTING BUSINESSES, RESIDENCIES, DRIVEWAYS, ETC SHALL BE MAINTAINED AT ALL TIMES.
2) CHANNELLING DEVICES, BARRICADES, TRAFFIC SIGNS AND TEMPORARY PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH LATEST VERSION OF TEXAS MUTCD.
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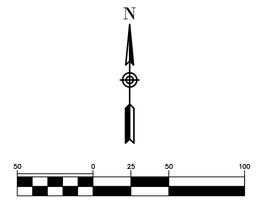

SCALE: 1" = 50'-0" FEET FOR 22"X34" SHEET

LEGEND:

- PERMANENT CONSTRUCTION WORK ZONE (PHASE 2 STEP 6)
- PROPOSED SIGN POST
- TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- PLASTIC DRUM, CONE, OR TUBULAR MARKER

ISANI
civil \ design \ engineers
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SURVEYED BY: Kuo&Associates
FB NO. P-6396

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

TRAFFIC CONTROL PLANS

LAYOUT FOR PHASE 2 STEP 6

TCP SHEET: 20

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1" =50'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 137 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/8/2025 4:00 PM
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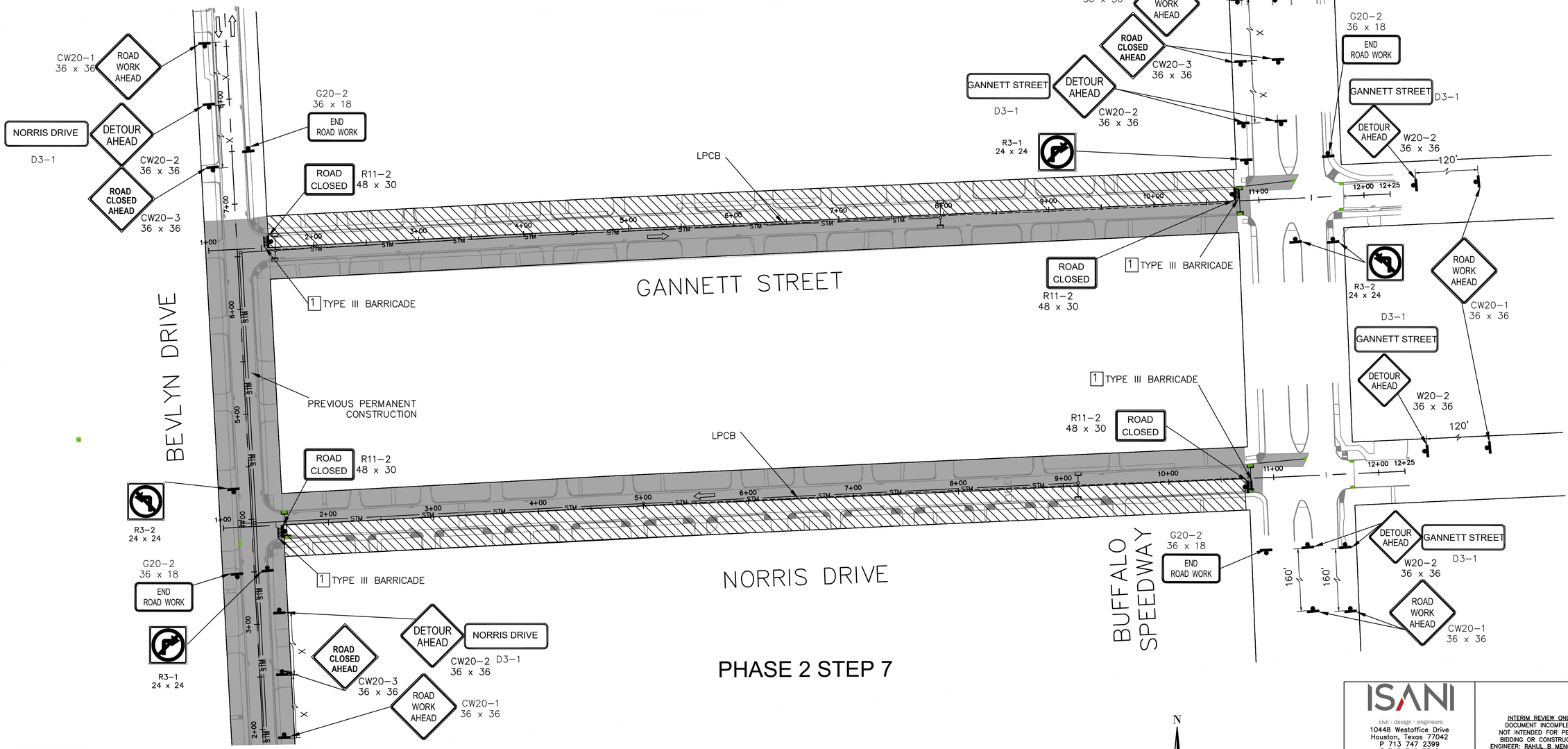

PHASE 2 STEP 7

NOTES:

1) ACCESS TO EXISTING BUSINESSES, RESIDENCIES, DRIVEWAYS, ETC SHALL BE MAINTAINED AT ALL TIMES.
2) CHANNELLING DEVICES, BARRICADES, TRAFFIC SIGNS AND TEMPORARY PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH LATEST VERSION OF TEXAS MUTCD.
3) FOR TRAFFIC SIGNS AT INTERSECTIONS AND CROSS-STREET CONSTRUCTION, PLEASE REFER SHEET FROM TCP: 44 TO TCP: 47.
4) USE FLAGGER OPERATION FOR TRAFFIC FLOW DURING WORKING HOURS ONLY.
5) CONSTRUCTION WILL BE DONE 300 FT AT A TIME TO ENSURE EFFECTIVE FLAGGERS OPERATION.

N

50 0 25 50 100

SCALE: 1" = 50'-0" FEET FOR 22"X34" SHEET

LEGEND:

- PERMANENT CONSTRUCTION
- WORK ZONE (PHASE 2 STEP 7)
- PROPOSED SIGN POST
- TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- PLASTIC DRUM, CONE, OR TUBULAR MARKER

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F 713 748 3748
TBPE Firm Reg. #4575

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FB NO. P-6396

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

TRAFFIC CONTROL PLANS

LAYOUT FOR
PHASE 2 STEP 7

TCP SHEET: 21

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1" =50'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 138 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/8/2025 4:03 PM
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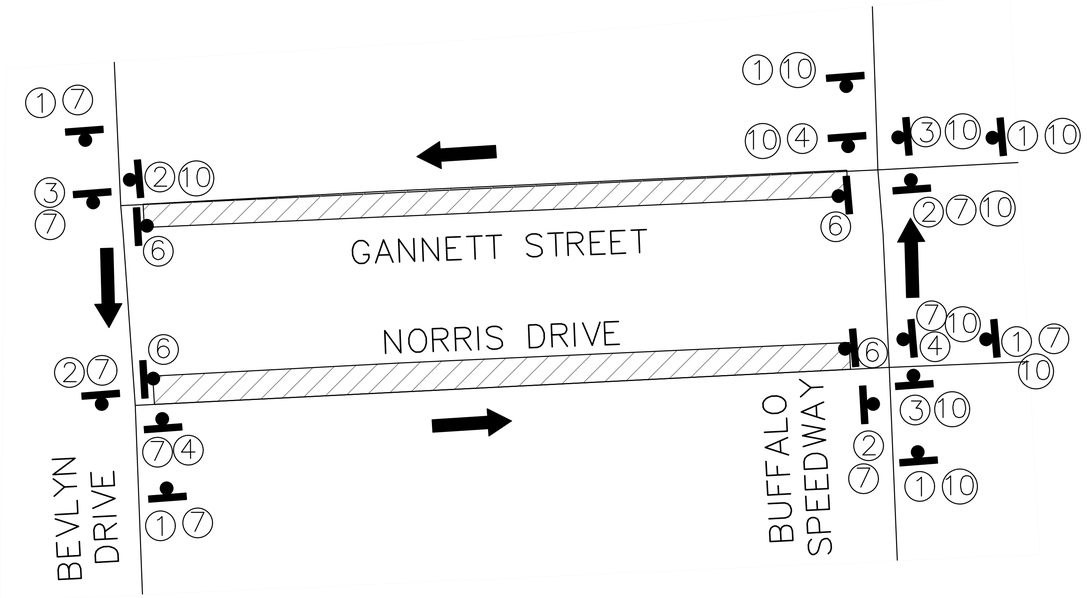
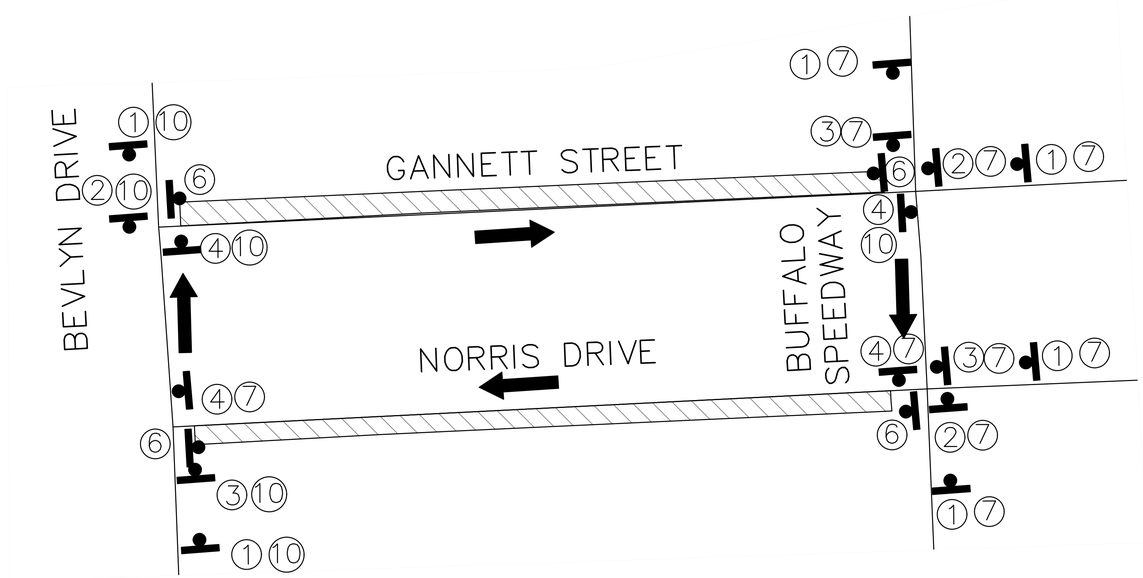


DETOUR PLAN FOR PHASE 2 STEP 6



DETOUR PLAN FOR PHASE 2 STEP 7

NOTES:

1) ACCESS TO EXISTING BUSINESSES, RESIDENCIES, DRIVEWAYS, ETC SHALL BE MAINTAINED AT ALL TIMES.
2) CHANNELLING DEVICES, BARRICADES, TRAFFIC SIGNS AND TEMPORARY PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH LATEST VERSION OF TEXAS MUTCD.
3) FOR TRAFFIC SIGNS AT INTERSECTIONS AND CROSS-STREET CONSTRUCTION, PLEASE REFER SHEET FROM TCP: 44 TO TCP: 47.
4) USE FLAGGER OPERATION FOR TRAFFIC FLOW DURING WORKING HOURS ONLY.
5) CONSTRUCTION WILL BE DONE 300 FT AT A TIME TO ENSURE EFFECTIVE FLAGGERS OPERATION.

N

50 0 25 50 100

SCALE: 1" = 50'-0" FEET FOR 22"X34" SHEET

LEGEND:

- PERMANENT CONSTRUCTION WORK ZONE (PHASE 2 STEP 6)
- PERMANENT CONSTRUCTION WORK ZONE (PHASE 2 STEP 7)
- PROPOSED SIGN POST
- TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- PLASTIC DRUM, CONE, OR TUBULAR MARKER

1 DETOUR AHEAD — CW20-2, 36 x 36
2 DETOUR ← — M4-9L, 30 x 24
3 DETOUR ↑ — M4-9S, 30 x 24
4 DETOUR → — M4-9R, 30 x 24
5 END DETOUR — M4-8T, 24 x 18
6 ROAD CLOSED — R11-2, 48 x 30
7 GANNETT STREET
8 — R3-1, 24 x 24
9 — R3-2, 24 x 24
10 NORRIS DRIVE

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P.E. Reg No: 130533
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

TRAFFIC CONTROL PLANS

DETOUR PLANS FOR PHASE 2 STEP 6 & STEP 7

TCP SHEET: 22

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 139 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/8/2025 4:02 PM
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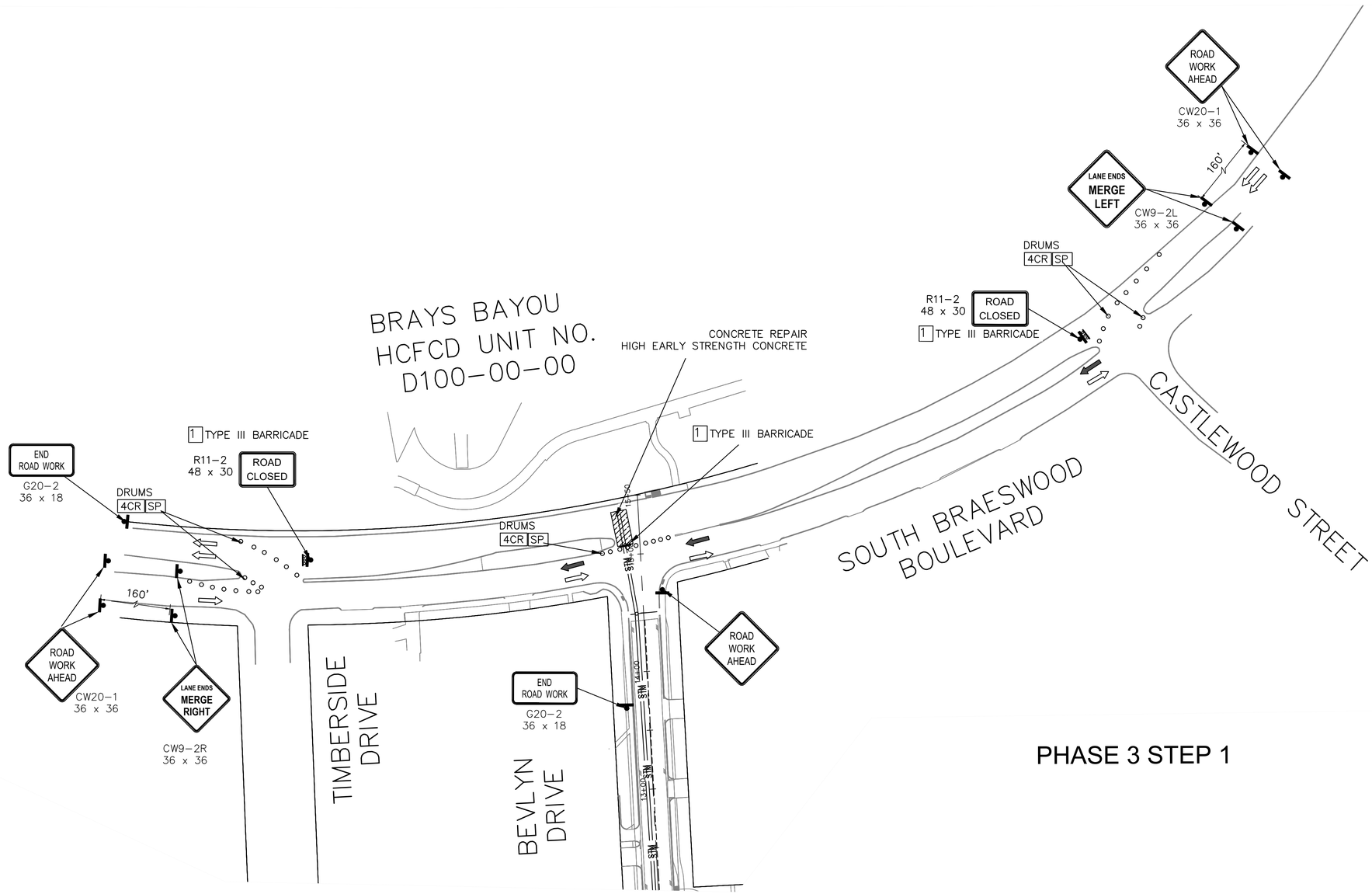

PHASE 3 STEP 1

N

50 0 25 50 100

SCALE: 1" = 50'-0" FEET FOR 22"X34" SHEET

LEGEND:

- PERMANENT CONSTRUCTION WORK ZONE (PHASE 3 STEP 1)
- PROPOSED SIGN POST
- TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- PLASTIC DRUM, CONE, OR TUBULAR MARKER

NOTES:

1) ACCESS TO EXISTING BUSINESSES, RESIDENCIES, DRIVEWAYS, ETC SHALL BE MAINTAINED AT ALL TIMES.
2) CHANNELLING DEVICES, BARRICADES, TRAFFIC SIGNS AND TEMPORARY PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH LATEST VERSION OF TEXAS MUTCD.
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5) CONSTRUCTION WILL BE DONE 300 FT AT A TIME TO ENSURE EFFECTIVE FLAGGERS OPERATION.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

TRAFFIC CONTROL PLANS

PHASE 3 STEP 1

TCP SHEET: 23

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1" =50'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 140 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/8/2025 6:18 PM
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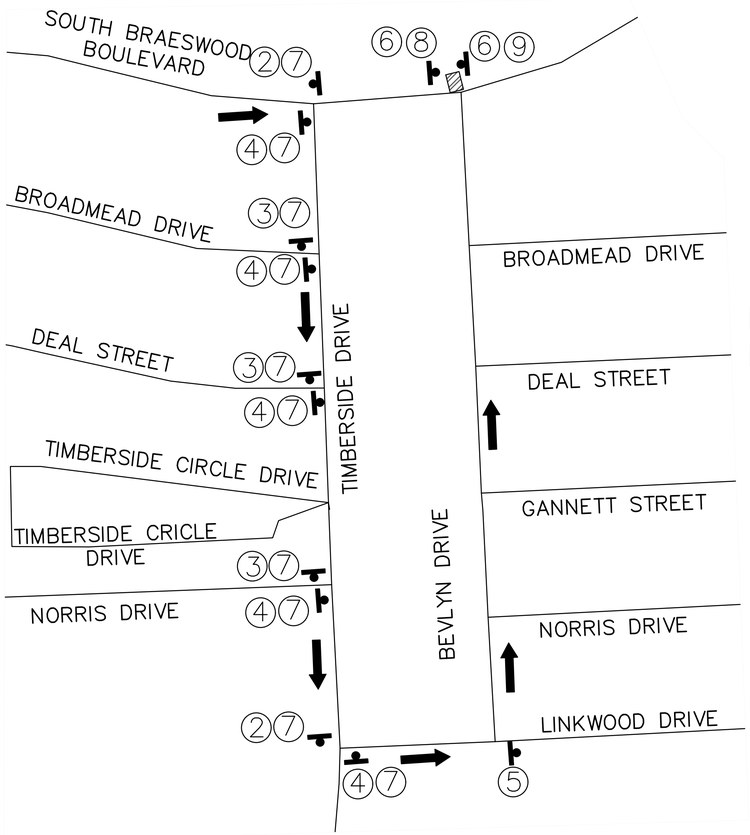
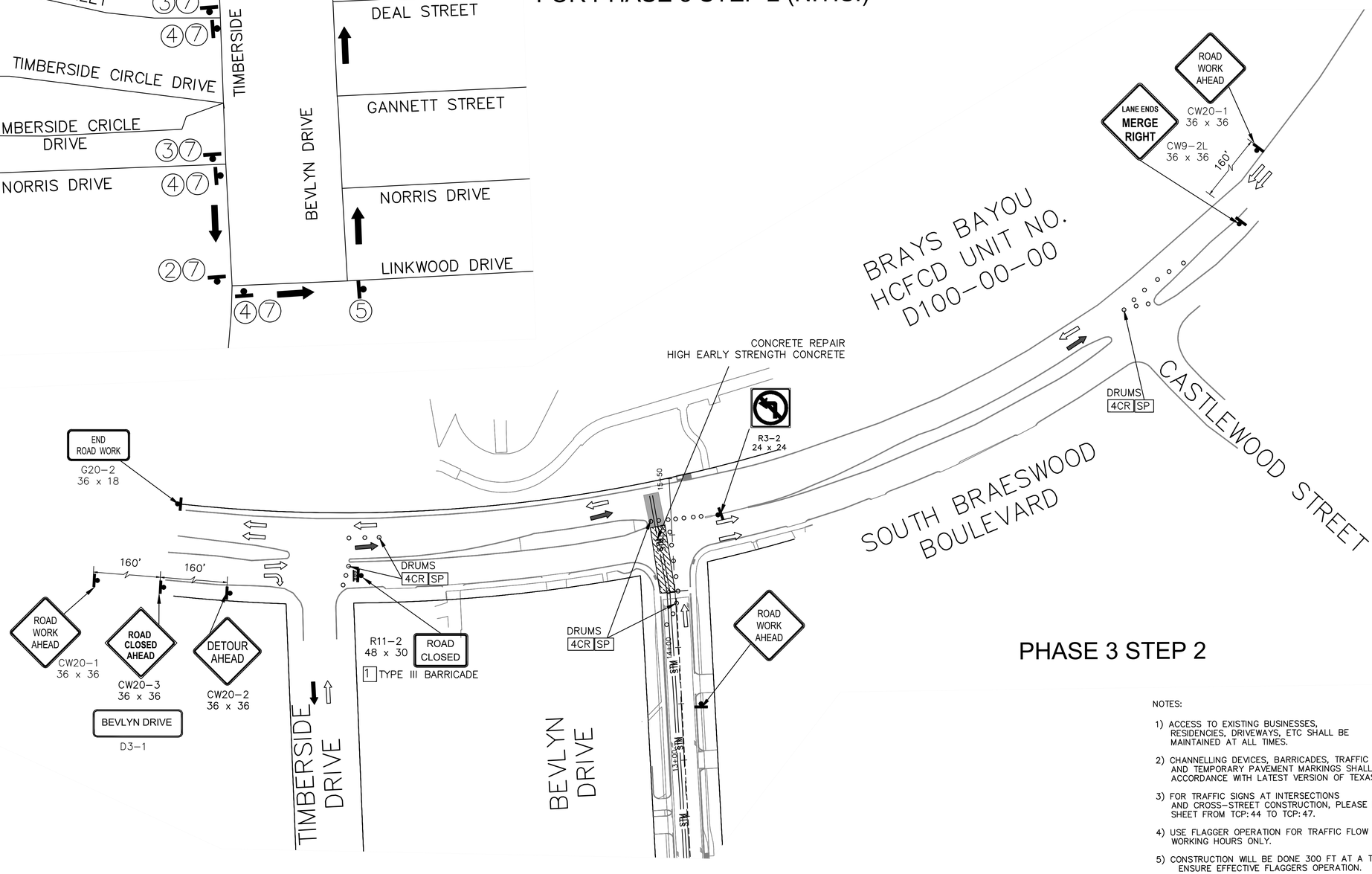


DETOUR PLAN
FOR PHASE 3 STEP 2 (N.T.S.)



PHASE 3 STEP 2

NOTES:

1) ACCESS TO EXISTING BUSINESSES, RESIDENCIES, DRIVEWAYS, ETC SHALL BE MAINTAINED AT ALL TIMES.
2) CHANNELLING DEVICES, BARRICADES, TRAFFIC SIGNS AND TEMPORARY PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH LATEST VERSION OF TEXAS MUTCD.
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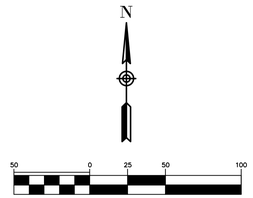
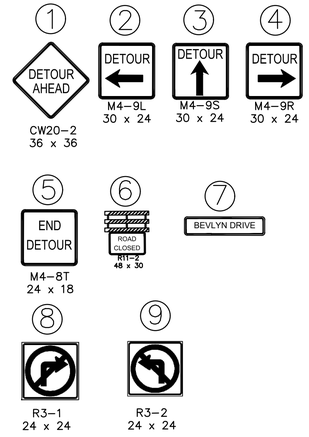


LEGEND:

- PERMANENT CONSTRUCTION WORK ZONE (PHASE 3 STEP 2)
- PROPOSED SIGN POST
- TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- PLASTIC DRUM, CONE, OR TUBULAR MARKER



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P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

TRAFFIC CONTROL PLANS

PHASE 3 STEP 2

TCP SHEET: 24

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1" =50'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 141 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/8/2025 6:17 PM
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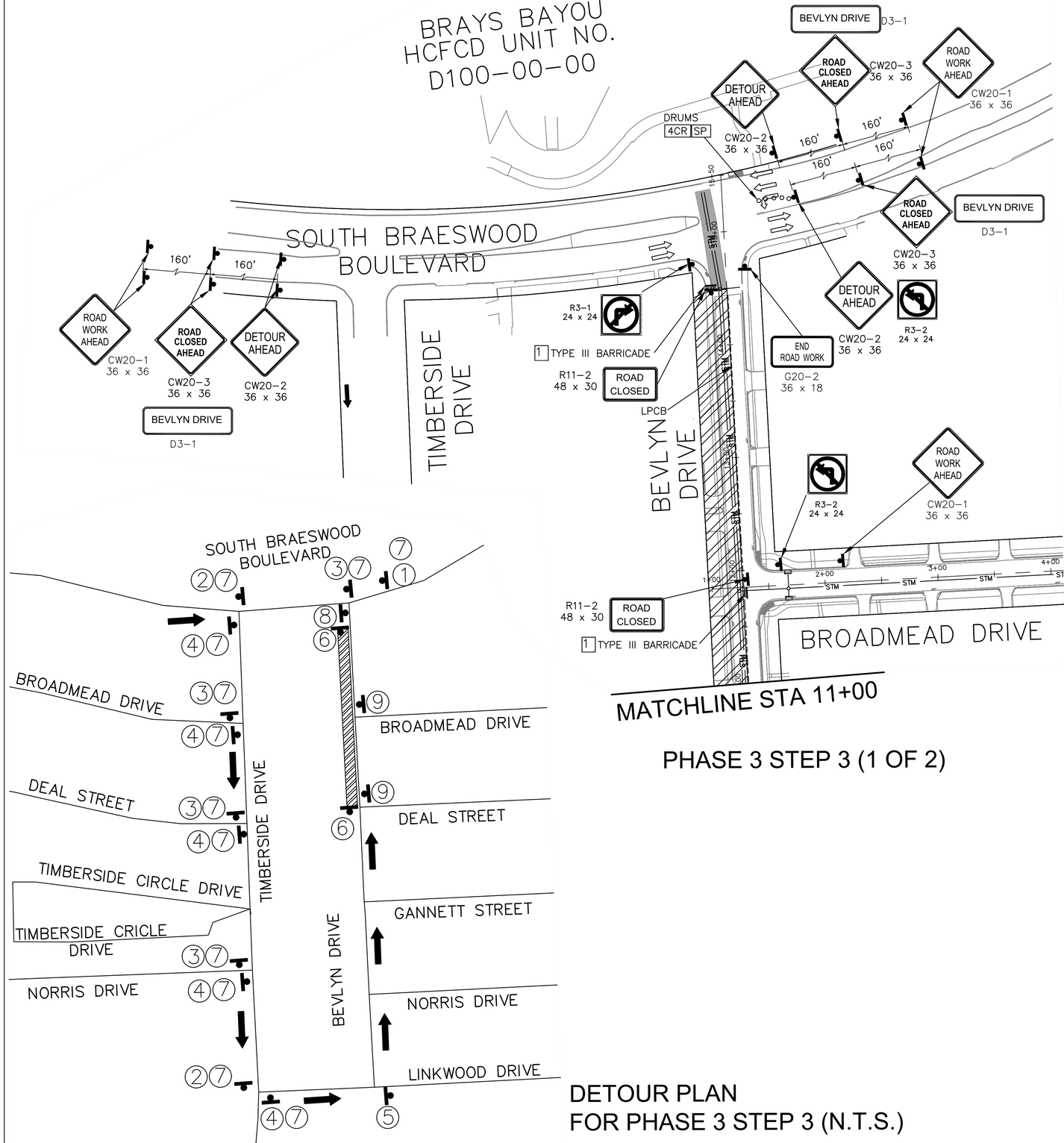
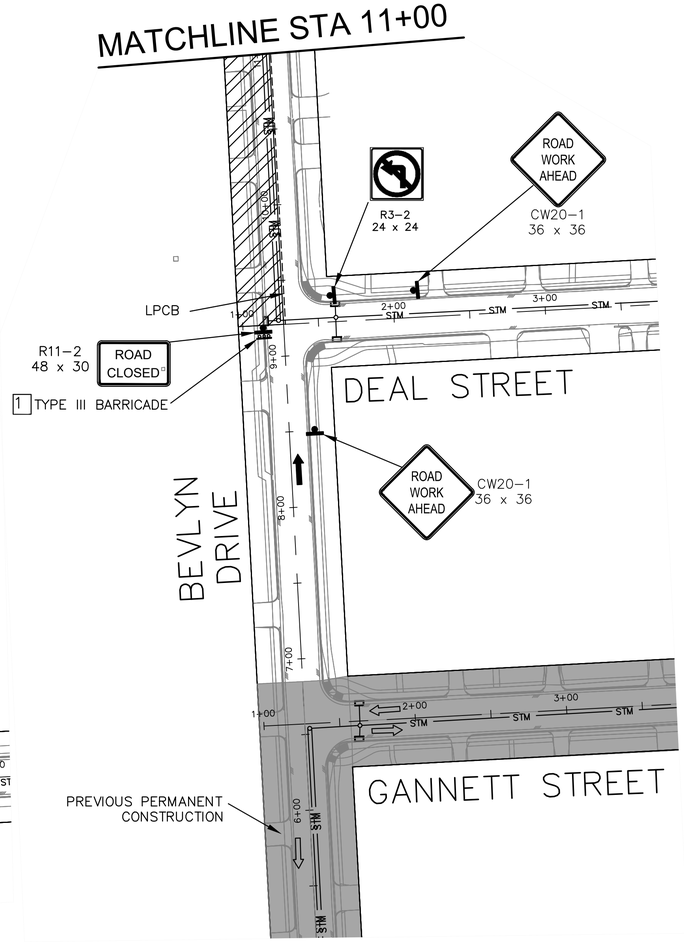
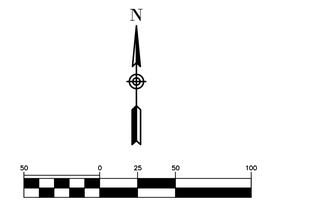


PHASE 3 STEP 3 (1 OF 2)

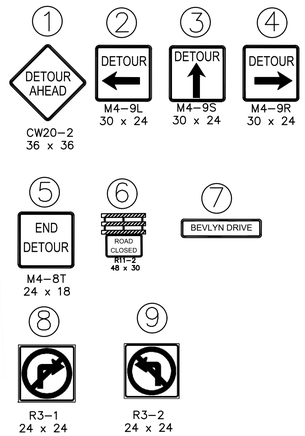


PHASE 3 STEP 3 (2 OF 2)



LEGEND:

- PERMANENT CONSTRUCTION WORK ZONE (PHASE 3 STEP 3)
- PROPOSED SIGN POST
- TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- PLASTIC DRUM, CONE, OR TUBULAR MARKER



NOTES:

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5) CONSTRUCTION WILL BE DONE 300 FT AT A TIME TO ENSURE EFFECTIVE FLAGGERS OPERATION.

DETOUR PLAN
FOR PHASE 3 STEP 3 (N.T.S.)

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P.E. Reg No: 130533
DATE: DECEMBER 2025

SURVEYED BY: Kuo&Associates
FB NO. P-6396

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

TRAFFIC CONTROL PLANS

PHASE 3 STEP 3

TCP SHEET: 25

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1" =50'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 142 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/8/2025 4:08 PM
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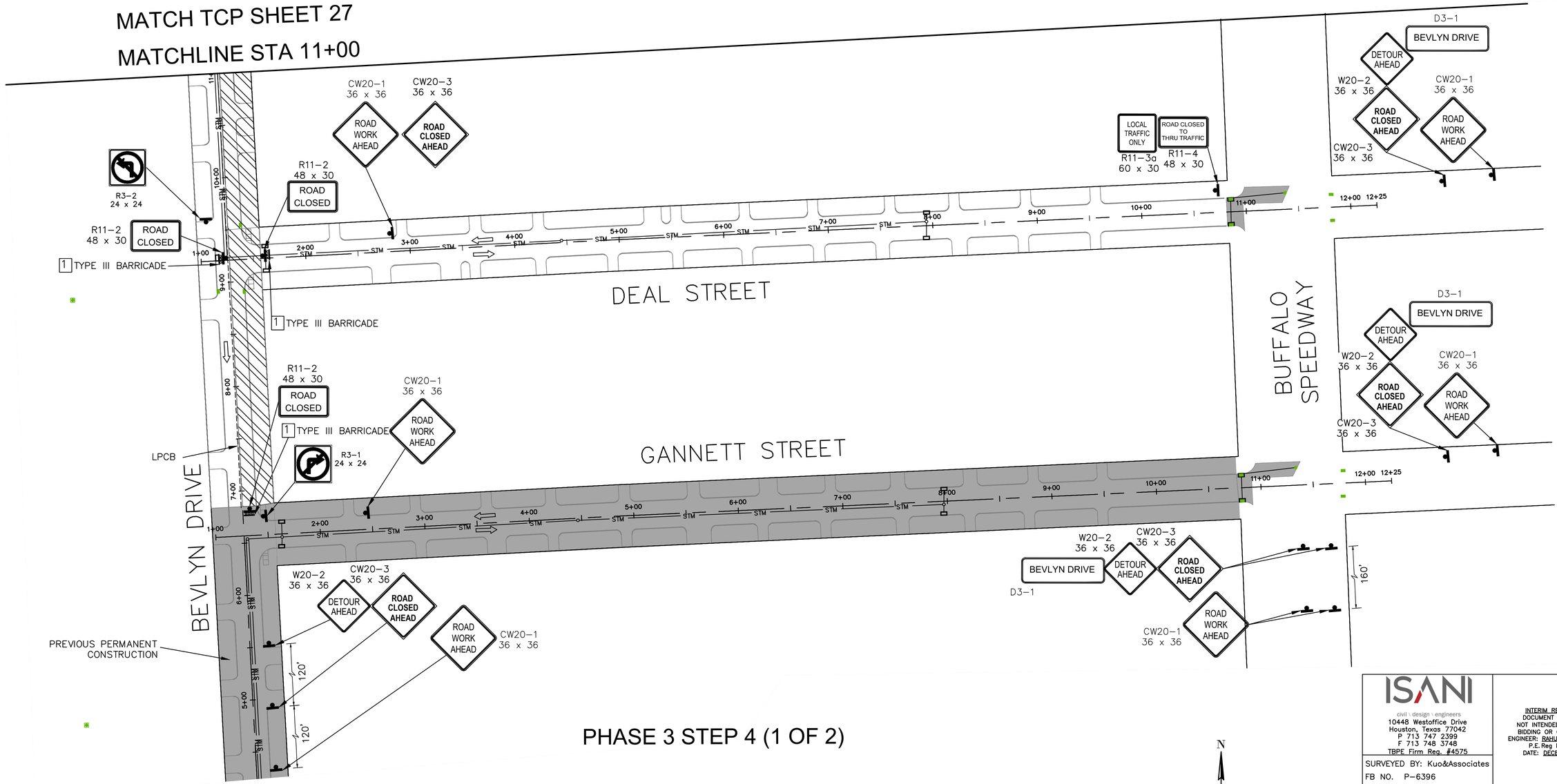
MATCH TCP SHEET 27

MATCHLINE STA 11+00



PHASE 3 STEP 4 (1 OF 2)

NOTES:

1) ACCESS TO EXISTING BUSINESSES, RESIDENCIES, DRIVEWAYS, ETC SHALL BE MAINTAINED AT ALL TIMES.
2) CHANNELLING DEVICES, BARRICADES, TRAFFIC SIGNS AND TEMPORARY PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH LATEST VERSION OF TEXAS MUTCD.
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N

50 0 25 50 100

SCALE: 1" = 50'-0" FEET FOR 22"X34" SHEET

LEGEND:

- PERMANENT CONSTRUCTION WORK ZONE (PHASE 3 STEP 4)
- PROPOSED SIGN POST
- TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- PLASTIC DRUM, CONE, OR TUBULAR MARKER

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P.E. Reg No: 130533
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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

TRAFFIC CONTROL PLANS

PHASE 3 STEP 4
1 OF 2

TCP SHEET: 26

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1" =50'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 143 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/8/2025 4:55 PM
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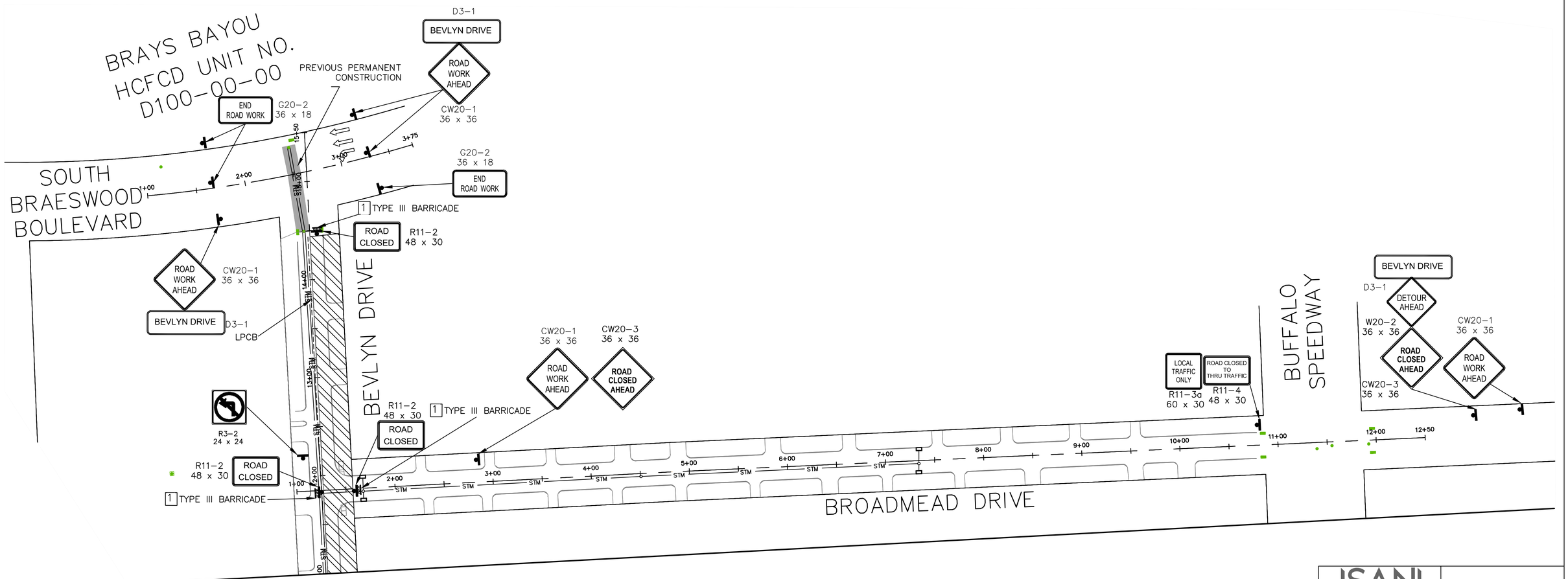

MATCH TCP SHEET 26

MATCHLINE STA 11+00

PHASE 3 STEP 4 (2 OF 2)

NOTES:

1) ACCESS TO EXISTING BUSINESSES, RESIDENCIES, DRIVEWAYS, ETC SHALL BE MAINTAINED AT ALL TIMES.
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N

50 0 25 50 100

SCALE: 1" = 50'-0" FEET FOR 22"X34" SHEET

LEGEND:

- PERMANENT CONSTRUCTION WORK ZONE (PHASE 3 STEP 4)
- PROPOSED SIGN POST
- TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

TRAFFIC CONTROL PLANS

PHASE 3 STEP 4
2 OF 2

TCP SHEET: 27

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1" =50'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 144 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/8/2025 4:56 PM
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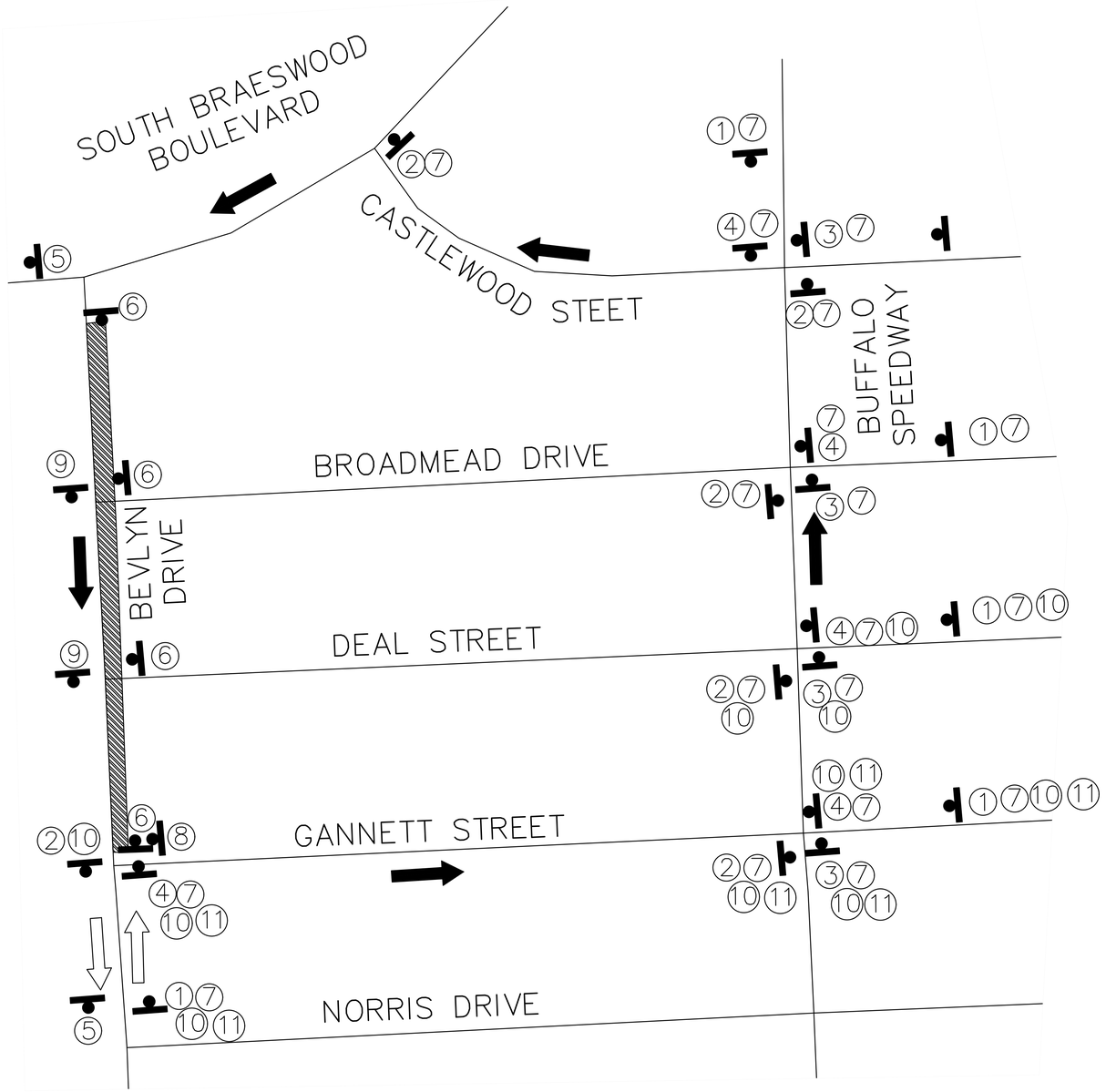
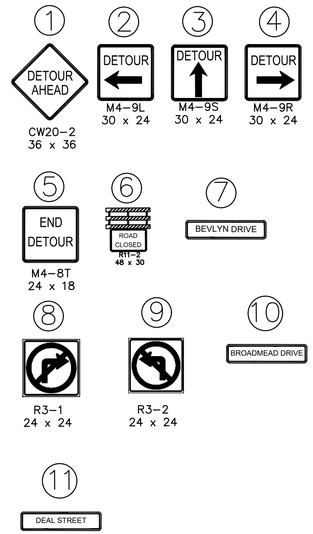
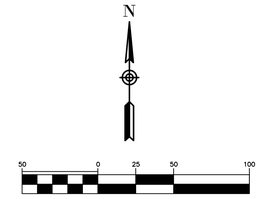


DETOUR PLAN FOR PHASE 3 STEP 4 (N.T.S.)





