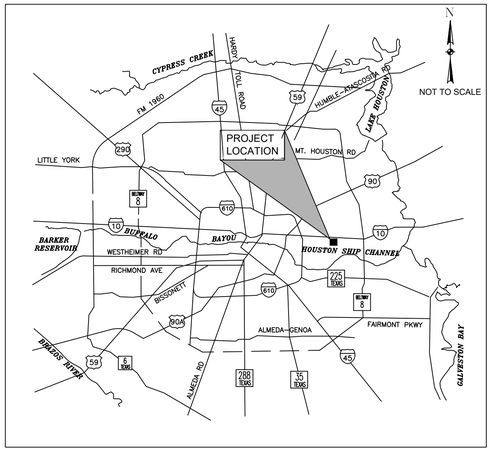
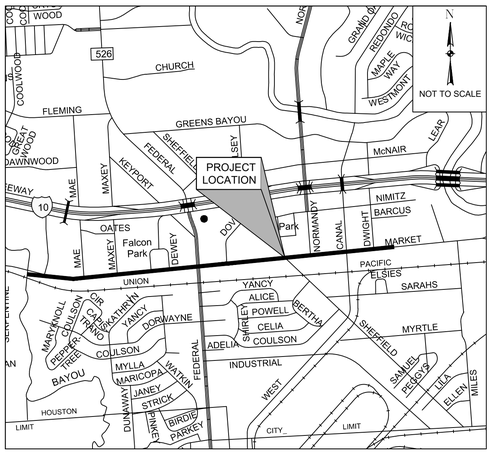
CITY OF HOUSTON

HOUSTON PUBLIC WORKS CAPITAL PROJECTS

MARKET STREET STORM SEWER IMPROVEMENTS



LOCATION MAP



VICINITY MAP
KEY MAP NO 496K - M
COUNCIL DISTRICT E

WBS NO. M-430220-040A-3 (WO#43)

100% SUBMITTAL

MAYOR
JOHN WHITMIRE

CONTROLLER
CHRIS HOLLINS

DISTRICT
COUNCIL MEMBERS

AMY PECK — DISTRICT A
TARSHA JACKSON — DISTRICT B
JOE PANZARELLA — 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
ALEJANDRA SALINAS — POSITION 4
SALLIE ALCORN — POSITION 5

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SURVEYED BY: AMANI ENGINEERING, INC.
FB NO. P–6341

STATE OF TEXAS
MATTHEW A. BUCHTER
156231
LICENSED
PROFESSIONAL
ENGINEER

6/5/2026

The seal appearing on this document was authorized by Matthew A. Buchter, PE # 156231 on 6/5/2026.

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PARKS–FORESTRY DEPT.

METRO

HOUSTON WATER

TRANSPORTATION & DRAINAGE OPERATIONS

CAPITAL PROJECTS

SURVEY

CITY ENGINEER DATE

DIRECTOR OF HOUSTON PUBLIC WORKS DATE

FOR CITY OF HOUSTON USE ONLY

SHEET NO 01 OF 79 SHEETS

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MATTHEW A. BUCHTER
156231
6/4/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

INDEX OF SHEETS

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AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 02 OF 79	

GENERAL NOTES:

1. UNLESS OTHERWISE NOTED AND APPROVED ON DRAWINGS, CONSTRUCT CIVIL INFRASTRUCTURE IN ACCORDANCE WITH THE EFFECTIVE EDITION OF THE HOUSTON PUBLIC WORKS STANDARD CONSTRUCTION SPECIFICATIONS, STANDARD CONSTRUCTION DETAILS, AND SUPPLEMENTS, ADDENDA AND AMENDMENTS THERETO. THE LATEST EDITION OF THE ABOVE PUBLICATIONS CAN BE FOUND AT:

HTTP://WWW.HOUSTONPERMITTINGCENTER.ORG/OFFICE-CITY-ENGINEER/DESIGN-AND-CONSTRUCTION-STANDARDS.

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

3. THE GEOTECHNICAL INVESTIGATION FOR THIS PROJECT WAS CONDUCTED IN ACCORDANCE WITH CHAPTER 11 OF THE LATEST EDITION OF THE PUBLICATION INFRASTRUCTURE DESIGN MANUAL, PUBLISHED BY HOUSTON PUBLIC WORKS. SOILS REPORT WAS PREPARED BY HVJ ASSOCIATES, INC. PROJECT NO. HG1910408.4, DATED JULY 4, 2024.

4. UTILITIES PRESENTED ON THESE DRAWINGS ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION. CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS IN THE FIELD PRIOR TO COMMENCING CONSTRUCTION. CONTRACTOR SHALL NOTIFY TEXAS ONE CALL AT 713-223-4567/811 OR 800-344-8377 AND LONE STAR NOTIFICATION CENTER AT 800-669-8344 AT LEAST 48 HOURS BEFORE PROCEEDING WITH ANY EXCAVATION. UTILITIES MARKED WITHIN THE PUBLIC RIGHT OF WAY OR IN EASEMENTS SHALL COMPLY WITH TAC TITLE 16, PART 1, CHAPTER 18, RULE §18.6 AND THE AMERICAN PUBLIC WORKS ADMINISTRATION (APWA) UNIFORM COLOR CODE.

5. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGES TO EXISTING WATER, WASTEWATER, STORM WATER LINES AND TRAFFIC CONTROL DEVICES. DAMAGES SHALL BE REPAIRED IN ACCORDANCE WITH THE EFFECTIVE EDITION OF HOUSTON PUBLIC WORKS, STANDARD CONSTRUCTION SPECIFICATIONS FOR WASTEWATER COLLECTION SYSTEM, WATER LINES, STORM DRAINAGE, STREET PAVING, AND TRAFFIC AND STANDARD CONSTRUCTION DETAILS FOR WASTEWATER COLLECTION SYSTEMS, WATER LINES, STORM DRAINAGE, STREET PAVING, AND TRAFFIC, REFERENCED ABOVE AND SUPPLEMENTS, ADDENDA AND AMENDMENTS THERETO, AT NO ADDITIONAL COST TO THE CITY OF HOUSTON.

6. CONTRACTOR SHALL NOTIFY THE OFFICE OF THE CITY ENGINEER, HOUSTON PUBLIC WORKS @ 832-394-9098 OR VIA FAX AT 832-395-4424 FOR INSPECTION AT LEAST 48 HOURS PRIOR TO COMMENCING CONSTRUCTION.

7. ADEQUATE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION AND ANY DRAINAGE DITCH OR STRUCTURE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO EXISTING CONDITIONS OR BETTER AND TO THE SATISFACTION OF THE OWNING AUTHORITY.

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

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

10. CONTRACTOR SHALL MAINTAIN A SET OF REDLINE DRAWINGS AND RECORD AS-BUILT CONDITIONS DURING CONSTRUCTION. THESE AS-BUILT DRAWINGS WILL BE SUBMITTED TO THE DESIGN CONSULTANT WHO WILL MAKE THE CHANGES ON THE ORIGINAL TRACINGS, LABEL EACH SHEET IN THE SET AS "RECORD DRAWINGS", AND RETURN IT TO THE OFFICE OF THE CITY ENGINEER.

STORM NOTES:

1. STORM SEWER SHALL BE REINFORCED CONCRETE PIPE (C-76, CLASS III), AND SHALL BE INSTALLED, BEDDED, AND BACK FILLED IN ACCORDANCE WITH THE CITY OF HOUSTON DRAWING NOS. 2317-02, 02317-3, 02317-05, 02317-06, AND 02317-07 (JULY 2019) AS APPLICABLE UNLESS OTHERWISE SHOWN ON THE DRAWINGS.

2. ALL STORM SEWER CONSTRUCTED IN SIDELOT EASEMENT SHALL BE R.C.P (C-76, CLASSIII) AND SHALL BE EMBEDDED IN ACCORDANCE WITH THE CITY OF HOUSTON DRAWING NOS. 02317-02, 02317-03, 02317-05, 02317-06, AND 02317-07 AS APPLICABLE.

3. ALL SEWER UNDER PROPOSED OR FUTURE PAVEMENT AND TO A POINT ONE (1) FOOT BACK OF ALL PROPOSED OR FUTURE CURBS SHALL BE BACKFILLED WITH 1-1/2 SACK CEMENT/C.Y. STABILIZED SAND TO WITHIN ONE (1) FOOT OF SUBGRADE. THE REMAINING DEPTH OF TRENCH SHALL BE BACKFILLED WITH SUITABLE EARTH MATERIAL.

4. ALL TRENCH BACKFILL SHALL BE IN 8" LIFTS, WITH TESTS TAKEN AT 100 FOOT INTERVALS IN EACH LIFT, AND MECHANICALLY COMPACTED TO A DENSITY OF NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR COMPACTION TEST (ASTM D-698/AASHTO T99).

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

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

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

8. MINIMUM HORIZONTAL CLEARANCE BETWEEN ANY STORM PIPE AND BOX SHALL BE AT LEAST 48-INCHES FROM EXTERIOR OF THE STORM PIPE OR BOX TO THE EXTERIOR OF THE EXISTING OR PROPOSED PUBLIC OR PRIVATE UTILITY AND OTHER APPURTENANCES. MINIMUM VERTICAL CLEARANCE BETWEEN ANY STORM PIPE AND BOX SHALL BE AT LEAST 24-INCHES FROM EXTERIOR OF THE STORM PIPE OR BOX TO THE EXTERIOR OF THE EXISTING OR PROPOSED PUBLIC OR PRIVATE UTILITY AND OTHER APPURTENANCES.

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

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

11. ALL DITCHES SHALL BE GRADED TO PROPOSED ELEVATIONS TO INSURE PROPER DRAINAGE. ALL OUTFALLS SHALL BE PROPERLY BACKFILLED AND COMPACTED. ALL DISTURBED AREA SHALL BE REGRADED, SEEDED, AND FERTILIZED.

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

GRADING NOTES

1. GENERAL CONTRACTOR AND ALL SUBCONTRACTORS SHALL VERIFY THE SUITABILITY OF ALL EXISTING AND PROPOSED SITE CONDITIONS INCLUDING GRADES AND DIMENSIONS BEFORE STARTING CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES.

2. BEFORE STARTING CONSTRUCTION, CONTRACTOR SHALL VERIFY BENCHMARK ELEVATION AND NOTIFY ENGINEER IF ANY DISCREPANCY AND/OR CONFLICT IS FOUND.

3. CONTRACTOR SHALL ENSURE THERE IS POSITIVE DRAINAGE FROM THE PROPOSED BUILDINGS AND NO PONDING IN PAVED AREAS, AND SHALL NOTIFY ENGINEER IF ANY GRADING DISCREPANCIES ARE FOUND IN THE EXISTING AND PROPOSED GRADES PRIOR TO PLACEMENT OF PAVEMENT OR UTILITIES.

4. CONTRACTOR SHALL PROTECT ALL MANHOLE COVERS, VALVE COVERS, VAULT LIDS, FIRE HYDRANTS, POWER POLES, GUY WIRES, AND TELEPHONE BOXES THAT ARE TO REMAIN IN PLACE AND UNDISTURBED DURING CONSTRUCTION.

5. ALL EXISTING CONCRETE PAVING, SIDEWALK, AND CURB DEMOLITION SHALL BE REMOVED AND DISPOSED OF BY CONTRACTOR. DISPOSAL SHALL BE AT AN APPROVED OFF-SITE, LAWFUL LOCATION, UNLESS DIRECTED OTHERWISE BY THE OWNER.

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 INSPECTION AT ALL TIMES

7. ACCESS TO DRIVEWAYS ADJACENT TO THE CONSTRUCTION WORK ZONE SHALL BE MAINTAINED AT ALL TIMES AS MUCH AS POSSIBLE. ADDITIONAL CONES AND/OR DELINEATORS MAY BE REQUIRED TO DELINEATE THE DRIVEWAY ACCESS ROUTE THROUGH THE CONSTRUCTION WORK ZONE. A MINIMUM OF ONE TRAVEL LANE SHALL BE MAINTAINED ACROSS THE DRIVEWAY, UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM THE CITY OF HOUSTON.

8. ADDITIONAL OFF DUTY POLICE OFFICERS/FLAGGERS MAY BE REQUESTED TO DIRECT TRAFFIC WHEN LANES ARE BLOCKED AT THE DIRECTION OF THE CITY EVEN IF THEY ARE NOT SPECIFICALLY IDENTIFIED ON THE PROJECT PLANS.

SWPPP NOTES:

1. CONTRACTOR SHALL IMPLEMENT INLET PROTECTION DEVICES AND REINFORCED FILTER FABRIC BARRIER ALONG ROAD AND SIDE DITCHES AT LOCATIONS SHOWN ON THE TYPICAL STORM WATER POLLUTION PREVENTION (SWPPP) PLANS TO KEEP SILT AND OR EXCAVATED MATERIALS FROM ENTERING INTO THE STORM WATER INLETS AND DITCHES EVENTUALLY POLLUTING THE RECEIVING STORM.

2. DURING THE EXCAVATION PHASE OF THE PROJECT, CONTRACTOR SHALL SCHEDULE THE WORK IN SHORT SEGMENTS SO THAT EXCAVATION MATERIAL CAN BE QUICKLY HAULED AWAY FROM THE SITE AND TO PREVENT IT FROM STAYING UNCOLLECTED ON THE EXISTING PAVEMENT. ANY LOOSE EXCAVATED MATERIAL WHICH FALLS ON PAVEMENTS OR DRIVEWAYS SHALL BE SWEPT BACK INTO THE EXCAVATED AREA.

3. CONTRACTOR SHALL CLEAN UP THE EXISTING STREET INTERSECTIONS AND DRIVEWAYS DAILY, AS NECESSARY, TO REMOVE ANY EXCESS MUD, SILT OR ROCK TRACKED FROM THE EXCAVATED AREA.

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

5. CONTRACTOR TO INSPECT AND MAINTAIN THE AREAS LISTED BELOW AT LEAST ONCE EVERY FOURTEEN (14) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM EVENT OF 0.5 INCHES OR GREATER.

- DISTURBED AREAS OF THE CONSTRUCTION SITE THAT HAVE NOT BEEN FINALLY STABILIZED.
- AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION.
- STRUCTURAL CONTROL MEASURES.
- LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE.

6. CONTRACTOR TO BE RESPONSIBLE TO MAINTAIN EXISTING DITCHES AND OR CULVERTS FOR UNOBSTRUCTED DRAINAGE AT ALL TIMES. WHERE SODDING IS DISTURBED BY EXCAVATION ON BACKFILLING OPERATIONS, SUCH AREAS SHALL BE REPLACED BY SEEDING OR SODDING. SLOPES 4:1 OR STEEPER SHALL BE REPLACED BY BLOCK SODDING.

STREET & BRIDGE 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

SANITARY SEWER NOTES:

1. ALL SEWERS SHALL BE SUBJECT TO A STANDARD EXFILTRATION TEST. TESTS ARE TO BE PERFORMED ON THE TOTAL FOOTAGE OF SEWER LINE INCLUDED IN THE PROJECT. REQUIREMENTS OF TEXAS ADMINISTRATIVE CODE, TITLE 30 CHAPTER 217, "DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEMS" SHALL GOVERN WHERE CONFLICTS EXIST EXCEPT WHERE CITY REQUIREMENTS ARE MORE STRINGENT.

2. ALL MANHOLES ARE TO BE PER CITY OF HOUSTON STANDARD DETAILS DRAWING NUMBERS 02082-01, 02082-02, 02082N-02, 02082-03, AND 02082N-03 UNLESS OTHERWISE NOTED. USE THE LATEST VERSION AS APPLICABLE.

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

4. THE SANITARY SEWER PVC PIPE SHALL BE ASTM D 3034 TYPE PSM SDR 26 GRAVITY SEWER PIPE, ASTM D2241 SDR 26 PRESSURE RATED SEWER PIPE OR AWWA C-900 DR-18 GREEN PVC PRESSURE RATED SEWER PIPE BASED ON CONSTRUCTION CONDITION REQUIREMENT AND CONFORMING TO ASTM D1784 AND CITY OF HOUSTON STANDARD SPECIFICATION SECTION 02506 POLYVINYL CHLORIDE PIPE.

5. WHEN SS PRESSURE RATED PVC PIPE IS USED ON WATERLINE (WL) CROSSING UNDER CONDITION 1 OF COH IDM TABLE 7.3, THE SAME TYPE OF D2241 SDR 26 PVC PIPE OR C-900 GREEN DR-18 PVC GREEN PRESSURED TO BE UTILIZING IN-BETWEEN TWO SS MH'S. OR TO UTILIZE A DI TRANSITION ADAPTER FOR THE CONNECTING OF ASTM D-3034 PVC GRAVITY PIPE TO DI-OD AWWA C-900 PVC PIPE CENTERED AT WL WHEN CONNECTING TWO DIFFERENT TYPES OF PVC PIPES FOR SEWER CONSTRUCTION.

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

7. ALL SANITARY SEWER LINES UNDER PROPOSED OR FUTURE PAVEMENT AND TO A POINT ONE (1) FOOT BACK OF ALL PROPOSED OR FUTURE CURBS SHALL HAVE BEDDING PER CITY OF HOUSTON STANDARD DETAILS DRAWING NUMBERS 02317-01, 02317-02, OR 02317-03 AS APPLICABLE, WITH 1 ½ SACK CEMENT/CY STABILIZED SAND BACKFILL UP TO THE BOTTOM OF THE PAVEMENT SUBGRADE. 100 PSI PERFORMANCE RESULTS ARE STILL REQUIRED.

8. ALL NEW SANITARY SEWERS CROSSING WATER LINES WITH A CLEARANCE BETWEEN 12 INCHES AND 9 FEET SHALL HAVE A MINIMUM OF ONE 18' JOINT OF DUCTILE IRON OR (GREEN) C900 PVC PIPE MEETING ASTM SPECIFICATION D2241 CENTERED ON WATER LINE. WHEN WATER LINE IS BELOW SANITARY SEWER, PROVIDE MINIMUM 2 FOOT SEPARATION.

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

10. SANITARY SEWER MANHOLE RIMS OUTSIDE OF PROPOSED PAVING WILL BE SET 3" – 6" ABOVE THE SURROUNDING LEVEL FINISHED GRADE AFTER PAVING WITH SLOPED BACKFILL ADDED FOR STORM WATER TO DRAIN AWAY FROM MANHOLE RIM.

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

12. DEFLECTION TEST: DEFLECTION TESTS SHALL BE PERFORMED ON ALL FLEXIBLE AND SEMI-RIGID SEWER PIPE. THE TEST SHALL BE CONDUCTED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS. NO PIPE SHALL EXCEED A DEFLECTION OF 5% IF THE DEFLECTION TEST IS TO BE RUN USING A RIGID MANDREL, IT SHALL HAVE A DIAMETER EQUAL TO 95% OF THE INSIDE DIAMETER OF THE PIPE. THE TEST SHALL BE PERFORMED AS PER 30 TAC 217.57 LATEST AMENDMENT AND WITHOUT MECHANICAL PULLING DEVICES. NO BALL-TYPE MANDREL IS ALLOWED.

13. INFILTRATION, EXFILTRATION OR LOW-PRESSURE AIR TEST: EITHER OF THE FOLLOWING TESTS SHALL BE PERFORMED AS PER TAC, TITLE 30 217.57 WITHIN THE SPECIFIED TOLERANCES ON ALL GRAVITY SEWERS.

    A. INFILTRATION OR EXFILTRATION TEST: TOTAL LEAKAGE AS DETERMINED BY A HYDROSTATIC HEAD TEST SHALL NOT EXCEED 50 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS AT A MINIMUM TEST HEAD OF TWO (2) FEET.

    B. LOW-PRESSURE AIR TEST: PERFORM TEST ACCORDING TO UNI-B-6-90 OR OTHER APPROPRIATE PROCEDURES. FOR SECTIONS OF PIPE LESS THAN 36" (INCH) AVERAGE INSIDE DIAMETER, THE MINIMUM ALLOWABLE TIME FOR PRESSURE DROP FROM 3.5 P.S.I.G. TO 2.5 P.S.I.G. SHALL BE AS FOLLOWS:

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

    WHERE L=LENGTH OF LINE OF SAME PIPE SIZE IN FEET.

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

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

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STATE OF TEXAS
MATTHEW A. BUCHTER
156231
LICENSED PROFESSIONAL ENGINEER
6/4/2026

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NO. P-6341

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

GENERAL NOTES SHEET 1 OF 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 03 OF 79	

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

CENTERPOINT ENERGY NOTES:

CAUTION: UNDERGROUND GAS FACILITIES

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

- WHEN CENTERPOINT ENERGY PIPE LINE MARKINGS ARE NOT VISIBLE, CALL (713)-207-5463 OR (713)-945-8037 (7:00 AM TO 4:30 PM) FOR STATUS OF LINE LOCATION REQUEST BEFORE EXCAVATION BEGINS.
- WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18") OF THE INDICATED LOCATION OF CENTERPOINT ENERGY FACILITIES, ALL EXCAVATION MUST BE ACCOMPLISHED USING NON-MECHANIZED EXCAVATION PROCEDURES.
- WHEN CENTERPOINT ENERGY FACILITIES ARE EXPOSED, SUFFICIENT SUPPORT MUST BE PROVIDED TO THE FACILITIES TO PREVENT EXCESSIVE STRESS ON THE PIPING.
- FOR EMERGENCIES REGARDING GAS LINES CALL (713)-659-2111 OR (713)-207-4200.

THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY DAMAGES CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND FACILITIES.

WARNING: OVERHEAD ELECTRICAL LINES:

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

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

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

ACTIVITIES ON/OR ACROSS CENTERPOINT ENERGY FEE OR EASEMENT PROPERTY

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

WARNING: UNDERGROUND ELECTRICAL UTILITIES

THE CONTRACTOR SHALL CONTACT THE UTILITY COORDINATING COMMITTEE AT 1-800-545-6005 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 THERE TO. 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.

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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STATE OF TEXAS
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6/4/2026

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TBPELS ENGINEERING FIRM #312

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NO. P-6341

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

GENERAL NOTES SHEET 2 OF 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 04 OF 79	

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.

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: 35 MPH. THE POSTED SPEED LIMIT IS: 35 MPH.
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).

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STATE OF TEXAS
MATTHEW A. BUSHTER
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

GENERAL NOTES SHEET 3 OF 3

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ABBREVIATIONS:

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

ABBREVIATIONS:

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

ABBREVIATIONS:

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

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HOUSTON PUBLIC WORKS

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PLOT STYLE: Coh.ctb

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EXISTING PLAN VIEW

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

PROPOSED PLAN VIEW

- WATER METER
- WATER VALVE (GATE)
- WATER VALVE (BUTTERFLY)
- FIRE HYDRANT/FLUSHING VALVE
- TAPPING SLEEVE & VALVE
- REDUCER
- ROUND CONNECTION
- SANITARY SEWER CLEANOUT & MANHOLE
- STORM SEWER MANHOLE
- STORM SEWER INLETS
- CULVERT PIPE AND HEADWALL
- TOP OF CURB ELEVATION
- 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
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- UNKNOWN UNDERGROUND LINE
- OIL PIPELINE
- UNDERGROUND TELCOMM LINE W/ VAULT
- AERIAL TELECOMM LINE
- RAILROAD LINE
- WATER LINE
- SANITARY SEWER LINE
- STORM SEWER LINE
- SANITARY SEWER FORCE MAIN
- RECLAIMED WATER LINE
- NON-POTABLE WATER LINE
- GAS METER
- GAS VALVE
- PROPANE LINE
- STEAM LINE
- MISC UNDERGROUND PIPELINE LABLE
- MATCH LINE

EXISTING PLAN VIEW

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

EXISTING PROFILE VIEW

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

PROPOSED PLAN VIEW

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

PROPOSED PROFILE VIEW

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

MISC STANDARD ELEMENTS

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

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AVO: 36763.001 WO43

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NO. P-6341

MATTHEW A. BUCHTER 156231 LICENSED PROFESSIONAL ENGINEER 6/4/2026

The seal appearing on this document was authorized by Matthew A. Buchter, P.E. 6/4/2026

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TBPELS ENGINEERING FIRM #312

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

SYMBOLS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 07 OF 79	

PLOT STYLE: Coh.ctb

A:\36000s\36763\001\WO43\Cadd\Sheets\C0.05-PLAN-ABBR-36763.001.dwg08 FIRM MAP Jun 04 , 2026 – 2:46PM ah5647

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study Report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction, and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures in this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator, Zone 15. The **horizontal datum** was NAD83, GRS80 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit their website at http://www.ngs.noaa.gov/.

Base map information shown on this FIRM was provided in digital format by the Houston-Galveston Area Council and was revised and enhanced by Harris County.

This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

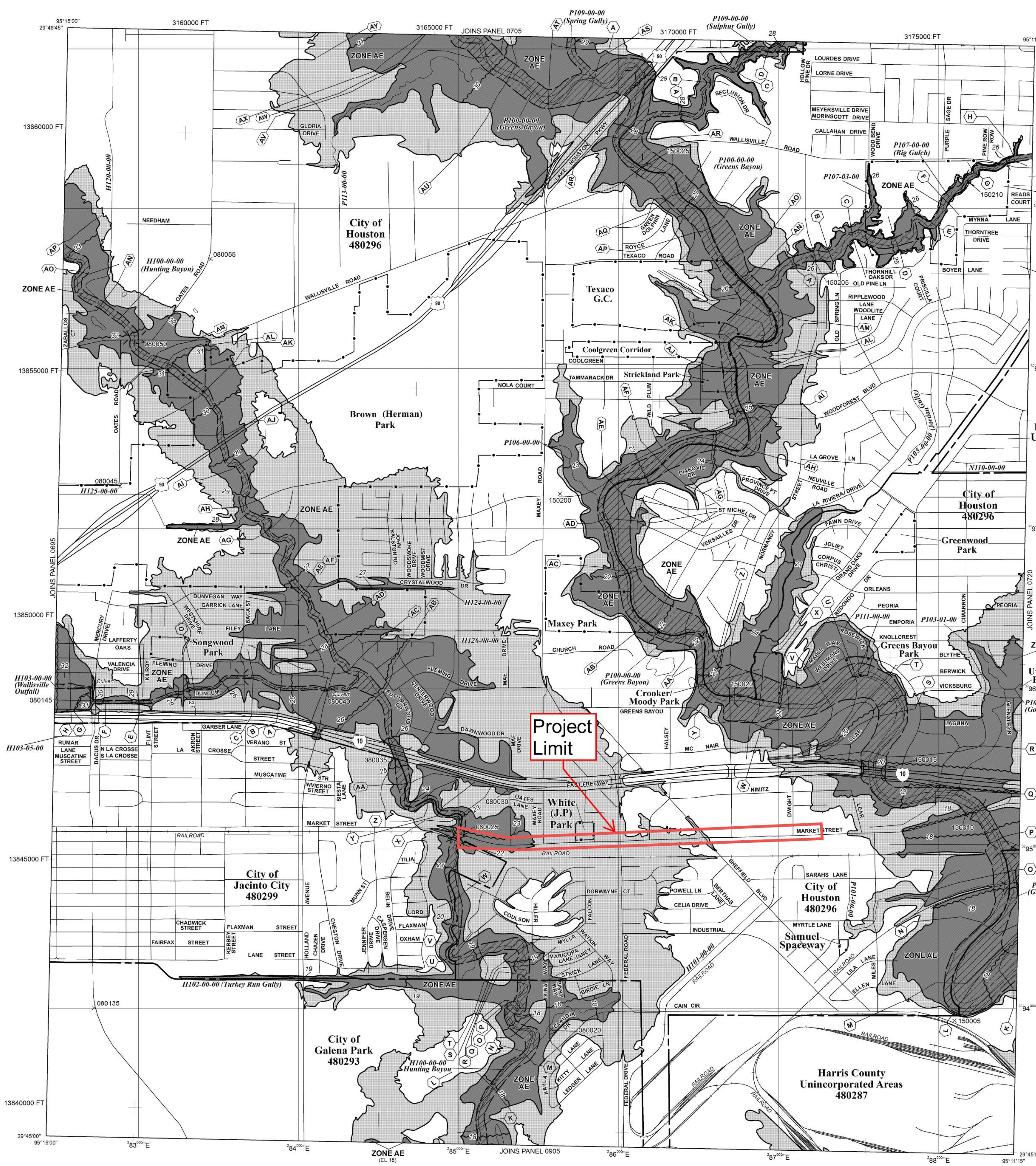
Contact the **FEMA Map Information eXchange** at 1-877-336-2627 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Information eXchange may also be reached by Fax at 1-800-358-9620 and their website at http://www.msc.fema.gov/.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/national-flood-insurance-program.

Vertical Datum Adjustment due to subsidence is the 2001 adjustment.

Benchmarks shown on this map were provided by either Harris County or the National Geodetic Survey. To obtain elevation, description, and location information for benchmarks provided by Harris County, please contact the Permits Office of the Engineering Department at 713-274-3900 or visit their website at http://www.eng.hctx.net/permits. For information regarding the benchmarks provided by National Geodetic Survey, please see note above.

Some bridges and other structures shown on the detailed studied streams are not labeled. See corresponding flood profile for appropriate names.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

	Floodplain boundary
	Floodway boundary
	Zone D boundary
	CBRS and OPA boundary
	Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
~~ 513 ~~~	Base Flood Elevation line and value; elevation in feet*
(EL 987)	Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

(A)——(A)	Cross section Line
(23)- - - -(23)	Transect line
87°07'45", 32°22'30"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
²⁴76⁰⁰⁰ᵐN	1000-meter Universal Transverse Mercator grid values, zone 15N
600000 FT	5000-foot grid values: Texas State Plane coordinate system, South Central zone (FIPSZONE 4204), Lambert Conformal Conic projection
DX5510 ×	Bench mark (see explanation in Notes to Users section of this FIRM panel)
● M1.5	River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP

September 28, 1990

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
September 30, 1992
November 6, 1996
April 20, 2000
June 18, 2007
January 6, 2017

FOR REASON OF REVISION
SEE NOTICE TO FLOOD INSURANCE STUDY USERS IN THE FIS REPORT

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

N

MAP SCALE 1" = 1000'

500 0 1000 2000 FEET
300 0 300 600 METERS

NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0715M

FIRM
FLOOD INSURANCE RATE MAP

HARRIS COUNTY, TEXAS
AND INCORPORATED AREAS

PANEL 715 OF 1150
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
GALENA PARK, CITY OF	480293	0715	M
HARRIS COUNTY	480287	0715	M
HOUSTON, CITY OF	480296	0715	M
JACINTO CITY, CITY OF	480299	0715	M

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
48201C0715M

MAP REVISED
JANUARY 6, 2017

Federal Emergency Management Agency

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9303 NEW TRAILS DR, SUITE 400
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AVO: 36763.001 WO43

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NO. P-6341

STATE OF TEXAS
MATTHEW A. BUCHTER
156231
LICENSED PROFESSIONAL ENGINEER

6/4/2026

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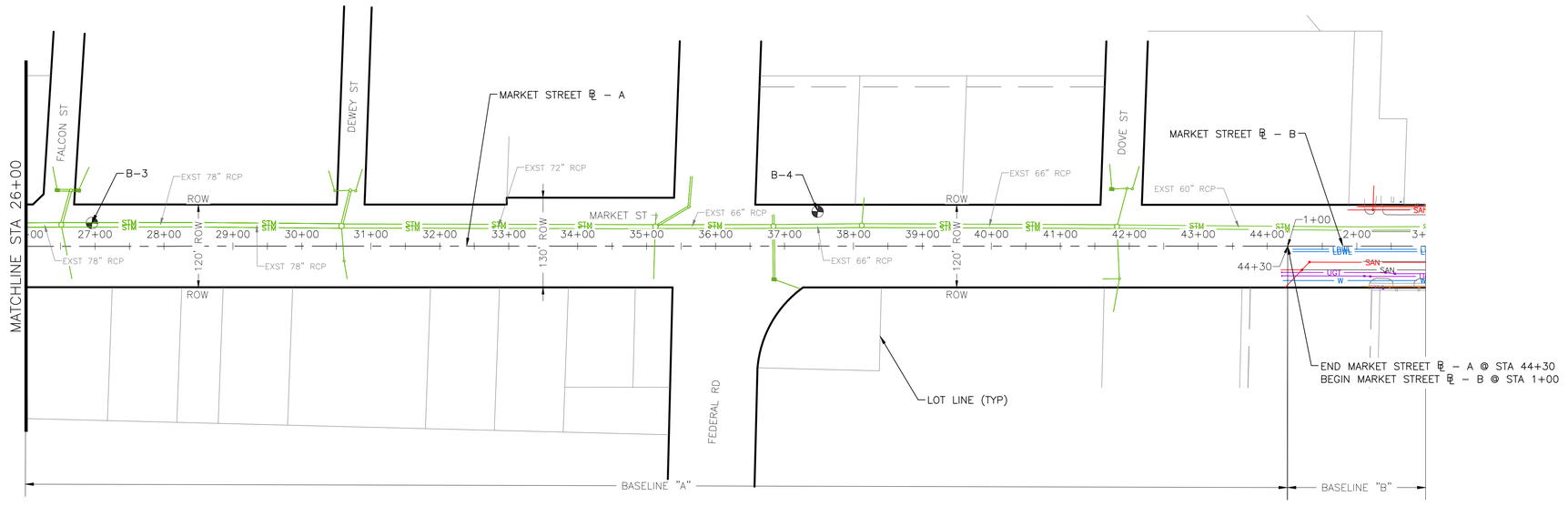
TBPELS ENGINEERING FIRM #F-312

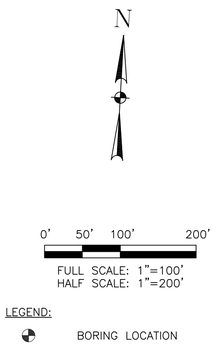
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

FIRM MAP

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 08 OF 79	





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THE WOODLANDS, TEXAS 77381
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TBPELS ENGINEERING FIRM # 312

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

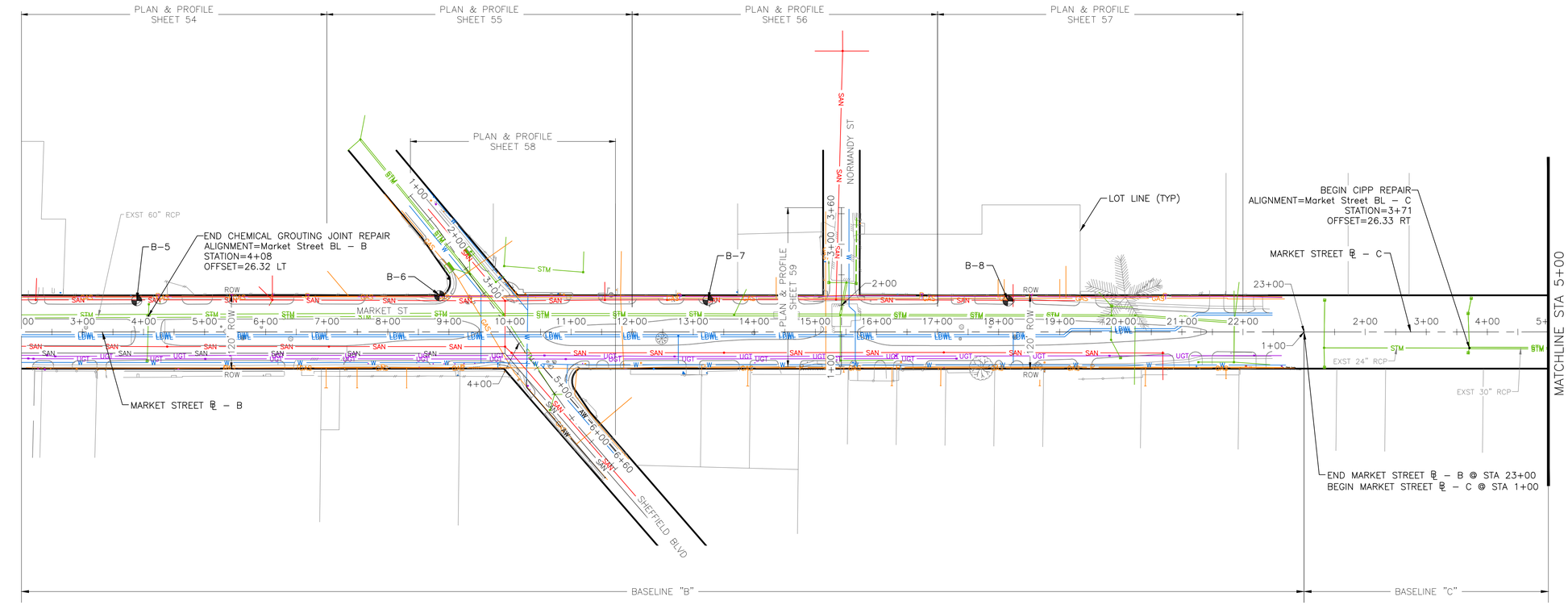
MARKET STREET STORM SEWER IMPROVEMENTS

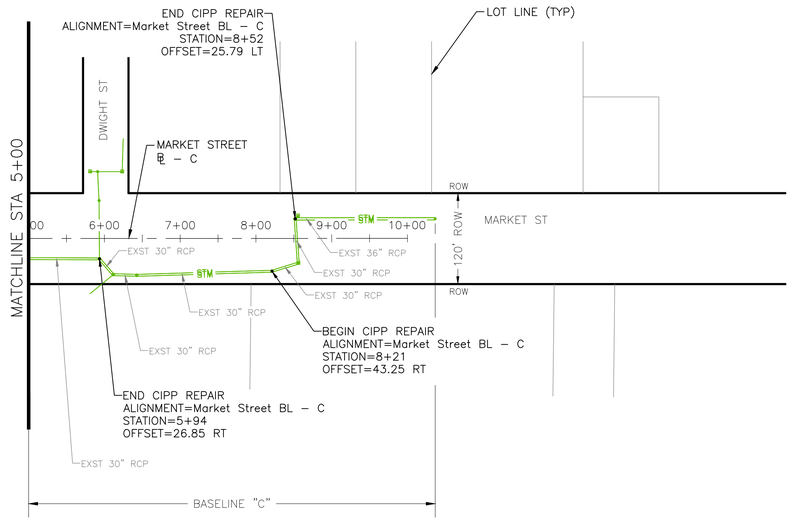
PROJECT LAYOUT
SHEET 1 OF 2

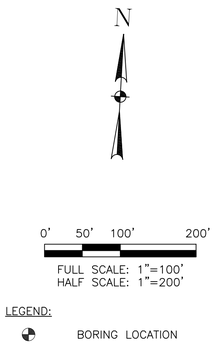
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 09 OF 79	

PLOT STYLE: Coh.ctb

A:\36000s\36763\001\W043\Cadd\Sheets\C0.07-PLAN-PROJ-36763.001.dwg09 PROJECT LAYOUT Jun 04, 2026 - 2:46PM ah5647







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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

PROJECT LAYOUT SHEET 2 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 10 OF 79	

```
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File: A:\36000s\36763\001\WO43\Cadd\SourceFiles\C-SRCE-ALGN-36763-001.WO43.dwg
Report Date: 1/13/2025 10:50:51 AM
Alignment Name: Market Street BL - A
Station Range: Start:   1+00.00, End: 44+30.00
Description:
**********************************************************************

Begin Market Street BL - A
   N 13,847,436.9463   E 3,166,531.9053                    1+00.00

Line (1)
   S74° 27' 45.19"E    464.477'
   N 13,847,312.5277   E 3,166,979.4082                    5+64.48
Line (1)

Curve (2)
   BC     N 13,847,312.5277   E 3,166,979.4082             5+64.48
   CTR    N 13,847,505.2188   E 3,167,032.9818
   PI     N 13,847,309.0631   E 3,166,991.8696

      Direction Back   S74° 27' 45.19"E
         Radius       200.000'
         Delta        7°24'01"(LT)
         Length       25.832'
         Tangent      12.934'
         Chord Direction      S78° 09' 45.86"E   Distance   25.814'
      Direction Ahead S81° 51' 46.54"E

   EC     N 13,847,307.2324   E 3,167,004.6734             5+90.31
Curve (2)

Line (3)
   S81° 51' 46.54"E    619.285'
   N 13,847,219.5776   E 3,167,617.7241                   12+09.59
Line (3)

Curve (4)
   BC     N 13,847,219.5776   E 3,167,617.7241             12+09.59
   CTR    N 13,847,417.5641   E 3,167,646.0325
   PI     N 13,847,216.3412   E 3,167,640.3592

      Direction Back   S81° 51' 46.54"E
         Radius       200.000'
         Delta        13°02'39"(LT)
         Length       45.533'
         Tangent      22.865'
         Chord Direction      S88° 23' 06.11"E   Distance   45.435'
      Direction Ahead N85° 05' 34.31"E

   EC     N 13,847,218.2971   E 3,167,663.1407             12+55.13
Curve (4)

Line (5)
   N85° 05' 34.31"E    3,174.871'
   N 13,847,489.8789   E 3,170,826.3750                   44+30.00
Line (5)

   N 13,847,489.8789   E 3,170,826.3750                   44+30.00
End Market Street BL - A

**********************************************************************
Alignment Length: 4,329.999'
**********************************************************************


**********************************************************************
File: A:\36000s\36763\001\WO43\Cadd\SourceFiles\C-SRCE-ALGN-36763-001.WO43.dwg
Report Date: 1/13/2025 10:50:51 AM
Alignment Name: Market Street BL - B
Station Range: Start:   1+00.00, End: 23+00.00
Description:
**********************************************************************

Begin Market Street BL - B
   N 13,847,489.8789   E 3,170,826.3750                    1+00.00

Line (1)
   N85° 06' 35.58"E    2,200.000'
   N 13,847,677.4180   E 3,173,018.3671                   23+00.00
Line (1)

   N 13,847,677.4180   E 3,173,018.3671                   23+00.00
End Market Street BL - B

**********************************************************************
Alignment Length: 2,200.000'
**********************************************************************


**********************************************************************
File: A:\36000s\36763\001\WO43\Cadd\SourceFiles\C-SRCE-ALGN-36763-001.WO43.dwg
Report Date: 1/13/2025 10:50:51 AM
Alignment Name: Market Street BL - C
Station Range: Start:   1+00.00, End: 10+00.00
Description:
**********************************************************************

Begin Market Street BL - C
   N 13,847,677.4180   E 3,173,018.3671                    1+00.00

Line (1)
   N85° 05' 34.31"E    900.000'
   N 13,847,754.4050   E 3,173,915.0682                   10+00.00
Line (1)

   N 13,847,754.4050   E 3,173,915.0682                   10+00.00
End Market Street BL - C

**********************************************************************
Alignment Length: 900.000'
**********************************************************************
```

```
**********************************************************************
FILE: A:\36000S\36763\001\WO43\CADD\SOURCEFILES\C-SRCE-ALGN-36763-001.WO43.DWG
REPORT DATE: 2/5/2025 1:31:07 PM
ALIGNMENT NAME: SHEFFIELD BOULEVARD BL
STATION RANGE: START:   1+00.00, END: 6+60.00
DESCRIPTION:
**********************************************************************

BEGIN SHEFFIELD BOULEVARD BL
   N 13,847,774.7192   E 3,171,541.5379                    1+00.00

LINE (1)
   S44° 53' 23.29"E    65.107'
   N 13,847,728.5928   E 3,171,587.4872                    1+65.11
LINE (1)

LINE (2)
   S40° 15' 05.00"E    396.375'
   N 13,847,426.0727   E 3,171,843.6020                    5+61.48
LINE (2)

LINE (3)
   S45° 53' 23.29"E    98.518'
   N 13,847,357.5002   E 3,171,914.3381                    6+60.00
LINE (3)

   N 13,847,357.5002   E 3,171,914.3381                    6+60.00
END SHEFFIELD BOULEVARD BL

**********************************************************************
ALIGNMENT LENGTH: 560.000'
**********************************************************************


**********************************************************************
FILE: A:\36000S\36763\001\WO43\CADD\SOURCEFILES\C-SRCE-ALGN-36763-001.WO43.DWG
REPORT DATE: 2/5/2025 1:31:07 PM
ALIGNMENT NAME: NORMANDY STREET BL
STATION RANGE: START:   1+00.00, END: 3+60.00
DESCRIPTION:
**********************************************************************

BEGIN NORMANDY STREET BL
   N 13,847,556.5759   E 3,172,268.5825                    1+00.00

LINE (1)
   N4° 53' 23.29"W    260.000'
   N 13,847,815.6293   E 3,172,246.4203                    3+60.00
LINE (1)

   N 13,847,815.6293   E 3,172,246.4203                    3+60.00
END NORMANDY STREET BL

**********************************************************************
ALIGNMENT LENGTH: 260.000'
**********************************************************************
```


halff
TBPELS ENGINEERING FIRM #312
9303 NEW TRAILS DR, SUITE 400
THE WOODLANDS, TEXAS 77381
TEL (936) 777-6400
FAX (936) 756-6833
AVO: 36763.001 WO43

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NO. P-6341

STATE OF TEXAS
MATTHEW A. BUCHTER
156231
LICENSED
PROFESSIONAL ENGINEER
6/4/2026

CITY OF HOUSTON

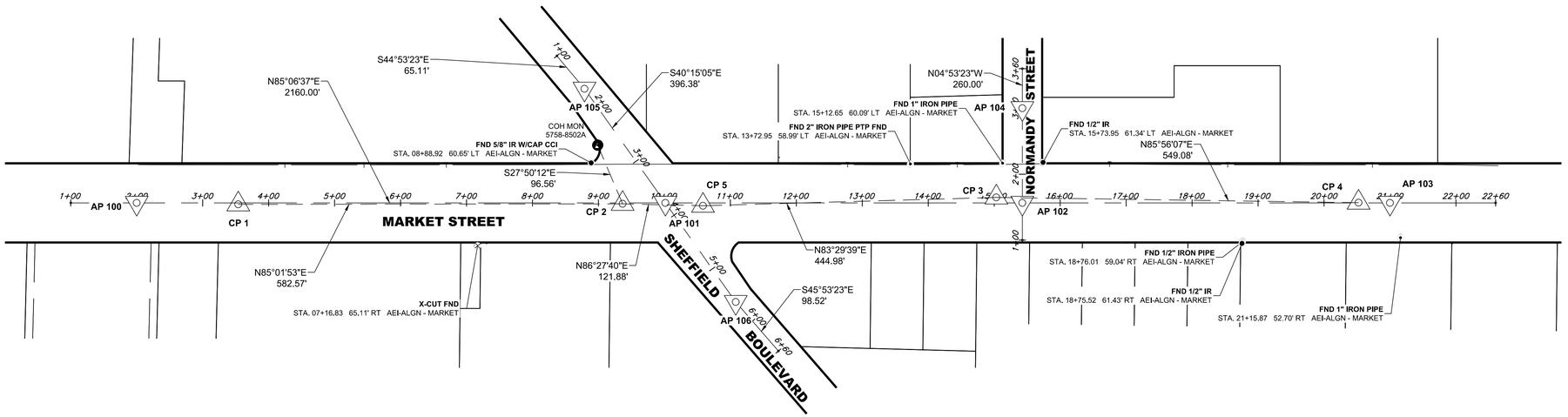
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

ALIGNMENT DATA SHEET

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 11 OF 79	

NO.	DATE	REVISION	APP.
1	4/10/25	UPDATE SWINGTIES	WHR



0 50 100

SCALE IN FEET
FULL SIZE: 1"=100'
HALF SIZE: 1"=200'

NOTES:

1. ALL BEARINGS AND COORDINATES ARE BASED ON THE TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE (4204) NORTH AMERICAN DATUM OF 1983 (2011 ADJ) 2010 EPOCH. COORDINATES SHOWN HEREON ARE GRID VALUES AND ALL DISTANCES SHOWN ARE SURFACE VALUES. THE COMBINED SCALE FACTOR IS 0.99989478.
2. GRID COORDINATES/SCALE FACTOR = SURFACE COORDINATES.
3. FIELD DATA COLLECTED OCTOBER 2024.
4. ALL ELEVATIONS SHOWN HEREON ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) GEOID 18. ALL CONTROL NETWORK ELEVATIONS ARE TIED TO CITY OF HOUSTON MONUMENT 5758-8502A USING DIFFERENTIAL LEVELING.

PROJECT BENCH MARK:

STATIC GPS OBSERVATION OF CITY OF HOUSTON MONUMENT 5758-8502A MADE ON 10/28/2024. AN ALUMINUM DISK LOCATED ON THE NORTHWEST CORNER OF MARKET STREET AND SHEFFIELD BOULEVARD.
ELEVATION = 24.76'. (NAVD 88 GEOID 18)

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

SURVEYED BY: AMANI
FB NO. P-6341

STATE OF TEXAS REGISTERED WILLIAM H. REIMER III 4044 PROFESSIONAL LAND SURVEYOR

William H. Reimer III
04-10-2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET
SURVEY CONTROL MAP

SHEET 1 OF 2

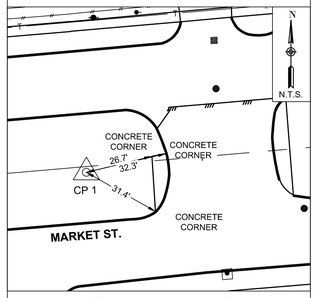
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3(WO#43.2)	
DRAWING SCALE	
1" =100"	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 12 OF 79	

FILE PATH: P:\Cadd\2024\24015 - Halff - Market Street WO#43.2\CAD_DWG\Survey Control Drawings\24015-Control-Market.dwg

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

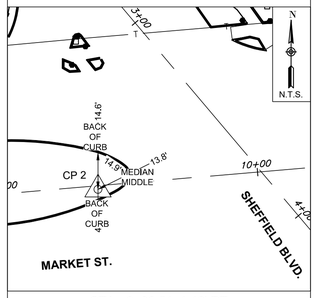
NO.	DATE	REVISION	APP.
1	4/10/25	UPDATE SWINGTIES	WHR

CP 1 -- 5/8" IRON ROD w/CAP



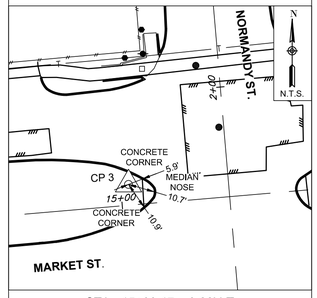
STA. 3+53.92, 2.27' RT
MARKET STREET BASELINE

CP 2 -- 5/8" IRON ROD w/CAP



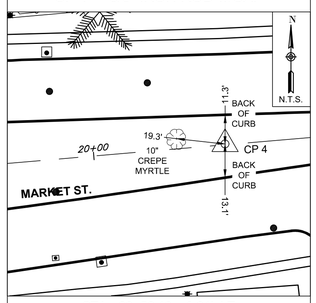
STA. 9+36.51, 1.46' RT
MARKET STREET BASELINE

CP 3 -- 5/8" IRON ROD w/CAP



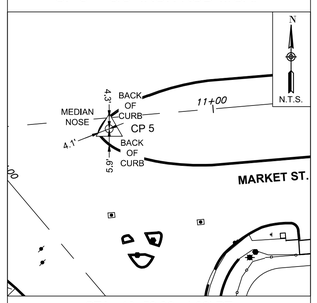
STA. 15+03.17, 8.22' LT
MARKET STREET BASELINE

CP 4 -- 5/8" IRON ROD w/CAP



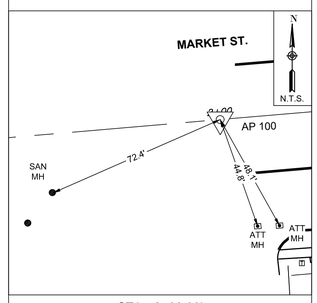
STA. 20+52.19, 0.31' LT
MARKET STREET BASELINE

CP 5 -- 5/8" IRON ROD w/CAP



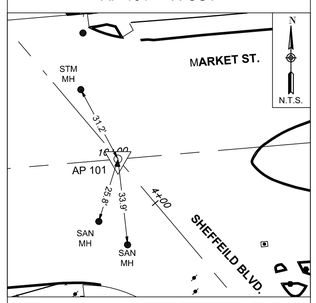
STA. 10+58.36, 4.33' RT
MARKET STREET BASELINE

AP 100 -- 5/8" IRON ROD w/CAP



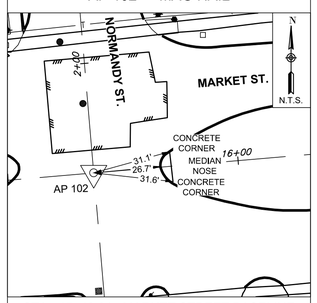
STA. 2+00.00'
MARKET STREET BASELINE

AP 101 -- X-CUT



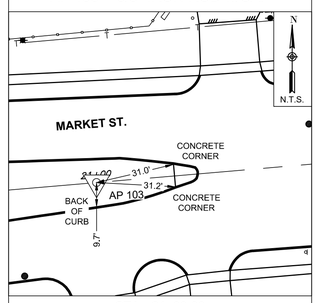
STA. 10+01.44, MARKET STREET BASELINE
STA. 3+77.20, SHEFFIELD BLVD BASELINE

AP 102 -- MAG NAIL



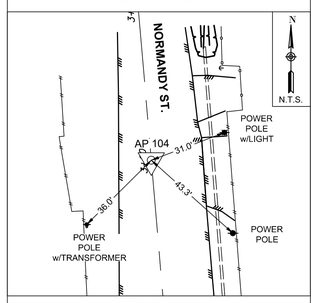
STA. 15+42.64, MARKET STREET BASELINE
STA. 1+56.48, NORMANDY STREET BASELINE

AP 103 --5/8" IRON ROD w/CAP



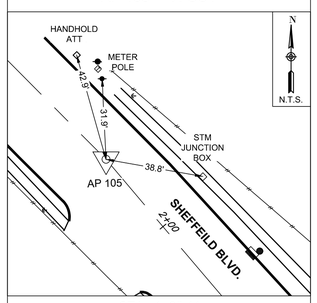
STA. 21+00.00
MARKET STREET BASELINE

AP 104 -- MAG NAIL



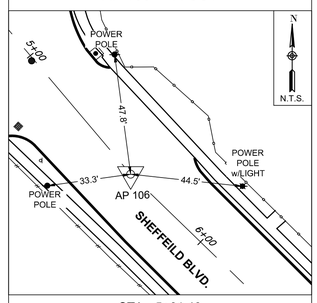
STA. 3+00.00
NORMANDY STREET BASELINE

AP 105 -- X-CUT



STA. 1+65.11
SHEFFIELD BLVD BASELINE

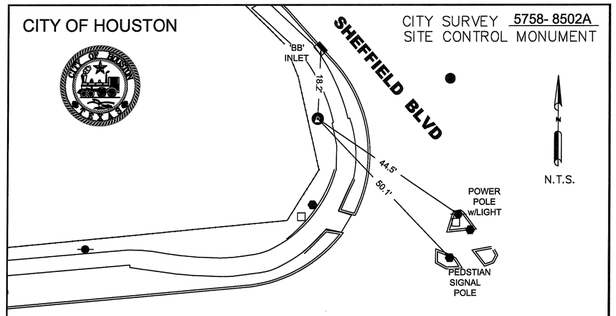
AP 106 -- X-CUT



STA. 5+61.48
SHEFFIELD BLVD BASELINE

CITY OF HOUSTON

CITY SURVEY 5758-8502A
SITE CONTROL MONUMENT



MARKET STREET
(WEST BOUND)

Project WBS# M-430220-0040-3
Texas Coordinate System of 1983,
South Central Zone, U. S. Survey Feet
X= 3,171,281.16
Y= 13,846,188.07

Lat.= N 29° 46' 3.7863"
Lon.= W 95° 12' 29.2707"

Keymap Page: 496M
Orthometric Elevation = 24.76
Ellipsoid Height= -64.75
Geoid: GEOID 18
Datum Source & Adjustment:
2-HR STATIC GPS OBSERVATION
MADE ON MONUMENT ON 10/28/2024

Reference Frame Used: NAD_83(2011)(EPOCH: 2010.0000)
Vertical Adjustment used: NAVD 88 GEOID18
General Location: LOCATED IN THE NORTHWEST CORNER OF MARKET STREET AND SHEFFIELD BOULEVARD.

Date Set: OCTOBER 28, 2024 Type of Mark: COH ALUMINUM DISK

3 Nearest project control points (bearings and distances stated below):
1. CP #2, 5/8 IRON ROD CAPPED 'AMANI', S 27° 50' 12" E, 96.56'
2. CP #5, 5/8 IRON ROD CAPPED 'AMANI', S 64° 58' 07" E, 184.03'
3. CP #1, 5/8 IRON ROD CAPPED 'AMANI', S 75° 45' 34" W, 552.28'

NOTE:
1. Bearings are grid bearings.
2. Combined Factor (C.F)= 0.99989478.

Surface= Grid / C.F.

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

STATE OF TEXAS REGISTERED CHRISTINA I. WEAVER 6753 PROFESSIONAL LAND SURVEYOR 1.7.25

P:\Cadd\2024\24015 - Halff - Market Street WO#43.2\Field Data\Monuments\CofH Mon_5558-8502A.dwg

NOTES:

1. ALL BEARINGS AND COORDINATES ARE BASED ON THE TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE (4204) NORTH AMERICAN DATUM OF 1983 (2011 ADJ) 2010 EPOCH. COORDINATES SHOWN HEREON ARE GRID VALUES AND ALL DISTANCES SHOWN ARE SURFACE VALUES. THE COMBINED SCALE FACTOR IS 0.99989478.
2. GRID COORDINATES/SCALE FACTOR = SURFACE COORDINATES.
3. FIELD DATA COLLECTED OCTOBER 2024.
4. ALL ELEVATIONS SHOWN HEREON ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) GEOID 18. ALL CONTROL NETWORK ELEVATIONS ARE TIED TO CITY OF HOUSTON MONUMENT 5758-8502A USING DIFFERENTIAL LEVELING.