SCALE: 1" = 50'-0" FEET FOR 22"X34" SHEET

LEGEND:

- PERMANENT CONSTRUCTION WORK ZONE (PHASE 3 STEP 4)
- PROPOSED SIGN POST
- TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- PLASTIC DRUM, CONE, OR TUBULAR MARKER

NOTES:

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ENGINEER: RAHUL B MENON, P.E
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HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

TRAFFIC CONTROL PLANS

DETOUR PLAN FOR PHASE 3 STEP 4

TCP SHEET: 28

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
N.T.S	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 145 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/8/2025 4:17 PM
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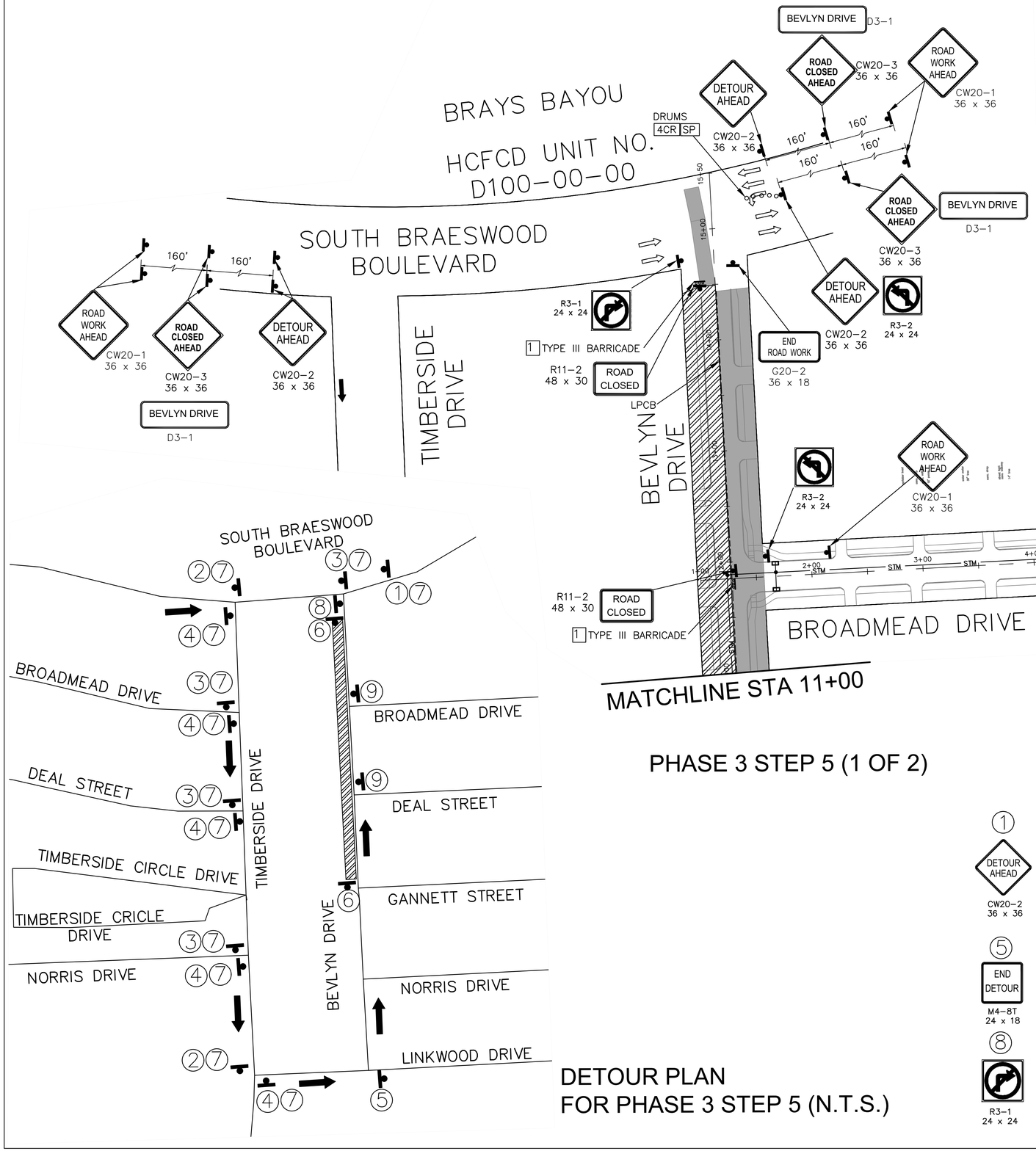

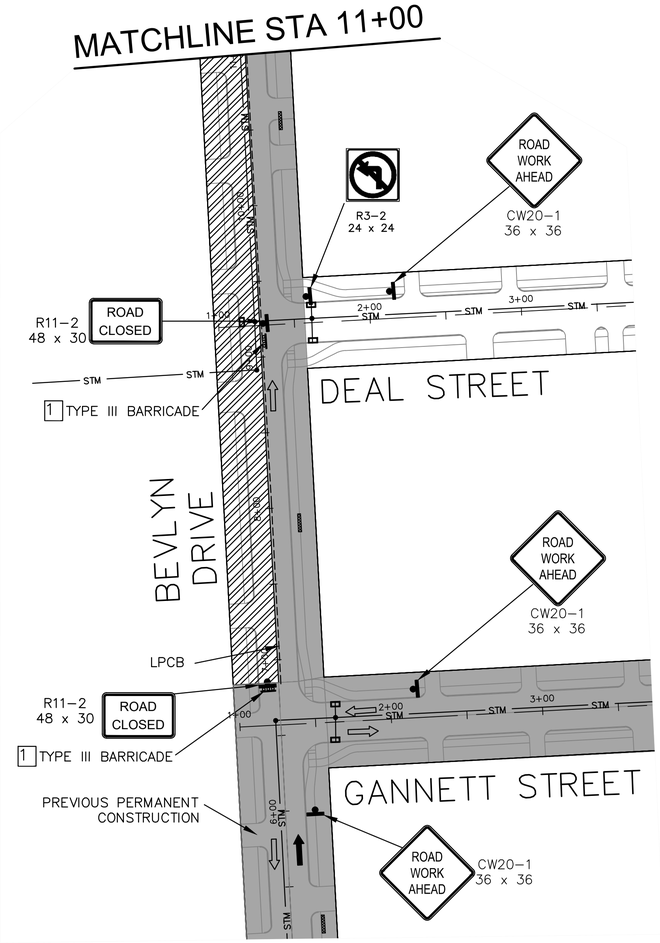

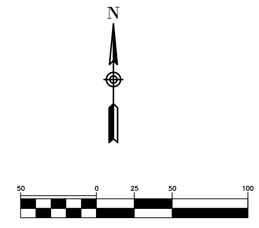

LEGEND:

- PERMANENT CONSTRUCTION WORK ZONE (PHASE 3 STEP 5)
- PROPOSED SIGN POST
- TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- PLASTIC DRUM, CONE, OR TUBULAR MARKER

PHASE 3 STEP 5 (1 OF 2)

PHASE 3 STEP 5 (2 OF 2)

DETOUR PLAN
FOR PHASE 3 STEP 5 (N.T.S.)

1 DETOUR AHEAD CW20-2 36 x 36
2 DETOUR M4-9L 30 x 24
3 DETOUR M4-9S 30 x 24
4 DETOUR M4-9R 30 x 24
5 END DETOUR M4-8T 24 x 18
6 ROAD CLOSED R11-2 48 x 30
7 BEVLYN DRIVE
8 R3-1 24 x 24
9 R3-2 24 x 24

NOTES:

1) ACCESS TO EXISTING BUSINESSES, RESIDENCIES, DRIVEWAYS, ETC SHALL BE MAINTAINED AT ALL TIMES.
2) CHANNELLING DEVICES, BARRICADES, TRAFFIC SIGNS AND TEMPORARY PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH LATEST VERSION OF TEXAS MUTCD.
3) FOR TRAFFIC SIGNS AT INTERSECTIONS AND CROSS-STREET CONSTRUCTION, PLEASE REFER SHEET FROM TCP: 44 TO TCP: 47.
4) USE FLAGGER OPERATION FOR TRAFFIC FLOW DURING WORKING HOURS ONLY.
5) CONSTRUCTION WILL BE DONE 300 FT AT A TIME TO ENSURE EFFECTIVE FLAGGERS OPERATION.

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F 713 748 3748
TBPE Firm Reg. #4575

SURVEYED BY: Kuo&Associates
FB NO. P-6396

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ENGINEER: RAHUL R MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

TRAFFIC CONTROL PLANS

PHASE 3 STEP 5

TCP SHEET: 29

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1" =50'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 146 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/8/2025 4:20 PM
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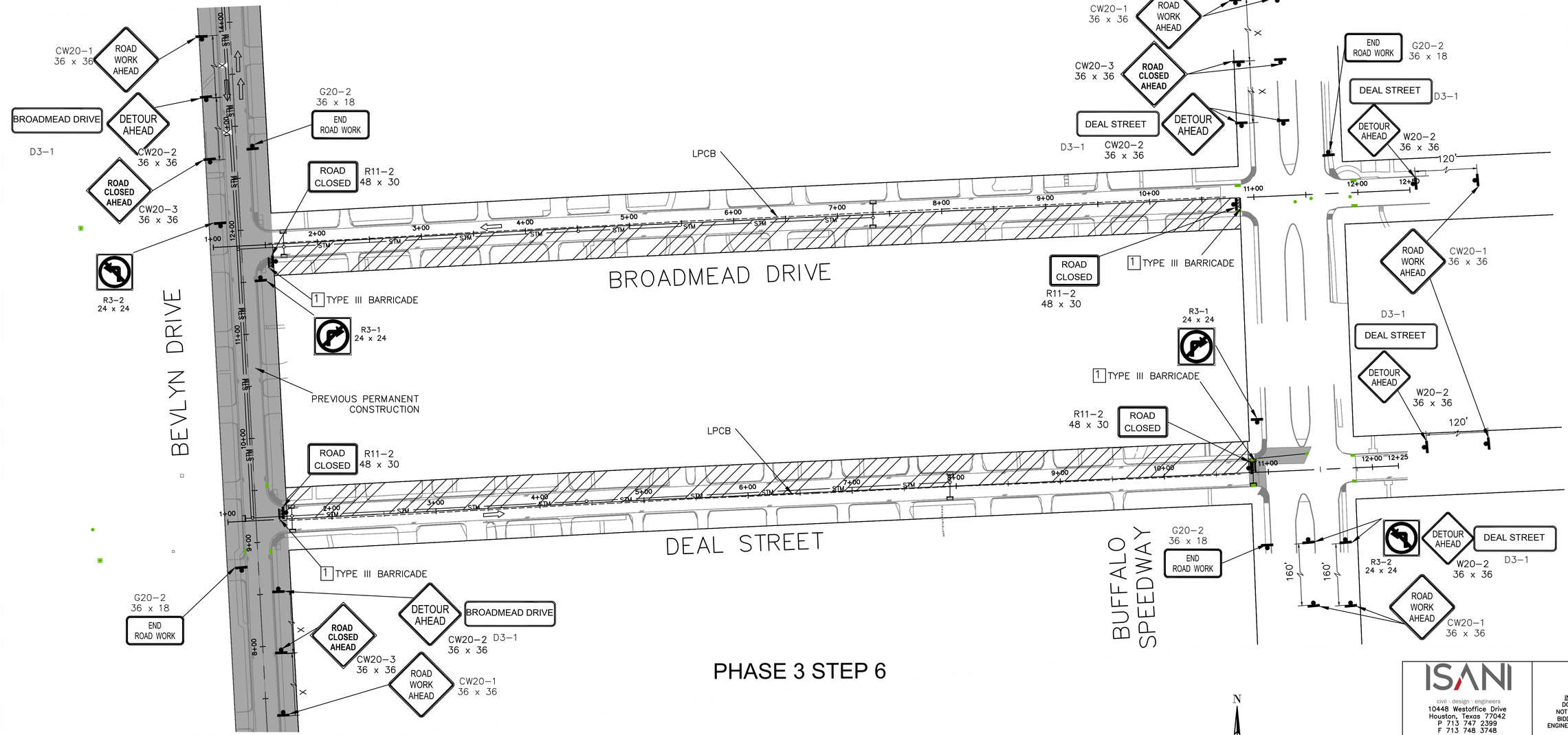

NOTES:

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2) CHANNELLING DEVICES, BARRICADES, TRAFFIC SIGNS AND TEMPORARY PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH LATEST VERSION OF TEXAS MUTCD.
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4) USE FLAGGER OPERATION FOR TRAFFIC FLOW DURING WORKING HOURS ONLY.
5) CONSTRUCTION WILL BE DONE 300 FT AT A TIME TO ENSURE EFFECTIVE FLAGGERS OPERATION.

N

50 0 25 50 100

SCALE: 1" = 50'-0" FEET FOR 22"X34" SHEET

LEGEND:

- PERMANENT CONSTRUCTION WORK ZONE (PHASE 3 STEP 6)
- PROPOSED SIGN POST
- TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- PLASTIC DRUM, CONE, OR TUBULAR MARKER

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

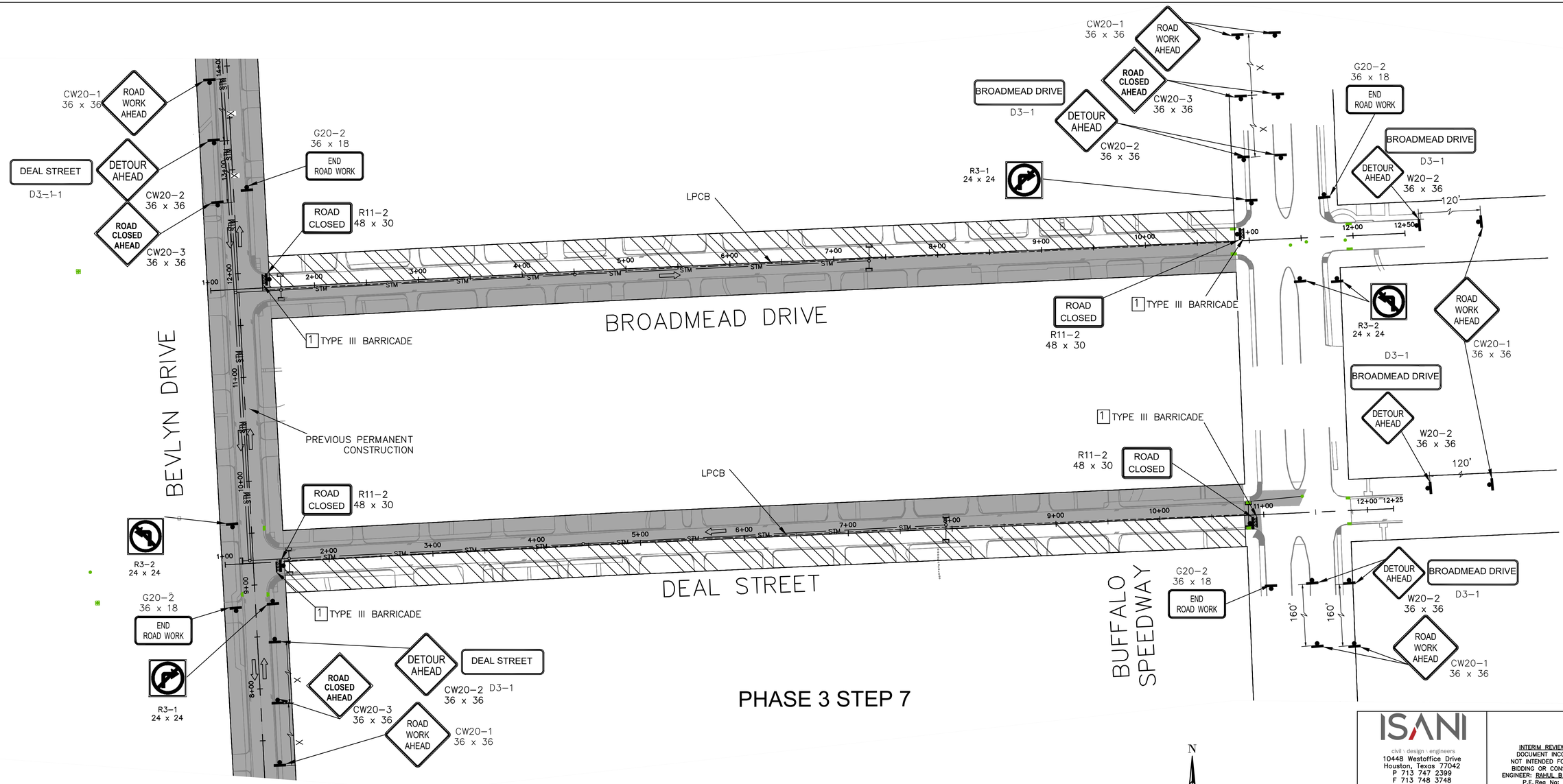
TRAFFIC CONTROL PLANS

LAYOUT FOR PHASE 3 STEP 6

TCP SHEET: 30

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1" =50'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 147 OF 200	

FILE PATH: P:\ACTIVE_15DR30 SP1A\Ph II\Working\CAD\TCP\15DR30-TCP Plans_Ph3.6.dwg



PHASE 3 STEP 7

NOTES:

1) ACCESS TO EXISTING BUSINESSES, RESIDENCIES, DRIVEWAYS, ETC SHALL BE MAINTAINED AT ALL TIMES.
2) CHANNELLING DEVICES, BARRICADES, TRAFFIC SIGNS AND TEMPORARY PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH LATEST VERSION OF TEXAS MUTCD.
3) FOR TRAFFIC SIGNS AT INTERSECTIONS AND CROSS-STREET CONSTRUCTION, PLEASE REFER SHEET FROM TCP: 44 TO TCP: 47.
4) USE FLAGGER OPERATION FOR TRAFFIC FLOW DURING WORKING HOURS ONLY.
5) CONSTRUCTION WILL BE DONE 300 FT AT A TIME TO ENSURE EFFECTIVE FLAGGERS OPERATION.

N

50 0 25 50 100

SCALE: 1" = 50'-0" FEET FOR 22"X34" SHEET

LEGEND:

- PERMANENT CONSTRUCTION WORK ZONE (PHASE 3 STEP 7)
- PROPOSED SIGN POST
- TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- PLASTIC DRUM, CONE, OR TUBULAR MARKER

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

TRAFFIC CONTROL PLANS

LAYOUT FOR PHASE 3 STEP 7

TCP SHEET: 31

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1" =50'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 148 OF 200	

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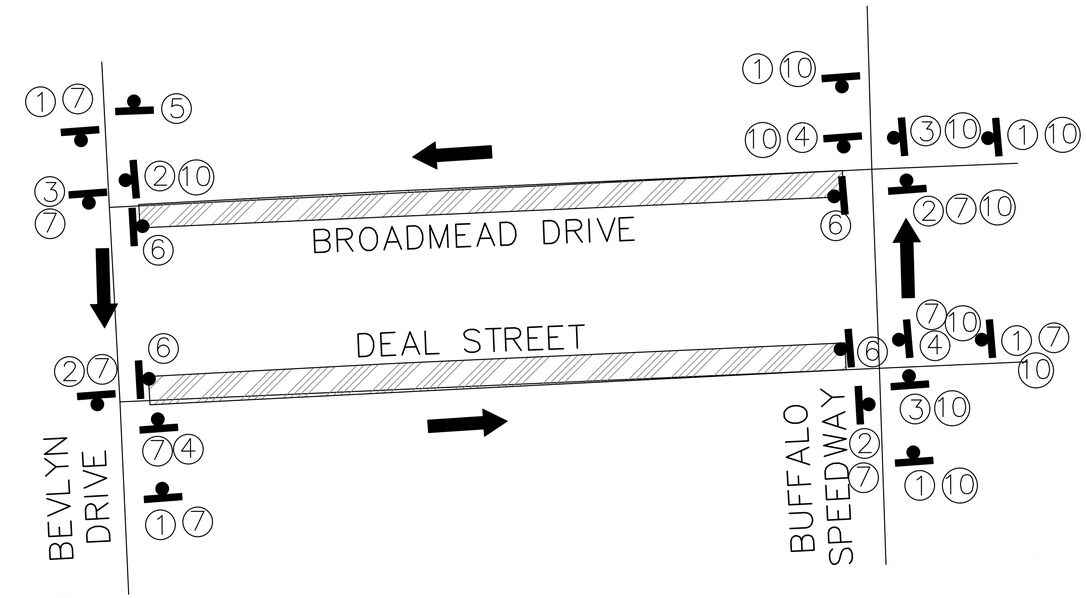
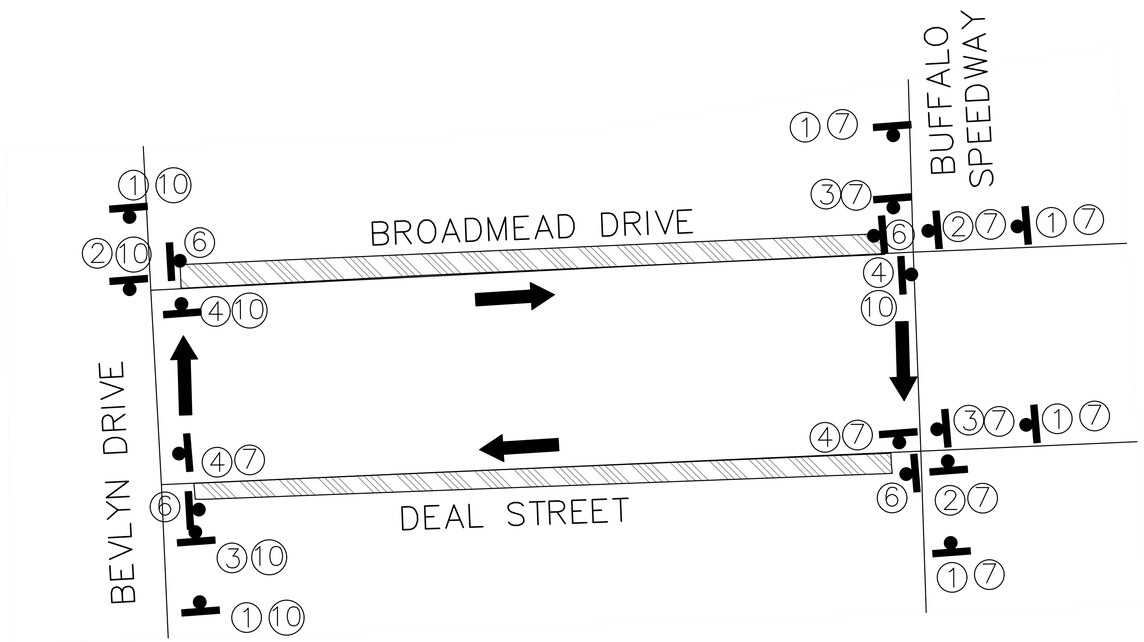


DETOUR PLAN FOR PHASE 3 STEP 6



DETOUR PLAN FOR PHASE 3 STEP 7

N

50 0 25 50 100

SCALE: 1" = 50'-0" FEET FOR 22"X34" SHEET

LEGEND:

- PERMANENT CONSTRUCTION WORK ZONE (PHASE 3 STEP 6)
- PERMANENT CONSTRUCTION WORK ZONE (PHASE 3 STEP 7)
- PROPOSED SIGN POST
- TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- PLASTIC DRUM, CONE, OR TUBULAR MARKER

1 DETOUR AHEAD — CW20-2, 36 x 36

2 DETOUR — M4-9L, 30 x 24

3 DETOUR — M4-9S, 30 x 24

4 DETOUR — M4-9R, 30 x 24

5 END DETOUR — M4-8T, 24 x 18

6 ROAD CLOSED — R11-2, 48 x 30

7 BROADMEAD DRIVE

8 — R3-1, 24 x 24

9 — R3-2, 24 x 24

10 DEAL STREET

NOTES:

1) ACCESS TO EXISTING BUSINESSES, RESIDENCIES, DRIVEWAYS, ETC SHALL BE MAINTAINED AT ALL TIMES.
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5) CONSTRUCTION WILL BE DONE 300 FT AT A TIME TO ENSURE EFFECTIVE FLAGGERS OPERATION.

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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

TRAFFIC CONTROL PLANS

DETOUR PLAN FOR PHASE 3 STEP 6 & STEP 7

TCP SHEET: 32

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 149 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/8/2025 4:24 PM
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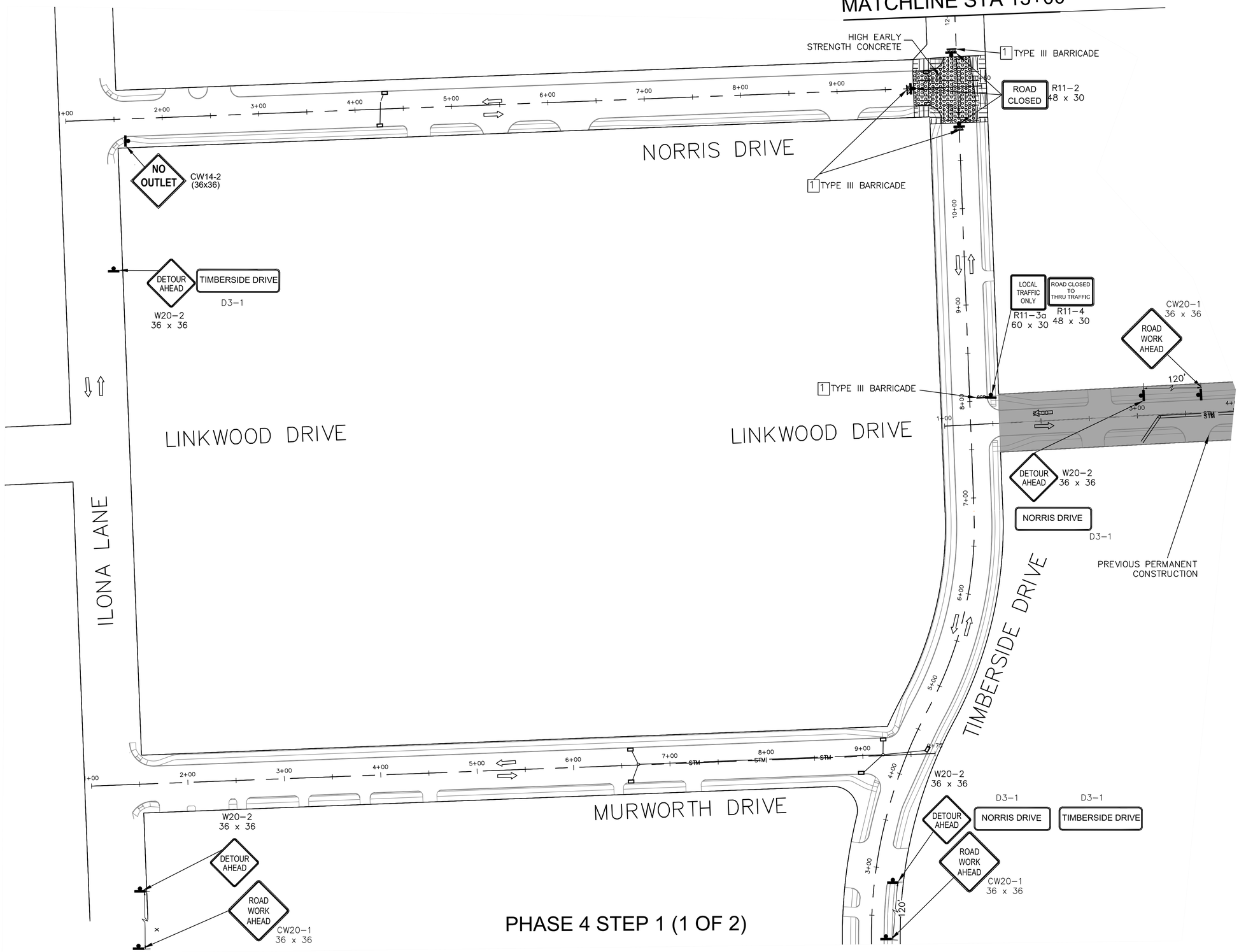
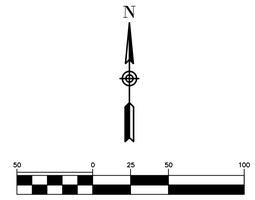
MATCH TCP SHEET 34
MATCHLINE STA 13+00



PHASE 4 STEP 1 (1 OF 2)



SCALE: 1" = 50'-0" FEET FOR 22"X34" SHEET

LEGEND:

- PERMANENT CONSTRUCTION WORK ZONE (PHASE 4 STEP 1)
- PROPOSED SIGN POST
- TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- PLASTIC DRUM, CONE, OR TUBULAR MARKER

NOTES:

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4) USE FLAGGER OPERATION FOR TRAFFIC FLOW DURING WORKING HOURS ONLY.
5) CONSTRUCTION WILL BE DONE 300 FT AT A TIME TO ENSURE EFFECTIVE FLAGGERS OPERATION.
6) NORRIS (WEST) LANES MAY BE USED FOR SCHOOL DURING PICKUP AND DROPOFF HOURS

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P.E. Reg No: 130533
DATE: DECEMBER 2025

SURVEYED BY: Kuo&Associates
FB NO. P-6396

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

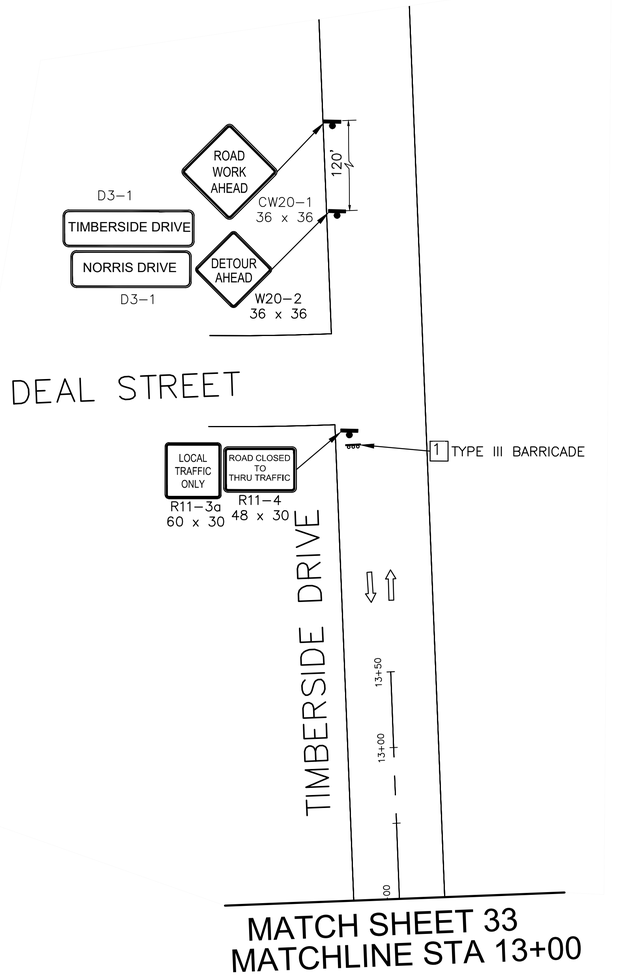
WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

TRAFFIC CONTROL PLANS

PHASE 4 STEP 1
1 OF 2

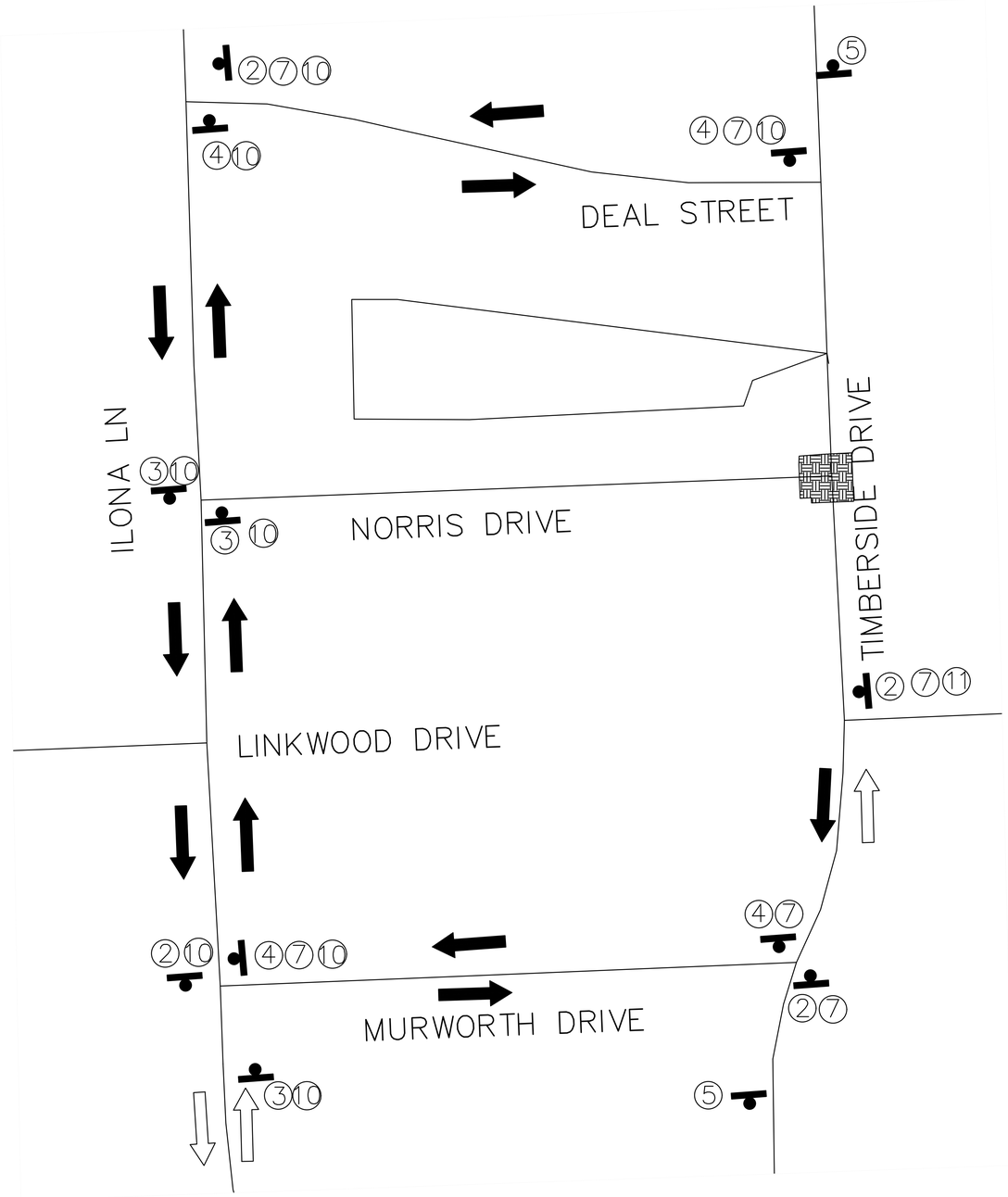
TCP SHEET: 33

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1" =50'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 150 OF 200	



MATCH SHEET 33
MATCHLINE STA 13+00

PHASE 4 STEP 1 (2 OF 2)



DETOUR PLAN FOR PHASE 4 STEP 1 (N.T.S.)

NOTES:

1) ACCESS TO EXISTING BUSINESSES, RESIDENCIES, DRIVEWAYS, ETC SHALL BE MAINTAINED AT ALL TIMES.
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6) NORRIS (WEST) LANES MAY BE USED FOR SCHOOL DURING PICKUP AND DROPOFF HOURS

N

50 0 25 50 100

SCALE: 1" = 50'-0" FEET FOR 22"X34" SHEET

LEGEND:

- PERMANENT CONSTRUCTION WORK ZONE (PHASE 4 STEP 1)
- PROPOSED SIGN POST
- TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- PLASTIC DRUM, CONE, OR TUBULAR MARKER

1 DETOUR AHEAD CW20-2 36 x 36
2 DETOUR M4-9L 30 x 24
3 DETOUR M4-9S 30 x 24
4 DETOUR M4-9R 30 x 24
5 END DETOUR M4-8T 24 x 18
6 ROAD CLOSED R11-2 48 x 30
7 NORRIS DRIVE
8 R3-1 24 x 24
9 R3-2 24 x 24
10 TIMBERSIDE DRIVE
11 DEAL STREET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

TRAFFIC CONTROL PLANS

PHASE 4 STEP 1
2 OF 2

TCP SHEET: 34

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1" =50'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 151 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/8/2025 4:34 PM
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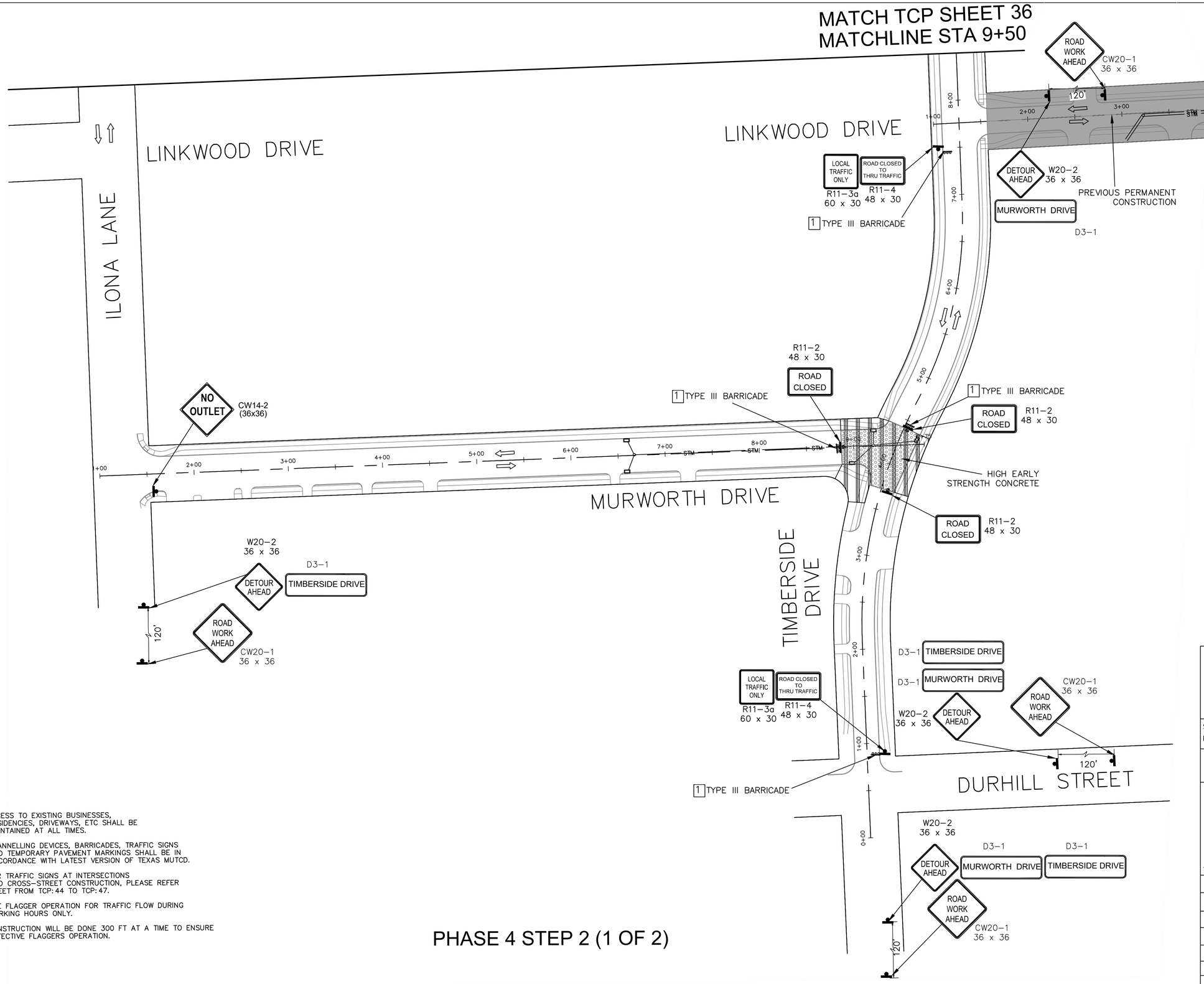

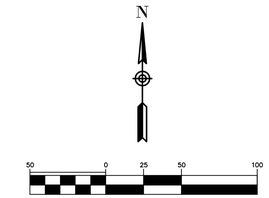

LEGEND:

- PERMANENT CONSTRUCTION WORK ZONE (PHASE 4 STEP 2)
- PROPOSED SIGN POST
- TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- PLASTIC DRUM, CONE, OR TUBULAR MARKER

NOTES:

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PHASE 4 STEP 2 (1 OF 2)

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HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS
TRAFFIC CONTROL PLANS

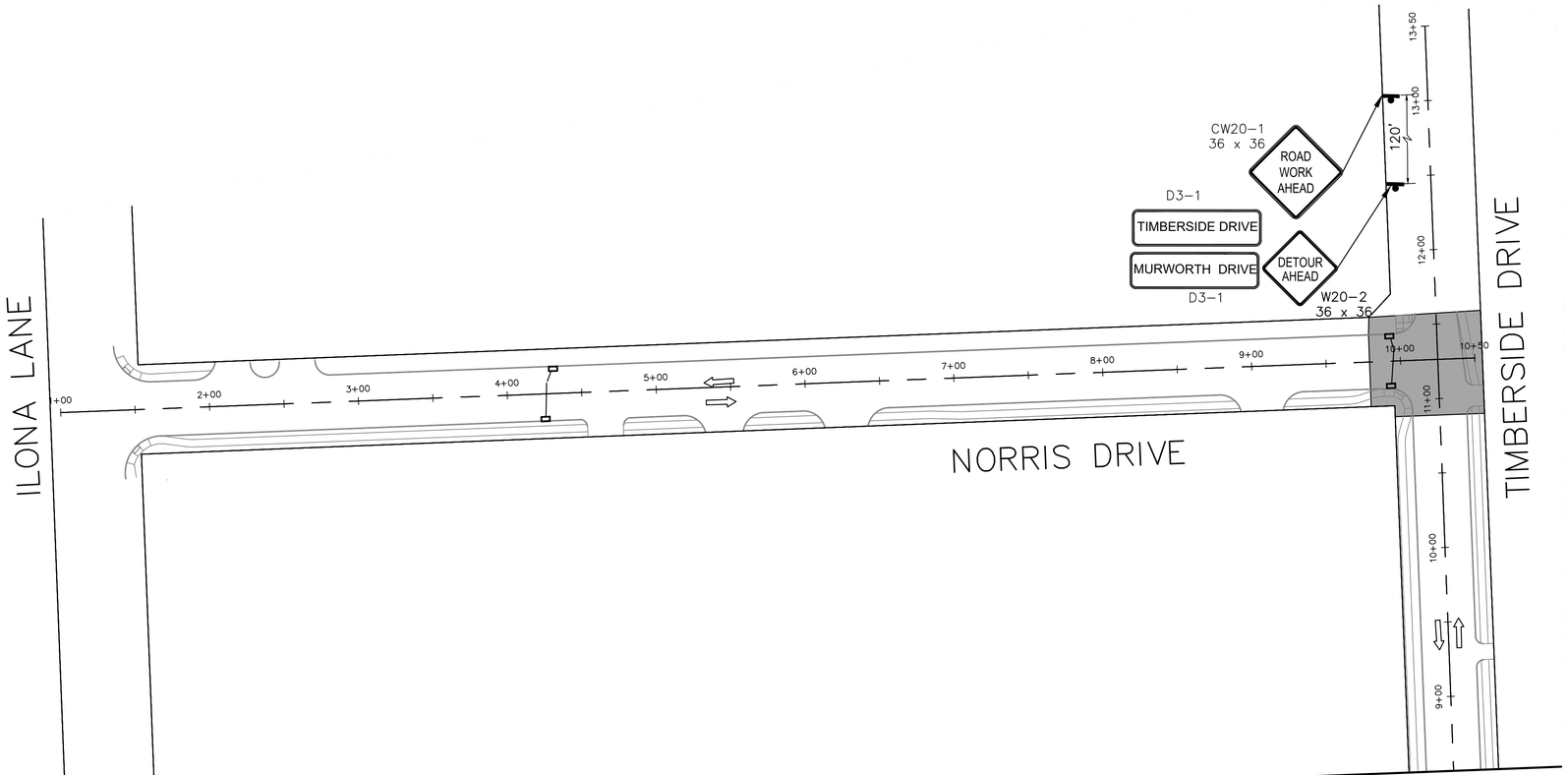
PHASE 4 STEP 2
1 OF 2

TCP SHEET: 35

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1" =50'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 152 OF 200	

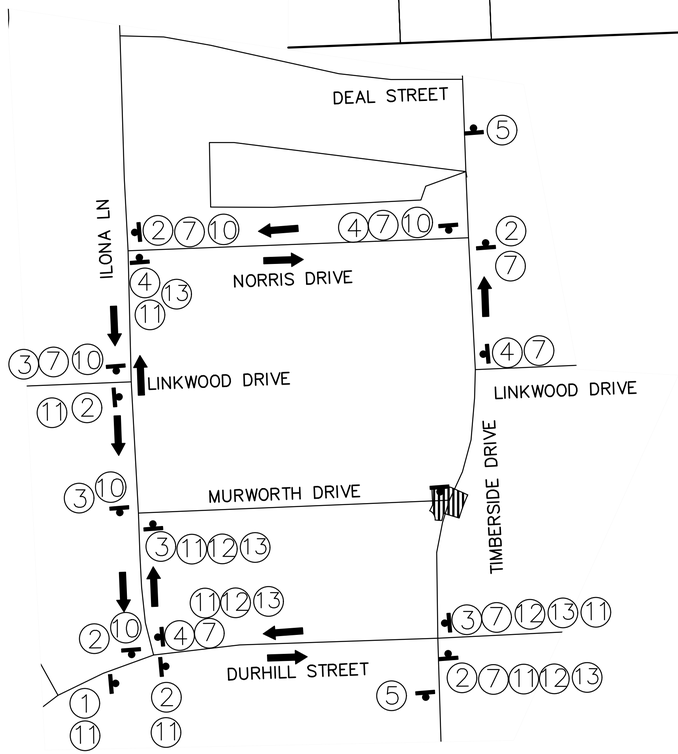
PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/8/2025 4:32 PM
FILE PATH: P:\ACTIVE\15DR30 SP1A\Ph II\Working\CAD\TCP\15DR30-TCP Plans_4.2.dwg

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/8/2025 4:35 PM



PHASE 4 STEP 2 (2 OF 2)

MATCH TCP SHEET 35
MATCHLINE STA 9+50



DETOUR PLAN FOR PHASE 4 STEP 2

NOTES:

1) ACCESS TO EXISTING BUSINESSES, RESIDENCIES, DRIVEWAYS, ETC SHALL BE MAINTAINED AT ALL TIMES.
2) CHANNELLING DEVICES, BARRICADES, TRAFFIC SIGNS AND TEMPORARY PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH LATEST VERSION OF TEXAS MUTCD.
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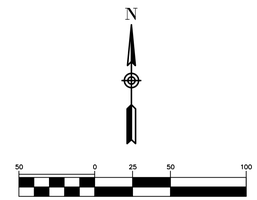
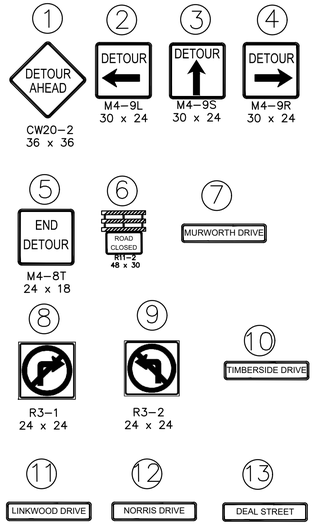


SCALE: 1" = 50'-0" FEET FOR 22"X34" SHEET

LEGEND:

- PERMANENT CONSTRUCTION WORK ZONE (PHASE 4 STEP 2)
- PROPOSED SIGN POST
- TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- PLASTIC DRUM, CONE, OR TUBULAR MARKER



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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

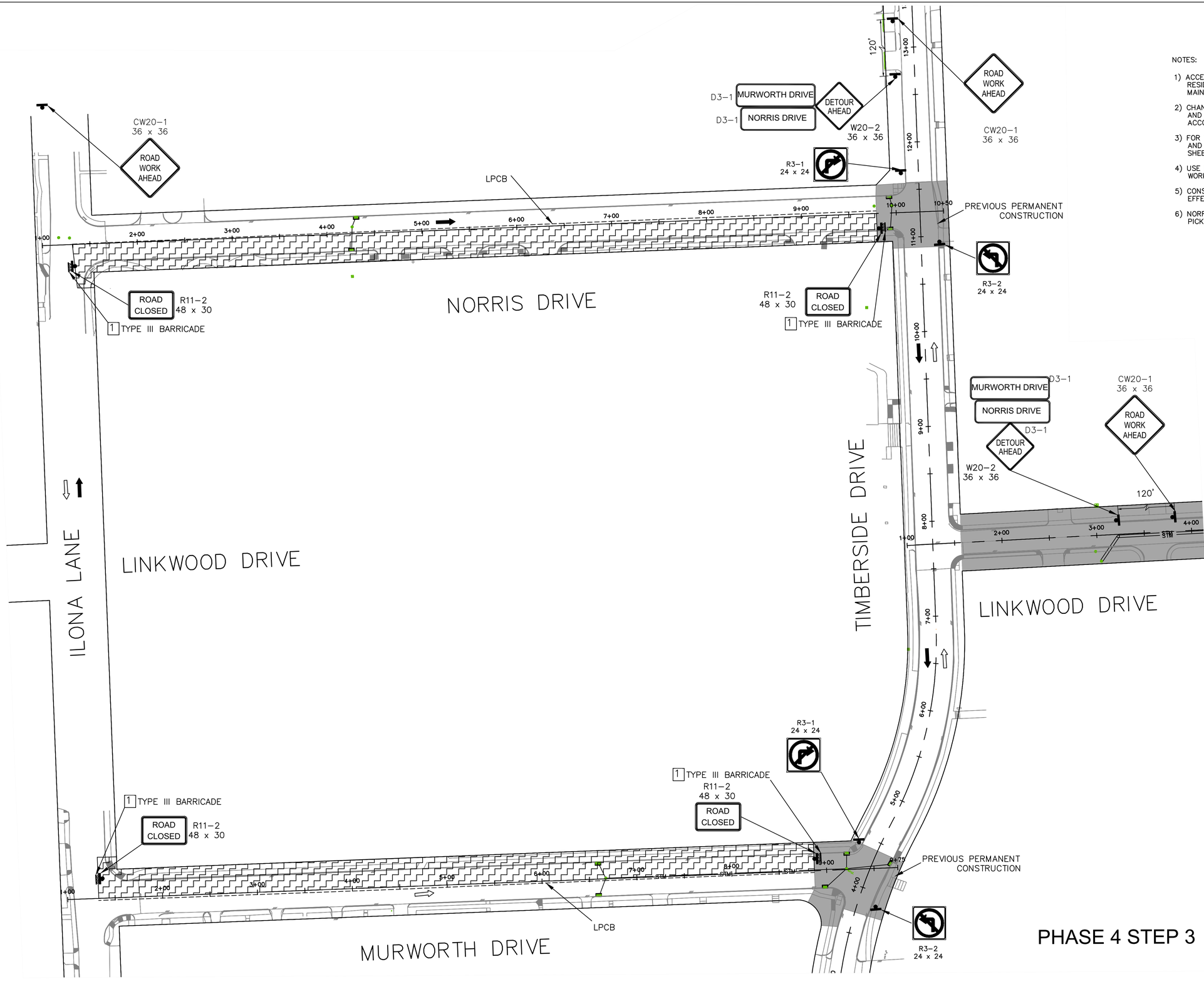
TRAFFIC CONTROL PLANS

PHASE 4 STEP 2
2 OF 2

TCP SHEET: 36

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1" =50'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 153 OF 200	

FILE PATH: P:\ACTIVE\150R30 SP1A\Ph II\Working\CAD\TCP\150R30-TCP Plans_4.2.dwg



NOTES:

1) ACCESS TO EXISTING BUSINESSES, RESIDENCIES, DRIVEWAYS, ETC SHALL BE MAINTAINED AT ALL TIMES.
2) CHANNELLING DEVICES, BARRICADES, TRAFFIC SIGNS AND TEMPORARY PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH LATEST VERSION OF TEXAS MUTCD.
3) FOR TRAFFIC SIGNS AT INTERSECTIONS AND CROSS-STREET CONSTRUCTION, PLEASE REFER SHEET FROM TCP:44 TO TCP:47.
4) USE FLAGGER OPERATION FOR TRAFFIC FLOW DURING WORKING HOURS ONLY.
5) CONSTRUCTION WILL BE DONE 300 FT AT A TIME TO ENSURE EFFECTIVE FLAGGERS OPERATION.
6) NORRIS (WEST) LANES MAY BE USED FOR SCHOOL DURING PICKUP AND DROPOFF HOURS

N

50 0 25 50 100

SCALE: 1" = 50'-0" FEET FOR 22"X34" SHEET

LEGEND:

- PERMANENT CONSTRUCTION WORK ZONE (PHASE 4 STEP 3)
- PROPOSED SIGN POST
- TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- PLASTIC DRUM, CONE, OR TUBULAR MARKER

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10448 Westoffice Drive
Houston, Texas 77042
P 713 747 2399
F 713 748 3748
TBPE Firm Reg. #4575

SURVEYED BY: Kuo&Associates
FB NO. P-6396

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ENGINEER: RAHUL B MENON, P.E
P.E.Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

TRAFFIC CONTROL PLANS

LAYOUT FOR PHASE 4 STEP 3

TCP SHEET: 37

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1" =50'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 154 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/10/2025 9:59 AM
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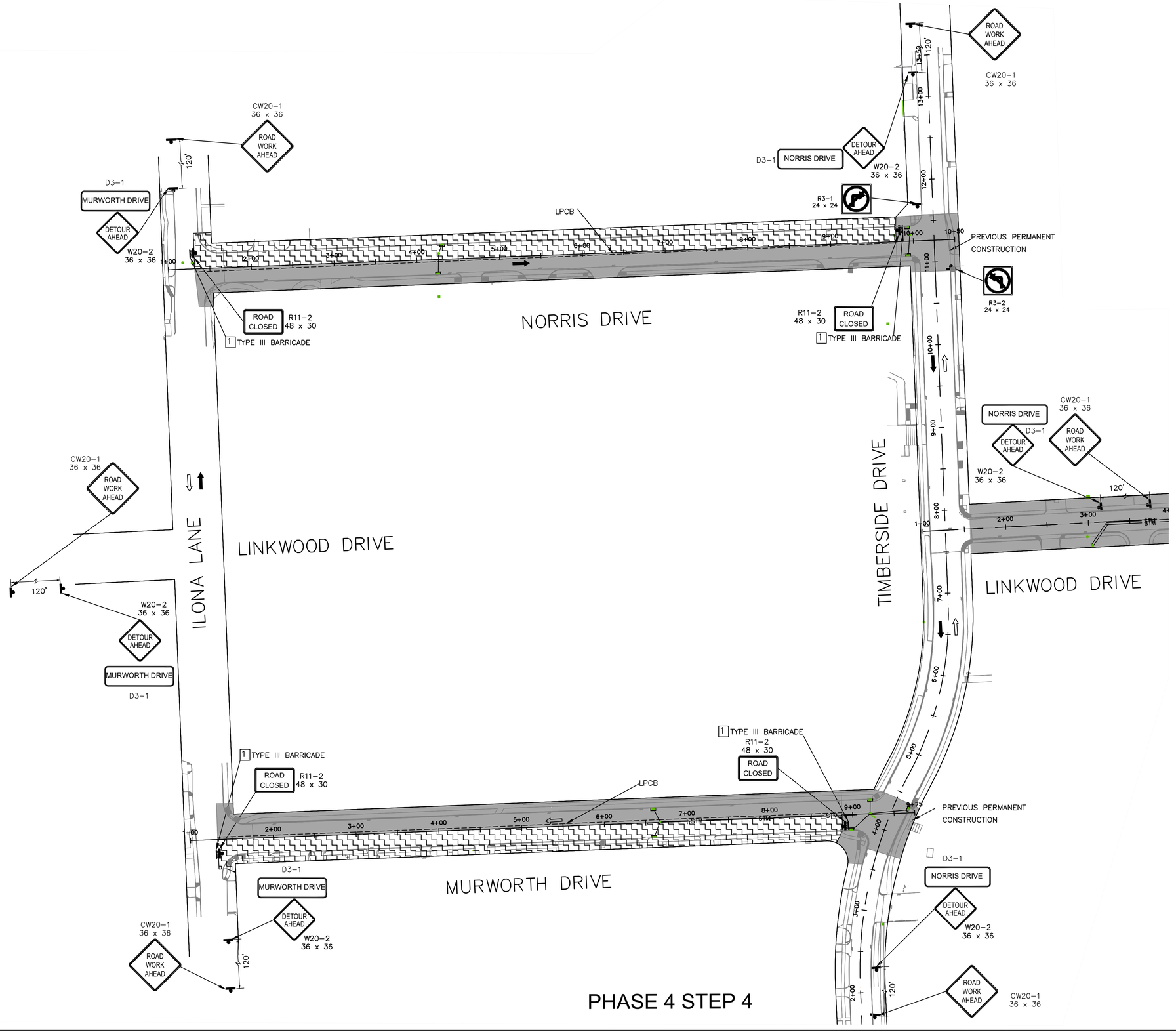

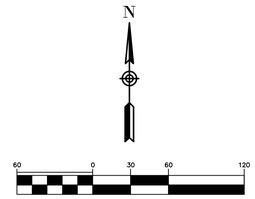

LEGEND:

- PERMANENT CONSTRUCTION WORK ZONE (PHASE 4 STEP 4)
- PROPOSED SIGN POST
- TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- PLASTIC DRUM, CONE, OR TUBULAR MARKER

NOTES:

1) ACCESS TO EXISTING BUSINESSES, RESIDENCIES, DRIVEWAYS, ETC SHALL BE MAINTAINED AT ALL TIMES.
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6) NORRIS (WEST) LANES MAY BE USED FOR SCHOOL DURING PICKUP AND DROPOFF HOURS

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FB NO. P-6396

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

TRAFFIC CONTROL PLANS

LAYOUT FOR
PHASE 4 STEP 4

TCP SHEET: 38

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1" =60'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 155 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/10/2025 10:00 AM
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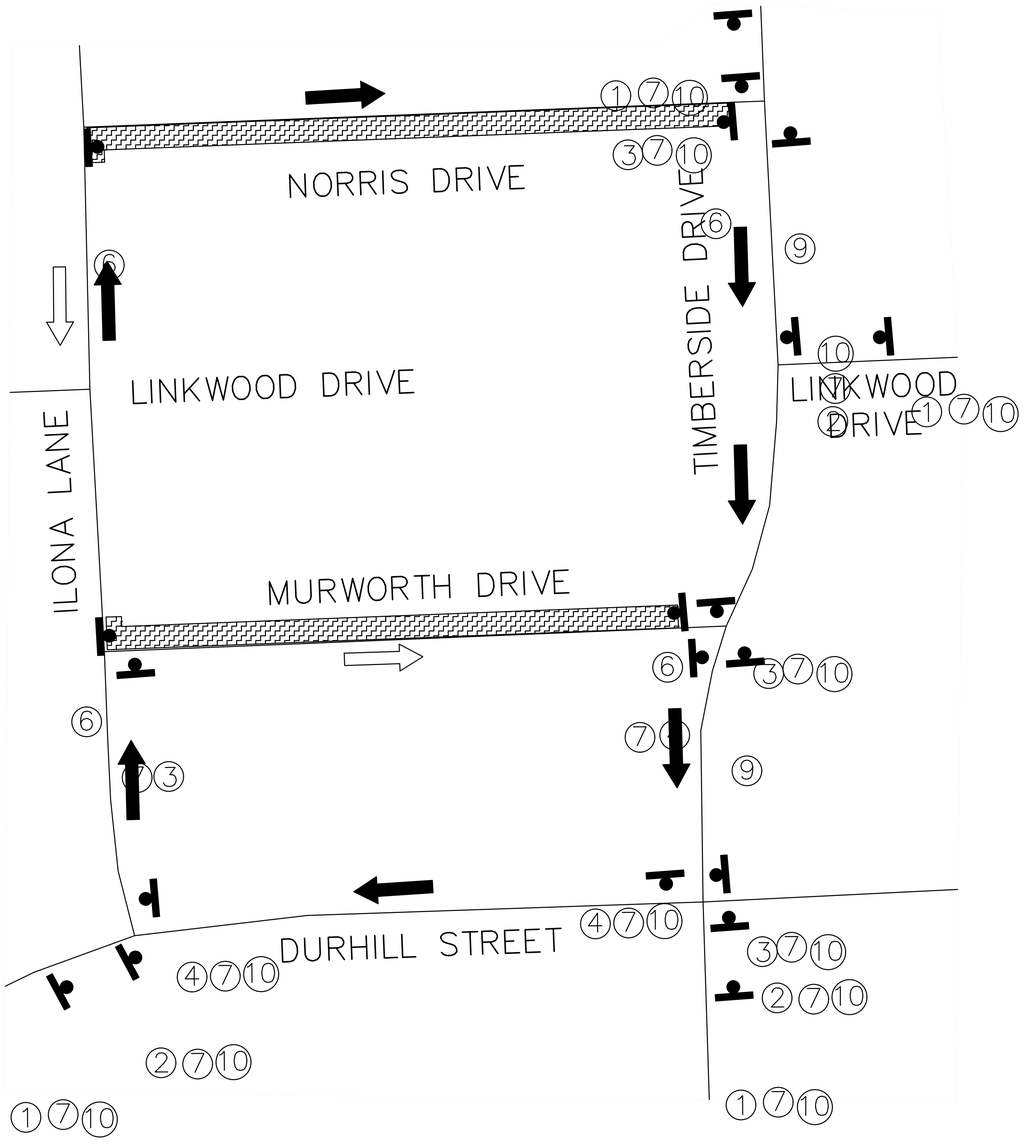

DETOUR PLAN FOR PHASE 4 STEP 3

NOTES:

1) ACCESS TO EXISTING BUSINESSES, RESIDENCIES, DRIVEWAYS, ETC SHALL BE MAINTAINED AT ALL TIMES.
2) CHANNELLING DEVICES, BARRICADES, TRAFFIC SIGNS AND TEMPORARY PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH LATEST VERSION OF TEXAS MUTCD.
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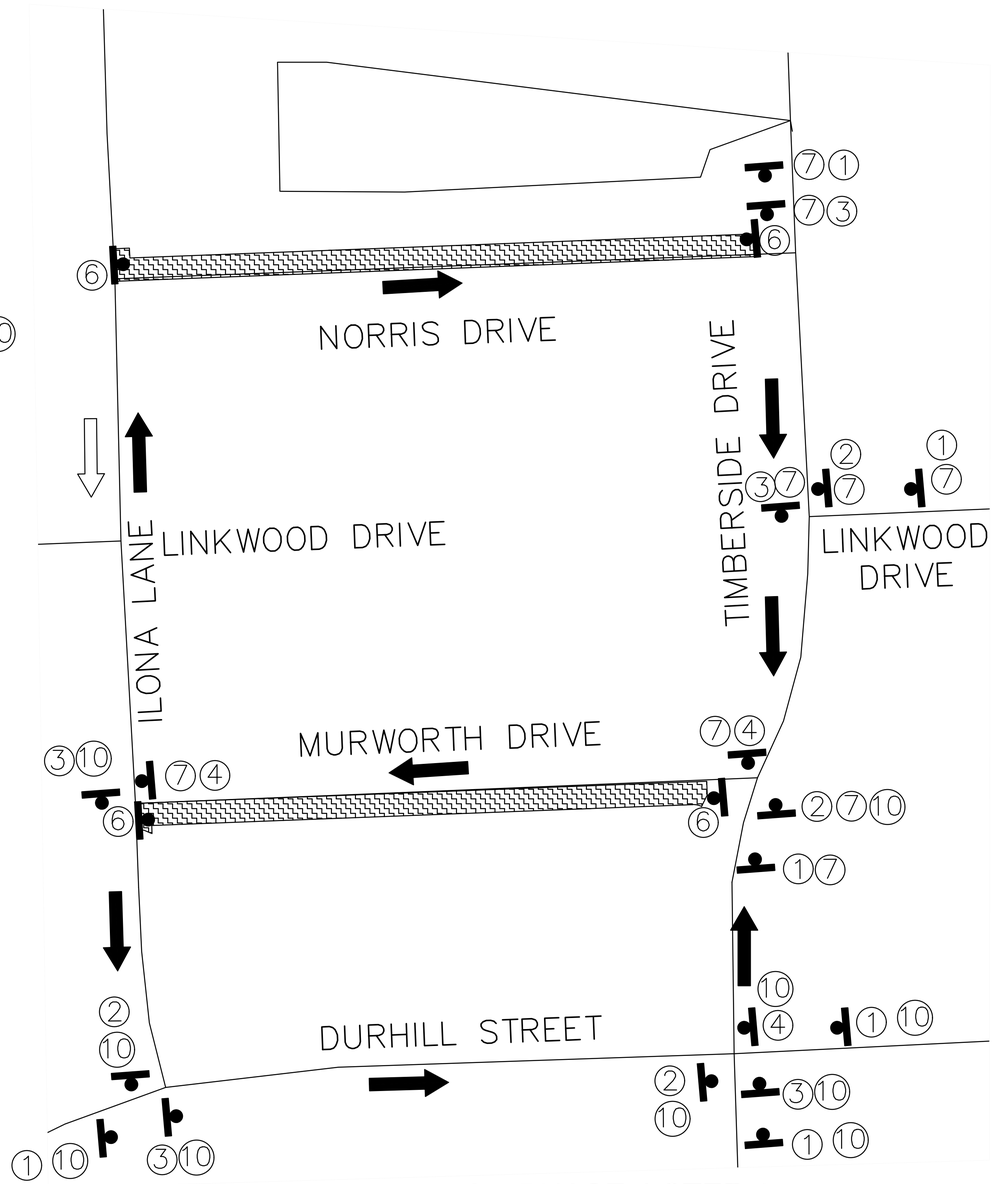
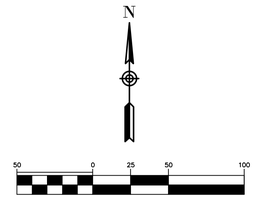
6) NORRIS (WEST) LANES MAY BE USED FOR SCHOOL DURING PICKUP AND DROPOFF HOURS

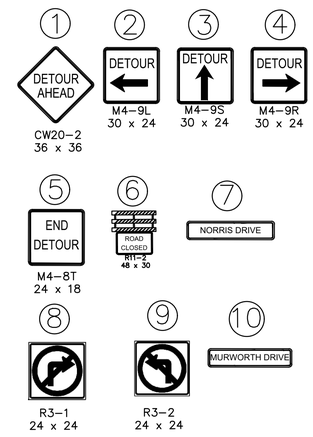


DETOUR PLAN FOR PHASE 4 STEP 4



LEGEND:

- PERMANENT CONSTRUCTION WORK ZONE (PHASE 4 STEP 3)
- PERMANENT CONSTRUCTION WORK ZONE (PHASE 4 STEP 4)
- PROPOSED SIGN POST
- TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- PLASTIC DRUM, CONE, OR TUBULAR MARKER



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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

SURVEYED BY: Kuo&Associates
FB NO. P-6396

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

TRAFFIC CONTROL PLANS

DETOUR PLANS FOR PHASE 4 STEP 3 & STEP 4

TCP SHEET: 39

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 156 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/8/2025 4:39 PM
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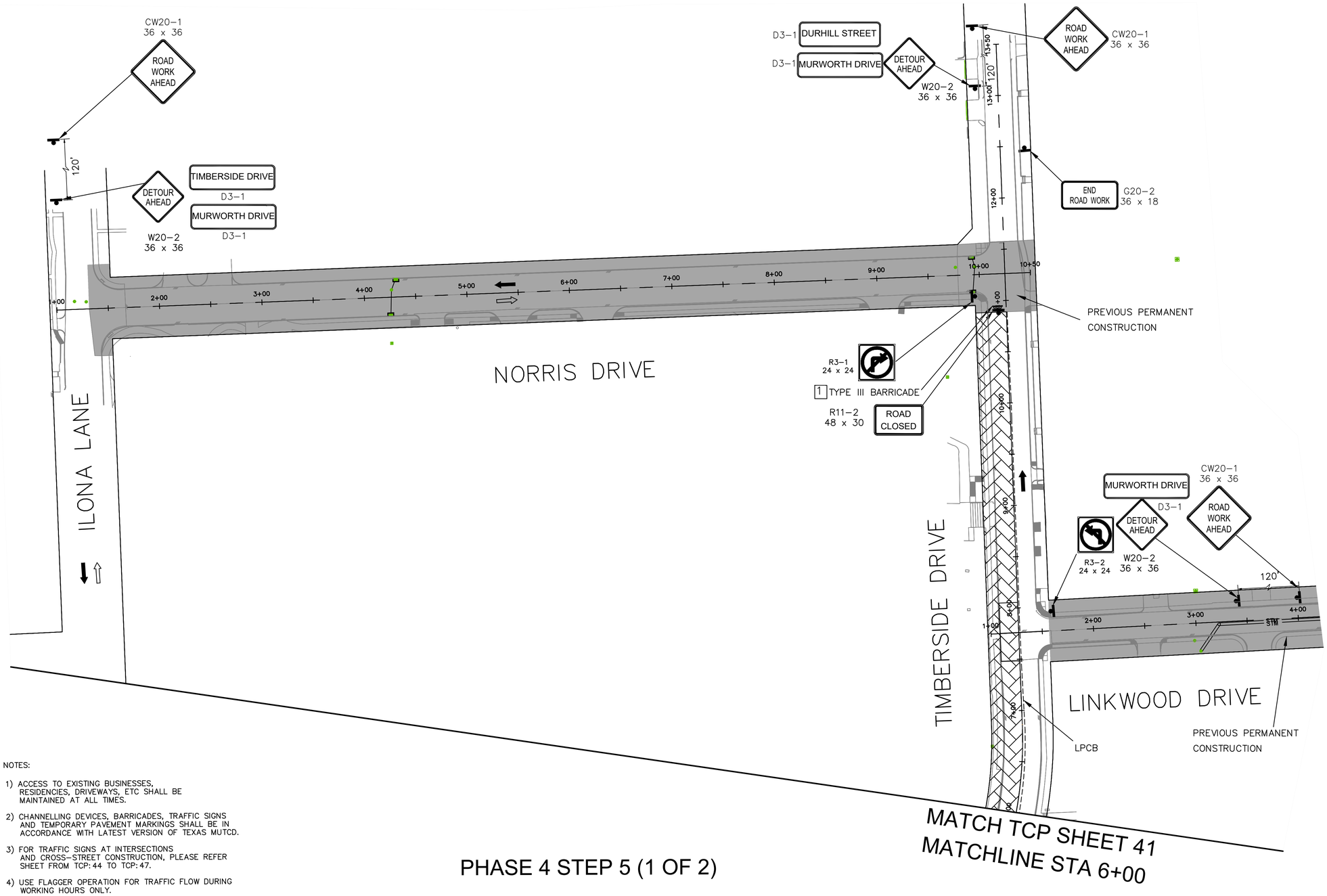

N

50 0 25 50 100

SCALE: 1" = 50'-0" FEET FOR 22"X34" SHEET

LEGEND:

- PERMANENT CONSTRUCTION WORK ZONE (PHASE 4 STEP 5)
- PROPOSED SIGN POST
- TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- PLASTIC DRUM, CONE, OR TUBULAR MARKER

NOTES:

1) ACCESS TO EXISTING BUSINESSES, RESIDENCIES, DRIVEWAYS, ETC SHALL BE MAINTAINED AT ALL TIMES.
2) CHANNELLING DEVICES, BARRICADES, TRAFFIC SIGNS AND TEMPORARY PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH LATEST VERSION OF TEXAS MUTCD.
3) FOR TRAFFIC SIGNS AT INTERSECTIONS AND CROSS-STREET CONSTRUCTION, PLEASE REFER SHEET FROM TCP: 44 TO TCP: 47.
4) USE FLAGGER OPERATION FOR TRAFFIC FLOW DURING WORKING HOURS ONLY.
5) CONSTRUCTION WILL BE DONE 300 FT AT A TIME TO ENSURE EFFECTIVE FLAGGERS OPERATION.
6) NORRIS (WEST) LANES MAY BE USED FOR SCHOOL DURING PICKUP AND DROPOFF HOURS

PHASE 4 STEP 5 (1 OF 2)

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FB NO. P-6396

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

TRAFFIC CONTROL PLANS

LAYOUT FOR PHASE 4 STEP 5
1 OF 2

TCP SHEET: 40

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1" =50'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 157 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/10/2025 10:01 AM
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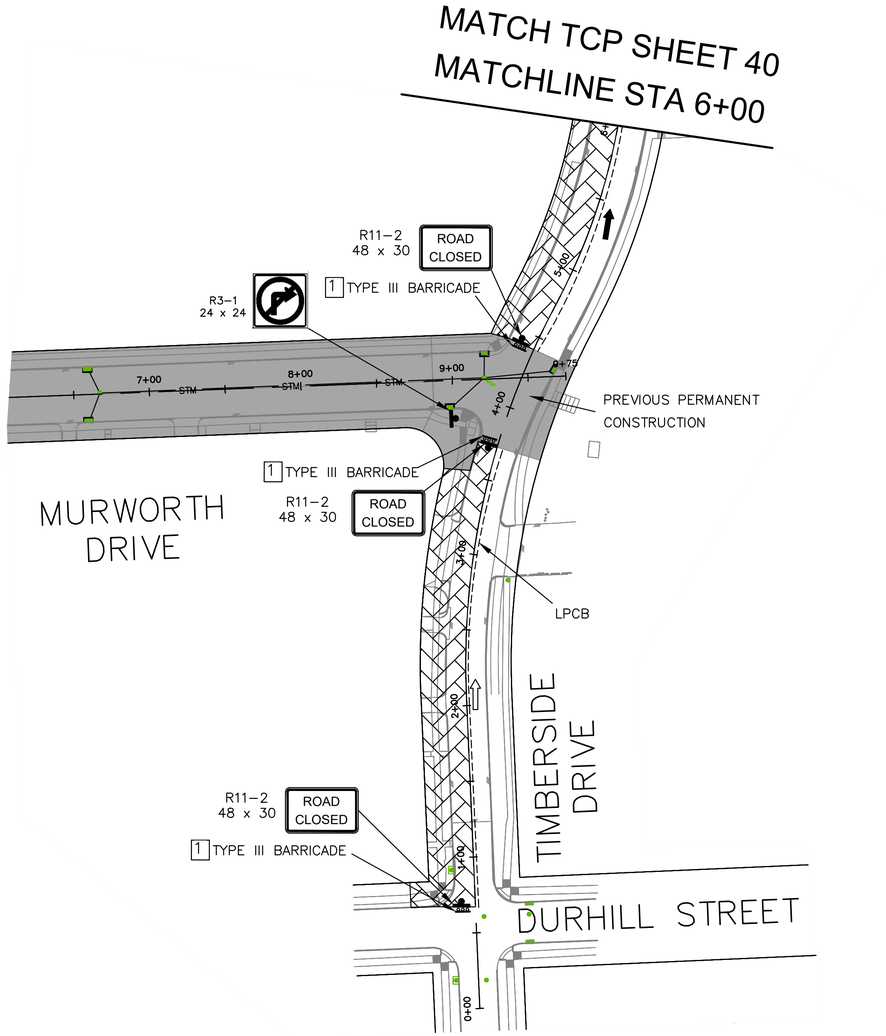
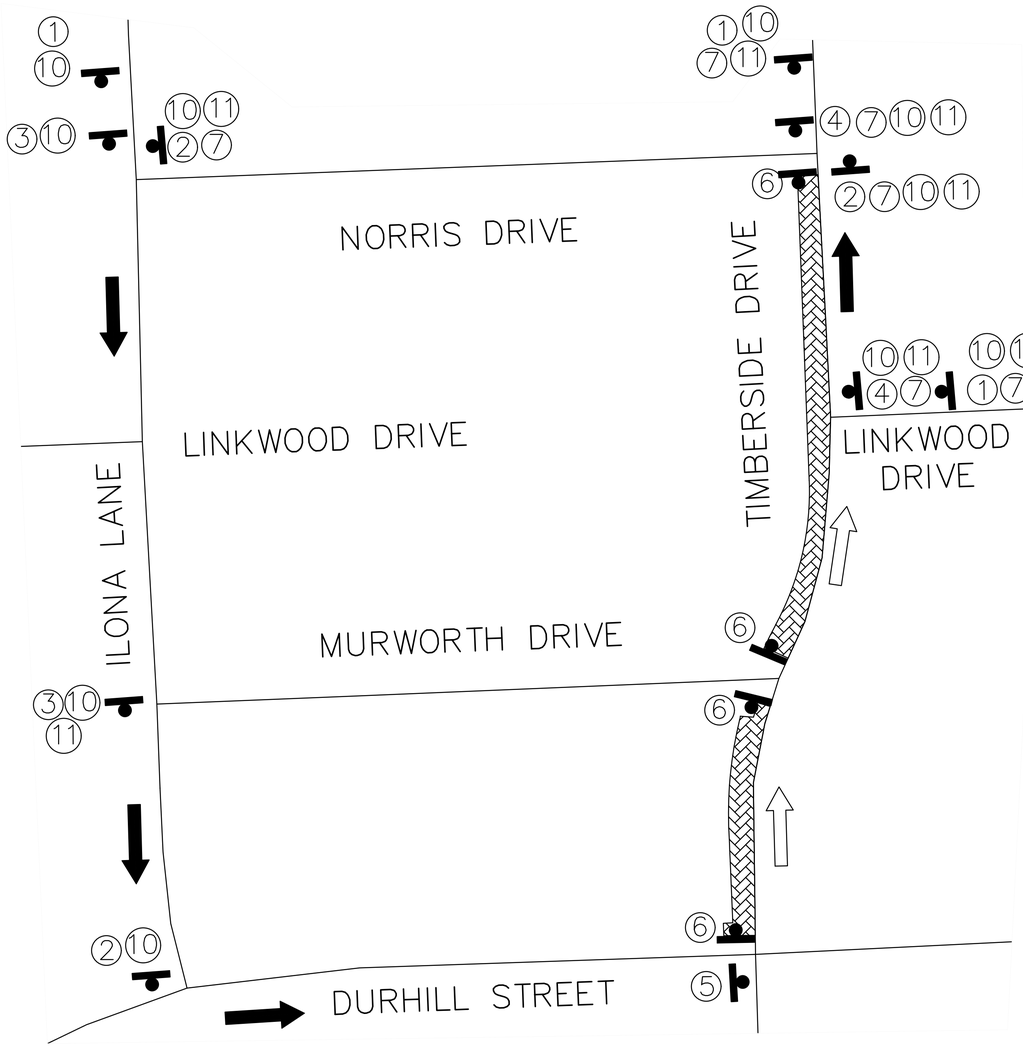
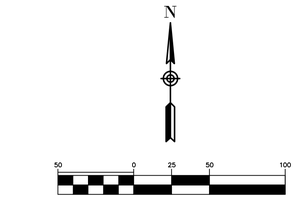


PHASE 4 STEP 5 (2 OF 2)



DETOUR PLAN FOR PHASE 4 STEP 5 (N.T.S.)



LEGEND:

- PERMANENT CONSTRUCTION WORK ZONE (PHASE 4 STEP 5)
- PROPOSED SIGN POST
- TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- PLASTIC DRUM, CONE, OR TUBULAR MARKER

1 DETOUR AHEAD — CW20-2, 36 x 36
2 DETOUR — M4-9L, 30 x 24
3 DETOUR — M4-9S, 30 x 24
4 DETOUR — M4-9R, 30 x 24
5 END DETOUR — M4-8T, 24 x 18
6 ROAD CLOSED — R11-2, 48 x 30
7 MURWORTH DRIVE
8 — R3-1, 24 x 24
9 — R3-2, 24 x 24
10 TIMBERSIDE DRIVE
11 DURHILL STREET

NOTES:

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P.E. Reg No: 130533
DATE: DECEMBER 2025

SURVEYED BY: Kuo&Associates
FB NO. P-6396

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

TRAFFIC CONTROL PLANS

LAYOUT FOR PHASE 4 STEP 5
2 OF 2

TCP SHEET: 41

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1" =50'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 158 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/10/2025 10:02 AM
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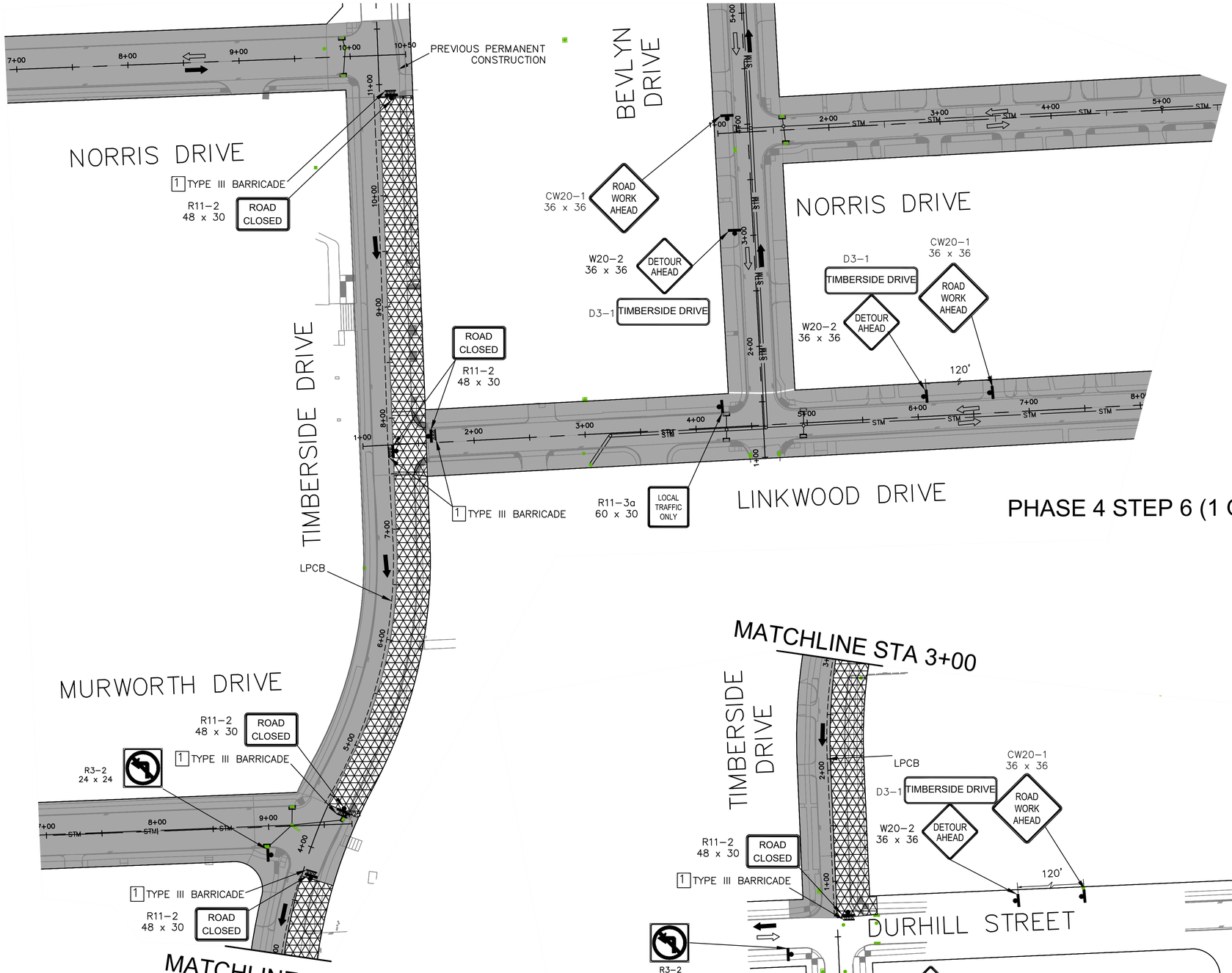
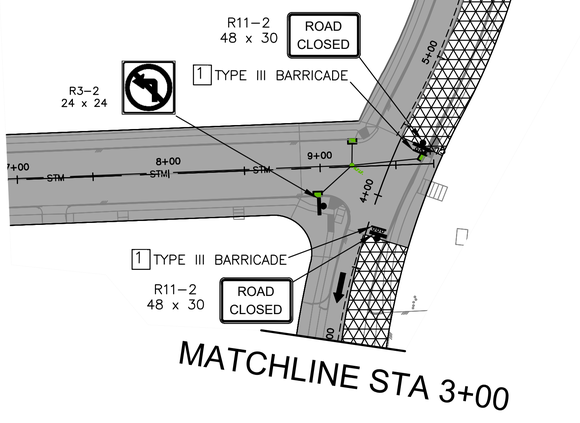
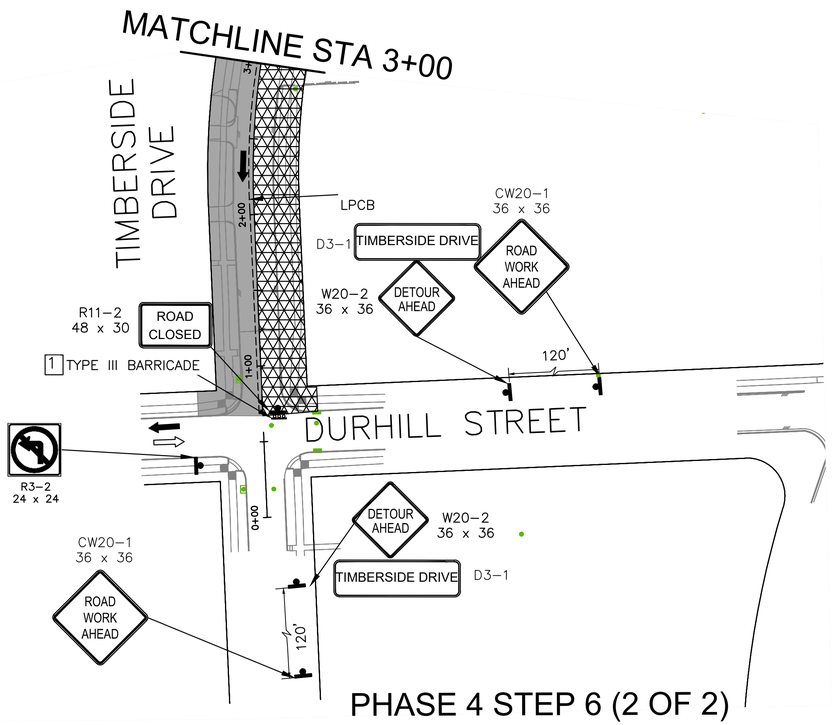
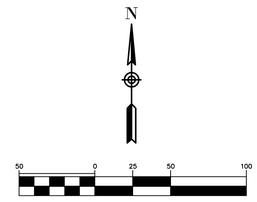


PHASE 4 STEP 6 (1 OF 2)





PHASE 4 STEP 6 (2 OF 2)



LEGEND:

- PERMANENT CONSTRUCTION WORK ZONE (PHASE 4 STEP 6)
- PROPOSED SIGN POST
- TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- PLASTIC DRUM, CONE, OR TUBULAR MARKER

NOTES:

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P.E. Reg No: 130533
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HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

TRAFFIC CONTROL PLANS

LAYOUT FOR PHASE 4 STEP 6

TCP SHEET: 42

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1" =50'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 159 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/10/2025 10:02 AM
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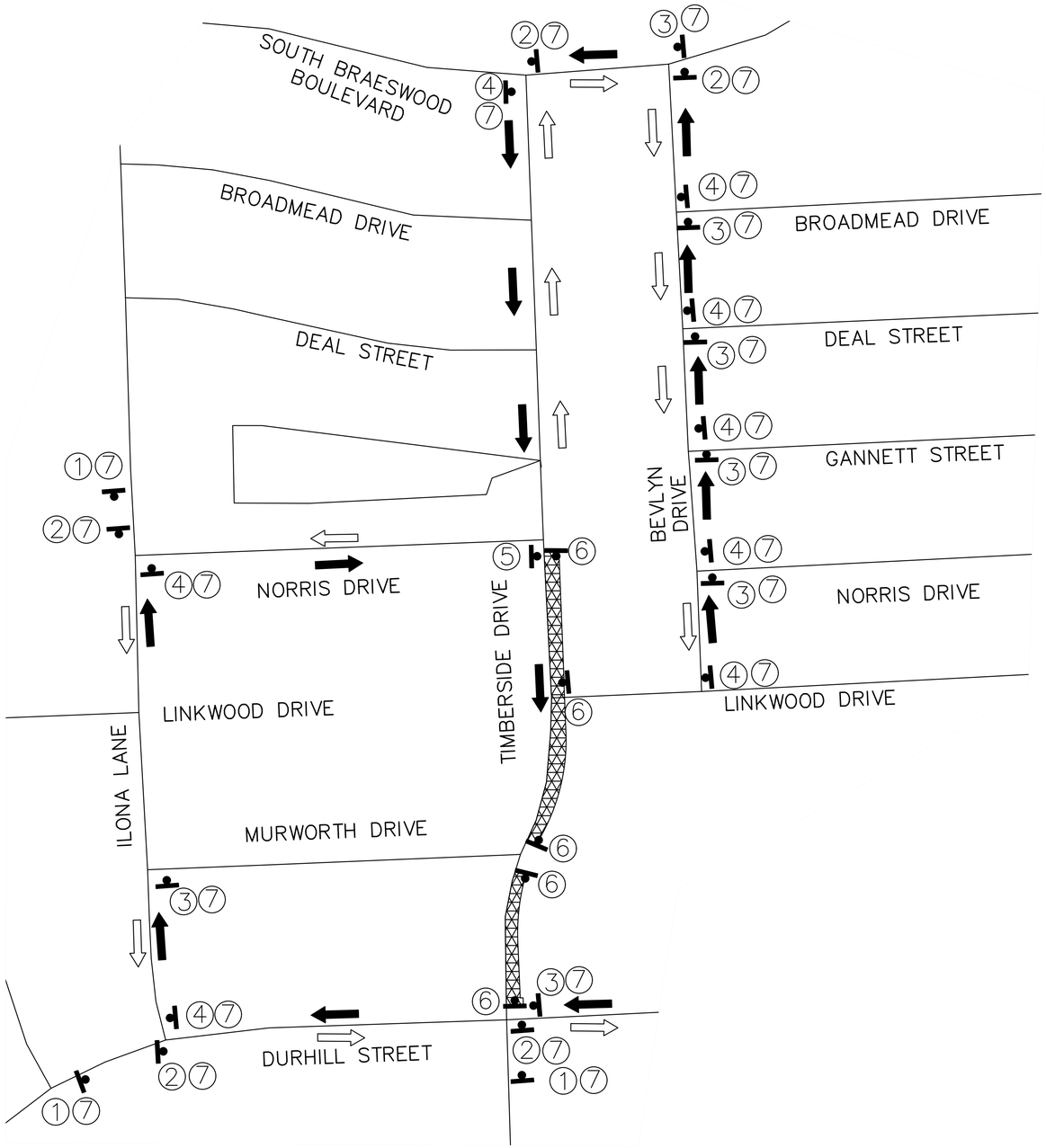

DETOUR PLAN FOR PHASE 4 STEP 6 (N.T.S.)