PROJECT BENCH MARK:

STATIC GPS OBSERVATION OF CITY OF HOUSTON MONUMENT 5758-8502A MADE ON 10/28/2024. AN ALUMINUM DISK LOCATED ON THE NORTHWEST CORNER OF MARKET STREET AND SHEFFIELD BOULEVARD.
ELEVATION = 24.76'. (NAVD 88 GEOID 18)

CP No.	GRID Northing	GRID Easting	Elevation (ft)	Description	Station	Baseline
1	13,846,052.23	3,170,745.91	25.29	5/8" IR w/CAP	STA. 3+53.92, 2.27' RT	MARKET STREET
2	13,846,102.69	3,171,326.24	25.37	5/8" IR w/CAP	STA. 9+36.51, 1.46' RT	MARKET STREET
3	13,846,160.63	3,171,889.95	25.86	5/8" IR w/CAP	STA. 15+03.17, 8.22' LT	MARKET STREET
4	13,846,199.54	3,172,437.60	26.75	5/8" IR w/CAP	STA. 20+52.19, 0.31' LT	MARKET STREET
5	13,846,110.21	3,171,447.88	25.39	5/8" IR w/CAP	STA. 10+58.36, 4.33' RT	MARKET STREET

AP No.	GRID Northing	GRID Easting	Description	Station	Baseline
100	13,846,041.37	3,170,592.37	5/8" IR w/CAP	STA. 2+00.00	MARKET STREET
101	13,846,109.68	3,171,390.80	X-CUT	STA. 10+01.44	MARKET STREET
102	13,846,155.80	3,171,929.98	MAG NAIL	STA. 15+42.64	MARKET STREET
103	13,846,203.31	3,172,485.25	5/8" IR w/CAP	STA. 21+00.00	MARKET STREET
104	13,846,298.79	3,171,917.75	MAG NAIL	STA. 3+00.00	NORMANDY STREET
105	13,846,271.53	3,171,253.77	X-CUT	STA. 1+65.11	SHEFFIELD BLVD
106	13,845,969.05	3,171,509.86	X-CUT	STA. 5+61.48	SHEFFIELD BLVD

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

SURVEYED BY: AMANI
FB NO. P-6341

STATE OF TEXAS REGISTERED WILLIAM H. REIMER III 4044 PROFESSIONAL LAND SURVEYOR
William H. Reimer III 04-10-2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

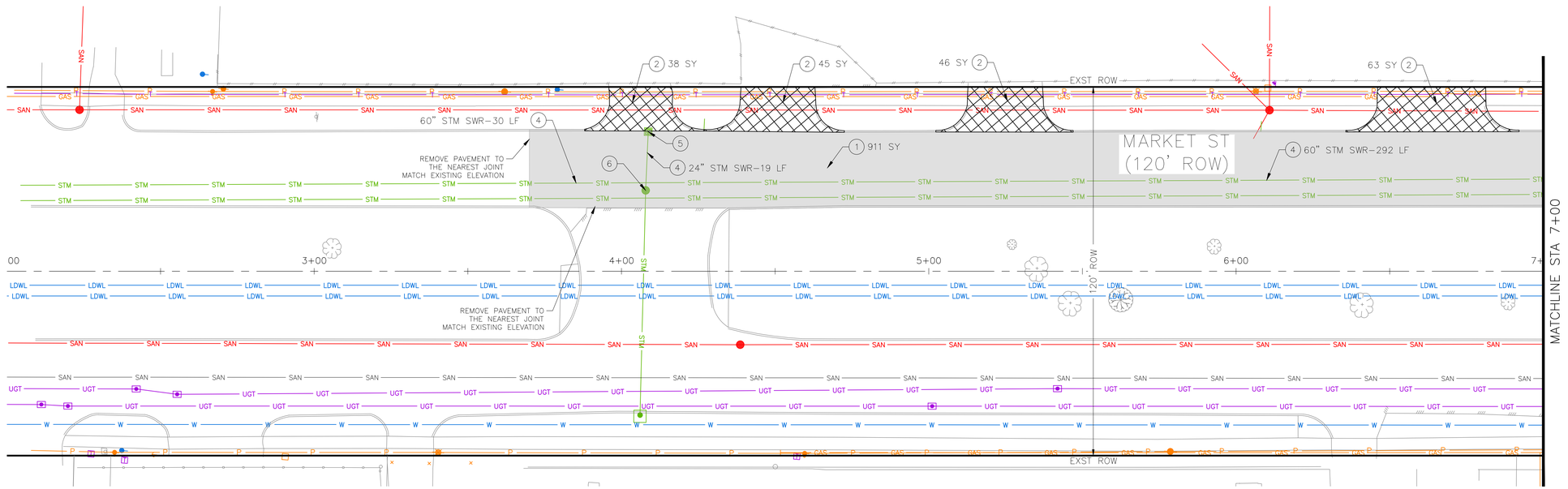
MARKET STREET
SURVEY CONTROL MAP

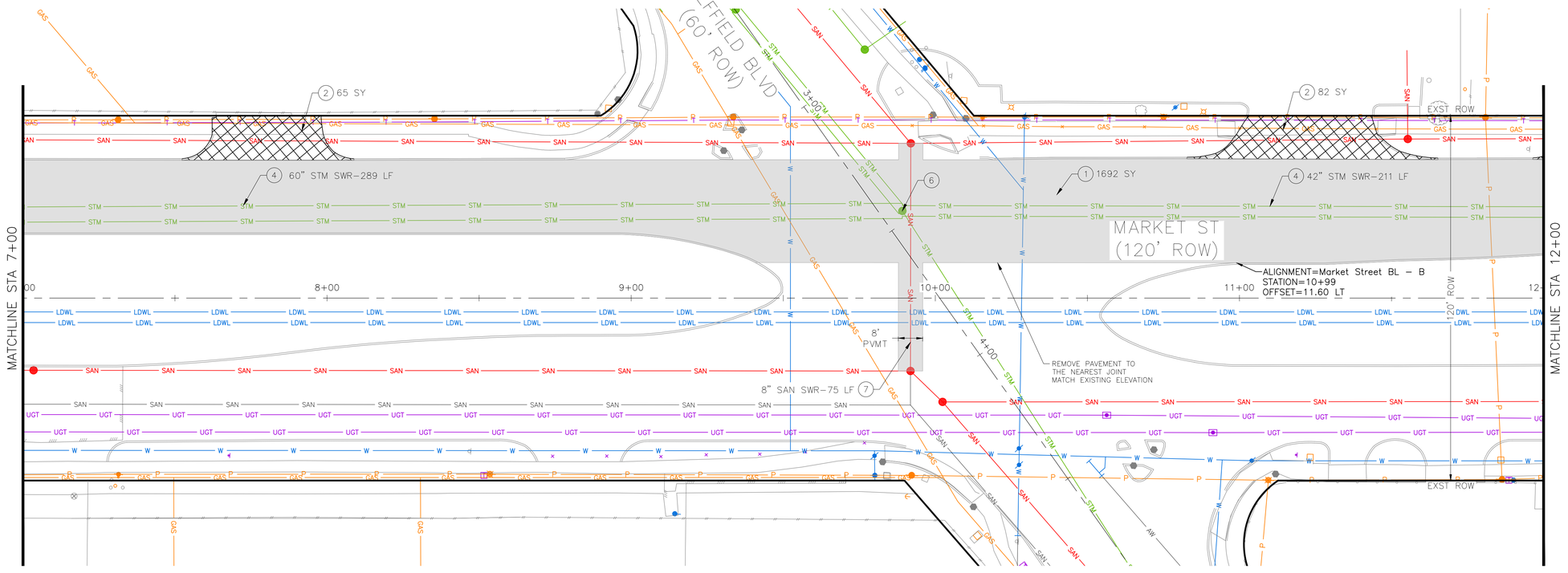
SHEET 2 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3(WO#43.2)	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 13 OF 79	

FILE PATH: P:\Cadd\2024\24015 - Halff - Market Street WO#43.2\CAD_DWG\Survey Control Drawings\24015-Control-Market.dwg

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS





0' 10' 20' 40'

FULL SCALE: 1"=20'
HALF SCALE: 1"=40'

KEY NOTES

1. REMOVE AND DISPOSE OF EXISTING CONCRETE PAVEMENT, CONCRETE CURB AND GUTTER, CONCRETE BASE, AND CEMENT STABILIZED SHELL COURSE WITH OR WITHOUT ASPHALT SURFACING (ALL THICKNESSES).
2. REMOVE AND DISPOSE OF EXISTING DRIVEWAY WITH CURB AND SAWCUT AT RIGHT-OF-WAY UNLESS OTHERWISE INDICATED ON THE PLANS.
3. REMOVE AND DISPOSE OF EXISTING SIDEWALK AND/OR SIDEWALK RAMP.
4. REMOVE AND DISPOSE OF EXISTING STORM SEWER.
5. REMOVE AND DISPOSE OF EXISTING INLET.
6. REMOVE AND DISPOSE OF EXISTING MANHOLE TO FULL DEPTH.
7. REMOVE AND DISPOSE OF EXISTING SANITARY SEWER FROM MANHOLE TO MANHOLE.
8. CONTRACTOR TO SAWCUT EXISTING CONCRETE PAVEMENT AND DRIVEWAYS AT REMOVAL LIMITS SHOWN.

REMOVE AND DISPOSE EXIST CONCRETE PAVEMENT

REMOVE AND DISPOSE EXIST CONCRETE DRIVEWAY

REMOVE AND DISPOSE EXIST CONCRETE SIDEWALK AND/OR SIDEWALK RAMP

halff
TBPELS ENGINEERING FIRM #312
9303 NEW TRAILS DR. SUITE 400
THE WOODLANDS, TEXAS 77381
TEL (936) 777-6400
FAX (936) 756-6833
AVO: 36763.001 WO43

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NO. P-6341

STATE OF TEXAS
MATTHEW A. BUCHTER
115622
LICENSED PROFESSIONAL ENGINEER
6/4/2026

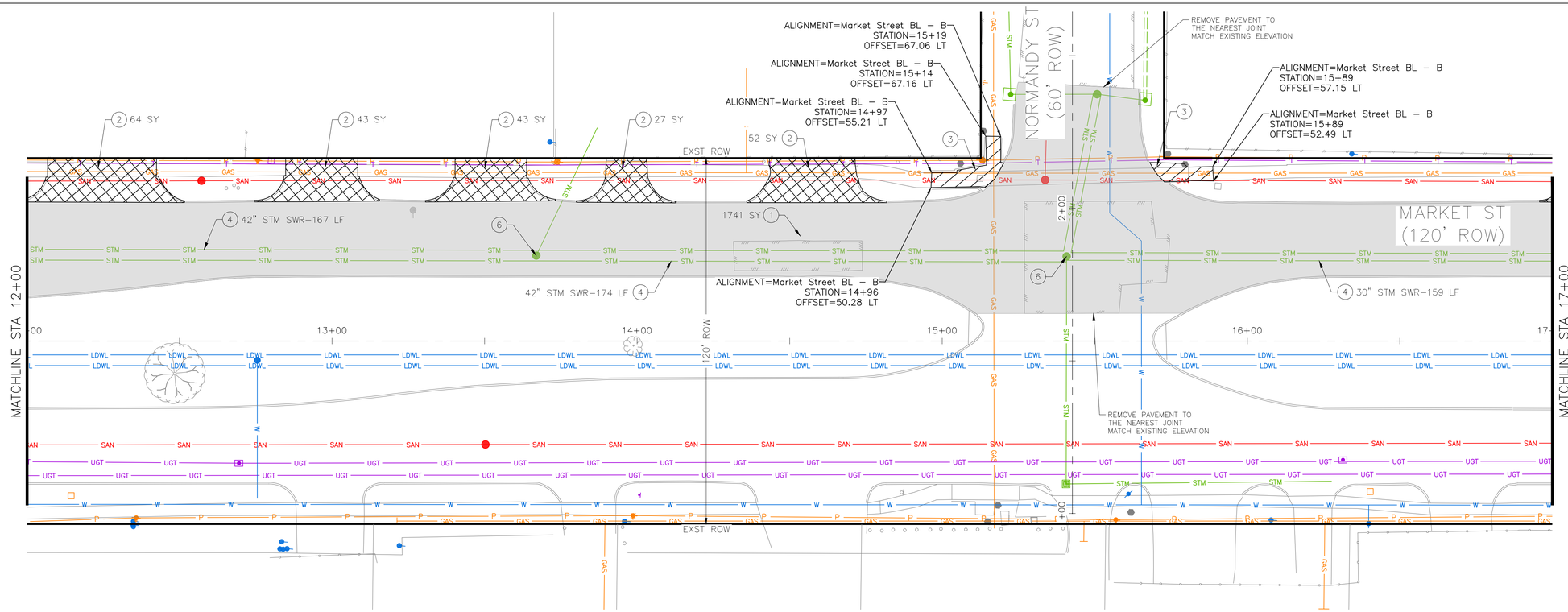
The seal appearing on this document was authorized by Matthew A. Buchter, PE # 115622 on 6/4/2026
Alteration of a sealed document without proper notification to the responsible engineer is an offense under the Texas Engineering Practice Act. The record copy of this drawing is on file at the office of Halff Associates, Inc. 9303 New Trails Drive, Suite 400 The Woodlands, Texas 77381
TBPELS ENGINEERING FIRM # 312

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

DEMOLITION PLAN SHEET 1 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 14 OF 79	



N

0' 10' 20' 40'

FULL SCALE: 1"=20'
HALF SCALE: 1"=40'

KEY NOTES

1. REMOVE AND DISPOSE OF EXISTING CONCRETE PAVEMENT, CONCRETE CURB AND GUTTER, CONCRETE BASE, AND CEMENT STABILIZED SHELL COURSE WITH OR WITHOUT ASPHALT SURFACING (ALL THICKNESSES).
2. REMOVE AND DISPOSE OF EXISTING DRIVEWAY WITH CURB AND SAWCUT AT RIGHT–OF–WAY UNLESS OTHERWISE INDICATED ON THE PLANS.
3. REMOVE AND DISPOSE OF EXISTING SIDEWALK AND/OR SIDEWALK RAMP.
4. REMOVE AND DISPOSE OF EXISTING STORM SEWER.
5. REMOVE AND DISPOSE OF EXISTING INLET.
6. REMOVE AND DISPOSE OF EXISTING MANHOLE TO FULL DEPTH.
7. REMOVE AND DISPOSE OF EXISTING SANITARY SEWER.
8. CONTRACTOR TO SAWCUT EXISTING CONCRETE PAVEMENT AND DRIVEWAYS AT REMOVAL LIMITS SHOWN.

REMOVE AND DISPOSE EXIST CONCRETE PAVEMENT

REMOVE AND DISPOSE EXIST CONCRETE DRIVEWAY

REMOVE AND DISPOSE EXIST CONCRETE SIDEWALK AND/OR SIDEWALK RAMP

halff
TBPELS ENGINEERING FIRM #312
9303 NEW TRAILS DR. SUITE 400
THE WOODLANDS, TEXAS 77381
TEL (936) 777-6400
FAX (936) 756-6833
AVO: 36763.001 WO43

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NO. P–6341

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

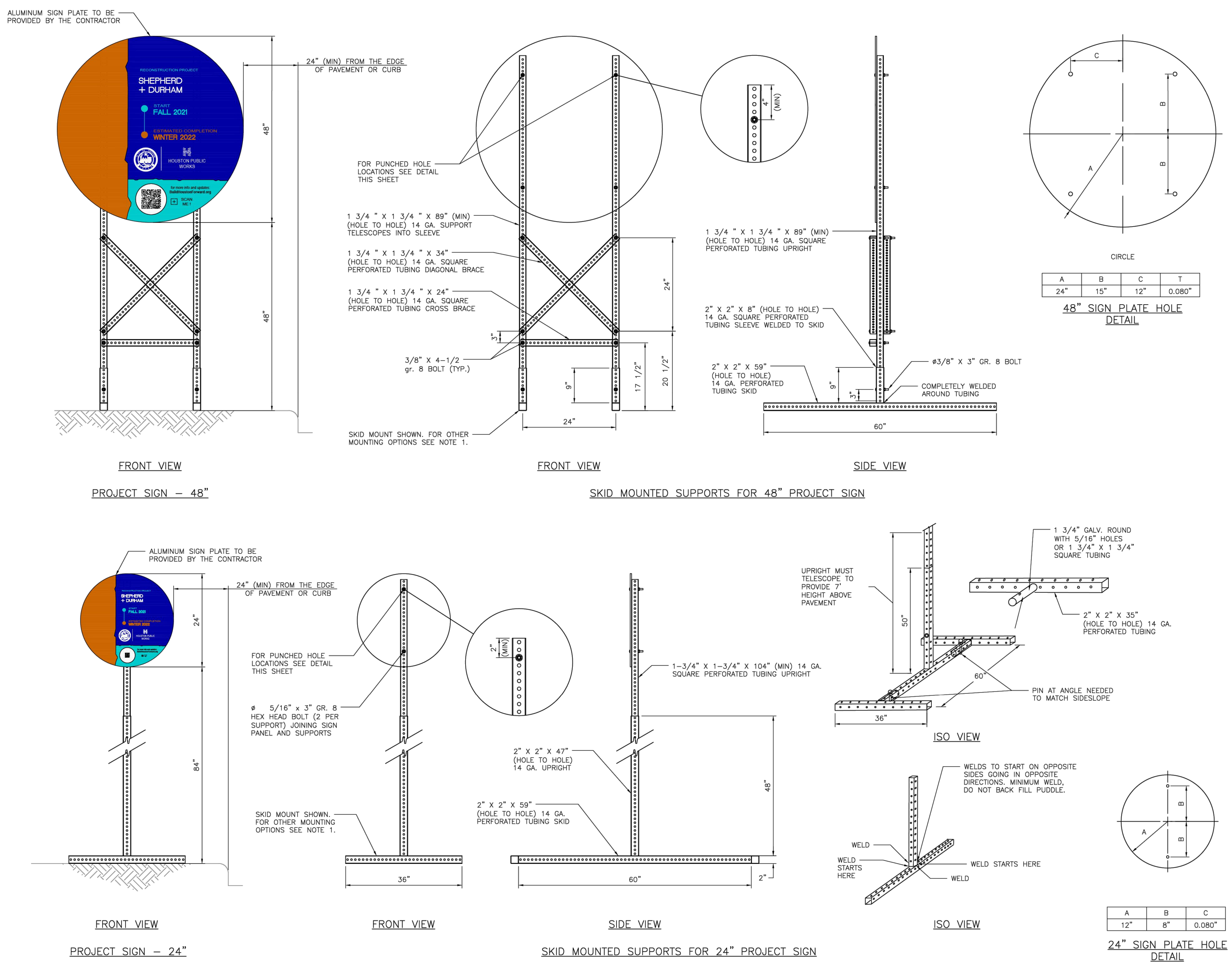
MARKET STREET STORM SEWER IMPROVEMENTS

DEMOLITION PLAN SHEET 2 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–430220–040A–3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 15 OF 79	

PLOT STYLE: Coh.ctb

A:\36000s\36763\001\WO43\Cadd\Sheets\C1.01-MSCL-DTLS-36763.001WO43.dwgPROJECT SIGN DETAIL Jun 04 , 2026 - 3:17PM ah5647



A	B	C	T
24"	15"	12"	0.080"

48" SIGN PLATE HOLE DETAIL

A	B	C
12"	8"	0.080"

24" SIGN PLATE HOLE DETAIL

NOTES:

1. ALLOWABLE POST INSTALLATION METHODS ARE: CONCRETE FOOTING, SURFACE MOUNTING, SKID MOUNTING AND PILE DRIVEN POSTS.
2. FOR POST INSTALLATION WITH CONCRETE FOOTING, REFER TO DETAIL 01554-01.
3. FOR SURFACE MOUNTED POST INSTALLATION, REFER TO DETAIL 01554-02.
4. FOR SKID MOUNTING REQUIREMENTS REFER TO SPECIFICATION 01582.
5. PILE DRIVEN POSTS MUST BE DRIVEN TO A MINIMUM DEPTH OF 4-FEET INTO EXISTING GROUND.
6. LAYOUT, TEXT SIZE, AND OVERALL DESIGN OF THE SIGN WILL BE THE RESPONSIBILITY OF THE BUILD HOUSTON COORDINATOR.
7. ALL SIGN POSTS, SIGN TUBING, AND SIGN FASTENERS SHALL BE GALVANIZED STEEL PER SPECIFICATION 01582.

APPROVED BY:	APPROVED BY:
(DocuSigned)	(DocuSigned)
CITY ENGINEER	DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: NOV-27-2023	DWG NO: 01582-01

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

CONSTRUCTION SIGN BUILD HOUSTON FORWARD

FOR CITY OF HOUSTON USE ONLY

DRAWING SCALE
NOT TO SCALE

halff
TBPELS ENGINEERING FIRM #312
9303 NEW TRAILS DR, SUITE 400
THE WOODLANDS, TEXAS 77381
TEL (936) 777-6400
FAX (936) 756-6833
AVO: 36763.001 WO43

MATTHEW A. BUCHER 156231 LICENSED PROFESSIONAL ENGINEER
6/4/2026

The seal appearing on this document was authorized by Matthew A. Bucher, P.E. # 156231 on 6/4/2026. Alteration of a sealed document without proper notification to the responsible engineer is an offense under the Texas Engineering Practice Act. The record copy of this drawing is on file at the offices of Halff Associates, Inc. 9303 New Trails Drive, Suite 400 The Woodlands, Texas 77381 TBPELS ENGINEERING FIRM #F-312

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NO. P-6341

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

PROJECT SIGN DETAIL

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	

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A:\36000s\36763\001\WO43\Cadd\Sheets\C2.00-PLAN-TRCP-36763.001.dwgTRAFFIC CONTROL NOTES Jun 05 , 2026 - 9:04AM ah5647

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.

GENERAL NOTES

1. THE CONTRACTOR SHALL PROVIDE AND INSTALL TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH PART VI OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD) LATEST EDITION WITIH REVISIONS DURING THE ENTIRE CONSTRUCTION PERIOD.
2. ALL SIGNS AND TRAFFIC CONTROL DEVICES SHALL CONFORM THE LATEST VERSION OF THE TMUTCD.
3. NO LANES SHALL BE CLOSED DURING THE HOURS OF 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM MONDAY THRU FRIDAY WITHOUT APPROVAL OF THE CITY TRAFFIC ENGINEER.
4. NO WORK SHALL BE PERFORMED IN RESIDENTIAL AREAS FROM 7:00 PM TO 7:00 AM.
5. CONTRACTOR SHALL MAINTAIN APPROVED NUMBER OF THROUGH LANES OF TRAFFIC IN EACH DIRECTION DURING CONSTRUCTION WORKING HOURS. TRAFFIC CONTROL PLANS SHALL INCLUDE ONE-WAY AND/OR DETOUR PLANS. CONTRACTOR SHALL MAINTAIN ADA COMPLIANT PEDESTRIAN ACCESS TO BUS STOPS AND ADEQUATE BUS ACCESS TO ALL THE BUS STOPS.
6. CONTRACTOR SHALL MAINTAIN TRAFFIC LANES AND DETOURS ACCORDING TO TRAFFIC CONTROL PLANS DURING WORKING HOURS.
7. CONTRACTOR SHALL COVER OPEN PAVEMENT EXCAVATIONS FOR MINOR UTILITY WORK WITH ANCHORED STEEL PLATES DURING NON-WORKING HOURS, AND OPEN LANES FOR NORMAL TRAFFIC FLOW WHEN FEASIBLE.
8. IF THE CONTRACTOR CHOOSES TO USE A DIFFERENT METHOD OF "TRAFFIC CONTROL PLANS" DURING THE CONSTRUCTION THAN WHAT IS OUTLINED IN THE CONTRACT DRAWINGS, THE CONTRACTOR SHALL BE RESPONSIBLE TO PREPARE AND SUBMIT AN ALTERNATE SET OF TRAFFIC CONTROL PLANS TO THE CITY OF HOUSTON PROJECT MANAGER FOR APPROVAL TEN WORKING DAYS PRIOR TO IMPLEMENTATION. THESE PLANS SHALL BE DRAWN TO SCALE ON REPRODUCIBLE MYLARS AND SHALL BE SEALED BY A LICENSED ENGINEER IN THE STATE OF TEXAS. OFFICE OF CITY ENGINEER, MOBILITY PERMITS SECTION REPRESENTATIVE APPROVAL IS REQUIRED TO ACCEPT THE PROPOSED CHANGES.
9. CONTRACTOR SHALL SECURE LANE/SIDEWALK/BICYCLE FACILITY CLOSURE PERMITS FROM OFFICE OF CITY ENGINEER (MOBILITY PERMIT SECTION AT https://geohub.houstontx.gov) BEFORE IMPLEMENTING THE TRAFFIC CONTROL PLAN. THE APPLICATION MUST BE SUBMITTED AT LEAST TEN DAYS PRIOR TO THE IMPLEMENTATION OF THE TRAFFIC CONTROL PLAN AND/OR BEGINNING CONSTRUCTION WORK. THE CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL PLANS, CONSTRUCTION SEQUENCING, AND CONSTRUCTION SCHEDULE WITH THE APPLICATION.
10. CONTRACTOR SHALL HAVE APPROVED TRAFFIC CONTROL PLAN AND PERMIT AT THE JOB SITE FOR INSPECTION AT ALL TIMES.
11. DURING PAVEMENT SURFACE RESTORATION PROJECTS; THE CONTRACTOR SHALL NOT OPEN CLOSED LANES UNTIL THE PAVEMENT SURFACE HAS CURED ENOUGH TO ALLOW VEHICULAR TRAFFIC ACCORDING TO CITY OF HOUSTON STANDARD SPECIFICATIONS.
12. THE CONTRACTOR IS RESPONSIBLE FOR SCHEDULING AND COORDINATING ALL CONSTRUCTION ACTIVITIES WITH STAKE HOLDERS IN THE VICINITY INCLUDING EMERGENCY RESPONSE AGENCIES SUCH AS HOUSTON POLICE DEPARTMENT, HOUSTON FIRE DEPARTMENT, AND METROPOLITAN TRANSIT AUTHORITY.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR ISSUING ALL WORK DIRECTIVES TO ALL SUB-CONTRACTORS, UTILITY COMPANIES, AND ALL OTHER ENTITIES PERFORMING CONSTRUCTION WORK ASSOCIATED WITH THE PROJECT.
14. NOTHING IN THESE NOTES OR PLANS SHALL RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT; INCLUDING SAFETY OF ALL MODES OF TRANSPORTATION, PERSONS, AND PROPERTY, AND THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO WORKING HOURS.
15. THE OFFICE OF CITY ENGINEER (MOBILITY PERMITS GROUP) PER THE DIRECTION OF THE CITY TRAFFIC ENGINEER HAVE THE RIGHT TO DEMAND THE INSTALLATION OF ADDITIONAL TRAFFIC CONTROL DEVICES OR MODIFICATIONS OF THESE PLANS AND NOTES, AS DEEMED NECESSARY TO PROMOTE THE SAFE AND ORDERLY FLOW OF TRAFFIC, INCLUDING PEDESTRIANS AND BICYCLES, THROUGH THE CONSTRUCTION WORK ZONE. THE CONTRACTOR SHALL COMPLY WITH THESE ADDITIONAL REQUESTS OR MODIFICATIONS WITH DUE DILIGENCE.
16. ALL EXISTING TRAFFIC CONTROL SIGNS AND PAVEMENT MARKINGS SHALL BE MAINTAINED IN VISIBLE LOCATIONS DURING CONSTRUCTION UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM CITY OF HOUSTON PROJECT MANAGER. THE CONTRACTOR SHALL RESTORE OR REPLACE (AT THE DISCRETION OF THE CITY TRAFFIC ENGINEER) ANY PAVEMENT MARKING OR SIGNING DAMAGE DURING CONSTRUCTION OPERATIONS, INCLUDING RAISED PAVEMENT MARKERS (RPMS).
17. WHEN ENTERING OR LEAVING ROADWAYS CARRYING PUBLIC TRAFFIC, THE CONTRACTOR'S EQUIPMENT, WHETHER EMPTY OR LOADED SHALL IN ALL CASES YIELD TO PUBLIC TRAFFIC WITH THE ASSISTANCE OF CONTRACTOR PROVIDED CERTIFIED FLAGGER/PEACE OFFICER.
18. ACCESS TO DRIVEWAYS ADJACENT TO THE CONSTRUCTION WORK ZONE SHALL BE MAINTAINED AT ALL TIMES AS MUCH AS POSSIBLE. ADDITIONAL CONES AND/OR DELINEATORS MAY BE REQUIRED TO DELINEATE THE DRIVEWAY ACCESS ROUTE THROUGH THE CONSTRUCTION WORK ZONE. A MINIMUM OF ONE TRAVEL LANE SHALL BE MAINTAINED ACROSS THE DRIVEWAYS, UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM CITY OF HOUSTON PROJECT MANAGER.
19. SPILLAGE RESULTING FROM HAULING OPERATIONS ALONG OR ACROSS ANY PUBLIC TRAVELED WAY SHALL BE REMOVED IMMEDIATELY BY THE CONTRACTOR.
20. THE CONTRACTOR SHALL SUBMIT AN APPLICATION FOR TEMPORARY PARKING RESTRICTIONS IF THERE ARE PARKING METERS LOCATED AT THE PROPOSED LANE CLOSURES FROM PARKING MANAGEMENT DIVISION (832-393-8690) AT LEAST TEN BUSINESS DAYS BEFORE IMPLEMENTATION OF LANE CLOSURES. IN ADDITION, TEMPORARY NO PARKING SIGNS SHALL BE POSTED 24 HOURS PRIOR TO COMMENCEMENT OF WORK.
21. ADDITIONAL OFF DUTY OFFICERS/FLAGGERS MAY BE REQUESTED TO DIRECT TRAFFIC WHEN LANES ARE BLOCKED AT THE DISCRETION OF THE CITY PROJECT MANAGER EVEN IF THEY ARE NOT SPECIFICALLY IDENTIFIED ON THE PROJECT PLANS.
22. THE CONTRACTOR SHALL REPLACE WITHIN 72 HOURS, ALL TRAFFIC SIGNAL LOOP DETECTORS DAMAGED DURING CONSTRUCTION.
23. IN GENERAL, A SOLAR POWERED FLASHING ARROW BOARD SHALL BE REQUIRED ON ALL MAJOR THOROUGHFARE LANES CLOSURES. EXCEPTIONS TO FLASHING ARROW BOARDS AND/OR IMPLEMENTATION ON RESIDENTIAL LANE CLOSURES SHALL BE APPROVED BY CITY TRAFFIC ENGINEER.
24. APPROVED TRAFFIC CONTROL PLAN SHALL BE IN PLACE BEFORE STARTING ANY EXCAVATION.
25. WATER FILLED BARRIERS CAN BE USED AS INSTRUCTED BY THE ENGINEER AND APPROVED BY THE CITY FOR PROJECTS WHERE SPACE IS LIMITED AND HEAVY EQUIPMENT TO PLACE CONCRETE BARRIERS IS NOT FEASIBLE. WATER FILLED BARRIERS SHALL NOT BE USED ON ROADWAYS WITH A POSTED SPEED LIMIT MORE THAN 45 MPH.
26. WATER FILLED BARRIERS MUST BE INSTALLED AND MAINTAINED PER THE MANUFACTURER'S REQUIREMENTS AND ROUTINELY INSPECTED FOR DEFECTS.
27. IF WATER FILLED BARRIER IS PROVIDED, USE ENVIRONMENTALLY SAFE ANTI-FREEZING AGENT IN THE WATER WHEN IT IS APPLICABLE PER MANUFACTURER SPECIFICATIONS AND RECOVER AGENT WHEN THE BARRIER IS DRAINED.
28. DISPOSE OF WATER AND AGENT PROPERLY. DO NOT DRAIN WATER FILLED BARRIER INTO OR ACROSS AN EXISTING TRAVEL LANE.
29. PROVIDE BARRIER UNITS THAT ARE CAPABLE OF BEING LIFTED AND MOVED WHEN FILLED IF DRAINING IS NOT POSSIBLE.
30. PROVIDE WATER FILLED BARRIER THAT ACTS AS ITS OWN FREE STANDING, NON-REDIRECTIVE END TREATMENT.
31. WHEN WATER FILLED BARRIERS ARE USED TO CHANNELIZE PEDESTRIANS, THEY MUST HAVE A CONTINUOUS DETECTABLE BOTTOM FOR USERS OF LONG CANES AND THE TOP OF THE UNIT SHALL NOT BE LESS THAN 32 INCHES IN HEIGHT.
32. ANY CLOSURE OF A PEDESTRIAN OR BICYCLE FACILITY SHALL REQUIRE THE SHORTEST DETOUR THAT MAINTAINS THE SAFETY OF PEDESTRIAN AND/OR BICYCLISTS.

SPACING FOR CHANNELIZING DEVICES

A. PLASTIC DRUMS ON MERGING TAPER @ 30' C - C WITH CHEVRON SIGN @ 60' C - C AND WARNING LIGHTS FOR OVERNIGHT CLOSURE.

B. PLASTIC DRUMS ON DOWNSTREAM TAPER @ 30' C - C (RETURN TAPER AND BARRICADE ARE OPTIONAL AND DIVIDED ROADWAY SECTION)

C. PLASTIC DRUMS ON RADII @ 35' C -C.

D. PLASTIC DRUMS ON TANGENT @ 35' C - C WITH VERTICAL PANEL AT 70' C - C AND APPROVED WARNING LIGHT @ 70' C - C (FOR OVERNIGHT CLOSURE).

E. PLASTIC DRUMS IN FRONT OF CONSTRUCTION ZONE @ 20' C - C WITH VERTICAL PANEL AT 40' C - C AND APPROVED WARNING LIGHT @ 40' C - C (FOR OVERNIGHT CLOSURE).

F. CONCRETE TRAFFIC BARRIER (CTB) OR LOW PROFILE CONCRETE TRAFFIC BARRIER (LPCTB) WITH APPROVED REFLECTORS @ 10' C - C IF PAVEMENT DROP IS GREATER THAN 1 FOOT.

G. PLASTIC DRUMS W/GUARD RAIL MOUNTED.

H. SELF- RIGHTING VERTICAL PANEL SPACING.
- 4 LANES TO 2 LANES UNDIVIDED ROADWAY SECTION @ 20' C - C.
- 4 LANES DIVIDED ROADWAY TO ONE SIDE TWO WAY ROADWAY @ 20' C - C.
- LEFT LANE AND RIGHT LANE STORAGE BAYS @ 15' C - C.

I. SPACING SHOWN ON TRAFFIC CONTROL SHALL SUPERSEDE THE ABOVE SPACING.

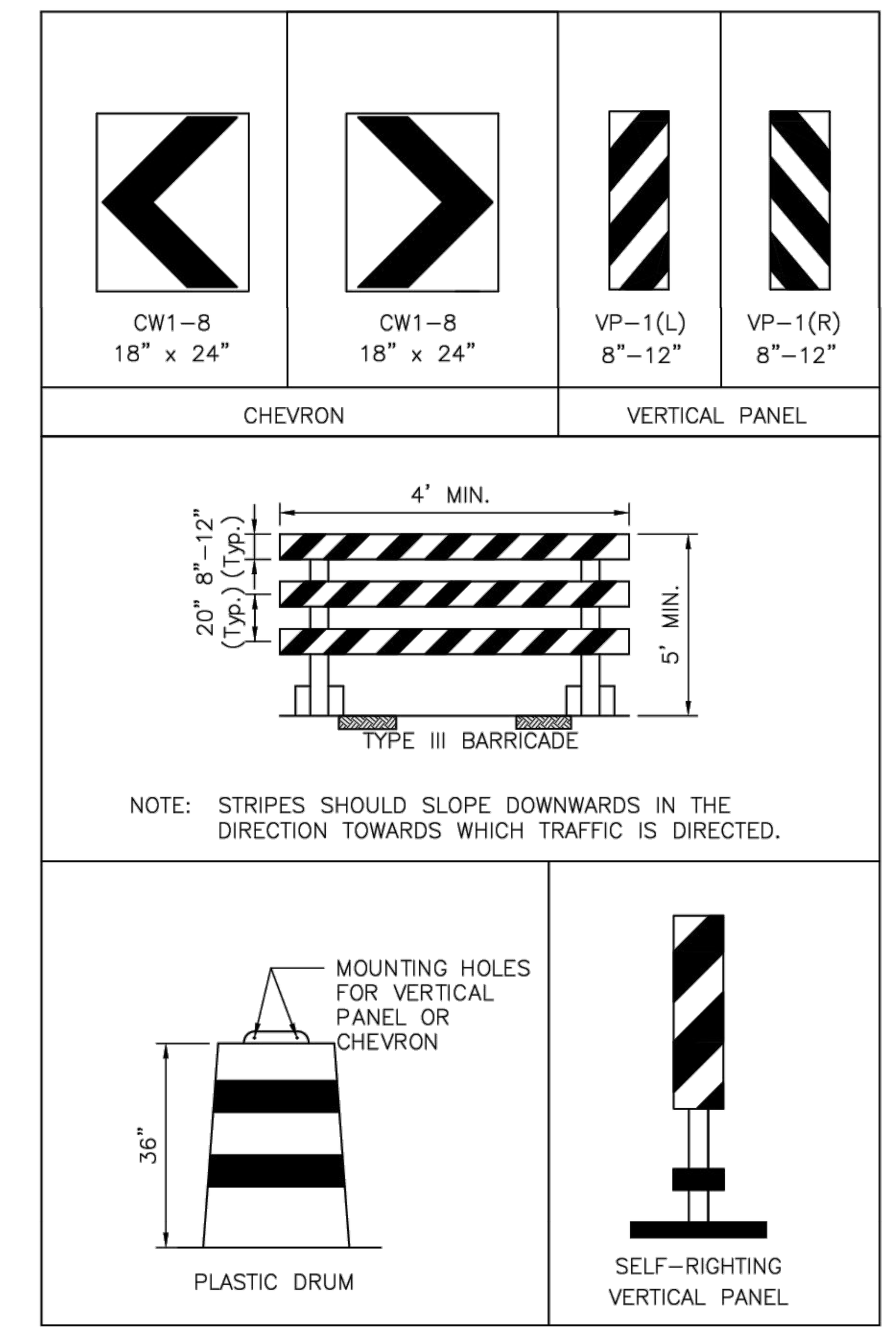
J. SPACING MAY BE ADJUSTED TO PROVIDE DRIVEWAYS, INTERSECTIONS AND /OR MEDIAN OPENINGS.

TABLE C3 - TYPICAL SIGN SPACING, TAPER LENGTHS, AND SUGGESTED SPACING OF CHANNELIZATION DEVICES

POSTED SPEED (MPH)	SIGN SPACING "X" (FEET)	MIN. DESIRABLE TAPER LENGTH "L"			SUGGESTED MAXIMUM SPACING OF DEVICE	
		10' OFFSET	11' OFFSET	12' OFFSET	ON A TAPER	ON A TANGENT
30	120'	150'	165'	180'	30'	60'-75'
35	160'	205'	225'	245'	35'	70'-90'
40	240'	265'	295'	320'	40'	80'-100'
45	320'	450'	495'	540'	45'	90'-110'
50	400'	500'	550'	600'	50'	100'-125'
55	500'	550'	605'	660'	55'	110'-140'

TABLE C4 - STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED

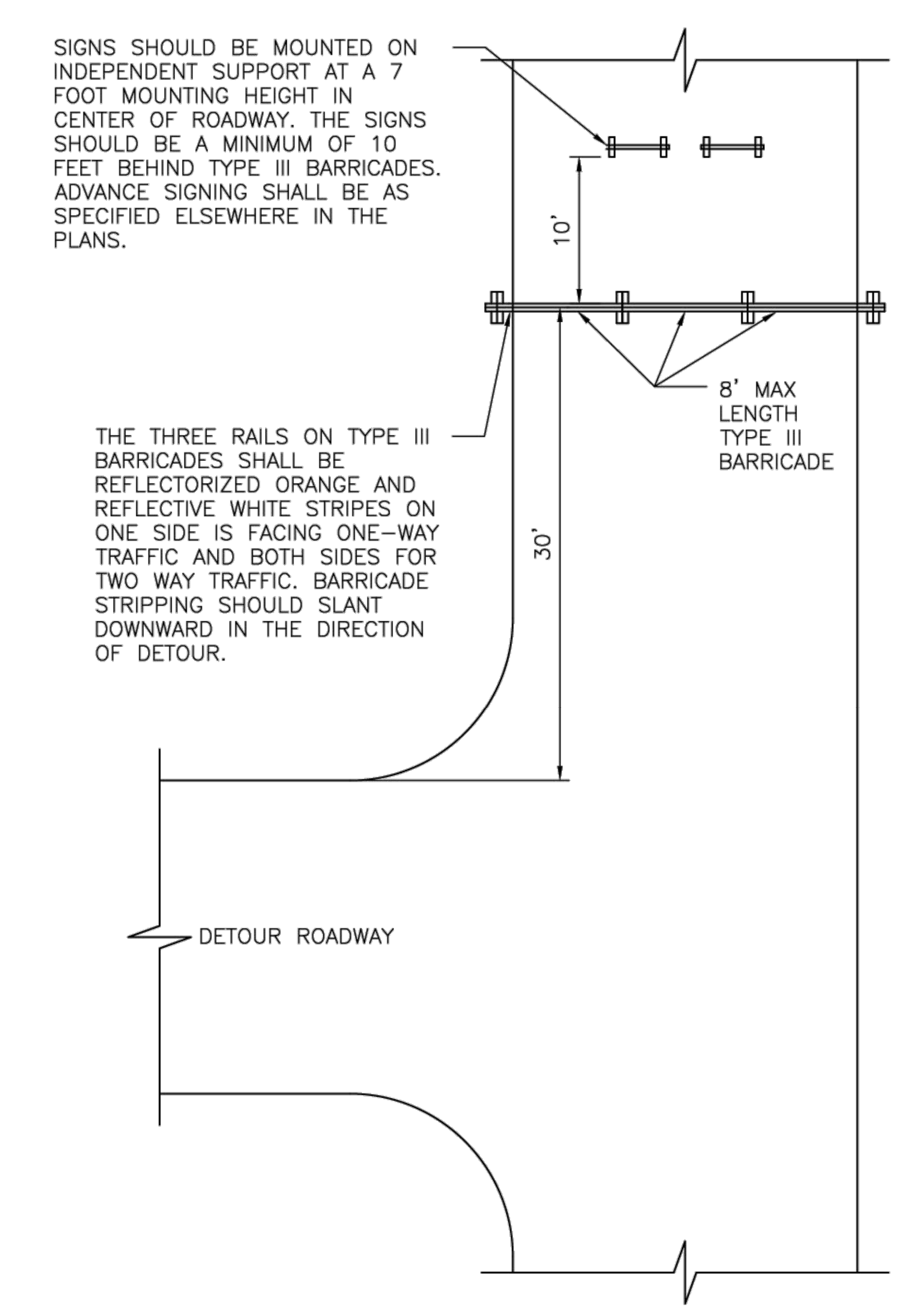
POSTED SPEED (MPH)	DISTANCE "D" (FEET)
30	200
35	250
40	305
45	360
50	425
55	495



CHANNELIZATION AND BARRICADES

LEGEND:

- SIGN
- FLAGGER
- APPROVED CHANNELIZATION DEVICE
- BARRICADE
- FLASHING ARROW PANEL
- AREA UNDER CONSTRUCTION
- EXISTING TRAVEL WAY
- TRAFFIC CONTROL PLAN DETOUR TRAVEL WAY



PLAN VIEW
TYPE III BARRICADE (POST AND SKID)
TYPICAL APPLICATION

APPROVED BY:	APPROVED BY:
DocuSigned by: Suhail Kanwar 9EF8B0C641F5478...	DocuSigned by: KHANG NGUYEN 95A29EFDA75B4CD...
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carol Haddock A93C410B72B3453...	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 01555-01

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TCP NOTES CHANNELIZING DEVICES AND BARRICADES

FOR CITY OF HOUSTON USE ONLY

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STATE OF TEXAS
MATTHEW A. BUCHTER
156231
LICENSED PROFESSIONAL ENGINEER
6/5/2026

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

TRAFFIC CONTROL NOTES

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
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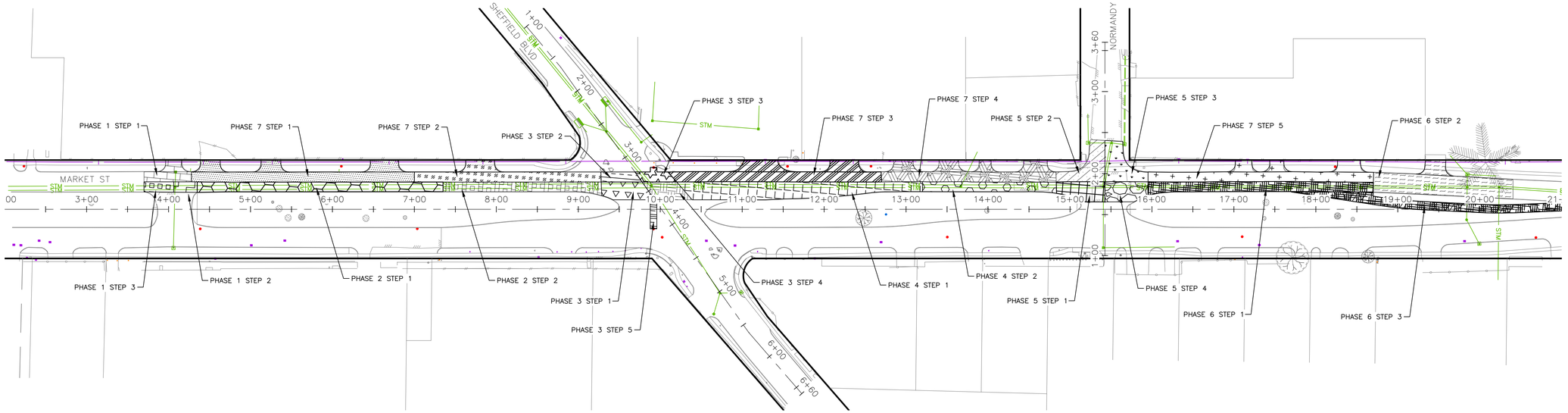
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 17 OF 79	



N

0' 35' 70' 140'

FULL SCALE: 1"=70'
HALF SCALE: 1"=140'

LEGEND

- PHASE 1 STEP 1
- PHASE 1 STEP 2
- PHASE 1 STEP 3
- PHASE 2 STEP 1
- PHASE 2 STEP 2
- PHASE 3 STEP 1
- PHASE 3 STEP 2
- PHASE 3 STEP 3
- PHASE 3 STEP 4
- PHASE 3 STEP 5
- PHASE 4 STEP 1
- PHASE 4 STEP 2
- PHASE 5 STEP1
- PHASE 5 STEP 3
- PHASE 5 STEP 4
- PHASE 6 STEP 1
- PHASE 6 STEP2
- PHASE 6 STEP 3
- PHASE 7 STEP 1
- PHASE 7 STEP 2
- PHASE 7 STEP 3
- PHASE 7 STEP 4
- PHASE 7 STEP 5
- PHASE 5 STEP 1

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STATE OF TEXAS
MATTHEW A. BUCHTER
154231
PROFESSIONAL ENGINEER
6/5/2026

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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

TRAFFIC CONTROL OVERALL LAYOUT PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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SHEET NO. 18 OF 79	

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A:\36000s\36763\001\WO43\Cadd\Sheets\C2.00-PLAN-TRCP-36763.001.dwgTRAFFIC CONTROL OVERALL LAYOUT PLAN Jun 05, 2026 - 9:04AM on5647

CONSTRUCTION SEQUENCES		STREET	DESCRIPTION
PHASE 1	STEP 1	MARKET STREET	SET UP TRAFFIC CONTROL DEVICES AS SHOWN ON PLANS. CONSTRUCT WESTBOUND RIGHT LANE OF MARKET STREET PAVEMENT AND DRIVEWAY FROM STA 3+70 TO STA 4+28. CONSTRUCT STORM SEWER INLET AND STORM SEWER PIPE.
PHASE 1	STEP 2	MARKET STREET	SET UP TRAFFIC CONTROL DEVICES AS SHOWN ON PLANS. CONSTRUCT WESTBOUND LEFT LANE OF MARKET STREET PAVEMENT FROM 3+70 TO STA 4+06. CONSTRUCT STORM SEWER MANHOLE AND STORM SEWER PIPE.
PHASE 1	STEP 3	MARKET STREET	SET UP TRAFFIC CONTROL DEVICES AS SHOWN ON PLANS. CONSTRUCT WESTBOUND LEFT LANE OF MARKET STREET PAVEMENT FROM STA 4+06 TO STA 4+35. CONSTRUCT STORM SEWER MANHOLE AND STORM SEWER PIPE.
PHASE 2	STEP 1	MARKET STREET	SET UP TRAFFIC CONTROL DEVICES AS SHOWN ON PLANS. CONSTRUCT WESTBOUND LEFT LANE OF MARKET STREET PAVEMENT FROM STA 4+35 TO STA 7+35. CONSTRUCT STORM SEWER PIPE.
PHASE 2	STEP 2	MARKET STREET SHEFFIELD BLVD	SET UP TRAFFIC CONTROL DEVICES AS SHOWN ON PLANS. CONSTRUCT WESTBOUND LEFT LANE OF MARKET STREET PAVEMENT FROM STA 7+35 TO STA 9+28. CONSTRUCT STORM SEWER PIPE.
PHASE 3	STEP 1	MARKET STREET SHEFFIELD BLVD	SET UP TRAFFIC CONTROL DEVICES AS SHOWN ON PLANS. CONSTRUCT WESTBOUND LEFT LANE OF MARKET STREET AND SHEFFIELD BOULEVARD INTERSECTION PAVEMENT FROM STA 9+28 TO STA 9+86. CONSTRUCT STROM SEWER PIPE.
PHASE 3	STEP 2	MARKET STREET SHEFFIELD BLVD	SET UP TRAFFIC CONTROL DEVICES AS SHOWN ON PLANS. CONSTRUCT WESTBOUND RIGHT LANE OF MARKET STREET AND SHEFFIELD BOULEVARD INTERSECTION PAVEMENT FROM STA 9+28 TO STA 9+74.
PHASE 3	STEP 3	MARKET STREET SHEFFIELD BLVD	SET UP TRAFFIC CONTROL DEVICES AS SHOWN ON PLANS. CONSTRUCT WESTBOUND RIGHT LANE OF MARKET STREET AND SHEFFIELD BOULEVARD INTERSECTION PAVEMENT FROM STA 9+74 TO STA 10+15. CONSTRUCT SANITARY SEWER.
PHASE 3	STEP 4	MARKET STREET SHEFFIELD BLVD	SET UP TRAFFIC CONTROL DEVICES AS SHOWN ON PLANS. CONSTRUCT WESTBOUND LEFT LANE OF MARKET STREET AND SHEFFIELD BOULEVARD INTERSECTION PAVEMENT FROM STA 9+86 TO STA 10+30. CONSTRUCT STORM SEWER MANHOLE, STORM SEWER PIPE AND SANITARY SEWER STEEL CASING.
PHASE 3	STEP 5	MARKET STREET SHEFFIELD BLVD	SET UP TRAFFIC CONTROL DEVICES AS SHOWN ON PLANS. CONSTRUCT EASTBOUND LEFT LANE OF MARKET STREET AND SHEFFIELD BOULEVARD INTERSECTION PAVEMENT FROM STA 9+88 TO STA 9+96. CONSTRUCT SANITARY SEWER.
PHASE 4	STEP 1	MARKET STREET	SET UP TRAFFIC CONTROL DEVICES AS SHOWN ON PLANS. CONSTRUCT WESTBOUND LEFT LANE OF MARKET STREET PAVEMENT FROM STA 10+30 TO STA 13+20. CONSTRUCT STORM SEWER PIPE.
PHASE 4	STEP 2	MARKET STREET	SET UP TRAFFIC CONTROL DEVICES AS SHOWN ON PLANS. CONSTRUCT WESTBOUND LEFT LANE OF MARKET STREET PAVEMENT FROM STA 13+20 TO STA 18+84. CONSTRUCT STORM SEWER PIPE.
PHASE 5	STEP 1	MARKET STREET NORMANDY STREET	SET UP TRAFFIC CONTROL DEVICES AS SHOWN ON PLANS. CONSTRUCT WESTBOUND LEFT LANE OF MARKET STREET AND NORMANDY STREET INTERSECTION PAVEMENT FROM STA 14+84 TO STA 15+43. CONSTRUCT STROM SEWER MANHOLE AND STROM SEWER PIPE.
PHASE 5	STEP 2	MARKET STREET NORMANDY STREET	SET UP TRAFFIC CONTROL DEVICES AS SHOWN ON PLANS. CONSTRUCT WESTBOUND RIGHT LANE OF MARKET STREET AND NORMANDY STREET INTERSECTION PAVEMENT FROM STA 14+83 TO STA 15+43.
PHASE 5	STEP 3	MARKET STREET NORMANDY STREET	SET UP TRAFFIC CONTROL DEVICES AS SHOWN ON PLANS. CONSTRUCT WESTBOUND RIGHT LANE OF MARKET STREET AND NORMANDY STREET INTERSECTION PAVEMENT FROM STA 15+43 TO STA 15+95.
PHASE 5	STEP 4	MARKET STREET NORMANDY STREET	SET UP TRAFFIC CONTROL DEVICES AS SHOWN ON PLANS. CONSTRUCT WESTBOUND LEFT LANE OF MARKET STREET AND NORMANDY STREET INTERSECTION PAVEMENT FROM STA 15+43 TO STA 15+95. CONSTRUCT STORM SEWER PIPE.
PHASE 6	STEP 1	MARKET STREET	SET UP TRAFFIC CONTROL DEVICES AS SHOWN ON PLANS. CONSTRUCT WESTBOUND LEFT LANE OF MARKET STREET PAVEMENT FROM STA 15+95 TO STA 18+70. CONSTRUCT STORM SEWER PIPE AND CONSTRUCT DETOUR ROUTE THROUGH MEDIAN STA 17+70 TO STA 21+40.
PHASE 6	STEP 2	MARKET STREET	SET UP TRAFFIC CONTROL DEVICES AS SHOWN ON PLANS. CONSTRUCT WESTBOUND LEFT LANE OF MARKET STREET AND WESTBOUND RIGHT LANE OF MARKET STREET PAVEMENT FROM STA 18+70 TO STA 20+40. CONSTRUCT STROM SEWER MANHOLES AND STORM SEWER PIPES.
PHASE 6	STEP 3	MARKET STREET	SET UP TRAFFIC CONTROL DEVICES AS SHOWN ON PLANS. REMOVE DETOUR ROUTE CONSTRUCTED IN PHASE 6 STEP 1. RECONSTRUCT AFFECTED CURBS, CONSTRUCT AND REPAINT MEDIAN NOSES, AND RETURN MEDIAN TO EXISTING CONDITIONS.
PHASE 7	STEP 1	MARKET STREET	SET UP TRAFFIC CONTROL DEVICES AS SHOWN ON PLANS. CONSTRUCT WESTBOUND RIGHT LANE OF MARKET STREET PAVEMENT AND DRIVEWAY FROM STA 4+28 TO STA 7+00.
PHASE 7	STEP 2	MARKET STREET SHEFFIELD BLVD	SET UP TRAFFIC CONTROL DEVICES AS SHOWN ON PLANS. CONSTRUCT WESTBOUND RIGHT LANE OF MARKET STREET PAVEMENT AND DRIVEWAY FROM STA 7+00 TO STA 9+28.
PHASE 7	STEP 3	MARKET STREET	SET UP TRAFFIC CONTROL DEVICES AS SHOWN ON PLANS. CONSTRUCT WESTBOUND RIGHT LANE OF MARKET STREET PAVEMENT AND DRIVEWAY FROM STA 10+15 TO STA 12+70.
PHASE 7	STEP 4	MARKET STREET	SET UP TRAFFIC CONTROL DEVICES AS SHOWN ON PLANS. CONSTRUCT WESTBOUND RIGHT LANE OF MARKET STREET PAVEMENT AND DRIVEWAY FROM STA 12+70 TO STA 14+83.
PHASE 7	STEP 5	MARKET STREET	SET UP TRAFFIC CONTROL DEVICES AS SHOWN ON PLANS. CONSTRUCT WESTBOUND RIGHT LANE OF MARKET STREET PAVEMENT AND DRIVEWAY FROM STA 15+95 TO STA 18+70.

NOTES:
1. SEE SHEET 44–52 FOR TCP DETAILS

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STATE OF TEXAS
MATTHEW A. BUCHTER
156231
LICENSED PROFESSIONAL ENGINEER
6/5/2026

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NO. P–6341

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

TRAFFIC CONTROL NARRATIVE

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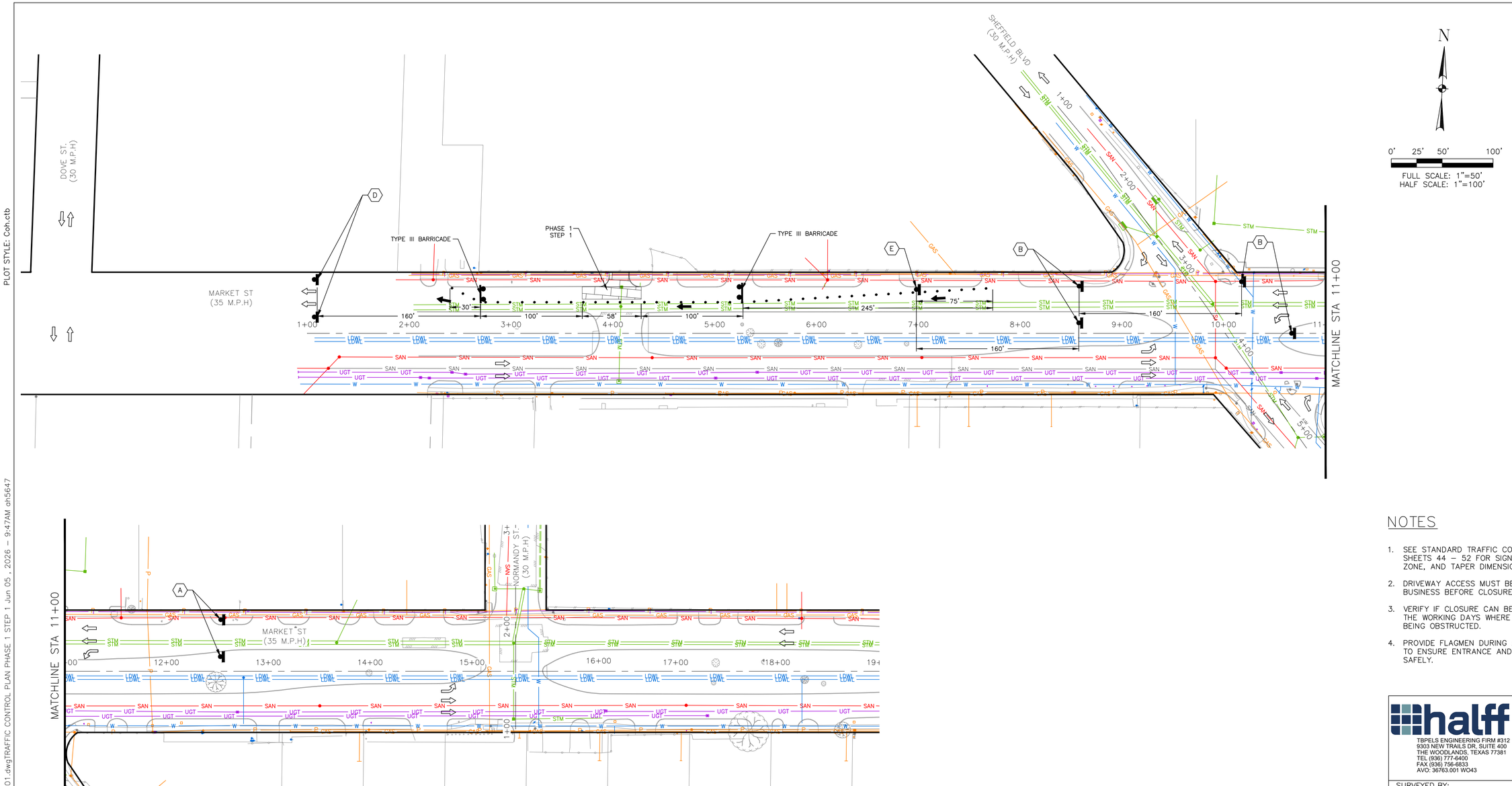
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 19 OF 79	



A	B	D	E
ROAD WORK AHEAD CW20-1	RIGHT LANE CLOSED AHEAD CW20-5(2) CW16-3	END ROAD WORK G20-2	FLASHING ARROW PANEL

NOTES

1. SEE STANDARD TRAFFIC CONTROL PLAN DETAILS SHEETS 44 – 52 FOR SIGN SPACING, BUFFER ZONE, AND TAPER DIMENSIONS.
2. DRIVEWAY ACCESS MUST BE COORDINATED WITH BUSINESS BEFORE CLOSURE.
3. VERIFY IF CLOSURE CAN BE PLATED AT END OF THE WORKING DAYS WHERE DRIVEWAYS ARE BEING OBSTRUCTED.
4. PROVIDE FLAGMEN DURING ACTIVE CONSTRUCTION TO ENSURE ENTRANCE AND EXIT IS MANAGED SAFELY.

LEGEND

- CONSTRUCTION ZONE (THIS PHASE)
- EXIST TRAFFIC FLOW
- PROP TRAFFIC FLOW
- SIGN
- APPROVED CHANNELIZATION DEVICE

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FB NO. P-6341

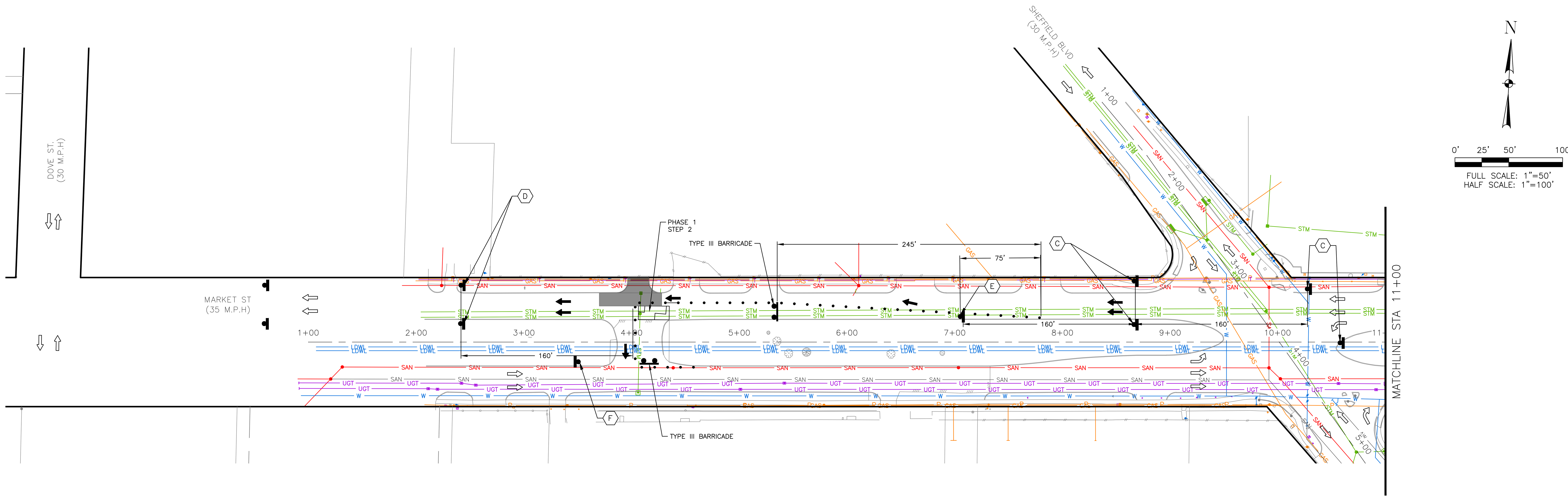
STATE OF TEXAS
MATTHEW A. BUCHTER
156231
LICENSED
PROFESSIONAL ENGINEER
6/5/2026

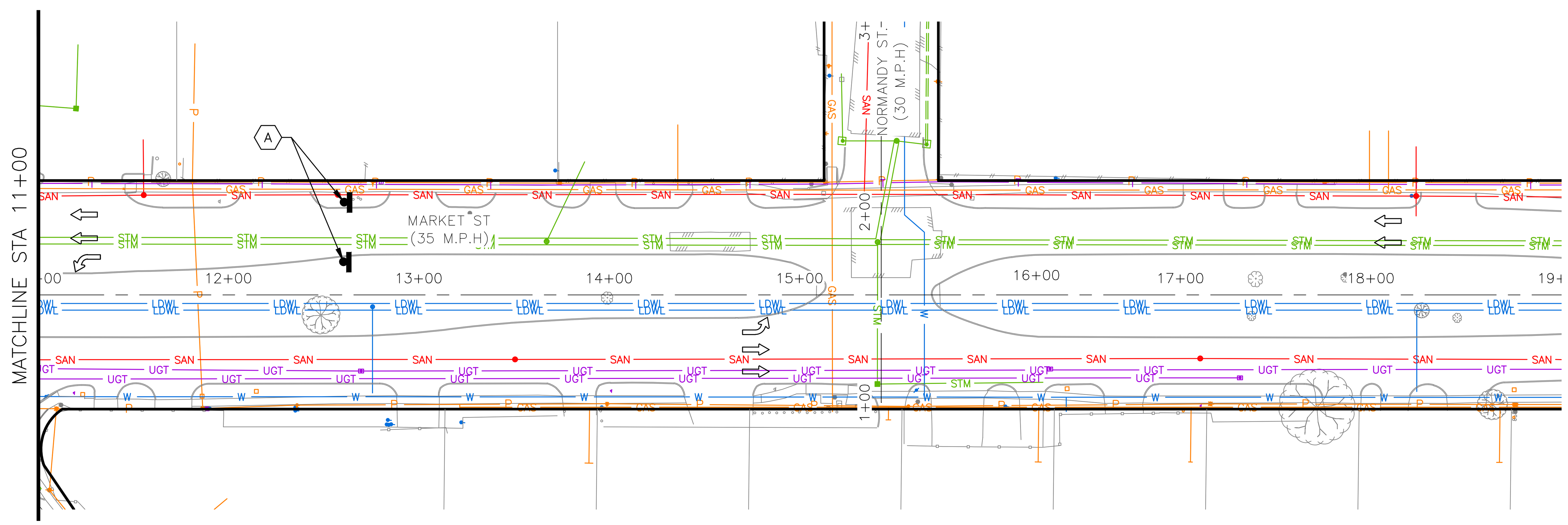
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

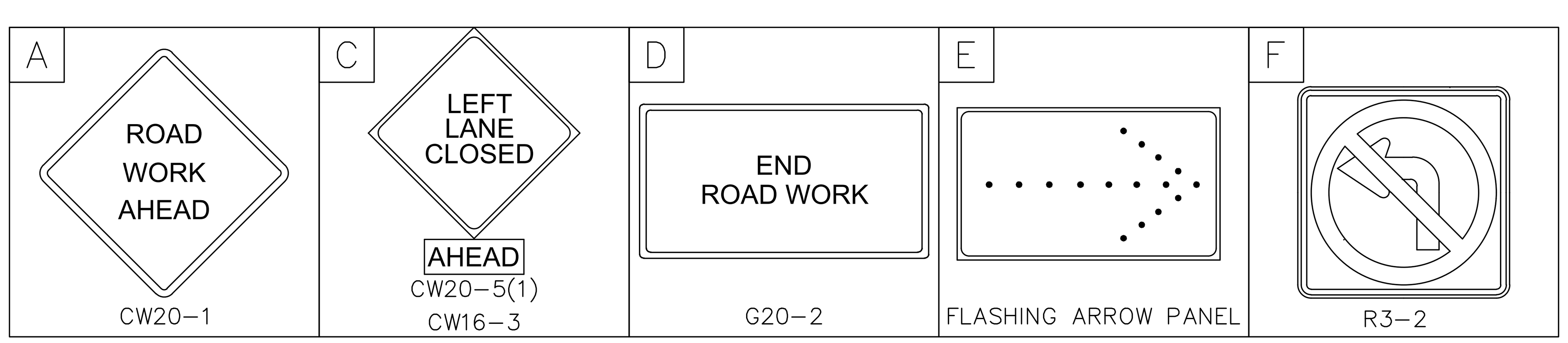
MARKET STREET STORM SEWER IMPROVEMENTS

TRAFFIC CONTROL PLAN PHASE 1 STEP 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 20 OF 79	







NOTES

1. SEE STANDARD TRAFFIC CONTROL PLAN DETAILS SHEETS 44 – 52 FOR SIGN SPACING, BUFFER ZONE, AND TAPER DIMENSIONS.
2. DRIVEWAY ACCESS MUST BE COORDINATED WITH BUSINESS BEFORE CLOSURE.
3. VERIFY IF CLOSURE CAN BE PLATED AT END OF THE WORKING DAYS WHERE DRIVEWAYS ARE BEING OBSTRUCTED.
4. PROVIDE FLAGMEN DURING ACTIVE CONSTRUCTION TO ENSURE ENTRANCE AND EXIT IS MANAGED SAFELY.