NOTES:

1) ACCESS TO EXISTING BUSINESSES, RESIDENCIES, DRIVEWAYS, ETC SHALL BE MAINTAINED AT ALL TIMES.
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N

50 0 25 50 100

SCALE: 1" = 50'-0" FEET FOR 22"X34" SHEET

LEGEND:

- PERMANENT CONSTRUCTION WORK ZONE (PHASE 4 STEP 6)
- PROPOSED SIGN POST
- TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- PLASTIC DRUM, CONE, OR TUBULAR MARKER

1 DETOUR AHEAD — CW20-2, 36 x 36
2 DETOUR — M4-9L, 30 x 24
3 DETOUR — M4-9S, 30 x 24
4 DETOUR — M4-9R, 30 x 24
5 END DETOUR — M4-8T, 24 x 18
6 ROAD CLOSED — R11-2, 48 x 30
7 TIMBERSIDE DRIVE
8 — R3-1, 24 x 24
9 — R3-2, 24 x 24

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FB NO. P-6396

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P.E. Reg No: 130533
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

TRAFFIC CONTROL PLANS

DETOUR PLAN FOR PHASE 4 STEP 6

TCP SHEET: 43

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 160 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/8/2025 4:44 PM
FILE PATH: P:\ACTIVE\15DR30 SP1A\Ph II\Working\CAD\TCP\15DR30-TCP Plans_4.6.dwg

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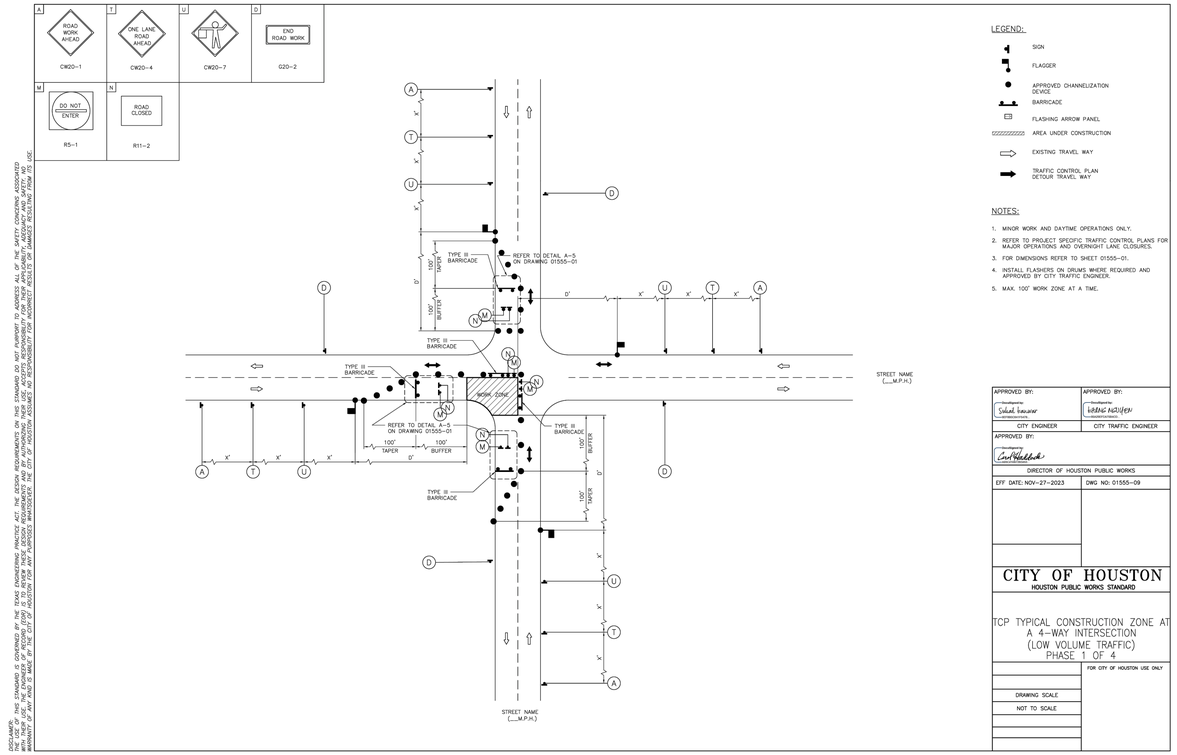

LEGEND:

- 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.
2. REFER TO PROJECT SPECIFIC TRAFFIC CONTROL PLANS FOR MAJOR OPERATIONS AND OVERNIGHT LANE CLOSURES.
3. FOR DIMENSIONS REFER TO SHEET 01555-01.
4. INSTALL FLASHERS ON DRUMS WHERE REQUIRED AND APPROVED BY CITY TRAFFIC ENGINEER.
5. MAX. 100' WORK ZONE AT A TIME.

APPROVED BY:	APPROVED BY:
Sahil Kanwar	Hang Nguyen
CITY ENGINEER	CITY TRAFFIC ENGINEER

APPROVED BY: Carl Haddock
DIRECTOR OF HOUSTON PUBLIC WORKS

EFF DATE: NOV-27-2023 | DWG NO: 01555-09

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TCP TYPICAL CONSTRUCTION ZONE AT A 4-WAY INTERSECTION (LOW VOLUME TRAFFIC) PHASE 1 OF 4

FOR CITY OF HOUSTON USE ONLY

DRAWING SCALE
NOT TO SCALE

DISCLAIMER:
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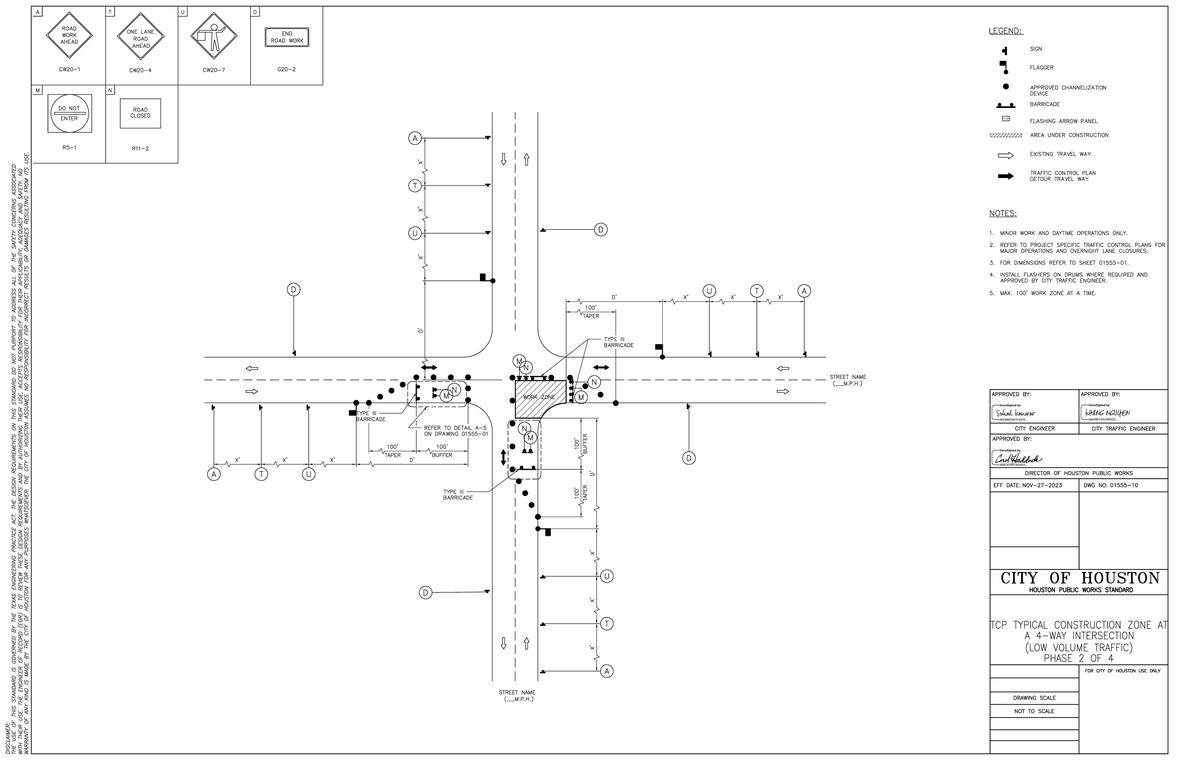

LEGEND:

- 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.
2. REFER TO PROJECT SPECIFIC TRAFFIC CONTROL PLANS FOR MAJOR OPERATIONS AND OVERNIGHT LANE CLOSURES.
3. FOR DIMENSIONS REFER TO SHEET 01555-01.
4. INSTALL FLASHERS ON DRUMS WHERE REQUIRED AND APPROVED BY CITY TRAFFIC ENGINEER.
5. MAX. 100' WORK ZONE AT A TIME.

APPROVED BY:	APPROVED BY:
Sahil Kanwar	Hang Nguyen
CITY ENGINEER	CITY TRAFFIC ENGINEER

APPROVED BY: Carl Haddock
DIRECTOR OF HOUSTON PUBLIC WORKS

EFF DATE: NOV-27-2023 | DWG NO: 01555-10

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TCP TYPICAL CONSTRUCTION ZONE AT A 4-WAY INTERSECTION (LOW VOLUME TRAFFIC) PHASE 2 OF 4

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Houston, Texas 77042
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F 713 748 3748
TBPE Firm Reg. #4575

SURVEYED BY: Kuo&Associates
FB NO. P-6396

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ENGINEER: RAHUL B MENON, P.E
P.E.Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

TRAFFIC CONTROL PLANS
STANDARD DETAILS
TRAFFIC CONTROL PLANS

TCP SHEET: 44 | SHEET 1 OF 6

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
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LUCIA L. LEE, P.E.	
SHEET NO. 161 OF 200	

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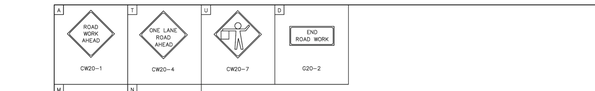

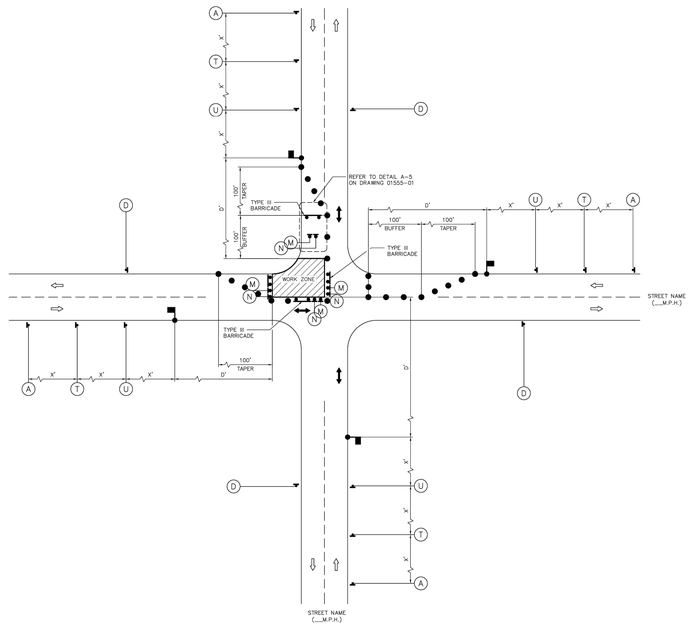

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APPROVED BY:	APPROVED BY:
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY:	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 01555-11

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TCP TYPICAL CONSTRUCTION ZONE AT A 4-WAY INTERSECTION (LOW VOLUME TRAFFIC) PHASE 3 OF 4

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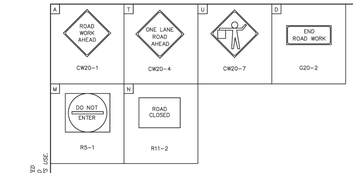

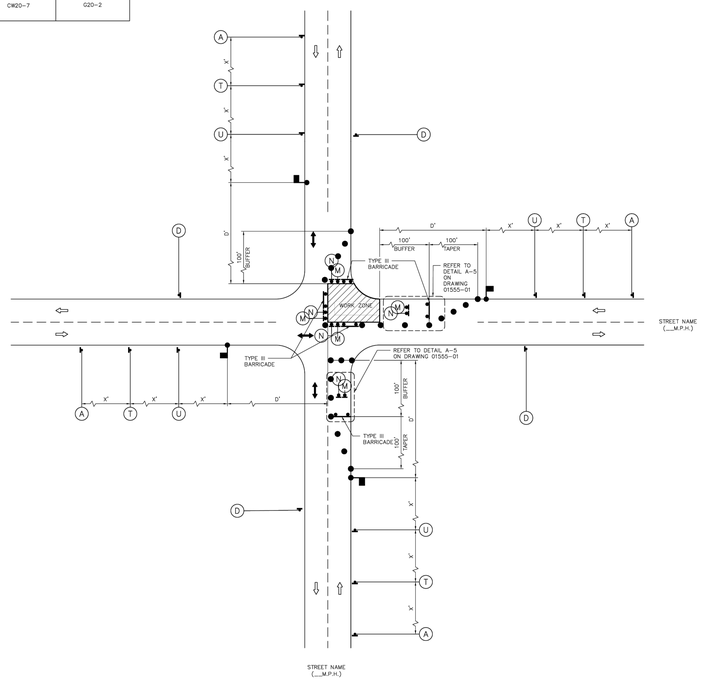

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APPROVED BY:	APPROVED BY:
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY:	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 01555-12

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TCP TYPICAL CONSTRUCTION ZONE AT A 4-WAY INTERSECTION (LOW VOLUME TRAFFIC) PHASE 4 OF 4

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TBPE Firm Reg. #4575

SURVEYED BY: Kuo&Associates
FB NO. P-6396

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

TRAFFIC CONTROL PLANS
STANDARD DETAILS
TRAFFIC CONTROL PLANS

TCP SHEET: 45 SHEET 2 OF 6

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
NOT TO SCALE	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 162 OF 200	

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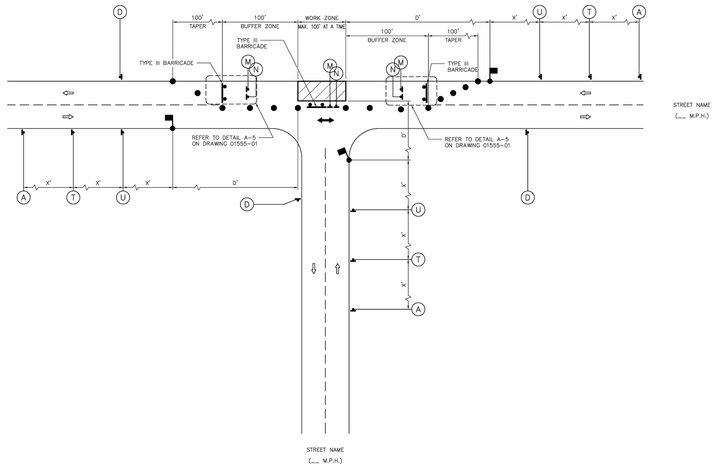
CW20-1	CW20-4	CW20-7	G20-2	R5-1	R11-2



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APPROVED BY:	APPROVED BY:
Signed by: Sahil Kanwar	Signed by: Eldric McIlwain
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: Signed by: Carol Haddock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 01555-06

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TCP TYPICAL CONSTRUCTION ZONE AT A T-INTERSECTION PHASE 1 OF 3

FOR CITY OF HOUSTON USE ONLY
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A	T	U	D	M	N
ROAD WORK AHEAD	ONE LANE ROAD AHEAD		END ROAD WORK	DO NOT ENTER	ROAD CLOSED
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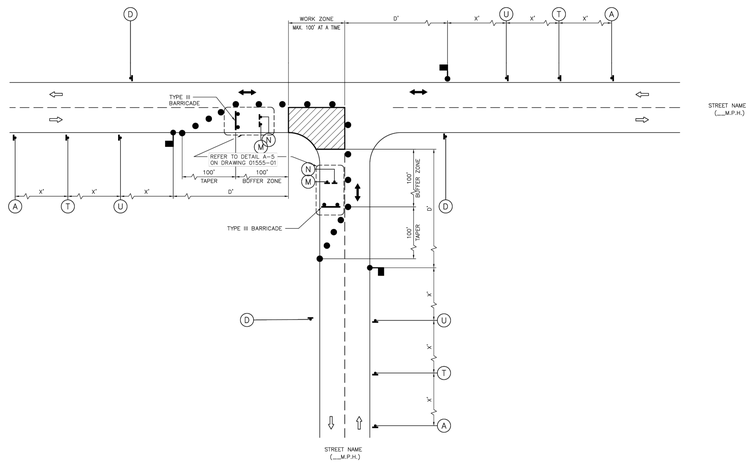

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APPROVED BY:	APPROVED BY:
Signed by: Sahil Kanwar	Signed by: Eldric McIlwain
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: Signed by: Carol Haddock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 01555-07

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TCP TYPICAL CONSTRUCTION ZONE AT A T-INTERSECTION PHASE 2 OF 3

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TBPE Firm Reg. #4575

SURVEYED BY: Kuo&Associates
FB NO. P-6396

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

TRAFFIC CONTROL PLANS
STANDARD DETAILS
TRAFFIC CONTROL PLANS

TCP SHEET: 46 SHEET 3 OF 6

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 163 OF 200	

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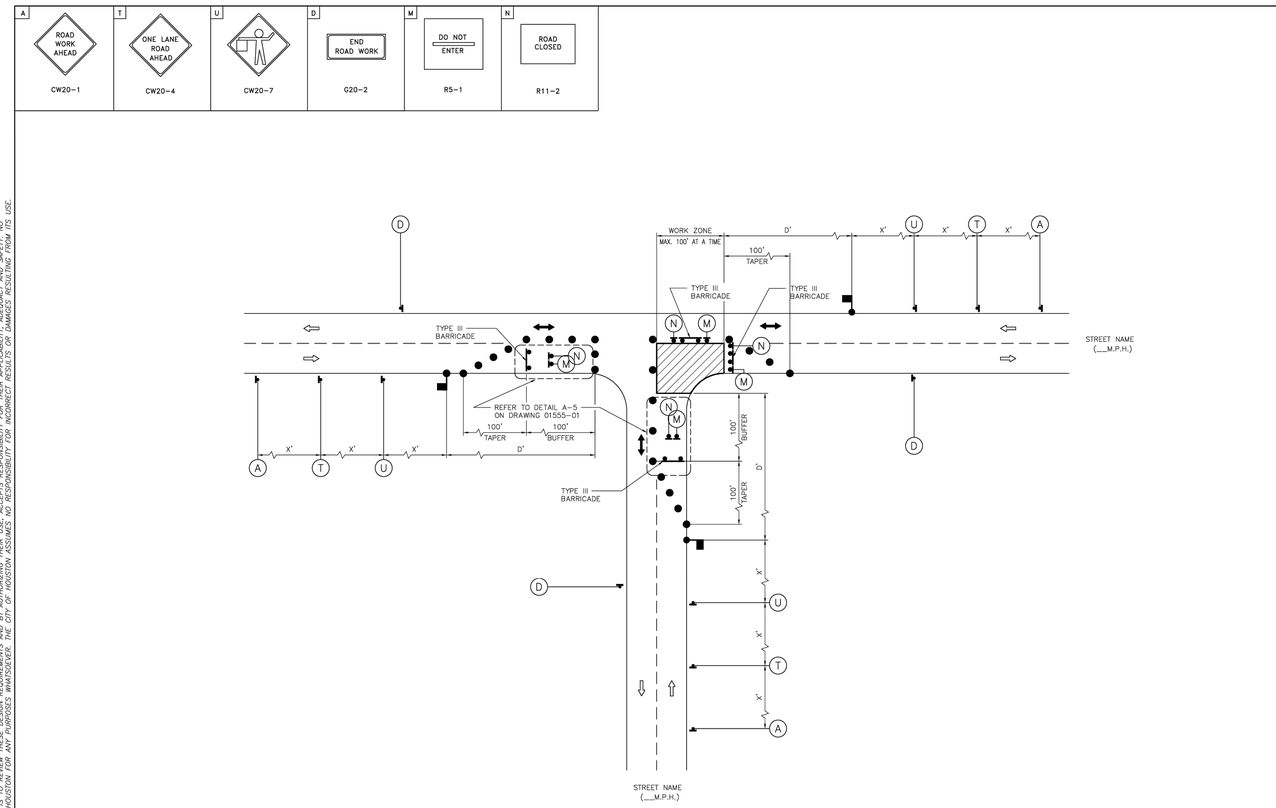

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APPROVED BY:	APPROVED BY:
Sukad Kalavar	Hoang Nguyen
CITY ENGINEER	CITY TRAFFIC ENGINEER

APPROVED BY:

DIRECTOR OF HOUSTON PUBLIC WORKS

EFF DATE: NOV-27-2023	DWG NO: 01555-08

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TCP TYPICAL CONSTRUCTION ZONE AT A T-INTERSECTION PHASE 3 OF 3

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HOUSTON PUBLIC WORKS

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TCP SHEET: 47 SHEET 4 OF 6

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SHEET NO. 164 OF 200	

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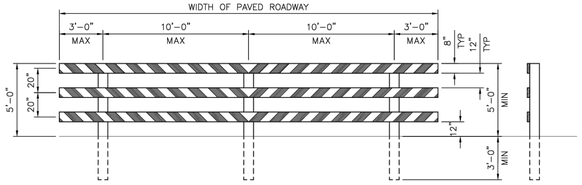
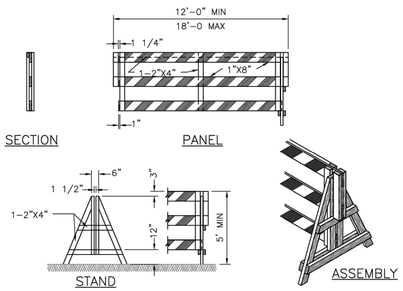
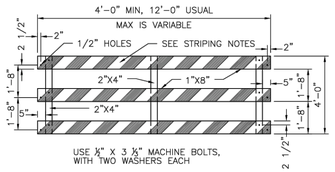


TYPE III BARRICADE
FOR END OF ROAD

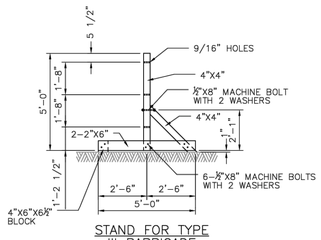
FOR TYPE III BARRICADE FOR END OF ROAD, THE THREE (3) RAILS SHALL BE REFLECTIVE RED AND RELFLECTIVE WHITE STRIPES ON SIDE FACING TRAFFIC



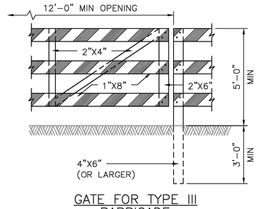
DEMOUNTABLE TYPE III BARRICADE



PANEL FOR TYPE III BARRICADE



STAND FOR TYPE III BARRICADE



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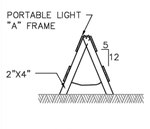
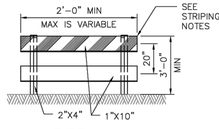


"A" FRAME



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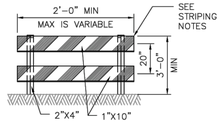
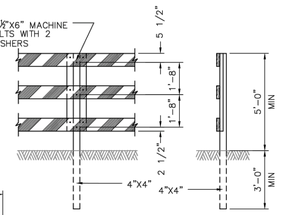
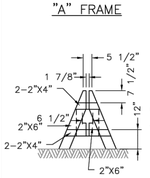


TYPE II



POST FOR TYPE III BARRICADE



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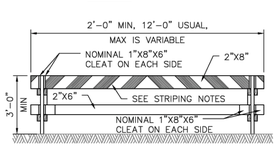

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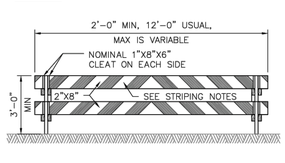

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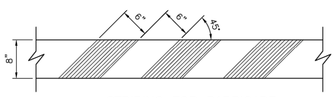
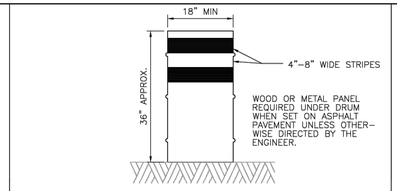


STRIPING FOR BARRICADE

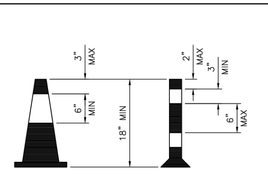
BARRICADE NOTES:

1. THE MOST RECENT EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, AND IT'S REVISIONS, SHALL GOVERN THE CONSTRUCTION AND USE OF ALL ITEMS HEREIN DESCRIBED.
2. CHANNELIZATION DEVICES OTHER THAN BARRICADES SHOULD NORMALLY BE USED FOR CHANNELIZATION PURPOSES.
3. BARRICADES SHOULD NORMALLY BE PLACED PERPENDICULAR TO THE TRAFFIC FLOW. OTHER CHANNELIZING DEVICES, SUCH AS DRUMS, VERTICAL PANELS OR PORTABLE BARRIERS, SHOULD BE USED WHERE NEEDED TO SEPARATE TRAFFIC FROM THE WORK AREA. IN ALL CASES, THE BARRICADES SHOULD BE SO LOCATED AS TO MOST ADVANTAGEOUSLY WARN AND DIRECT TRAFFIC.
4. BARRICADES MAY BE DESIGNED AND CONSTRUCTED FROM WOOD OR ANY OTHER SUITABLE MATERIAL APPROVED BY THE TMUTCD. THE CONSTRUCTION DETAILS SHOWN HEREON ARE TYPICAL AND ARE SUGGESTED DETAILS FOR WOOD SUPPORT SYSTEMS FOR BARRICADES. THE DETAILS OF RAIL WIDTH AND STRIPING, NUMBER AND SPACING OF RAILS, MINIMUM LENGTH AND HEIGHT (ABOVE PAVEMENT) OF RAILS MUST BE ADHERED TO WHEN ALTERNATE DESIGNS ARE USED.
5. BARRICADES ARE TO BE CONSTRUCTED OF CLEAN SOUND MATERIAL. ALL SURFACES ABOVE GROUND, WHICH ARE NOT STRIPED, SHALL BE WHITE EXCEPT THE UNPAINTED GALVANIZED METAL OR ALUMINUM COMPONENTS MAY BE USED. COMPONENTS MADE OF LUMBER SHALL BE PAINTED WITH A MINIMUM OF TWO COATS OF AN APPROVED BRAND OF WHITE PAINT TO SECURE THOROUGH COVERAGE AND A UNIFORM WHITE COLOR.
6. THE REFLECTORIZED WHITE AND REFLECTORIZED ORANGE (REFLECTORIZED RED) STRIPES FOR BARRICADES, DRUMS AND VERTICAL PANELS SHALL BE CONSTRUCTED OF HIGH INTESITY SHEETING AND SHALL BE MAINTAINED TO MEET THE APPEARANCE, COLOR AND REFLECTIVITY REQUIREMENTS SET BY DOTT.
7. THE CONTRACTOR SHALL MAINTAIN EACH BARRICADE IN A CLEAN AND GOOD CONDITION.
8. BARRICADES SHALL BE REMOVED UPON COMPLETION OF THE WORK AND/OR THE ELIMINATION OF THE HAZARD ON ANY SECTION.



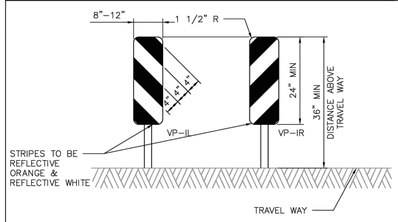
DRUMS

1. DRUMS, SET ON END, AND USED FOR TRAFFIC WARNING OR CHANNELIZATION SHALL BE APPROX 36" IN HEIGHT AND A MIN OF 18" IN DIAMETER. THE CONTRACTOR, AT HIS OPTION, MAY USE DRUMS MADE FROM STEEL BARRELS OR BLACK POLYETHYLENE PLASTIC DRUM LINERS WEIGHING APPROX EIGHT POUNDS EACH. THE MARKINGS ON DRUMS SHALL BE HORIZONTAL, CIRCUMFERENTIAL, REFLECTORIZED ORANGE AND REFLECTORIZED WHITE STRIPES, 4 TO 8 INCHES WIDE. THE FIRST REFLECTORIZED STRIPE SHOULD START WITHIN TWO (2) INCHES OF THE TOP OF THE DRUM. THERE SHALL BE AT LEAST TWO ORANGE AND TWO WHITE STRIPES ON EACH DRUM. IF THERE ARE NON-REFLECTORIZED SPACES BETWEEN THE HORIZONTAL ORANGE AND WHITE STRIPES, THEY SHALL BE NO MORE THAN 2 INCHES WIDE. METAL DRUMS SHALL BE PAINTED BLACK OR ORANGE BEFORE REFLECTORIZED STRIPES ARE ADDED. ALL DRUMS ON PROJECT WILL BE THE SAME COLOR. WHEN DRUMS ARE PLACED IN THE ROADWAY, APPROPIATE WARNING SIGNS SHOULD BE USED. DURING HOURS OF DARKNESS, A FLASHING WARNING LIGHT SHOULD BE PLACED ON DRUMS USED SINGLY AS A WARNING DEVICE. STEADY BURN ELECTRIC LIGHTS OR DELINEATORS SHOULD BE PLACED ON DRUMS USED IN SERIES FOR TRAFFIC CHANNELIZATION. DRUMS SHALL BE WEIGHTED WITH SAND TO THE EXTENT INDICATED IN THE PLANS.
2. CWI-8 CHEVRON SIGNS, CWI-6A ARROW SIGNS OR VP-I VERTICAL PANELS MOUNTED ABOVE DRUMS MAY BE USED AS SUPPLEMENTS TO DRUM DELINEATION.



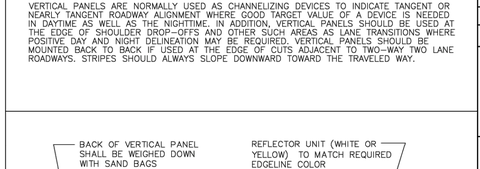
CONES

1. TRAFFIC CONES AND TUBULAR MARKERS SHALL BE A MIN OF 18" INCHES IN HEIGHT WITH A BROADENED BASE AND MAY BE MADE OF VARIOUS MATERIALS TO WITHSTAND IMPACT WITHOUT DAMAGE TO THEMSELVES OR TO VEHICLES. LARGER SIZES SHOULD BE USED ON FREEWAYS AND OTHER ROADWAYS WHERE SPEED ARE RELATIVELY HIGH OR WHERE EVER MORE CONSPICUOUS GUIDANCE IS NEEDED, ORANGE SHALL BE THE PREDOMINANT COLOR ON CONES AND TUBULAR MARKERS. THEY SHOULD BE KEPT CLEAN AND BRIGHT FOR MAX TARGET VALUE. FOR NIGHT TIME USE THEY SHALL BE REFLECTORIZED OR EQUIPPED WITH LIGHTING DEVICES FOR MAX VISIBILITY. REFLECTORIZED MATERIAL SHALL HAVE A SMOOTH, SEALED OUTER SURFACE WHICH WILL DISPLAY THE SAME APPROX COLOR DAY AND NIGHT.
2. REFLECTORIZATION OF TUBULAR MARKERS SHALL BE A MIN OF TWO THREE-INCH BANDS PLACED A MAX OF 2" FROM THE TOP WITH A MAX OF 6" BETWEEN THE BANDS. REFLECTORIZATION OF CONES SHALL BE PROVIDED BY A MIN 6" BAND PLACED A MAX OF 3" FROM THE TOP.
3. CONES OR TUBULAR MARKERS ARE GENERALLY ONLY SUITABLE FOR TEMPORARY USAGE (UP TO 8 HOURS) WITH OTHER CHANNELIZATION DEVICES SUCH AS VERTICAL PANELS OR BARRICADES PREFERRED FOR LONGER TERM USAGE. CARE SHOULD BE TAKEN TO INSURE THAT THEY REMAIN IN THEIR PROPER LOCATION AND IN AN UPRIGHT POSITION.



VERTICAL PANELS (VP)

VERTICAL PANELS ARE NORMALLY USED AS CHANNELIZING DEVICES TO INDICATE TANGENT OR NEARLY TANGENT ROADWAY ALIGNMENT WHERE GOOD TARGET VALUE OF A DEVICE IS NEEDED IN DAYTIME AS WELL AS THE NIGHTTIME. IN ADDITION, VERTICAL PANELS SHOULD BE USED AT THE EDGE OF SHOULDER DROP-OFFS AND OTHER SUCH AREAS AS LANE TRANSITIONS WHERE POSITIVE DAY AND NIGHT DELINEATION MAY BE REQUIRED. VERTICAL PANELS SHOULD BE MOUNTED BACK TO BACK IF USED AT THE EDGE OF CUTS ADJACENT TO TWO-WAY TWO LANE ROADWAYS. STRIPES SHOULD ALWAYS SLOPE DOWNWARD TOWARD THE TRAVELED WAY.



TYPICAL PORTABLE VERTICAL PANEL OR DELINEATOR

OTHER SIMILAR SUPPORTS MAY BE USED WHEN APPROVED BY TMUTCD AND DIRECTED BY THE CITY OF HOUSTON.

APPROVED BY:	APPROVED BY:
DocuSigned by: Sulal Kauvar 8EF8B8C64F9A4...	DocuSigned by: KHUNG NGUYEN 95A2697DA7B84CD...
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carol Haddock A3DC4765F7B3483...	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 01555-14

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

BARRICADE AND CHANNELIZING DEVICES

	FOR CITY OF HOUSTON USE ONLY
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F 713 748 3748
TBPE Firm Reg. #4575

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

SURVEYED BY: Kuo&Associates
FB NO. P-6396

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

TRAFFIC CONTROL PLANS
STANDARD DETAILS
TRAFFIC CONTROL PLANS

TCP SHEET: 48 SHEET 5 OF 6

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
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CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 165 OF 200	

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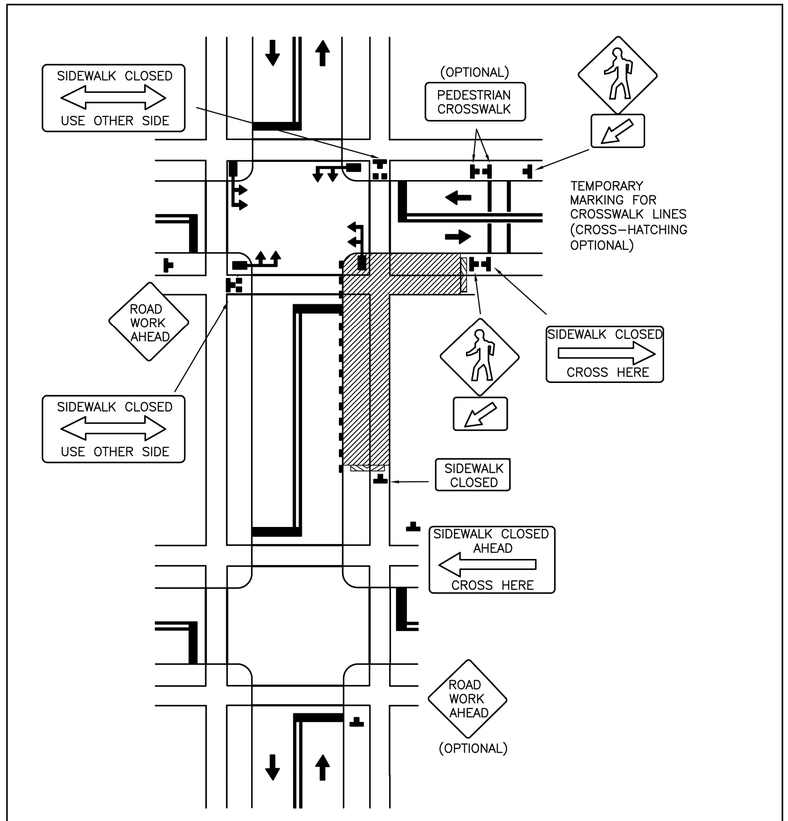

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

CROSSWALK CLOSURES AND PEDESTRIAN DETOURS

(SCALE: NOT TO SCALE)

APPROVED BY:

CITY ENGINEER	CITY TRAFFIC ENGINEER	DIRECTOR OF HPW
DocuSigned by: Suhail Kanwar 9EF8B0C841F5478...	DocuSigned by: KHING NGUYEN 95A29EFDA75B4CD...	DocuSigned by: Carl Haddock A93C410B72B3453...

EFF DATE: NOV-27-2023 | DWG NO: 01555-16

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

TRAFFIC CONTROL PLANS
STANDARD DETAILS
TRAFFIC CONTROL PLANS

TCP SHEET: 49 SHEET 6 OF 6

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LUCIA L. LEE, P.E.	
SHEET NO. 166 OF 200	

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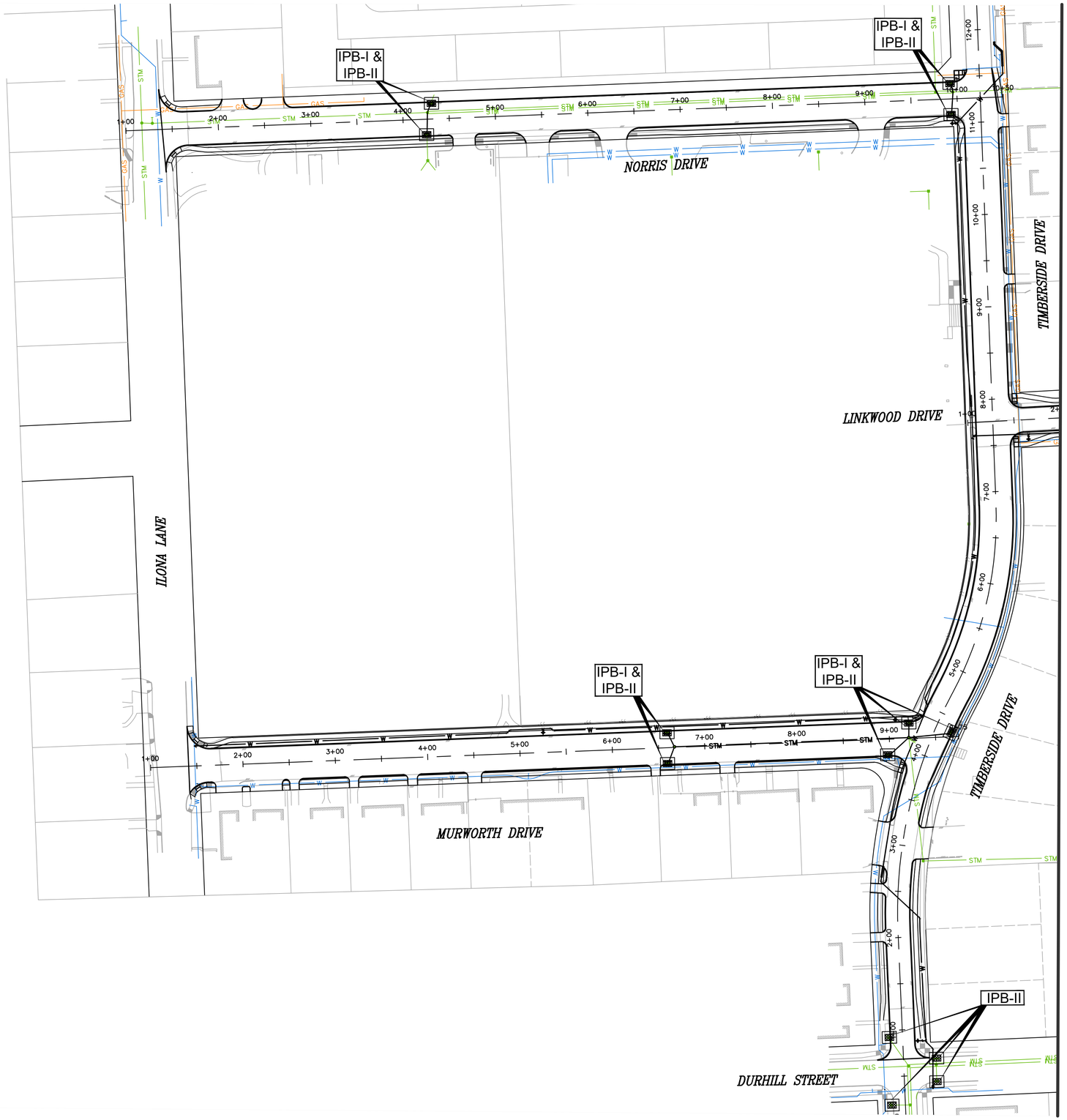

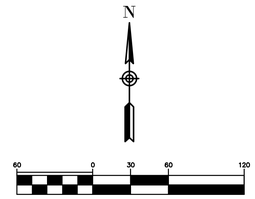

NO.	DATE	REVISION	APP.

LEGEND:

IPB I INLET PROTECTION BARRIER I

IPB II INLET PROTECTION BARRIER II

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P.E. Reg No: 130533
DATE: DECEMBER 2025

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HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

STORM WATER POLLUTION PREVENTION PLAN LAYOUT (SHEET 1 OF 3)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1" = 60'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 167 OF 200	

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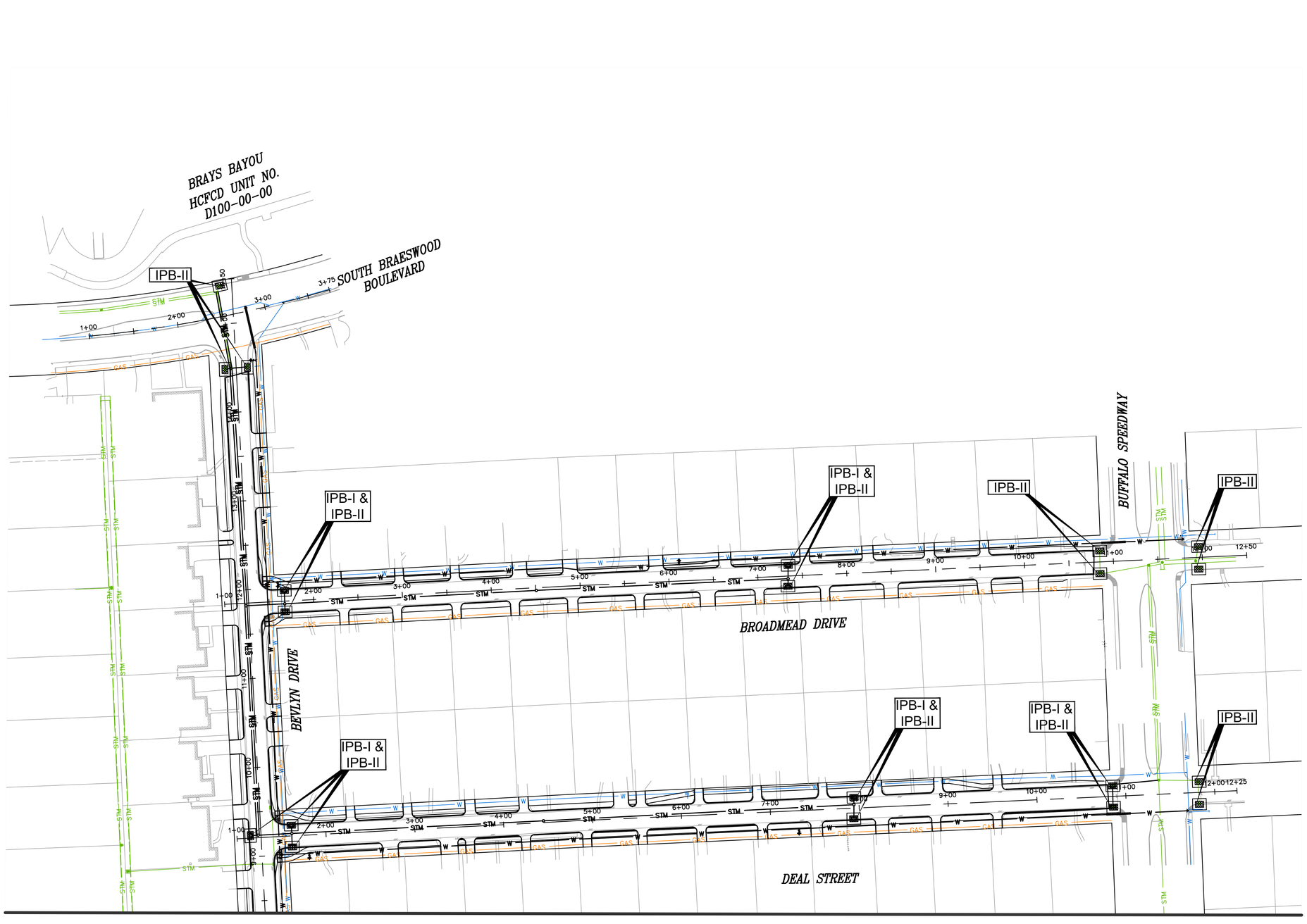

MATCH LINE
SHEET 3 OF 3

N

60 0 30 60 120

SCALE: 1" = 60'-0" FEET FOR 22"X34" SHEET

NOTE:

1. ADDITIONAL SWPPP MEASURES TO BE CARRIED OUT BY CONTRACTOR IN-FIELD WITHOUT AFFECTING THE EXISTING INLET STRUCTURES.

LEGEND:

IPB I — INLET PROTECTION BARRIER I

IPB II — INLET PROTECTION BARRIER II

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P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
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WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

STORM WATER POLLUTION PREVENTION PLAN LAYOUT (SHEET 2 OF 3)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
1" = 60'	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 168 OF 200	

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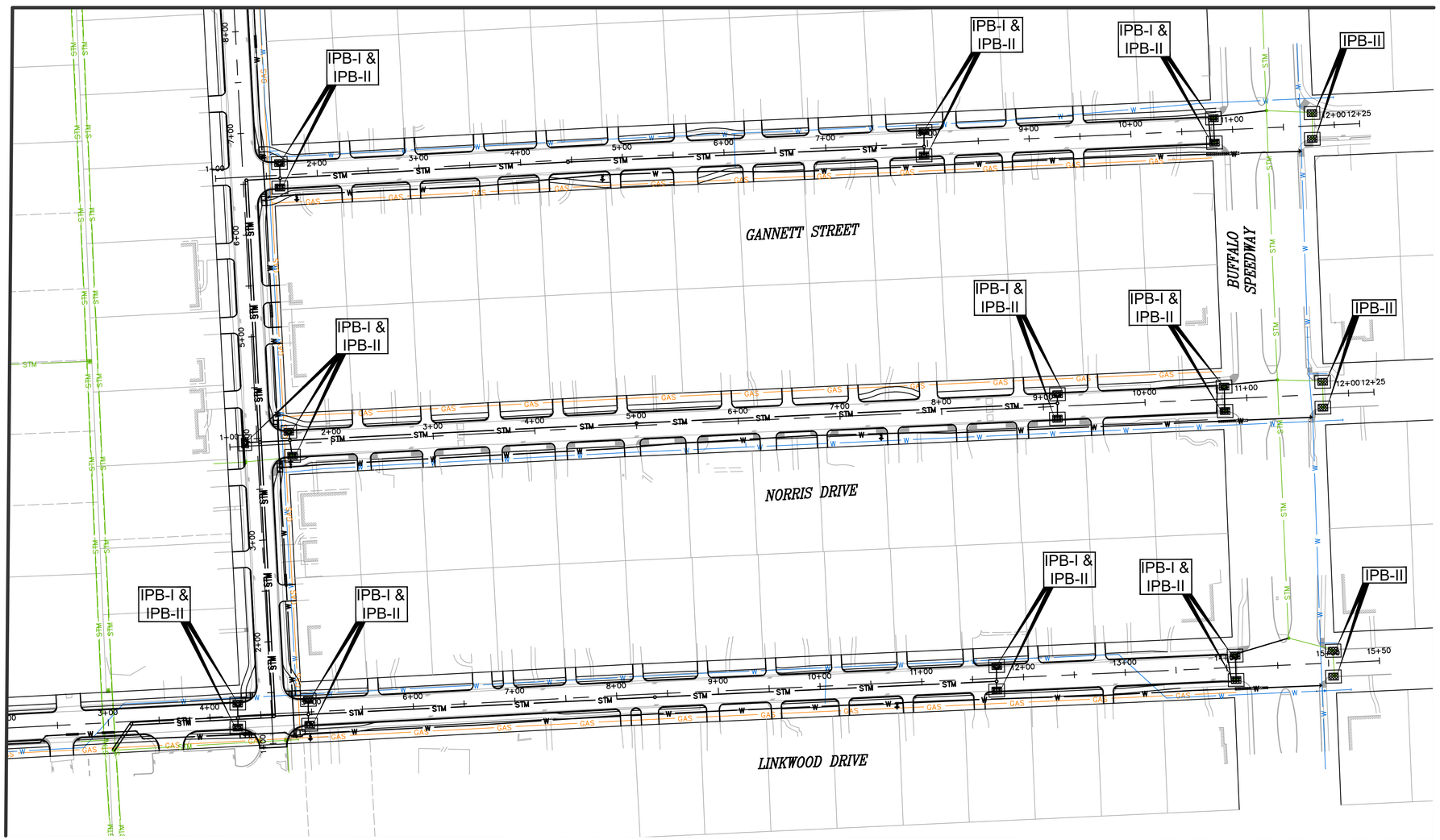
MATCH LINE
SHEET 2 OF 3

MATCH LINE
SHEET 1 OF 3



N

60 0 30 60 120

SCALE: 1" = 60'-0" FEET FOR 22"X34" SHEET

LEGEND:

IPB I — INLET PROTECTION BARRIER I

IPB II — INLET PROTECTION BARRIER II

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STORM WATER POLLUTION PREVENTION PLAN LAYOUT (SHEET 3 OF 3)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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1" = 60'	
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LUCIA L. LEE, P.E.	
SHEET NO. 169 OF 200	

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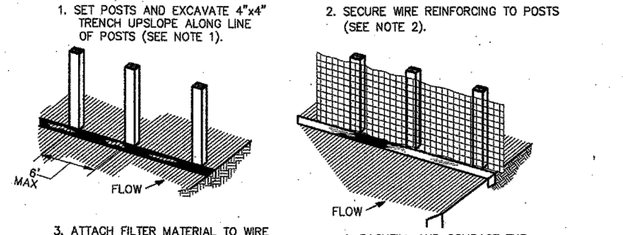
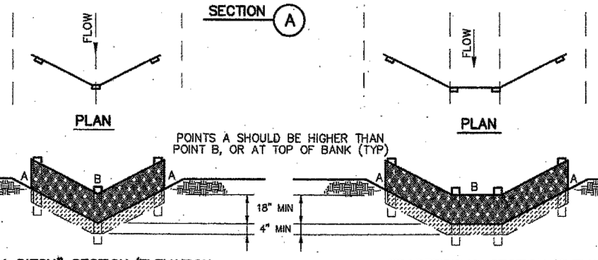


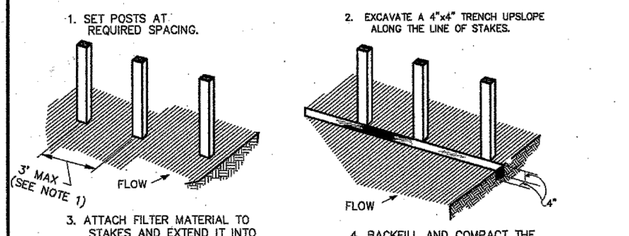


CONSTRUCTION NOTES:

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

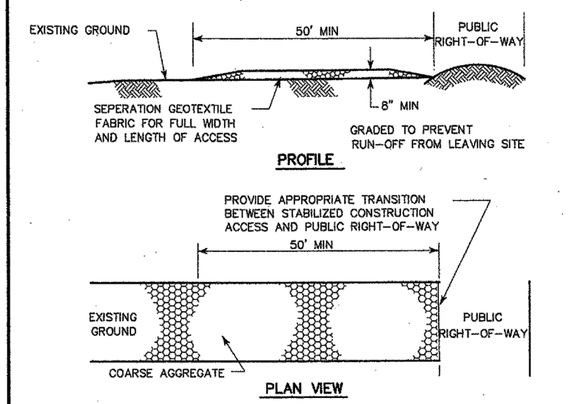


CONSTRUCTION NOTES:

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

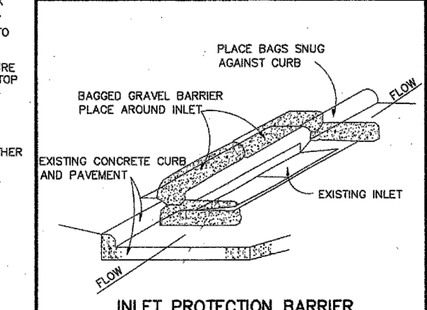


CONSTRUCTION NOTES:

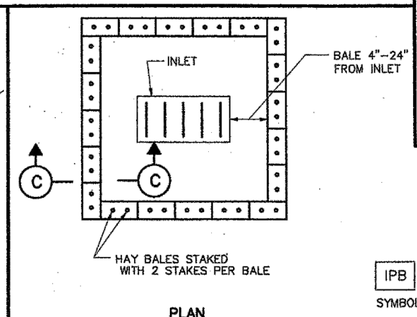
1. LENGTH SHALL BE AS SHOWN ON THE CONSTRUCTION DRAWINGS, BUT NOT LESS THAN 50 FEET.
2. THICKNESS SHALL BE NOT LESS THAN 8 INCHES.
3. WIDTH SHALL BE NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
4. STABILIZATION FOR OTHER AREAS SHALL HAVE THE SAME AGGREGATE THICKNESS AND WIDTH REQUIREMENTS 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

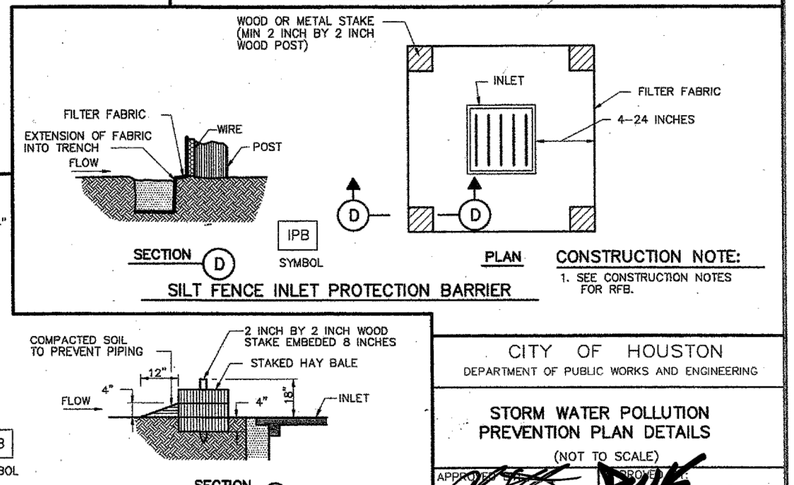
STABILIZED CONSTRUCTION ACCESS



INLET PROTECTION BARRIER
(FOR STAGE II INLETS)
BAGGED GRAVEL BARRIER



HAY BALE INLET PROTECTION BARRIER



SILT FENCE INLET PROTECTION BARRIER

CSH

FILE PATH: P:\ACTIVE\150R30 SP1A\Ph II\Working\CAD\150R30-Details-SW3P.dwg

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/8/2025 8:43 AM

ISANI
civil \ design \ engineers
10448 Westoffice Drive
Houston, Texas 77042
P 713 747 2399
F 713 748 3748
TBPE Firm Reg. #4575

SURVEYED BY: Kuo&Associates
FB NO. P-6396

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ENGINEER: RAHUL B MENON, P.E
P.E. Reg No: 130533
DATE: DECEMBER 2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

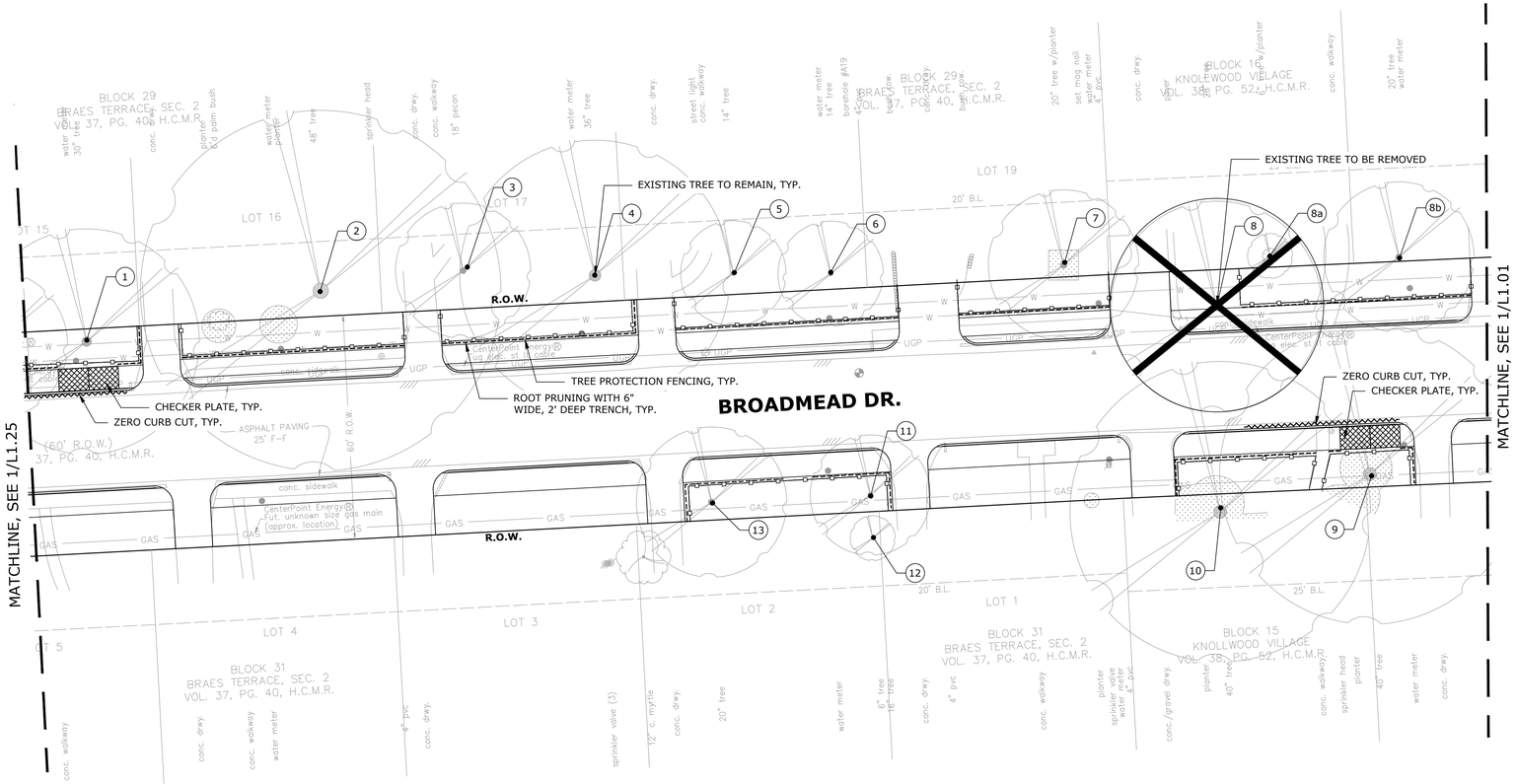
STORMWATER POLLUTION PREVENTION PLAN DETAILS – CITY OF HOUSTON

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

STORM WATER POLLUTION PREVENTION PLAN DETAILS
(NOT TO SCALE)

APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JULY-01-2010	DWG NO: 01571-01

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
NTS	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 170 OF 200	



1 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

1" = 20'-0"

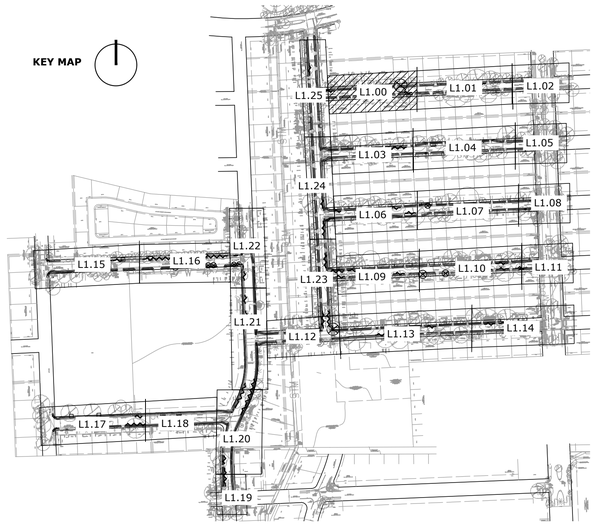
0 20' 40'

LEGEND

- MATCHLINE
- # TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING RE: DETAIL 1/L1.28
- ROOT PRUNING WITH 6" WIDE, 2' DEEP TRENCH RE: DETAIL 2/L1.28
- ZERO CURB CUT RE: DETAIL 5/L1.29
- CHECKER PLATE RE: DETAIL 3/L1.28
- TREE BOARDING RE: DETAIL 3/L1.29

NOTE:
ROOT PRUNING EXTENDS TO EITHER SIDE OF CHECKER PLATE. REFERENCE EACH CONDITION SHOWN ON PLAN.

KEY MAP



NO.	DATE	REVISION	APP.

ASAKURA ROBINSON
2500 Summer Street, Suite 3228 Houston Texas 77007
P. 713.337.5830 www.asakurarobinson.com

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SURVEYED BY: Kuo&Associates
FB NO. P-6396

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

L1.00 TREE PROTECTION PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 171 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/4/2025 4:01 PM
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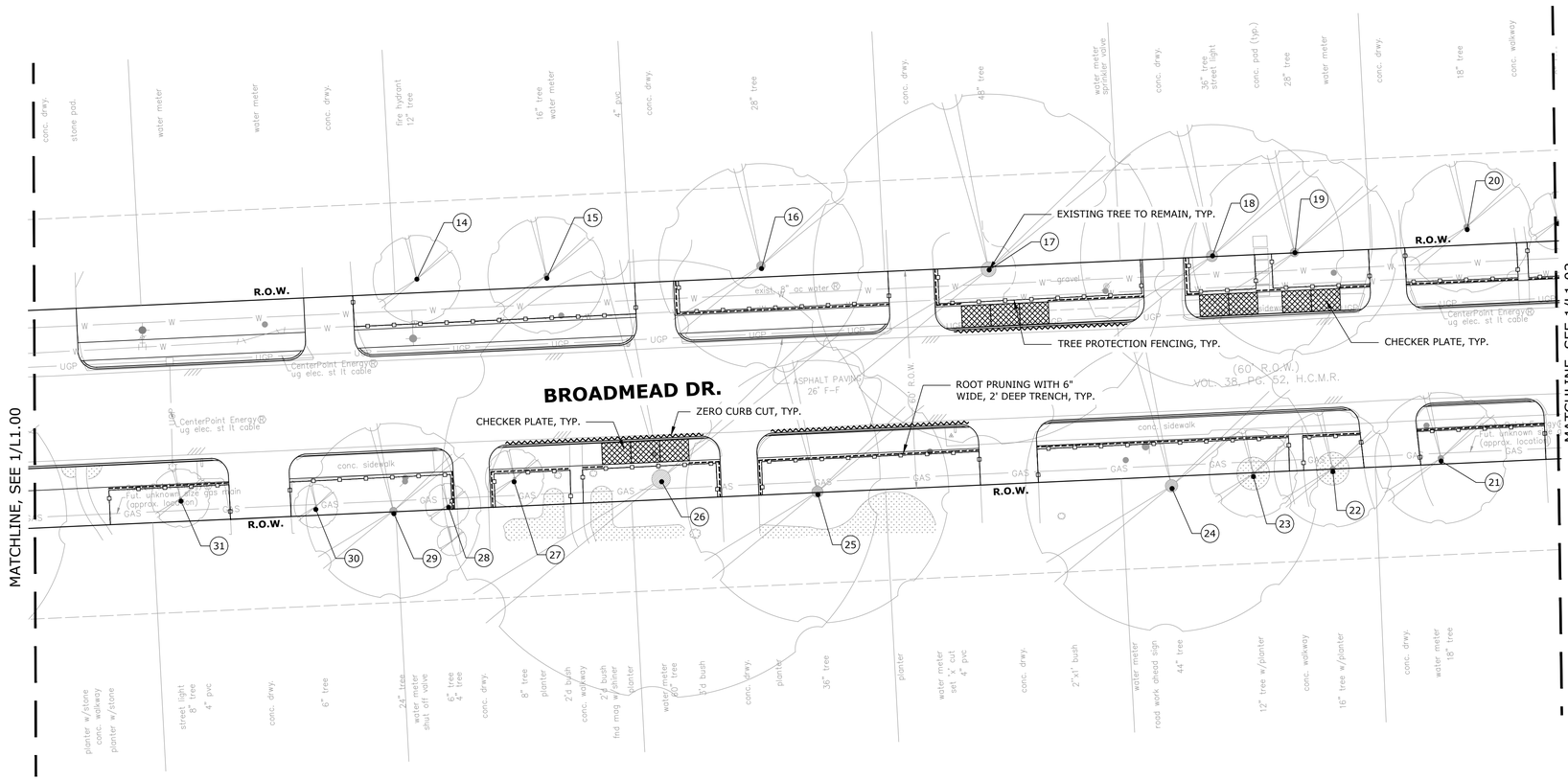


1 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

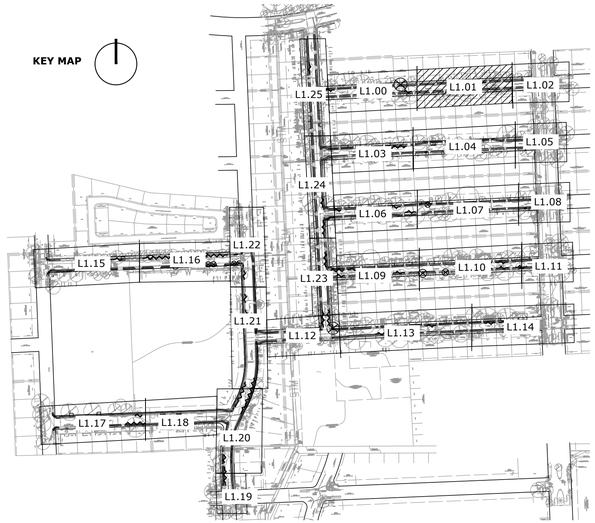
1" = 20'-0" 0 20' 40'

LEGEND

- MATCHLINE
- # TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING RE: DETAIL 1/L1.28
- ROOT PRUNING WITH 6" WIDE, 2' DEEP TRENCH RE: DETAIL 2/L1.28
- ZERO CURB CUT RE: DETAIL 5/L1.29
- CHECKER PLATE RE: DETAIL 3/L1.28
- TREE BOARDING RE: DETAIL 3/L1.29

NOTE:
ROOT PRUNING EXTENDS TO EITHER SIDE OF CHECKER PLATE. REFERENCE EACH CONDITION SHOWN ON PLAN.

KEY MAP



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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

L1.01 TREE PROTECTION PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 172 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/4/2025 4:01 PM
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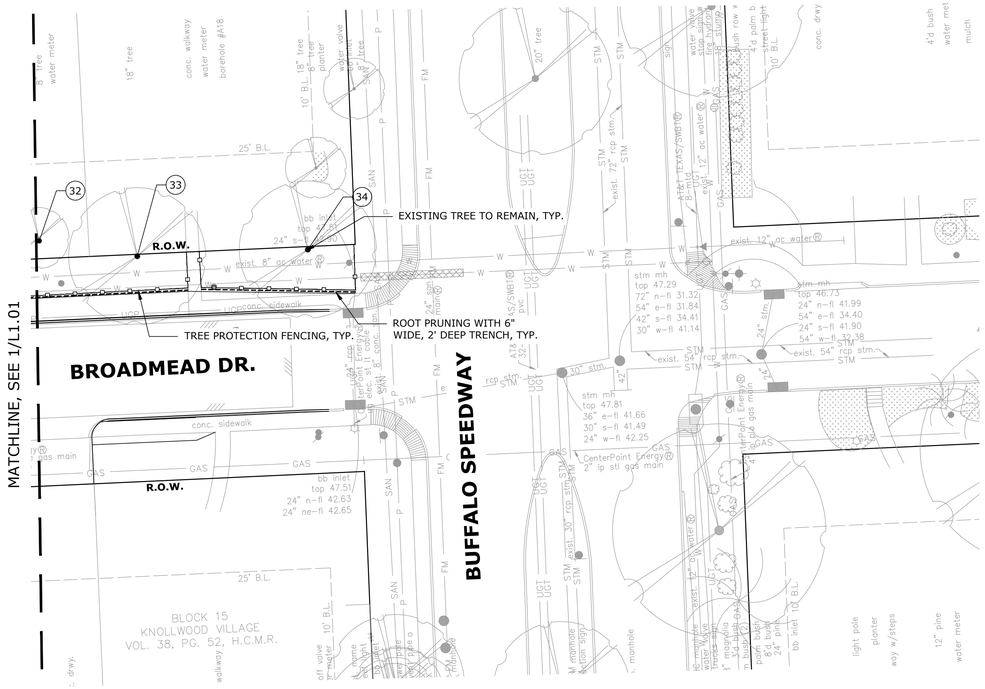


1 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

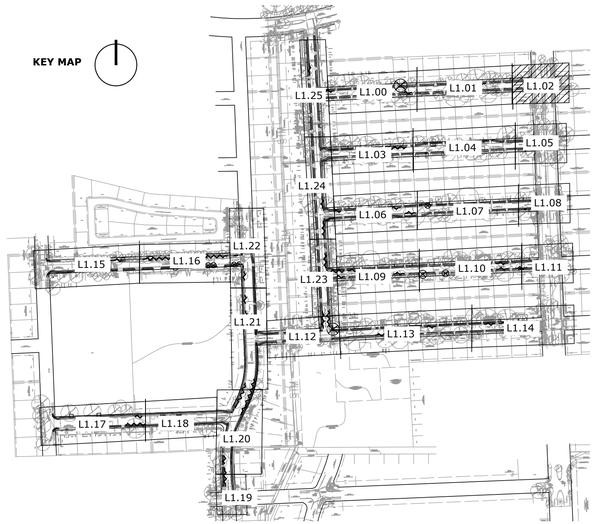
1" = 20'-0" 0 20' 40'

LEGEND

- MATCHLINE
- TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING RE: DETAIL 1/L1.28
- ROOT PRUNING WITH 6" WIDE, 2' DEEP TRENCH RE: DETAIL 2/L1.28
- ZERO CURB CUT RE: DETAIL 5/L1.29
- CHECKER PLATE RE: DETAIL 3/L1.28
- TREE BOARDING RE: DETAIL 3/L1.29

NOTE:
ROOT PRUNING EXTENDS TO EITHER SIDE OF CHECKER PLATE. REFERENCE EACH CONDITION SHOWN ON PLAN.

KEY MAP



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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

L1.02 TREE PROTECTION PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 173 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/4/2025 4:03 PM
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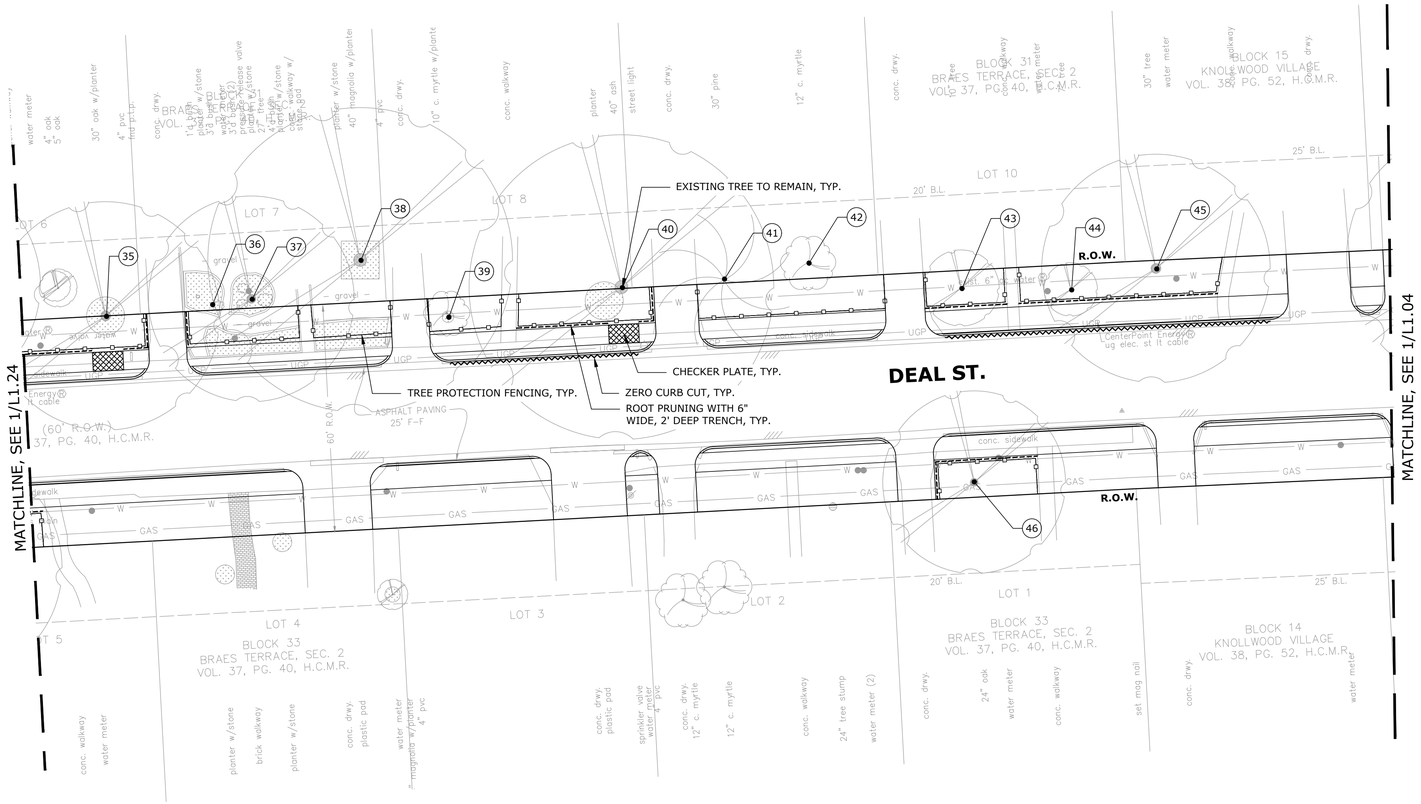


1 **TREE PROTECTION PLAN**

SCALE: 1" = 20'-0"

1" = 20'-0"

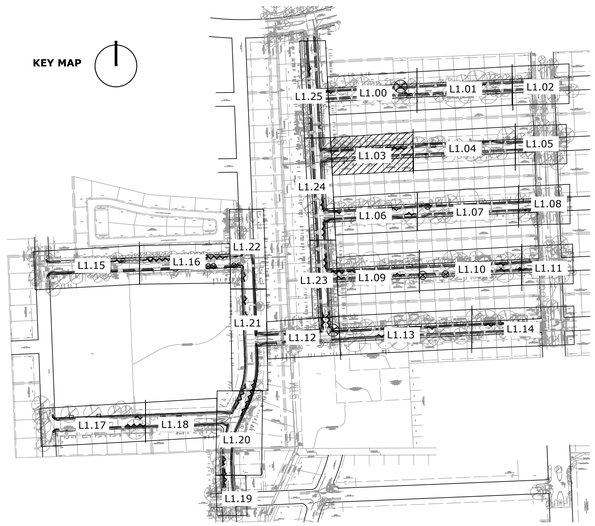
0 20' 40'

LEGEND

- MATCHLINE
- # TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING RE: DETAIL 1/L1.28
- ROOT PRUNING WITH 6" WIDE, 2' DEEP TRENCH RE: DETAIL 2/L1.28
- ZERO CURB CUT RE: DETAIL 5/L1.29
- CHECKER PLATE RE: DETAIL 3/L1.28
- TREE BOARDING RE: DETAIL 3/L1.29

NOTE:
ROOT PRUNING EXTENDS TO EITHER SIDE OF CHECKER PLATE. REFERENCE EACH CONDITION SHOWN ON PLAN.

KEY MAP



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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

L1.03 TREE PROTECTION PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 174 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/4/2025 4:03 PM
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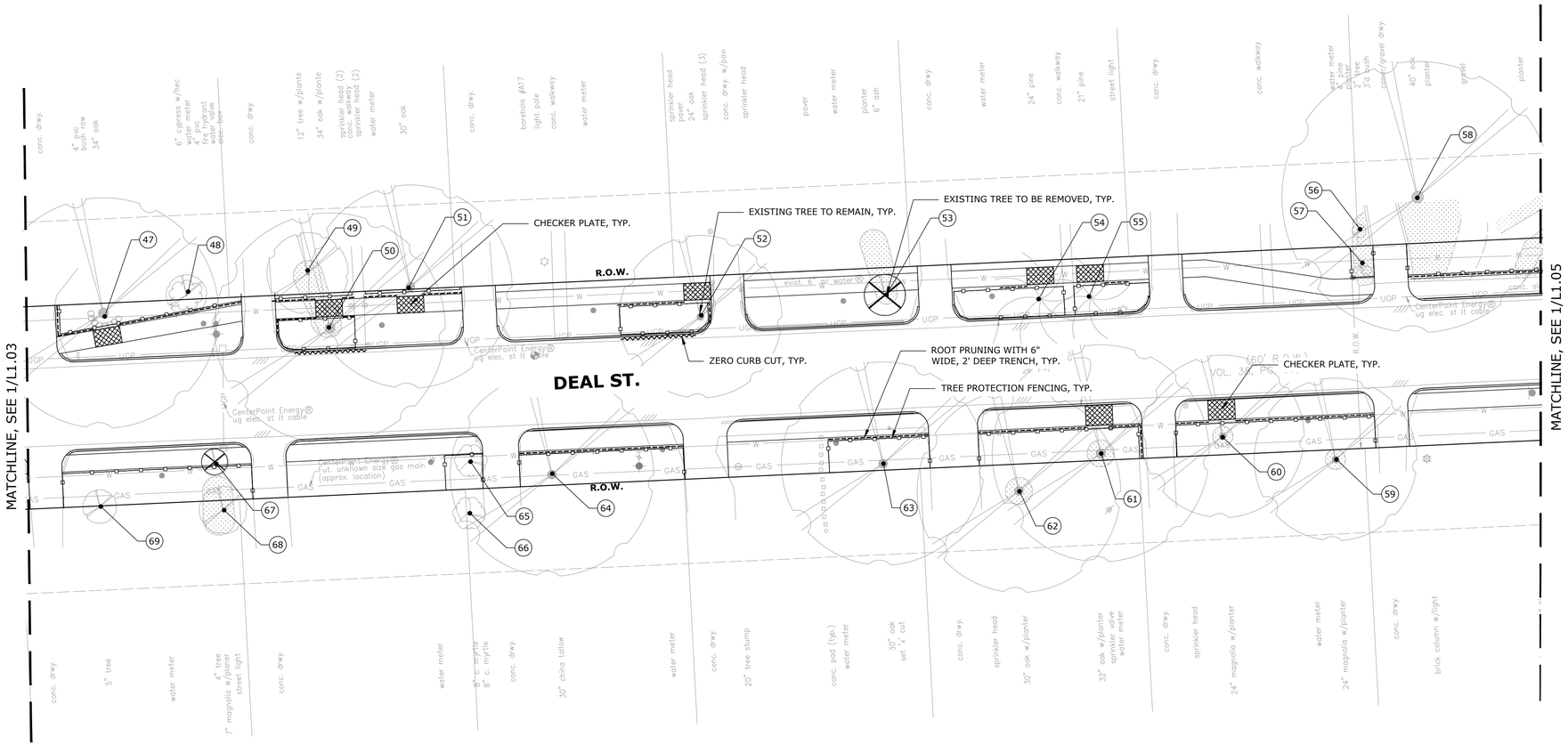


1 **TREE PROTECTION PLAN**

SCALE: 1" = 20'-0"

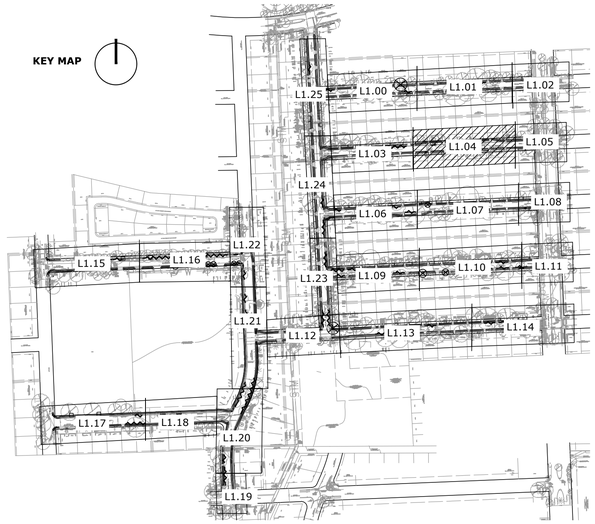
1" = 20'-0" 0 20' 40'

LEGEND

- MATCHLINE
- # TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING RE: DETAIL 1/L1.28
- ROOT PRUNING WITH 6" WIDE, 2' DEEP TRENCH RE: DETAIL 2/L1.28
- ZERO CURB CUT RE: DETAIL 5/L1.29
- CHECKER PLATE RE: DETAIL 3/L1.28
- TREE BOARDING RE: DETAIL 3/L1.29

NOTE:
ROOT PRUNING EXTENDS TO EITHER SIDE OF CHECKER PLATE. REFERENCE EACH CONDITION SHOWN ON PLAN.

KEY MAP



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SURVEYED BY: Kuo&Associates
FB NO. P-6396

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

L1.04 TREE PROTECTION PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 175 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/4/2025 4:02 PM
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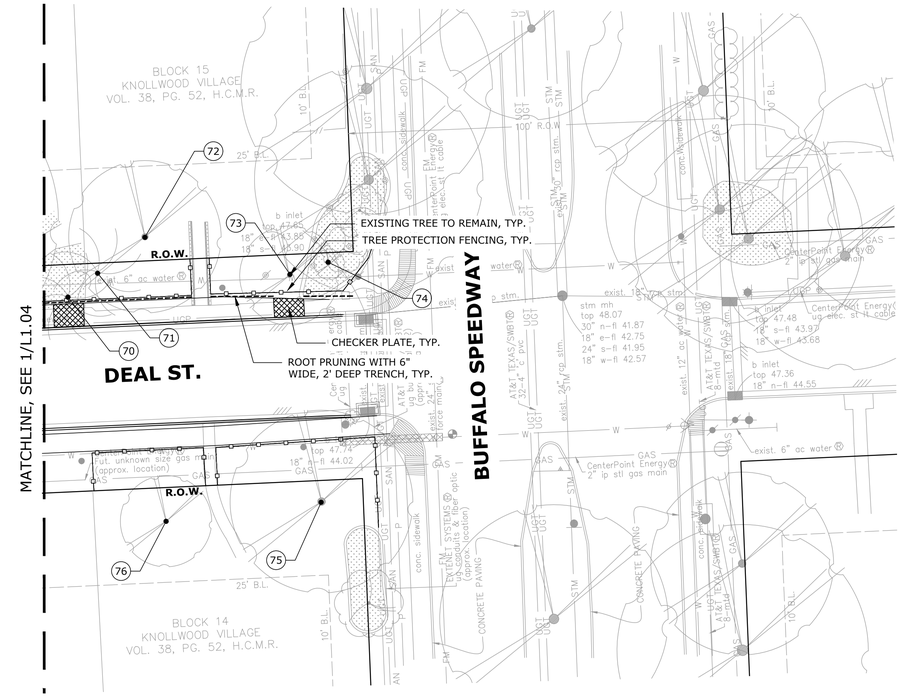


1 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

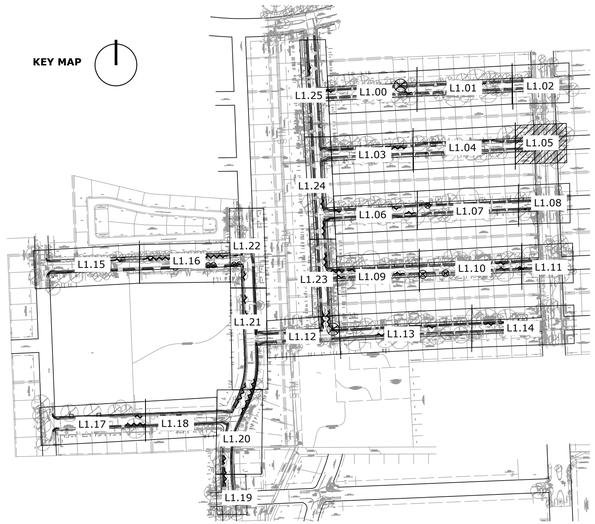
1" = 20'-0" 0 20' 40'

LEGEND

- MATCHLINE
- TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING
  RE: DETAIL 1/L1.28
- ROOT PRUNING WITH
  6" WIDE, 2' DEEP TRENCH
  RE: DETAIL 2/L1.28
- ZERO CURB CUT
  RE: DETAIL 5/L1.29
- CHECKER PLATE
  RE: DETAIL 3/L1.28
- TREE BOARDING
  RE: DETAIL 3/L1.29

NOTE:
ROOT PRUNING EXTENDS TO EITHER SIDE OF CHECKER PLATE. REFERENCE EACH CONDITION SHOWN ON PLAN.

KEY MAP



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FB NO. P-6396

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

L1.05 TREE PROTECTION PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 176 OF 200	

NO.	DATE	REVISION	APP.

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/4/2025 4:02 PM
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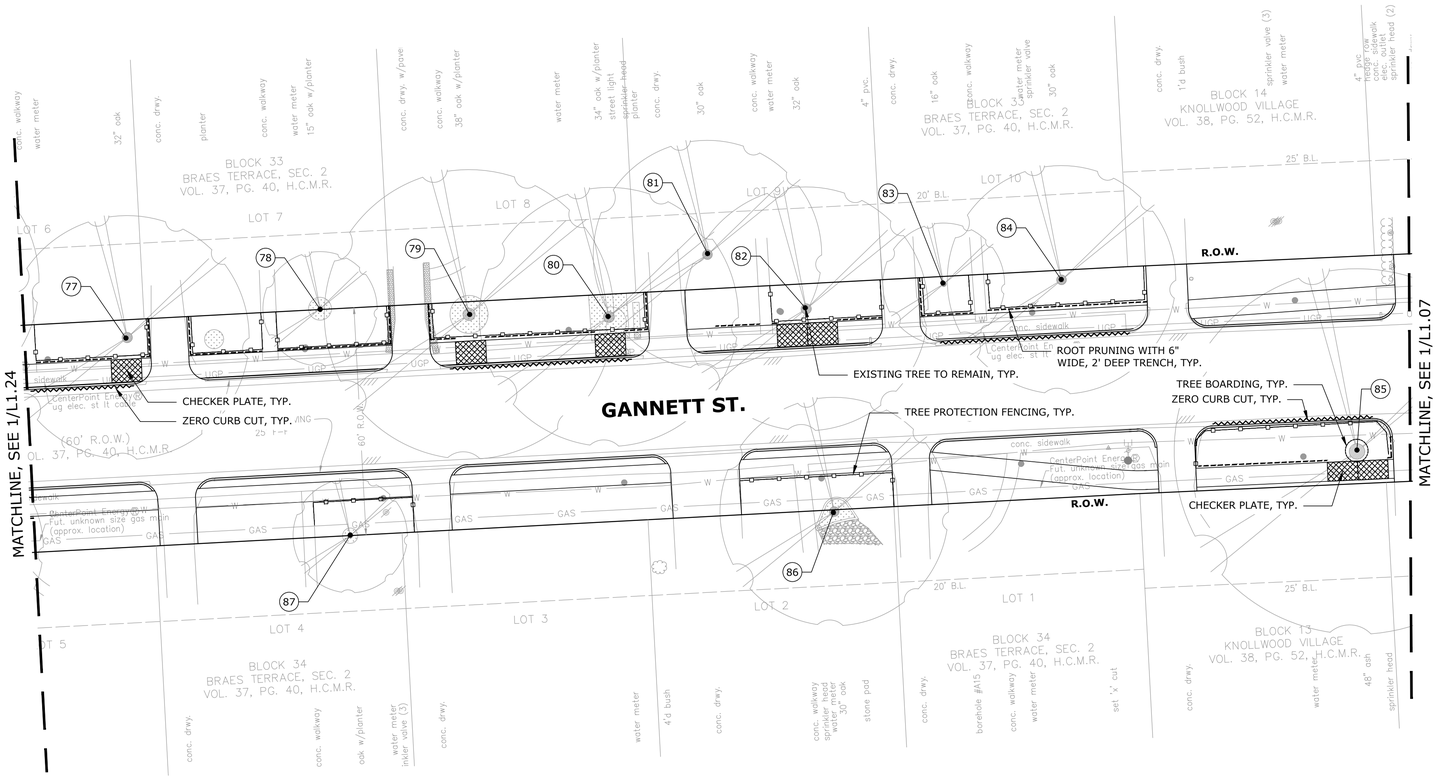


1 **TREE PROTECTION PLAN**

SCALE: 1" = 20'-0"

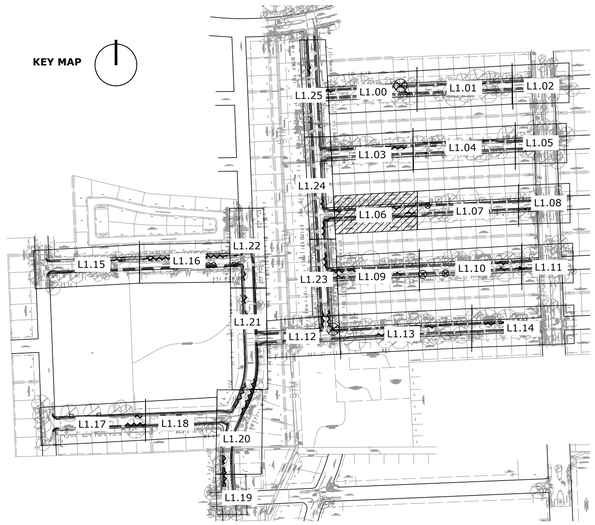
1" = 20'-0" 0 20' 40'

LEGEND

- MATCHLINE
- # TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING RE: DETAIL 1/L1.28
- ROOT PRUNING WITH 6" WIDE, 2' DEEP TRENCH RE: DETAIL 2/L1.28
- ZERO CURB CUT RE: DETAIL 5/L1.29
- CHECKER PLATE RE: DETAIL 3/L1.28
- TREE BOARDING RE: DETAIL 3/L1.29

NOTE:
ROOT PRUNING EXTENDS TO EITHER SIDE OF CHECKER PLATE. REFERENCE EACH CONDITION SHOWN ON PLAN.

KEY MAP



NO.	DATE	REVISION	APP.