LEGEND

- CONSTRUCTION ZONE (THIS PHASE)
- PERMANENT PAVEMENT (PREVIOUS PHASE)
- EXIST TRAFFIC FLOW
- PROP TRAFFIC FLOW
- SIGN
- APPROVED CHANNELIZATION DEVICE

halff
TBPELS ENGINEERING FIRM #312
9303 NEW TRAILS DR. SUITE 400
THE WOODLANDS, TEXAS 77381
TEL (936) 777-6400
FAX (936) 756-6833
AVO: 36763.001 WO43

SURVEYED BY:
AMANI ENGINEERING, INC.
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STATE OF TEXAS
MATTHEW A. BUCHER
156231
LICENSED PROFESSIONAL ENGINEER
6/5/2026

CITY OF HOUSTON

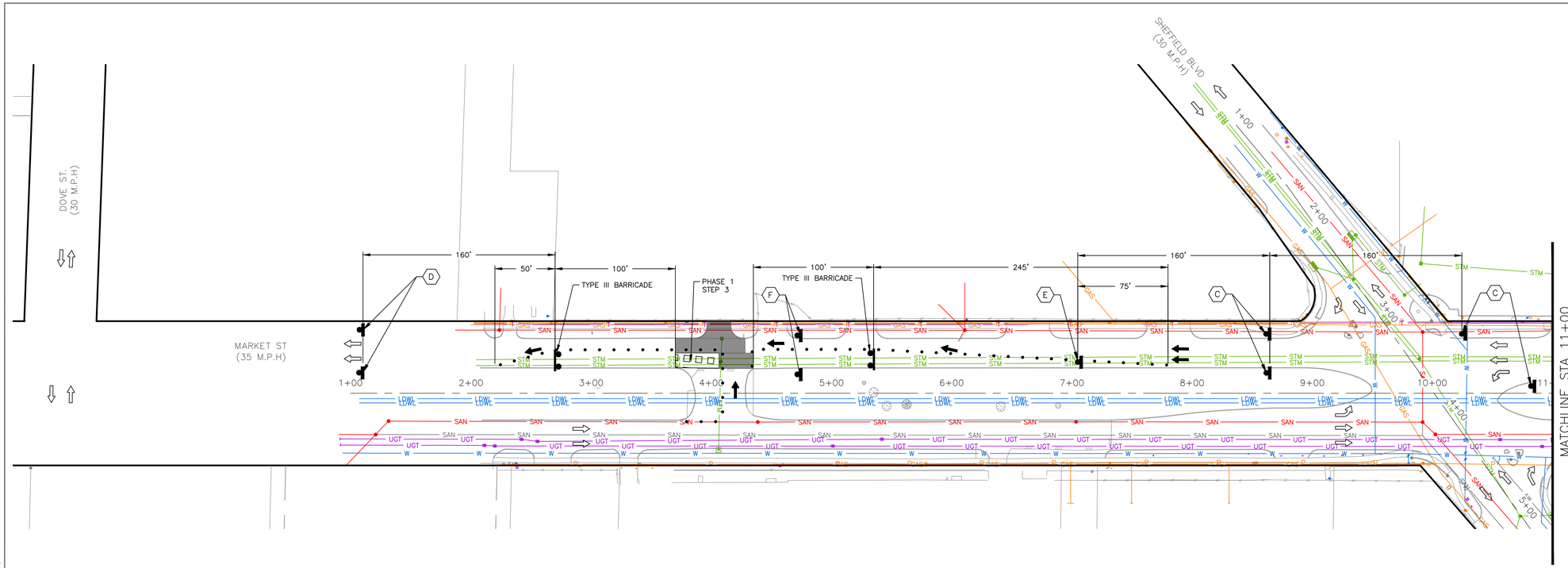
HOUSTON PUBLIC WORKS

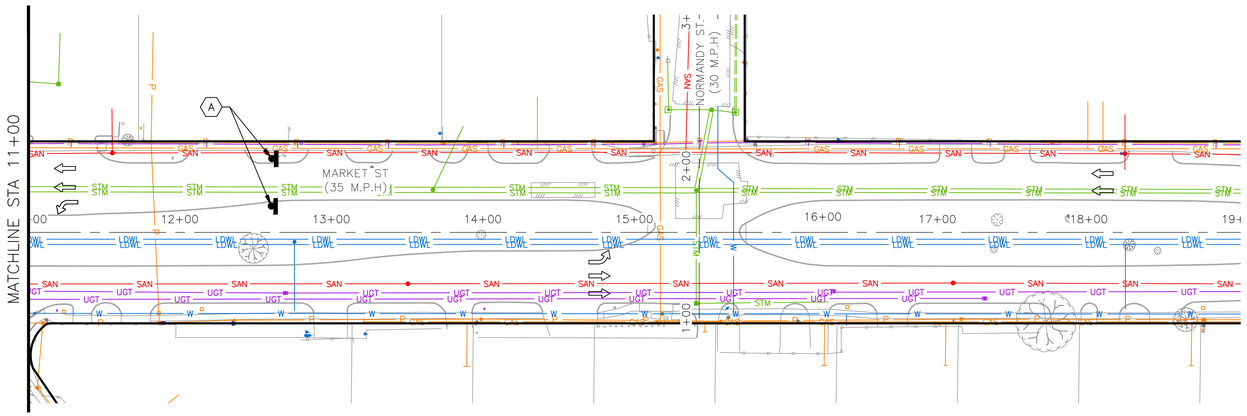
MARKET STREET STORM SEWER IMPROVEMENTS

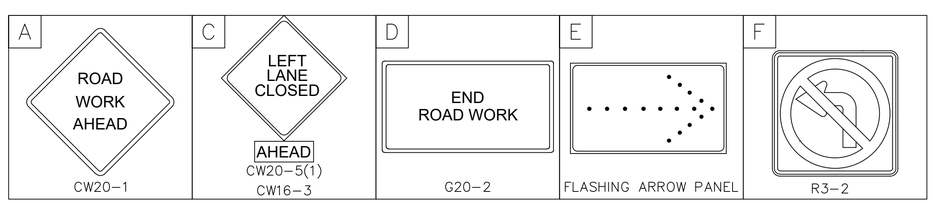
TRAFFIC CONTROL PLAN PHASE 1 STEP 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 21 OF 79	

PLOT STYLE: Coh.ctb
A:\36000s\36763\001\W043\Cadd\Sheets\C2.01-PLAN-TRCP-36763.001.dwg20 TRAFFIC CONTROL PLAN PHASE 1 STEP 2 Jun 05, 2026 - 9:05AM oh5647







N

0' 25' 50' 100'

FULL SCALE: 1"=50'
HALF SCALE: 1"=100'

NOTES

1. SEE STANDARD TRAFFIC CONTROL PLAN DETAILS SHEETS 44 – 52 FOR SIGN SPACING, BUFFER ZONE, AND TAPER DIMENSIONS.
2. DRIVEWAY ACCESS MUST BE COORDINATED WITH BUSINESS BEFORE CLOSURE.
3. VERIFY IF CLOSURE CAN BE PLATED AT END OF THE WORKING DAYS WHERE DRIVEWAYS ARE BEING OBSTRUCTED.
4. PROVIDE FLAGMEN DURING ACTIVE CONSTRUCTION TO ENSURE ENTRANCE AND EXIT IS MANAGED SAFELY.

LEGEND

- CONSTRUCTION ZONE (THIS PHASE)
- PERMANENT PAVEMENT (PREVIOUS PHASE)
- EXIST TRAFFIC FLOW
- PROP TRAFFIC FLOW
- SIGN
- APPROVED CHANNELIZATION DEVICE

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TBPELS ENGINEERING FIRM #312
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THE WOODLANDS, TEXAS 77381
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AVO: 36763.001 WO43

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NO. P-6341

STATE OF TEXAS
MATTHEW A. BUCHTER
156231
LICENSED
PROFESSIONAL ENGINEER
6/5/2026

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TBPELS ENGINEERING FIRM #F-312

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

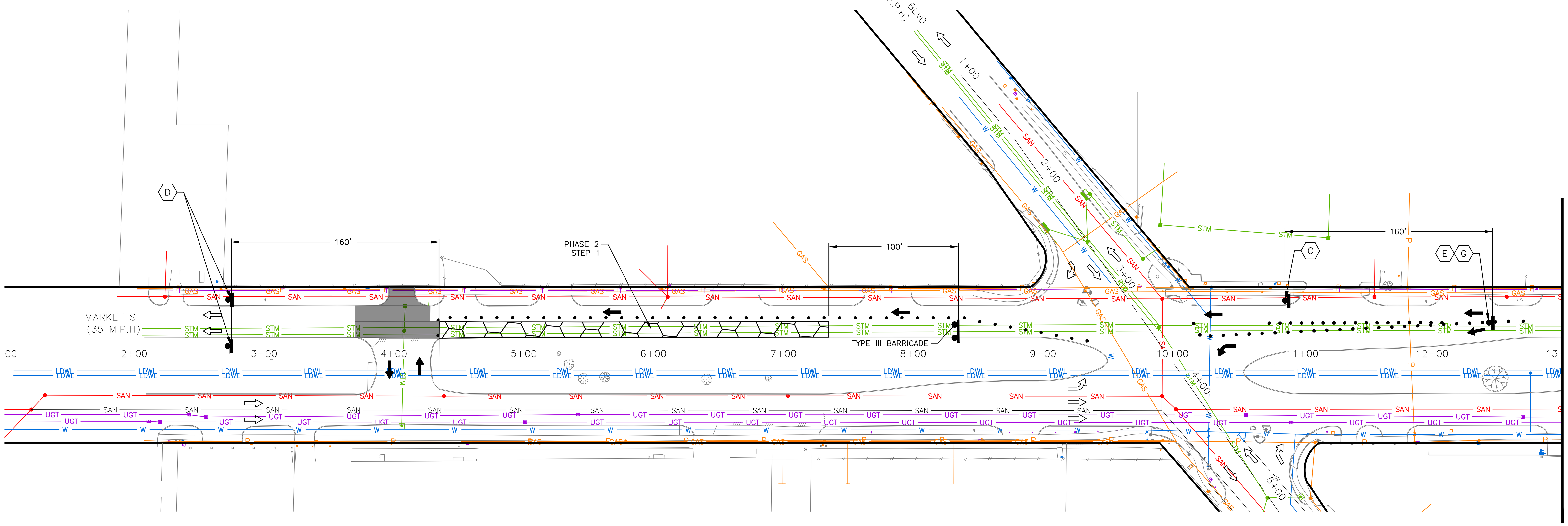
MARKET STREET STORM SEWER IMPROVEMENTS

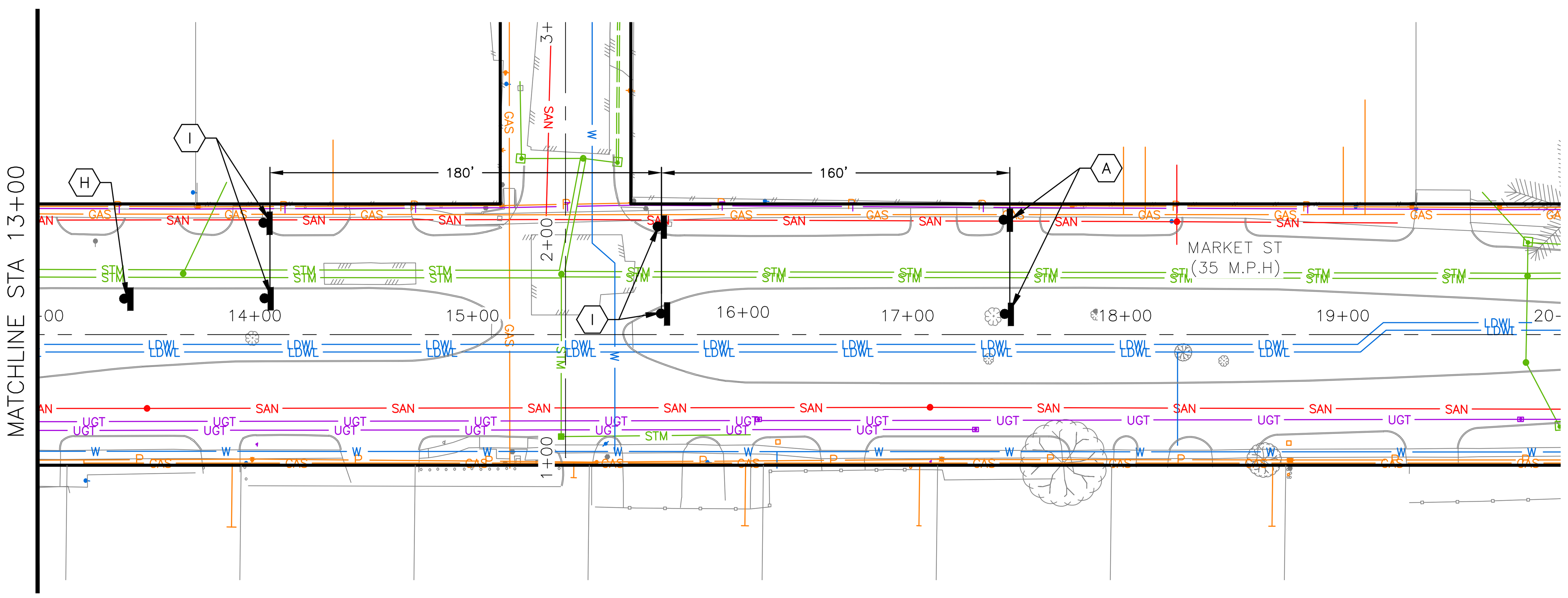
TRAFFIC CONTROL PLAN PHASE 1 STEP 3

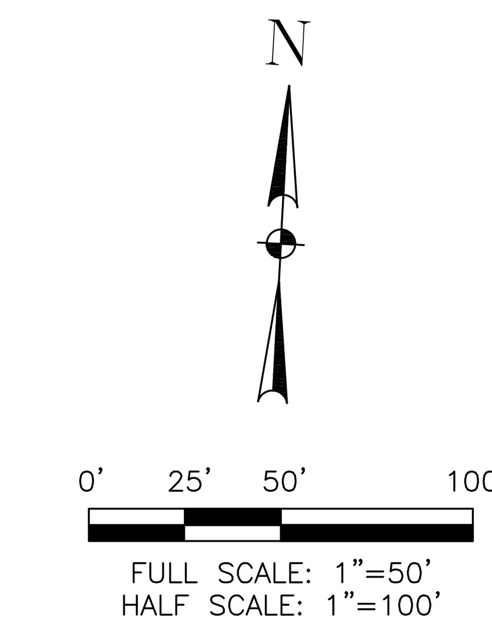
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 22 OF 79	

PLOT STYLE: Coh.ctb

A:\36000s\36763\001\WO43\Cadd\Sheets\C2.01-PLAN-TRCP-36763.001.dwg21 TRAFFIC CONTROL PLAN PHASE 1 STEP 3 Jun 05, 2026 - 9:05AM ah5647







NOTES

1. SEE STANDARD TRAFFIC CONTROL PLAN DETAILS SHEETS 44 – 52 FOR SIGN SPACING, BUFFER ZONE, AND TAPER DIMENSIONS.
2. DRIVEWAY ACCESS MUST BE COORDINATED WITH BUSINESS BEFORE CLOSURE.
3. VERIFY IF CLOSURE CAN BE PLATED AT END OF THE WORKING DAYS WHERE DRIVEWAYS ARE BEING OBSTRUCTED.
4. PROVIDE FLAGMEN DURING ACTIVE CONSTRUCTION TO ENSURE ENTRANCE AND EXIT IS MANAGED SAFELY.

A	C	D	E	G	H	I
ROAD WORK AHEAD	LEFT LANE CLOSED / AHEAD	END ROAD WORK			LEFT LANE MUST TURN LEFT	CENTER LANE CLOSED AHEAD
CW20-1	CW20-5(1) CW16-3	G20-2	FLASHING ARROW PANEL	W12-1	R3-7L	W9-3

LEGEND

- CONSTRUCTION ZONE (THIS PHASE)
- PERMANENT PAVEMENT (PREVIOUS PHASE)
- EXIST TRAFFIC FLOW
- PROP TRAFFIC FLOW
- SIGN
- APPROVED CHANNELIZATION DEVICE

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9303 NEW TRAILS DR. SUITE 400
THE WOODLANDS, TEXAS 77381
TEL (936) 777-6400
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AVO: 36763.001 WO43

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AMANI ENGINEERING, INC.
FB NO. P-6341

STATE OF TEXAS
MATTHEW A. BUCHTER
156231
LICENSED PROFESSIONAL ENGINEER
6/5/2026

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

TRAFFIC CONTROL PLAN PHASE 2 STEP 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 23 OF 79	

PLOT STYLE: Coh.ctb
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PLOT STYLE: Coh.ctb

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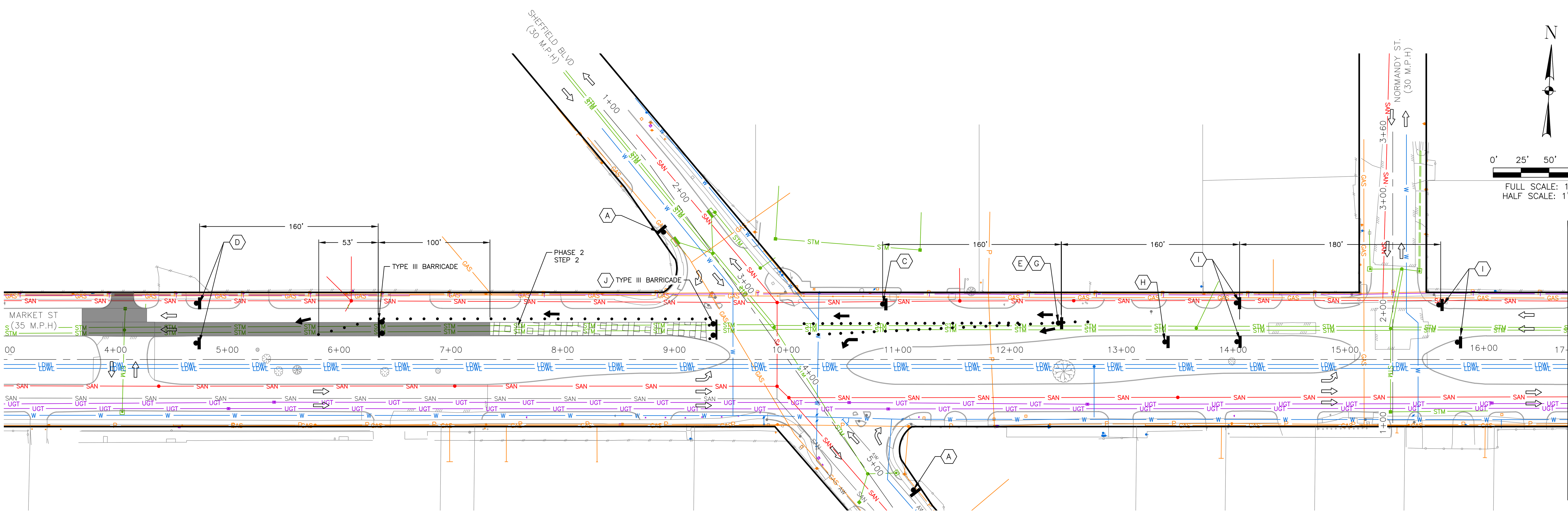

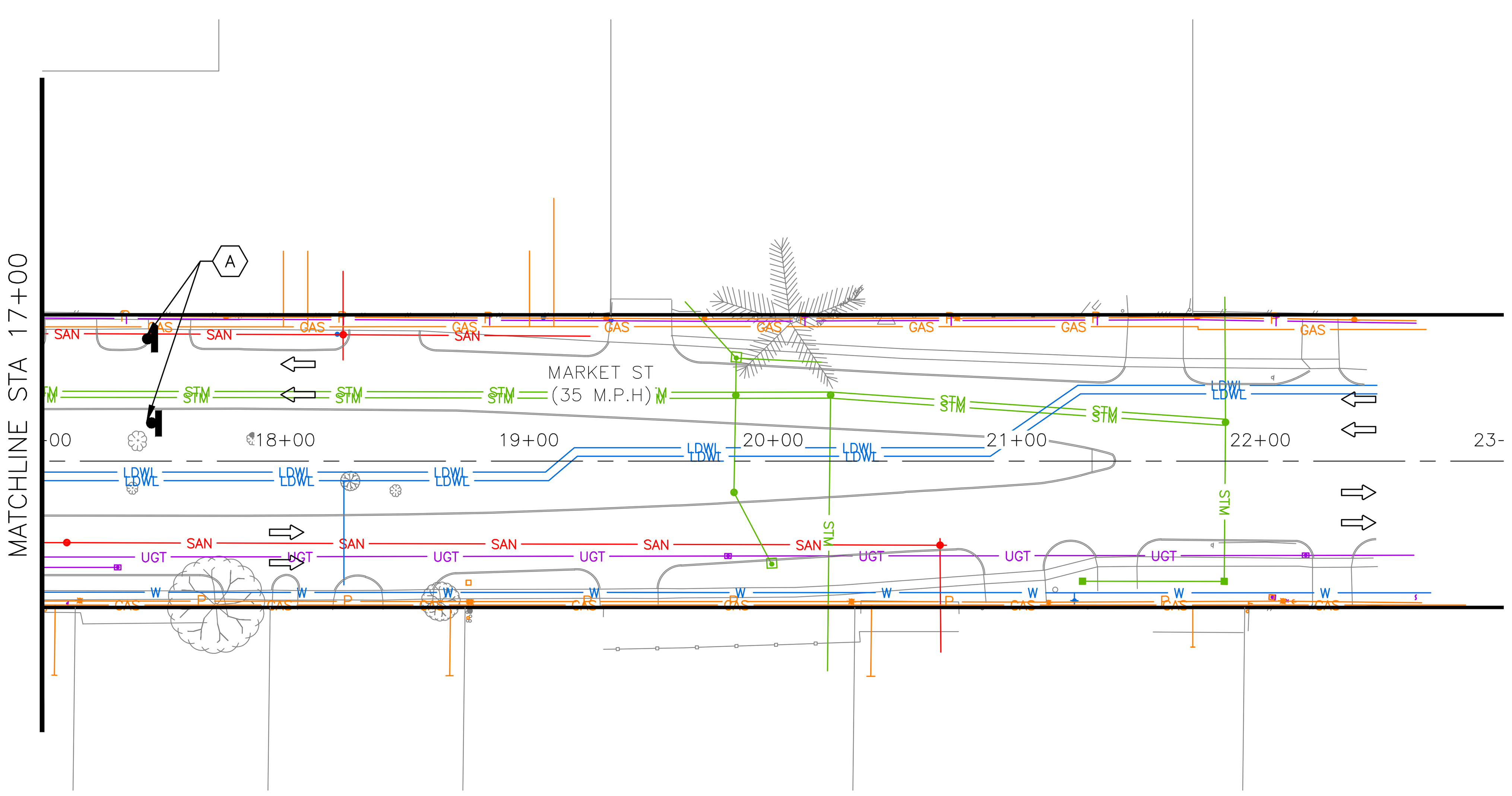

0' 25' 50' 100'
FULL SCALE: 1"=50'
HALF SCALE: 1"=100'

A	C	D	E	G	H	I
ROAD WORK AHEAD	LEFT LANE CLOSED AHEAD	END ROAD WORK			LEFT LANE MUST TURN LEFT	CENTER LANE CLOSED AHEAD
CW20-1	CW20-5(1) CW16-3	G20-2	FLASHING ARROW PANEL	W12-1	R3-7L	W9-3

NOTES

1. SEE STANDARD TRAFFIC CONTROL PLAN DETAILS SHEETS 44 - 52 FOR SIGN SPACING, BUFFER ZONE, AND TAPER DIMENSIONS.
2. DRIVEWAY ACCESS MUST BE COORDINATED WITH BUSINESS BEFORE CLOSURE.
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4. PROVIDE FLAGMEN DURING ACTIVE CONSTRUCTION TO ENSURE ENTRANCE AND EXIT IS MANAGED SAFELY.

LEGEND

- CONSTRUCTION ZONE (THIS PHASE)
- PERMANENT PAVEMENT (PREVIOUS PHASE)
- EXIST TRAFFIC FLOW
- PROP TRAFFIC FLOW
- SIGN
- APPROVED CHANNELIZATION DEVICE

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TBPELS ENGINEERING FIRM #312
9303 NEW TRAILS DR. SUITE 400
THE WOODLANDS, TEXAS 77381
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AVO: 36763.001 WO43

MATTHEW A. BUCHTER 156231
6/5/2026

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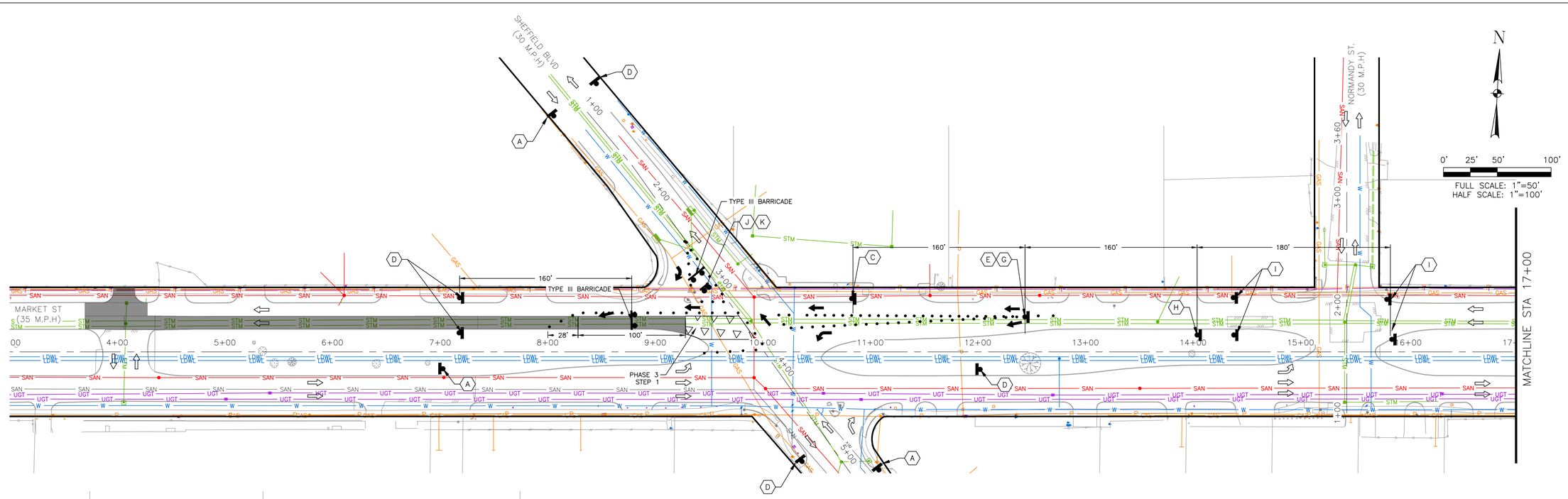
FB NO. P-6341

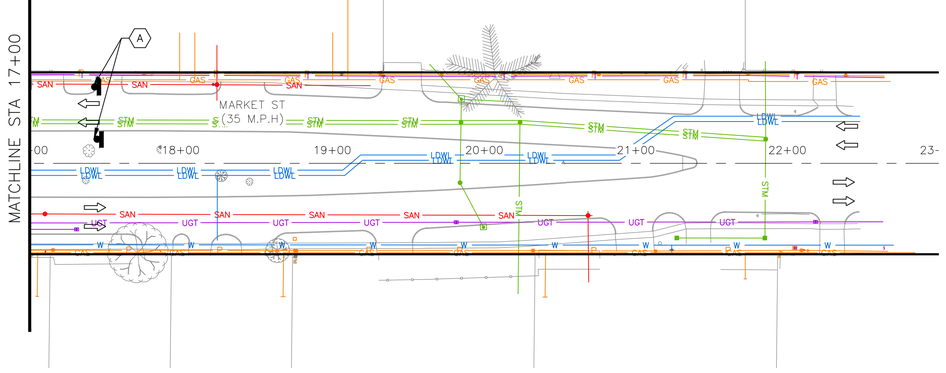
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

TRAFFIC CONTROL PLAN PHASE 2 STEP 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 24 OF 79	





NOTES

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A	C	D	E	G
ROAD WORK AHEAD CW20–1	LEFT LANE CLOSED AHEAD CW20–5(1) CW16–3	END ROAD WORK G20–2	FLASHING ARROW PANEL	W12–1

H	I	J	K
LEFT LANE MUST TURN LEFT R3–7L	CENTER LANE CLOSED AHEAD W9–3	ROAD CLOSED R11–2	DO NOT ENTER R5–1

LEGEND

- CONSTRUCTION ZONE (THIS PHASE)
- PERMANENT PAVEMENT (PREVIOUS PHASE)
- EXIST TRAFFIC FLOW
- PROP TRAFFIC FLOW
- SIGN
- APPROVED CHANNELIZATION DEVICE

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STATE OF TEXAS
MATTHEW A. BUCHTER
156231
LICENSED
PROFESSIONAL ENGINEER
6/5/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

TRAFFIC CONTROL PLAN PHASE 3 STEP 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–430220–040A–3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 25 OF 79	

PLOT STYLE: Coh.ctb

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PLOT STYLE: Coh.ctb
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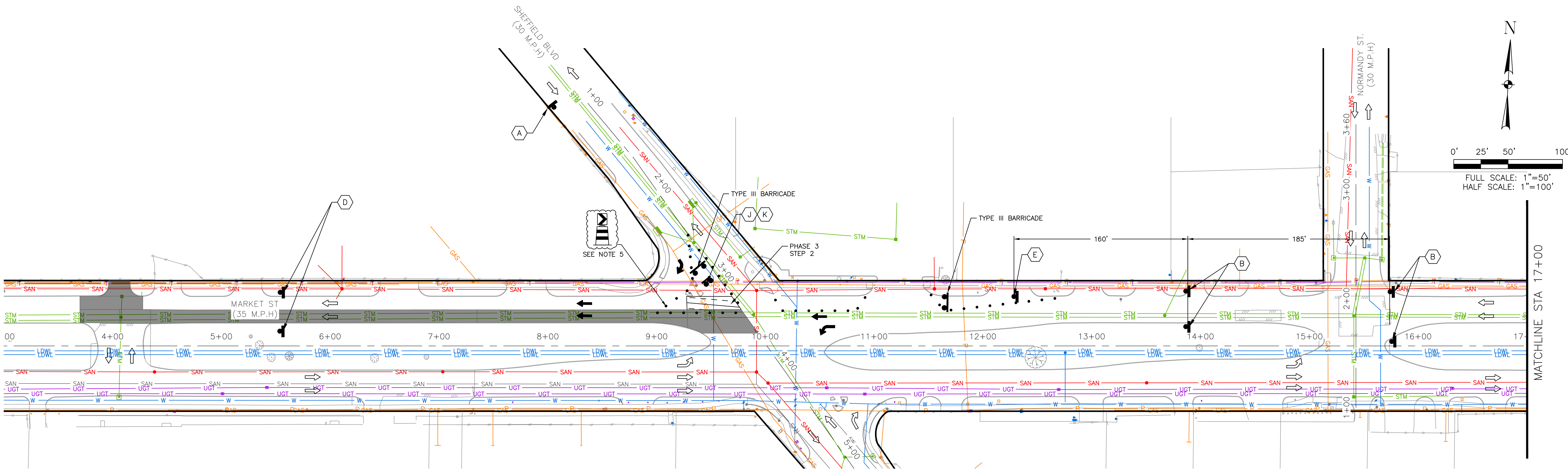

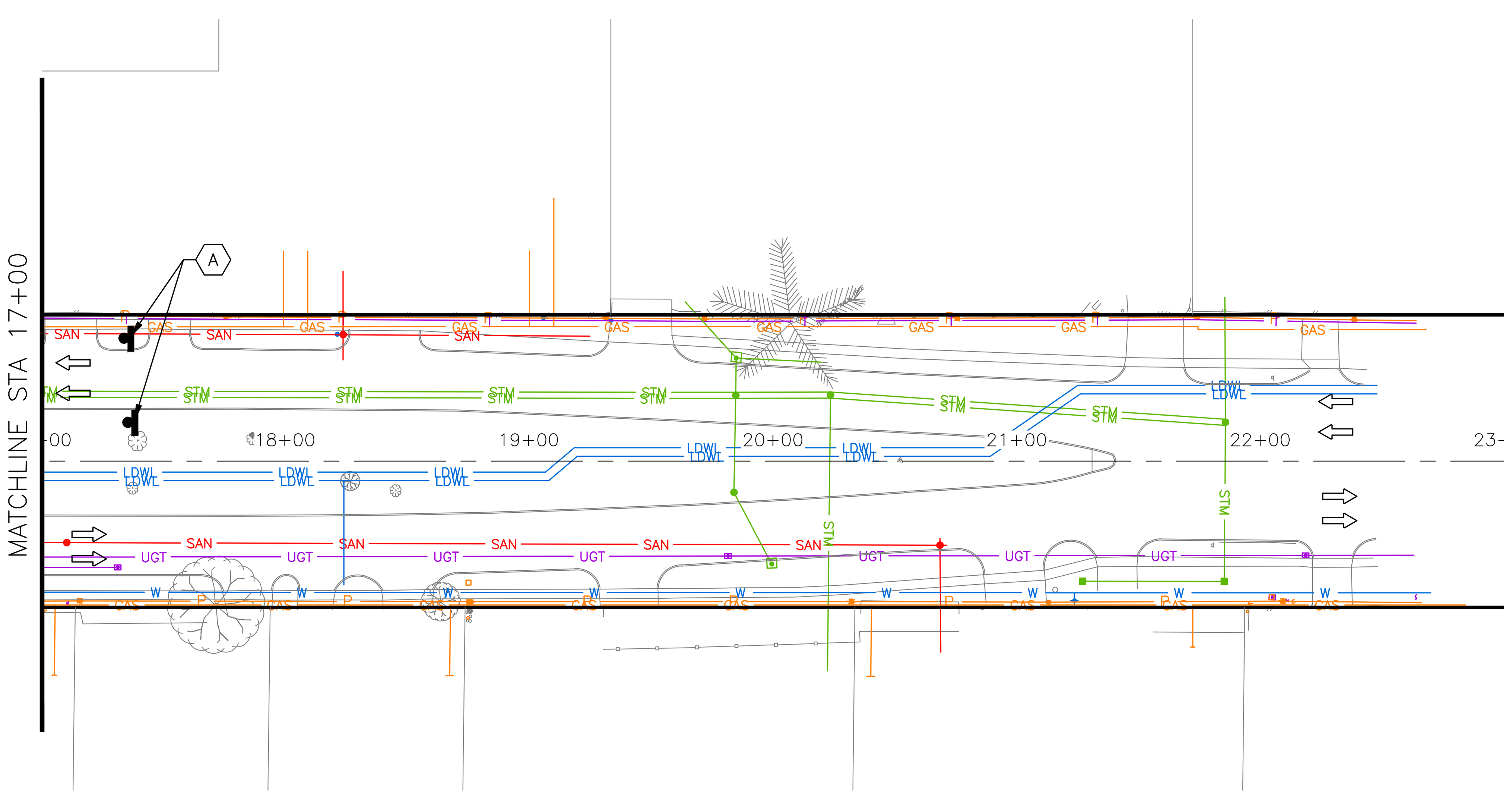

A	B	D	E	J	K
ROAD WORK AHEAD	RIGHT LANE CLOSED / AHEAD	END ROAD WORK		ROAD CLOSED	DO NOT ENTER
CW20-1	CW20-5(2) CW16-3	G20-2	FLASHING ARROW PANEL	R11-2	R5-1

NOTES

1. SEE STANDARD TRAFFIC CONTROL PLAN DETAILS SHEETS 44 – 52 FOR SIGN SPACING, BUFFER ZONE, AND TAPER DIMENSIONS.
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4. PROVIDE FLAGMEN DURING ACTIVE CONSTRUCTION TO ENSURE ENTRANCE AND EXIT IS MANAGED SAFELY.
5. PROVIDE PLASTIC DRUM WITH CHEVRON, CW1-8R, AT EVERY OTHER BARREL.

LEGEND

- CONSTRUCTION ZONE (THIS PHASE)
- PERMANENT PAVEMENT (PREVIOUS PHASE)
- EXIST TRAFFIC FLOW
- PROP TRAFFIC FLOW
- SIGN
- APPROVED CHANNELIZATION DEVICE

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TBPELS ENGINEERING FIRM #312
9303 NEW TRAILS DR. SUITE 400
THE WOODLANDS, TEXAS 77381
TEL (936) 777-6400
FAX (936) 756-6833
AVO: 36763.001 WO43

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AMANI ENGINEERING, INC.
FB NO. P-6341

MATTHEW A. BUCHER
156231
6/5/2026

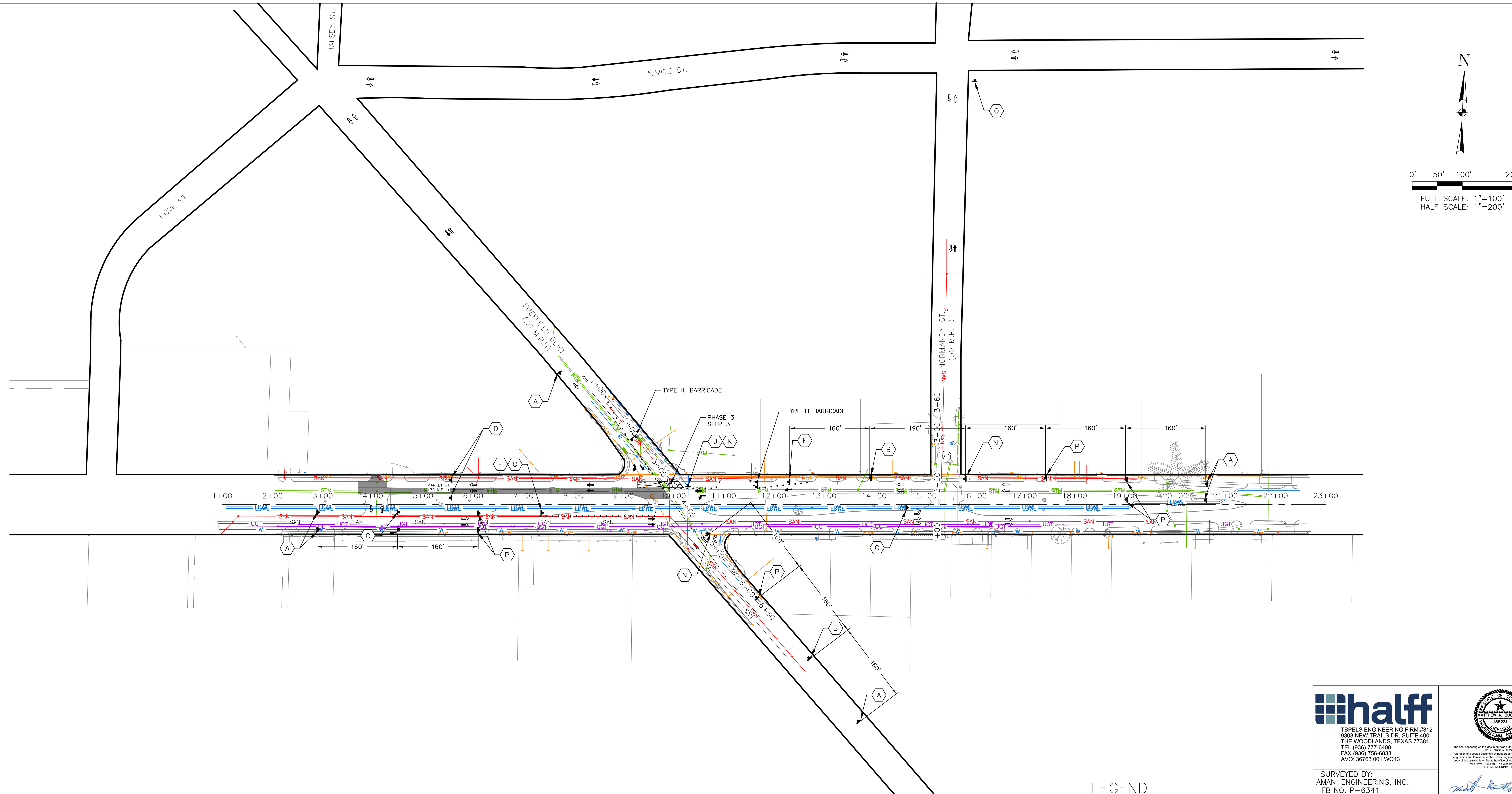
CITY OF HOUSTON

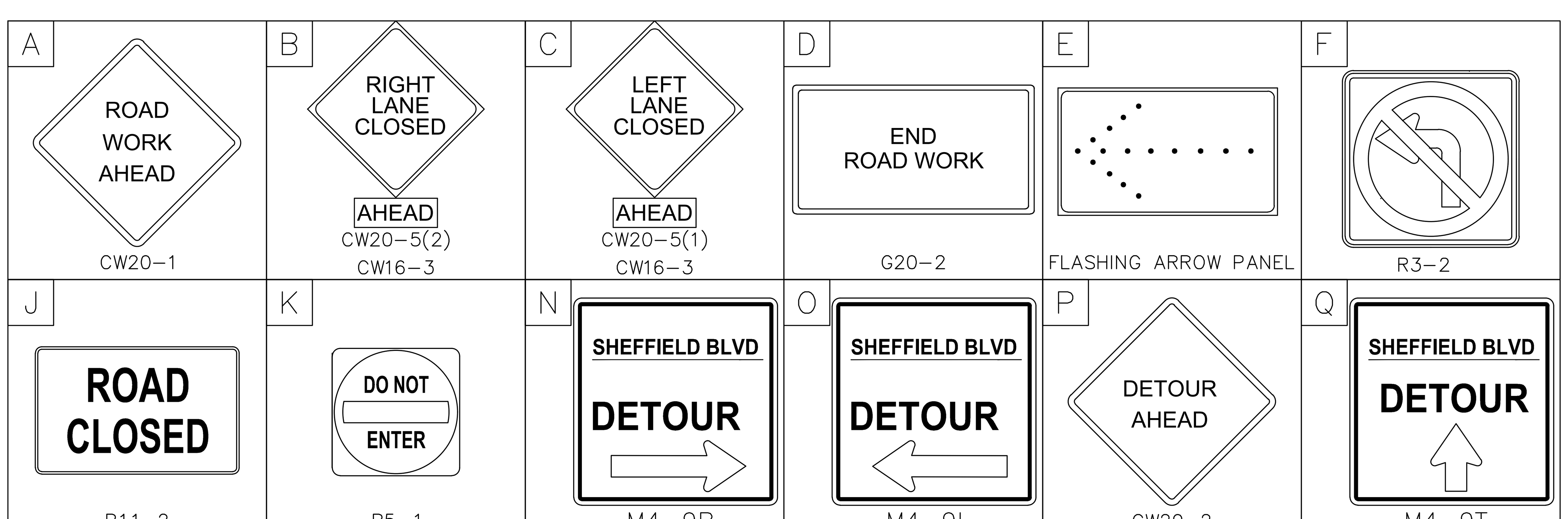
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

TRAFFIC CONTROL PLAN PHASE 3 STEP 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 26 OF 79	





NOTES

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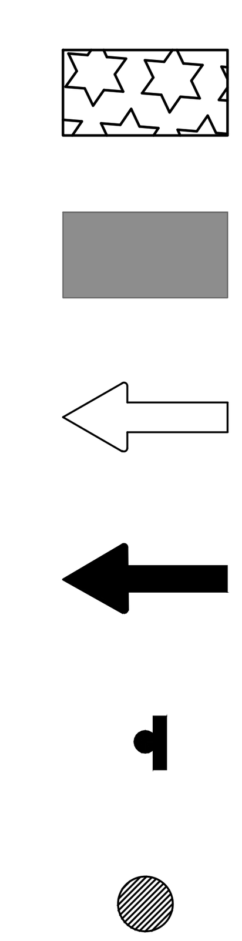
LEGEND



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AVO: 36763.001 WO43

STATE OF TEXAS
MATTHEW A. BUCHTER
156231
LICENSED PROFESSIONAL ENGINEER
6/5/2026

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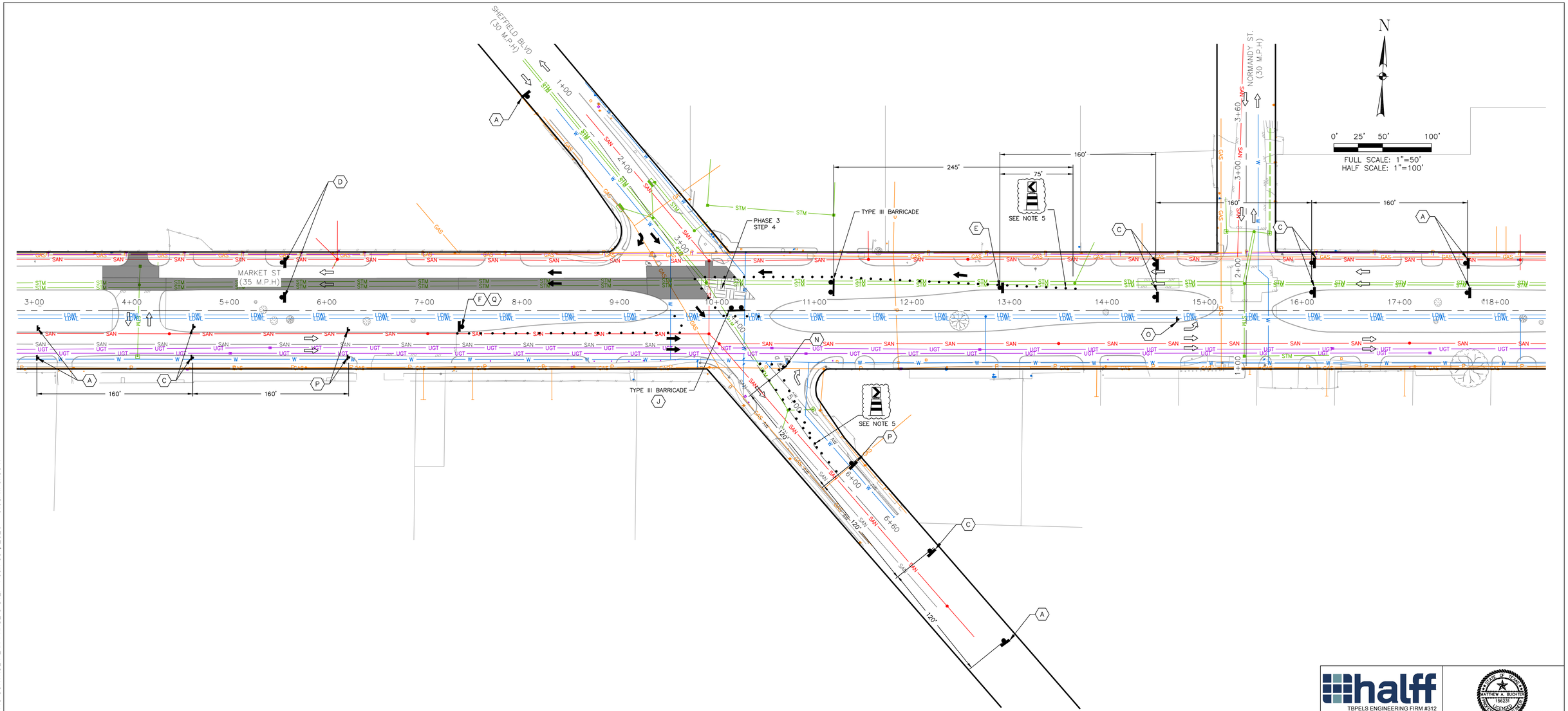
CITY OF HOUSTON

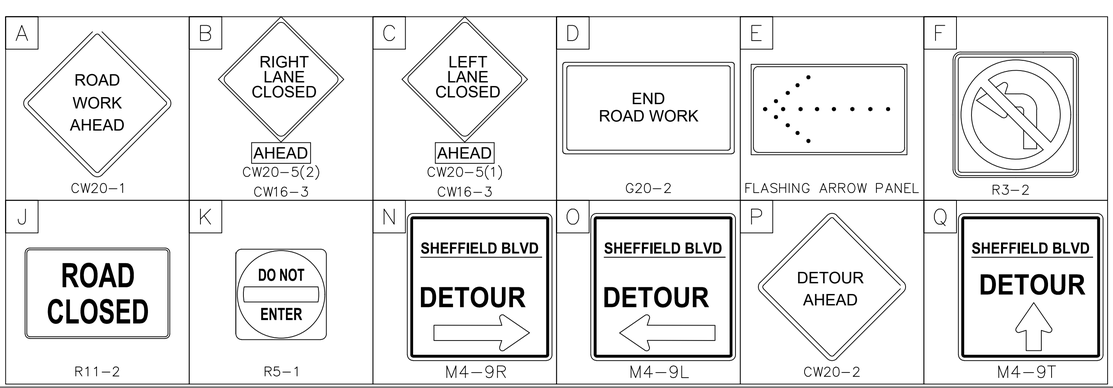
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

TRAFFIC CONTROL PLAN PHASE 3 STEP 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 27 OF 79	





NOTES

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5. PROVIDE PLASTIC DRUM WITH CHEVRON, CW1-8R, AT EVERY OTHER BARREL.

LEGEND

- CONSTRUCTION ZONE (THIS PHASE)
- PERMANENT PAVEMENT (PREVIOUS PHASE)
- EXIST TRAFFIC FLOW
- PROP TRAFFIC FLOW
- SIGN
- APPROVED CHANNELIZATION DEVICE

halff
TBPELS ENGINEERING FIRM #312
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AVO: 36763.001 WO43

SURVEYED BY:
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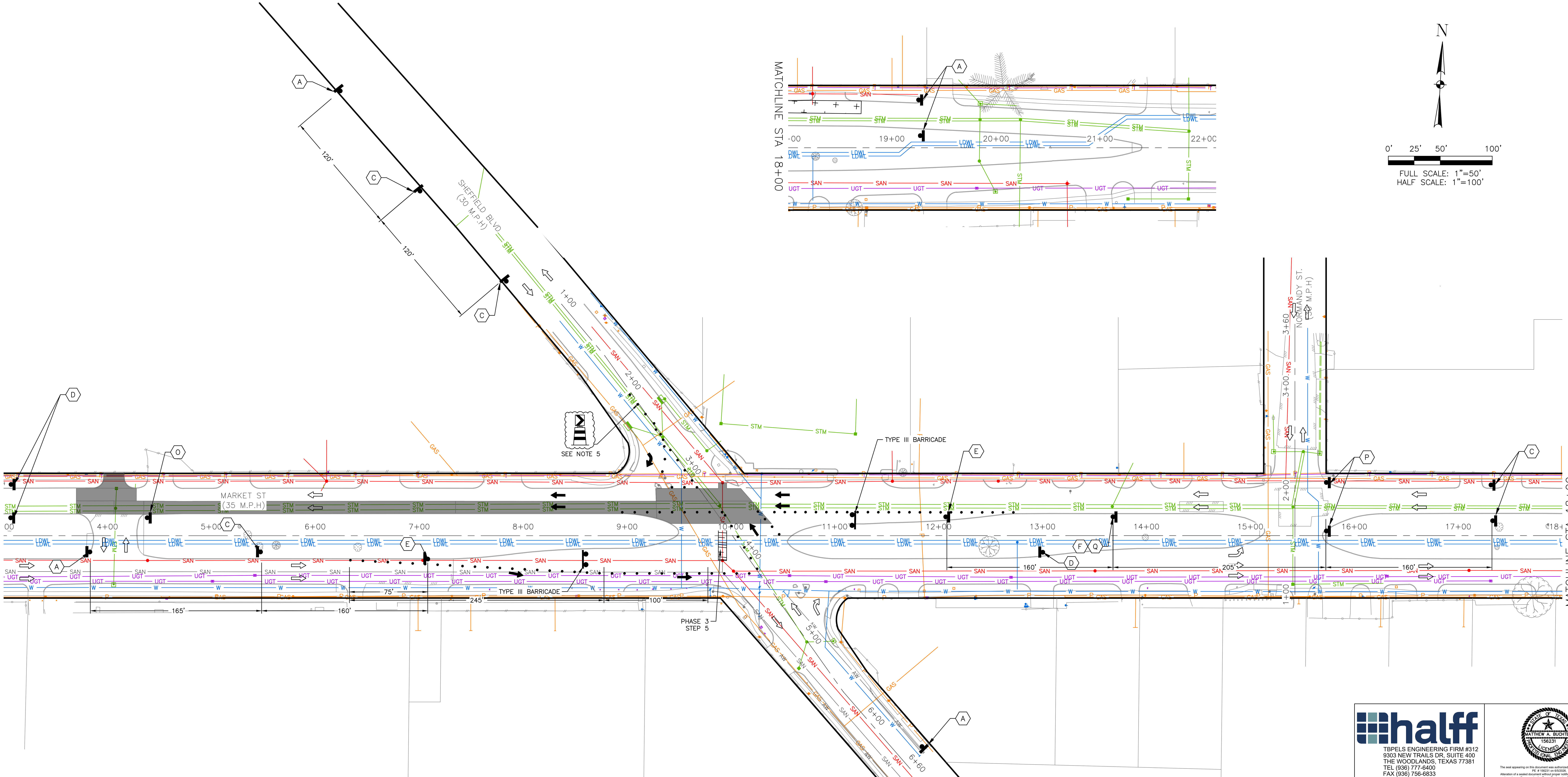
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

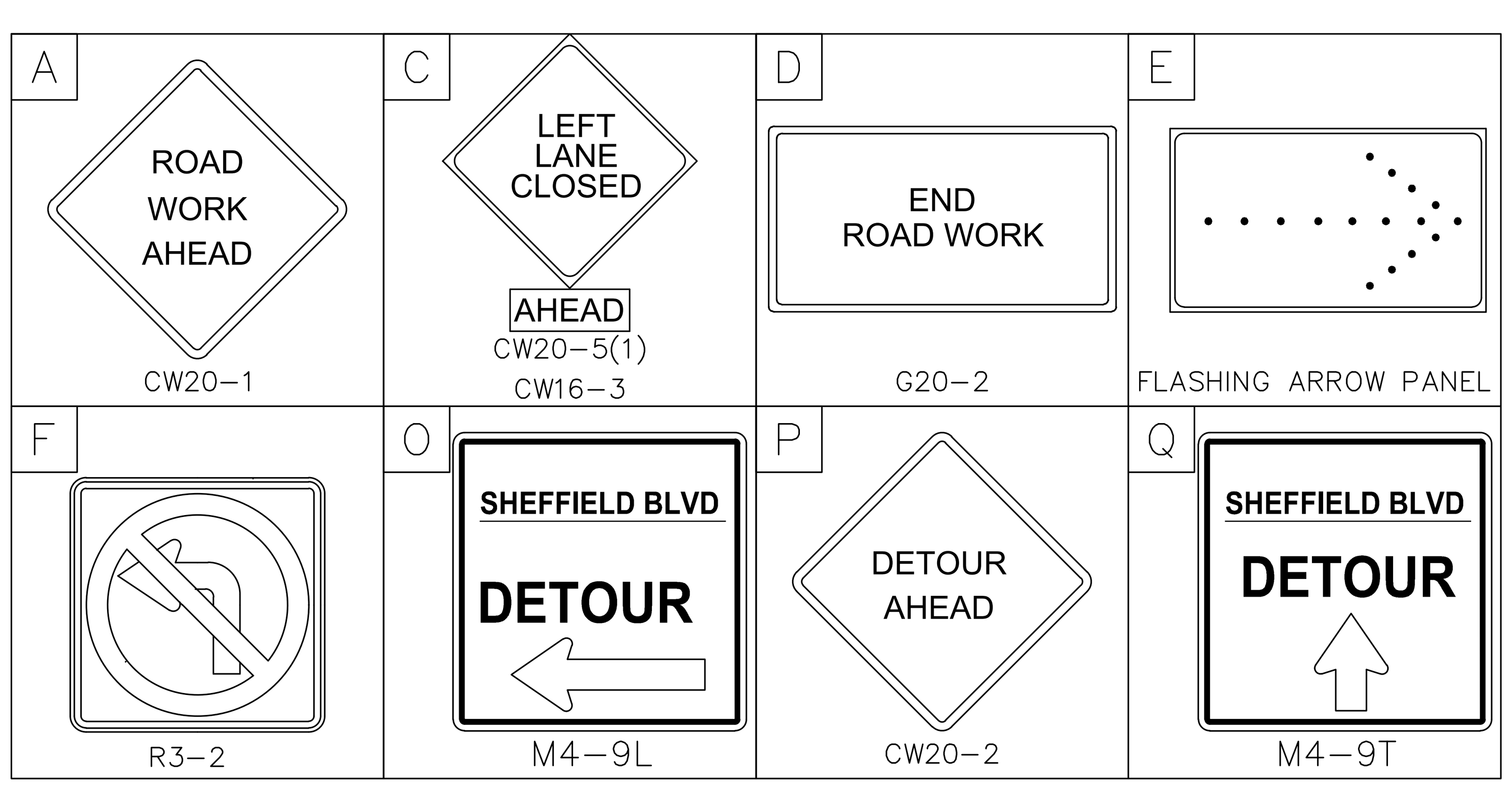
MARKET STREET STORM SEWER IMPROVEMENTS

TRAFFIC CONTROL PLAN PHASE 3 STEP 4

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 28 OF 79	

PLOT STYLE: Coh.ctb
A:\36000s\36763\001\WO43\Cadd\Sheets\C2.02-PLAN-TRCP-36763.001.dwgTRAFFIC CONTROL PLAN PHASE 3 STEP 4 Jun 05, 2026 - 9:05AM dh5647





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5. PROVIDE PLASTIC DRUM WITH CHEVRON, CW1-8R, AT EVERY OTHER BARREL.