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SURVEYED BY: Kuo&Associates
FB NO. P-6396

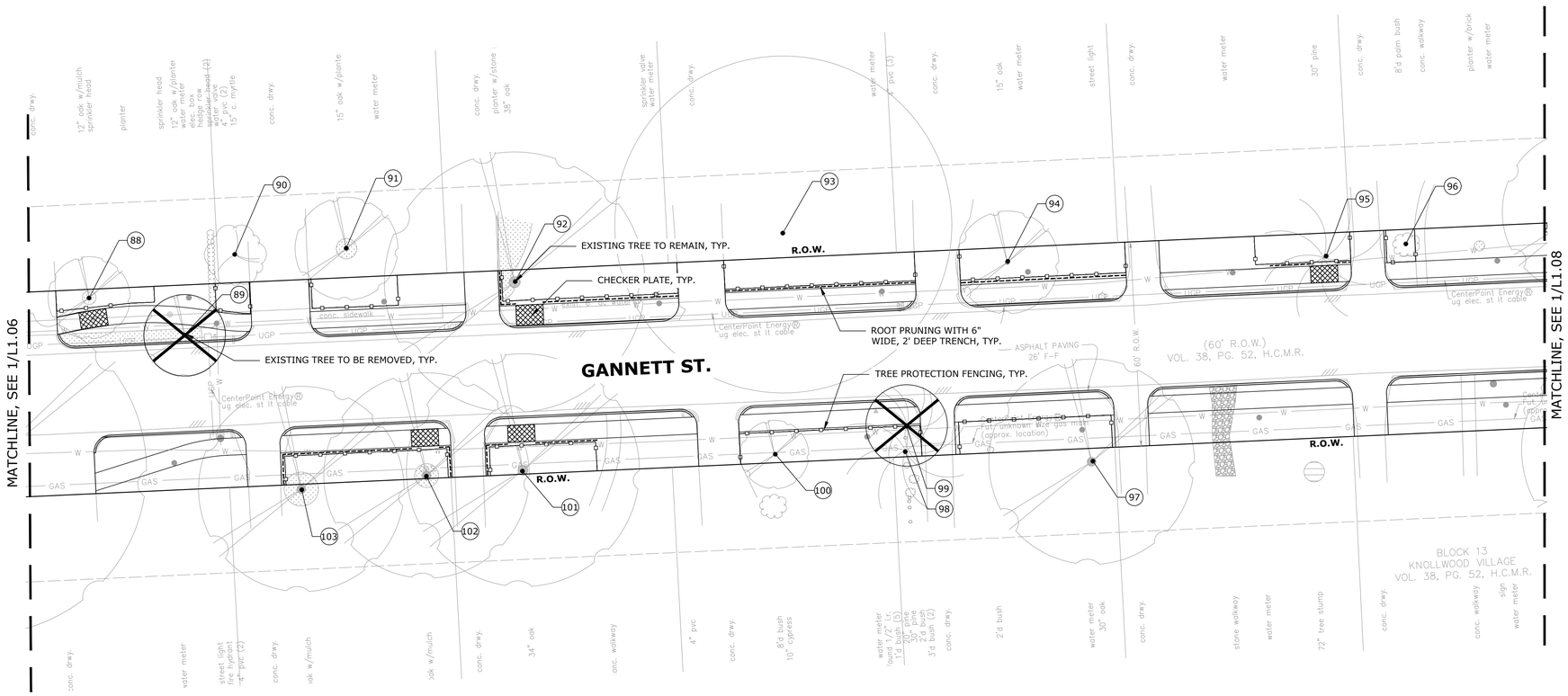
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

L1.06 TREE PROTECTION PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 177 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/4/2025 4:03 PM
FILE PATH: J:\SA2503 COH Westridge Sub Project 1A\AR\03 CD\L1.00_TREE PROTECTION PLAN_SA2501.dwg



1 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

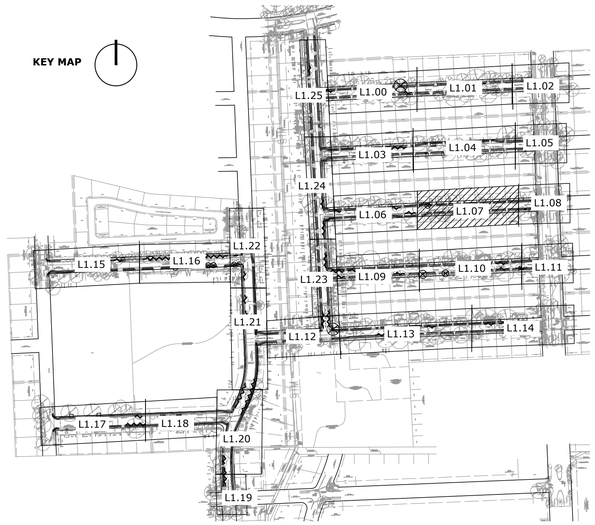
1" = 20'-0" 0 20' 40'

LEGEND

- MATCHLINE
- # TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING RE: DETAIL 1/L1.28
- ROOT PRUNING WITH 6" WIDE, 2' DEEP TRENCH RE: DETAIL 2/L1.28
- ZERO CURB CUT RE: DETAIL 5/L1.29
- CHECKER PLATE RE: DETAIL 3/L1.28
- TREE BOARDING RE: DETAIL 3/L1.29

NOTE:
ROOT PRUNING EXTENDS TO EITHER SIDE OF CHECKER PLATE. REFERENCE EACH CONDITION SHOWN ON PLAN.

KEY MAP



NO.	DATE	REVISION	APP.

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SURVEYED BY: Kuo&Associates
FB NO. P-6396

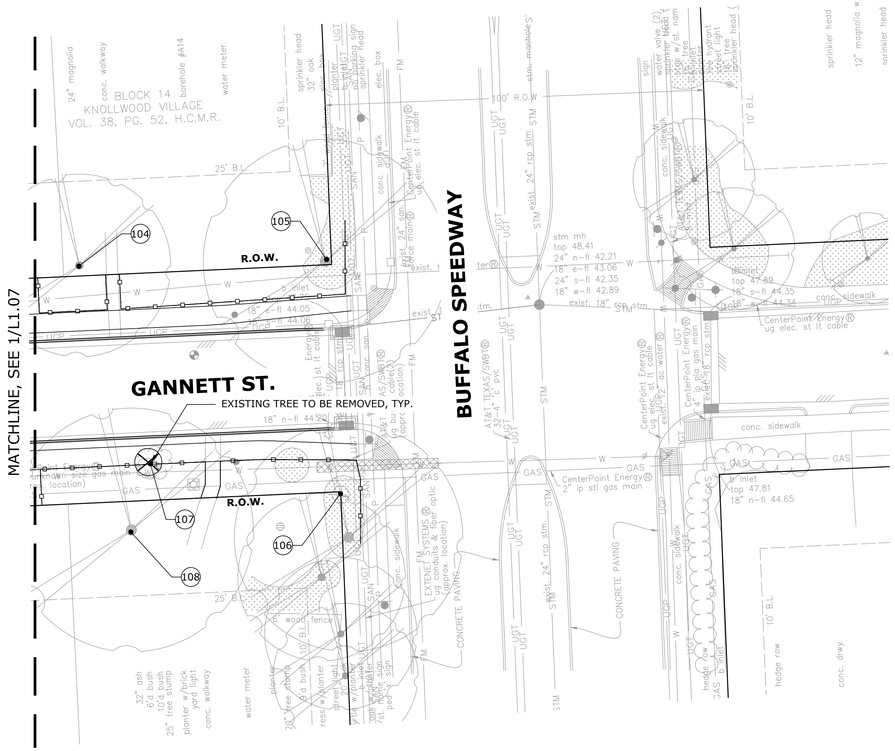
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

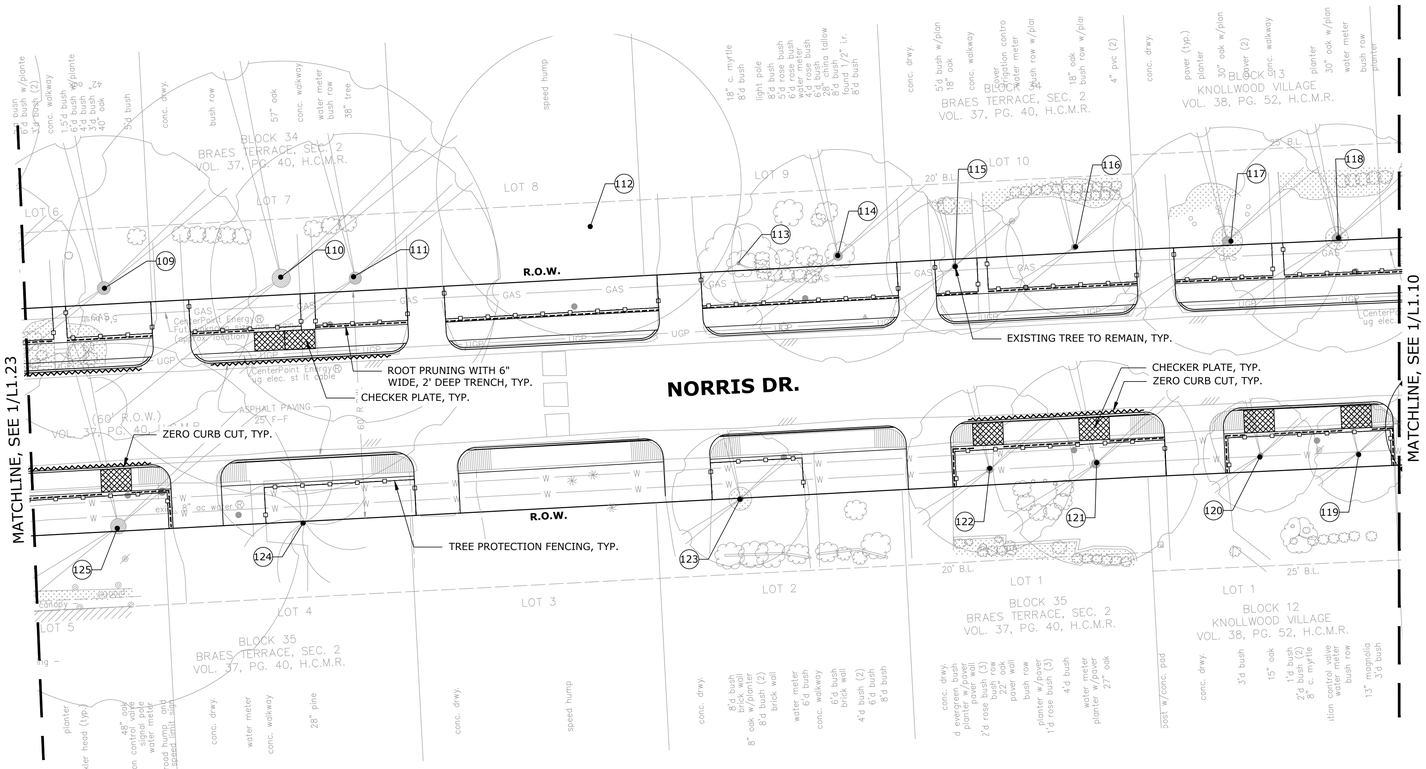
WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

L1.07 TREE PROTECTION PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 178 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/4/2025 4:04 PM
FILE PATH: J:\SA2503 COH Westridge Sub Project 1A\AR\03 CD\L1.00_TREE PROTECTION PLAN_JSA2501.dwg


MATCHLINE, SEE 1/L1.07
GANNETT ST.
BUFFALO SPEEDWAY
R.O.W.
EXISTING TREE TO BE REMOVED, TYP.
BLOCK 14
KNOLLWOOD VILLAGE
VOL. 38, PG. 52, H.C.M.R.
104
105
106
107
108
24" magnolia
conc. walkway
corehole #614
water meter
sprinkler head
32" oak
10' B.L.
25' B.L.
stm mh
top 48.41
24" n-fl 42.21
18" e-fl 43.06
24" s-fl 42.35
18" w-fl 42.89
exist. 18" stm
exist. 24" rcp stm
exist. 24" san force main
exist. 18" ST
18" n-fl 44.05
18" s-fl 44.05
curb inlet
top 47.80
18" s-fl 44.34
18" n-fl 44.34
curb inlet
top 47.81
18" n-fl 44.65
CenterPoint Energy
ug elec. st lt cable
CenterPoint Energy
ug elec. st lt cable
exist. 2" oc water
CenterPoint Energy
2" ip stl gas main
AT&T TEXAS/SWBT
32"x4" c pvc
AT&T TEXAS/SWBT
(4 buried fiber optic
conduits & fiber optic
cable owned)
EXTENET SYSTEMS
ug conduits &
fiber optic cable
CONCRETE PAVING
conc. sidewalk
conc. drwy.
hedge row
sign
water valve (2)
fire hydrant
w/ 4" pumper head
& 2 - 2½" hose nozzles
street light
w/ 3 sprinkler heads
sprinkler head
12" magnolia w
sprinkler head
wood fence
planter
24" tree stump
6'd bush
sign
post
10'd bush
planter w/brick
yard edge
conc. walkway
water meter
resid. w/ water
serv. w/ meter
resid. w/ water
serv. w/ meter
resid. w/ water
serv. w/



1 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

1" = 20'-0"

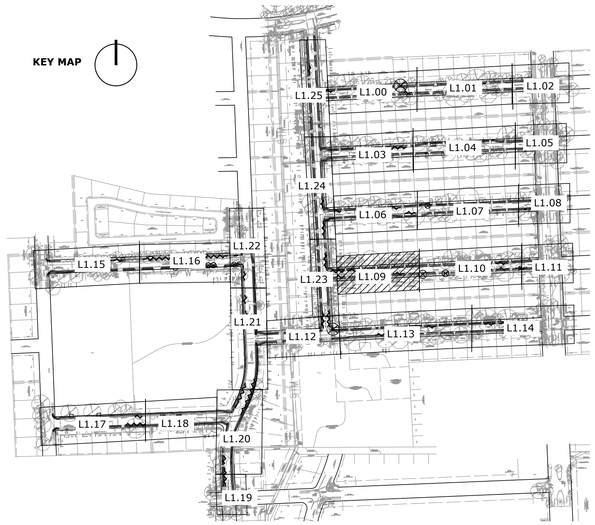
0 20' 40'

LEGEND

- MATCHLINE
- TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING RE: DETAIL 1/L1.28
- ROOT PRUNING WITH 6" WIDE, 2' DEEP TRENCH RE: DETAIL 2/L1.28
- ZERO CURB CUT RE: DETAIL 5/L1.29
- CHECKER PLATE RE: DETAIL 3/L1.28
- TREE BOARDING RE: DETAIL 3/L1.29

NOTE:
ROOT PRUNING EXTENDS TO EITHER SIDE OF CHECKER PLATE. REFERENCE EACH CONDITION SHOWN ON PLAN.

KEY MAP



NO.	DATE	REVISION	APP.

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SURVEYED BY: Kuo&Associates
FB NO. P-6396

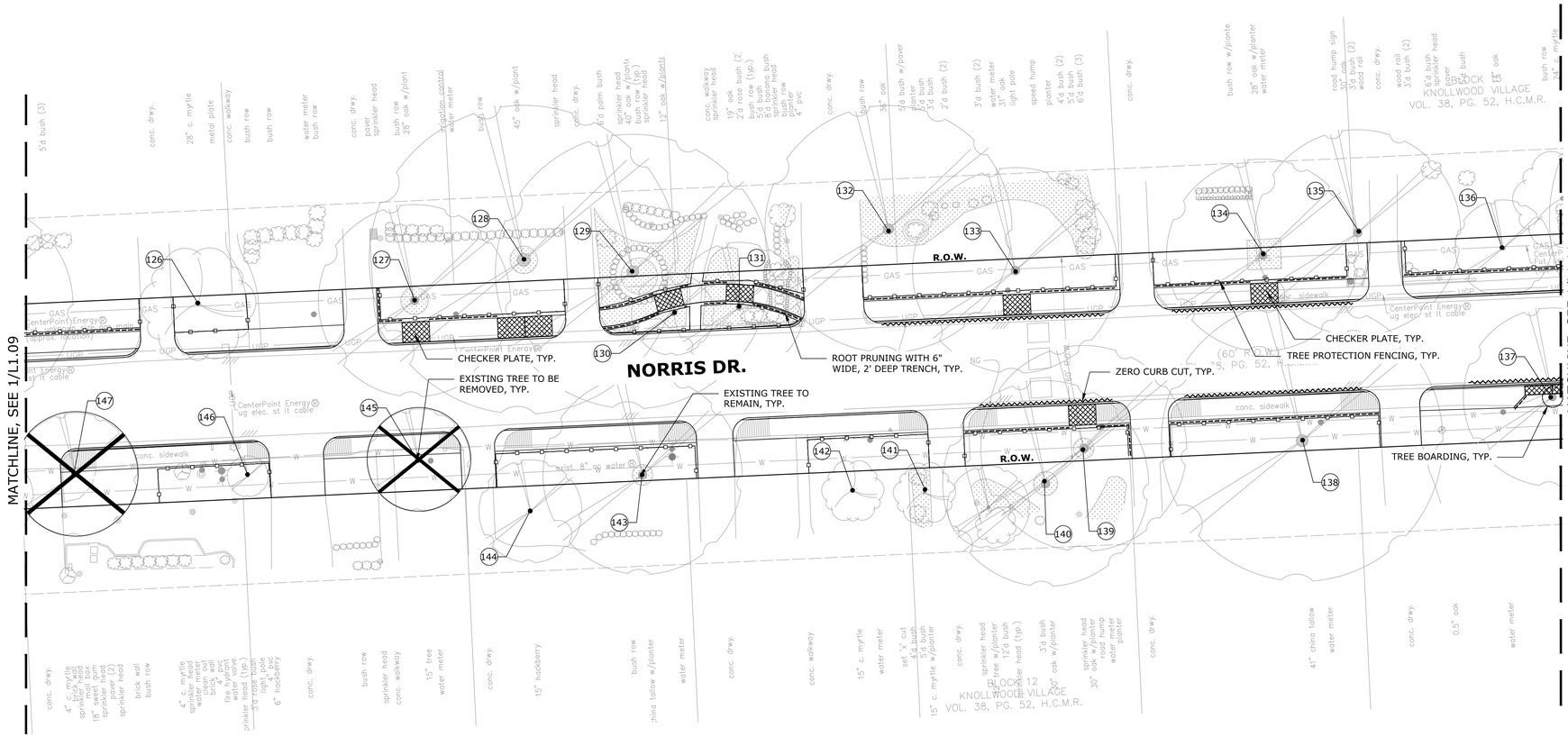
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

L1.09 TREE PROTECTION PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 180 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/4/2025 4:02 PM
FILE PATH: J:\SA2503 COH Westridge Sub Project 1\A\AR\03 CD\L1.00_TREE PROTECTION PLAN_ISA2501.dwg



LEGEND

- MATCHLINE
- TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING RE: DETAIL 1/L1.28
- ROOT PRUNING WITH 6" WIDE, 2' DEEP TRENCH RE: DETAIL 2/L1.28
- ZERO CURB CUT RE: DETAIL 5/L1.29
- CHECKER PLATE RE: DETAIL 3/L1.28
- TREE BOARDING RE: DETAIL 3/L1.29

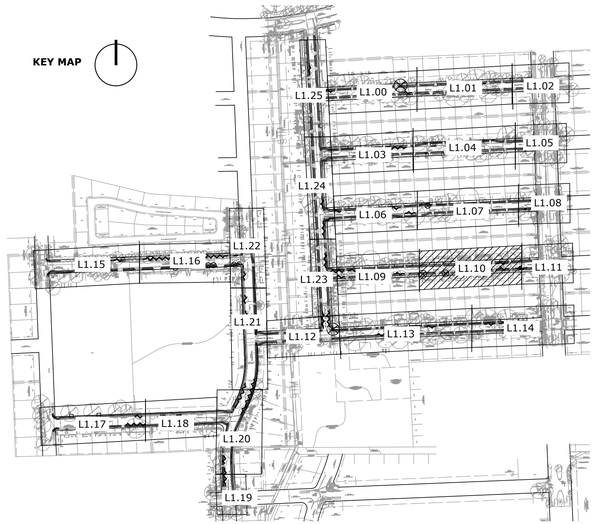
NOTE:
ROOT PRUNING EXTENDS TO EITHER SIDE OF CHECKER PLATE. REFERENCE EACH CONDITION SHOWN ON PLAN.

1 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

1" = 20'-0" 0 20' 40'

KEY MAP



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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

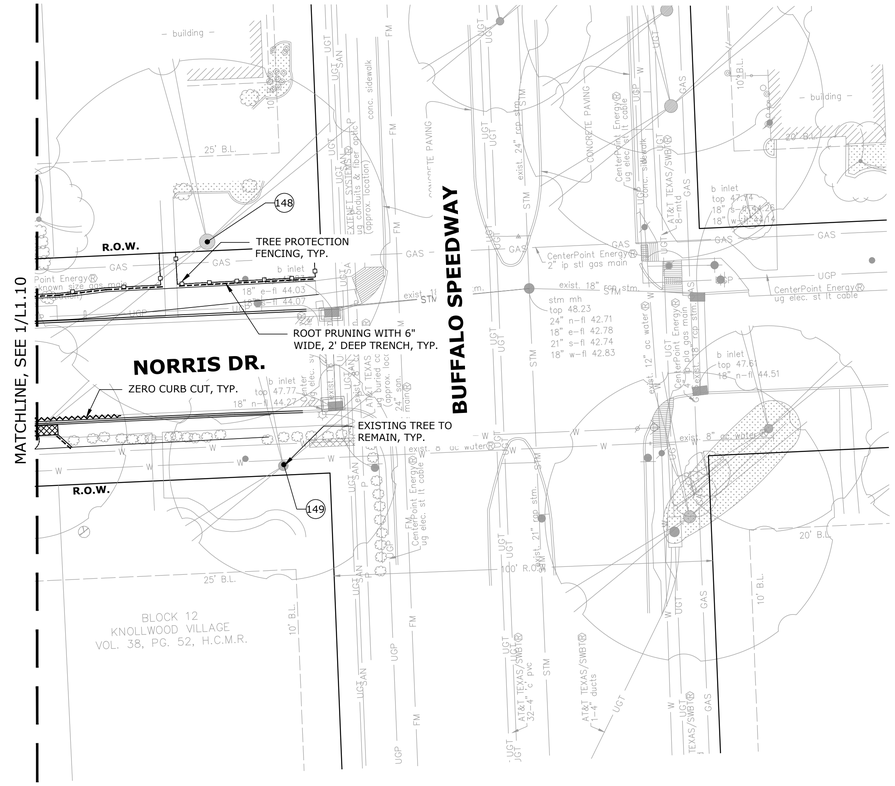
L1.10 TREE PROTECTION PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 181 OF 200	

NO.	DATE	REVISION	APP.

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/4/2025 4:03 PM

FILE PATH: J:\SA2503 COH Westridge Sub Project 1A\AR\03 CD\L1.00_TREE PROTECTION PLAN_ISA2501.dwg



1 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

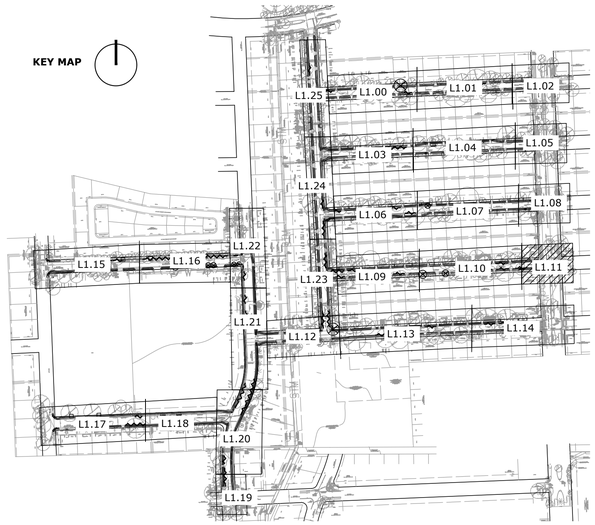
1" = 20'-0" 0 20' 40'

LEGEND

- MATCHLINE
- TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING RE: DETAIL 1/L1.28
- ROOT PRUNING WITH 6" WIDE, 2' DEEP TRENCH RE: DETAIL 2/L1.28
- ZERO CURB CUT RE: DETAIL 5/L1.29
- CHECKER PLATE RE: DETAIL 3/L1.28
- TREE BOARDING RE: DETAIL 3/L1.29

NOTE:
ROOT PRUNING EXTENDS TO EITHER SIDE OF CHECKER PLATE. REFERENCE EACH CONDITION SHOWN ON PLAN.

KEY MAP



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SURVEYED BY: Kuo&Associates
FB NO. P-6396

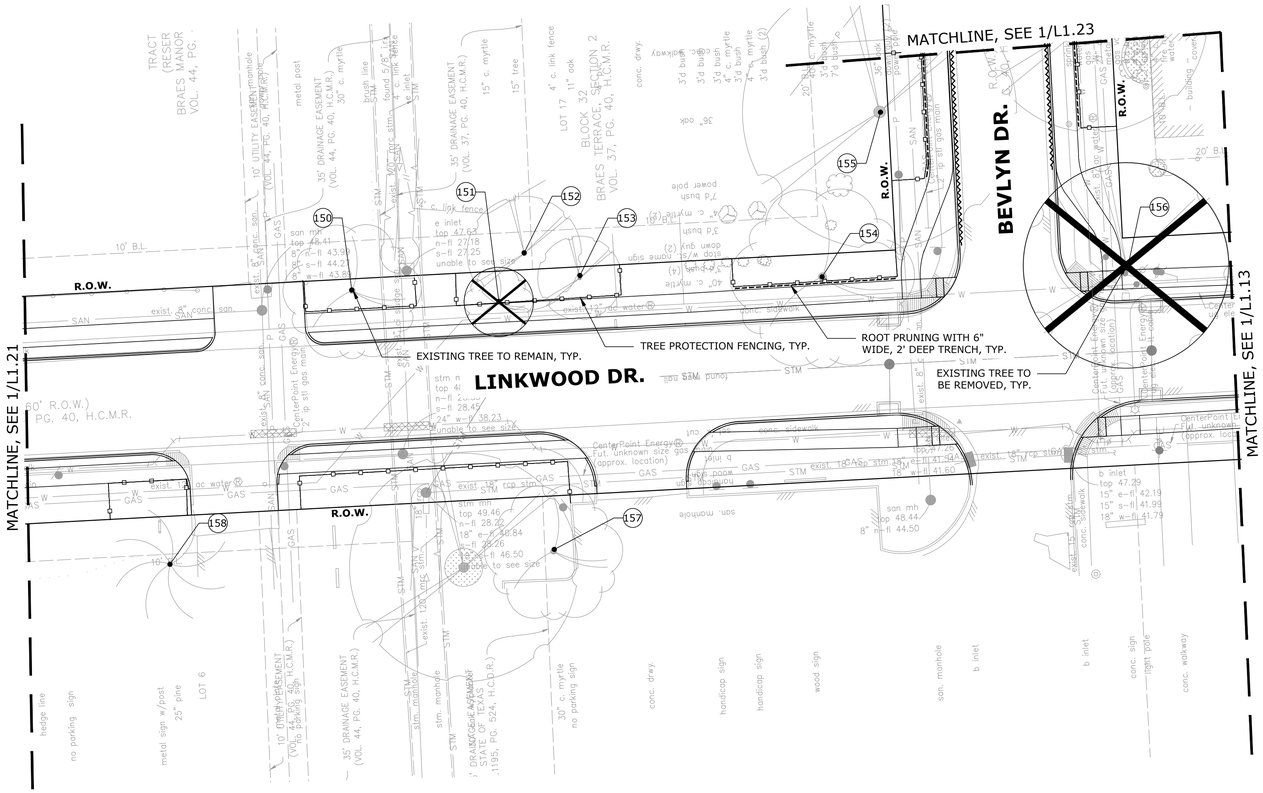
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

L1.11 TREE PROTECTION PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 182 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/4/2025 4:01 PM
FILE PATH: J:\ISA2503 COH Westridge Sub Project 1A\AR\03 CD\L1.00_TREE PROTECTION PLAN_ISA2501.dwg



1 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

1" = 20'-0"

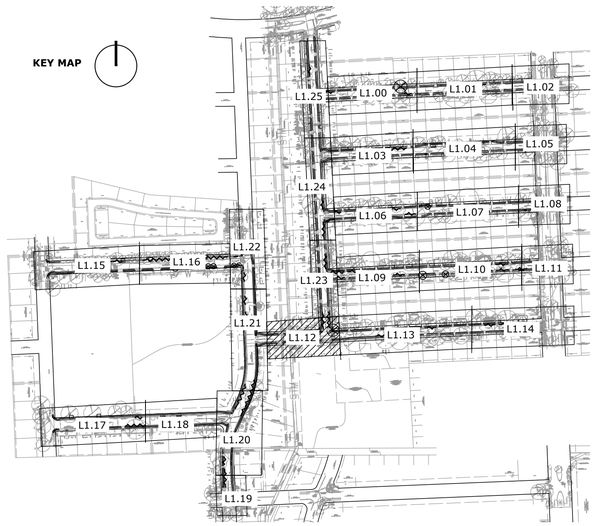
0 20' 40'

LEGEND

- MATCHLINE
- TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING RE: DETAIL 1/L1.28
- ROOT PRUNING WITH 6" WIDE, 2' DEEP TRENCH RE: DETAIL 2/L1.28
- ZERO CURB CUT RE: DETAIL 5/L1.29
- CHECKER PLATE RE: DETAIL 3/L1.28
- TREE BOARDING RE: DETAIL 3/L1.29

NOTE:
ROOT PRUNING EXTENDS TO EITHER SIDE OF CHECKER PLATE. REFERENCE EACH CONDITION SHOWN ON PLAN.

KEY MAP



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FB NO. P-6396

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

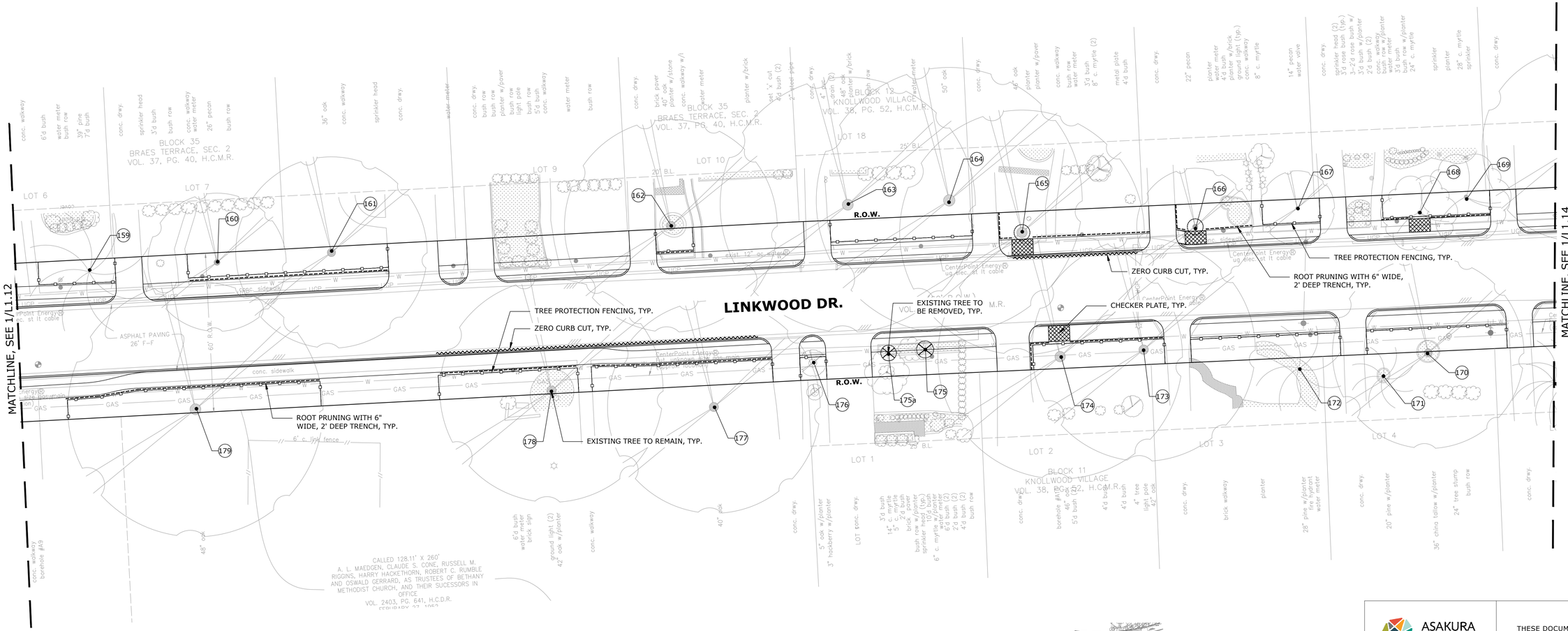
L1.12 TREE PROTECTION PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 183 OF 200	

NO.	DATE	REVISION	APP.

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/4/2025 4:01 PM
FILE PATH: J:\SA2503 COH Westridge Sub Project 1\AR\03 CD\L1.00_TREE PROTECTION PLAN_ISA2501.dwg

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/4/2025 4:02 PM



1 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

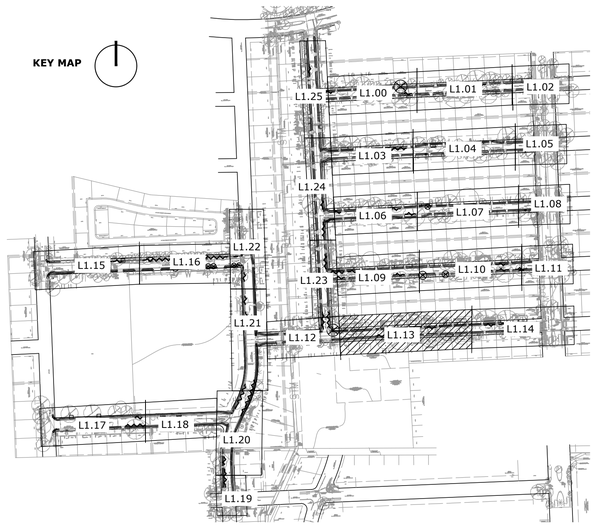
1" = 20'-0" 0 20' 40'

LEGEND

- MATCHLINE
- TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING RE: DETAIL 1/L1.28
- ROOT PRUNING WITH 6" WIDE, 2' DEEP TRENCH RE: DETAIL 2/L1.28
- ZERO CURB CUT RE: DETAIL 5/L1.29
- CHECKER PLATE RE: DETAIL 3/L1.28
- TREE BOARDING RE: DETAIL 3/L1.29

NOTE:

KEY MAP



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SURVEYED BY: Kuo&Associates
FB NO. P-6396

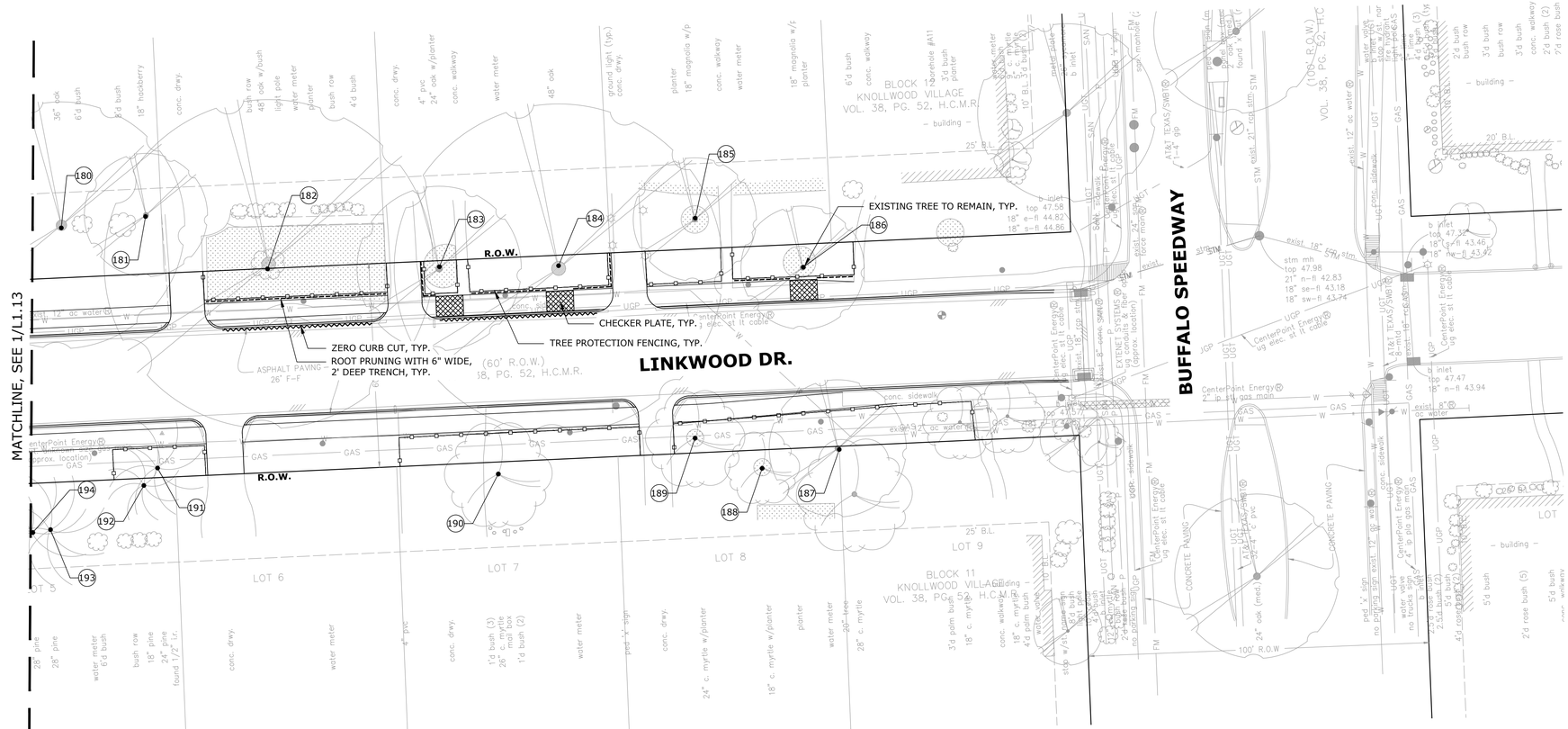
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

L1.13 TREE PROTECTION PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 184 OF 200	

FILE PATH: J:\SA2503 COH Westridge Sub Project 1A\AR\03 CD\L1.00_TREE PROTECTION PLAN_ISA2501.dwg



1 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

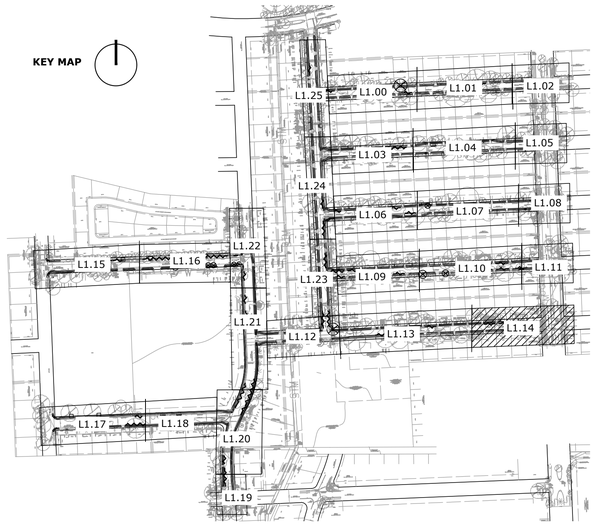
1" = 20'-0" 0 20' 40'

LEGEND

- MATCHLINE
- TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING RE: DETAIL 1/L1.28
- ROOT PRUNING WITH 6" WIDE, 2' DEEP TRENCH RE: DETAIL 2/L1.28
- ZERO CURB CUT RE: DETAIL 5/L1.29
- CHECKER PLATE RE: DETAIL 3/L1.28
- TREE BOARDING RE: DETAIL 3/L1.29

NOTE:
ROOT PRUNING EXTENDS TO EITHER SIDE OF CHECKER PLATE. REFERENCE EACH CONDITION SHOWN ON PLAN.

KEY MAP



NO.	DATE	REVISION	APP.

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SURVEYED BY: Kuo&Associates
FB NO. P-6396

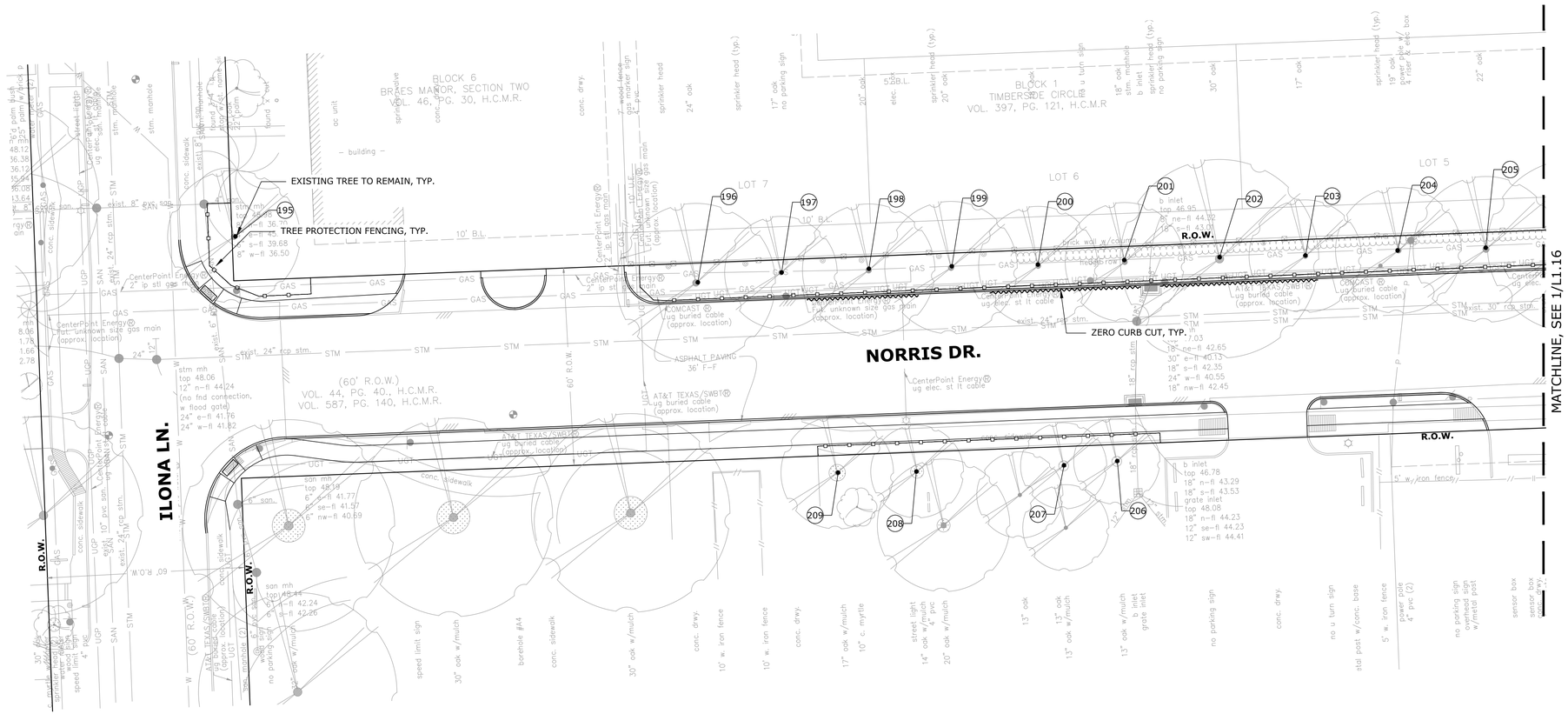
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

L1.14 TREE PROTECTION PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 185 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/4/2025 4:02 PM
FILE PATH: J:\SA2503 COH Westridge Sub Project 1A\AR\03 CD\L1.00_TREE PROTECTION PLAN_ISA2501.dwg



1 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

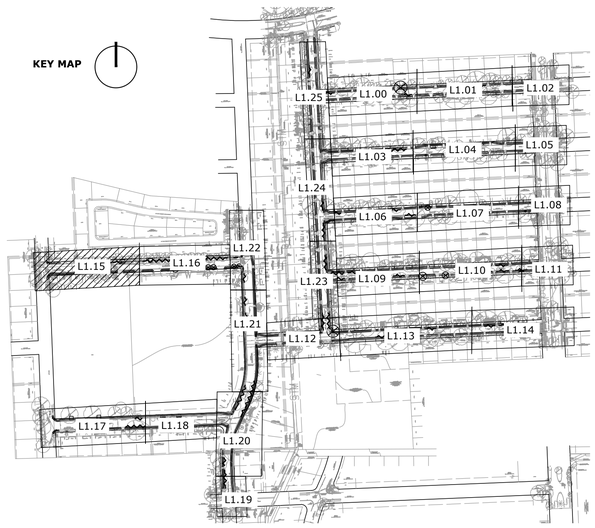
1" = 20'-0" 0 20' 40'

LEGEND

- MATCHLINE
- TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING RE: DETAIL 1/L1.28
- ROOT PRUNING WITH 6" WIDE, 2' DEEP TRENCH RE: DETAIL 2/L1.28
- ZERO CURB CUT RE: DETAIL 5/L1.29
- CHECKER PLATE RE: DETAIL 3/L1.28
- TREE BOARDING RE: DETAIL 3/L1.29

NOTE:
ROOT PRUNING EXTENDS TO EITHER SIDE OF CHECKER PLATE. REFERENCE EACH CONDITION SHOWN ON PLAN.

KEY MAP



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FB NO. P-6396

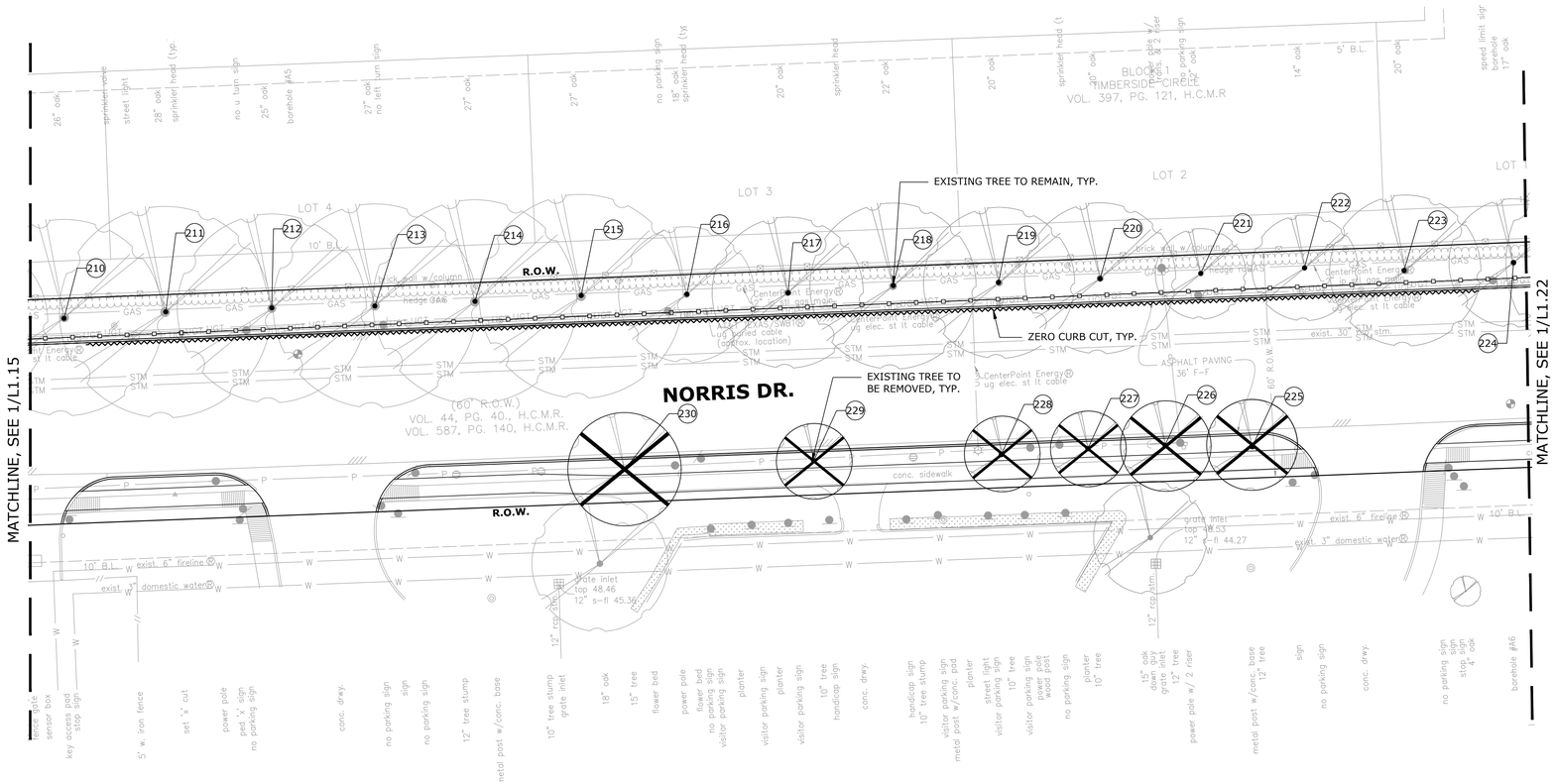
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

L1.15 TREE PROTECTION PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 186 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/4/2025 4:01 PM
FILE PATH: J:\SA2503 COH Westridge Sub Project 1A\ARV\03 CD\L1.00_TREE PROTECTION PLAN_ISA2501.dwg



1 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

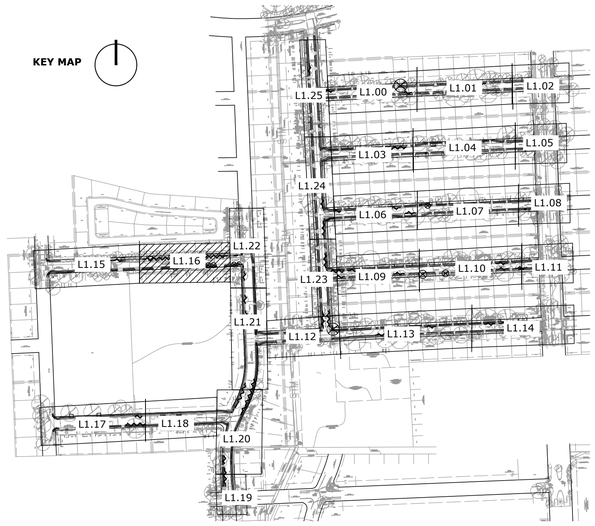
1" = 20'-0" 0 20' 40'

LEGEND

- MATCHLINE
- TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING RE: DETAIL 1/L1.28
- ROOT PRUNING WITH 6" WIDE, 2' DEEP TRENCH RE: DETAIL 2/L1.28
- ZERO CURB CUT RE: DETAIL 5/L1.29
- CHECKER PLATE RE: DETAIL 3/L1.28
- TREE BOARDING RE: DETAIL 3/L1.29

NOTE:
ROOT PRUNING EXTENDS TO EITHER SIDE OF CHECKER PLATE. REFERENCE EACH CONDITION SHOWN ON PLAN.

KEY MAP



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FB NO. P-6396

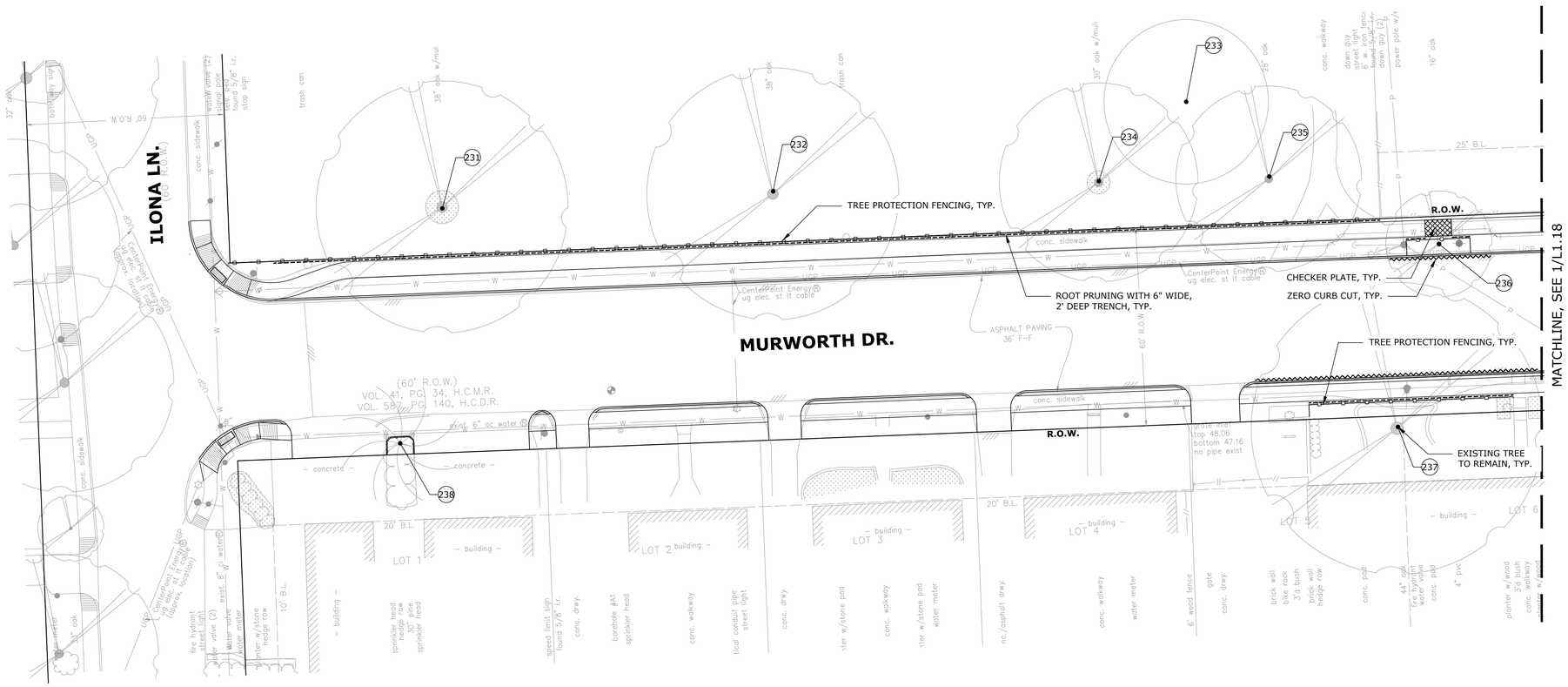
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

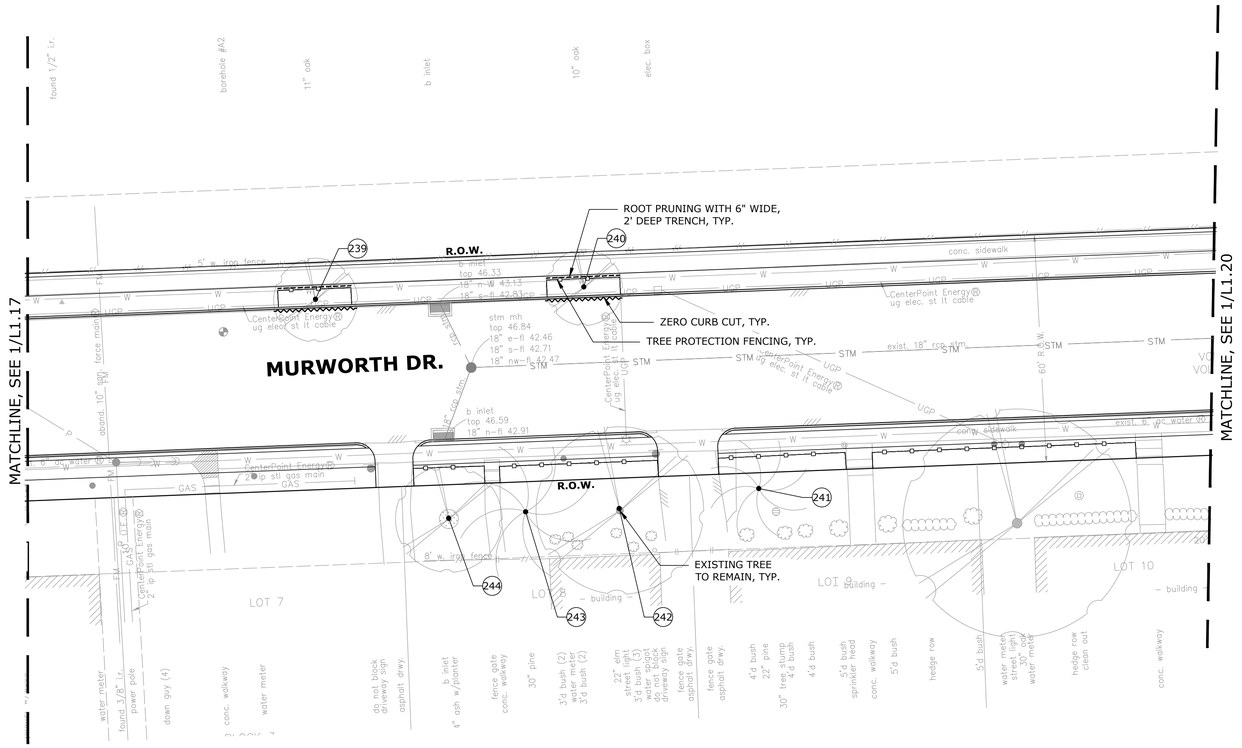
WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

L1.16 TREE PROTECTION PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 187 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/4/2025 4:03 PM
FILE PATH: J:\SA2503 COH Westridge Sub Project 1A\ARV\03 CD\L1.00_TREE PROTECTION PLAN_ISA2501.dwg


ILONA LN.
MURWORTH DR.
(60' R.O.W.)
VOL. 41, PG. 34, H.C.M.R.
VOL. 589, PG. 140, H.C.D.R.
TREE PROTECTION FENCING, TYP.
ROOT PRUNING WITH 6" WIDE, 2' DEEP TRENCH, TYP.
CHECKER PLATE, TYP.
ZERO CURB CUT, TYP.
EXISTING TREE TO REMAIN, TYP.
MATCHLINE, SEE 1/L1.18
R.O.W.
ASPHALT PAVING 36' F-F
60' R.O.W.
20' B.L.
25' B.L.
10' B.L.
LOT 1
LOT 2
LOT 3
LOT 4
LOT 5
LOT 6
building
concrete
conc. sidewalk
conc. walkway
conc. drwy.
conc. pad
6' wood fence
gate
brick wall
bike rack
3'd bush
brick wall
hedge row
planter w/stone
hedge row
planter w/wood
3'd bush
sprinkler head
hedge row
3'd bush
sprinkler head
fire hydrant
water valve (2)
street light
down guy
power pole w/ transformer
down guy (2)
6' w. iron fence
6' wood fence
down guy
street light



1 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

1" = 20'-0"

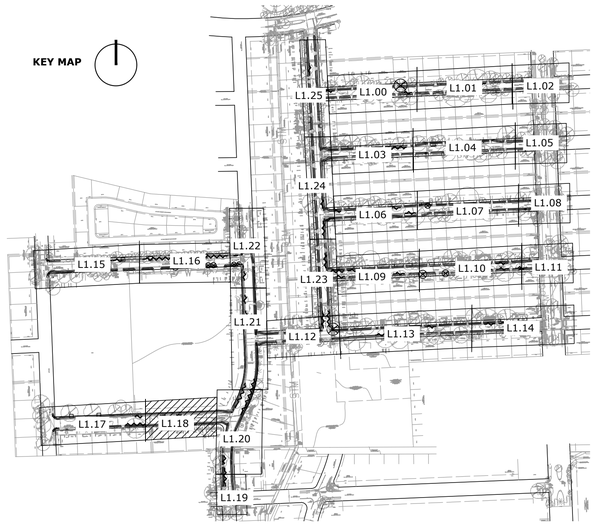
0 20' 40'

LEGEND

- MATCHLINE
- TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING RE: DETAIL 1/L1.28
- ROOT PRUNING WITH 6" WIDE, 2' DEEP TRENCH RE: DETAIL 2/L1.28
- ZERO CURB CUT RE: DETAIL 5/L1.29
- CHECKER PLATE RE: DETAIL 3/L1.28
- TREE BOARDING RE: DETAIL 3/L1.29

NOTE:
ROOT PRUNING EXTENDS TO EITHER SIDE OF CHECKER PLATE. REFERENCE EACH CONDITION SHOWN ON PLAN.

KEY MAP



NO.	DATE	REVISION	APP.

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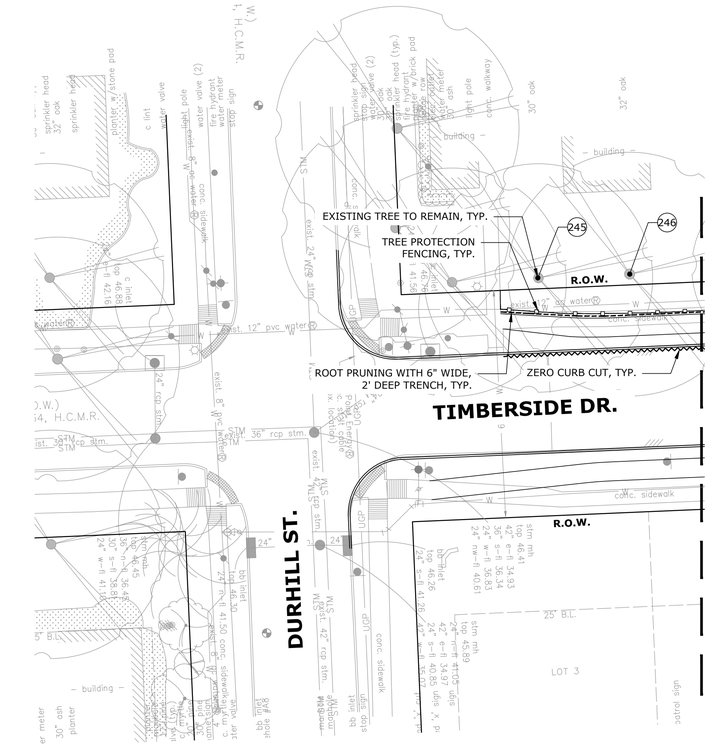
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

L1.18 TREE PROTECTION PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 189 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/4/2025 4:03 PM
FILE PATH: J:\SA2503 COH Westridge Sub Project 1AVAR\03 CD\L1.00_TREE PROTECTION PLAN_JSA2501.dwg



1 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

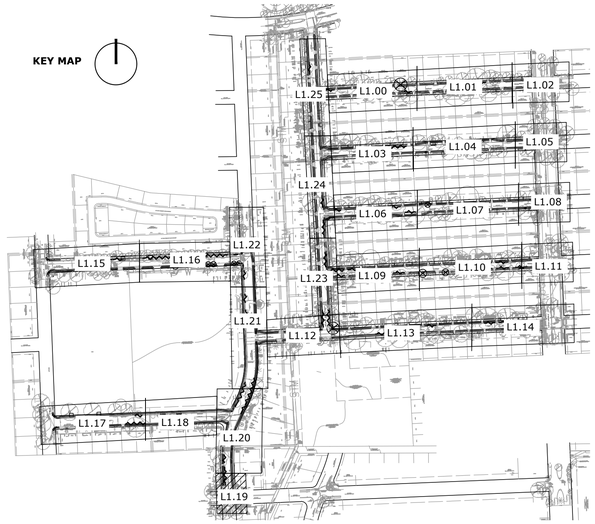
1" = 20'-0" 0 20' 40'

LEGEND

- MATCHLINE
- TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING RE: DETAIL 1/L1.28
- ROOT PRUNING WITH 6" WIDE, 2' DEEP TRENCH RE: DETAIL 2/L1.28
- ZERO CURB CUT RE: DETAIL 5/L1.29
- CHECKER PLATE RE: DETAIL 3/L1.28
- TREE BOARDING RE: DETAIL 3/L1.29

NOTE:
ROOT PRUNING EXTENDS TO EITHER SIDE OF CHECKER PLATE. REFERENCE EACH CONDITION SHOWN ON PLAN.

KEY MAP



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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

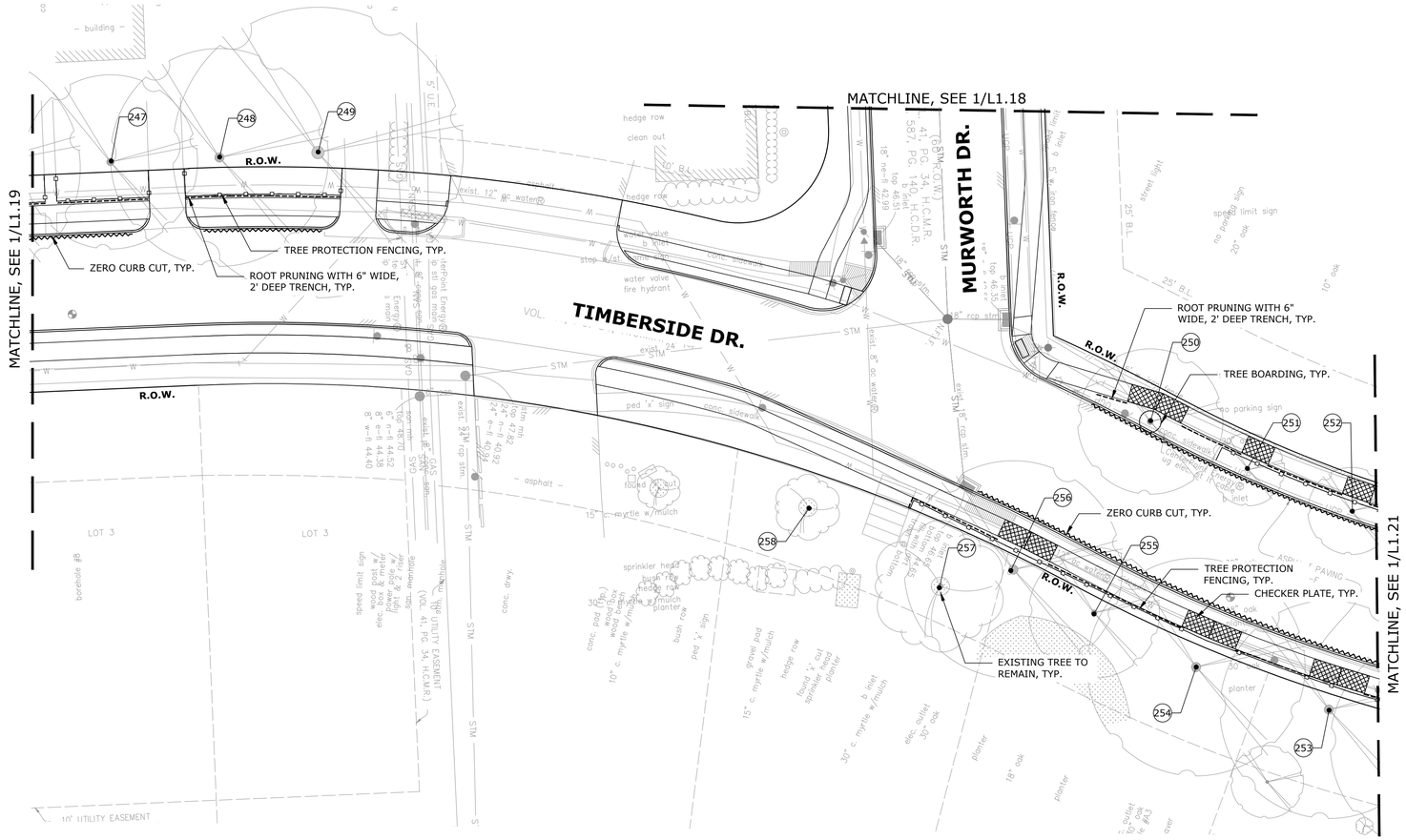
WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

L1.19 TREE PROTECTION PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 190 OF 200	

NO.	DATE	REVISION	APP.

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/4/2025 4:02 PM
FILE PATH: J:\SA2503 COH Westridge Sub Project 1A\AR\03 CD\L1.00_TREE PROTECTION PLAN_SA2501.dwg



1 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

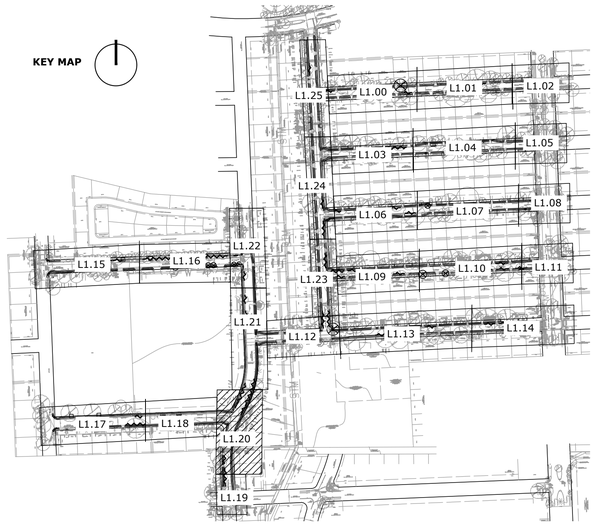
1" = 20'-0" 0 20' 40'

LEGEND

- MATCHLINE
- TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING RE: DETAIL 1/L1.28
- ROOT PRUNING WITH 6" WIDE, 2' DEEP TRENCH RE: DETAIL 2/L1.28
- ZERO CURB CUT RE: DETAIL 5/L1.29
- CHECKER PLATE RE: DETAIL 3/L1.28
- TREE BOARDING RE: DETAIL 3/L1.29

NOTE:
ROOT PRUNING EXTENDS TO EITHER SIDE OF CHECKER PLATE. REFERENCE EACH CONDITION SHOWN ON PLAN.

KEY MAP



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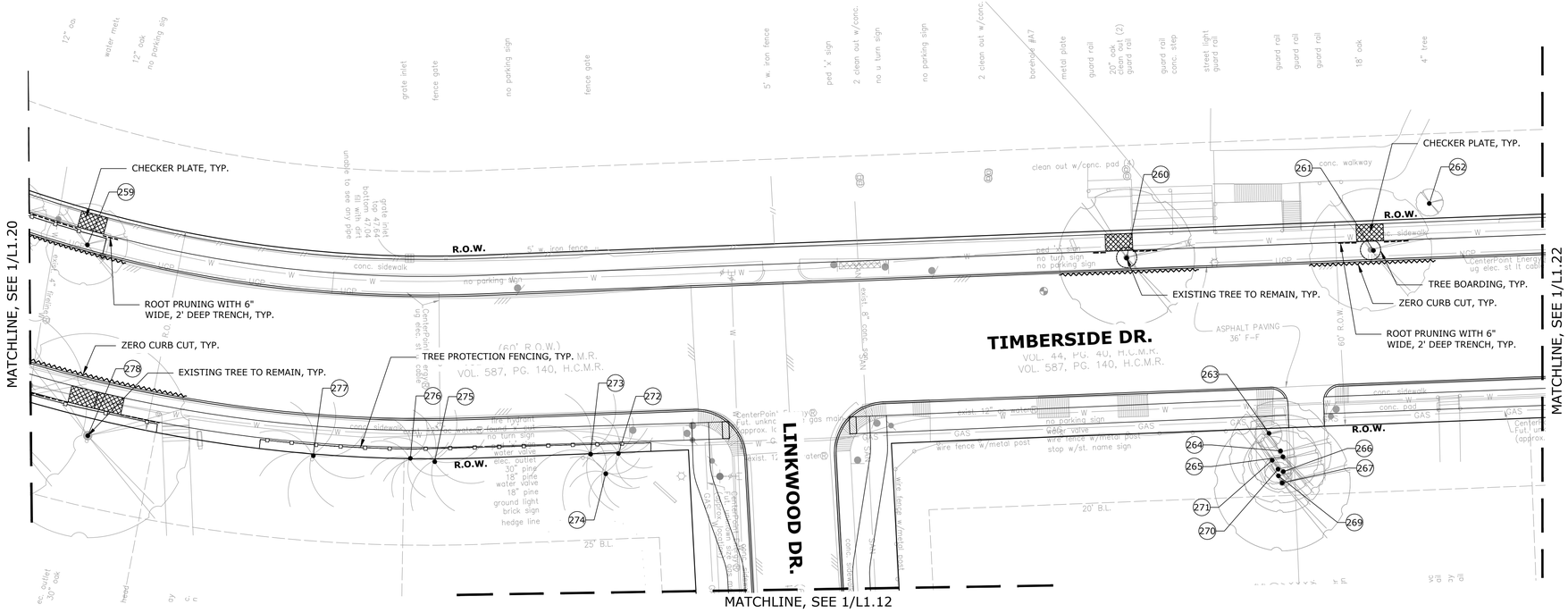
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

L1.20 TREE PROTECTION PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 191 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/4/2025 4:01 PM
FILE PATH: J:\SA2503 COH Westridge Sub Project 1A\AR\03 CD\L1.00_TREE PROTECTION PLAN_SA2501.dwg



1 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

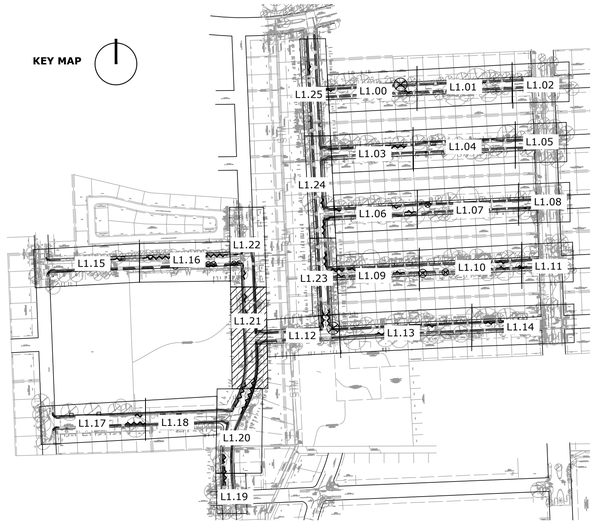
1" = 20'-0" 0 20' 40'

LEGEND

- MATCHLINE
- TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING RE: DETAIL 1/L1.28
- ROOT PRUNING WITH 6" WIDE, 2' DEEP TRENCH RE: DETAIL 2/L1.28
- ZERO CURB CUT RE: DETAIL 5/L1.29
- CHECKER PLATE RE: DETAIL 3/L1.28
- TREE BOARDING RE: DETAIL 3/L1.29

NOTE:
ROOT PRUNING EXTENDS TO EITHER SIDE OF CHECKER PLATE. REFERENCE EACH CONDITION SHOWN ON PLAN.

KEY MAP



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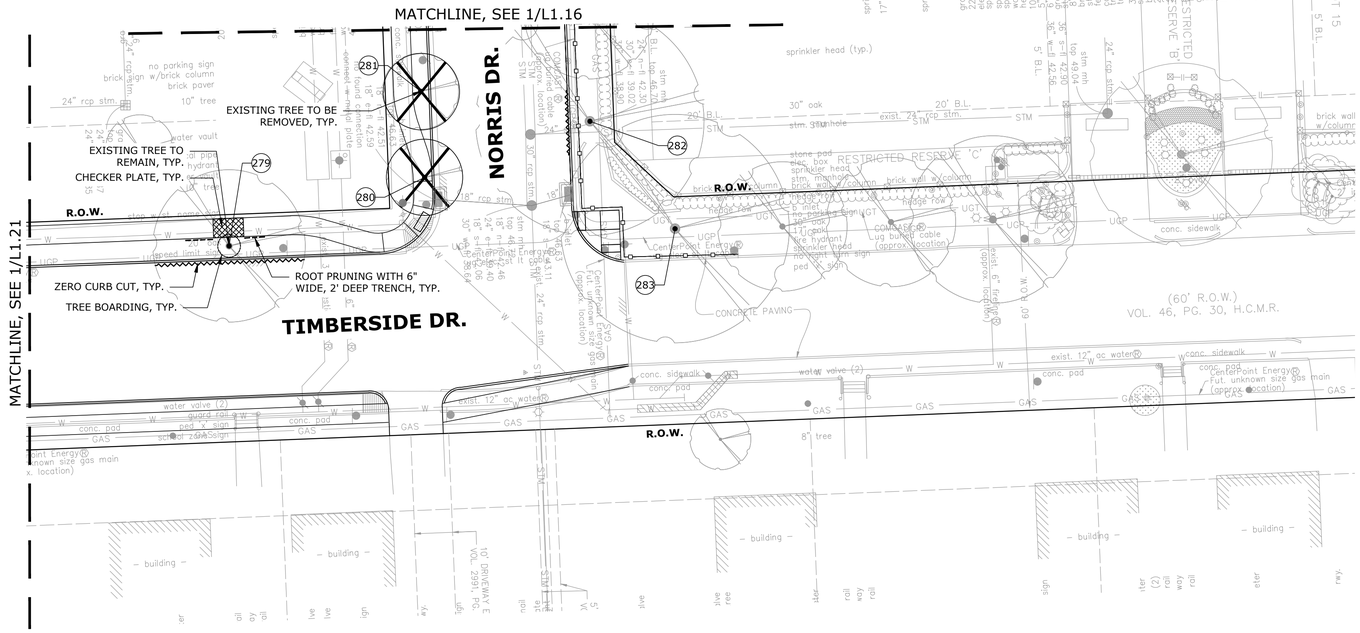
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

L1.21 TREE PROTECTION PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 192 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/4/2025 4:03 PM
FILE PATH: J:\SA2503 COH Westridge Sub Project 1A\AR\03 CD\L1.00_TREE PROTECTION PLAN_ISA2501.dwg



1 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

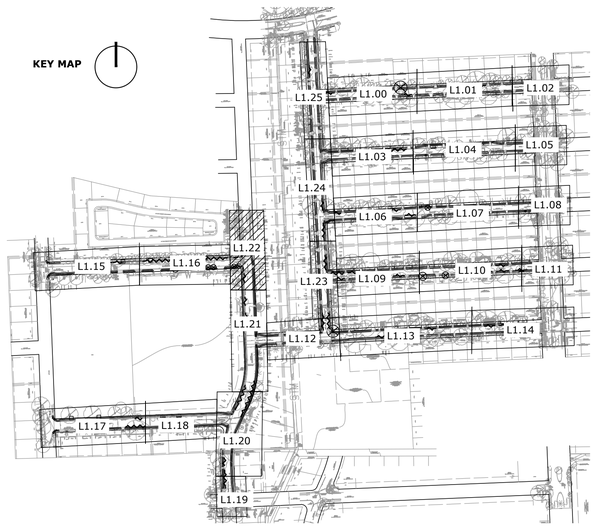
1" = 20'-0" 0 20' 40'

LEGEND

- MATCHLINE
- TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING RE: DETAIL 1/L1.28
- ROOT PRUNING WITH 6" WIDE, 2' DEEP TRENCH RE: DETAIL 2/L1.28
- ZERO CURB CUT RE: DETAIL 5/L1.29
- CHECKER PLATE RE: DETAIL 3/L1.28
- TREE BOARDING RE: DETAIL 3/L1.29

NOTE:
ROOT PRUNING EXTENDS TO EITHER SIDE OF CHECKER PLATE. REFERENCE EACH CONDITION SHOWN ON PLAN.

KEY MAP



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FB NO. P-6396

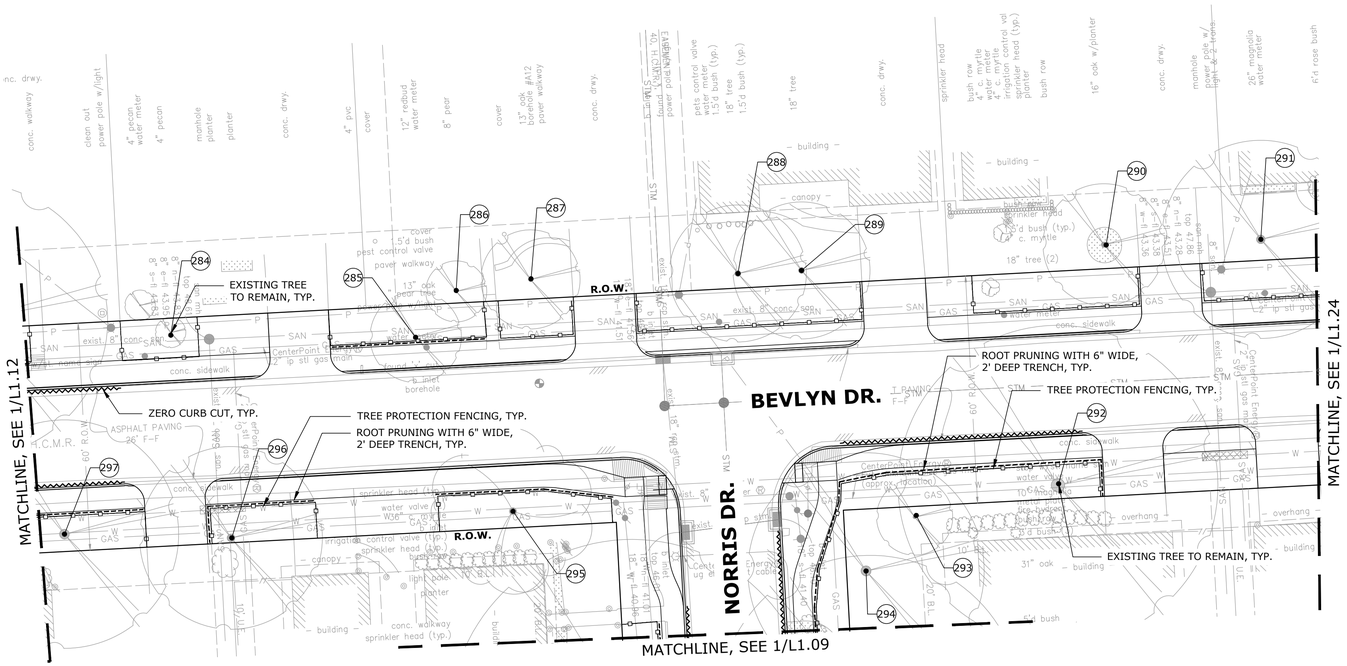
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

L1.22 TREE PROTECTION PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 193 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/4/2025 4:03 PM
FILE PATH: J:\ISA2503 COH Westridge Sub Project 1A\AR\03 CD\L1.00_TREE PROTECTION PLAN_ISA2501.dwg



1 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

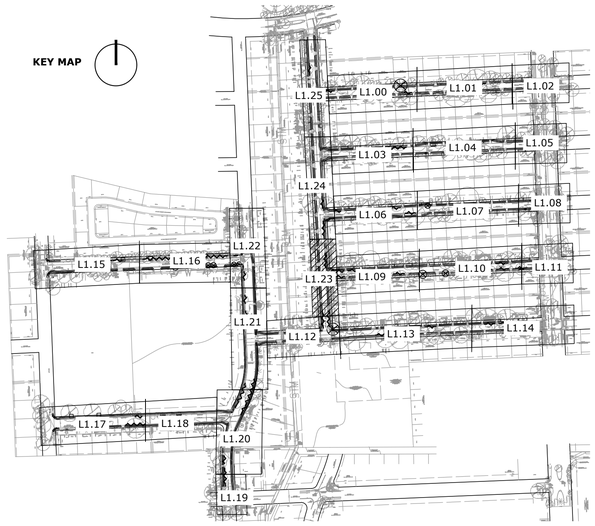
1" = 20'-0" 0 20' 40'

LEGEND

- MATCHLINE
- # TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING RE: DETAIL 1/L1.28
- ROOT PRUNING WITH 6" WIDE, 2' DEEP TRENCH RE: DETAIL 2/L1.28
- ZERO CURB CUT RE: DETAIL 5/L1.29
- CHECKER PLATE RE: DETAIL 3/L1.28
- TREE BOARDING RE: DETAIL 3/L1.29

NOTE:
ROOT PRUNING EXTENDS TO EITHER SIDE OF CHECKER PLATE. REFERENCE EACH CONDITION SHOWN ON PLAN.

KEY MAP



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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

L1.23 TREE PROTECTION PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 194 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/4/2025 4:12 PM
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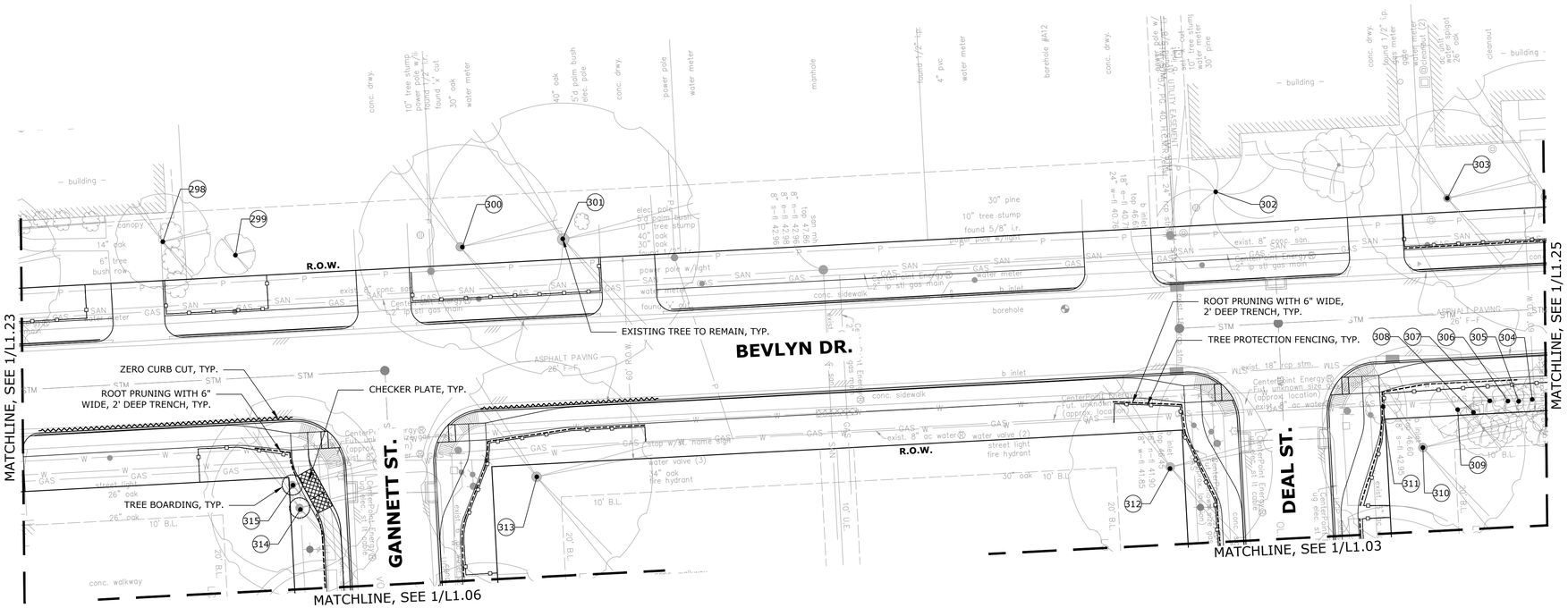


1 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

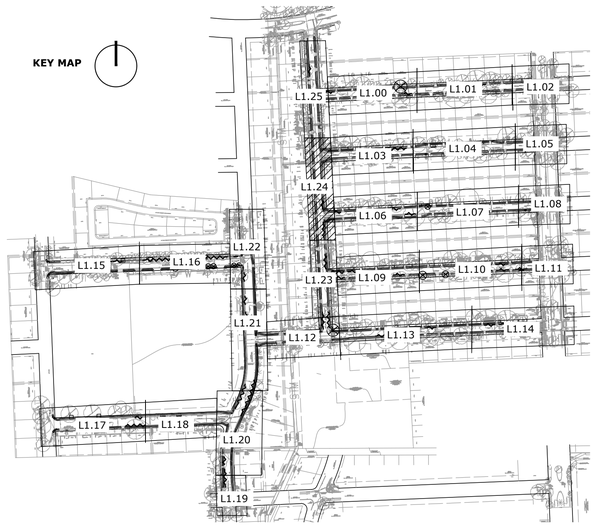
1" = 20'-0" 0 20' 40'

LEGEND

- MATCHLINE
- TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING RE: DETAIL 1/L1.28
- ROOT PRUNING WITH 6" WIDE, 2' DEEP TRENCH RE: DETAIL 2/L1.28
- ZERO CURB CUT RE: DETAIL 5/L1.29
- CHECKER PLATE RE: DETAIL 3/L1.28
- TREE BOARDING RE: DETAIL 3/L1.29

NOTE:
ROOT PRUNING EXTENDS TO EITHER SIDE OF CHECKER PLATE. REFERENCE EACH CONDITION SHOWN ON PLAN.

KEY MAP



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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

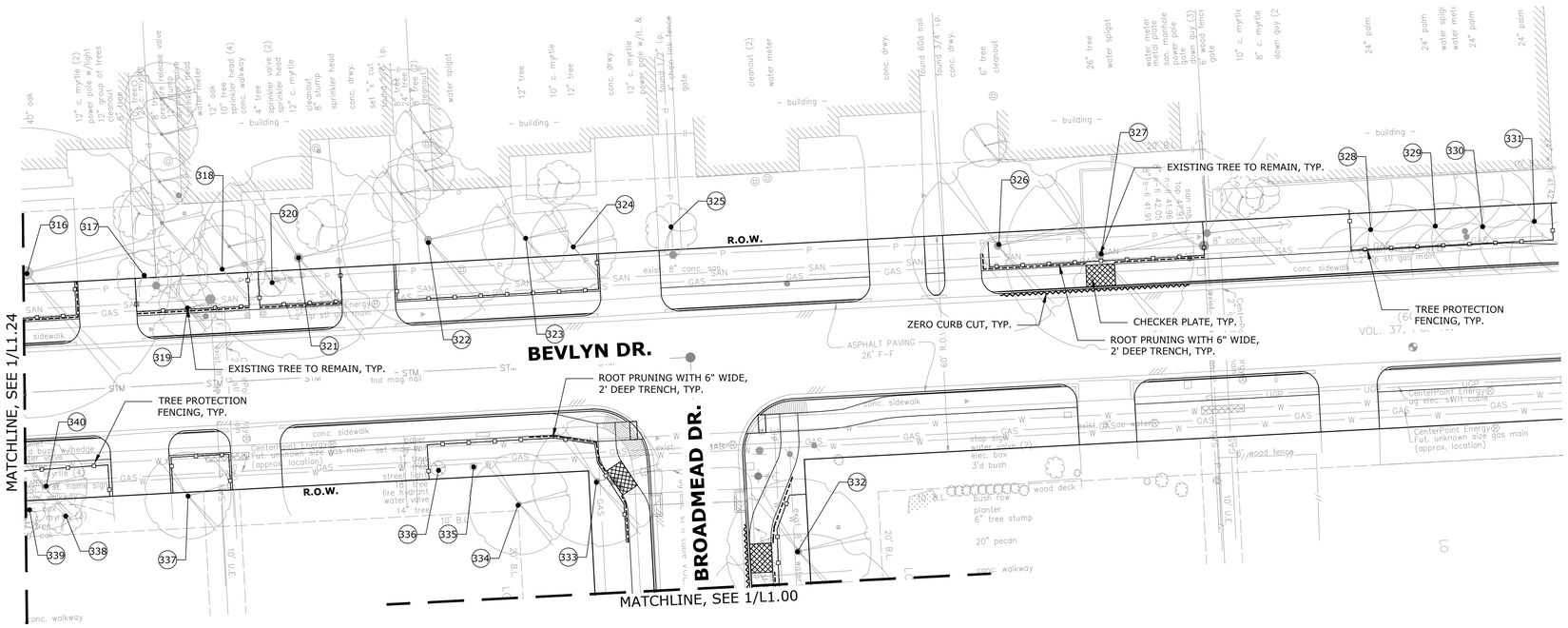
WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

L1.24 TREE PROTECTION PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 195 OF 200	

NO.	DATE	REVISION	APP.