LEGEND

- CONSTRUCTION ZONE (THIS PHASE)
- PERMANENT PAVEMENT (PREVIOUS PHASE)
- EXIST TRAFFIC FLOW
- PROP TRAFFIC FLOW
- SIGN
- APPROVED CHANNELIZATION DEVICE

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FB NO. P-6341

STATE OF TEXAS — MATTHEW A. BUCHTER — 156231 — LICENSED PROFESSIONAL ENGINEER
6/5/2026

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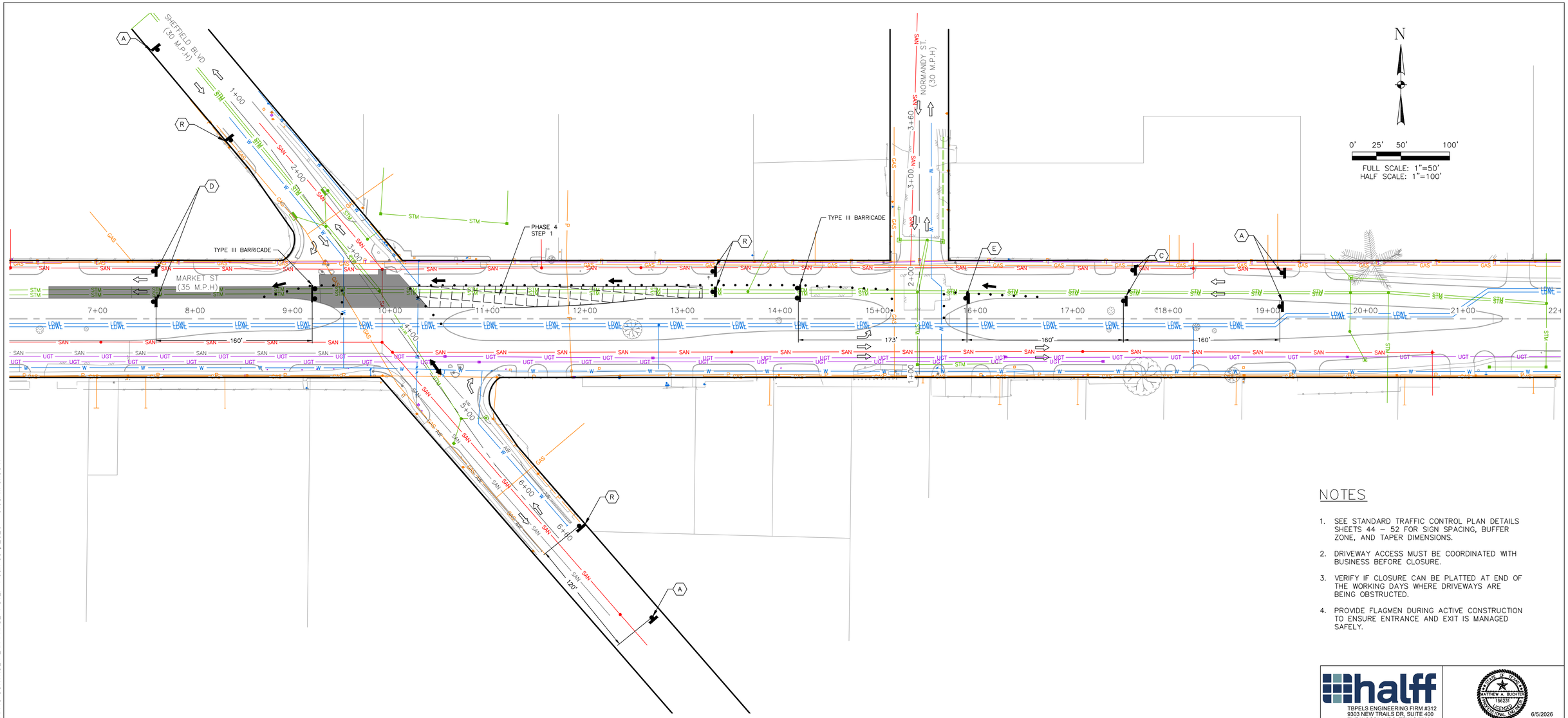
CITY OF HOUSTON

HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

TRAFFIC CONTROL PLAN PHASE 3 STEP 5

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 29 OF 79	



NOTES

1. SEE STANDARD TRAFFIC CONTROL PLAN DETAILS SHEETS 44 – 52 FOR SIGN SPACING, BUFFER ZONE, AND TAPER DIMENSIONS.
2. DRIVEWAY ACCESS MUST BE COORDINATED WITH BUSINESS BEFORE CLOSURE.
3. VERIFY IF CLOSURE CAN BE PLATTED AT END OF THE WORKING DAYS WHERE DRIVEWAYS ARE BEING OBSTRUCTED.
4. PROVIDE FLAGMEN DURING ACTIVE CONSTRUCTION TO ENSURE ENTRANCE AND EXIT IS MANAGED SAFELY.

A	C	D	E
ROAD WORK AHEAD	LEFT LANE CLOSED / AHEAD	END ROAD WORK	FLASHING ARROW PANEL
CW20–1	CW20–5(1) CW16–3	G20–2	

R
W20–7a

LEGEND

- CONSTRUCTION ZONE (THIS PHASE)
- PERMANENT PAVEMENT (PREVIOUS PHASE)
- EXIST TRAFFIC FLOW
- PROP TRAFFIC FLOW
- SIGN
- APPROVED CHANNELIZATION DEVICE

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9303 NEW TRAILS DR, SUITE 400
THE WOODLANDS, TEXAS 77381
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FAX (936) 756-6833
AVO: 36763.001 WO43

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FB NO. P–6341

STATE OF TEXAS
MATTHEW A. BUSHTER
156231
LICENSED
PROFESSIONAL ENGINEER
6/5/2026

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

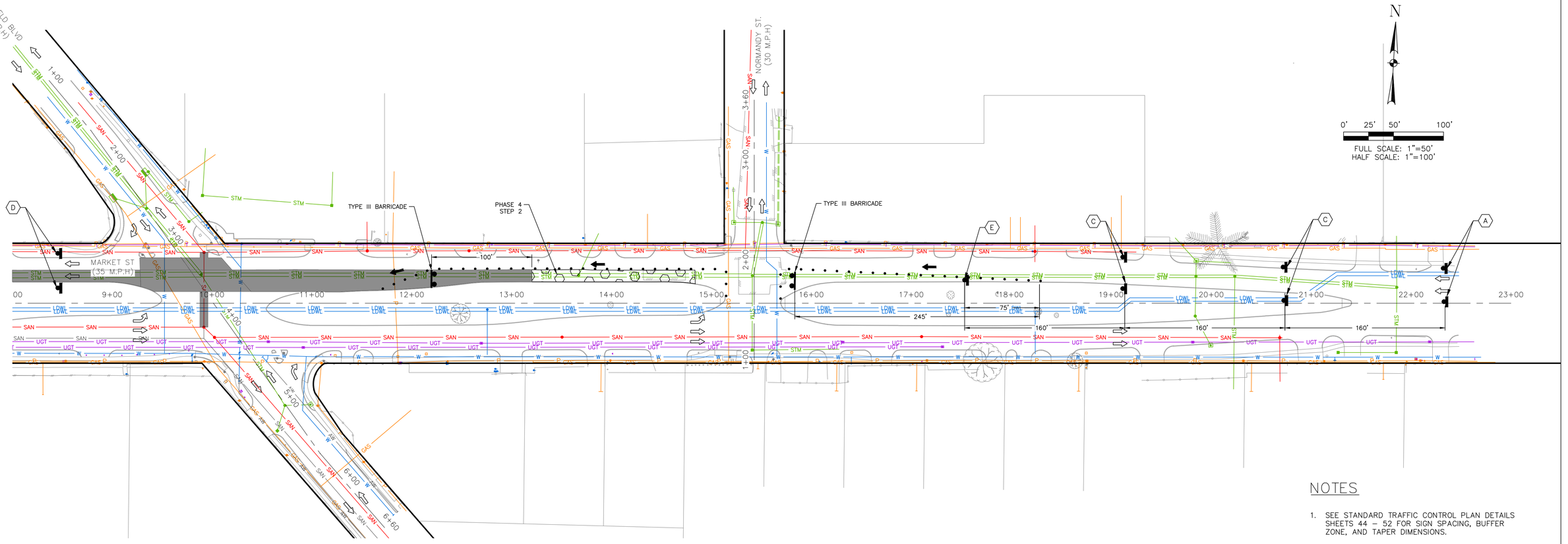
MARKET STREET STORM SEWER IMPROVEMENTS

TRAFFIC CONTROL PLAN PHASE 4 STEP 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–430220–040A–3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 30 OF 79	

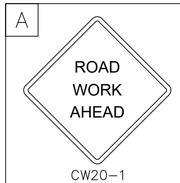
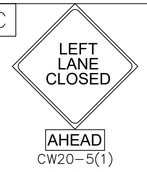
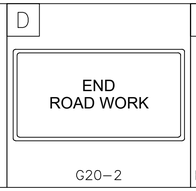
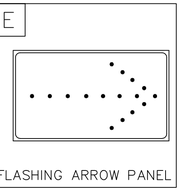
PLOT STYLE: Coh.ctb

A:\36000s\36763\001\WO43\Cadd\Sheets\C2.02-PLAN-TRCP-36763.001.dwgTRAFFIC CONTROL PLAN PHASE 4 STEP 1 Jun 05, 2026 – 9:05AM dh5647



NOTES

1. SEE STANDARD TRAFFIC CONTROL PLAN DETAILS SHEETS 44 – 52 FOR SIGN SPACING, BUFFER ZONE, AND TAPER DIMENSIONS.
2. DRIVEWAY ACCESS MUST BE COORDINATED WITH BUSINESS BEFORE CLOSURE.
3. VERIFY IF CLOSURE CAN BE PLATTED AT END OF THE WORKING DAYS WHERE DRIVEWAYS ARE BEING OBSTRUCTED.
4. PROVIDE FLAGMEN DURING ACTIVE CONSTRUCTION TO ENSURE ENTRANCE AND EXIT IS MANAGED SAFELY.

A	C	D	E
			
ROAD WORK AHEAD	LEFT LANE CLOSED AHEAD	END ROAD WORK	FLASHING ARROW PANEL
CW20–1	CW20–5(1) CW16–3	G20–2	

LEGEND

- CONSTRUCTION ZONE (THIS PHASE)
- PERMANENT PAVEMENT (PREVIOUS PHASE)
- EXIST TRAFFIC FLOW
- PROP TRAFFIC FLOW
- SIGN
- APPROVED CHANNELIZATION DEVICE

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6/5/2026

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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

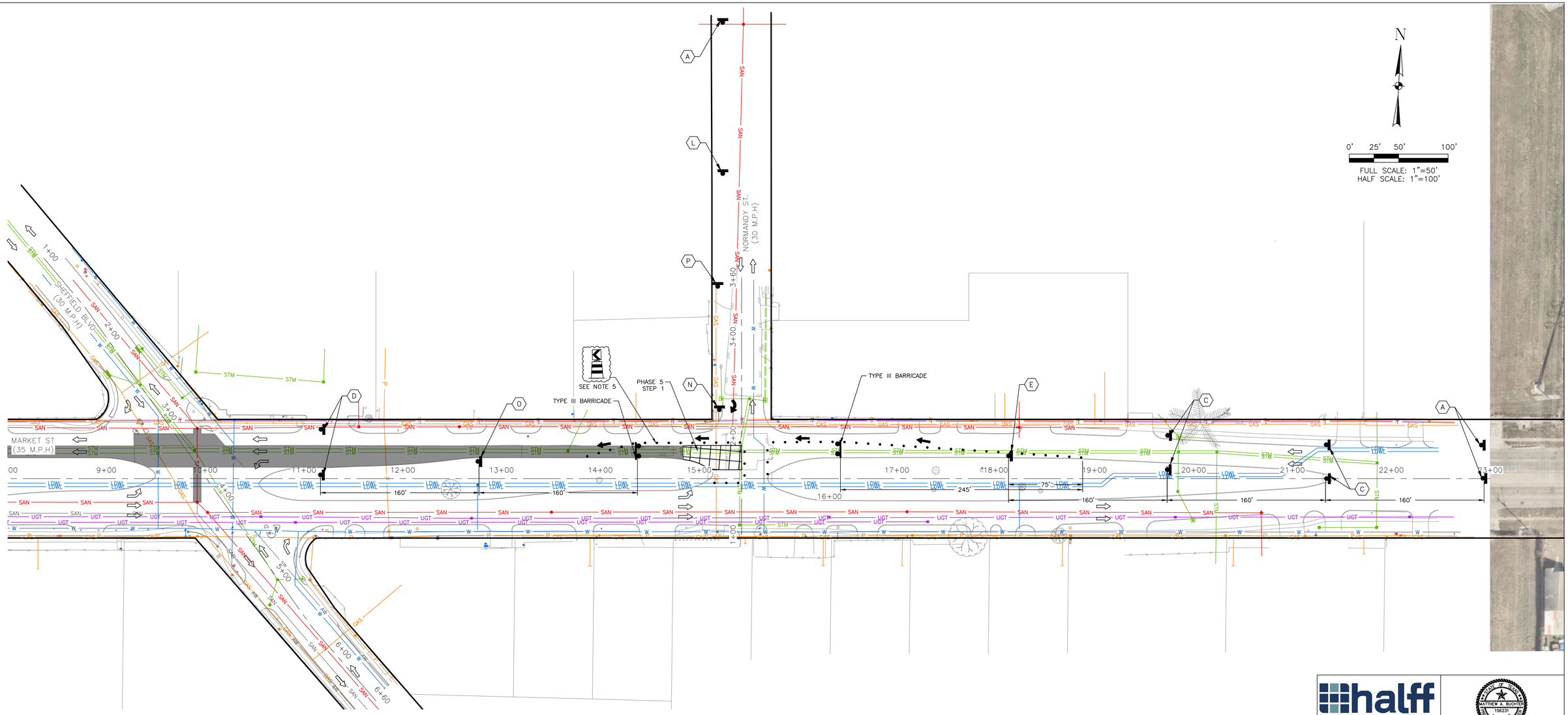
MARKET STREET STORM SEWER IMPROVEMENTS

TRAFFIC CONTROL PLAN PHASE 4 STEP 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 31 OF 79	

PLOT STYLE: Coh.ctb

A:\36000s\36763\001\WO43\Cadd\Sheets\C2.02-PLAN-TRCP-36763.001.dwgTRAFFIC CONTROL PLAN PHASE 4 STEP 2 Jun 05, 2026 – 9:06AM ah5647



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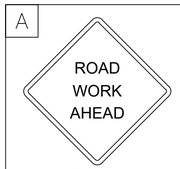
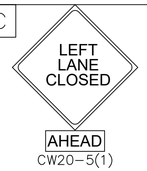
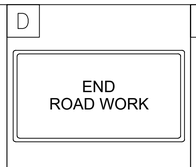
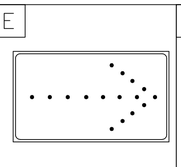
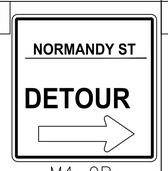
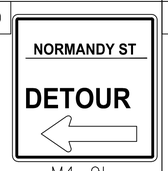
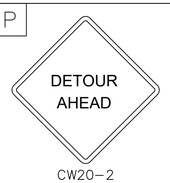
				
CW20-1	CW20-5(1) CW16-3	G20-2	FLASHING ARROW PANEL	R3-5R
N	O	P		
				
M4-9R	M4-9L	CW20-2		

NOTES

1. SEE STANDARD TRAFFIC CONTROL PLAN DETAILS SHEETS 44 – 52 FOR SIGN SPACING, BUFFER ZONE, AND TAPER DIMENSIONS.
2. DRIVEWAY ACCESS MUST BE COORDINATED WITH BUSINESS BEFORE CLOSURE.
3. VERIFY IF CLOSURE CAN BE PLATED AT END OF THE WORKING DAYS WHERE DRIVEWAYS ARE BEING OBSTRUCTED.
4. PROVIDE FLAGMEN DURING ACTIVE CONSTRUCTION TO ENSURE ENTRANCE AND EXIT IS MANAGED SAFELY.
5. PROVIDE PLASTIC DRUM WITH CHEVRON, CW1-8R, AT EVERY OTHER BARREL.

LEGEND

- CONSTRUCTION ZONE (THIS PHASE)
- PERMANENT PAVEMENT (PREVIOUS PHASE)
- EXIST TRAFFIC FLOW
- PROP TRAFFIC FLOW
- SIGN
- APPROVED CHANNELIZATION DEVICE

halff
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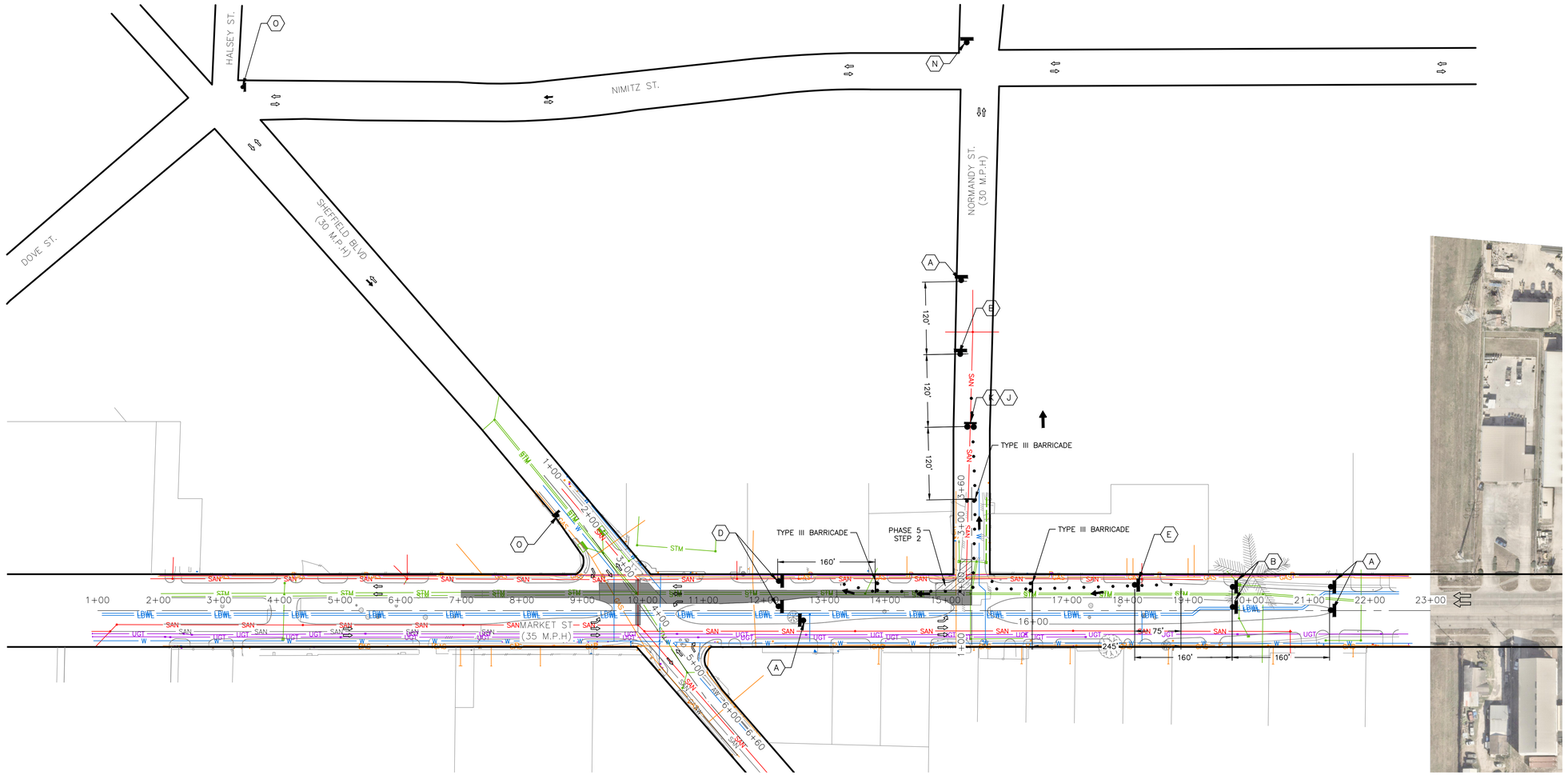
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

TRAFFIC CONTROL PLAN PHASE 5 STEP 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 32 OF 79	



N

0' 50' 100' 200'

FULL SCALE: 1"=100'
HALF SCALE: 1"=200'

A	B	D	E	J
ROAD WORK AHEAD CW20-1	RIGHT LANE CLOSED AHEAD CW20-5(2) CW16-3	END ROAD WORK G20-2	FLASHING ARROW PANEL	ROAD CLOSED R11-2

K	N	O
DO NOT ENTER R5-1	NORMANDY ST DETOUR M4-9R	NORMANDY ST DETOUR M4-9L

NOTES

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LEGEND

- CONSTRUCTION ZONE (THIS PHASE)
- PERMANENT PAVEMENT (PREVIOUS PHASE)
- EXIST TRAFFIC FLOW
- PROP TRAFFIC FLOW
- SIGN
- APPROVED CHANNELIZATION DEVICE

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FB NO. P-6341

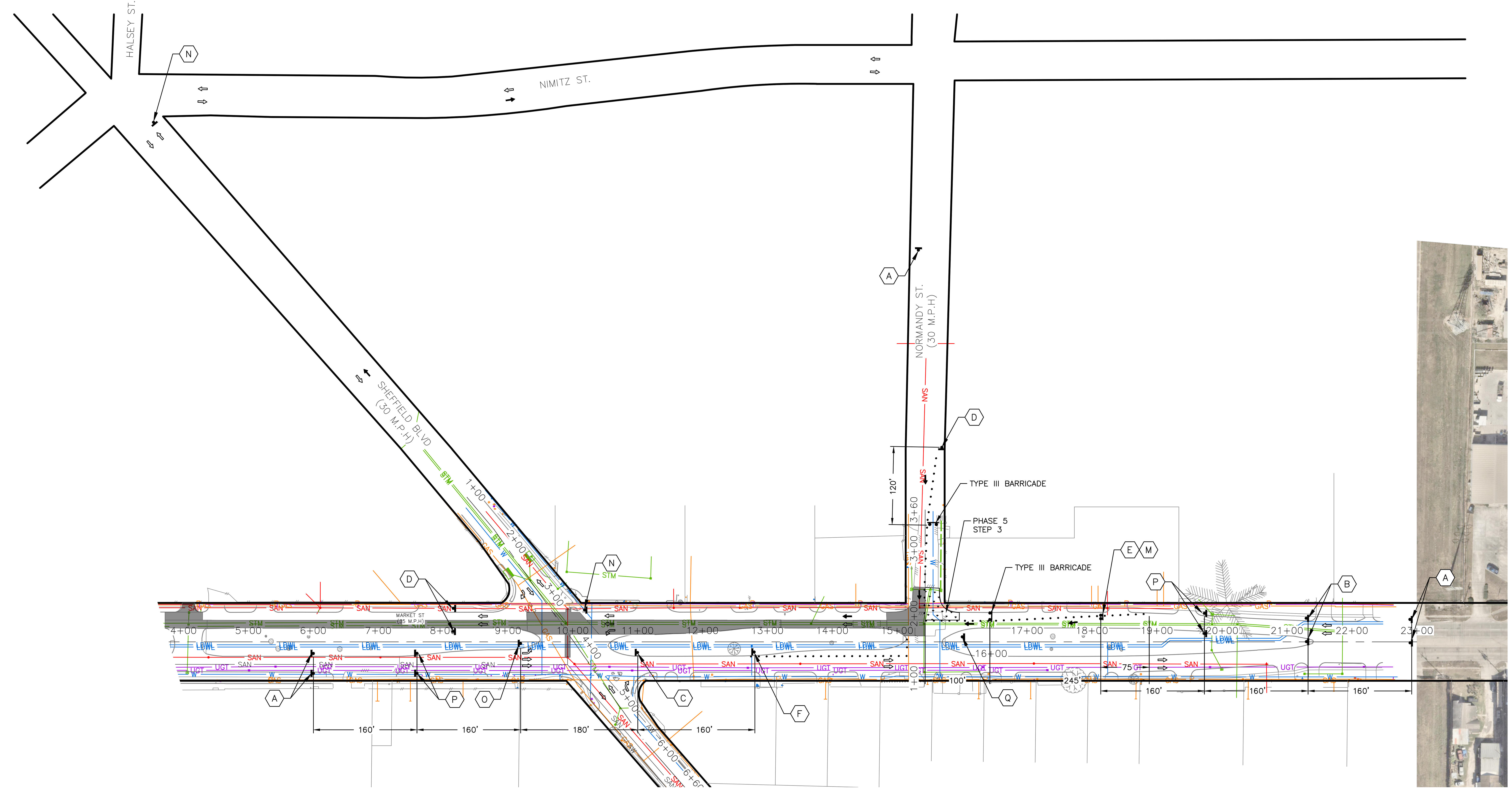
STATE OF TEXAS
MATTHEW A. BUCHTER
156231
LICENSED
PROFESSIONAL ENGINEER
6/5/2026

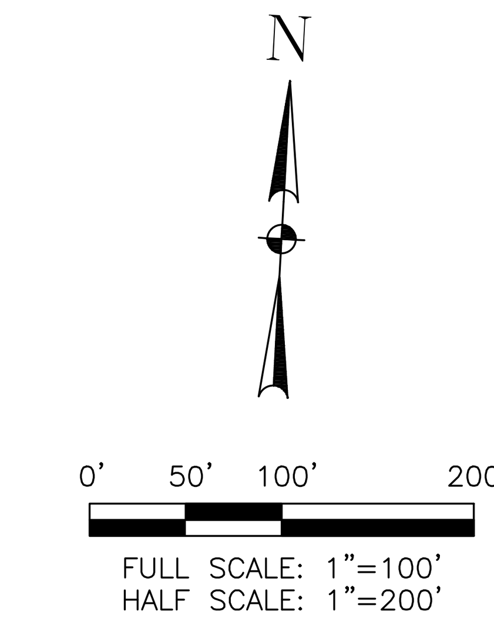
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

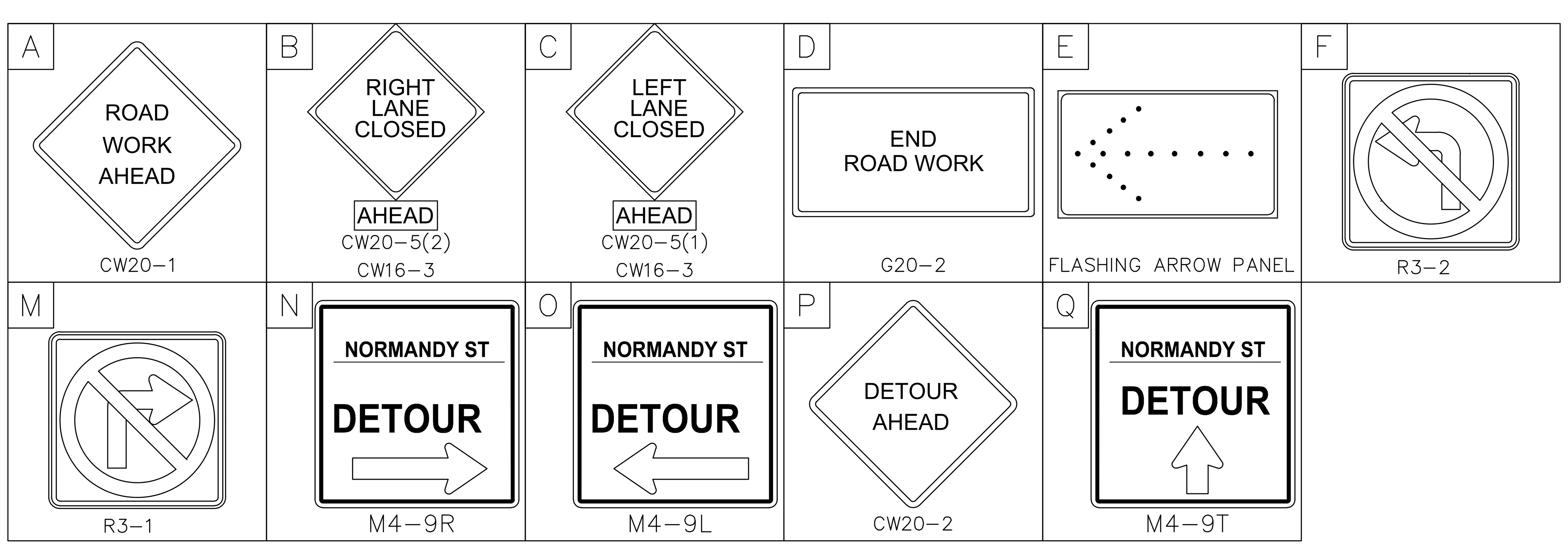
MARKET STREET STORM SEWER IMPROVEMENTS

TRAFFIC CONTROL PLAN PHASE 5 STEP 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 33 OF 79	







NOTES

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LEGEND

- CONSTRUCTION ZONE (THIS PHASE)
- PERMANENT PAVEMENT (PREVIOUS PHASE)
- EXIST TRAFFIC FLOW
- PROP TRAFFIC FLOW
- SIGN
- APPROVED CHANNELIZATION DEVICE

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MATTHEW A. BUCHTER
156231
6/5/2026

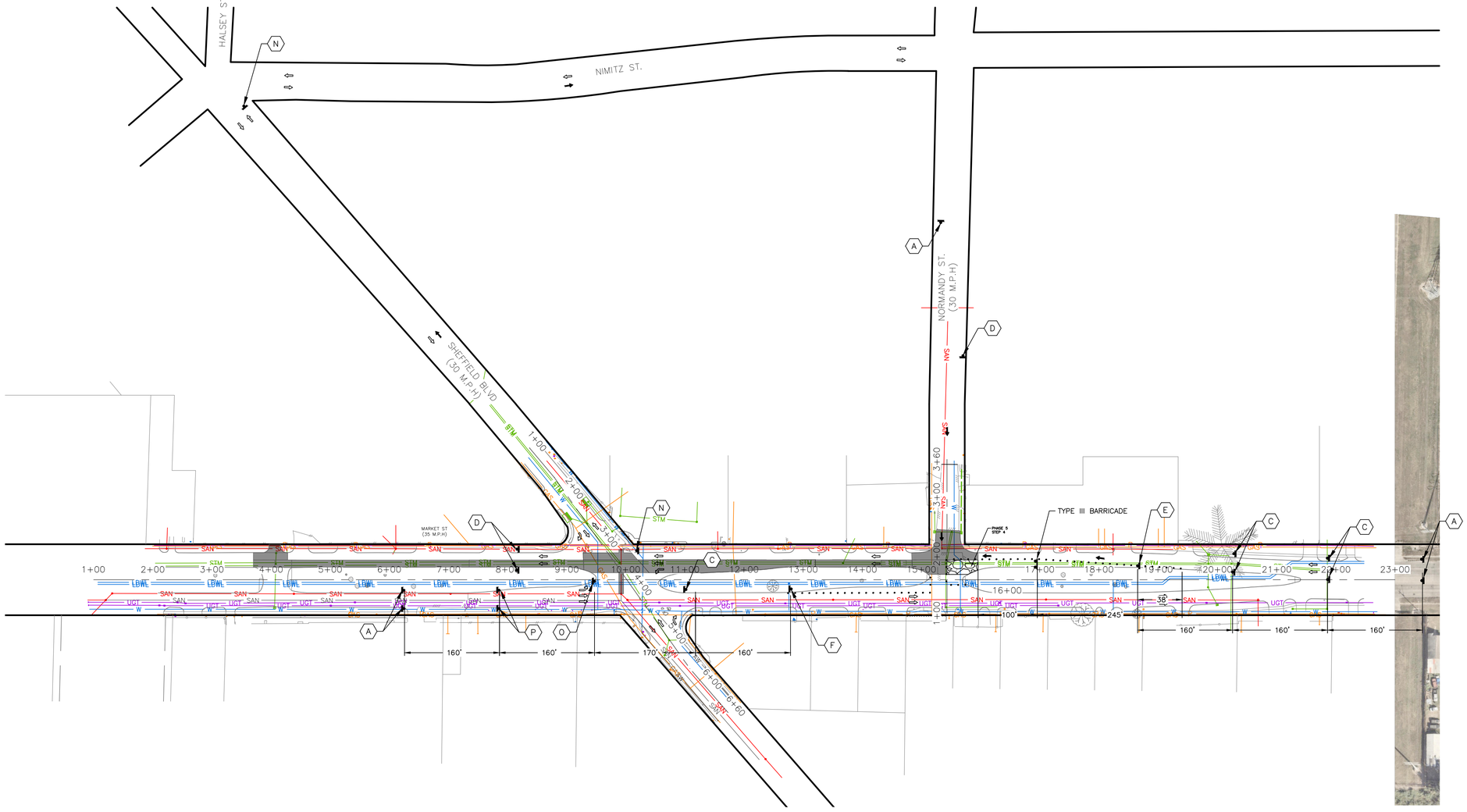
CITY OF HOUSTON

HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

TRAFFIC CONTROL PLAN PHASE 5 STEP 3

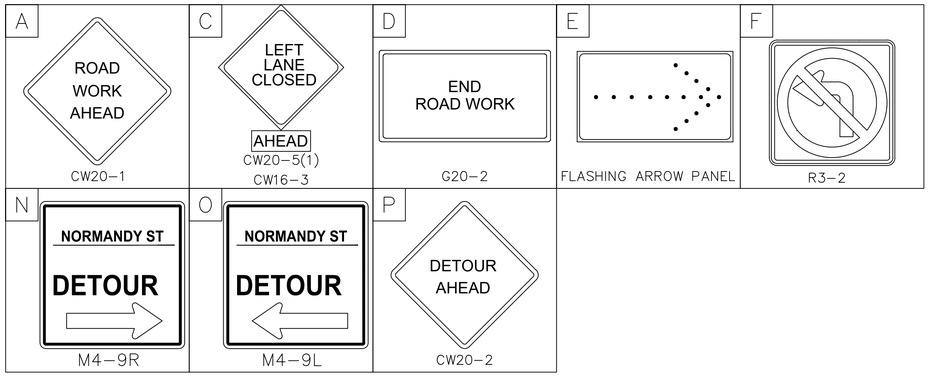
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 34 OF 79	



N

0' 50' 100' 200'

FULL SCALE: 1"=100'
HALF SCALE: 1"=200'



NOTES

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LEGEND

- CONSTRUCTION ZONE (THIS PHASE)
- PERMANENT PAVEMENT (PREVIOUS PHASE)
- EXIST TRAFFIC FLOW
- PROP TRAFFIC FLOW
- SIGN
- APPROVED CHANNELIZATION DEVICE

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MATTHEW A. BUCHTER
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LICENSED PROFESSIONAL ENGINEER
6/5/2026

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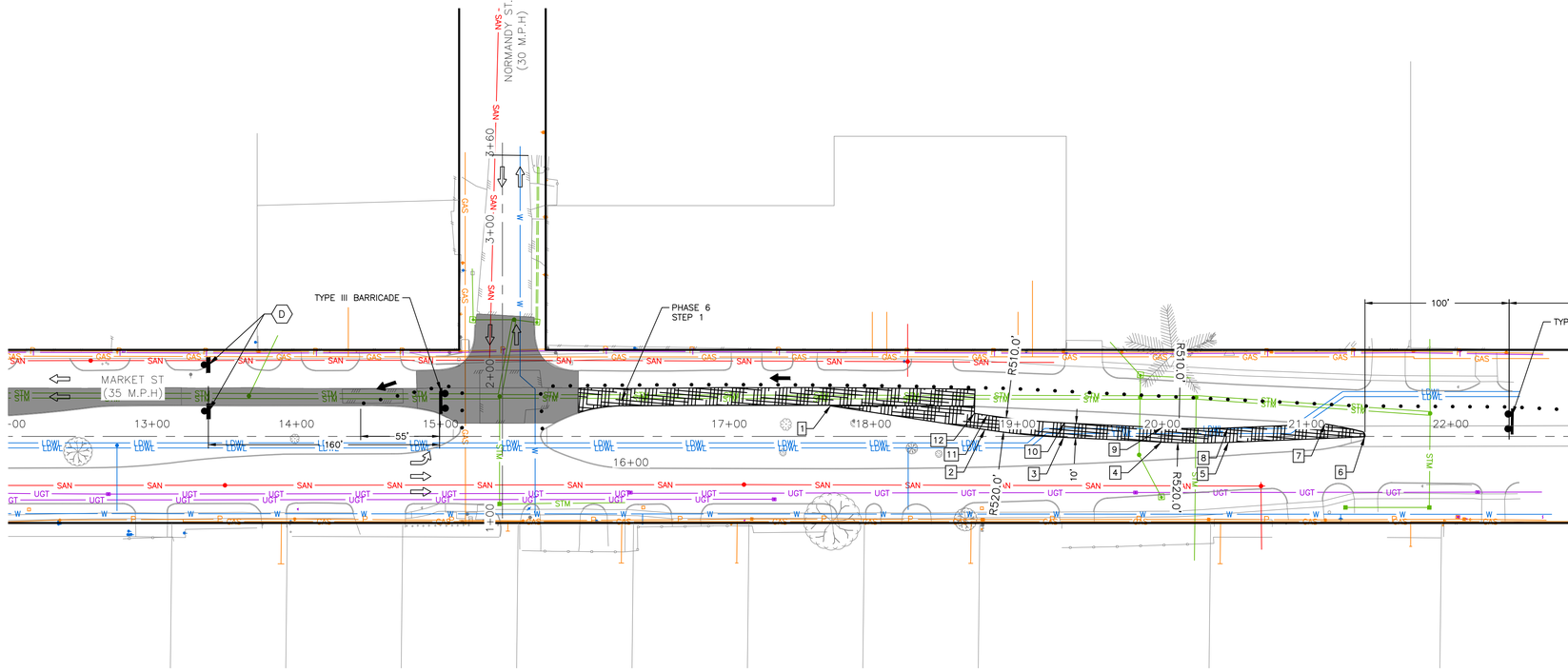
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

TRAFFIC CONTROL PLAN PHASE 5 STEP 4

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 35 OF 79	



A	C	D	E
ROAD WORK AHEAD CW20-1	LEFT LANE CLOSED AHEAD CW20-5(1) CW16-3	END ROAD WORK G20-2	FLASHING ARROW PANEL

POINT	STATION	OFFSET	LT/RT	DESCRIPTION
1	17+70.08	21.14	LT	EP/ME
2	18+77.15	4.74	LT	PC/BR
3	19+31.64	0.69	RT	PT/ER
4	19+99.39	3.98	RT	PC/BR
5	20+45.89	4.16	RT	PT/ER
6	21+40.42	0.30	RT	EP/ME
7	21+12.99	8.60	LT	EP/ME
8	20+45.48	5.83	LT	PC/BR
9	19+99.87	6.00	LT	PT/ER
10	19+32.11	9.30	LT	PC/BR
11	18+78.66	14.62	LT	PT/ER
12	18+69.77	15.99	LT	EP/ME

ABBREVIATIONS:

EP EDGE OF PAVEMENT

ME MATCH EXISTING

BR BEGIN RADIUS

ER END RADIUS

PC POINT OF CURVATURE

PT POINT OF TANGENCY

NOTES

1. SEE STANDARD TRAFFIC CONTROL PLAN DETAILS SHEETS 44 – 52 FOR SIGN SPACING, BUFFER ZONE, AND TAPER DIMENSIONS.
2. DRIVEWAY ACCESS MUST BE COORDINATED WITH BUSINESS BEFORE CLOSURE.
3. VERIFY IF CLOSURE CAN BE PLATED AT END OF THE WORKING DAYS WHERE DRIVEWAYS ARE BEING OBSTRUCTED.
4. PROVIDE FLAGMEN DURING ACTIVE CONSTRUCTION TO ENSURE ENTRANCE AND EXIT IS MANAGED SAFELY.
5. CONTRACTOR TO EXCAVATE MEDIAN FOR DETOUR ROUTE AND STORE SPOILS ON SITE. PAID UNDER UNIT ITEM 02315 "ROADWAY EXCAVATION".
6. CONTRACTOR TO INSTALL 8" OF TYPE A HOT MIX ASPHALTIC BASE COURSE FOR DETOUR ROUTE. PAID UNDER UNIT ITEM 02711.
7. CONTRACTOR TO REMOVE 115 LF OF EXISTING CURB AND 7 SY OF MEDIAN NOSE. SEE SHEET 15 FOR ADDITIONAL INFORMATION.

LEGEND

- CONSTRUCTION ZONE (THIS PHASE)
- PERMANENT PAVEMENT (PREVIOUS PHASE)
- EXIST TRAFFIC FLOW
- PROP TRAFFIC FLOW
- SIGN
- APPROVED CHANNELIZATION DEVICE

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6/5/2026

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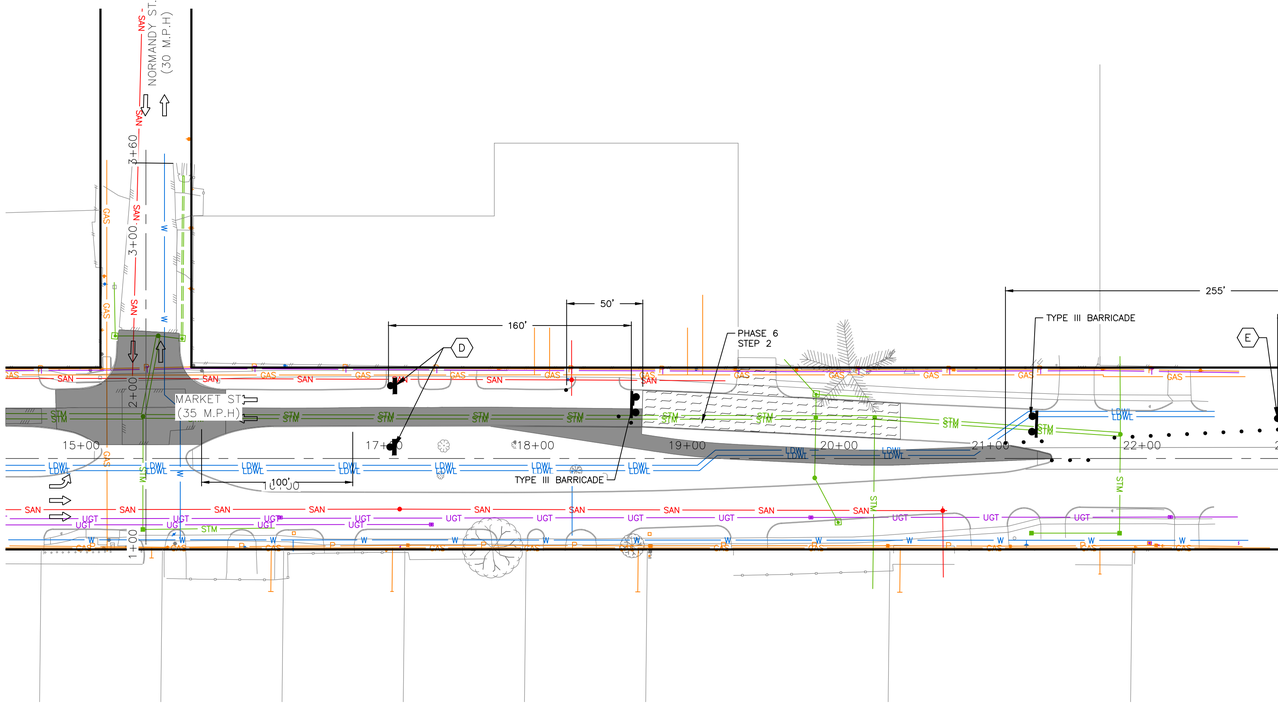
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

TRAFFIC CONTROL PLAN PHASE 6 STEP 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 36 OF 79	

PLOT STYLE: Coh.ctb
A:\36000s\36763\001\WO43\Cadd\Sheets\C2.03-PLAN-TRCP-36763.001.dwgTRAFFIC CONTROL PLAN PHASE 6 STEP 1 Jun 05, 2026 - 9:06AM ah5647



N

0' 25' 50' 100'

FULL SCALE: 1"=50'
HALF SCALE: 1"=100'

A	B	D	E
ROAD WORK AHEAD	RIGHT LANE CLOSED AHEAD	END ROAD WORK	
CW20-1	CW20-5(2) CW16-3	G20-2	FLASHING ARROW PANEL

NOTES

1. SEE STANDARD TRAFFIC CONTROL PLAN DETAILS SHEETS 44 – 52 FOR SIGN SPACING, BUFFER ZONE, AND TAPER DIMENSIONS.
2. DRIVEWAY ACCESS MUST BE COORDINATED WITH BUSINESS BEFORE CLOSURE.
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LEGEND

- CONSTRUCTION ZONE (THIS PHASE)
- PERMANENT PAVEMENT (PREVIOUS PHASE)
- EXIST TRAFFIC FLOW
- PROP TRAFFIC FLOW
- SIGN
- APPROVED CHANNELIZATION DEVICE

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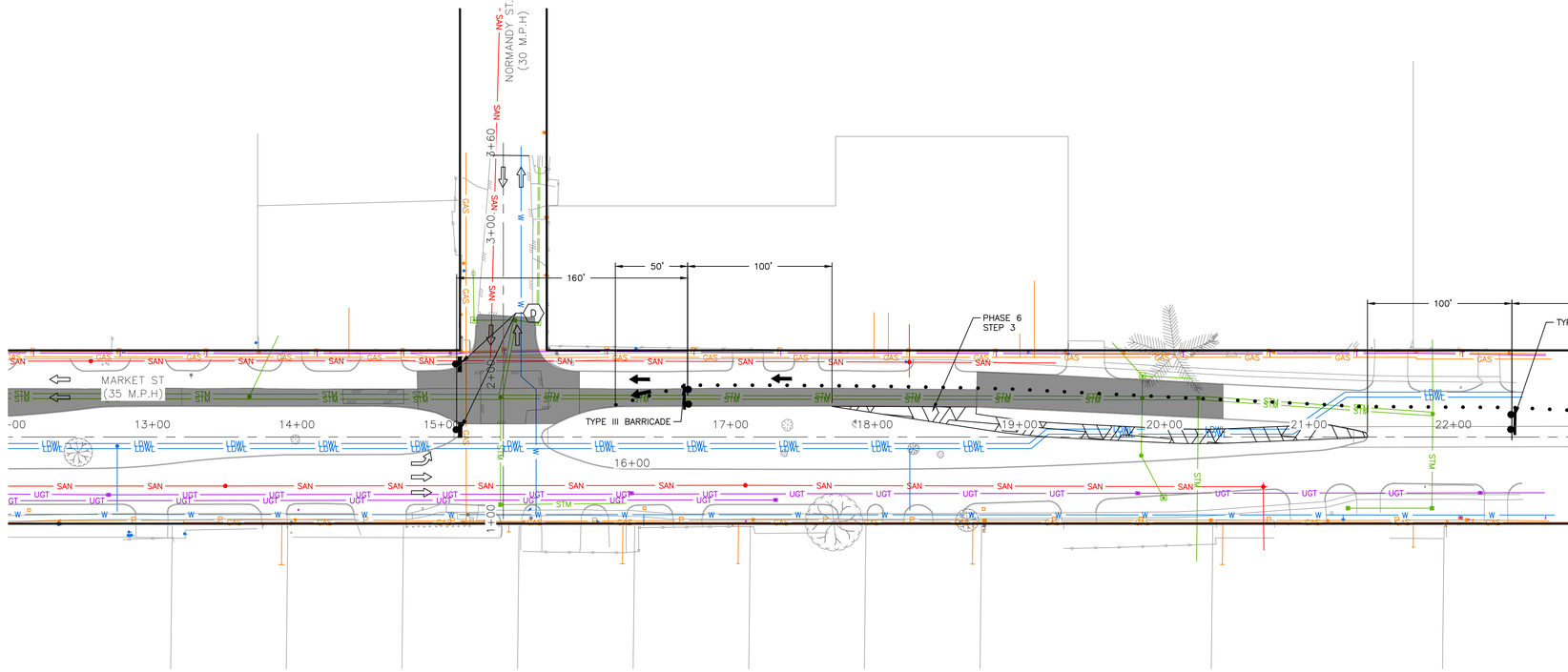
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

TRAFFIC CONTROL PLAN PHASE 6 STEP 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 37 OF 79	



N

0' 25' 50' 100'

FULL SCALE: 1"=50'
HALF SCALE: 1"=100'

A	C	D	E
ROAD WORK AHEAD	LEFT LANE CLOSED	END ROAD WORK	
CW20-1	AHEAD CW20-5(1) CW16-3	G20-2	FLASHING ARROW PANEL

NOTES

1. SEE STANDARD TRAFFIC CONTROL PLAN DETAILS SHEETS 44 – 52 FOR SIGN SPACING, BUFFER ZONE, AND TAPER DIMENSIONS.
2. DRIVEWAY ACCESS MUST BE COORDINATED WITH BUSINESS BEFORE CLOSURE.
3. VERIFY IF CLOSURE CAN BE PLATED AT END OF THE WORKING DAYS WHERE DRIVEWAYS ARE BEING OBSTRUCTED.
4. PROVIDE FLAGMEN DURING ACTIVE CONSTRUCTION TO ENSURE ENTRANCE AND EXIT IS MANAGED SAFELY.
6. CONTRACTOR TO REMOVE 8" OF TYPE A HOT MIX ASPHALTIC BASE COURSE FROM DETOUR ROUTE. PAID UNDER UNIT ITEM 02714.
7. CONTRACTOR TO REPLACE EXCAVATED MATERIAL FROM MEDIAN DETOUR ROUTE. PAID UNDER UNIT ITEM 02315 "ROADWAY EXCAVATION".
8. CONTRACTOR TO INSTALL 115 LF OF PROPOSED CURB AND 7 SY OF MEDIAN NOSE. SEE SHEET 57 FOR ADDITIONAL INFORMATION.

LEGEND

- CONSTRUCTION ZONE (THIS PHASE)
- PERMANENT PAVEMENT (PREVIOUS PHASE)
- EXIST TRAFFIC FLOW
- PROP TRAFFIC FLOW
- SIGN
- APPROVED CHANNELIZATION DEVICE

halff
TBPELS ENGINEERING FIRM #312
9303 NEW TRAILS DR. SUITE 400
THE WOODLANDS, TEXAS 77381
TEL (936) 777-6400
FAX (936) 756-6833
AVO: 36763.001 WO43

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NO. P-6341

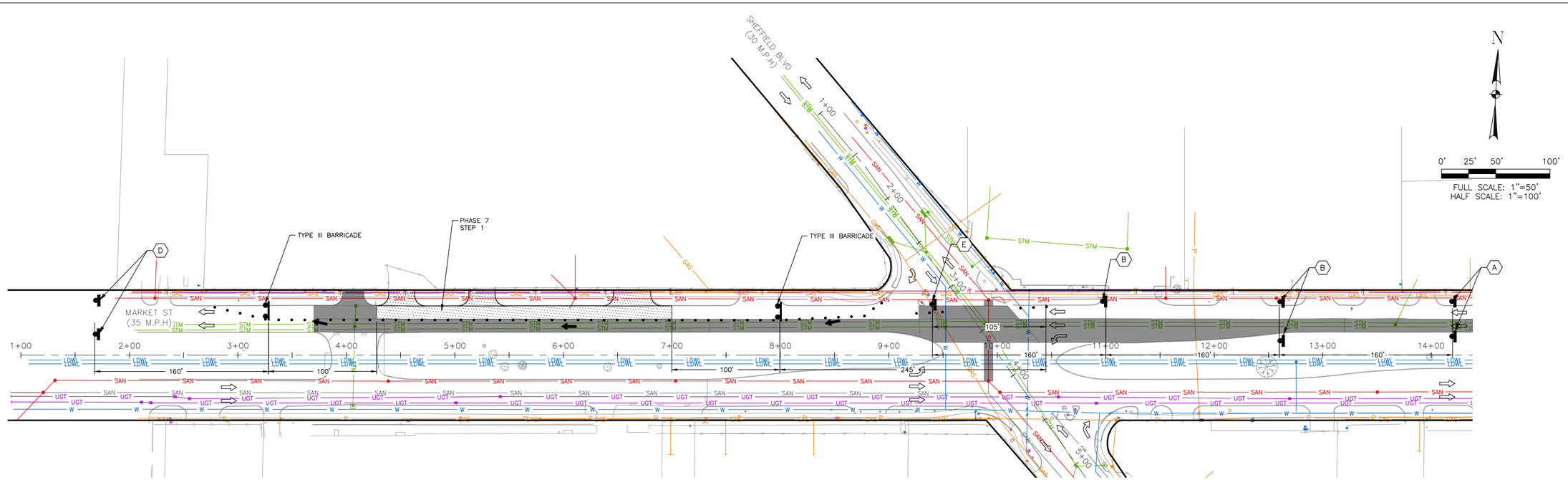
LICENSED PROFESSIONAL ENGINEER
MATTHEW A. BUCHTER
156231
COMMONWEALTH OF TEXAS
6/5/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

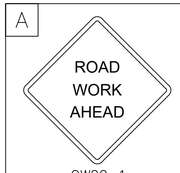
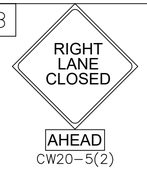
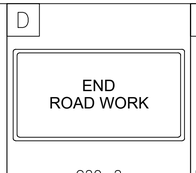
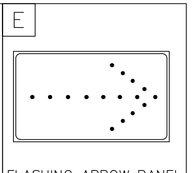
TRAFFIC CONTROL PLAN PHASE 6 STEP 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 38 OF 79	



NOTES

1. SEE STANDARD TRAFFIC CONTROL PLAN DETAILS SHEETS 44 – 52 FOR SIGN SPACING, BUFFER ZONE, AND TAPER DIMENSIONS.
2. DRIVEWAY ACCESS MUST BE COORDINATED WITH BUSINESS BEFORE CLOSURE.
3. VERIFY IF CLOSURE CAN BE PLATED AT END OF THE WORKING DAYS WHERE DRIVEWAYS ARE BEING OBSTRUCTED.
4. PROVIDE FLAGMEN DURING ACTIVE CONSTRUCTION TO ENSURE ENTRANCE AND EXIT IS MANAGED SAFELY.

A	B	D	E
			
CW20–1	CW20–5(2) CW16–3	G20–2	FLASHING ARROW PANEL

LEGEND

- CONSTRUCTION ZONE (THIS PHASE)
- PERMANENT PAVEMENT (PREVIOUS PHASE)
- EXIST TRAFFIC FLOW
- PROP TRAFFIC FLOW
- SIGN
- APPROVED CHANNELIZATION DEVICE

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AVO: 36763.001 WO43

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FB NO. P–6341

MATTHEW A. BUCHTER 156231 LICENSED PROFESSIONAL ENGINEER
6/5/2026

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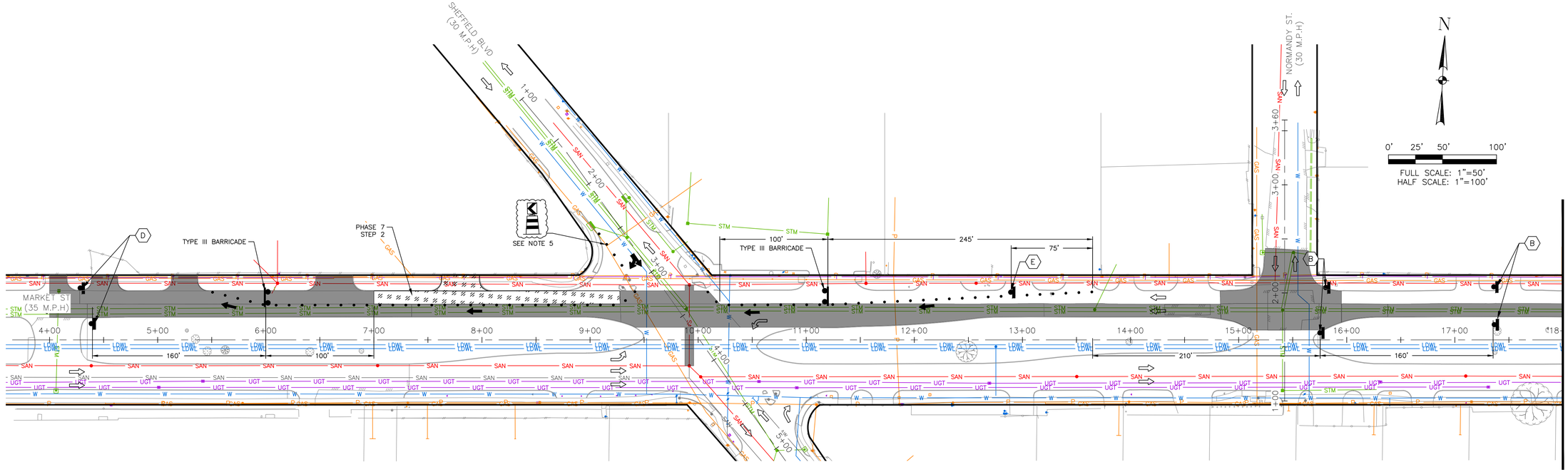
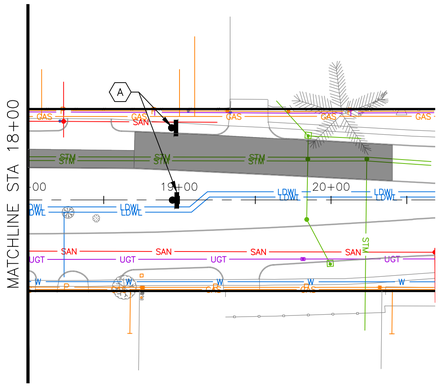
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

TRAFFIC CONTROL PLAN PHASE 7 STEP 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–430220–040A–3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 39 OF 79	





A	B	D	E
ROAD WORK AHEAD	RIGHT LANE CLOSED / AHEAD	END ROAD WORK	
CW20-1	CW20-5(2) CW16-3	G20-2	FLASHING ARROW PANEL

LEGEND

- CONSTRUCTION ZONE (THIS PHASE)
- PERMANENT PAVEMENT (PREVIOUS PHASE)
- EXIST TRAFFIC FLOW
- PROP TRAFFIC FLOW
- SIGN
- APPROVED CHANNELIZATION DEVICE

NOTES

1. SEE STANDARD TRAFFIC CONTROL PLAN DETAILS SHEETS 44 – 52 FOR SIGN SPACING, BUFFER ZONE, AND TAPER DIMENSIONS.
2. DRIVEWAY ACCESS MUST BE COORDINATED WITH BUSINESS BEFORE CLOSURE.
3. VERIFY IF CLOSURE CAN BE PLATED AT END OF THE WORKING DAYS WHERE DRIVEWAYS ARE BEING OBSTRUCTED.
4. PROVIDE FLAGMEN DURING ACTIVE CONSTRUCTION TO ENSURE ENTRANCE AND EXIT IS MANAGED SAFELY.
5. PROVIDE PLASTIC DRUM WITH CHEVRON, CW1-8R, AT EVERY OTHER BARREL.