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/4/2025 4:15 PM
FILE PATH: J:\JSA2503 COH Westridge Sub Project 1\A\AR\03 CD\L1.00_TREE PROTECTION PLAN_ISA2501.dwg



1 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

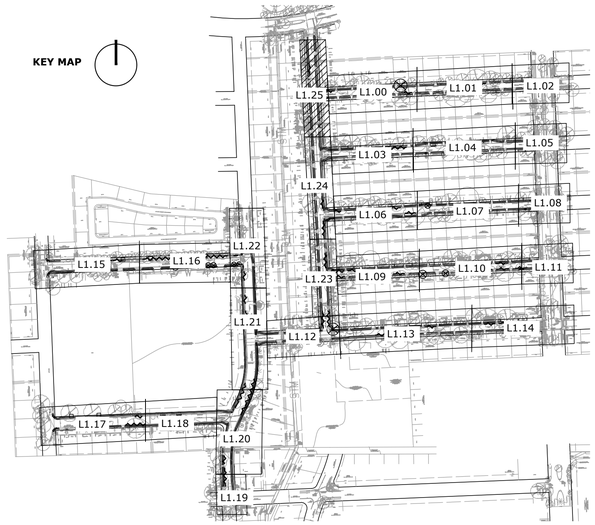
1" = 20'-0" 0 20' 40'

LEGEND

- MATCHLINE
- TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING RE: DETAIL 1/L1.28
- ROOT PRUNING WITH 6" WIDE, 2' DEEP TRENCH RE: DETAIL 2/L1.28
- ZERO CURB CUT RE: DETAIL 5/L1.29
- CHECKER PLATE RE: DETAIL 3/L1.28
- TREE BOARDING RE: DETAIL 3/L1.29

NOTE:
ROOT PRUNING EXTENDS TO EITHER SIDE OF CHECKER PLATE. REFERENCE EACH CONDITION SHOWN ON PLAN.

KEY MAP



NO.	DATE	REVISION	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

L1.25 TREE PROTECTION PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 196 OF 200	

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/4/2025 4:15 PM
FILE PATH: J:\SA2503 COH Westridge Sub Project 1A\AR\03 CD\L1.00_TREE PROTECTION PLAN_ISA2501.dwg

TREE #	CALIPER SIZE (INCH)	SPECIES	TREATMENT	LOCATION	MITIGATION
1	30	Ash	Tree protection fencing, checkerplate,zero-curb cut	R.O.W	
2	48	Live Oak	Root pruning, tree protection fencing	Private	
3	18	Pecan	Root pruning, tree protection fencing	Private	
4	36	Water Oak	Root pruning, tree protection fencing	Private	
5	14	Live Oak	Root pruning, tree protection fencing	Private	
6	14	Live Oak	Root pruning, tree protection fencing	Private	
7	20	Pecan	Root pruning, tree protection fencing	Private	
8	28	Pine	Remove	R.O.W.	28
8a	6	Shumard Oak	Root pruning, tree protection fencing	Private	
8b	20	Magnolia	Root pruning, tree protection fencing	Private	
9	40	Live Oak	Tree protection fencing, checkerplate,zero-curb cut	R.O.W.	
10	40	Live Oak	Root pruning, tree protection fencing	Private	
11	16	Live Oak	Root pruning, tree protection fencing	R.O.W.	
12	6	Live Oak	Root pruning, tree protection fencing	Private	
13	20	Pecan	Root pruning, tree protection fencing	R.O.W.	
14	12	Live Oak	Tree protection fencing	Private	
15	16	Magnolia	Tree protection fencing	Private	
16	28	Live Oak	Root pruning, tree protection fencing	Private	
17	48	Live Oak	Tree protection fencing, checkerplate,zero-curb cut	R.O.W.	
18	36	Live Oak	Tree protection fencing, checkerplate, root pruning	R.O.W.	
19	28	Live Oak	Tree protection fencing, checkerplate, root pruning	R.O.W.	
20	18	Magnolia	Root pruning, tree protection fencing	Private	
21	18	Pecan	Root pruning, tree protection fencing	R.O.W.	
22	16	Live Oak	Root pruning, tree protection fencing	R.O.W.	
23	12	Live Oak	Root pruning, tree protection fencing	R.O.W.	
24	44	Live Oak	Root pruning, tree protection fencing	Private	
25	36	Live Oak	Root pruning, tree protection fencing,zero-curb cut	R.O.W.	
26	60	Ash	Tree protection fencing, checkerplate,zero-curb cut	R.O.W.	
27	8	Shumard Oak	Root pruning, tree protection fencing,zero-curb cut	R.O.W.	
28	6	Redbud	Root pruning, tree protection fencing	R.O.W.	
29	24	Pine	Tree protection fencing	R.O.W.	
30	6	Live Oak	Tree protection fencing	R.O.W.	
31	8	Live Oak	Root pruning, tree protection fencing	R.O.W.	
32	8	Magnolia	Root pruning, tree protection fencing	Private	
33	18	Live Oak	Root pruning, tree protection fencing	R.O.W.	
34	18	Live Oak	Root pruning, tree protection fencing	R.O.W.	
35	36	Live Oak	Tree protection fencing, checkerplate, root pruning	R.O.W.	
36	18	Bald Cypress	Root pruning, tree protection fencing	Private	
37	27	Live Oak	Tree protection fencing	Private	
38	40	Magnolia	Tree protection fencing	Private	
39	10	Crape Myrtle	Tree protection fencing,zero-curb cut	R.O.W.	
40	40	Ash (multi)	Tree protection fencing, checkerplate,zero-curb cut	R.O.W.	
41	30	Pine	Tree protection fencing	R.O.W.	
42	12	Crape Myrtle	Tree protection fencing	Private	
43	10	Magnolia	Root pruning, tree protection fencing, zero curb-cut	R.O.W.	
44	7	Red Oak	Root pruning, tree protection fencing, zero curb-cut	R.O.W.	
45	30	Red Oak	Root pruning, tree protection fencing, zero curb-cut	R.O.W.	
46	24	Live Oak	Root pruning, tree protection fencing	R.O.W.	
47	34	Red Oak	Tree protection fencing, checkerplate, root pruning	R.O.W.	
48	6	Cypress	Root pruning, tree protection fencing	Private	
49	12	Live Oak	Tree protection fencing, checkerplate,zero-curb cut	Private	
50	34	Live Oak	Tree protection fencing, checkerplate,zero-curb cut	R.O.W.	
51	30	Live Oak	Tree protection fencing, checkerplate, root pruning	R.O.W.	
52	24	Live Oak	Tree protection fencing, checkerplate,zero-curb cut	R.O.W.	
53	6	Ash	Remove	R.O.W.	6
54	24	Pine	Tree protection fencing, checkerplate, root pruning	R.O.W.	
55	21	Pine	Tree protection fencing, checkerplate, root pruning	R.O.W.	
56	2	Pine		Private	
57	4	Pine	Tree protection fencing	R.O.W.	
58	40	Live Oak	Root pruning, tree protection fencing	Private	
59	24	Magnolia	Root pruning, tree protection fencing	Private	
60	24	Magnolia	Tree protection fencing, checkerplate, root pruning	R.O.W.	
61	32	Live Oak	Tree protection fencing, checkerplate, root pruning	R.O.W.	
62	30	Live Oak	Root pruning, tree protection fencing	Private	
63	30	Red Oak	Root pruning, tree protection fencing	R.O.W.	
64	30	Ch. Tallow	Root pruning, tree protection fencing	R.O.W.	
65	8	Crape Myrtle	Tree protection fencing	R.O.W.	
66	8	Crape Myrtle		Private	
67	4	Shrub	Remove	R.O.W.	N/A
68	7	Magnolia	Tree protection fencing	Private	
69	5	Redbud	Tree protection fencing	R.O.W.	
70	20	Pine	Tree protection fencing, checkerplate, root pruning	R.O.W.	

TREE #	CALIPER SIZE (INCH)	SPECIES	TREATMENT	LOCATION	MITIGATION
71	20	Pine	Root pruning, tree protection fencing	R.O.W.	
72	20	Live Oak	Root pruning, tree protection fencing	Private	
73	13	Magnolia	Tree protection fencing, checkerplate, root pruning	R.O.W.	
74	4	Elm	Root pruning, tree protection fencing	R.O.W.	
75	24	Pecan	Tree protection fencing	Private	
76	12	Live Oak	Tree protection fencing, zero curb-cut	Private	
77	32	Live Oak	Tree protection fencing, checkerplate	R.O.W.	
78	15	Live Oak	Root pruning, tree protection fencing	R.O.W.	
79	38	Live Oak	Tree protection fencing, checkerplate, zero curb-cut	R.O.W.	
80	34	Bur Oak	Tree protection fencing, checkerplate, zero curb-cut	R.O.W.	
81	30	Live Oak	Root pruning	Private	
82	32	Live Oak	Tree protection fencing, checkerplate, root pruning	R.O.W.	
83	16	Live Oak	Root pruning, tree protection fencing, zero curb-cut	R.O.W.	
84	30	Live Oak	Root pruning, tree protection fencing, zero curb-cut	R.O.W.	
85	48	Ash	Tree protection fencing, checkerplate, zero curb-cut	R.O.W.	
86	30	Live Oak	Tree protection fencing	R.O.W.	
87	15	Live Oak	Tree protection fencing	R.O.W.	
88	12	Live Oak	Tree protection fencing, checkerplate	R.O.W.	
89	12	Live Oak	Remove	R.O.W.	12
90	15	Crape Myrtle	Tree protection fencing	Private	
91	15	Live Oak	Tree protection fencing	Private	
92	38	Live Oak	Tree protection fencing, checkerplate, root pruning	R.O.W.	
93	48	Live Oak	Root pruning, tree protection fencing	Private	
94	15	Live Oak	Root pruning, tree protection fencing	R.O.W.	
95	30	Pine	Tree protection fencing, checkerplate	R.O.W.	
96	6	Sago Palm	Tree protection fencing	R.O.W.	
97	30	Live Oak	Tree protection fencing	Private	
98	30	Pine	Tree protection fencing	R.O.W.	
99	20	Pine	Remove	R.O.W.	20
100	10	Cypress	Tree protection fencing	R.O.W.	
101	34	Live Oak	Tree protection fencing, checkerplate, root pruning	R.O.W.	
102	30	Live Oak	Tree protection fencing, checkerplate, root pruning	R.O.W.	
103	30	Live Oak	Root pruning, tree protection fencing, root pruning	Private	
104	24	Magnolia	Tree protection fencing	Private	
105	32	Live Oak	Tree protection fencing	R.O.W.	
106	30	Live Oak	Tree protection fencing	R.O.W.	
107	3	Am. Holly	Remove	R.O.W.	3
108	32	Ash	Tree protection fencing	Private	
109	40	Live Oak	Root pruning, tree protection fencing, zero curb-cut	Private	
110	57	Live Oak	Tree protection fencing, checkerplate, zero curb-cut	Private	
111	38	Ash	Root pruning, tree protection fencing	Private	
112	42	Live Oak	Root pruning, tree protection fencing	Private	
113	18	Crape Myrtle	Root pruning, tree protection fencing	Private	
114	28	Ch. Tallow	Root pruning, tree protection fencing	Private	
115	18	Live Oak	Root pruning, tree protection fencing	R.O.W.	
116	18	Live Oak	Root pruning, tree protection fencing	Private	
117	30	Live Oak	Root pruning, tree protection fencing	Private	
118	30	Live Oak	Root pruning, tree protection fencing	R.O.W.	
119	13	Magnolia	Tree protection fencing, checkerplate, root pruning	R.O.W.	
120	15	Live Oak	Tree protection fencing, checkerplate, root pruning	R.O.W.	
121	27	Live Oak	Tree protection fencing, checkerplate,zero curb-cut	R.O.W.	
122	22	Live Oak	Tree protection fencing, checkerplate,zero curb-cut	R.O.W.	
123	18	Live Oak	Tree protection fencing	R.O.W.	
124	28	Pine	Tree protection fencing	R.O.W.	
125	48	Live Oak	Tree protection fencing, checkerplate, zero curb-cut	R.O.W.	
126	28	Crape Myrtle	Tree protection fencing	R.O.W.	
127	28	Live Oak	Tree protection fencing, checkerplate, root pruning	R.O.W.	
128	45	Live Oak	Tree protection fencing, checkerplate, root pruning	Private	
129	40	Live Oak	Root pruning, tree protection fencing	Private	
130	12	Live Oak	Tree protection fencing, checkerplate, root pruning	R.O.W.	
131	19	Live Oak	Tree protection fencing, checkerplate, root pruning	R.O.W.	
132	36	Live Oak	Root pruning, tree protection fencing	Private	
133	31	Live Oak	Tree protection fencing, checkerplate, zero cub-cut	R.O.W.	
134	28	Live Oak	Tree protection fencing, checkerplate, zero cub-cut	R.O.W.	
135	30	Live Oak	Root pruning, tree protection fencing	Private	
136	14	Live Oak	Root pruning, tree protection fencing	R.O.W.	
137	26	Live Oak	Tree boarding, checkerplate,zero curb-cut	R.O.W.	
138	41	Ash	Root pruning, tree protection fencing,zero curb-cut	R.O.W.	
139	30	Live Oak	Tree protection fencing, checkerplate,zero curb-cut	R.O.W.	
140	30	Live Oak	Root pruning, tree protection fencing	Private	
141	15	Crape Myrtle	Tree protection fencing	Private	
142	15	Crape Myrtle	Tree protection fencing	Private	

TREE #	CALIPER SIZE (INCH)	SPECIES	TREATMENT	LOCATION	MITIGATION
143	29	Ash	Tree protection fencing	R.O.W.	
144	15	Ash	Tree protection fencing	R.O.W.	
145	15	Sweetgum	Remove	R.O.W.	15
146	6	Am. Holly	Tree protection fencing	R.O.W.	
147	18	Sweetgum	Remove	R.O.W.	18
148	48	Live Oak	Root pruning, tree protection fencing	Private	
149	3	Live Oak		R.O.W.	
150	30	Crape Myrtle	Tree protection fencing	R.O.W.	
151	15	Crape Myrtle	Remove	R.O.W.	15
152	15	Pecan	Tree protection fencing	Private	
153	11	Live Oak	Tree protection fencing	R.O.W.	
154	40	Crape Myrtle	Root pruning, tree protection fencing	R.O.W.	
155	36	Live Oak	Root pruning, tree protection fencing	Private	
156	27	Ch. Tallow	Remove	R.O.W.	N/A
157	30	Crape Myrtle	Tree protection fencing	Private	
158	25	Pine	Tree protection fencing	Private	
159	39	Pine	Tree protection fencing	R.O.W.	
160	26	Pecan	Root pruning, tree protection fencing	R.O.W.	
161	36	Live Oak	Root pruning, tree protection fencing	R.O.W.	
162	40	Live Oak	Root pruning, tree protection fencing	R.O.W.	
163	48	Live Oak	Tree protection fencing	Private	
164	50	Live Oak	Tree protection fencing	Private	
165	46	Live Oak	Tree protection fencing, checkerplate,zero curb-cut	R.O.W.	
166	22	Pecan	Tree protection fencing, checkerplate,root pruning	R.O.W.	
167	14	Pecan	Tree protection fencing	R.O.W.	
168	24	Crape Myrtle	Tree protection fencing, checkerplate,root pruning	R.O.W.	
169	28	Crape Myrtle	Tree protection fencing	R.O.W.	
170	36	Ch. Tallow	Tree protection fencing	R.O.W.	
171	20	Pine	Tree protection fencing	Private	
172	28	Pine	Root pruning, tree protection fencing	Private	
173	42	Live Oak	Root pruning, tree protection fencing	R.O.W.	
174	46	Live Oak	Tree protection fencing, checkerplate, root pruning	R.O.W.	
175	6	Crape Myrtle	Remove	R.O.W.	
175a	14	Crape Myrtle	Remove	R.O.W.	
176	3	Live Oak	Tree protection fencing	R.O.W.	
177	40	Live Oak	Root pruning, tree protection fencing,zero curb-cut	Private	
178	42	Live Oak	Root pruning, tree protection fencing,zero curb-cut	R.O.W.	
179	48	Live Oak	Root pruning, tree protection fencing	R.O.W.	
180	36	Live Oak		Private	
181	18	Hackberry		Private	
182	48	Live Oak	Root pruning, tree protection fencing,zero curb-cut	R.O.W.	
183	24	Live Oak	Tree protection fencing, checkerplate,zero curb-cut	R.O.W.	
184	48	Live Oak	Tree protection fencing, checkerplate,zero curb-cut	R.O.W.	
185	18	Magnolia	Tree protection fencing	Private	

APP.
REVISION
DATE
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SURVEYED BY: Kuo&Associates
FB NO. P-6396

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

L1.26 TREE PROTECTION TREE TABLE

WBS NUMBER
M-410016-001A-3
DRAWING SCALE
CITY OF HOUSTON PM
LUCIA L. LEE, P.E.
SHEET NO. 197 OF 200

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PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/4/2025 4:02 PM
FILE PATH: J:\SA2503 COH Westridge Sub Project 1A\AR\03 CD\L1.00_TREE PROTECTION PLAN_SA2501.dwg

TREE #	CALIPER SIZE (INCH)	SPECIES	TREATMENT	LOCATION	MITIGATION
186	18	Magnolia	Tree protection fencing, checkerplate	R.O.W.	
187	20	Ligustrum (multi)	Tree protection fencing	R.O.W.	
188	18	Crape Myrtle	Tree protection fencing	Private	
189	24	Crape Myrtle	Tree protection fencing	R.O.W.	
190	26	Crape Myrtle	Tree protection fencing	Private	
191	24	Pine	Tree protection fencing	R.O.W.	
192	18	Pine	Tree protection fencing	Private	
193	28	Pine		Private	
194	20	Pine	Tree protection fencing	Private	
195	20	Live Oak	Tree protection fencing	Private	
196	24	Live Oak	Tree protection fencing	R.O.W.	
197	17	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
198	20	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
199	20	Live Oak	Tree protection fencing	R.O.W.	
200	18	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
201	18	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
202	30	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
203	17	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
204	19	Live Oak	Tree protection fencing	R.O.W.	
205	22	Live Oak	Tree protection fencing	R.O.W.	
206	13	Live Oak	Tree protection fencing	Private	
207	13	Live Oak	Tree protection fencing	Private	
208	14	Live Oak	Tree protection fencing	Private	
209	17	Live Oak	Tree protection fencing	Private	
210	26	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
211	28	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
212	25	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
213	27	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
214	27	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
215	27	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
216	18	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
217	20	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
218	22	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
219	20	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
220	20	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
221	12	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
222	14	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
223	20	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
224	17	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
225	12	Br. Pear	Remove	R.O.W.	N/A
226	12	Br. Pear	Remove	R.O.W.	N/A
227	10	Br. Pear	Remove	R.O.W.	N/A
228	10	Br. Pear	Remove	R.O.W.	N/A
229	10	Br. Pear	Remove	R.O.W.	N/A
230	15	Br. Pear	Remove	R.O.W.	N/A
231	38	Live Oak	Root pruning, tree protection fencing	Private	
232	38	Live Oak	Root pruning, tree protection fencing	Private	
233	28	Live Oak	Tree protection fencing	Private	
234	30	Live Oak	Root pruning, tree protection fencing	Private	
235	28	Live Oak	Root pruning, tree protection fencing	Private	
236	16	Live Oak	Tree protection fencing, checkerplate,zero curb-cut	R.O.W.	
237	44	Live Oak	Root pruning, tree protection fencing,zero curb-cut	Private	
238	30	Pine	Tree protection fencing	R.O.W.	
239	11	Live Oak	Root pruning, tree protection fencing, zero curb-cut	R.O.W.	
240	10	Live Oak	Root pruning, tree protection fencing, zero curb-cut	R.O.W.	
241	22	Pine	Tree protection fencing	Private	
242	22	Elm	Tree protection fencing	Private	
243	30	Pine	Tree protection fencing	Private	
244	14	Ash	Tree protection fencing	Private	
245	30	Live Oak	Root pruning, tree protection fencing,zero-curb-cut	Private	
246	32	Live Oak	Root pruning, tree protection fencing,zero-curb-cut	Private	
247	24	Live Oak	Root pruning, tree protection fencing,zero-curb-cut	Private	
248	30	Live Oak	Root pruning, tree protection fencing,zero-curb-cut	Private	
249	40	Live Oak	Root pruning, tree protection fencing,zero-curb-cut	Private	
250	20	Red Oak	Tree protection fencing, checkerplate,zero-curb-cut	R.O.W.	
251	10	Red Oak	Tree protection fencing, checkerplate,zero-curb-cut	R.O.W.	
252	12	Red Oak	Tree protection fencing, checkerplate,zero-curb-cut	R.O.W.	
253	30	Live Oak	Tree protection fencing, root pruning,zero-curb-cut	Private	
254	30	Live Oak	Tree protection fencing, checkerplate,zero-curb-cut	Private	
255	18	Live Oak	Tree protection fencing, checkerplate,zero-curb-cut	Private	

TREE #	CALIPER SIZE (INCH)	SPECIES	TREATMENT	LOCATION	MITIGATION
186	18	Magnolia	Tree protection fencing, checkerplate	R.O.W.	
187	20	Ligustrum (multi)	Tree protection fencing	R.O.W.	
188	18	Crape Myrtle	Tree protection fencing	Private	
189	24	Crape Myrtle	Tree protection fencing	R.O.W.	
190	26	Crape Myrtle	Tree protection fencing	Private	
191	24	Pine	Tree protection fencing	R.O.W.	
192	18	Pine	Tree protection fencing	Private	
193	28	Pine		Private	
194	20	Pine	Tree protection fencing	Private	
195	20	Live Oak	Tree protection fencing	Private	
196	24	Live Oak	Tree protection fencing	R.O.W.	
197	17	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
198	20	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
199	20	Live Oak	Tree protection fencing	R.O.W.	
200	18	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
201	18	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
202	30	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
203	17	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
204	19	Live Oak	Tree protection fencing	R.O.W.	
205	22	Live Oak	Tree protection fencing	R.O.W.	
206	13	Live Oak	Tree protection fencing	Private	
207	13	Live Oak	Tree protection fencing	Private	
208	14	Live Oak	Tree protection fencing	Private	
209	17	Live Oak	Tree protection fencing	Private	
210	26	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
211	28	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
212	25	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
213	27	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
214	27	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
215	27	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
216	18	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
217	20	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
218	22	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
219	20	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
220	20	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
221	12	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
222	14	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
223	20	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
224	17	Live Oak	Tree protection fencing, zero curb-cut	R.O.W.	
225	12	Br. Pear	Remove	R.O.W.	N/A
226	12	Br. Pear	Remove	R.O.W.	N/A
227	10	Br. Pear	Remove	R.O.W.	N/A
228	10	Br. Pear	Remove	R.O.W.	N/A
229	10	Br. Pear	Remove	R.O.W.	N/A
230	15	Br. Pear	Remove	R.O.W.	N/A
231	38	Live Oak	Root pruning, tree protection fencing	Private	
232	38	Live Oak	Root pruning, tree protection fencing	Private	
233	28	Live Oak	Tree protection fencing	Private	
234	30	Live Oak	Root pruning, tree protection fencing	Private	
235	28	Live Oak	Root pruning, tree protection fencing	Private	
236	16	Live Oak	Tree protection fencing, checkerplate,zero curb-cut	R.O.W.	
237	44	Live Oak	Root pruning, tree protection fencing,zero curb-cut	Private	
238	30	Pine	Tree protection fencing	R.O.W.	
239	11	Live Oak	Root pruning, tree protection fencing, zero curb-cut	R.O.W.	
240	10	Live Oak	Root pruning, tree protection fencing, zero curb-cut	R.O.W.	
241	22	Pine	Tree protection fencing	Private	
242	22	Elm	Tree protection fencing	Private	
243	30	Pine	Tree protection fencing	Private	
244	14	Ash	Tree protection fencing	Private	
245	30	Live Oak	Root pruning, tree protection fencing,zero-curb-cut	Private	
246	32	Live Oak	Root pruning, tree protection fencing,zero-curb-cut	Private	
247	24	Live Oak	Root pruning, tree protection fencing,zero-curb-cut	Private	
248	30	Live Oak	Root pruning, tree protection fencing,zero-curb-cut	Private	
249	40	Live Oak	Root pruning, tree protection fencing,zero-curb-cut	Private	
250	20	Red Oak	Tree protection fencing, checkerplate,zero-curb-cut	R.O.W.	
251	10	Red Oak	Tree protection fencing, checkerplate,zero-curb-cut	R.O.W.	
252	12	Red Oak	Tree protection fencing, checkerplate,zero-curb-cut	R.O.W.	
253	30	Live Oak	Tree protection fencing, root pruning,zero-curb-cut	Private	
254	30	Live Oak	Tree protection fencing, checkerplate,zero-curb-cut	Private	
255	18	Live Oak	Tree protection fencing, checkerplate,zero-curb-cut	Private	

TREE #	CALIPER SIZE (INCH)	SPECIES	TREATMENT	LOCATION	MITIGATION
321	18	Live Oak	Root pruning, tree protection fencing	Private	
322	24	Pecan	Tree protection fencing	Private	
323	12	Magnolia	Tree protection fencing	Private	
324	12	Live Oak	Tree protection fencing	Private	
325	12	Crape Myrtle		Private	
326	24	Ash	Root pruning, tree protection fencing,zero curb-cut	R.O.W.	
327	26	Live Oak	Tree protection fencing, checkerplate,zero curb-cut	R.O.W.	
328	24	Palm	Tree protection fencing	R.O.W.	
329	24	Palm	Tree protection fencing	R.O.W.	
330	24	Palm	Tree protection fencing	R.O.W.	
331	24	Palm	Tree protection fencing	R.O.W.	
332	20	Pecan	Tree protection fencing, checkerplate,zero curb-cut	R.O.W.	
333	18	Magnolia	Tree protection fencing, checkerplate,zero curb-cut	R.O.W.	
334	14	Magnolia	Root pruning, tree protection fencing	Private	
335	2	Crape Myrtle	Tree protection fencing	R.O.W.	
336	2	Crape Myrtle	Tree protection fencing	R.O.W.	
337	12	Red Oak	Tree protection fencing	Private	
338	8	Crape Myrtle	Tree protection fencing	Private	
339	8	Crape Myrtle	Tree protection fencing	Private	
340	12	Shumard Oak	Tree protection fencing	R.O.W.	
			TOTAL MITIGATION		**117**

NO. DATE REVISION APP.

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SURVEYED BY: Kuo&Associates
FB NO. P-6396

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

L1.27 TREE PROTECTION TREE TABLE

WBS NUMBER
M-410016-001A-3

FOR CITY OF HOUSTON USE ONLY

DRAWING SCALE

CITY OF HOUSTON PM
LUCIA L. LEE, P.E.

SHEET NO. 198 OF 200

PLOT STYLE: Coh_ctb_220714.ctb PLOTTED: 12/4/2025 4:02 PM
FILE PATH: J:\ISA2503 COH Westridge Sub Project 1A\AR\03 CD\L1.00_TREE PROTECTION PLAN_ISA2501.dwg

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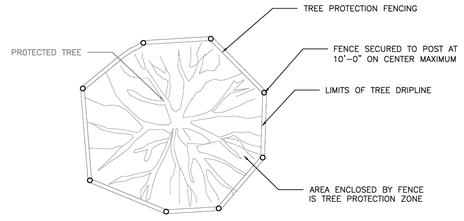
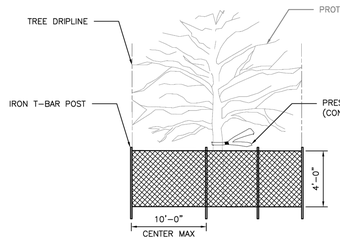
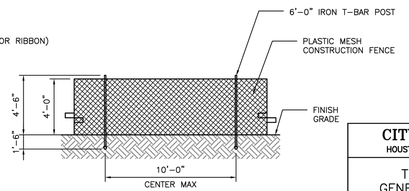


PLAN VIEW
TREE PROTECTION FENCING DETAIL



FRONT VIEW
TREE PROTECTION FENCING DETAIL



DETAIL B-4
PROTECTIVE PLASTIC MESH FENCE

NOTES:

FENCE LOCATION MAY BE ADJUSTED TO ACTUAL SITE CONDITIONS.

CITY OF HOUSTON HOUSTON PUBLIC WORKS STANDARD	
TREE PROTECTION GENERAL REQUIREMENTS	
(SCALE: NOT TO SCALE)	
APPROVED BY:	
Docusigned by: Suhail Kanwar CITY ENGINEER	Docusigned by: Carol Haddock DIRECTOR OF HPW
EFF DATE: NOV-27-2023	DWG NO: 01562-01

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DISCLAIMER:
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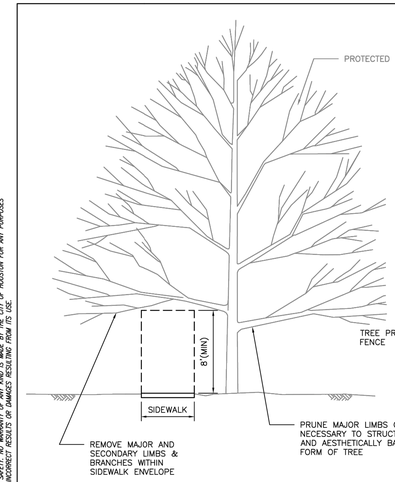
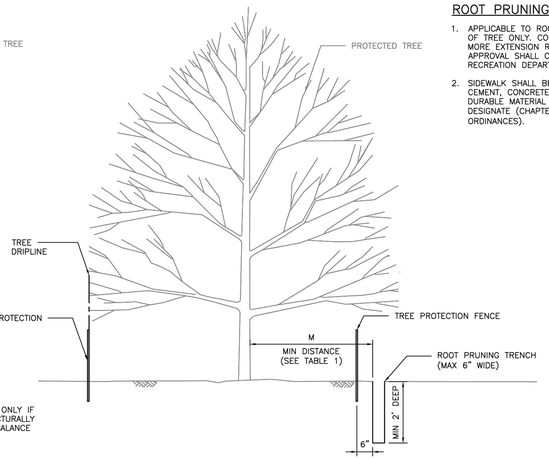


TREE PRUNING



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

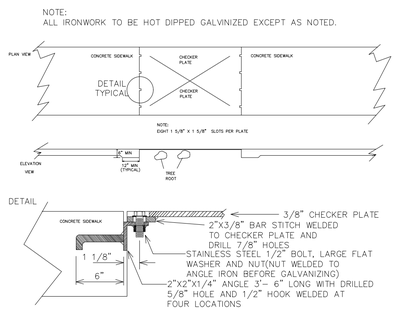
*MINIMUM DISTANCE FROM TREE TRUNK TO EDGE OF TRENCH

CITY OF HOUSTON HOUSTON PUBLIC WORKS STANDARD	
TREE PROTECTION TREE AND ROOT PRUNING	
(SCALE: NOT TO SCALE)	
APPROVED BY:	
Docusigned by: Suhail Kanwar CITY ENGINEER	Docusigned by: Carol Haddock DIRECTOR OF HPW
EFF DATE: NOV-27-2023	DWG NO: 01562-02

1 TREE PROTECTION GENERAL REQUIRMENTS

SCALE: NTS

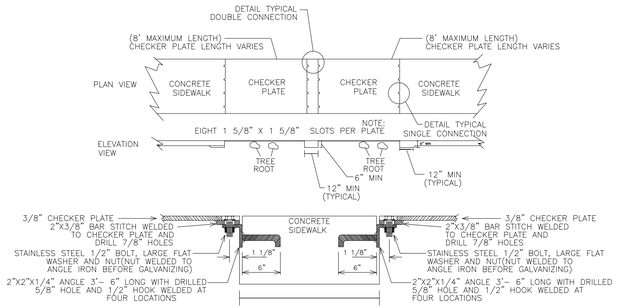
NOTE:
ALL IRONWORK TO BE HOT DIPPED GALVINIZED EXCEPT AS NOTED.



CHECKERPLATE DETAIL-SINGLE CONNECTION

NOT TO SCALE

ALL IRONWORK TO BE HOT DIPPED GALVINIZED EXCEPT AS NOTED.



CHECKERPLATE DETAIL-DOUBLE CONNECTION

NOT TO SCALE

NOTE:

3 CHECKER PLATE DETAILS

SCALE: NTS

2 TREE PROTECTION TREE AND ROOT PRUNING

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. TREE REMOVAL PERMITS WILL BE REQUIRED FROM THE CITY OF HOUSTON.
7. NO STORAGE OR CONCRETE DUMPING IS PERMITTED ON TREE ROOTS AND/OR UNDER DRIPLINE.
8. 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.
9. 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.
10. TREE BOARDING SHALL BE USED IF WORK IS REQUIRED WITHIN FENCING.
11. ANY UNDERSTORY CLEARING WITHIN SIX FEET OF EXISTING TREE TRUNKS SHALL BE DONE BY HAND.
12. CONTRACTOR TO NOTIFY LANDSCAPE ARCHITECT IF ROOT PRUNING IS DEEMED NECESSARY. CONTRACTOR SHALL NOT CUT ROOT LARGER THAN 2" PRIOR CONSULTING LANDSCAPE ARCHITECT.
13. 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 HOUSTON AREA. QUALIFICATIONS OF THE SELECTED CERTIFIED ARBORIST SHALL BE SUBMITTED FOR REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT.
14. TREE REPLACEMENT LOCATIONS MUST BE COORDINATED WITH ADJACENT PROPERTY OWNERS AND THE CITY OF HOUSTON URBAN FORESTRY AND PWE PRIOR TO PURCHASING AND EXCAVATION FOR PLANTING. COORDINATION SHALL BE COMPLETED BY CONSTRUCTION CONTRACTOR'S CERTIFIED ARBORIST. TREES TO BE MAINTAINED AND WATERED FOR 2 YEARS FOLLOWING PLANTING PER STANDARD SPEC 02915. TIMING OF PLANTING MAY BE DELAYED IN [ERIODS OF DROUGHT WITH MANDATORY WATER RESTRICTIONS IN PLACE - TIMING TO BE COORDINATED WITH THE CITY OF HOUSTON URBAN FORESTRY.

NOTE:

ALL SERVICE LINES WILL BE FIELD FITTED, AND SHOULD BE INSTALLED TO AVOID ANY DAMAGE TO EXISTING TREES. HAND DIG AND CLEARANCE AROUND TREES IS REQUIRED IF TRENCHING WITHIN EXISTING TREE ROOT ZONES. CONTRACTOR WILL BE RESPONSIBLE FOR REPLACING ANY DISTURBED OR DAMAGED TREES/PLANTINGS, AND RESPONSIBLE FOR RESTORING TO MATCH PREVIOUS EXISTING CONDITIONS.

ASAKURA ROBINSON
2500 Summer Street, Suite 3228 Houston Texas 77007
P. 713.337.5830 www.asakurarobinson.com

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SURVEYED BY: Kuo&Associates
FB NO. P-6396

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

L1.28 TREE PROTECTION NOTES & DETAILS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-410016-001A-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 199 OF 200	

NO.	DATE	REVISION	APP.

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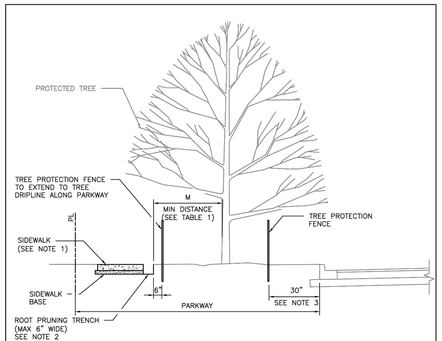

TABLE 1 "M" DISTANCE TABLE	
TREE TRUNK DIA. (IN)	*MINIMUM DISTANCE 'M'
< 6"	3 FEET
6" ≤ DIA. ≤ 20"	0.75 FEET PER DIA.–INCH
> 20"	CONSULT CITY ARBORIST

*MINIMUM DISTANCE FROM TREE TRUNK TO EDGE OF TRENCH

NOTES:

1. SIDEWALK SHALL BE CONSTRUCTED OF EITHER CEMENT, CONCRETE, ASPHALT OR OTHER DURABLE MATERIAL AS THE COUNCIL MAY DESIGNATE (CHAPTER 40–91, CODE OF ORDINANCES).
2. TRENCHING DEPTH SHALL BE TO THE ANTICIPATED BOTTOM OF SIDEWALK AND BASE MATERIAL FOR SIDEWALK ROOT PRUNING, ROOTS LOWER THAN SIDEWALK SHALL NOT BE PRUNED.
3. FENCES SHALL BE PLACED 30" BACK OF EXISTING CURB OR EDGE OF PAVEMENT WHERE ROOT PRUNING OR ZERO CURB CUT BACK IS NOT SPECIFIED.

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APPROVED BY:

CITY ENGINEER	DIRECTOR OF HPW

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TREE PROTECTION/
IN SIDEWALK REPAIRS
IN PARKWAY AREAS

(SCALE: NOT TO SCALE)

EFF DATE: NOV–27–2023 | DWG NO: 01562–03

1 TREE PROTECTION IN SIDEWALK REPAIRS

SCALE: NTS

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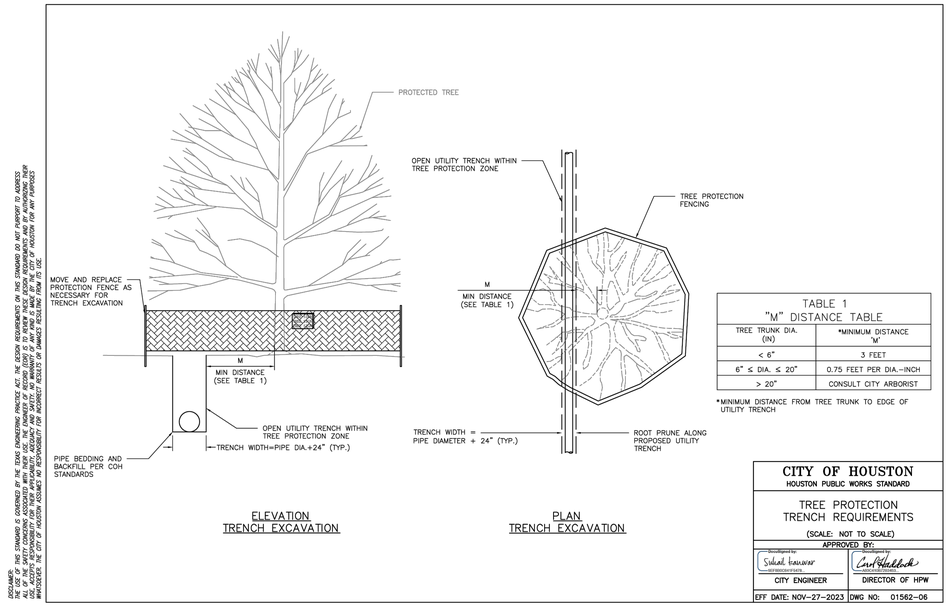

ELEVATION
TRENCH EXCAVATION

PLAN
TRENCH EXCAVATION

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> 20"	CONSULT CITY ARBORIST

*MINIMUM DISTANCE FROM TREE TRUNK TO EDGE OF UTILITY TRENCH

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TREE PROTECTION
TRENCH REQUIREMENTS

(SCALE: NOT TO SCALE)

APPROVED BY:

CITY ENGINEER	DIRECTOR OF HPW

EFF DATE: NOV–27–2023 | DWG NO: 01562–06

2 TREE PROTECTION TRENCH REQUIREMENTS

SCALE: NTS

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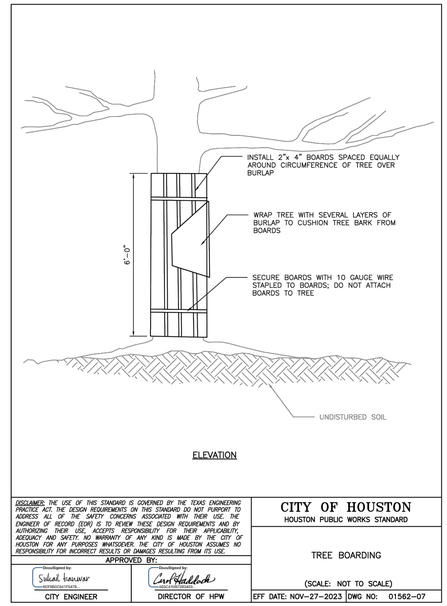

ELEVATION

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TREE BOARDING

(SCALE: NOT TO SCALE)

APPROVED BY:

CITY ENGINEER	DIRECTOR OF HPW

EFF DATE: NOV–27–2023 | DWG NO: 01562–07

3 TREE BOARDING

SCALE: NTS

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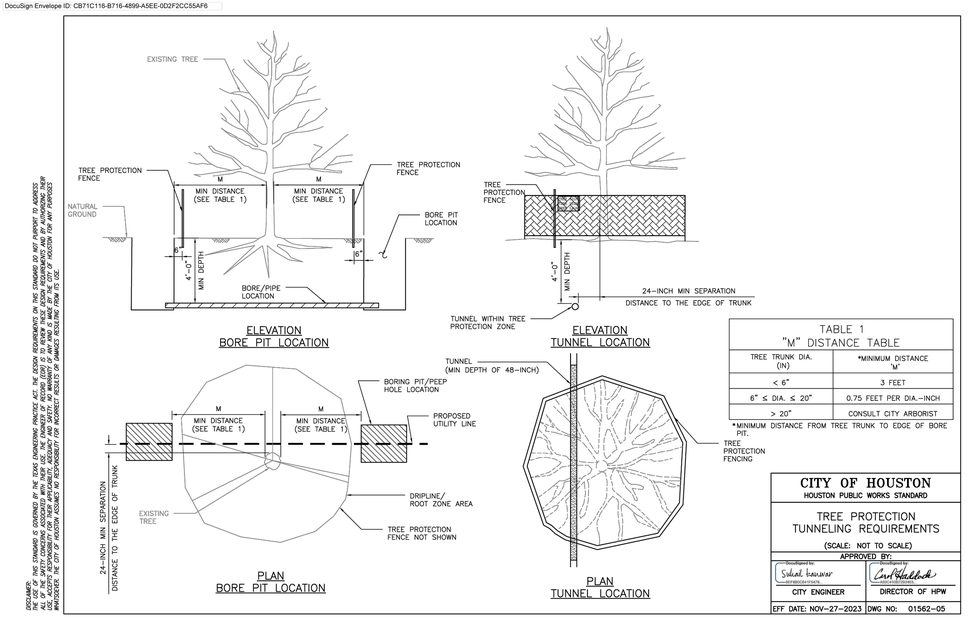

ELEVATION
BORE PIT LOCATION

ELEVATION
TUNNEL LOCATION

PLAN
BORE PIT LOCATION

PLAN
TUNNEL LOCATION

TABLE 1 "M" DISTANCE TABLE	
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> 20"	CONSULT CITY ARBORIST

*MINIMUM DISTANCE FROM TREE TRUNK TO EDGE OF BORE

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TREE PROTECTION
TUNNELING REQUIREMENTS

(SCALE: NOT TO SCALE)

APPROVED BY:

CITY ENGINEER	DIRECTOR OF HPW

EFF DATE: NOV–27–2023 | DWG NO: 01562–05

4 TREE PROTECTION TUNNELING REQUIREMENTS

SCALE: NTS

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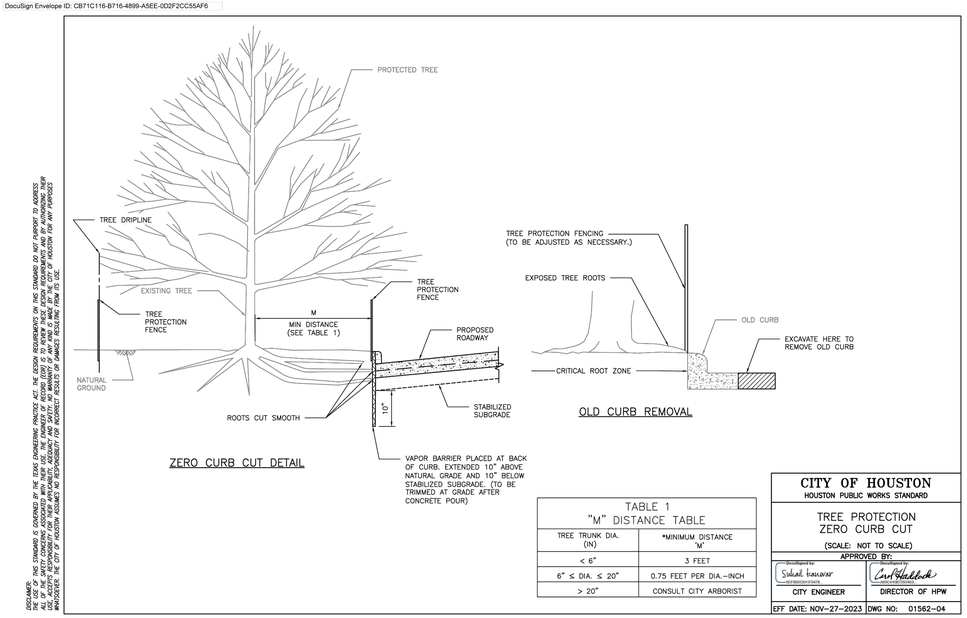

ZERO CURB CUT DETAIL

OLD CURB REMOVAL

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TREE PROTECTION
ZERO CURB CUT

(SCALE: NOT TO SCALE)

APPROVED BY:

CITY ENGINEER	DIRECTOR OF HPW

EFF DATE: NOV–27–2023 | DWG NO: 01562–04

5 TREE PROTECTION ZERO CURB CUT

SCALE: NTS

NO.	DATE	REVISION	APP.

ASAKURA ROBINSON
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P: 713.337.5830 www.asakurarobinson.com

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SURVEYED BY: Kuo&Associates
FB NO. P–6396

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WESTRIDGE AND BRAES TERRACE STREET IMPROVEMENTS

L1.29 TREE PROTECTION NOTES & DETAILS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–410016–001A–3	
DRAWING SCALE	
CITY OF HOUSTON PM	
LUCIA L. LEE, P.E.	
SHEET NO. 200 OF 200	

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