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SURVEYED BY:
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FB NO. P-6341

STATE OF TEXAS
MATTHEW A. BUCHTER
154231
LICENSED
PROFESSIONAL ENGINEER
6/5/2026

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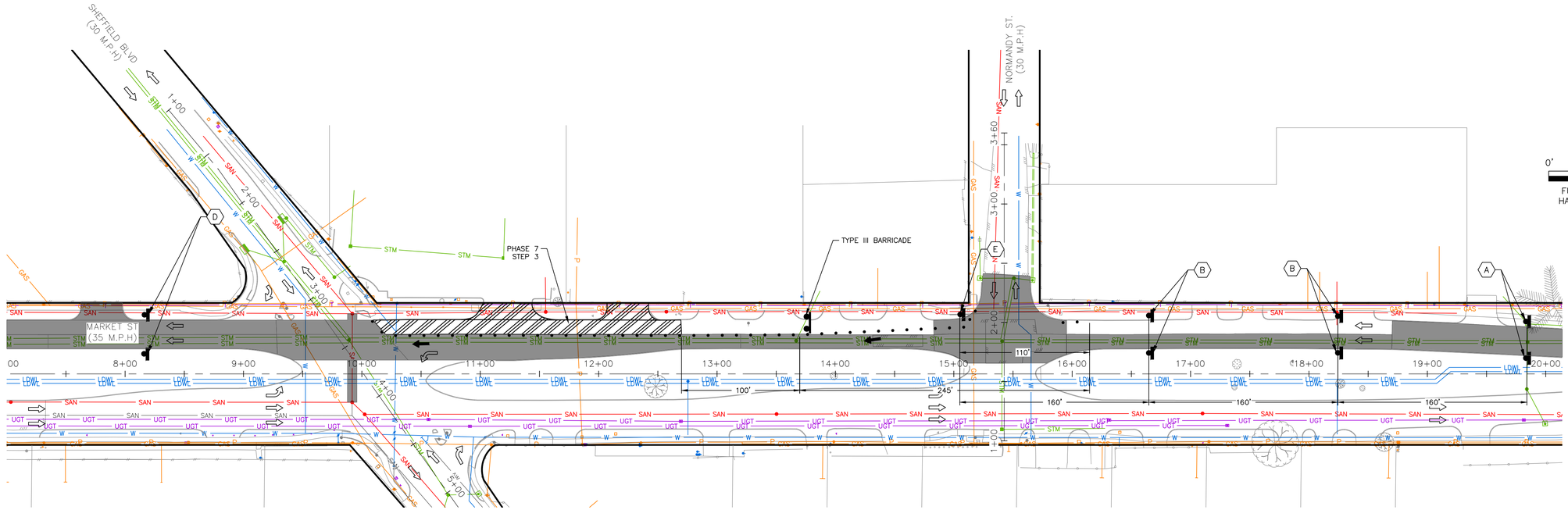
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

TRAFFIC CONTROL PLAN PHASE 7 STEP 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 40 OF 79	



NOTES

1. SEE STANDARD TRAFFIC CONTROL PLAN DETAILS SHEETS 44 – 52 FOR SIGN SPACING, BUFFER ZONE, AND TAPER DIMENSIONS.
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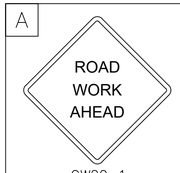
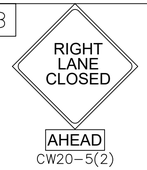
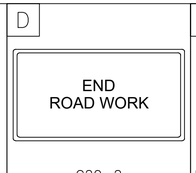
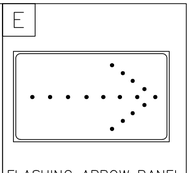
A	B	D	E
			
CW20–1	CW20–5(2) CW16–3	G20–2	FLASHING ARROW PANEL

LEGEND

- CONSTRUCTION ZONE (THIS PHASE)
- PERMANENT PAVEMENT (PREVIOUS PHASE)
- EXIST TRAFFIC FLOW
- PROP TRAFFIC FLOW
- SIGN
- APPROVED CHANNELIZATION DEVICE

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9303 NEW TRAILS DR. SUITE 400
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AVO: 36763.001 WO43

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NO. P–6341

MATTHEW A. BUCHTER
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PROFESSIONAL ENGINEER
6/5/2026

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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

TRAFFIC CONTROL PLAN PHASE 7 STEP 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–430220–040A–3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 41 OF 79	

PLOT STYLE: Coh.ctb
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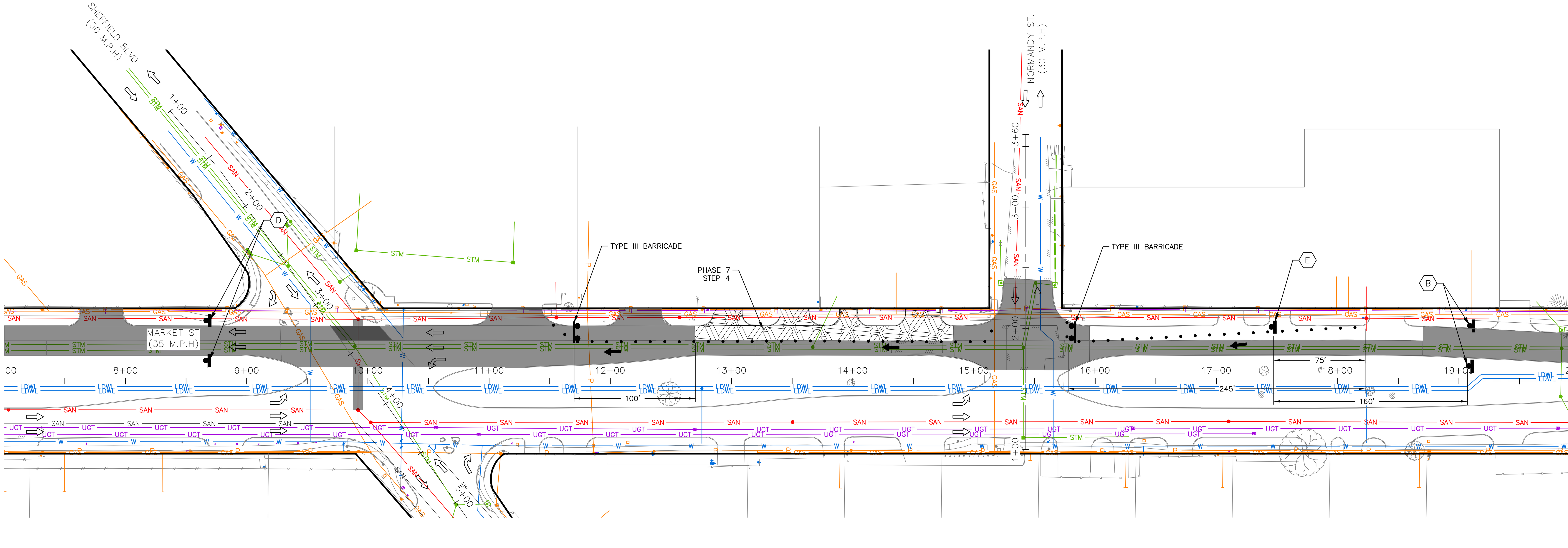
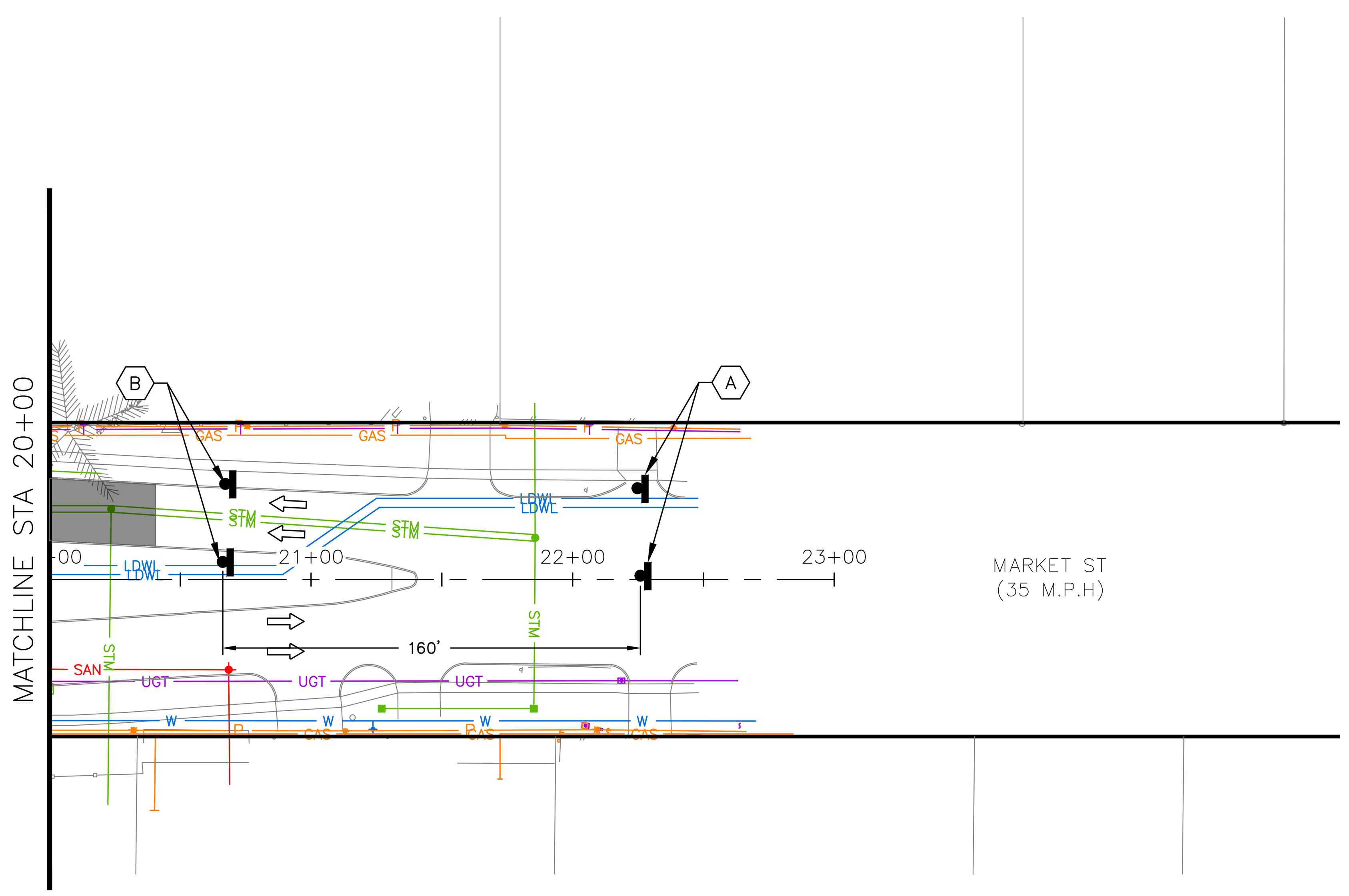


0' 25' 50' 100'
FULL SCALE: 1"=50'
HALF SCALE: 1"=100'



NOTES

1. SEE STANDARD TRAFFIC CONTROL PLAN DETAILS SHEETS 44 – 52 FOR SIGN SPACING, BUFFER ZONE, AND TAPER DIMENSIONS.
2. DRIVEWAY ACCESS MUST BE COORDINATED WITH BUSINESS BEFORE CLOSURE.
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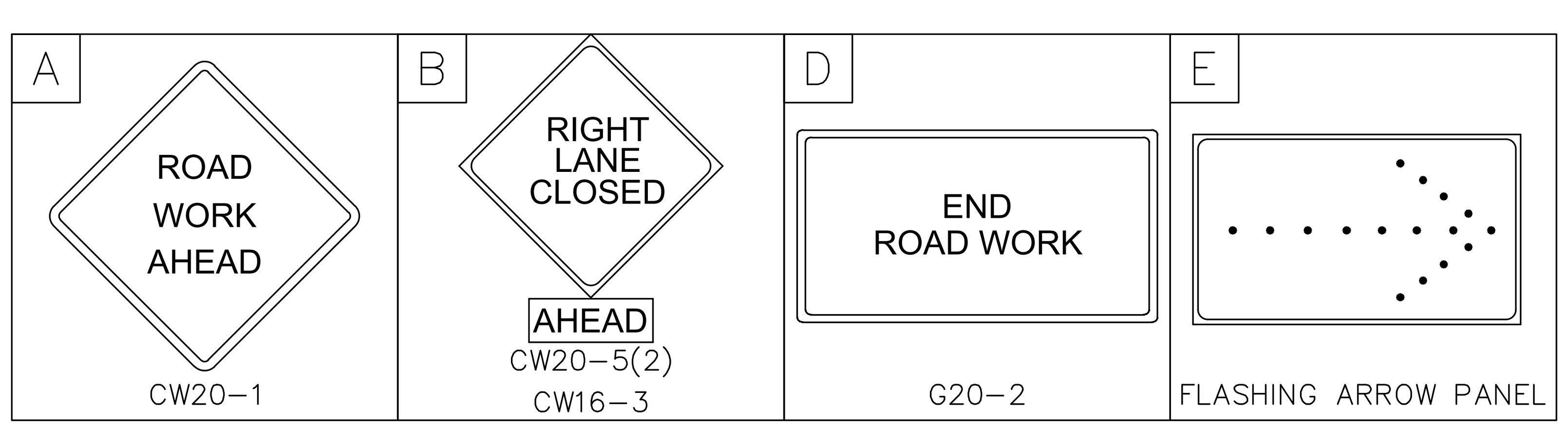
4. PROVIDE FLAGMEN DURING ACTIVE CONSTRUCTION TO ENSURE ENTRANCE AND EXIT IS MANAGED SAFELY.



LEGEND

- CONSTRUCTION ZONE (THIS PHASE)
- PERMANENT PAVEMENT (PREVIOUS PHASE)
- EXIST TRAFFIC FLOW
- PROP TRAFFIC FLOW
- SIGN
- APPROVED CHANNELIZATION DEVICE

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6/5/2026

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

TRAFFIC CONTROL PLAN PHASE 7 STEP 4

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 42 OF 79	

PLOT STYLE: Coh.ctb

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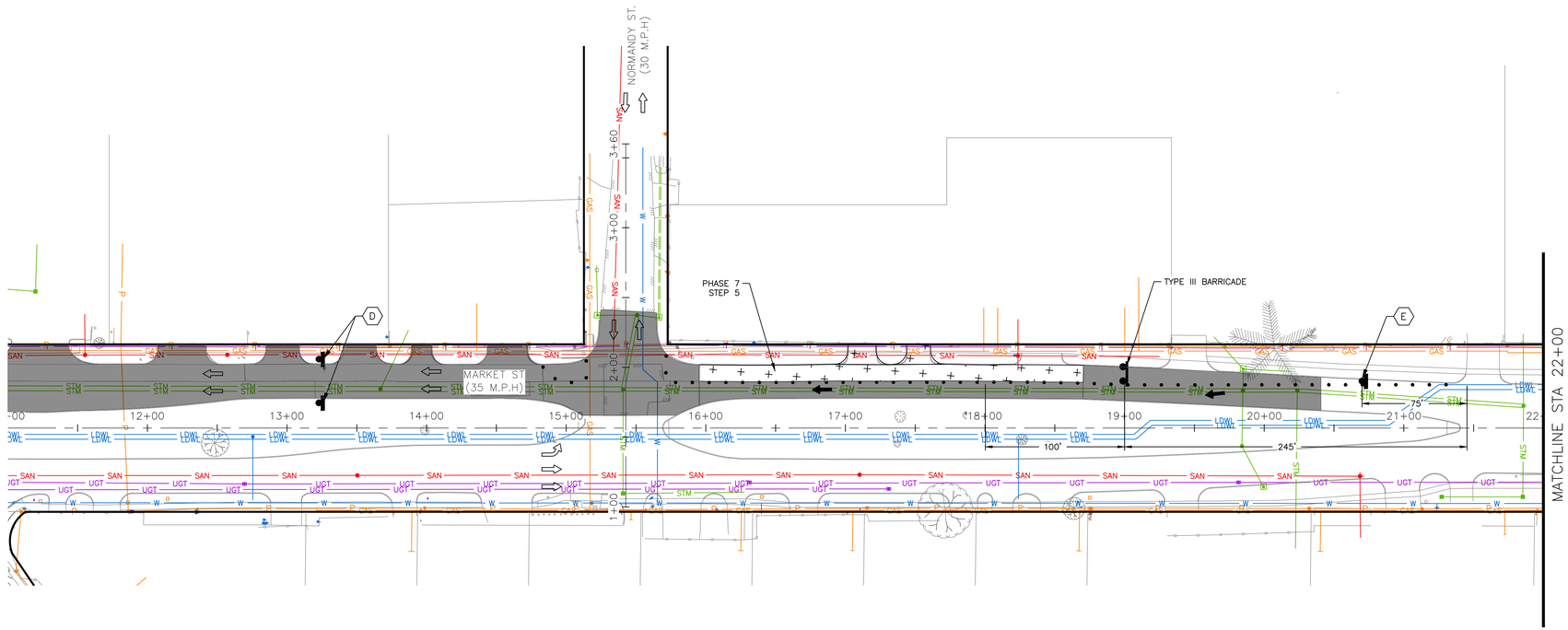

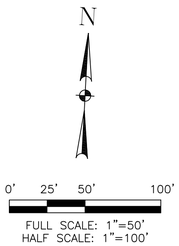

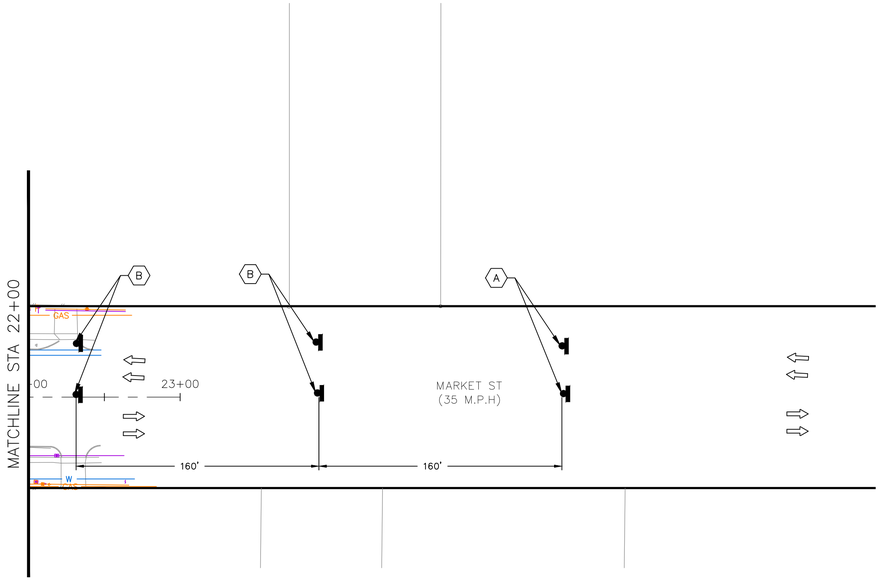

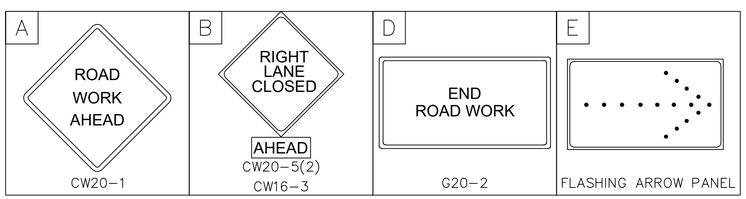

LEGEND

- CONSTRUCTION ZONE (THIS PHASE)
- PERMANENT PAVEMENT (PREVIOUS PHASE)
- EXIST TRAFFIC FLOW
- PROP TRAFFIC FLOW
- SIGN
- APPROVED CHANNELIZATION DEVICE

NOTES

1. SEE STANDARD TRAFFIC CONTROL PLAN DETAILS SHEETS 44 – 52 FOR SIGN SPACING, BUFFER ZONE, AND TAPER DIMENSIONS.
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THE WOODLANDS, TEXAS 77381
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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

TRAFFIC CONTROL PLAN PHASE 7 STEP 5

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 43 OF 79	

PLOT STYLE: Coh.ctb

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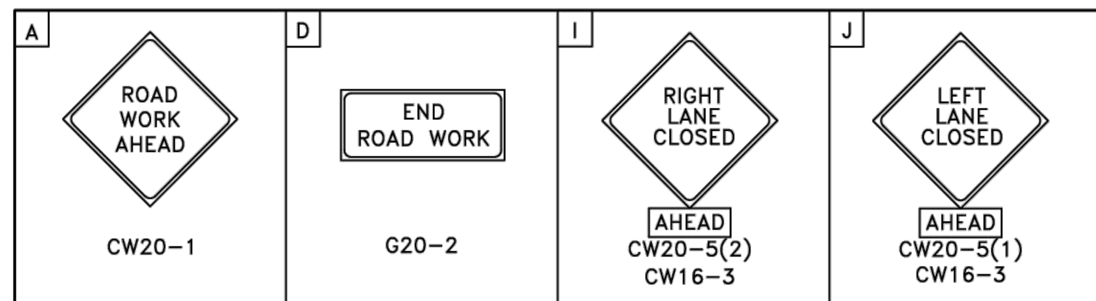
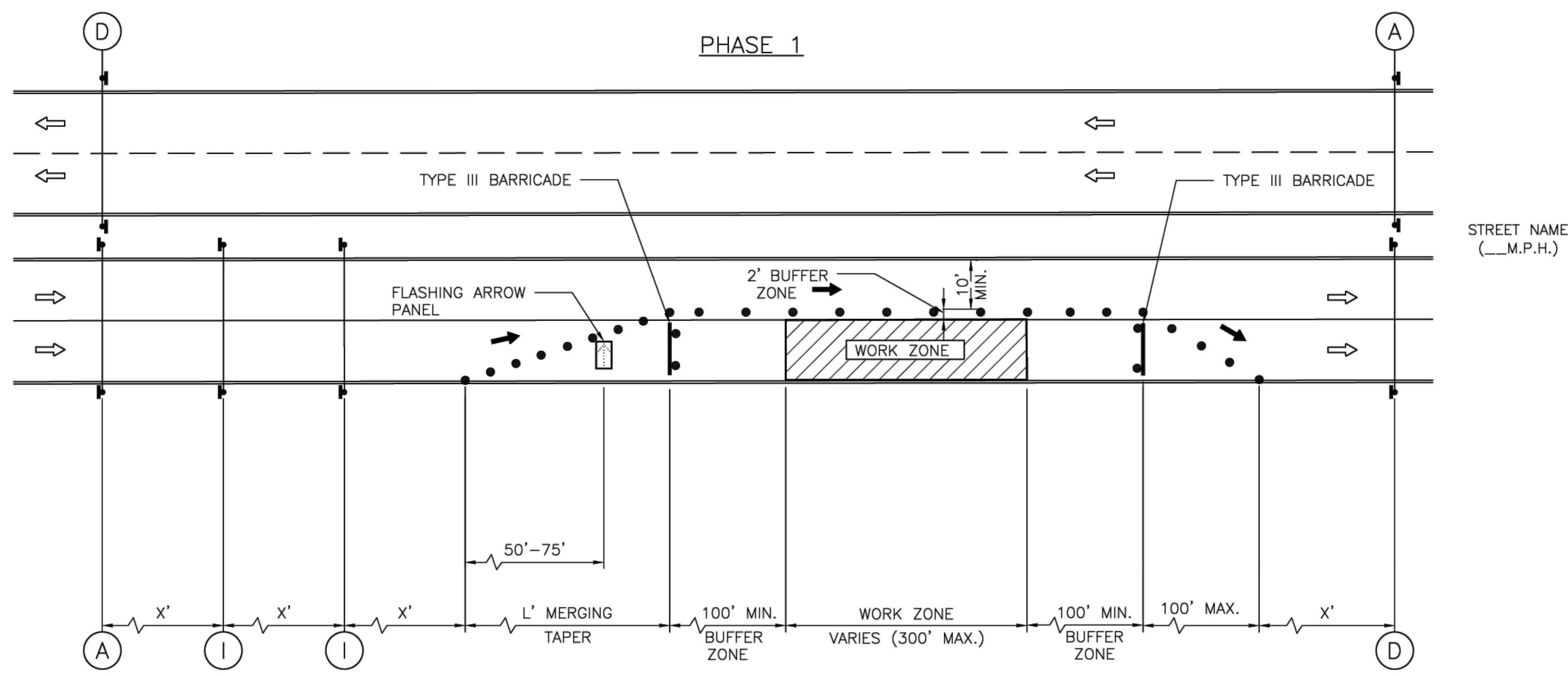
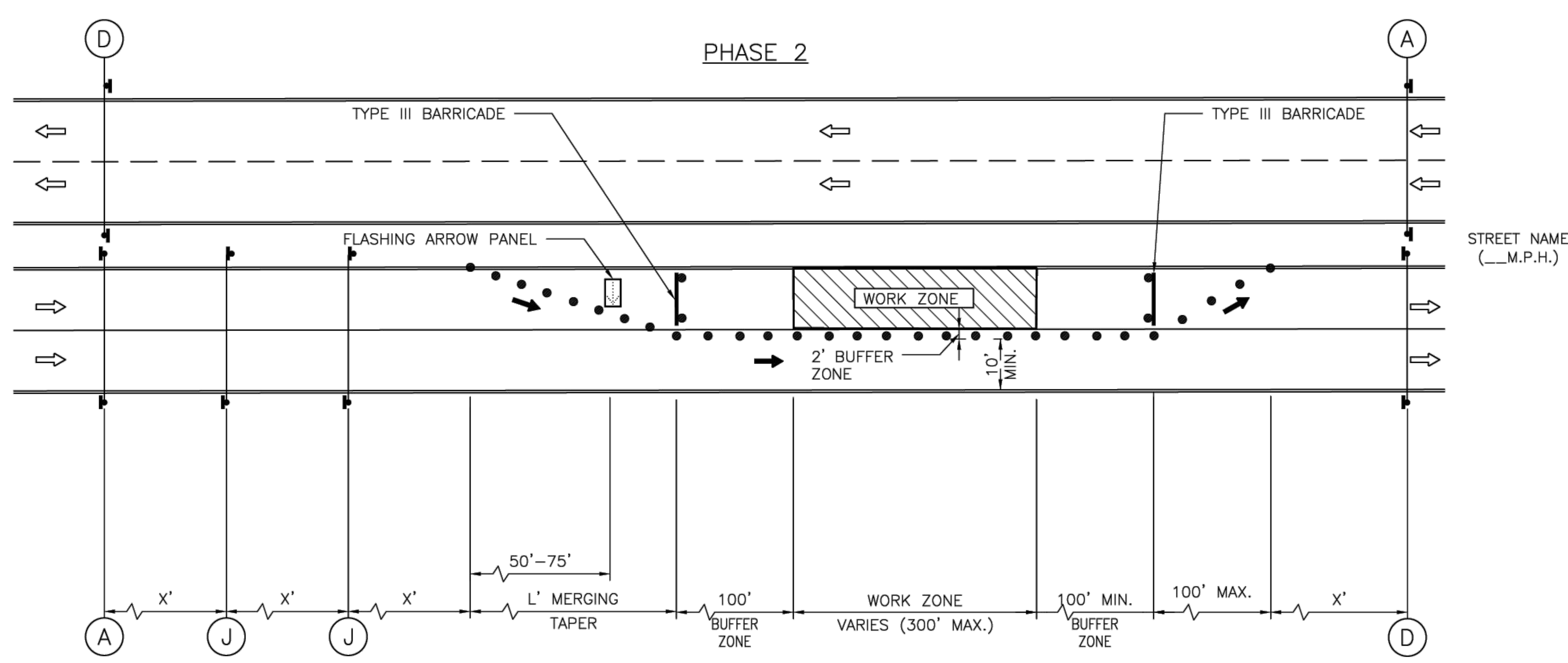


PHASE 1



PHASE 2



LEGEND:

- SIGN
- FLAGGER
- APPROVED CHANNELIZATION DEVICE
- BARRICADE
- FLASHING ARROW PANEL
- AREA UNDER CONSTRUCTION
- EXISTING TRAVEL WAY
- TRAFFIC CONTROL PLAN DETOUR TRAVEL WAY

NOTES:

1. RETURN TAPERS AND DOWNSTREAM BARRICADES ARE OPTIONAL ON A DIVIDED ROADWAY SECTION.
2. DOUBLE SIGNS SHALL BE USED ONLY ON ROADWAYS WITH MEDIANS.
3. FOR DIMENSIONS REFER TO SHEET 01555-01.
4. INSTALL FLASHERS ON DRUMS WHERE REQUIRED AND APPROVED BY CITY TRAFFIC ENGINEER.

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.

APPROVED BY:	APPROVED BY:
Suhail Kanwar	Khang Nguyen
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: Carol Haddock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 01555-04

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TCP ONE LANE CLOSURE PHASE 1 & 2

FOR CITY OF HOUSTON USE ONLY

DRAWING SCALE
NOT TO SCALE

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9303 NEW TRAILS DR. SUITE 400
THE WOODLANDS, TEXAS 77381
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AVO: 36763.001 WO43

STATE OF TEXAS
MATTHEW A. BUCHER
156231
LICENSED PROFESSIONAL ENGINEER
6/5/2026

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NO. P-6341

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

TRAFFIC CONTROL PLAN DETAILS SHEET 1 OF 9

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 44 OF 79	

PLOT STYLE: Coh.ctb

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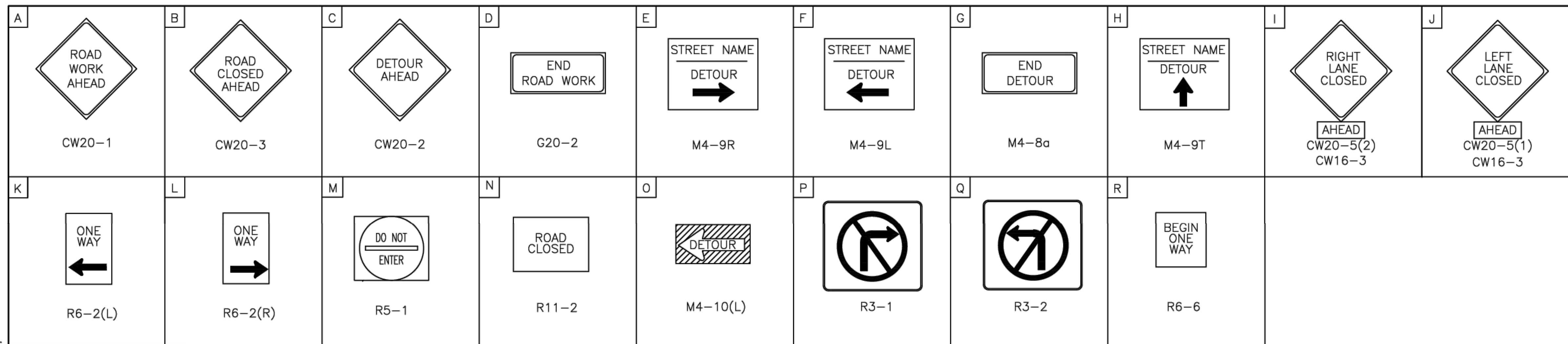

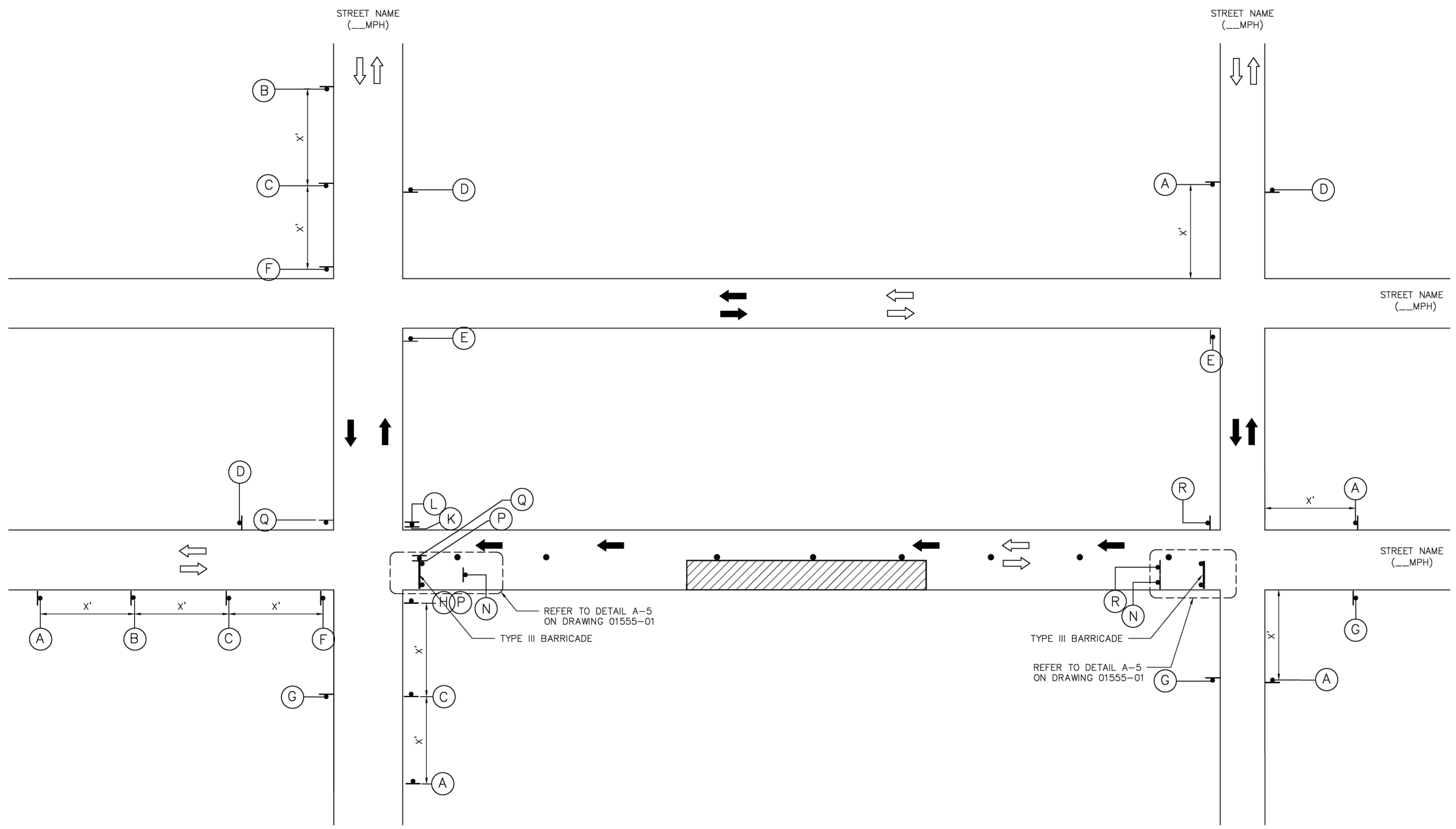

LEGEND:

- SIGN
- FLAGGER
- APPROVED CHANNELIZATION DEVICE
- BARRICADE
- FLASHING ARROW PANEL
- AREA UNDER CONSTRUCTION
- EXISTING TRAVEL WAY
- TRAFFIC CONTROL PLAN DETOUR TRAVEL WAY

NOTES:

1. A 10' MINIMUM LANE WIDTH FOR EMERGENCY SHALL BE MADE AVAILABLE AND MAINTAINED BY THE CONTRACTOR AT ALL TIMES.
2. FOR DIMENSIONS REFER TO SHEET 01555-01.
3. INSTALL FLASHERS ON DRUMS WHERE REQUIRED AND APPROVED BY CITY TRAFFIC ENGINEER.

DISCLAIMER:
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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: 01555-05

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TCP TYPICAL DETOUR ROUTING WITH ONE LANE CLOSURE (ONE BLOCK)

FOR CITY OF HOUSTON USE ONLY

DRAWING SCALE
NOT TO SCALE

halff
TBPELS ENGINEERING FIRM #312
9303 NEW TRAILS DR. SUITE 400
THE WOODLANDS, TEXAS 77381
TEL (936) 777-6400
FAX (936) 756-6833
AVO: 36763.001 WO43

6/5/2026

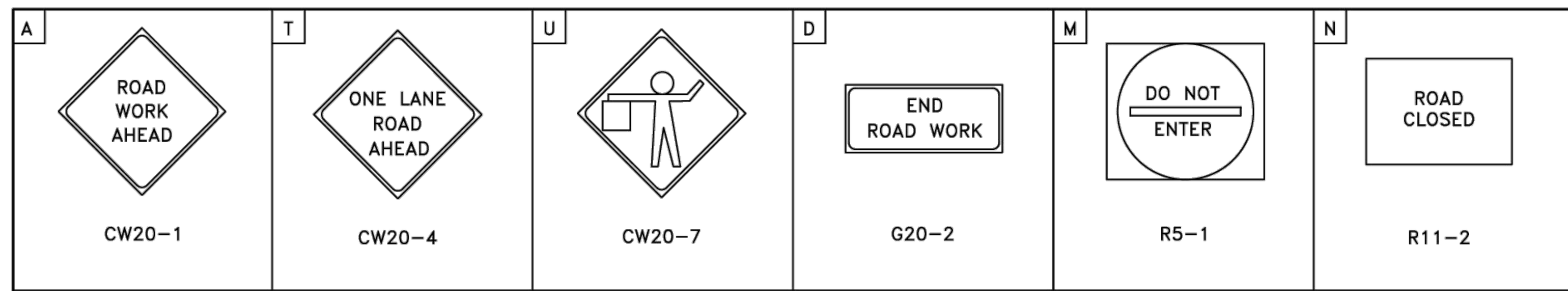
SURVEYED BY:
AMANI ENGINEERING, INC.
FB NO. P-6341

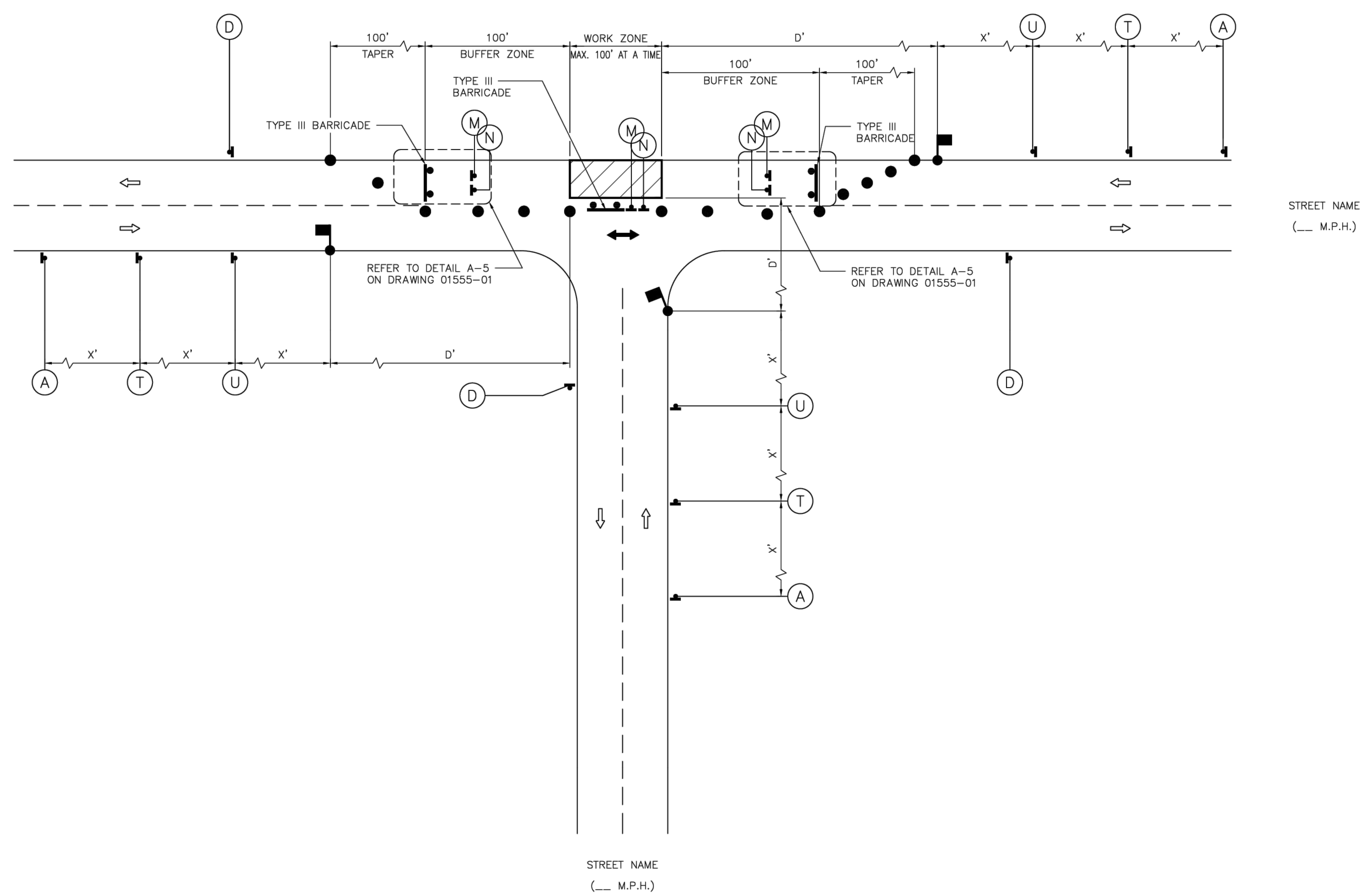
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

TRAFFIC CONTROL PLAN DETAILS SHEET 2 OF 9

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 45 OF 79	





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.

DISCLAIMER:
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APPROVED BY: Sohail Kanwar	APPROVED BY: KHANG NGUYEN
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED 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

DRAWING SCALE
NOT TO SCALE

halff
TBPELS ENGINEERING FIRM #312
9303 NEW TRAILS DR, SUITE 400
THE WOODLANDS, TEXAS 77381
TEL (936) 777-6400
FAX (936) 756-6833
AVO: 36763.001 WO43

STATE OF TEXAS
MATTHEW A. BUCHTER
156231
LICENSED PROFESSIONAL ENGINEER
6/5/2026

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SURVEYED BY:
AMANI ENGINEERING, INC.
FB NO. P-6341

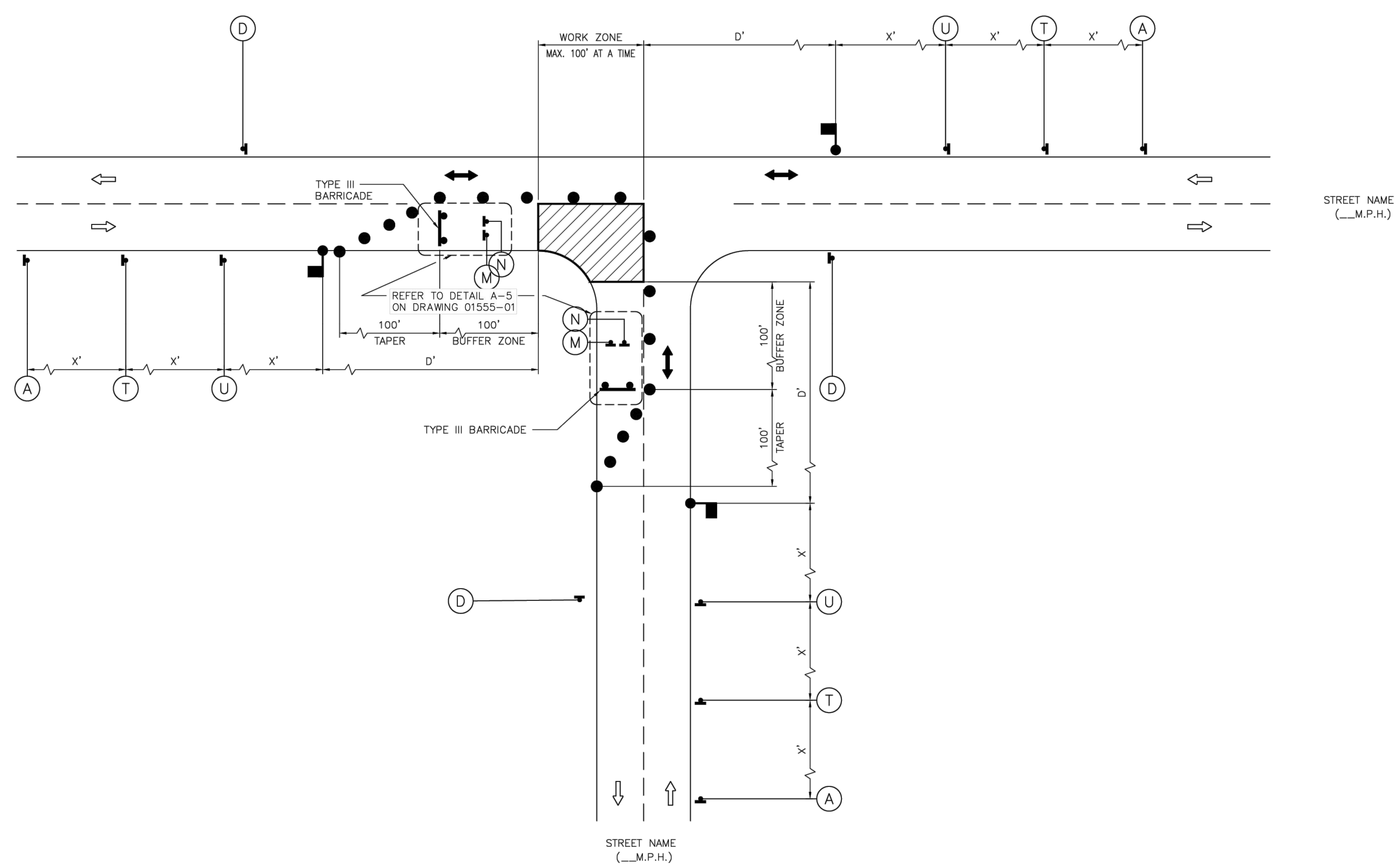
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

TRAFFIC CONTROL PLAN DETAILS SHEET 3 OF 9

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	

A	T	U	D	M	N
ROAD WORK AHEAD	ONE LANE ROAD AHEAD	(flagger symbol)	END ROAD WORK	DO NOT ENTER	ROAD CLOSED
CW20–1	CW20–4	CW20–7	G20–2	R5–1	R11–2



LEGEND:

- SIGN
- FLAGGER
- APPROVED CHANNELIZATION DEVICE
- BARRICADE
- FLASHING ARROW PANEL
- AREA UNDER CONSTRUCTION
- EXISTING TRAVEL WAY
- TRAFFIC CONTROL PLAN DETOUR TRAVEL WAY

NOTES:

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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:
Sulaiman Kauwar (signature)	KHANG NGUYEN (signature)
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: Carol Haddock (signature)	
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

FOR CITY OF HOUSTON USE ONLY

DRAWING SCALE
NOT TO SCALE

DISCLAIMER:
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TBPELS ENGINEERING FIRM #312
9303 NEW TRAILS DR, SUITE 400
THE WOODLANDS, TEXAS 77381
TEL (936) 777-6400
FAX (936) 756-6833
AVO: 36763.001 WO43

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NO. P–6341

STATE OF TEXAS
MATTHEW A. BUCHTER
156231
LICENSED PROFESSIONAL ENGINEER
6/5/2026

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TBPELS ENGINEERING FIRM #F-312

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

TRAFFIC CONTROL PLAN DETAILS SHEET 4 OF 9

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–430220–040A–3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	

PLOT STYLE: Coh.ctb

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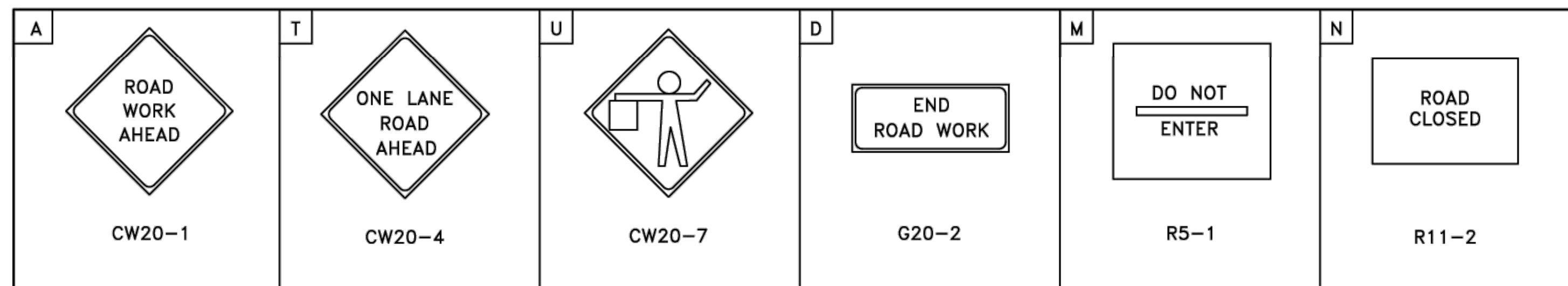

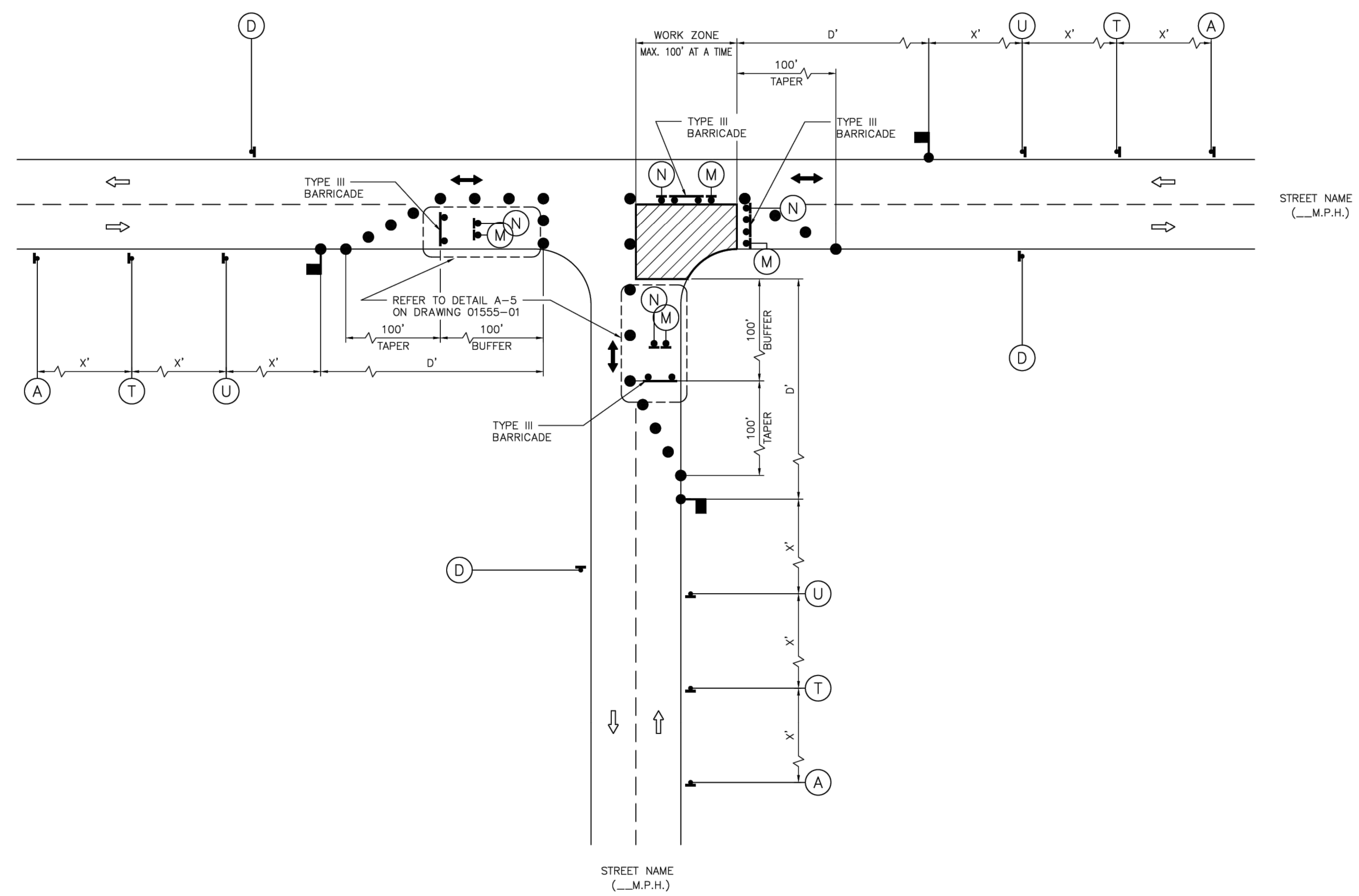

LEGEND:

- SIGN
- FLAGGER
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APPROVED BY:	APPROVED BY:
Suhail Kanwar	Khang Nguyen
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: Carol Haddock	
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

FOR CITY OF HOUSTON USE ONLY

DRAWING SCALE
NOT TO SCALE

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THE WOODLANDS, TEXAS 77381
TEL (936) 777-6400
FAX (936) 756-6833
AVO: 36763.001 WO43

STATE OF TEXAS
MATTHEW A. BUCHER
156231
LICENSED PROFESSIONAL ENGINEER
6/5/2026

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NO. P-6341

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

TRAFFIC CONTROL PLAN DETAILS SHEET 5 OF 9

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 48 OF 79	

PLOT STYLE: Coh.ctb

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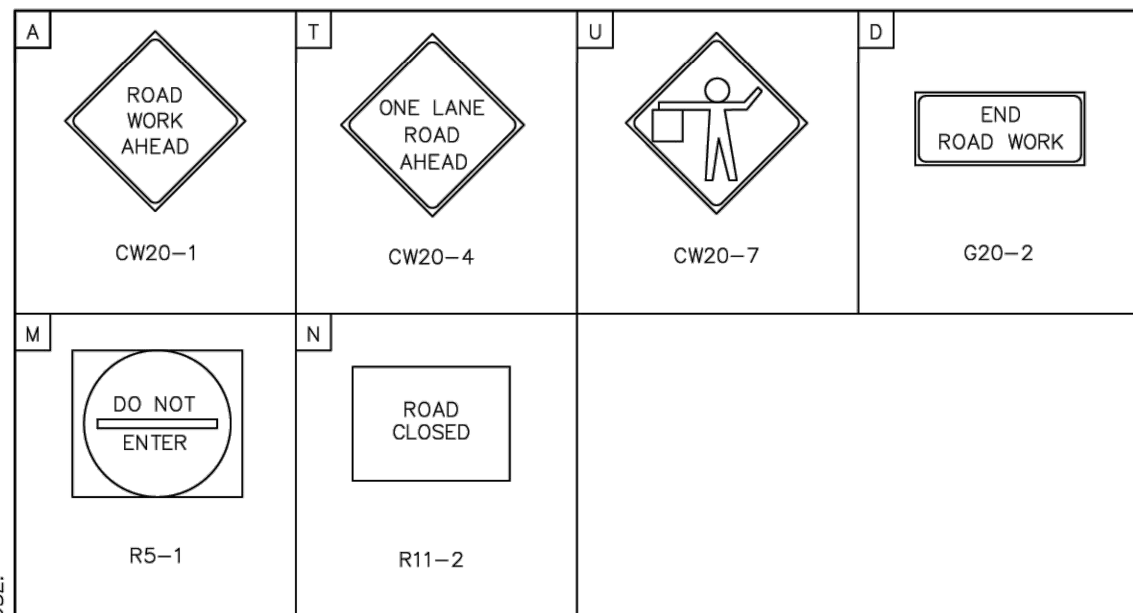

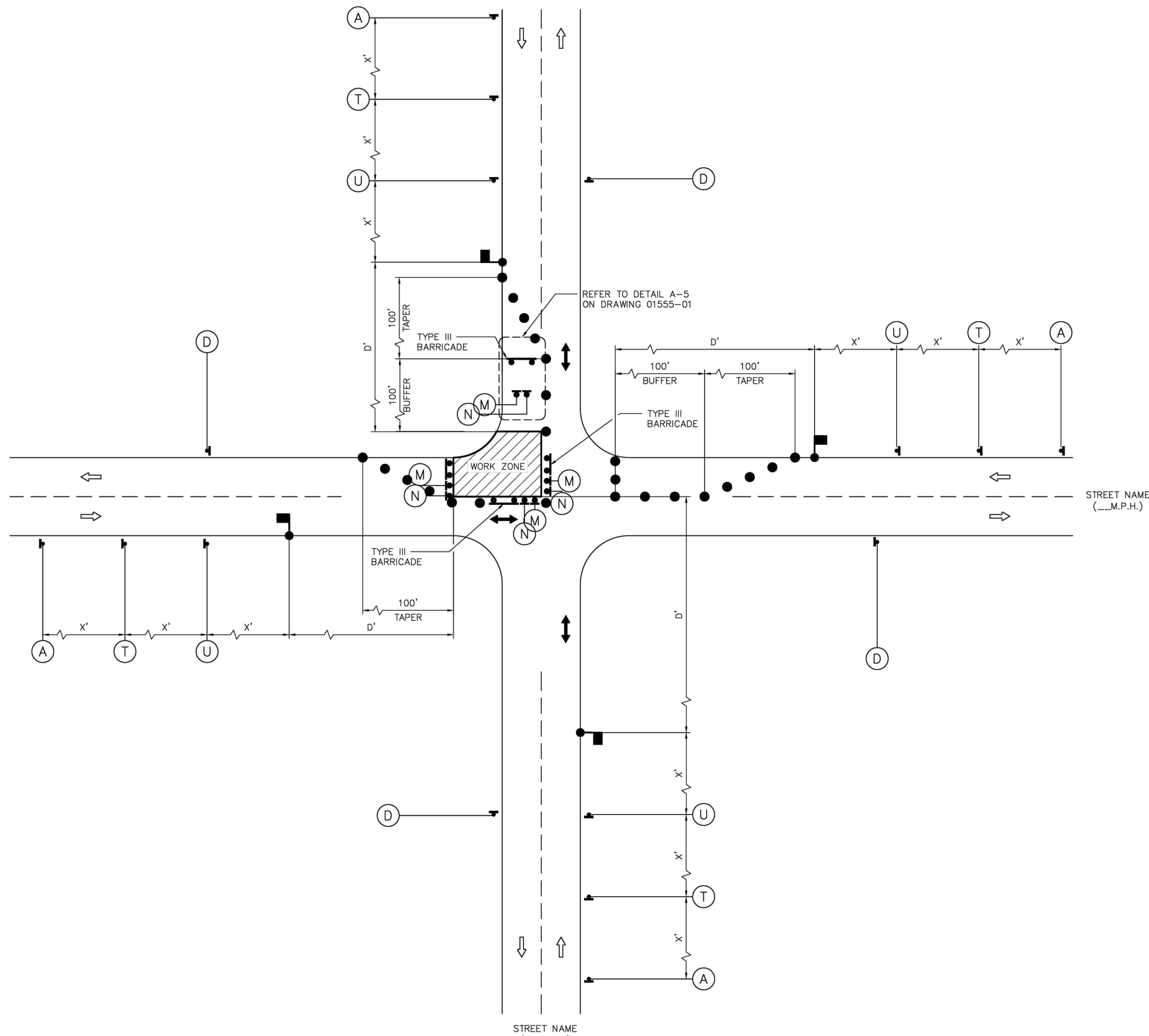

LEGEND:

- SIGN
- FLAGGER
- APPROVED CHANNELIZATION DEVICE
- BARRICADE
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- AREA UNDER CONSTRUCTION
- EXISTING TRAVEL WAY
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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)
STEP 1 OF 4

FOR CITY OF HOUSTON USE ONLY

DRAWING SCALE
NOT TO SCALE

DISCLAIMER:
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THE WOODLANDS, TEXAS 77381
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FAX (936) 756-6833
AVO: 36763.001 WO43

STATE OF TEXAS
MATTHEW A. BUCHTER
156231
LICENSED PROFESSIONAL ENGINEER
6/5/2026

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TBPELS ENGINEERING FIRM #F-312

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NO. P-6341

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

TRAFFIC CONTROL PLAN DETAILS SHEET 6 OF 9

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 49 OF 79	

DISCLAIMER:
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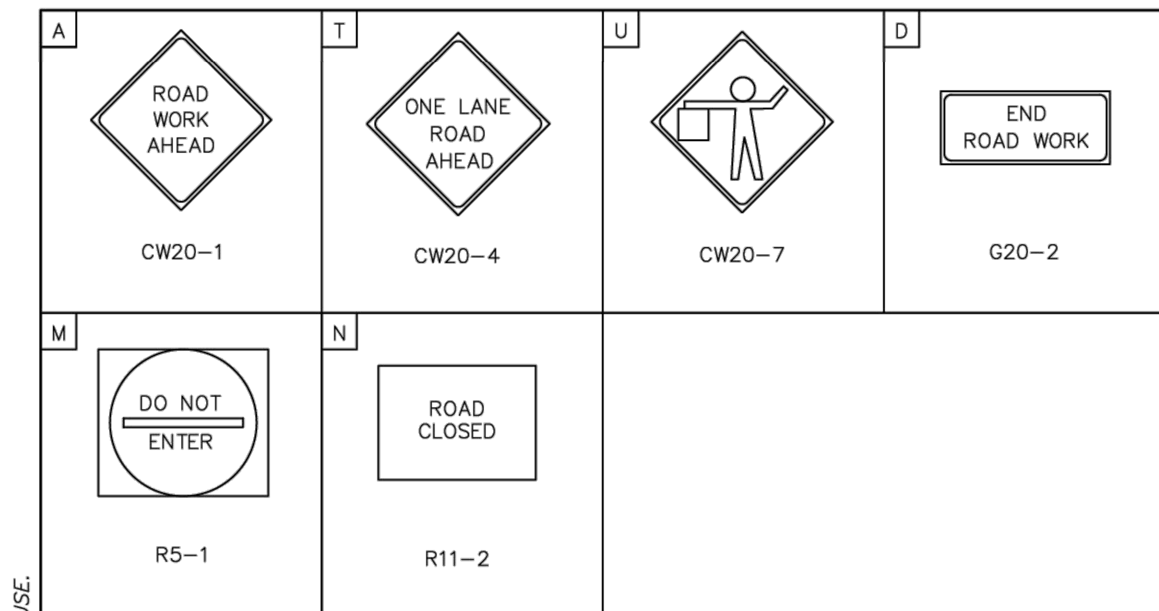

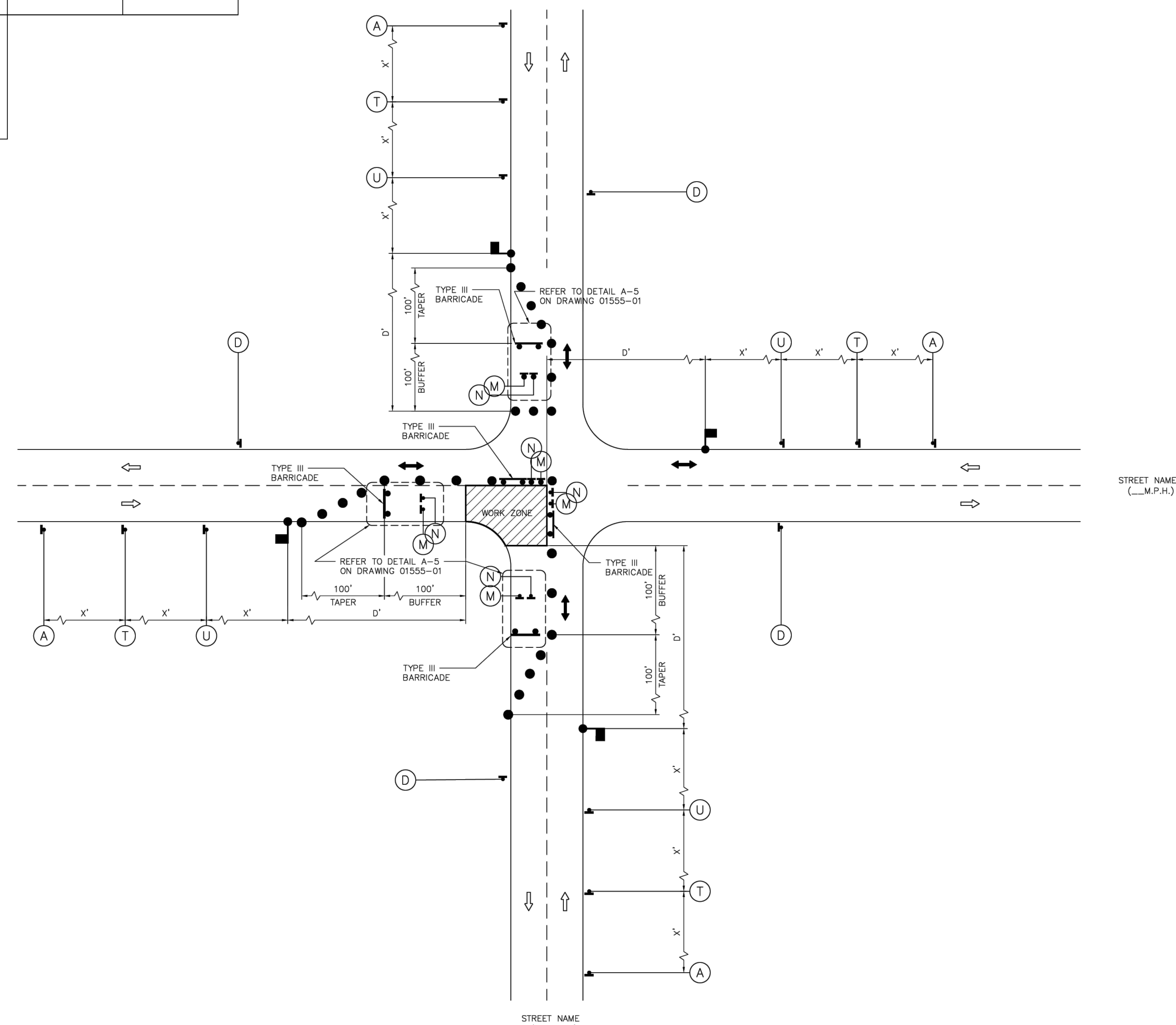

LEGEND:

- SIGN
- FLAGGER
- APPROVED CHANNELIZATION DEVICE
- BARRICADE
- FLASHING ARROW PANEL
- AREA UNDER CONSTRUCTION
- EXISTING TRAVEL WAY
- TRAFFIC CONTROL PLAN DETOUR TRAVEL WAY

NOTES:

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4. INSTALL FLASHERS ON DRUMS WHERE REQUIRED AND APPROVED BY CITY TRAFFIC ENGINEER.
5. MAX. 100' WORK ZONE AT A TIME.

APPROVED BY:	APPROVED BY:
DocuSigned by: Suhail Kanwar 9EF8B0C641F5478...	DocuSigned by: KHANG NGUYEN 95A29EFDA75B4CD...
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carol Haddock A93C410B72B3453...	
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)
STEP 2 OF 4

	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
NOT TO SCALE	

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THE WOODLANDS, TEXAS 77381
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FAX (936) 756-6833
AVO: 36763.001 WO43

STATE OF TEXAS
MATTHEW A. BUCHTER
156231
LICENSED PROFESSIONAL ENGINEER
6/5/2026

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TBPELS ENGINEERING FIRM #F-312

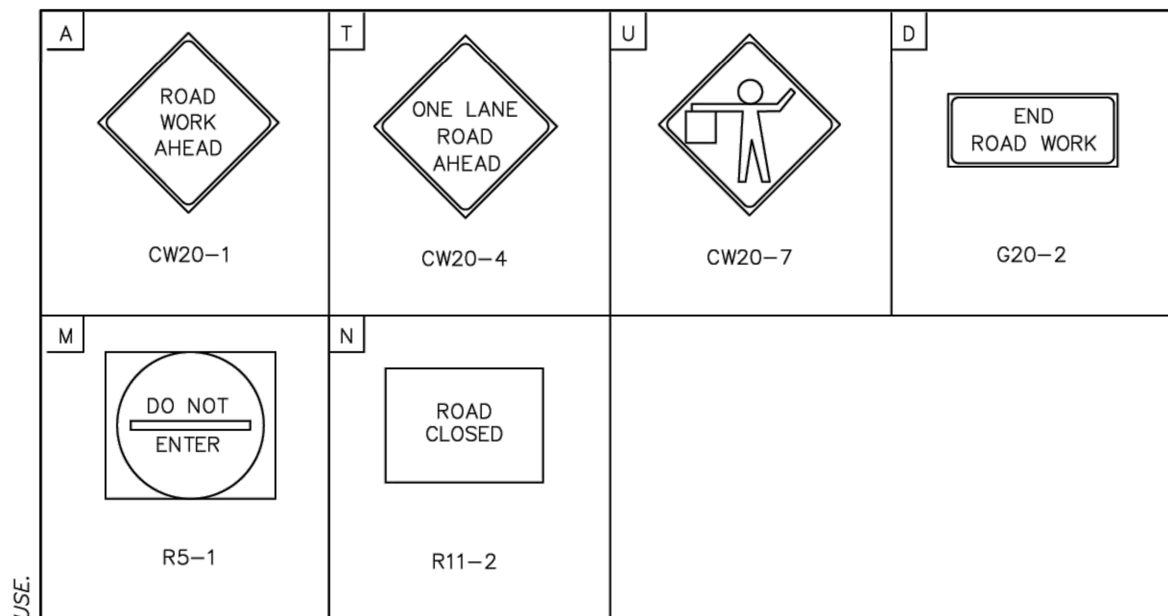
SURVEYED BY:
AMANI ENGINEERING, INC.
FB NO. P-6341

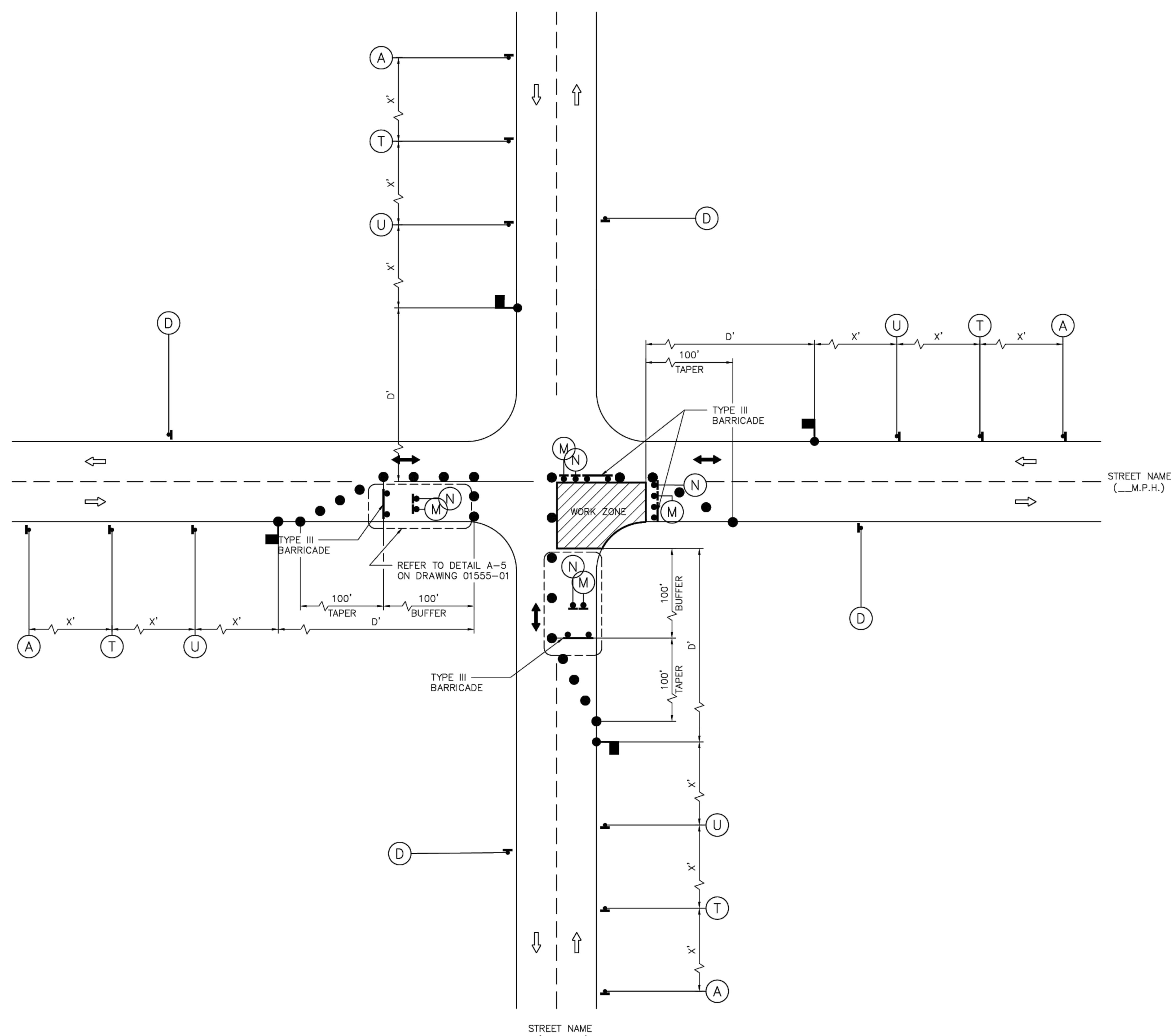
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

TRAFFIC CONTROL PLAN DETAILS SHEET 7 OF 9

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 50 OF 79	





LEGEND:

- SIGN
- FLAGGER
- APPROVED CHANNELIZATION DEVICE
- BARRICADE
- FLASHING ARROW PANEL
- AREA UNDER CONSTRUCTION
- EXISTING TRAVEL WAY
- TRAFFIC CONTROL PLAN DETOUR TRAVEL WAY

NOTES:

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5. MAX. 100' WORK ZONE AT A TIME.

DISCLAIMER:
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APPROVED BY: Suhail Kanwar — CITY ENGINEER	APPROVED BY: HANG NGUYEN — CITY TRAFFIC ENGINEER
APPROVED BY: Carol 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)
STEP 3 OF 4

FOR CITY OF HOUSTON USE ONLY

DRAWING SCALE
NOT TO SCALE

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TBPELS ENGINEERING FIRM #312
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THE WOODLANDS, TEXAS 77381
TEL (936) 777-6400
FAX (936) 756-6833
AVO: 36763.001 WO43

STATE OF TEXAS
MATTHEW A. BUCHTER
156231
LICENSED PROFESSIONAL ENGINEER
6/5/2026

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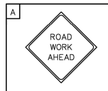
SURVEYED BY:
AMANI ENGINEERING, INC.
FB NO. P-6341

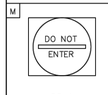
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

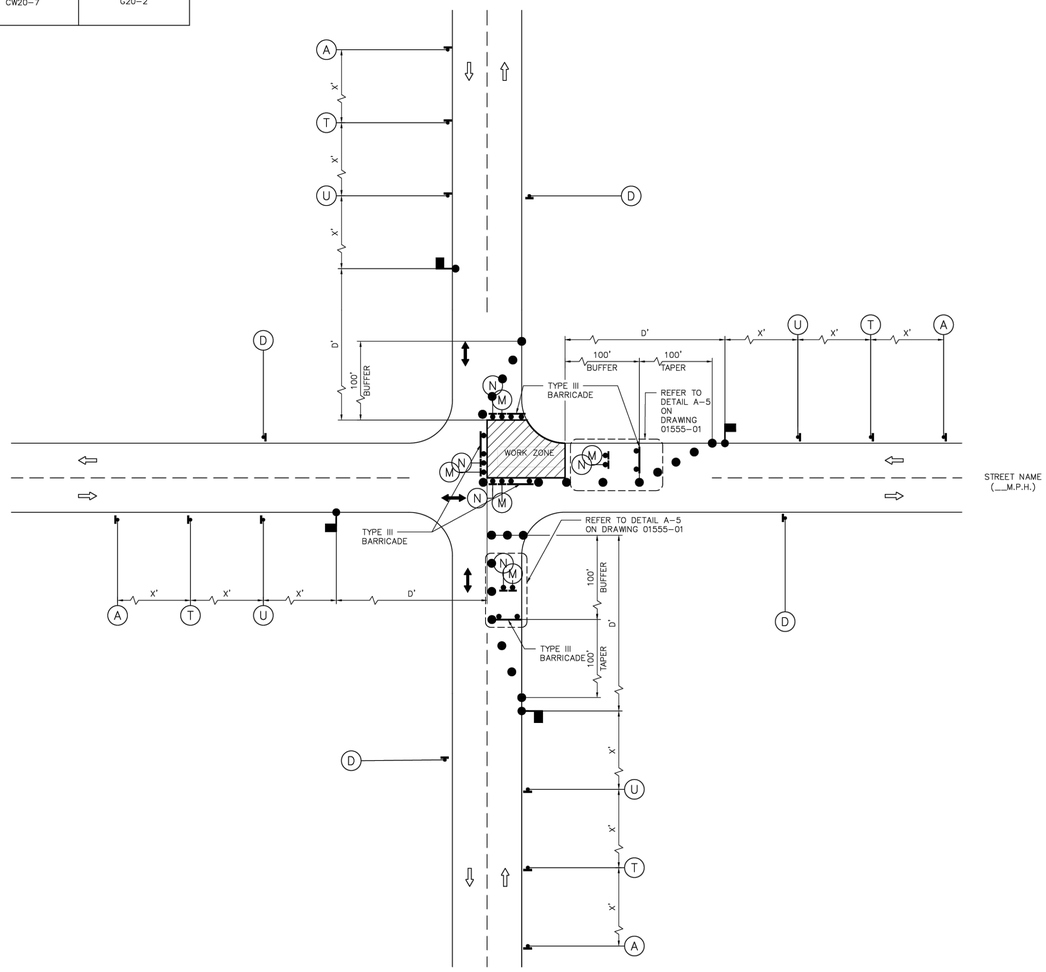
MARKET STREET STORM SEWER IMPROVEMENTS

TRAFFIC CONTROL PLAN DETAILS SHEET 8 OF 9

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	

A	T	U	D
			
CW20-1	CW20-4	CW20-7	G20-2

M	N
	
R5-1	R11-2



LEGEND:

- SIGN
- FLAGGER
- APPROVED CHANNELIZATION DEVICE
- BARRICADE
- FLASHING ARROW PANEL
- AREA UNDER CONSTRUCTION
- EXISTING TRAVEL WAY
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5. MAX. 100' WORK ZONE AT A TIME.

APPROVED BY: (DocuSigned by: Sukat Kanwar) CITY ENGINEER	APPROVED BY: (DocuSigned by: KHANG NGUYEN) CITY TRAFFIC ENGINEER
APPROVED BY: (DocuSigned by: Carl Haddock) 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)
STEP 4 OF 4

DRAWING SCALE	FOR CITY OF HOUSTON USE ONLY
NOT TO SCALE	

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.

halff
TBPELS ENGINEERING FIRM #312
9303 NEW TRAILS DR. SUITE 400
THE WOODLANDS, TEXAS 77381
TEL (936) 777-6400
FAX (936) 756-6833
AVO: 36763.001 WO43

STATE OF TEXAS · MATTHEW A. BUSHTER · 156231 · LICENSED PROFESSIONAL ENGINEER · 6/5/2026

The seal appearing on this document was authorized by Matthew A. Bushter, PE. # 156231 on 6/5/2026.
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TBPELS ENGINEERING FIRM #F-312

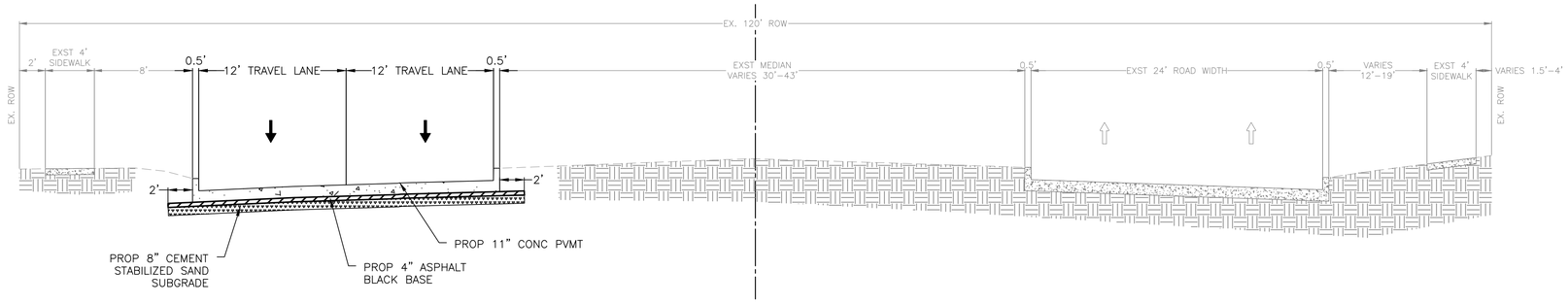
SURVEYED BY:
AMANI ENGINEERING, INC.
FB NO. P-6341

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

TRAFFIC CONTROL PLAN DETAILS SHEET 9 OF 9

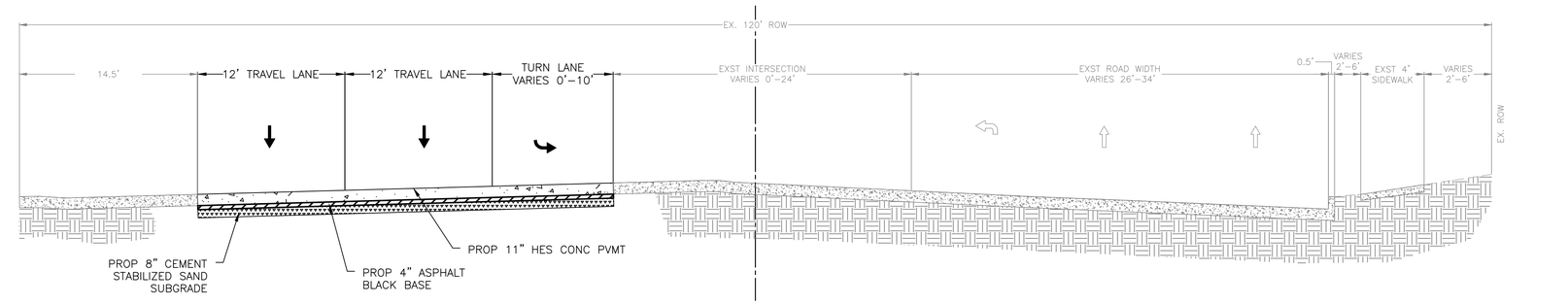
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 52 OF 79	



PROPOSED TYPICAL SECTION

NTS

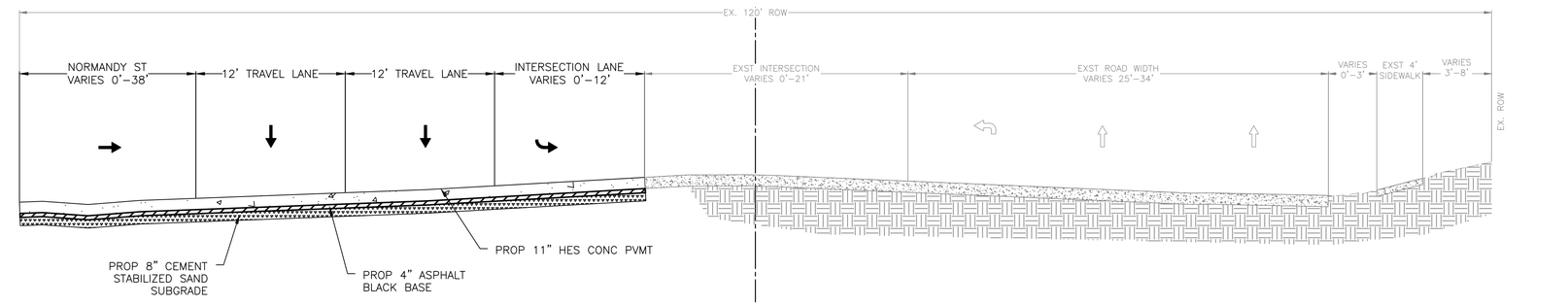
MARKET ST
STA 3+70 TO STA 8+77, STA 10+84 TO STA 14+32, AND STA 16+27 TO STA 20+00



PROPOSED TYPICAL SECTION

NTS

MARKET ST
STA 8+77 TO STA 10+84



PROPOSED TYPICAL SECTION

NTS

MARKET ST
STA 14+32 TO STA 16+27

NOTES:

1. REFER TO SHEET 62 FOR CONCRETE PAVEMENT DETAILS.
2. EXISTING 10 ½" REINFORCED CONCRETE PAVEMENT AND 6" LIME STABILIZED SUBGRADE PER THE CITY RECORD DRAWINGS.

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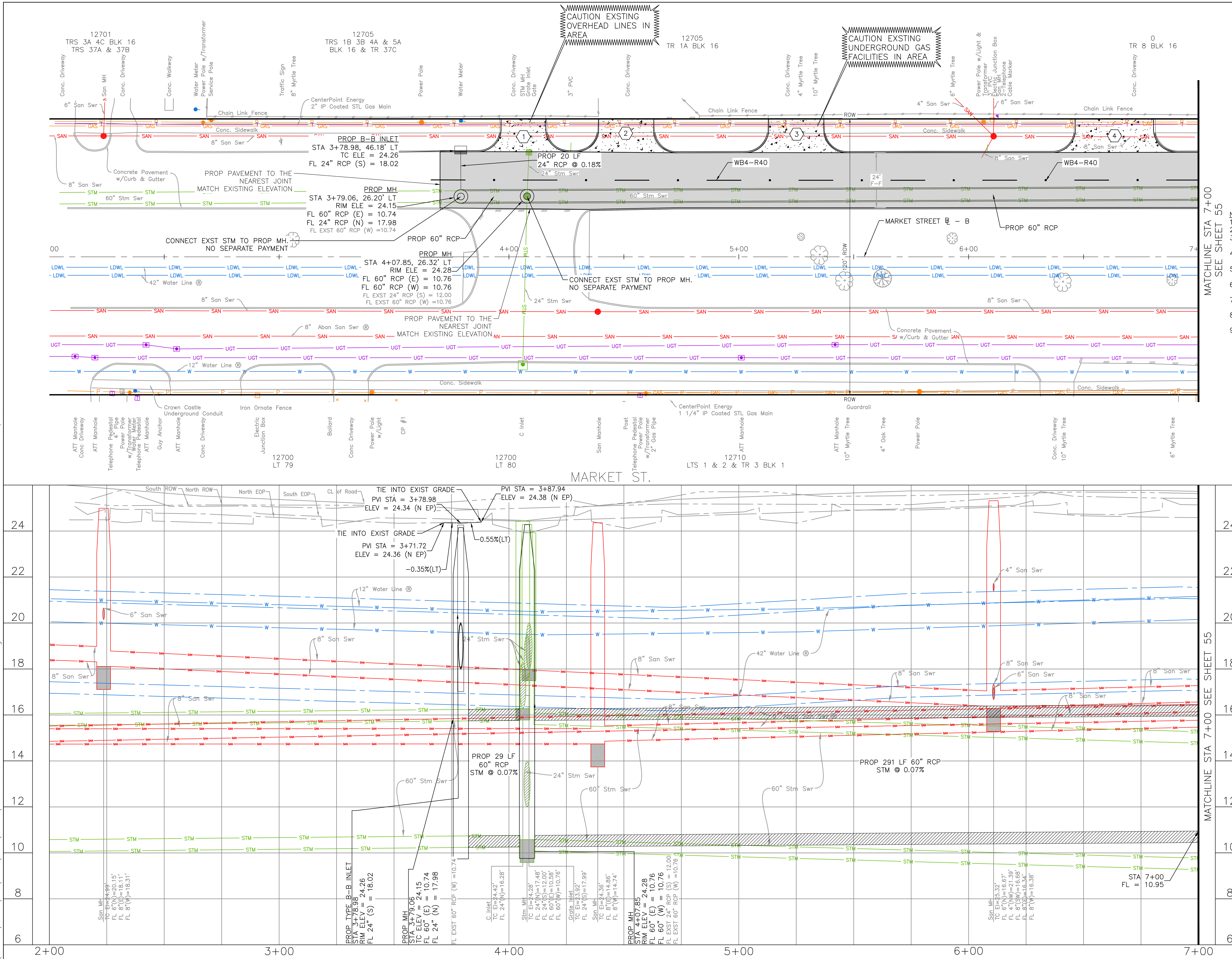
CITY OF HOUSTON

HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

PROPOSED TYPICAL SHEET

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 53 OF 79	



N

0' 10' 20' 40'

FULL SCALE: 1"=20'
HALF SCALE: 1"=40'

LEGEND:

- PROP 11" CONC PVMT W/ 6" CEMENT STABILIZED SUBGRADE
- PROP 7" THICK COMMERCIAL CONC DRWY
- PROP HES 11" CONC PVMT W/ 6" CEMENT STABILIZED SUBGRADE
- DRIVEWAY NUMBER

NOTES:

1. SEE SHEET 60 FOR DRIVEWAY TABLE
2. SEE SHEET 61 FOR DRIVEWAY DETAILS
3. CONTRACTOR TO SEAL EACH PIPE JOINT W/ AN EXTERNAL CRETEX PIPE WRAP OR APPROVED EQUAL.
4. CONTRACTOR TO USE HIGH EARLY STRENGTH CONCRETE AT INTERSECTION AS SHOWN ON PLANS
5. STABILIZED SUBGRADE IS TO EXTEND 2' BEYOND EDGE OF PAVEMENT WHERE CURB IS PRESENT
6. SEE SHEET 76 AND 75 FOR PILE SUPPORTED AND CRUSHED STONE SUPPORTED MANHOLE DETAILS
7. ALL WATERLINES CROSSING ABOVE PROPOSED STORM TO BE PROTECTED IN PLACE WHILE THE STORM IS BEING INSTALLED
8. PAVEMENT GRADES TO MATCH EXISTING GRADES AND CROSS-SLOPES UNLESS OTHERWISE SHOWN ON PLANS
9. CONTRACTOR TO RE-ESTABLISH ANY CURB DRAINS. NO SEPARATE PAY.

TBM:
CP-1 AT STA 3+53.91 2.23' RT., EL. 25.29

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.

halff
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AVO: 36763.001 WO43

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NO. P-6341

MATTHEW A. BUCHTER 156231

6/17/2026

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

MARKET ST PLAN AND PROFILE STA 1+00 TO STA 7+00

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 54 OF 79	

PLOT STYLE: Coh.ctb

A:\36000s\36763\001\W043\Cadd Sheets\C5.2-PLAN-STRM-PLPR-36763-001.W043.dwgMARKET ST PLAN AND PROFILE STA 7+00 TO STA 12+00 Jun 17, 2026 - 8:32AM ah3814

CAUTION EXSTING UNDERGROUND GAS FACILITIES IN AREA

CONNECT PROP SAN TO EXST MH.
NO SEPARATE PAYMENT
FL 8" DIP (S) = 16.17

12705
TR 9 Blk 16

SEE SHEET 58

CAUTION EXSTING OVERHEAD LINES IN AREA

12749
Res A, Blk 1

MATCHLINE STA 7+00
SEE SHEET 54

MATCHLINE STA 12+00
SEE SHEET 56

N

TBM:
CP-2 AT STA 9+36.50 1.45' RT., EL. 25.37
CP-5 AT STA 10+58.36 4.33' RT., EL. 25.39

0' 10' 20' 40'
FULL SCALE: 1"=20'
HALF SCALE: 1"=40'

LEGEND:

- PROP 11" CONC PVMT W/ 6" CEMENT STABILIZED SUBGRADE
- PROP 7" THICK COMMERCIAL CONC DRWY
- PROP HES 11" CONC PVMT W/ 6" CEMENT STABILIZED SUBGRADE
- (#) DRIVEWAY NUMBER

NOTES:
1. SEE SHEET 60 FOR DRIVEWAY TABLE
2. SEE SHEET 61 FOR DRIVEWAY DETAILS
3. CONTRACTOR TO SEAL EACH PIPE JOINT W/ AN EXTERNAL CRETEX PIPE WRAP OR APPROVED EQUAL
4. CONTRACTOR TO USE HIGH EARLY STRENGTH CONCRETE AT INTERSECTION AS SHOWN ON PLANS
5. STABILIZED SUBGRADE IS TO EXTEND 2' BEYOND EDGE OF PAVEMENT WHERE CURB IS PRESENT
6. SEE SHEET 76 AND 75 FOR PILE SUPPORTED AND CRUSHED STONE SUPPORTED MANHOLE DETAILS
7. ALL WATERLINES CROSSING ABOVE PROPOSED STORM AND/OR SANITARY TO BE PROTECTED IN PLACE WHILE THE SEWER IS BEING INSTALLED
8. PAVEMENT GRADES TO MATCH EXISTING GRADES AND CROSS-SLOPES UNLESS OTHERWISE SHOWN ON PLANS
9. DIVERSION PUMPING SHALL BE INCIDENTAL TO SANITARY SEWER WORK
10. CONTRACTOR TO RE-ESTABLISH ANY CURB DRAINS. NO SEPARATE PAY.
11. PAVEMENT MARKING YELLOW CURB. SEE SHEET 68

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

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Date

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Date

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Signature valid for one year.

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AVO: 36763.001 WO43

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NO. P-6341

LICENSED PROFESSIONAL ENGINEER
MATTHEW A. BUCHTER
156231
06/5/2026

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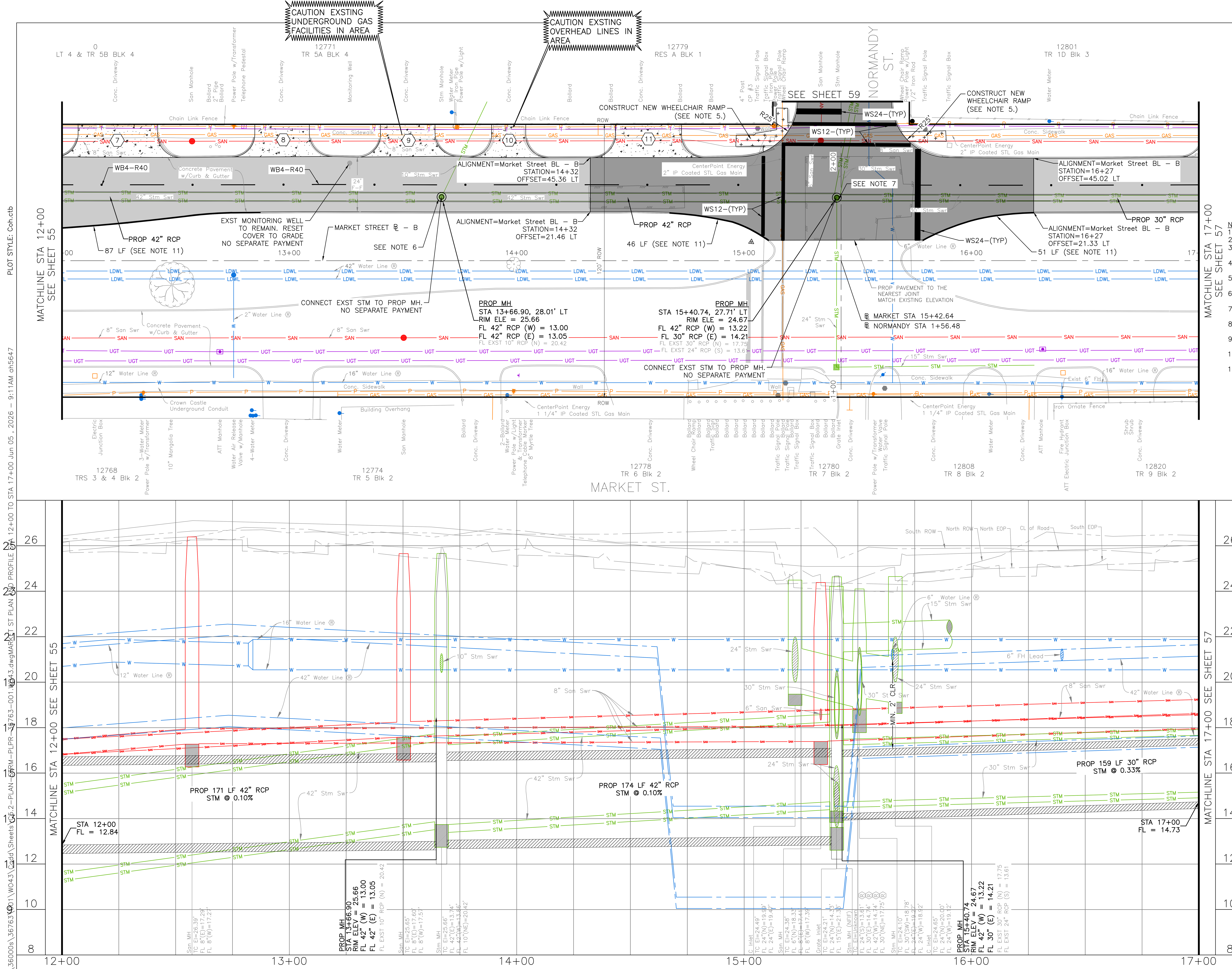
TBPELS ENGINEERING FIRM #F-312

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

MARKET ST PLAN AND PROFILE STA 7+00 TO STA 12+00

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 55 OF 79	



N

TBM:
CP-3 AT STA 15+03.13 8.22' LT., EL. 25.86

0' 10' 20' 40'
FULL SCALE: 1"=20'
HALF SCALE: 1"=40'

LEGEND:
- PROP 11" CONC PVMT W/ 6" CEMENT STABILIZED SUBGRADE
- PROP 7" THICK COMMERCIAL CONC DRWY
- PROP HES 11" CONC PVMT W/ 6" CEMENT STABILIZED SUBGRADE
- PROP SIDEWALK AND/OR SIDEWALK RAMP
- # DRIVEWAY NUMBER

NOTES:
1. SEE SHEET 60 FOR DRIVEWAY TABLE
2. SEE SHEET 61 FOR DRIVEWAY DETAILS
3. CONTRACTOR TO SEAL EACH PIPE JOINT W/ AN EXTERNAL CRETEX PIPE WRAP OR APPROVED EQUAL
4. CONTRACTOR TO USE HIGH EARLY STRENGTH CONCRETE AT INTERSECTION AS SHOWN ON PLANS
5. SEE SHEET 65 AND 66 FOR SIDEWALK AND SIDEWALK RAMP DETAILS
6. STABILIZED SUBGRADE IS TO EXTEND 2' BEYOND EDGE OF PAVEMENT WHERE CURB IS PRESENT
7. SEE SHEET 76 AND 75 FOR PILE SUPPORTED AND CRUSHED STONE SUPPORTED MANHOLE DETAILS
8. ALL WATERLINES CROSSING ABOVE PROPOSED STORM TO BE PROTECTED IN PLACE WHILE THE STORM IS BEING INSTALLED
9. PAVEMENT GRADES TO MATCH EXISTING GRADES AND CROSS-SLOPES UNLESS OTHERWISE SHOWN ON PLANS
10. CONTRACTOR TO RE-ESTABLISH ANY CURB DRAINS. NO SEPARATE PAY.
11. PAVEMENT MARKING YELLOW CURB. SEE SHEET 68

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

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Date

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Date

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AVO: 36763.001 WO43

MATTHEW A. BUCHER 156231 LICENSED PROFESSIONAL ENGINEER
6/5/2026

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NO. P-6341

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

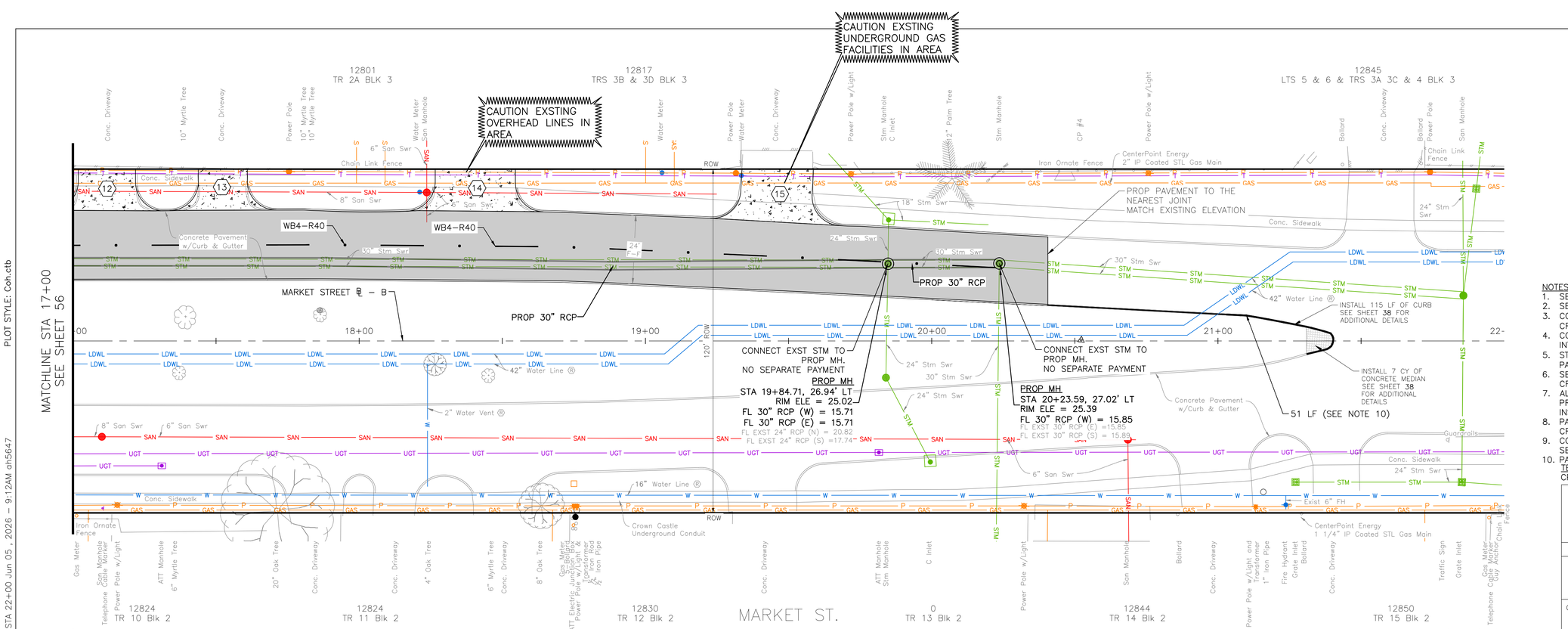
MARKET STREET STORM SEWER IMPROVEMENTS

MARKET ST PLAN AND PROFILE STA 12+00 TO STA 17+00

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 56 OF 79	

PLOT STYLE: Coh.ctb

A:\36000s\36763\001\WO43\Cadd\Sheets\36.2-PLAN-STRM-PLPR-36763-001-WO43.dwg MARKET ST PLAN AND PROFILE STA 12+00 TO STA 17+00 Jun 05, 2026 – 9:11AM ah5647



N

0' 10' 20' 40'

FULL SCALE: 1"=20'
HALF SCALE: 1"=40'

LEGEND:

- PROP 11" CONC PVMT W/ 6" CEMENT STABILIZED SUBGRADE
- PROP 7" THICK COMMERCIAL CONC DRWY
- PROP HES 11" CONC PVMT W/ 6" CEMENT STABILIZED SUBGRADE
- (#) DRIVEWAY NUMBER

NOTES:

1. SEE SHEET 60 FOR DRIVEWAY TABLE
2. SEE SHEET 61 FOR DRIVEWAY DETAILS
3. CONTRACTOR TO SEAL EACH PIPE JOINT W/ AN EXTERNAL CRETEX PIPE WRAP OR APPROVED EQUAL
4. CONTRACTOR TO USE HIGH EARLY STRENGTH CONCRETE AT INTERSECTION AS SHOWN ON PLANS
5. STABILIZED SUBGRADE IS TO EXTEND 2' BEYOND EDGE OF PAVEMENT WHERE CURB IS PRESENT
6. SEE SHEET 76 AND 75 FOR PILE SUPPORTED AND CRUSHED STONE SUPPORTED MANHOLE DETAILS
7. ALL WATERLINES CROSSING ABOVE PROPOSED STORM TO BE PROTECTED IN PLACE WHILE THE STORM IS BEING INSTALLED
8. PAVEMENT GRADES TO MATCH EXISTING GRADES AND CROSS-SLOPES UNLESS OTHERWISE SHOWN ON PLANS
9. CONTRACTOR TO RE-ESTABLISH ANY CURB DRAINS. NO SEPARATE PAY.
10. PAVEMENT MARKING YELLOW CURB. SEE SHEET 68

TBM:
CP-4 AT STA 72+64.85 0.35 LT., EL. 26.75

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

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Date

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

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9303 NEW TRAILS DR, SUITE 400
THE WOODLANDS, TEXAS 77381
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AVO: 36763.001 WO43

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NO. P-6341

STATE OF TEXAS
MATTHEW A. BUSHTER
156231
LICENSED PROFESSIONAL ENGINEER
6/5/2026

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TBPELS ENGINEERING FIRM #F-312

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

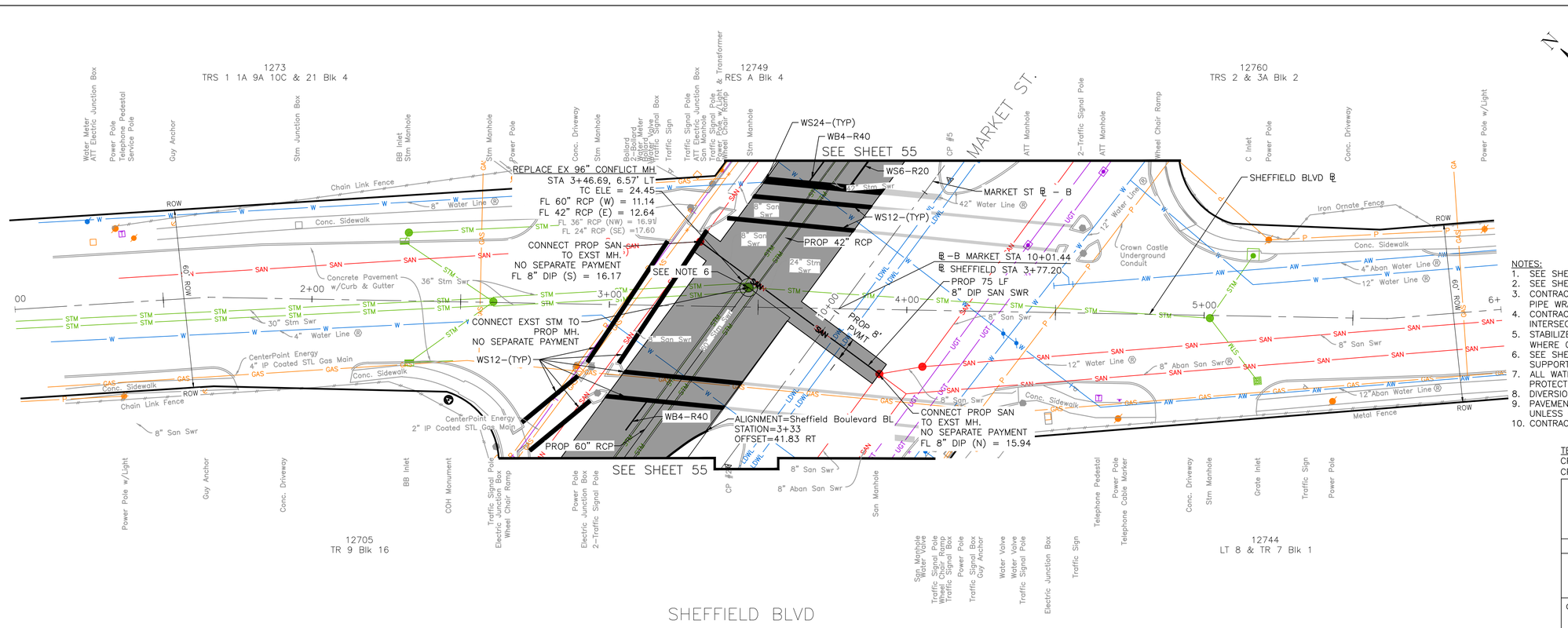
MARKET STREET STORM SEWER IMPROVEMENTS

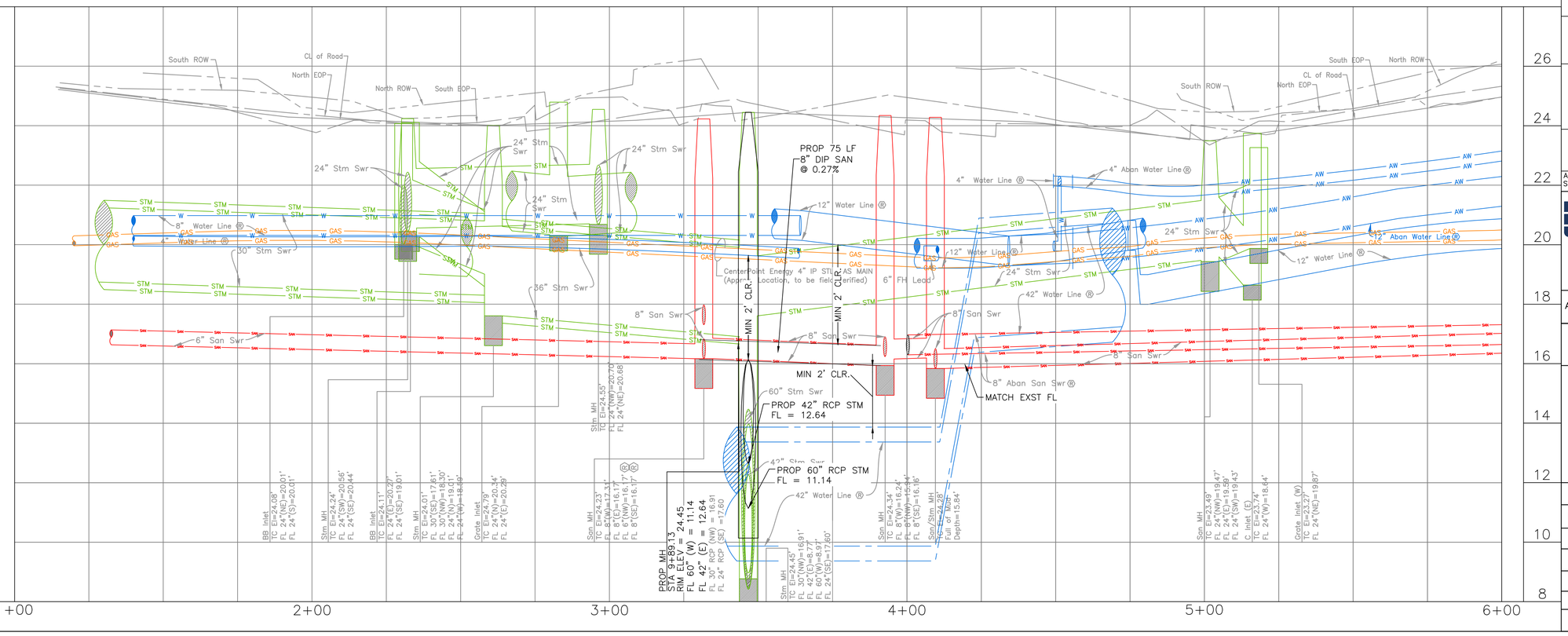
MARKET ST PLAN AND PROFILE STA 17+00 TO STA 22+00

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 57 OF 79	

PLOT STYLE: Coh.ctb

A:\36000s\36763\001\WO43\Cadd\Sheets\C5.2-PLAN-STRM-PLPR-36763-001.WO43.dwgMARKET ST PLAN AND PROFILE STA 17+00 TO STA 22+00 Jun 05, 2026 - 9:12AM ah5647





NOTES:
1. SEE SHEET 60 FOR DRIVEWAY TABLE
2. SEE SHEET 61 FOR DRIVEWAY DETAILS
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7. ALL WATERLINES CROSSING ABOVE PROPOSED STORM TO BE PROTECTED IN PLACE WHILE THE STORM IS BEING INSTALLED
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10. CONTRACTOR TO RE–ESTABLISH ANY CURB DRAINS. NO SEPARATE PAY.

0' 10' 20' 40'
FULL SCALE: 1"=20'
HALF SCALE: 1"=40'

LEGEND:
- PROP 11" CONC PVMT W/ 6" CEMENT STABILIZED SUBGRADE
- PROP 7" THICK COMMERCIAL CONC DRWY
- PROP HES 10" CONC PVMT W/ 6" CEMENT STABILIZED SUBGRADE
- (#) DRIVEWAY NUMBER

TBM:
CP–2 AT STA 3+40.82 53.79' RT., EL. 25.37
CP–5 AT STA 4+13.68 43.91' LT., EL. 25.39

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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AVO: 36763.001 WO43

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NO. P–6341

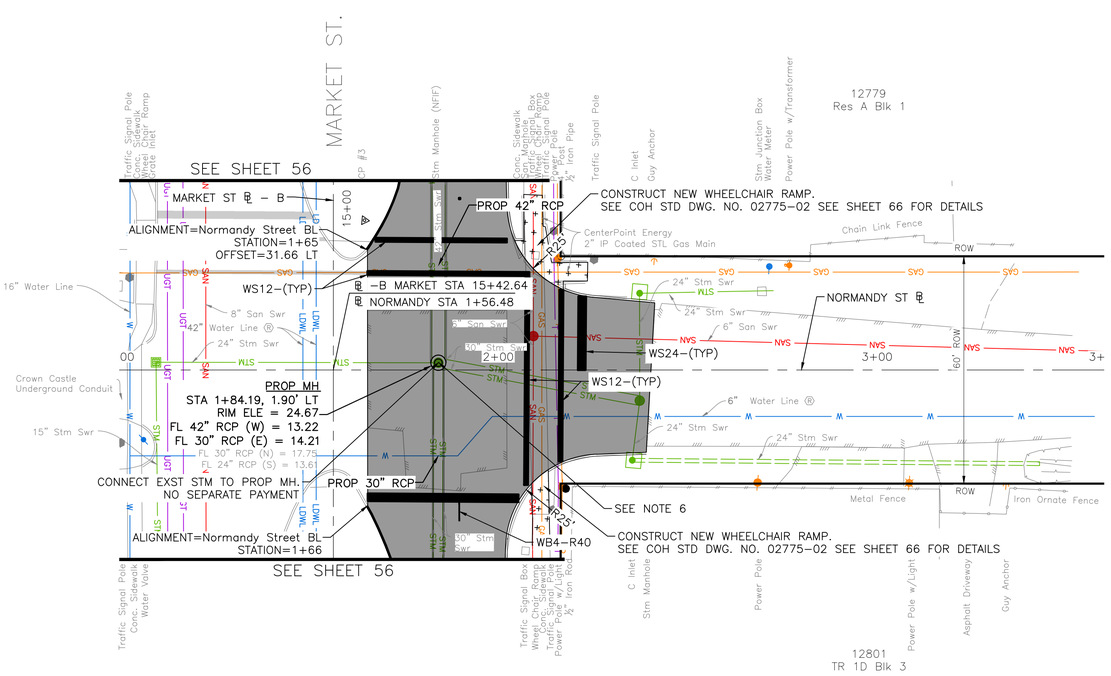
STATE OF TEXAS
MATHEW A. BUCHTER
156231
LICENSED
PROFESSIONAL ENGINEER
6/17/2026

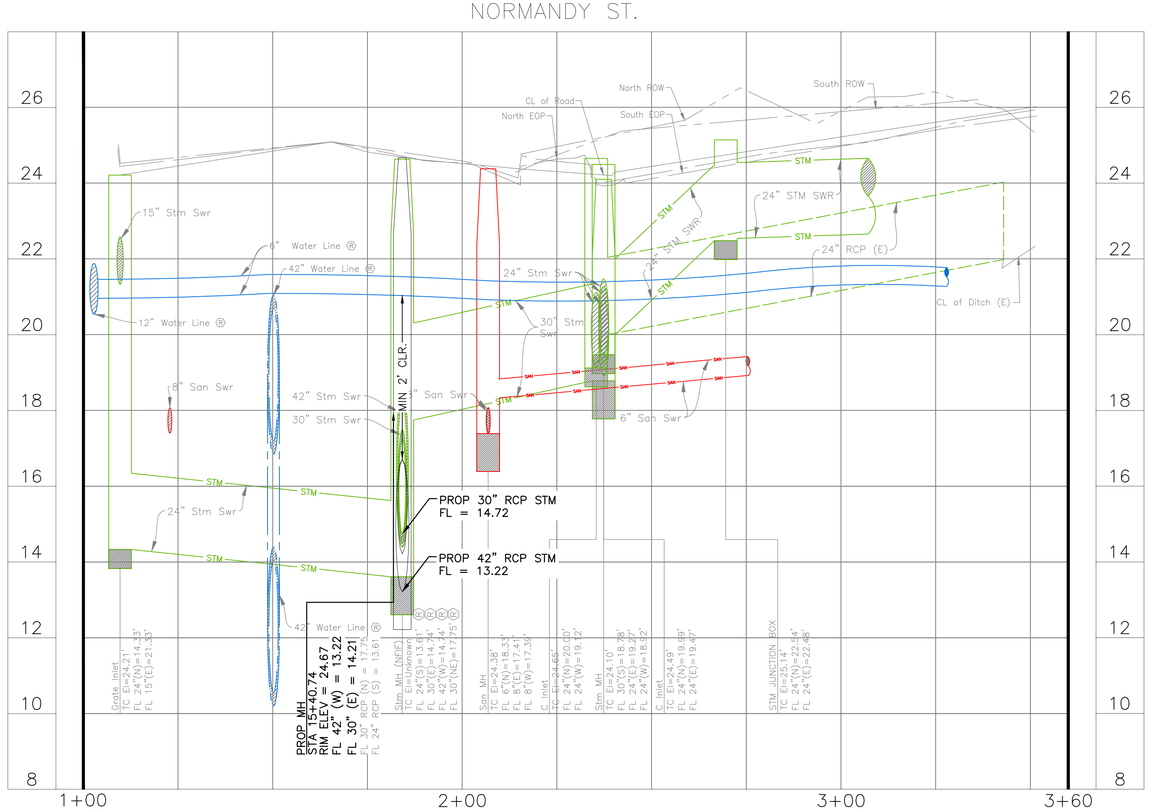
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

SHEFFIELD BLVD PLAN AND PROFILE STA 1+00 TO STA 6+00

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–430220–040A–3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 58 OF 79	





LEGEND:

- PROP 11" CONC PVMT W/ 6" CEMENT STABILIZED SUBGRADE
- PROP 7" THICK COMMERCIAL CONC DRWY
- PROP HES 11" CONC PVMT W/ 6" CEMENT STABILIZED SUBGRADE
- (#) DRIVEWAY NUMBER

NOTES:

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9. CONTRACTOR TO RE–ESTABLISH ANY CURB DRAINS. NO SEPARATE PAY.

TBM:
CP–3 AT STA 1+64.70 39.48' LT., EL. 25.86

NOTICE:
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TBPELS ENGINEERING FIRM #312
9303 NEW TRAILS DR. SUITE 400
THE WOODLANDS, TEXAS 77381
TEL (936) 777-6400
FAX (936) 756-6833
AVO: 36763.001 WO43

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NO. P–6341

LICENSED PROFESSIONAL ENGINEER
MATTHEW A. BUCHTER
156231
COMMISSIONED
6/5/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

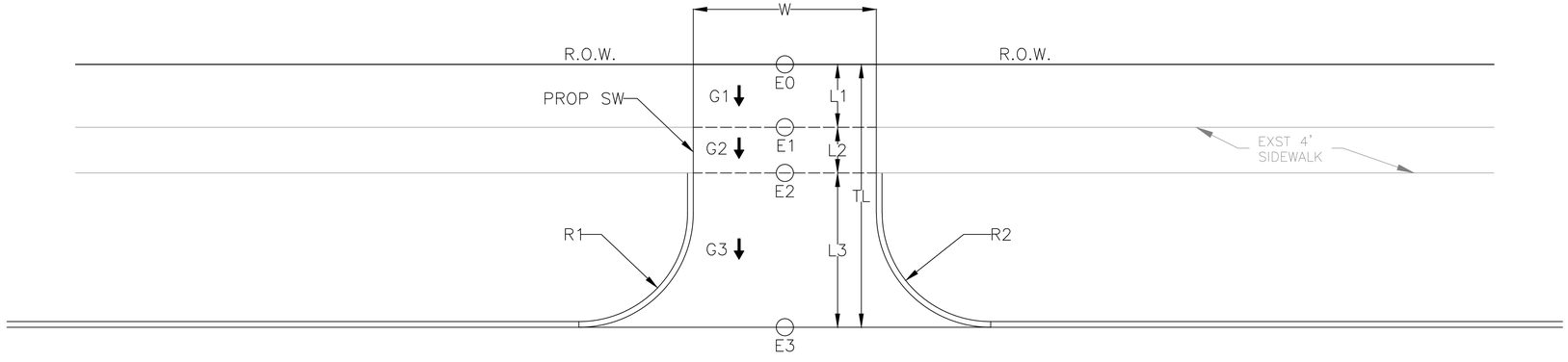
NORMANDY ST PLAN AND PROFILE STA 1+00 TO STA 3+60

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–430220–040A–3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 59 OF 79	

PLOT STYLE: Coh.ctb

A:\36000s\36763\001\WO43\Cadd\Sheets\C5.2–PLAN–STRM–PLPR–36763–001.WO43.dwgNORMANDY ST PLAN AND PROFILE Jun 05, 2026 – 9:12AM ah5647

DRIVEWAY NO.	CL STATION	OFFSET	DRIVEWAY WIDTH (FT) "W"	TOTAL LENGTH (FT) "TL"	LENGTH FROM ROW TO SW (FT) "L1"	LENGTH OF SW (FT) "L2"	LENGTH FROM SW TO GUTTER (FT) "L3"	DRIVEWAY WIDTH (FT) W	Prop SW Width	Prop SW Slope	Prop SW Elv adjacent to ROW	RADIUS (FT) "R1"	RADIUS (FT) "R2"	SLOPE FROM ROW TO SW (%) "G1"	SLOPE OF SW (%) "G2"	SLOPE FROM SW TO EOP (%) "G3"	ROW ELEV (FT) "E0"	ELEV AT SW TOP EDGE (FT) "E1"	ELEV AT SW BOTTOM EDGE (FT) "E2"	ELEV AT GUTTER (FT) "E3"
1	4+06.26	LT	19.43	14.32	2.02	4.00	8.30	19.43	4	0.02	24.37	10.00	10.00	8.333	2.00	15.93	25.44	25.27	25.19	23.85
2	4+50.89	LT	24.00	14.57	2.14	4.00	8.43	24.00	4	0.02	24.56	10.00	10.00	8.333	2.00	13.70	25.47	25.29	25.21	24.04
3	5+24.99	LT	24.00	14.69	2.16	4.00	8.53	24.00	4	0.02	24.61	10.00	10.00	8.333	2.00	16.45	25.77	25.59	25.51	24.09
4	6+63.86	LT	34.00	14.60	2.13	4.00	8.47	34.00	4	0.02	25.15	10.00	10.00	8.333	2.00	6.43	25.45	25.27	25.19	24.64
5	7+80.74	LT	35.00	14.64	2.34	4.00	8.30	35.00	4	0.02	25.06	10.00	10.00	8.333	2.00	6.83	25.40	25.20	25.12	24.55
6	11+22.86	LT	35.00	14.28	1.25	4.00	9.03	35.00	4	0.02	25.78	10.00	10.00	8.333	2.00	3.14	25.73	25.63	25.55	25.26
7	12+24.26	LT	35.00	14.49	1.63	4.00	8.86	35.00	4	0.02	26.31	10.00	10.00	8.333	2.00	2.38	26.22	26.08	26.00	25.79
8	12+96.83	LT	24.00	14.28	2.16	4.00	8.12	24.00	4	0.02	26.37	10.00	10.00	8.333	2.00	6.07	26.62	26.44	26.36	25.86
9	13+51.88	LT	24.00	14.22	2.37	4.00	7.85	24.00	4	0.02	25.96	10.00	10.00	8.333	2.00	7.87	26.35	26.15	26.07	25.44
10	13+96.39	LT	15.00	14.61	2.13	4.00	8.48	15.00	4	0.02	25.53	10.00	10.00	8.333	2.00	13.17	26.40	26.22	26.14	25.01
11	14+57.93	LT	29.12	14.63	2.26	4.00	8.37	29.12	4	0.02	25.29	10.00	10.00	8.333	2.00	8.25	25.74	25.56	25.48	24.78
12	17+11.85	LT	20.00	14.48	1.85	4.00	8.63	20.00	4	0.02	25.07	10.00	10.00	8.333	2.00	17.73	26.33	26.18	26.10	24.55
13	17+52.41	LT	17.14	14.34	2.00	4.00	8.34	17.14	4	0.02	25.19	10.00	10.00	8.333	2.00	18.12	26.45	26.28	26.20	24.67
14	18+41.11	LT	28.00	14.67	2.45	4.00	8.22	28.00	4	0.02	25.47	10.00	10.00	8.333	2.00	7.52	25.86	25.65	25.57	24.95
15	19+46.91	LT	25.00	18.47	7.82	4.00	6.65	25.00	4	0.02	25.08	10.00	10.00	8.333	2.00	11.07	26.04	25.39	25.31	24.56



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SURVEYED BY:
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FB NO. P-6341

STATE OF TEXAS
MATTHEW A. BUCHTER
156231
LICENSED
PROFESSIONAL ENGINEER
6/4/2026

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TBPELS ENGINEERING FIRM # 312

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

DRIVEWAY TABLE

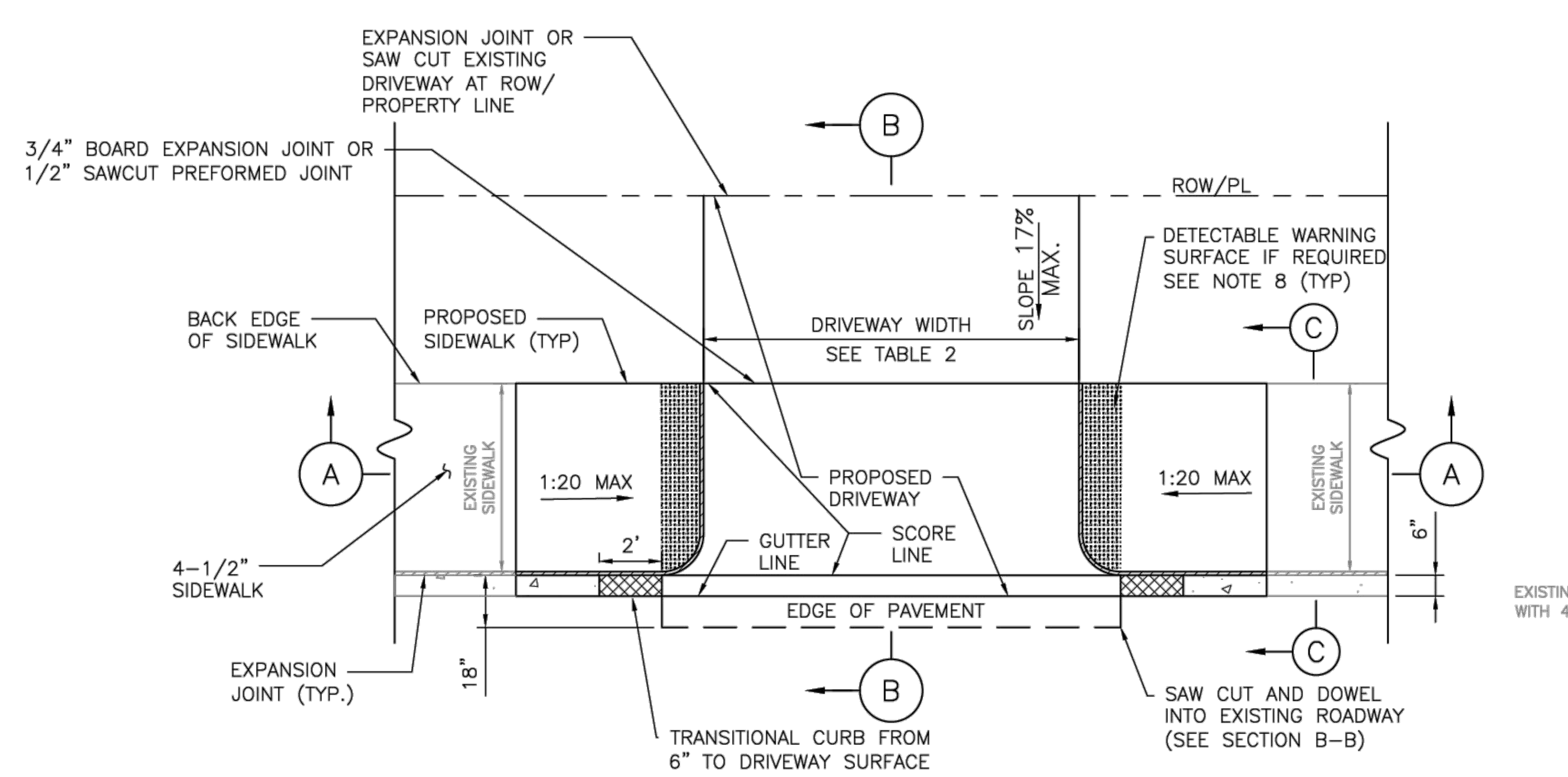
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 60 OF 79	

PLOT STYLE: Coh.ctb

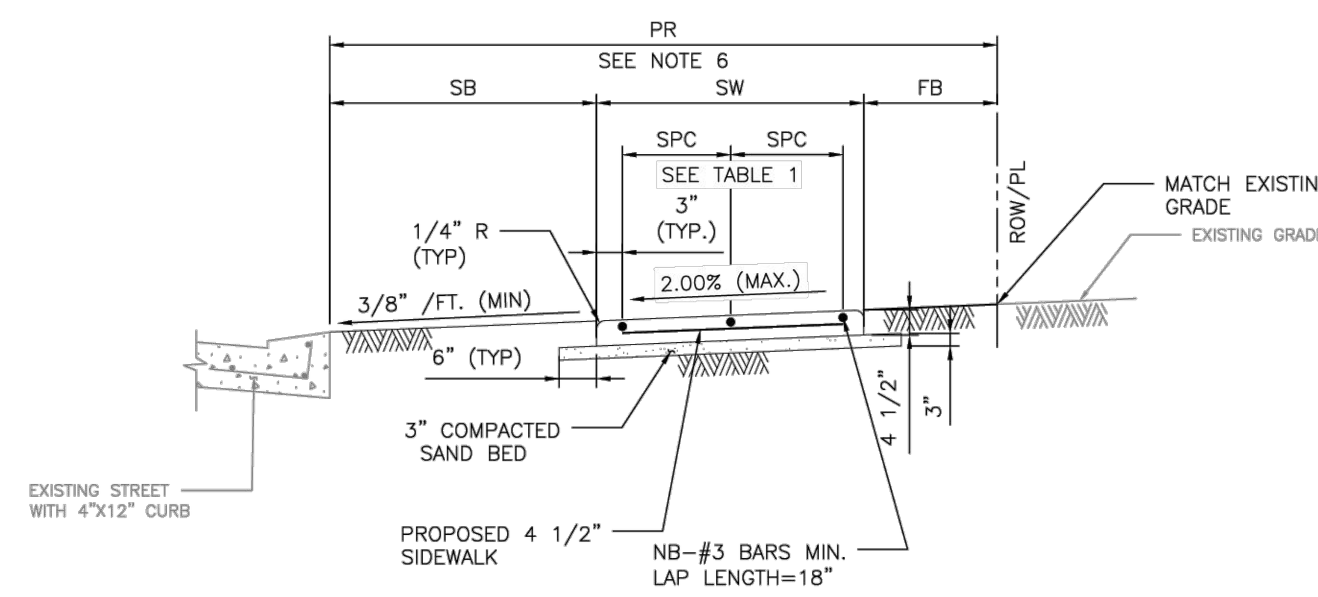
A:\36000s\36763\001\WO43\Cadd\Sheets\C5.5-PLAN-DTBL-36763-001-WO43.dwgDRIVEWAY TABLE Jun 04, 2026 - 2:56PM dh5647

PLOT STYLE: Coh.ctb

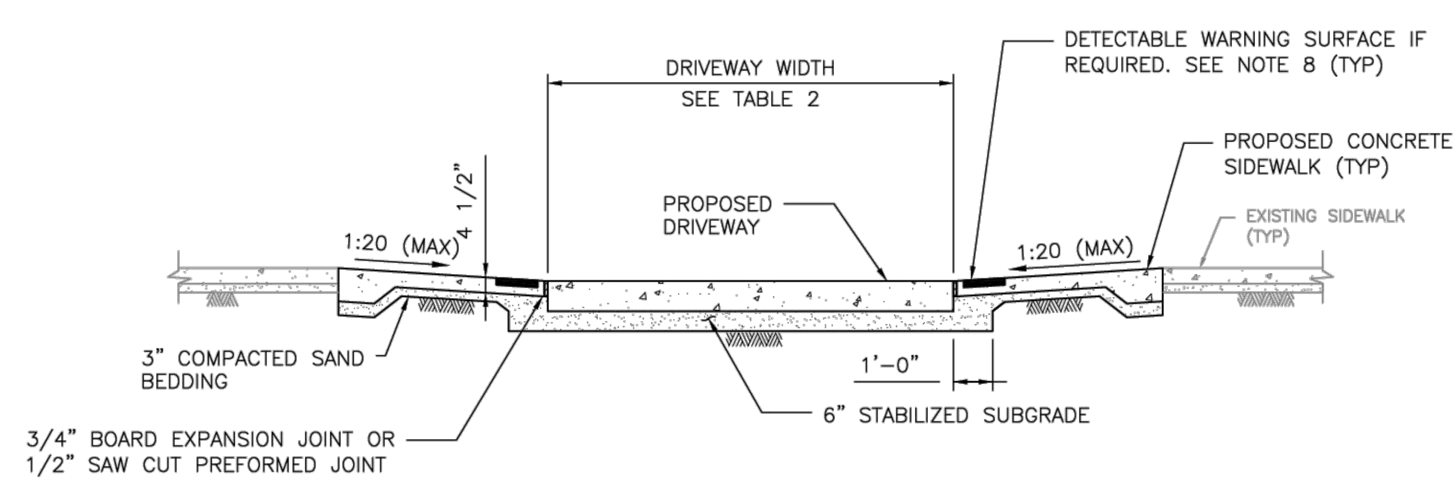
A:\36000s\36763\001\W043\Cadd\Sheets\C7.04-MSCL-DTLS-36763-001.W043.dwgDRIVEWAY DETAIL Jun 04 , 2026 — 2:56PM ah5647



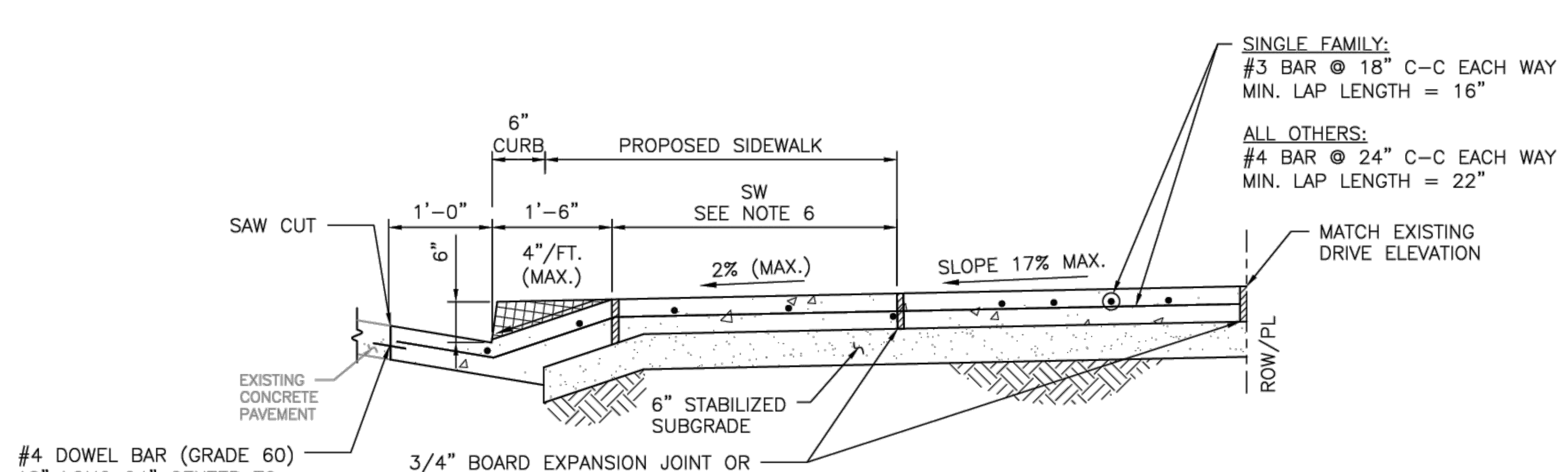
PLAN VIEW – DRIVEWAY



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
f'c = 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"	SPACING "SPC" (IN)	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	MAX	RADIUS (FT) MIN	MAX	TYPE B DRIVEWAY (SHARED ACCESS/SHARED DRIVEWAY) WIDTH (FT) MIN	MAX	RADIUS (FT) MIN	MAX	TYPE C DRIVEWAY (COMMERCIAL DRIVEWAY) WIDTH (FT) MIN	MAX	RADIUS (FT) 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: Suhail Kanwar	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: 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
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STATE OF TEXAS
MATTHEW A. BUCHTER
156231
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FB NO. P-6341

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

DRIVEWAY DETAIL

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
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AHMED SIDDIQUI, P.E.	

PLOT STYLE: Coh.ctb

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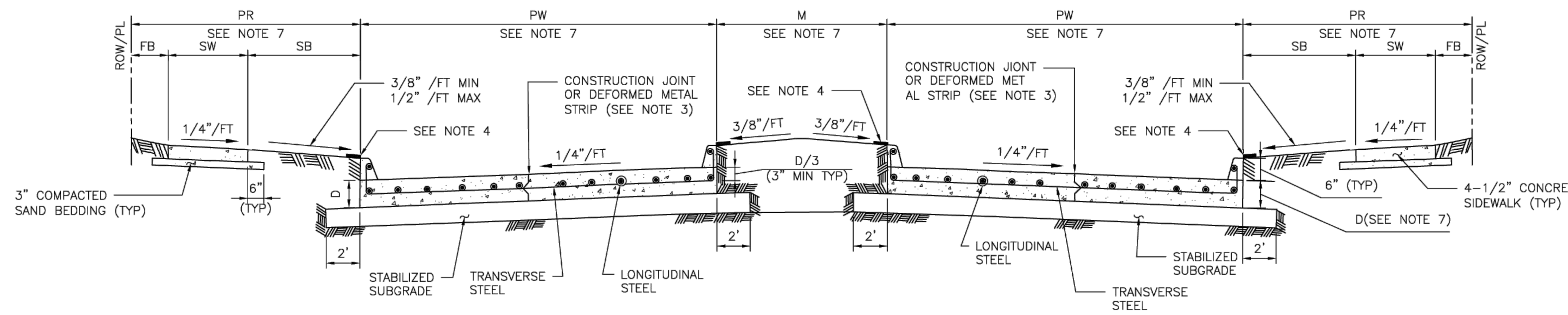
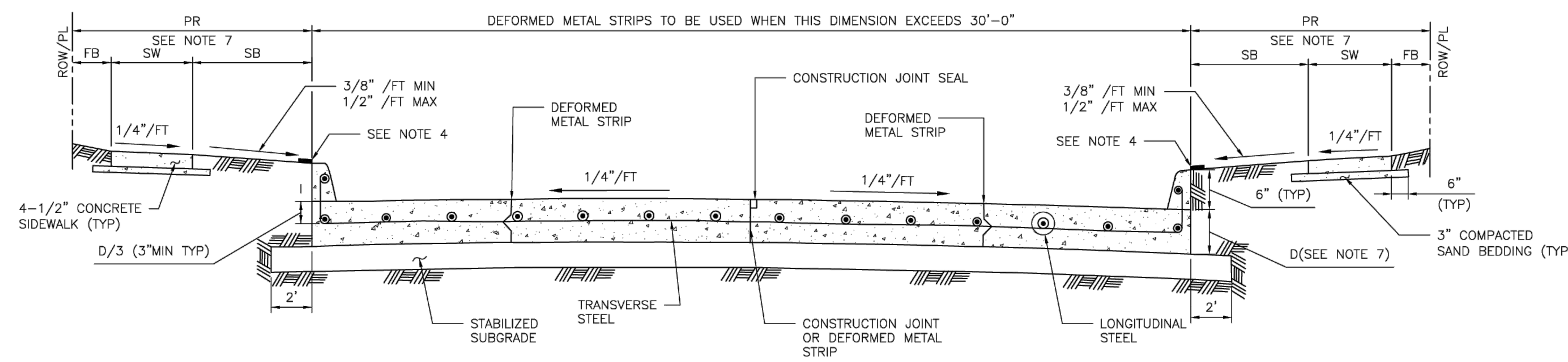


TYPICAL DOUBLE ROADWAY SECTION FOR CONCRETE PAVEMENT WITH CURBS



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.

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.

APPROVED BY: Sukhi Kanwar — CITY ENGINEER
APPROVED BY: Khang Nguyen — CITY TRAFFIC ENGINEER
APPROVED BY: Carol Haddock — DIRECTOR OF HOUSTON PUBLIC WORKS

EFF DATE: NOV-27-2023 | DWG NO: 02751-01

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

CONCRETE PAVEMENT DETAILS

FOR CITY OF HOUSTON USE ONLY

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STATE OF TEXAS — MATTHEW A. BUCHTER — 156231 — LICENSED PROFESSIONAL ENGINEER
6/4/2026

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

PAVEMENT DETAIL

WBS NUMBER
M-430220-040A-3 (WO#43)

FOR CITY OF HOUSTON USE ONLY

DRAWING SCALE
AS NOTED

CITY OF HOUSTON PM
AHMED SIDDIQUI, P.E.

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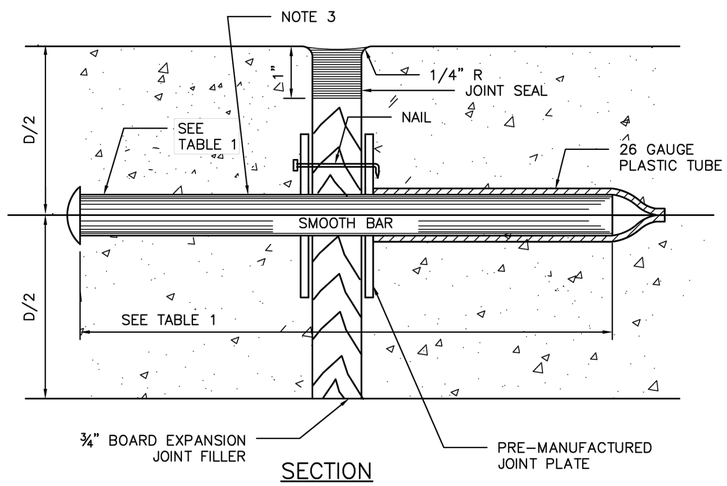
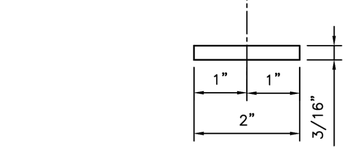


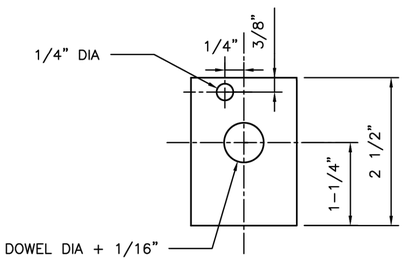
SECTION

DOWEL TYPE EXPANSION JOINT



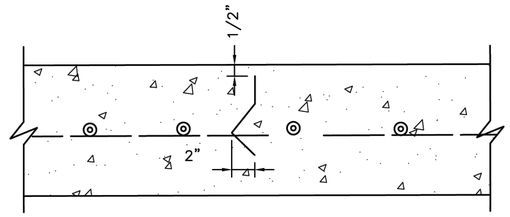
PLAN VIEW

JOINT PLATE



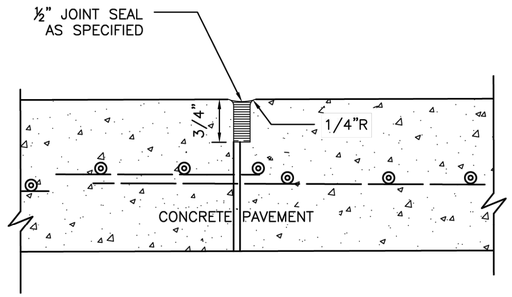
ELEVATION VIEW

JOINT PLATE



SECTION

DEFORMED METAL STRIP



SECTION

CONSTRUCTION JOINT SEAL

TABLE 1

PAVEMENT THICKNESS (IN)	DOWEL SIZES AND SPACINGS		
	DIAMETER (IN)	LENGTH (IN)	SPACING (IN)
6	3/4	18	12
7	1	18	12
8	1	18	12
9	1 1/4	18	12
10	1 1/4	18	12
11	1 1/4	18	12
12	1 1/4	18	12

NOTES:

1. STEEL TO MEET ASTM STANDARD SPECIFICATIONS FOR CONCRETE REINFORCING BARS. UNITS TO BE SPACED 12" CENTER ON CENTER.
2. EXPANSION JOINT TO BE PLACED AT THE END OF EACH CURB RADIUS.
3. CENTER DOWEL HORIZONTALLY ON JOINT.
4. CENTER DOWEL VERTICALLY IN CONCRETE BASE. EXTEND THICKENED CONCRETE AS NEEDED TO MAINTAIN 3" MIN COVER.
5. CITY OF HOUSTON APPROVED PRODUCTS MAY BE USED AS JOINT PLATE ALTERNATIVE.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

PAVEMENT EXPANSION AND CONSTRUCTION JOINT DETAILS

(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Suhail Kanwar — CITY ENGINEER

DocuSigned by: KHANG NGUYEN — CITY TRAFFIC ENGINEER

DocuSigned by: Carol Haddock — DIRECTOR OF HPW

EFF DATE: NOV-27-2023 | DWG NO: 02752-01

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SURVEYED BY:
AMANI ENGINEERING, INC.
FB NO. P-6341

STATE OF TEXAS — MATTHEW A. BUSHTER — 156231 — LICENSED PROFESSIONAL ENGINEER — 6/4/2026

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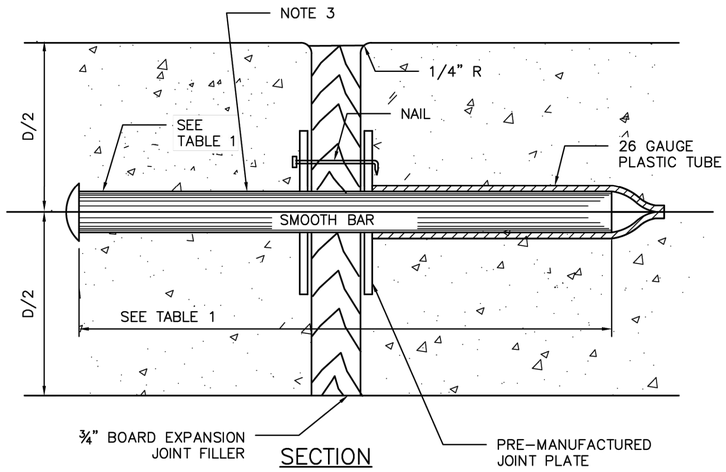
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

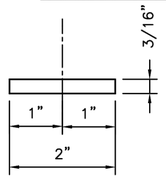
PAVEMENT EXPANSION & CONSTRCUTION JOINT DETAILS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 63 OF 79	



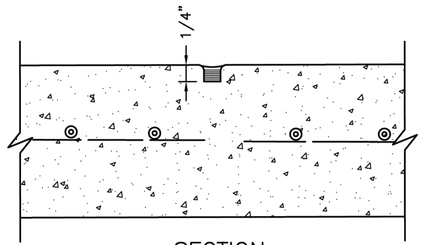
SECTION

DOWEL TYPE EXPANSION JOINT



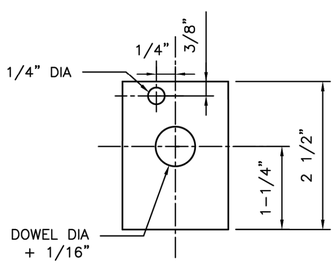
PLAN VIEW

JOINT PLATE



SECTION

CONTROL JOINT

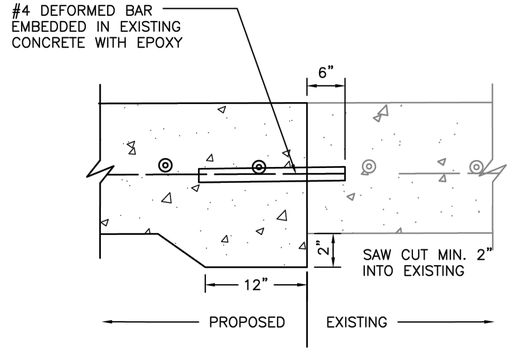


ELEVATION VIEW

JOINT PLATE

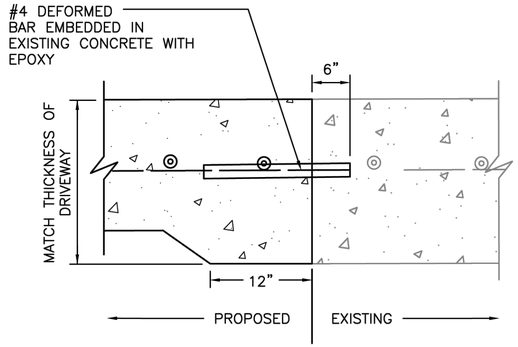
TABLE 1

PAVEMENT THICKNESS (IN)	DOWEL SIZES AND SPACINGS		
	DIAMETER (IN)	LENGTH (IN)	SPACING (IN)
4 1/2	1/2	18	12
5	1/2	18	12
6	3/4	18	12
7	1	18	12



SECTION

SIDEWALK TO EXISTING SIDEWALK



SECTION

SIDEWALK TO EXISTING DRIVEWAY

NOTES:

1. STEEL TO MEET ASTM STANDARD SPECIFICATIONS FOR CONCRETE REINFORCING BARS.
2. EXPANSION JOINT TO BE PLACED AT THE END OF EACH CURB RADIUS AND SPACED AT A MAXIMUM DISTANCE OF 3 FEET MAXIMUM SPACING FOR CONTROL JOINTS SHALL BE 5 FEET.
3. CENTER DOWEL HORIZONTALLY ON JOINT.
4. CENTER DOWEL VERTICALLY IN CONCRETE AS NEEDED TO MAINTAIN A 2 INCH MINIMUM COVER.

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STATE OF TEXAS
MATTHEW A. BUSHTER
156231
LICENSED
PROFESSIONAL ENGINEER
6/4/2026

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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

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

SIDEWALK EXPANSION & CONSTRUCTION JOINT DETAILS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
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AS NOTED	
CITY OF HOUSTON PM	
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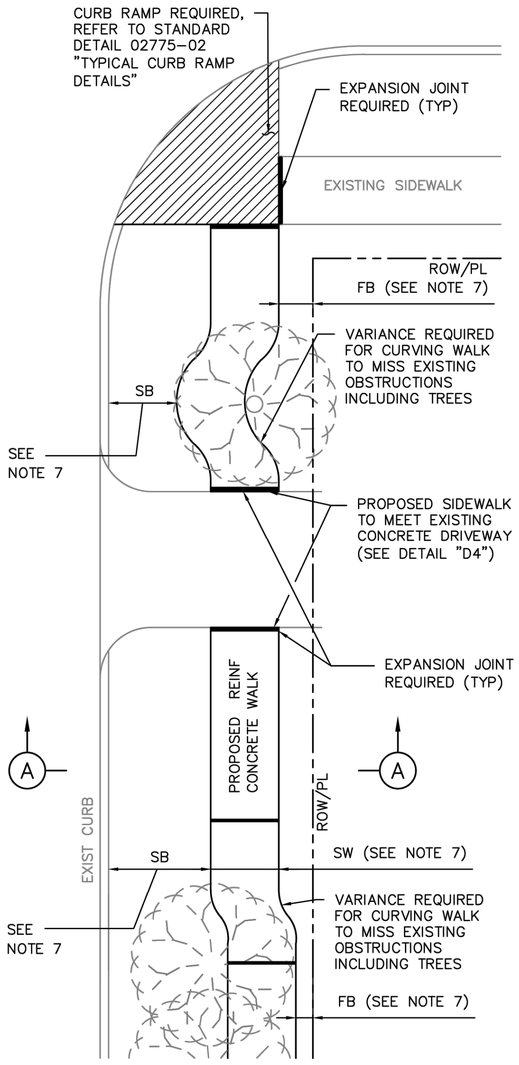
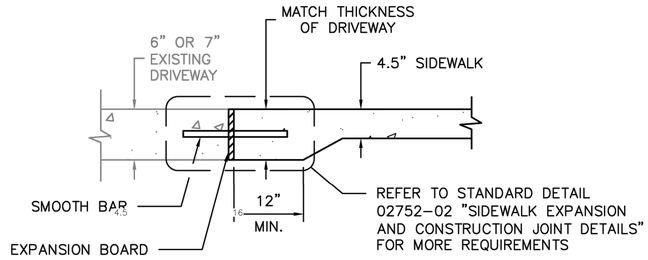
SHEET NO. 64 OF 79	



PLAN VIEW

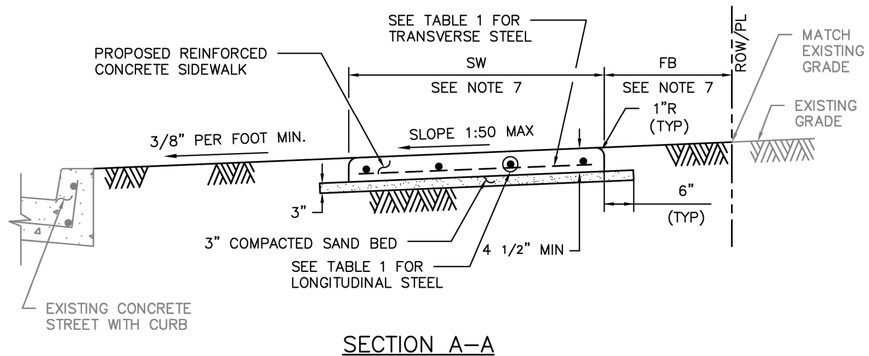


DETAIL D4
DRIVEWAY/SIDEWALK HEADER

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 9EF8B0C841F5478...
CITY ENGINEER

DocuSigned by: Carol Haddock A93C410B72B3453...
DIRECTOR OF HPW

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

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

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AMANI ENGINEERING, INC.
FB NO. P–6341

STATE OF TEXAS MATTHEW A. BUCHTER 156231 LICENSED PROFESSIONAL ENGINEER
6/4/2026
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

TYPICAL SIDEWALK LAYOUT AND DETAILS FOR STREETS WITH CURBS

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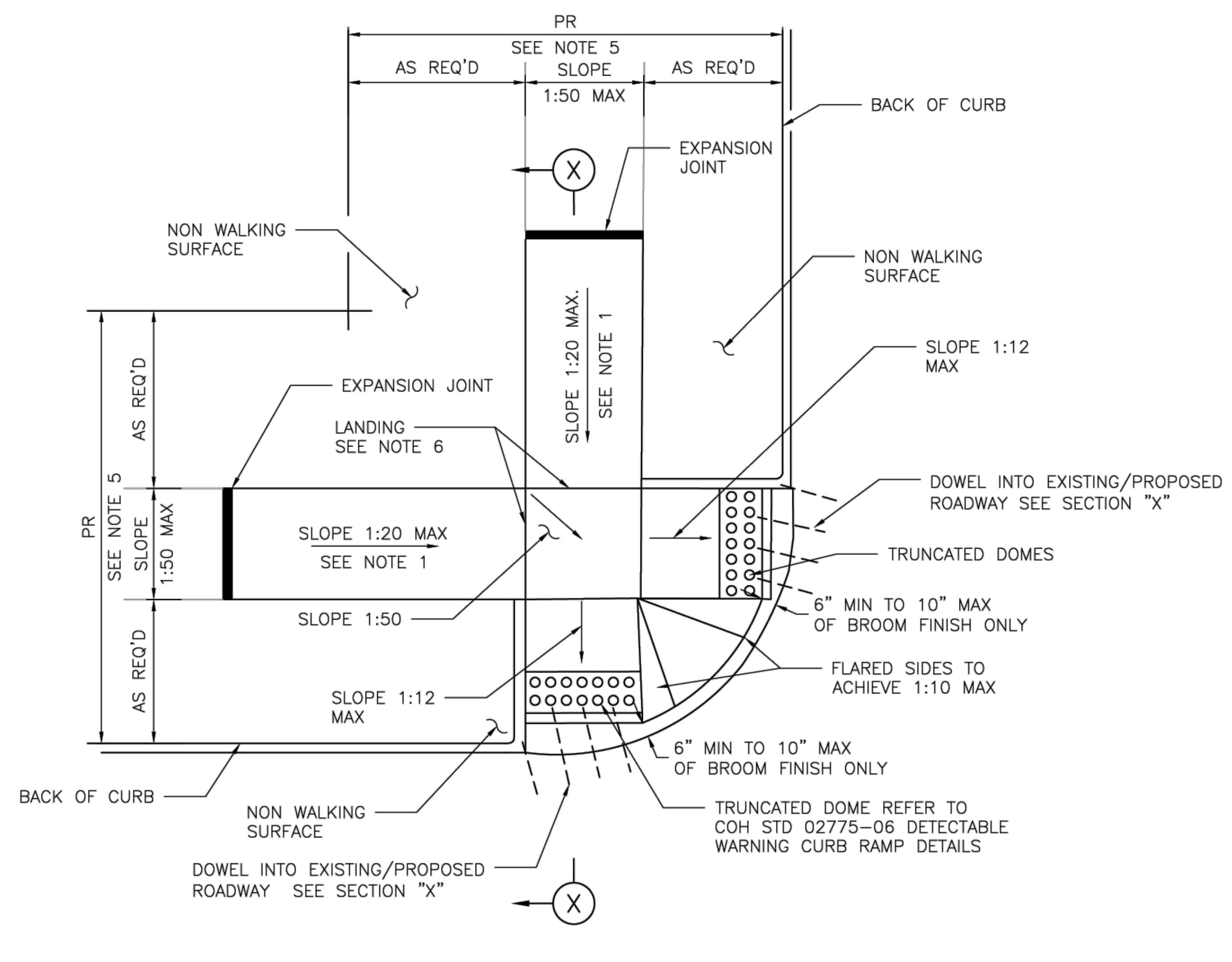
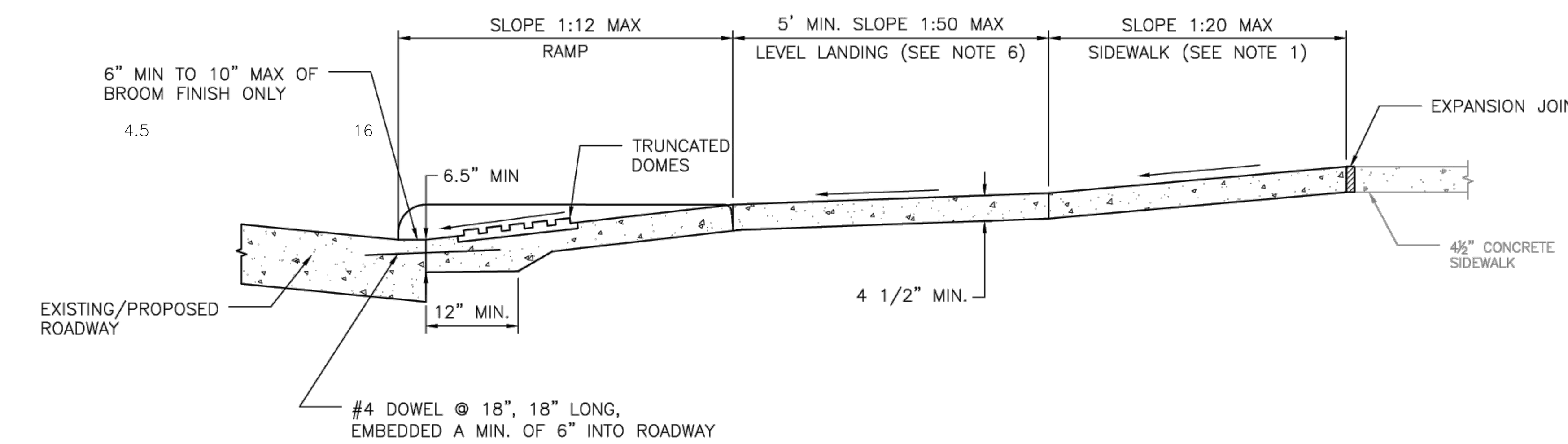
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 65 OF 79	



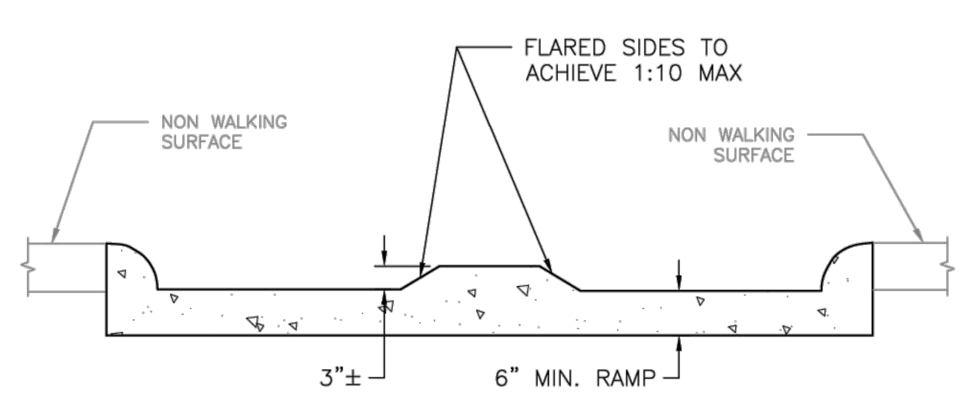
STREETS WITH NON– WALKING SURFACE BEHIND CURB
SEE NOTE–7



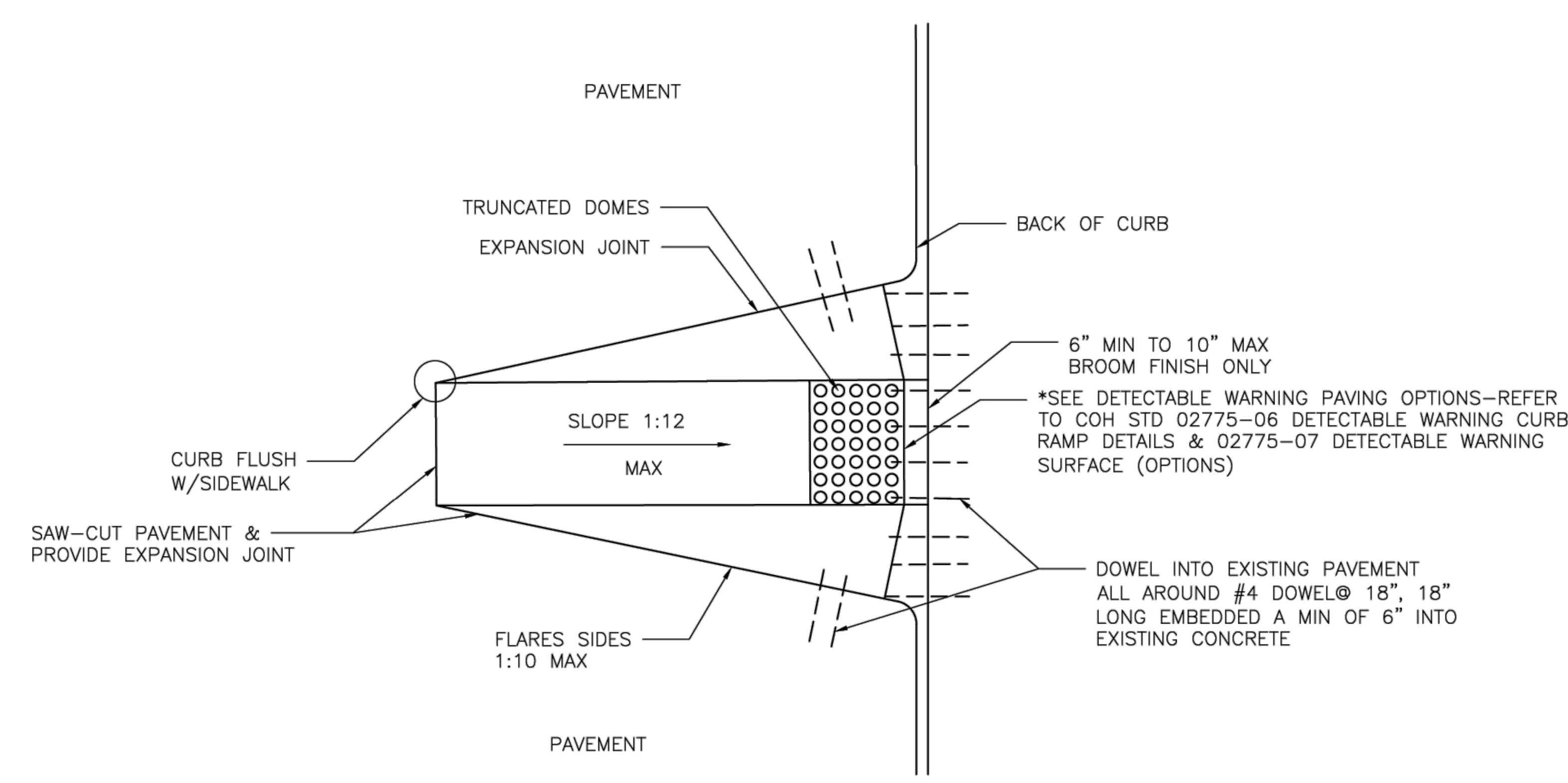
SECTION X–X

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:
Suhail Kanwar	KHANG NGUYEN
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: Carol 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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MATTHEW A. BUCHTER 156231
6/4/2026

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

TYPICAL CURB RAMP DETAILS

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SHEET NO. 66 OF 79	

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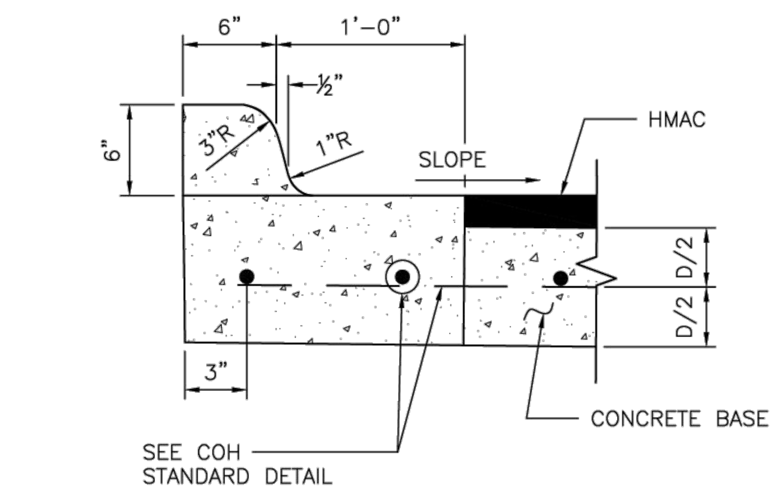
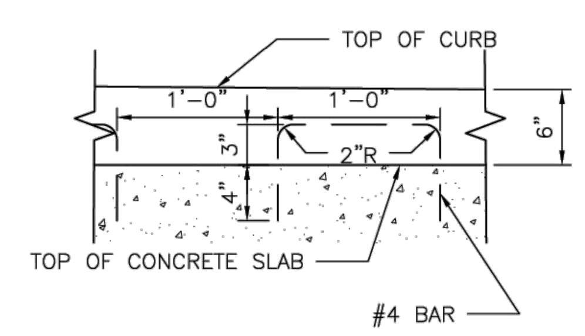
PLOT STYLE: Coh.ctb

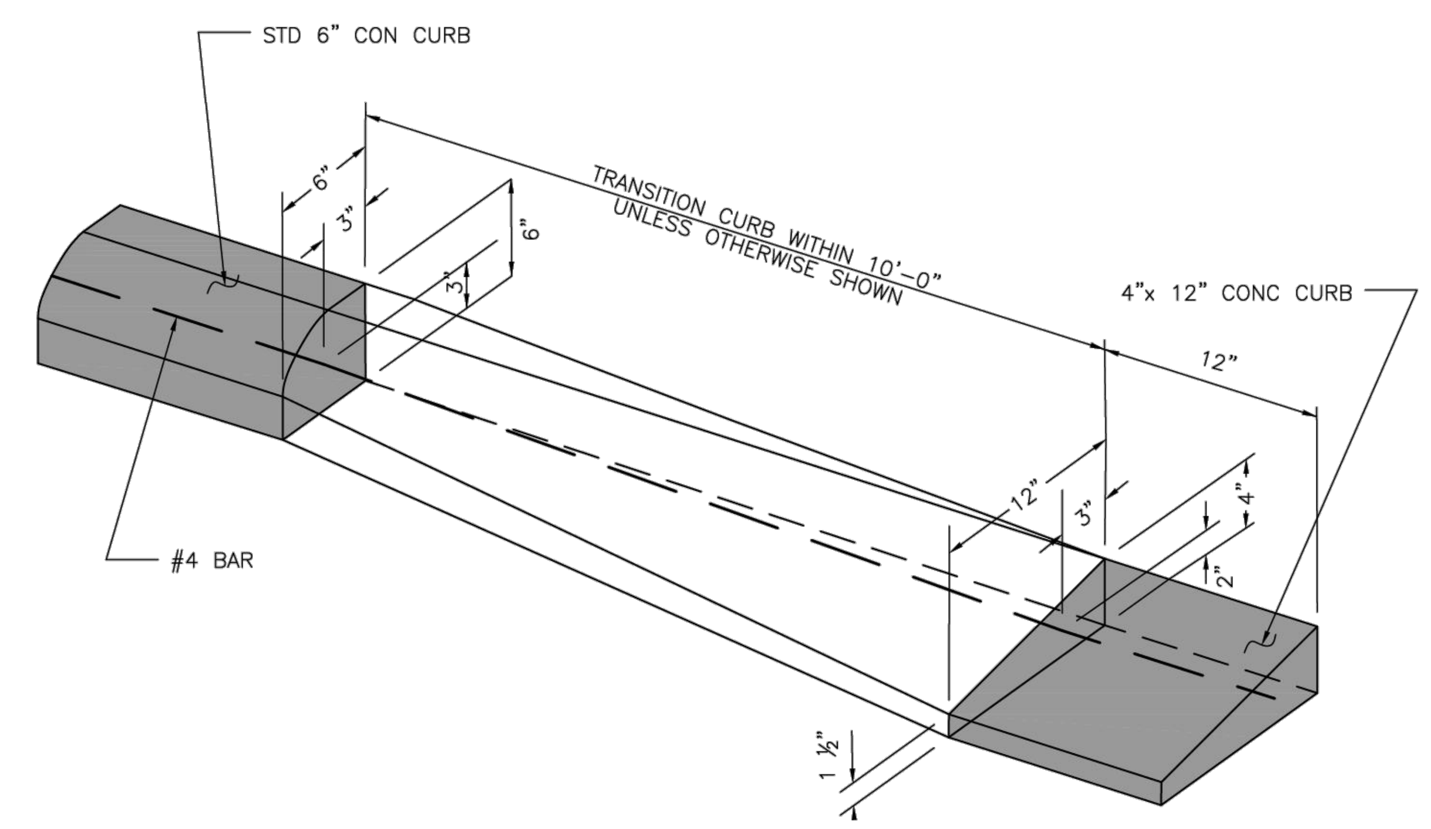
A:\36000s\36763\001\WO43\Cadd\Sheets\C7.04-MSCL-DTLS-36763-001.WO43.dwgCURB CURB AND GUTTER AND HEADER DETAILS Jun 04, 2026 – 2:56PM ah5647



ESPLANADE CURB CONNECTED TO CONCRETE BASE

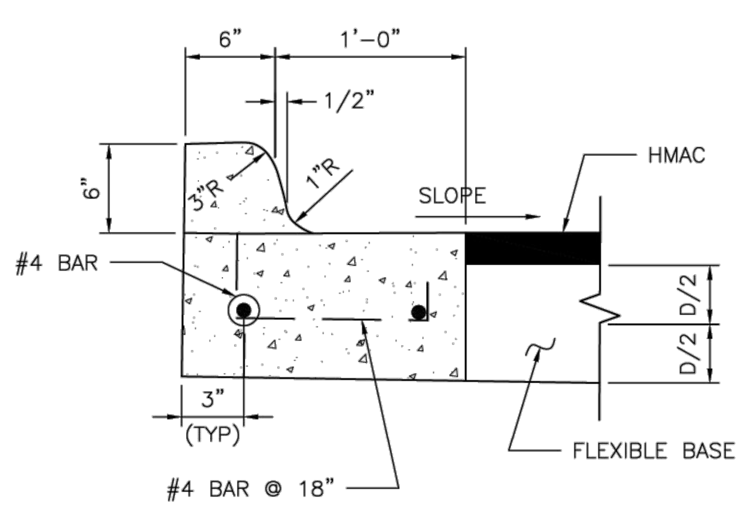


ALTERNATE CONCRETE CURB REINFORCEMENT

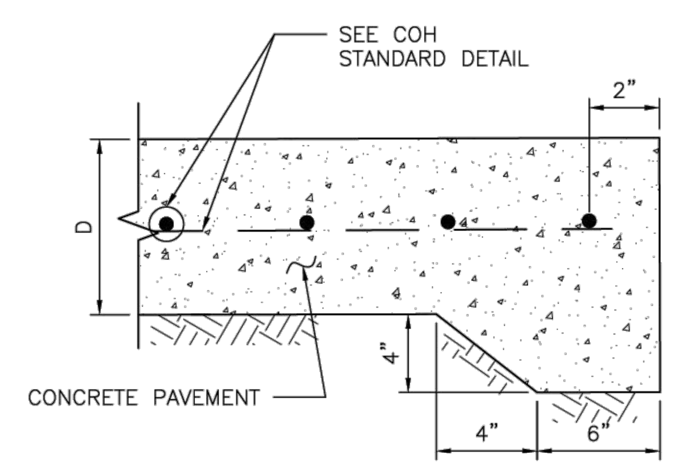


CURB TRANSITION

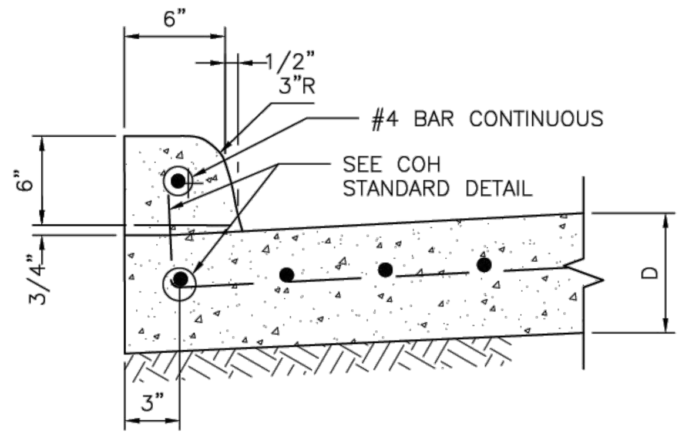
(SEE NOTES)



ESPLANADE CURB CONNECTED TO FLEXIBLE BASE

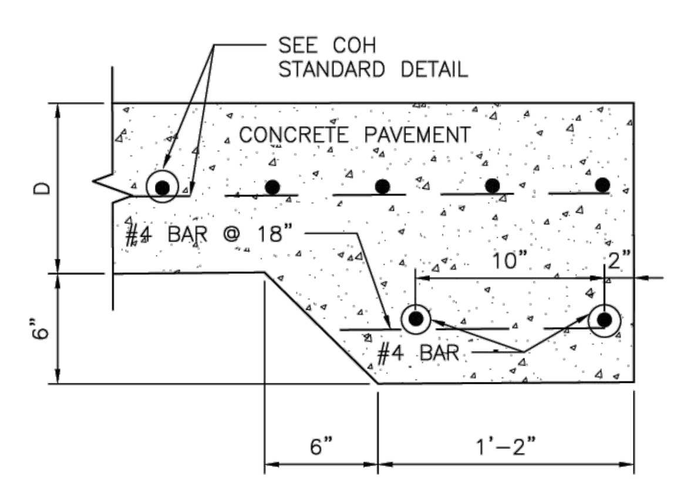


STANDARD CONCRETE PAVING HEADER

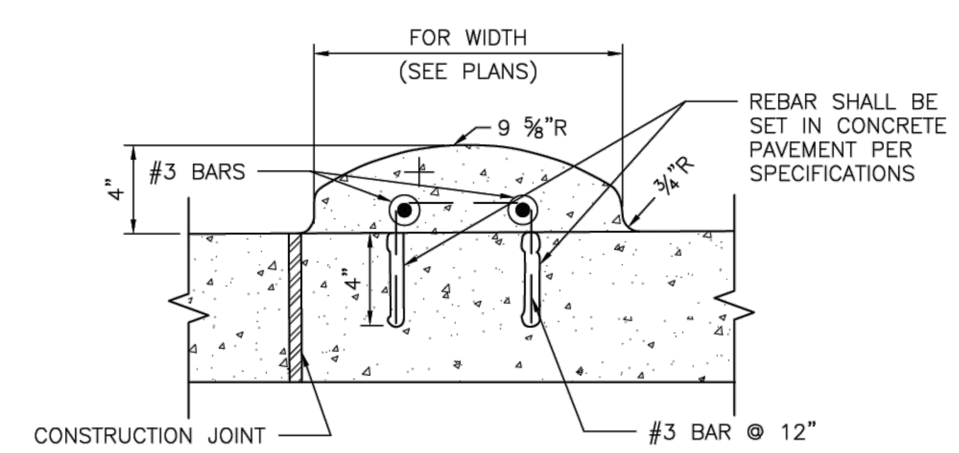


CONCRETE CURB

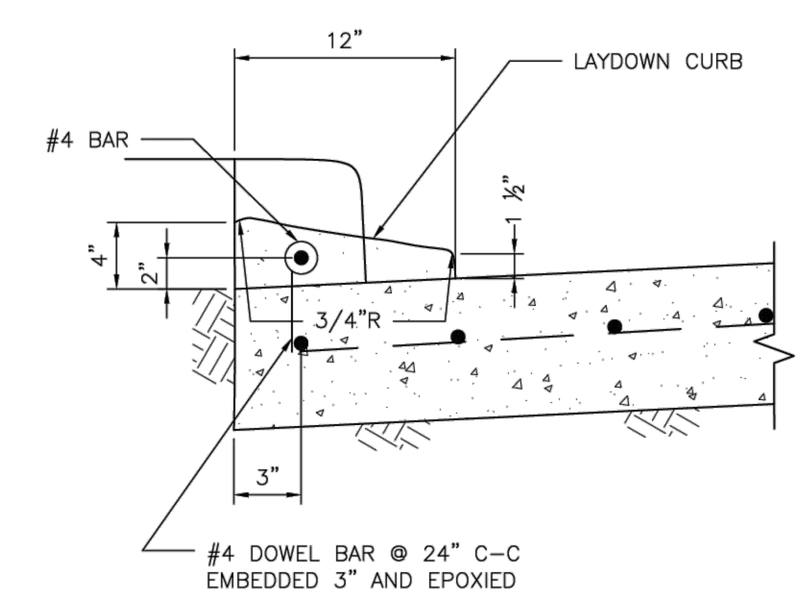
WHEN CONCRETE CURB IS TO BE PLACED EXISTING CONCRETE USE BASE #4 BAR @ 18x10" LONG, DOWELED AND SET IN EPOXY GROUT. SET #4 DOWEL BARS, 25" LONG AT 12" C-C WHEN PAVEMENT SECTION POURED.



STANDARD RAILROAD HEADER

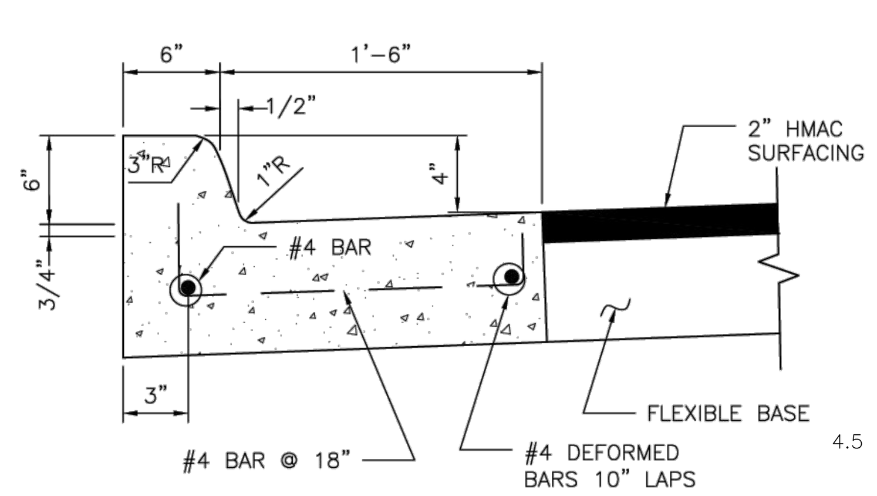


MOUNTABLE CURB

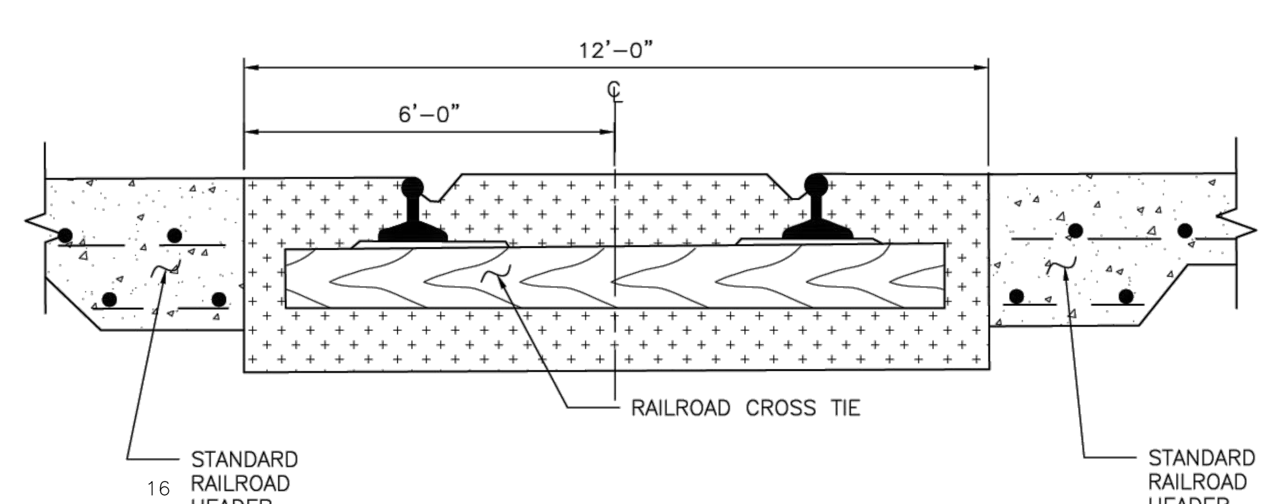


4-INCH x 12-INCH TRANSITION CURB

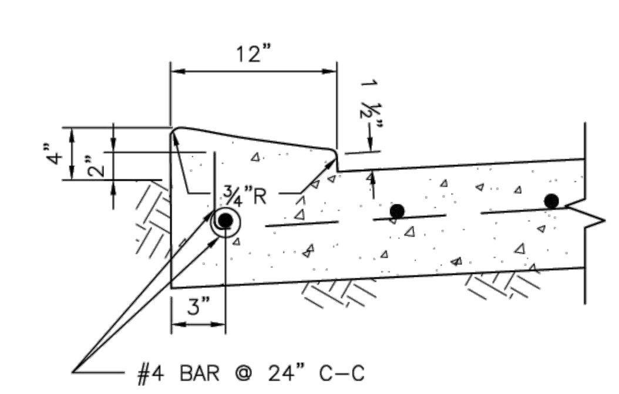
(SEE NOTES)



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:
Suhail Kanwar	KHANG NGUYEN
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: Carol 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

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STATE OF TEXAS — MATTHEW A. BUCHTER — 156231 — LICENSED PROFESSIONAL ENGINEER

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FB NO. P-6341

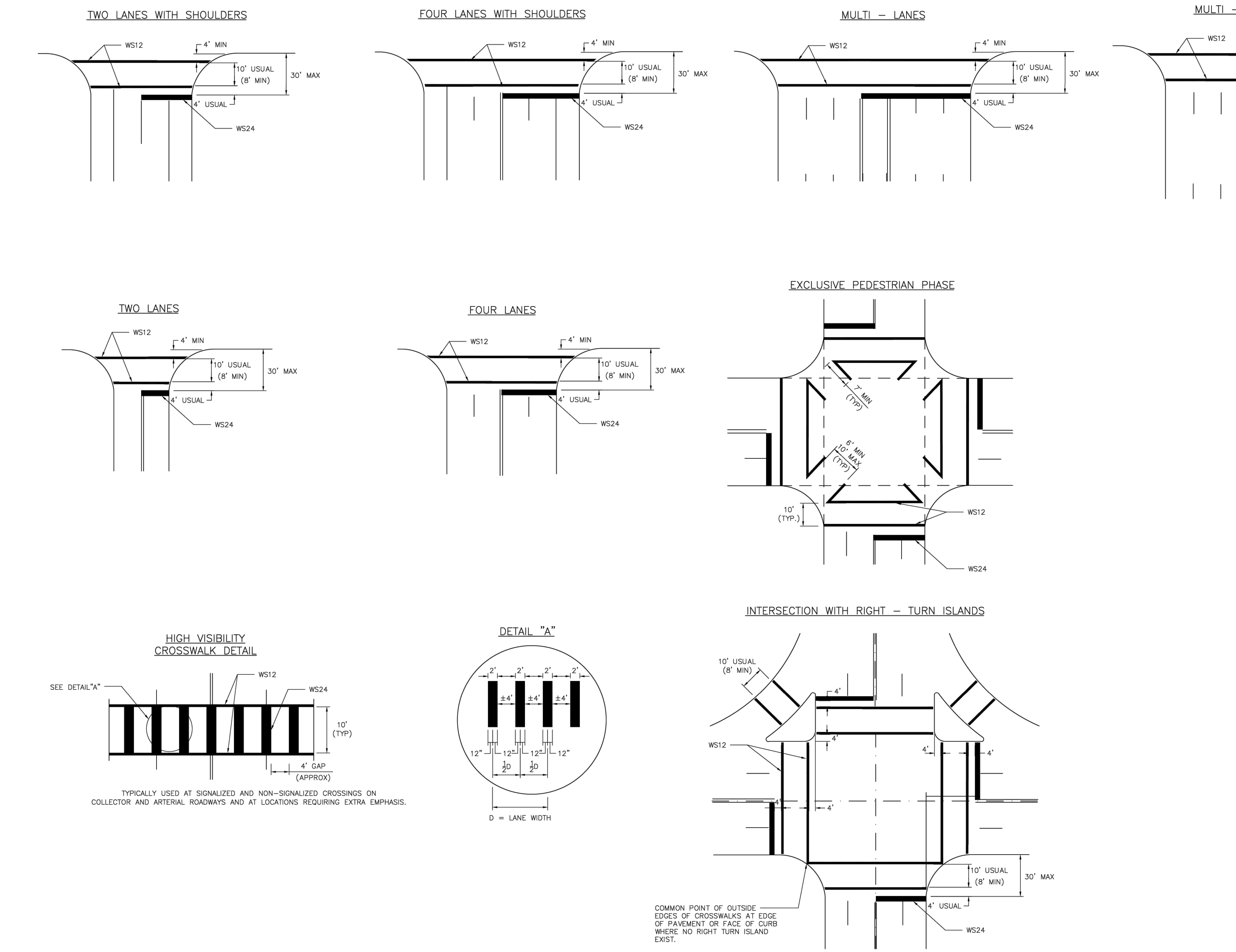
CITY OF HOUSTON

HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

CURB, CURB AND GUTTER AND HEADER DETAILS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 67 OF 79	



NOTES:

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

APPROVED BY:	APPROVED BY:
Sohail Kanwar	KHANG NGUYEN
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: Carol Haddock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 02760-12

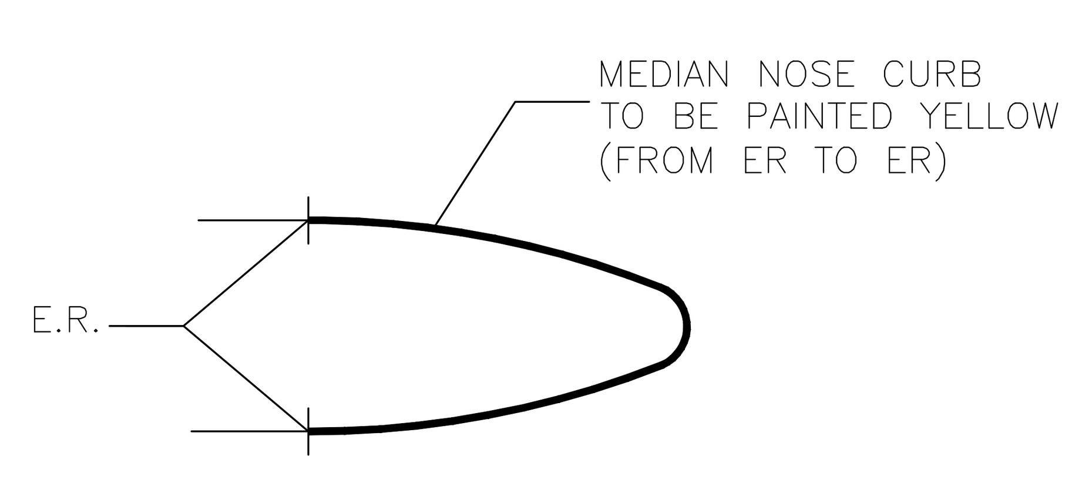
CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TYPICAL CROSSWALK DETAILS

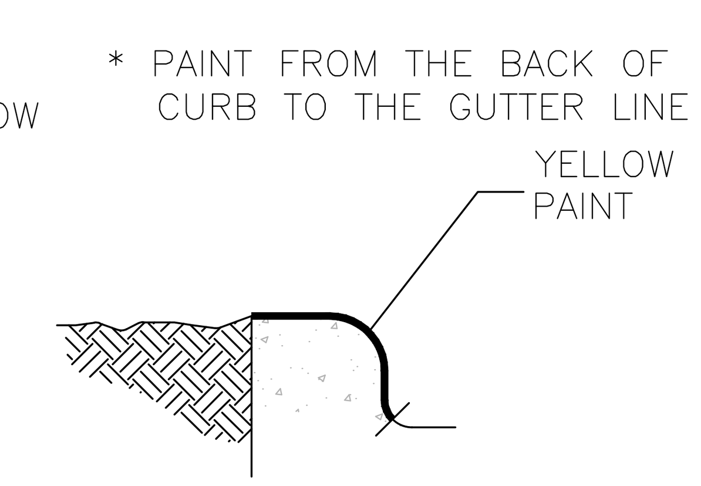
FOR CITY OF HOUSTON USE ONLY

DRAWING SCALE
NOT TO SCALE

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.

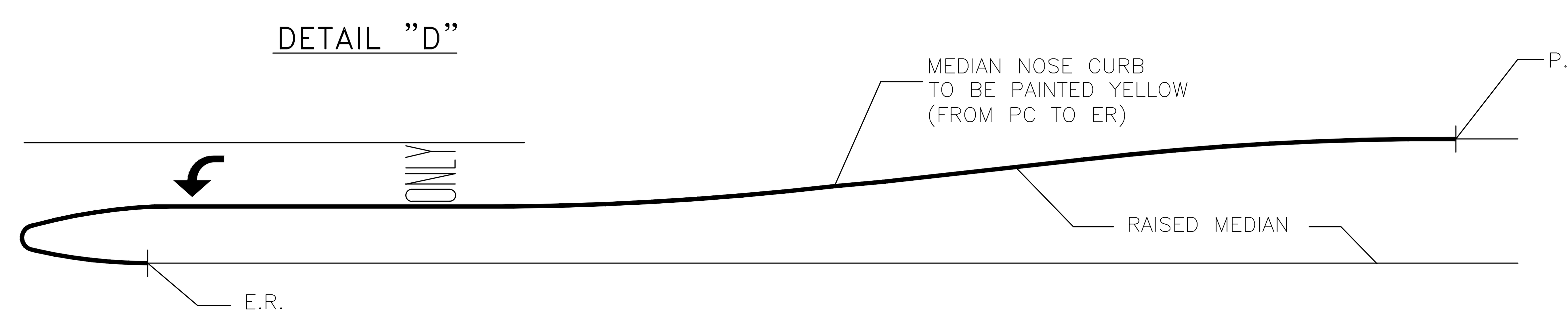


TYPICAL MEDIAN NOSE



TYPICAL CURB SECTION

DETAIL "D"



RAISED MEDIAN WITH TURN BAY

halff
TBPELS ENGINEERING FIRM #312
9303 NEW TRAILS DR. SUITE 400
THE WOODLANDS, TEXAS 77381
TEL (936) 777-6400
FAX (936) 756-6833
AVO: 36763.001 WO43

STATE OF TEXAS — MATTHEW A. BUCHTER — 156231 — LICENSED PROFESSIONAL ENGINEER

6/4/2026

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NO. P-6341

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

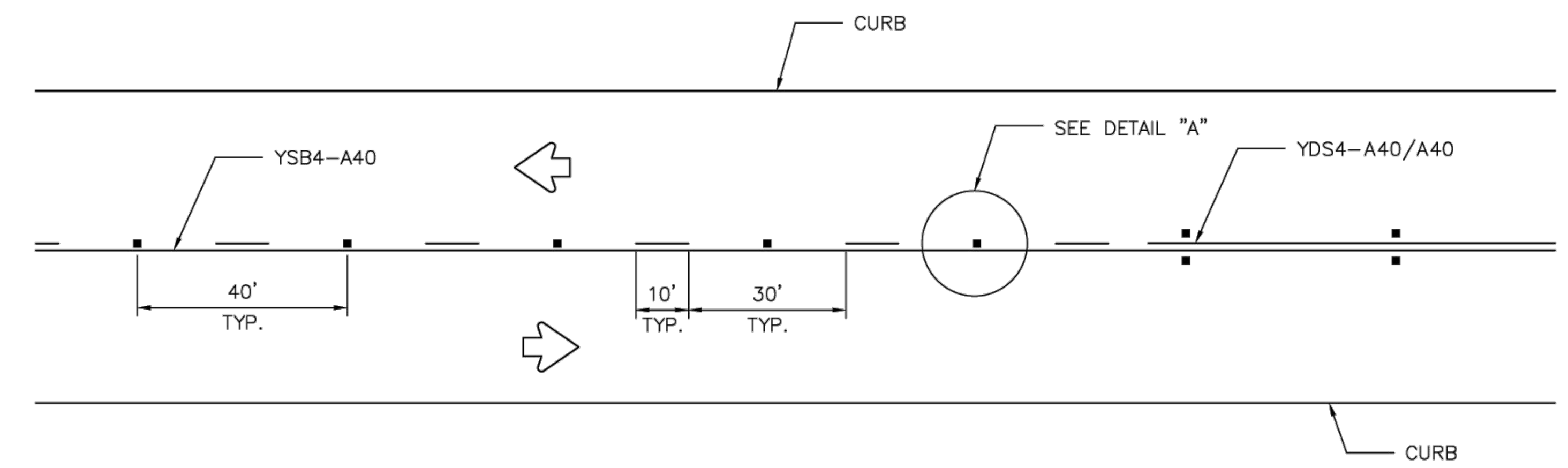
MARKET STREET STORM SEWER IMPROVEMENTS

PAVEMENT MARKING DETAILS SHEET 1 OF 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	

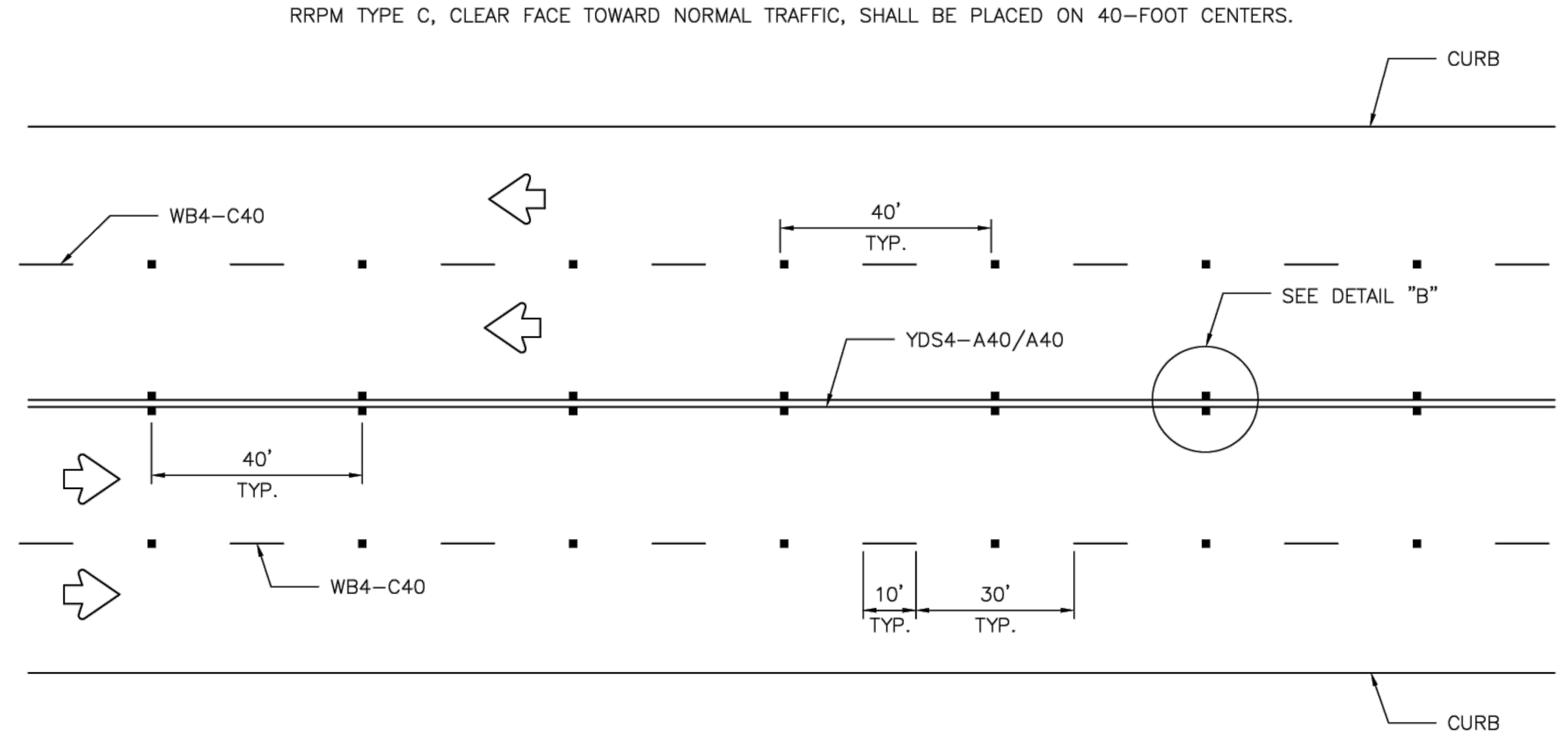
DocuSign Envelope ID: 9B122261-CF05-4578-9A65-2650F40B66D5

CENTERLINE & FOR ALL TWO LANE STREETS WITH PASSING ZONE

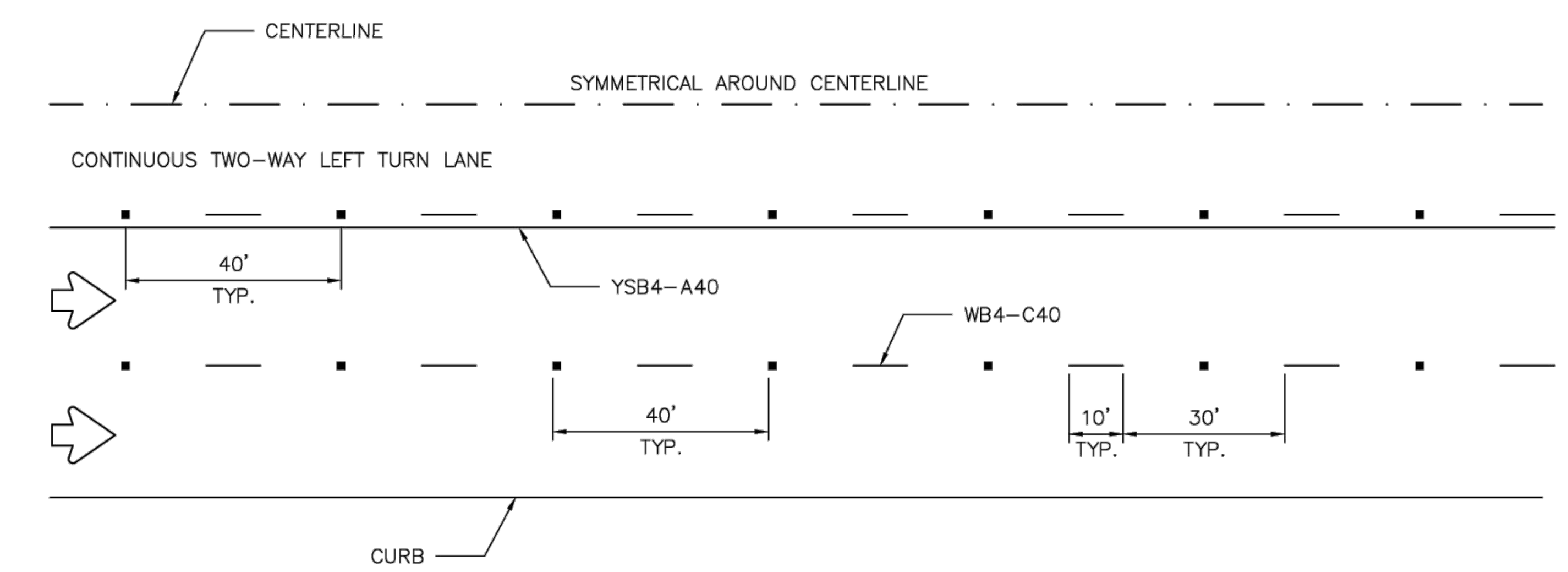


CENTERLINE & LANE LINES FOR FOUR LANE TWO-WAY STREETS

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

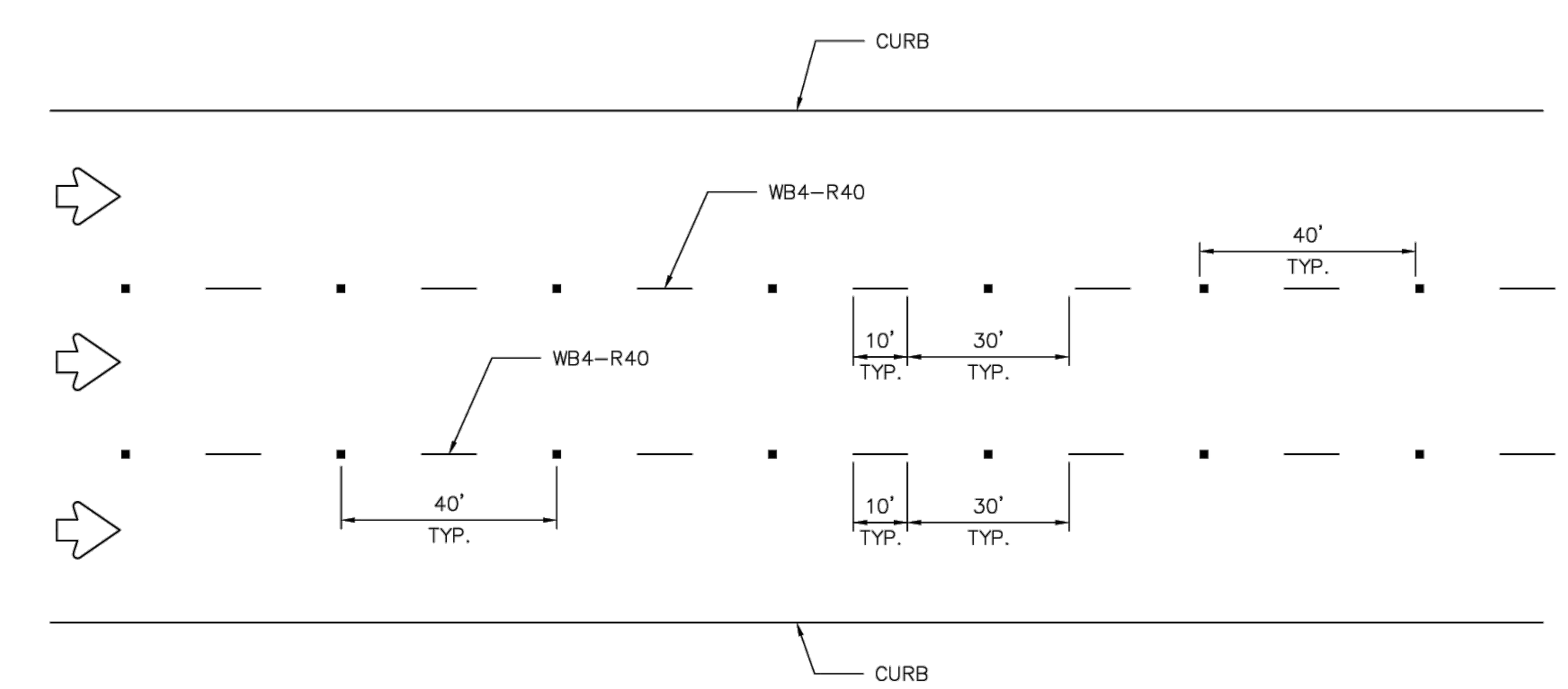


CENTERLINE & LANE LINES FOR TWO-WAY LEFT TURN LANE



LANE LINES FOR ONE-WAY MULTILANE STREET

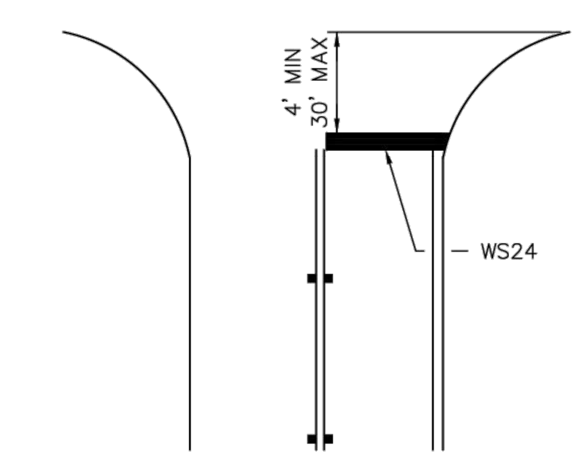
RRPM TYPE R SHALL HAVE CLEAR FACE TOWARD NORMAL TRAFFIC AND RED FACE TOWARD WRONG-WAY TRAFFIC.



GENERAL NOTES:

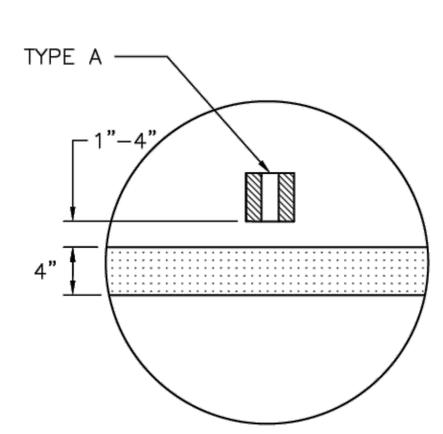
1. EDGELINE ADJACENT TO CURB AND GUTTER IS NOT REQUIRED IN ALL CASES, HOWEVER SHALL BE PLACED AS DIRECTED BY CITY TRAFFIC ENGINEER.
2. THE TRAVELED WAY INCLUDES ONLY THAT PORTION OF THE ROADWAY USED FOR VEHICULAR TRAVEL AND NOT THE PARKING LANES, SIDEWALKS, BERMS AND SHOULDERS. THE TRAVELED WAYS SHALL 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

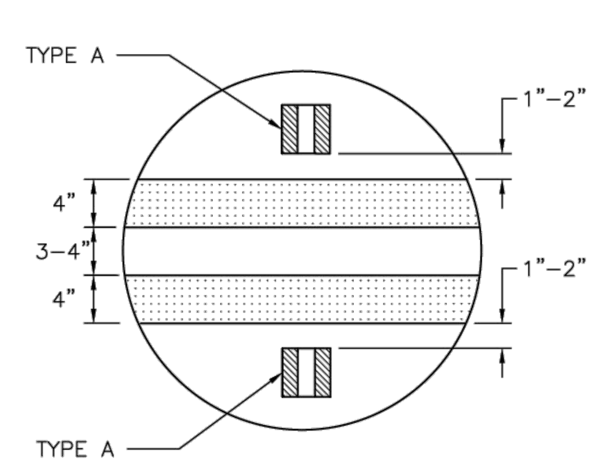


APPROVED BY:	APPROVED BY:
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 02760-05

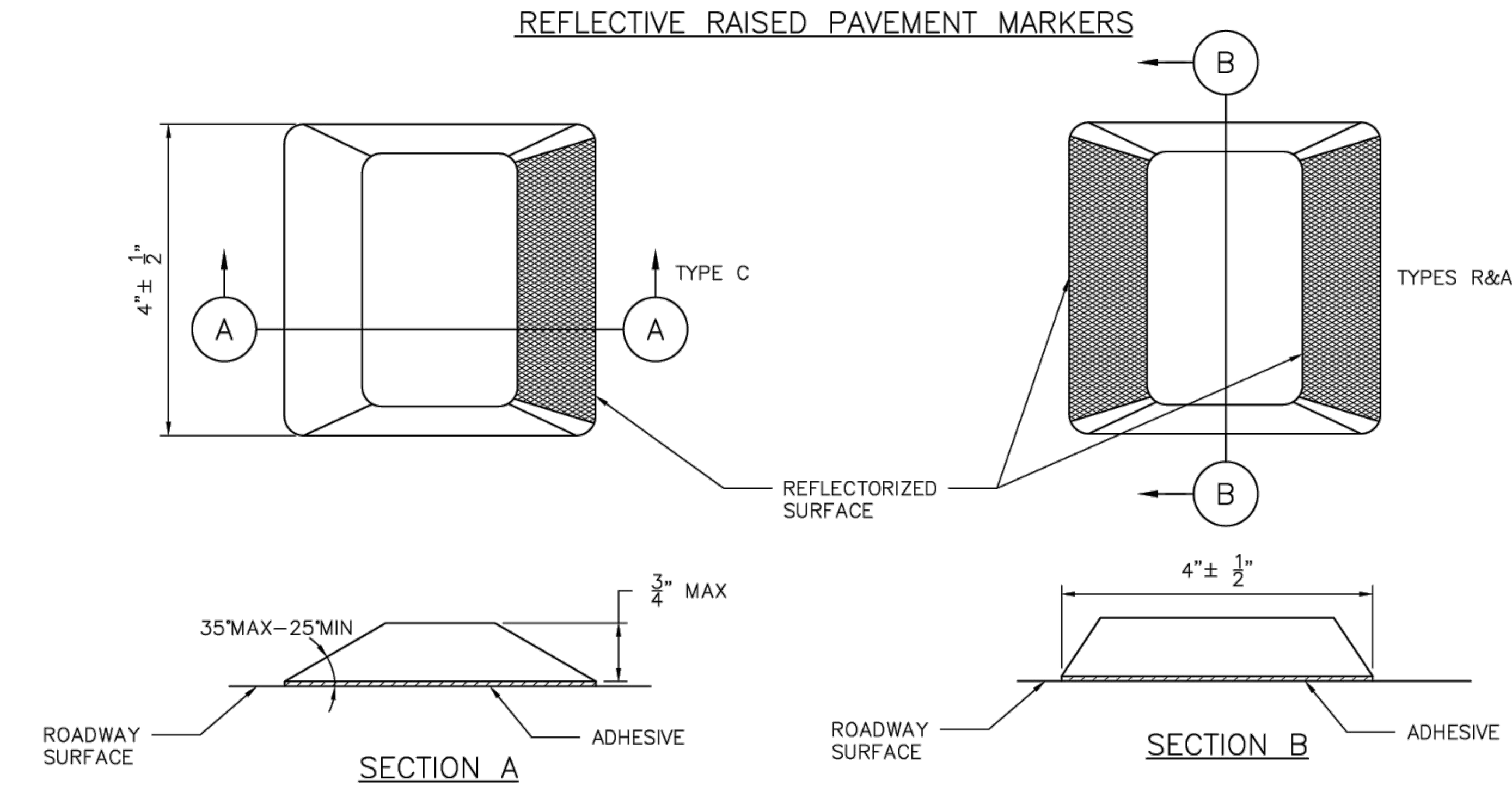
DETAIL "A"



DETAIL "B"



REFLECTIVE RAISED PAVEMENT MARKERS



CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

STANDARD PAVEMENT MARKINGS WITH REFLECTIVE RAISED PAVEMENT MARKERS FOR POSITION GUIDANCE

FOR CITY OF HOUSTON USE ONLY

DRAWING SCALE
NOT TO SCALE

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.

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TBPELS ENGINEERING FIRM #312
9303 NEW TRAILS DR. SUITE 400
THE WOODLANDS, TEXAS 77381
TEL (936) 777-6400
FAX (936) 756-6833
AVO: 36763.001 WO43

STATE OF TEXAS — MATTHEW A. BUCHER — 156231 — LICENSED PROFESSIONAL ENGINEER
6/4/2026

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NO. P-6341

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

PAVEMENT MARKING DETAILS SHEET 2 OF 3

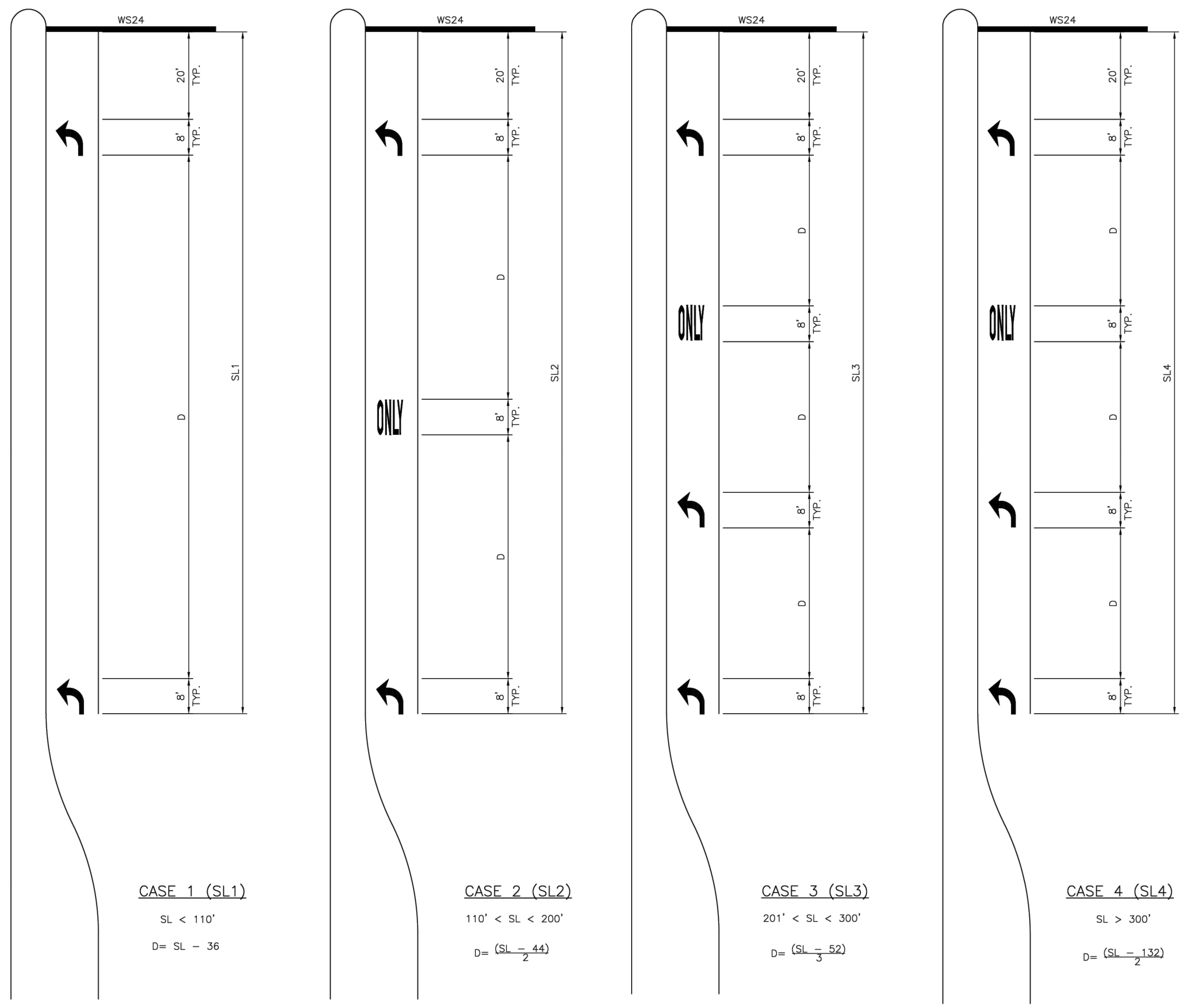
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 69 OF 79	

PLOT STYLE: Coh.ctb

A:\36000s\36763\001\WO43\Cadd\Sheets\C7.04-MSCL-DTLS-36763-001-WO43.dwgPAVEMENT MARKING DETAILS SHEET 2 OF 3 Jun 04 , 2026 - 2:57PM ah5647

PLOT STYLE: Coh.ctb

A:\36000s\36763\001\W043\Cadd\Sheets\C7.04-MSCL-DTLS-36763-001.W043.dwgPAVEMENT MARKING DETAILS SHEET 3 OF 3 Jun 04 , 2026 - 2:57PM ah5647



KEY (FOR TURN LANES ONLY):

SL - STORAGE LENGTH (FEET)

D - DISTANCE BETWEEN ARROWS AND/OR WORDS (FEET)

GENERAL NOTES:

1. ALL CASES AND DETAILS ALSO APPLY TO RIGHT-TURN LANES.
2. FOR DUAL-TURN LANES, DIMENSIONS SHALL BE THE SAME FOR EACH LANE.
3. SL DIMENSION IS FROM BACK OF STOP LINE TO END OF TURN LANE.
   NOTE: DO NOT INCLUDE TAPER LENGTH.
4. PAVEMENT ARROWS AND "ONLY" LEGEND MARKINGS ARE TYPICALLY USED AT ALL SIGNALIZED INTERSECTIONS AND AT ALL UNSIGNALIZED INTERSECTIONS THAT HAVE TURN LANES.
5. MINIMUM SL= 100'. SL MAY BE LESS THAN 100 FEET ONLY BY APPROVAL OF THE CITY TRAFFIC ENGINEER.

DISCLAIMER:
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APPROVED BY:	APPROVED BY:
Suhail Kanwar	Hung Nguyen
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: Carol Haddock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 02760-02

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

LEFT/RIGHT-TURN "ONLY" AND ARROW SPACING

FOR CITY OF HOUSTON USE ONLY

DRAWING SCALE
NOT TO SCALE

halff
TBPELS ENGINEERING FIRM #312
9303 NEW TRAILS DR, SUITE 400
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AVO: 36763.001 WO43

STATE OF TEXAS — MATTHEW A. BUCHTER — 156231 — LICENSED PROFESSIONAL ENGINEER
6/4/2026

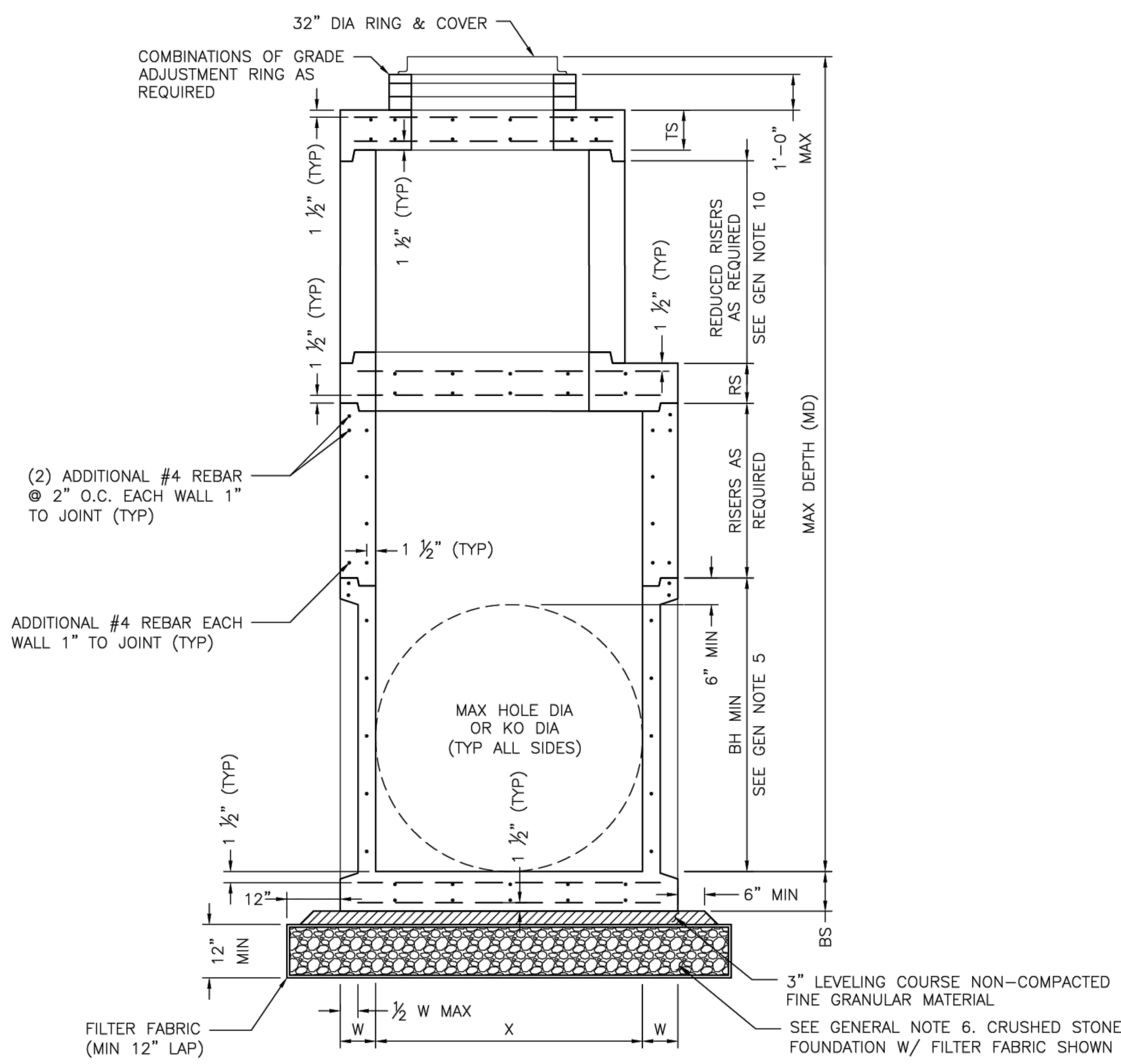
SURVEYED BY:
AMANI ENGINEERING, INC.
FB NO. P-6341

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

PAVEMENT MARKING DETAILS SHEET 3 OF 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 70 OF 79	



ELEVATION A–A
FLAT SLAB TOP WITH SHIP LOOSE RING & COVER OPTION

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/INLET. REFER TO CITY OF HOUSTON SPECIFICATION SECTION 02082 FOR INVERT (BENCHING) REQUIREMENTS FOR MANHOLES AND SECTION 02633 FOR INVERT (BENCHING) REQUIREMENTS FOR INLETS.
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 INLET/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 AND FOR PRECAST INLETS PER SECTION 02633 PRECAST CONCRETE INLETS, HEADWALLS, AND WINGWALLS.
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 INLETS/MANHOLES ARE TO BE PRECAST CONCRETE, UNLESS OTHERWISE NOTED ELSEWHERE IN THE PLANS.
8. ECCENTRIC REDUCED RISER WITH RESPECT TO BASE IS THE PREFERRED INLET/MANHOLE CONFIGURATION. CONCENTRIC REDUCED RISER WITH RESPECT TO BASE INLET/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 INLETS/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.

TABLE–1

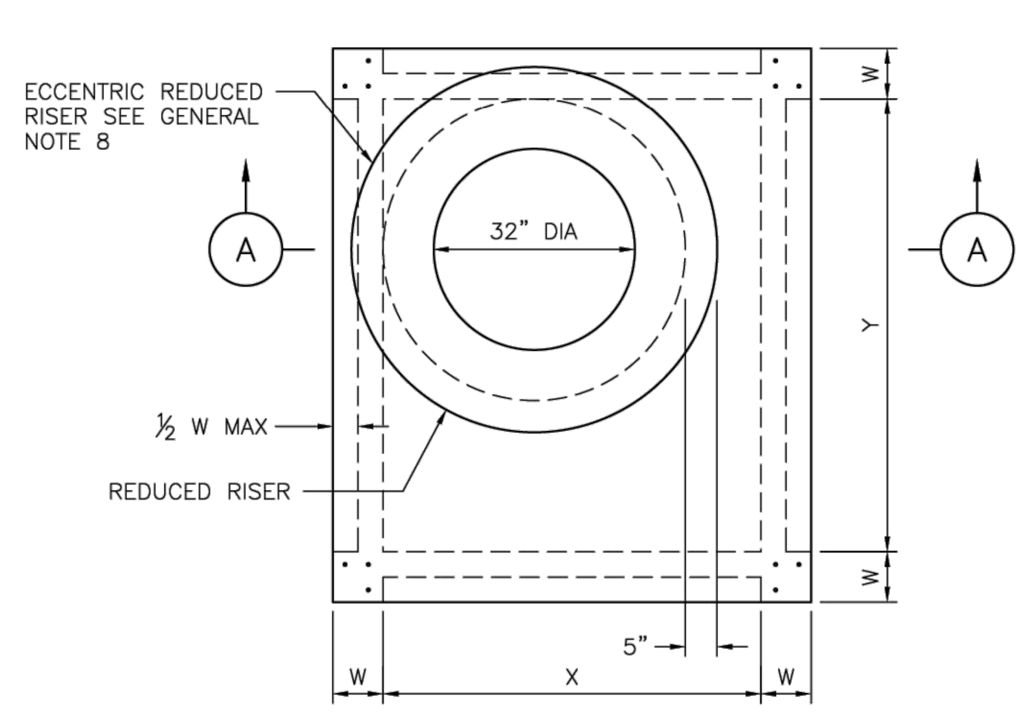
PRECAST BOX INLET (PBI) OR PRECAST BOX MANHOLE (PBM) MINIMUM REQUIREMENTS FOR 24 IN. TO 78 IN. INTERNAL DIA STORM SEWER PIPES.

	SIZE	BASE SLAB THICKNESS	BASE UNIT OR RISE WALL THICKNESS		REDUCED RISER DIA	REDUCED RISER SIZE	REDUCING SLAB THICKNESS	TOP SLAB THICKNESS	MIN HEIGHT (SEE GEN NOTE 5)	MAX HOLE DIA (SEE FAB NOTE 12)	MAX KO DIA (SEE FAB NOTE 12)
			MD ≤15 FT	15 FT < MD ≤ 25 FT (2)							
	X & Y	BS	W	W	ID	RWS x RWL	RS	TS	BH MIN	MAX HOLE DIA	KO DIA
	FT.	IN.	IN.	IN.	IN.	FT.	IN.	IN.	FT.	IN.	IN.
PBI/PBM	3X3 (1)	6	6	6	N/A	N/A	N/A	9	3.50	36	36
	4X4 (1)	6	6	6	N/A	N/A	N/A	9	4.50	48	48
	3X5 (1)	6	6	6	N/A	3X3	N/A	9	3.50	36/60	36/60
	4X5 (1)	6	6	6	48	3X3 / 4X4 / 3X5	9	9	4.50	48/60	48/60
	5X5 (1)	6	6	6	48	3X3 / 4X4 / 3X5	9	9	5.50	60	60
	5X6	9	6	8	48	3X3 / 4X4 / 3X5	9	9	5.50	60/72	60/72
	6X6	9	6	8	48	3X3 / 4X4 / 3X5	9	9	6.50	72	72
	8X8	9	8	10	48	3X3 / 4X4 / 3X5	12	9	8.50	96	72

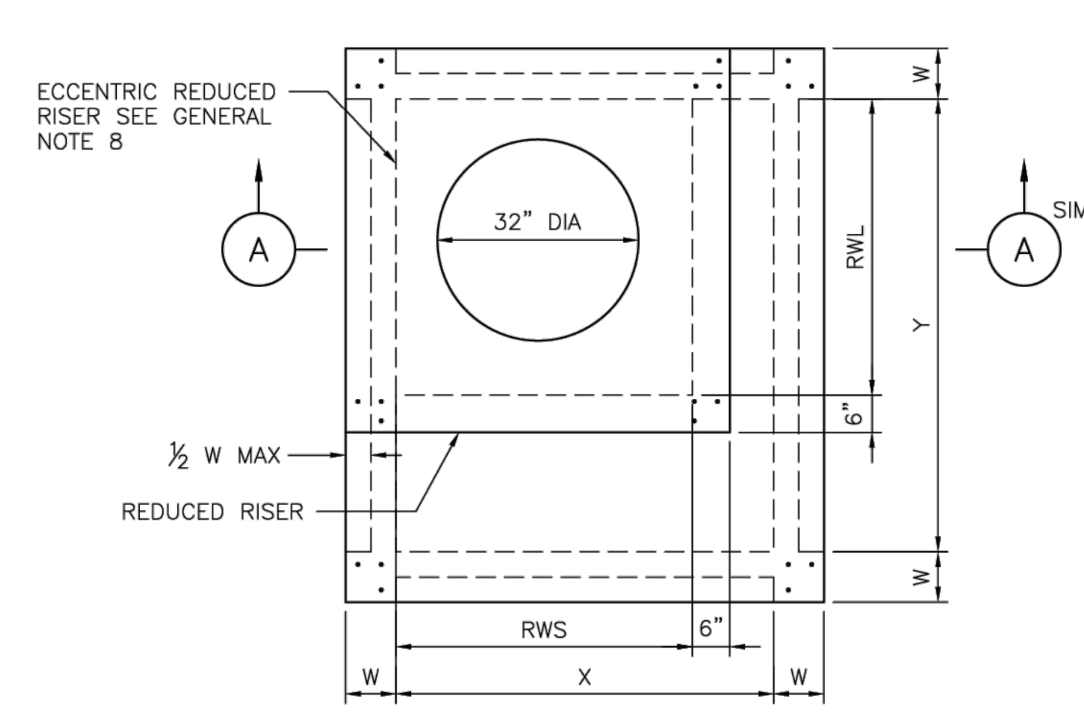
TABLE–1 NOTES:

(1) ROUND MANHOLES ARE PREFERRED FOR THESE SIZES.

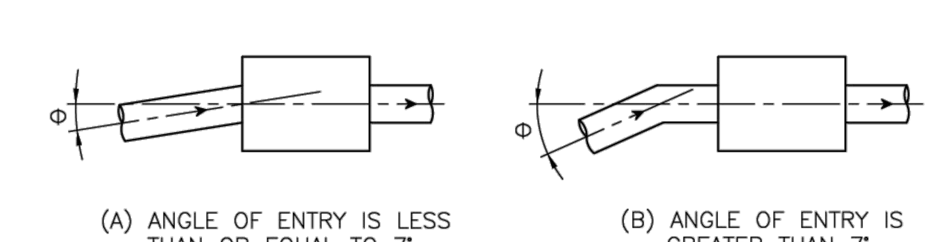
(2) MAX DEPTH (MD) DENOTES THE MAX INSTALLATION DEPTH MEASURED TO THE TOP OF BASE SLAB.



PLAN VIEW A
(ROUND REDUCED OPTION)
COVER NOT SHOWN



PLAN VIEW B
(SQUARE REDUCED OPTION)
COVER NOT SHOWN



CONNECT PIPES WITHIN 7° OF NORMAL TO PRECAST BASE WALL. IF NECESSARY, USE PIPE ELBOW OR CURVED APPROACH ALIGNMENT TO STAY WITHIN THIS LIMIT.

PIPE CONNECTION DETAIL

APPROVED BY:	APPROVED BY:
CITY ENGINEER	DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: MAR–02–2026	DWG NO: 02082–13

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

STORM SEWER PRECAST BOX INLET/MANHOLE

FOR CITY OF HOUSTON USE ONLY

DRAWING SCALE
NOT TO SCALE

halff
TBPELS ENGINEERING FIRM #312
9303 NEW TRAILS DR. SUITE 400
THE WOODLANDS, TEXAS 77381
TEL (936) 777-6400
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AVO: 36763.001 WO43

MATTHEW A. BUCHER
156231
6/4/2026

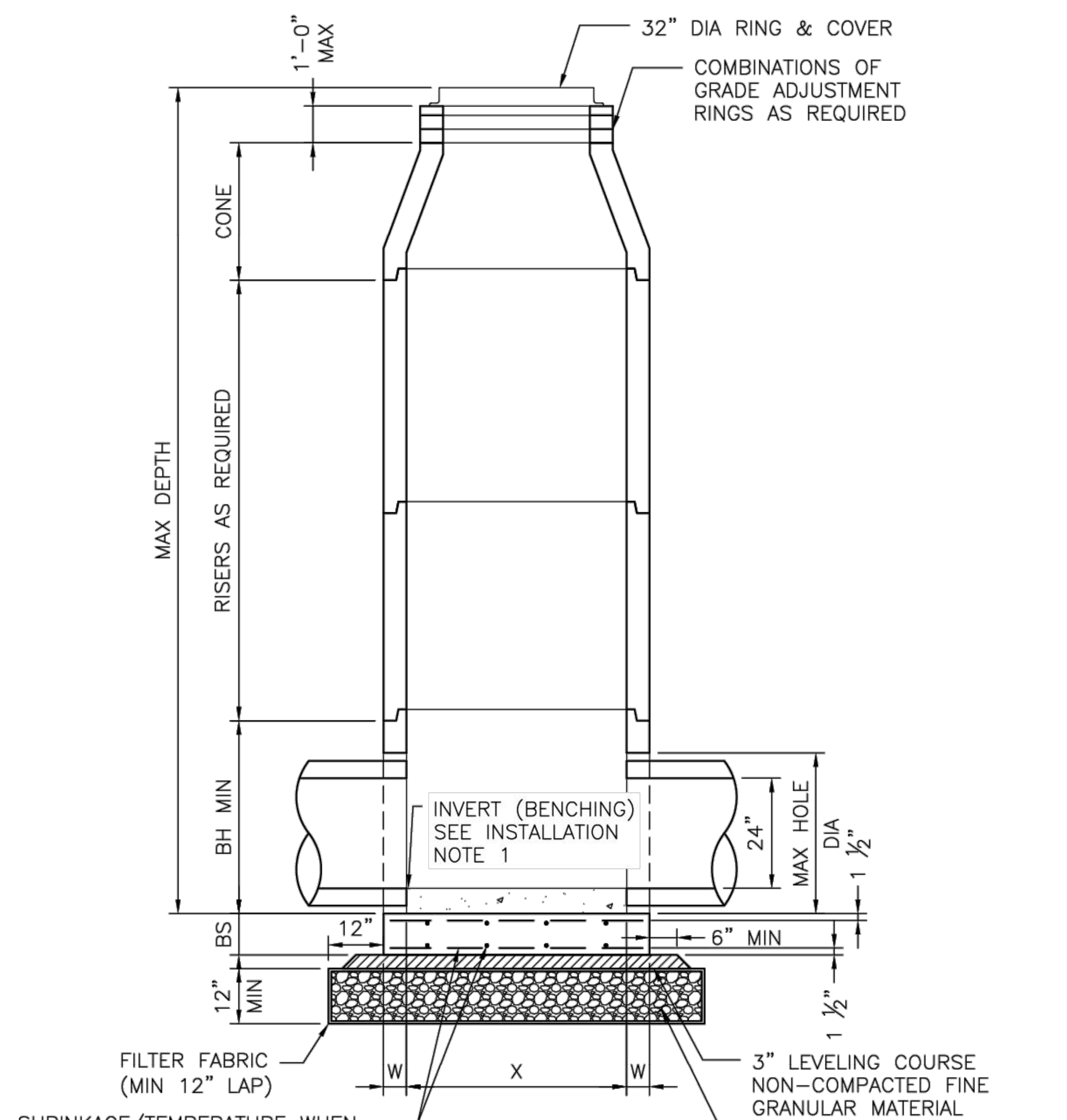
SURVEYED BY:
AMANI ENGINEERING, INC.
FB NO. P–6341

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

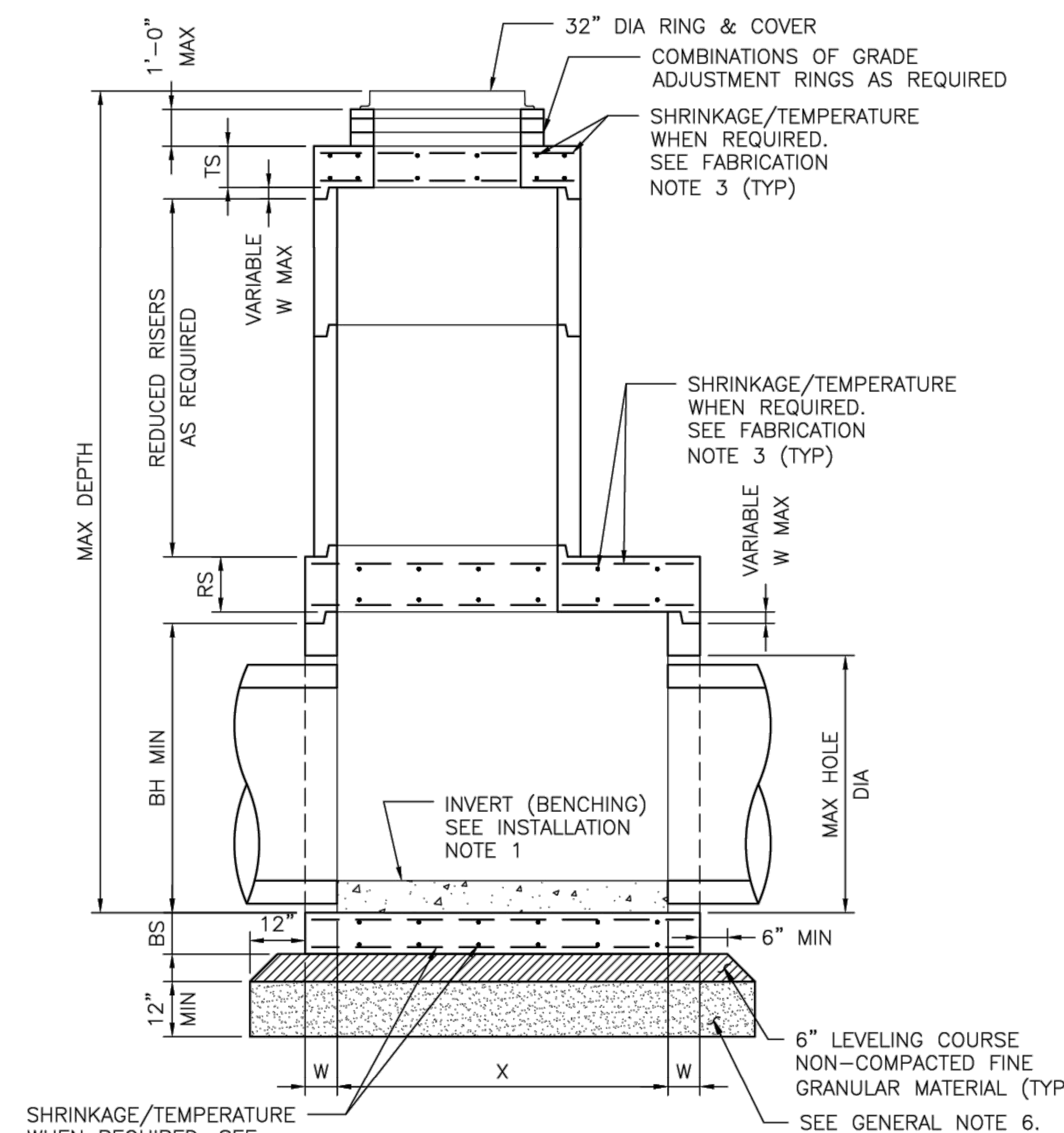
STORM SEWER DETAILS
SHEET 1 OF 5

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–430220–040A–3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 71 OF 79	



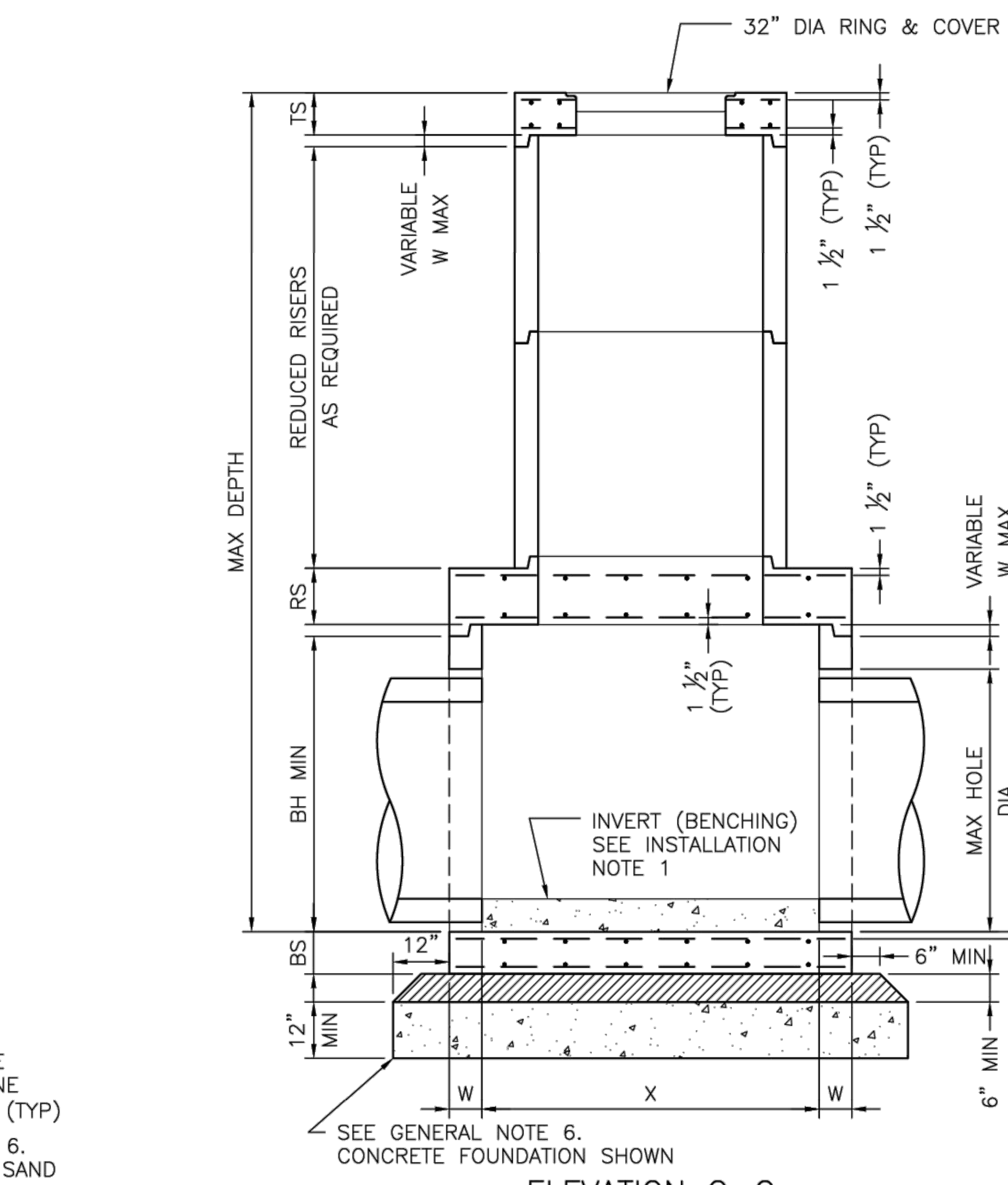
ELEVATION A–A

CONE TOP WITH SHIP LOOSE RING & COVER OPTION



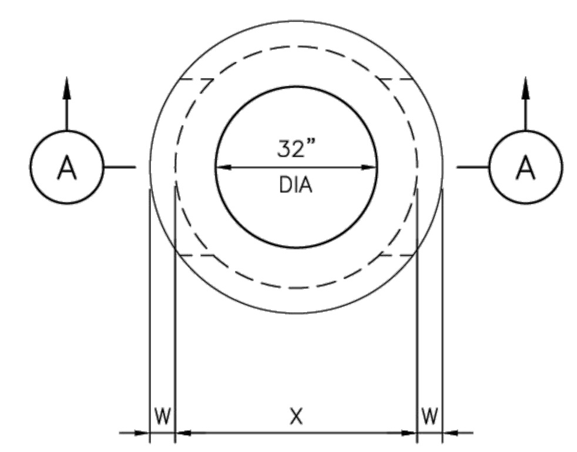
ELEVATION B–B

FLAT SLAB TOP WITH SHIP LOOSE RING & COVER OPTION



ELEVATION C–C

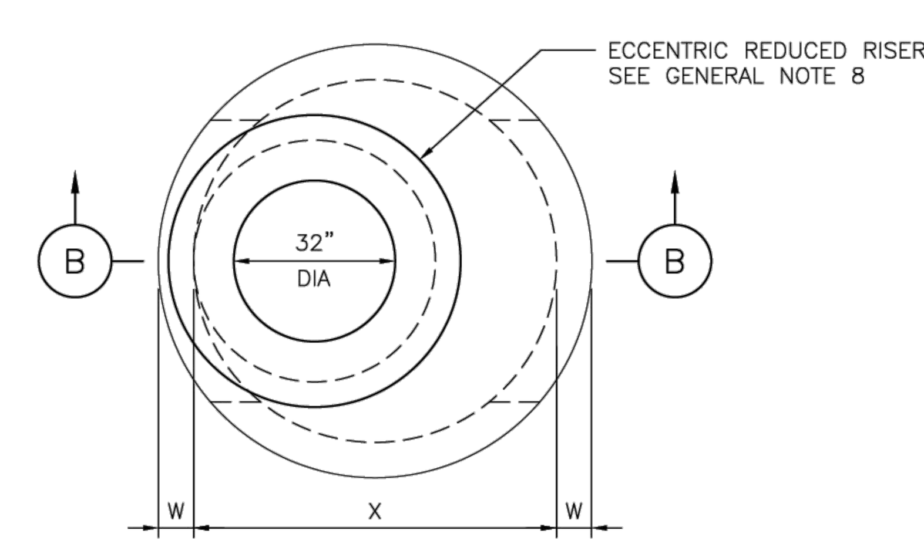
FLAT SLAB TOP WITH INVERTED RING & COVER OPTION



PLAN VIEW A

COVER NOT SHOWN

4–FT DIA MANHOLE

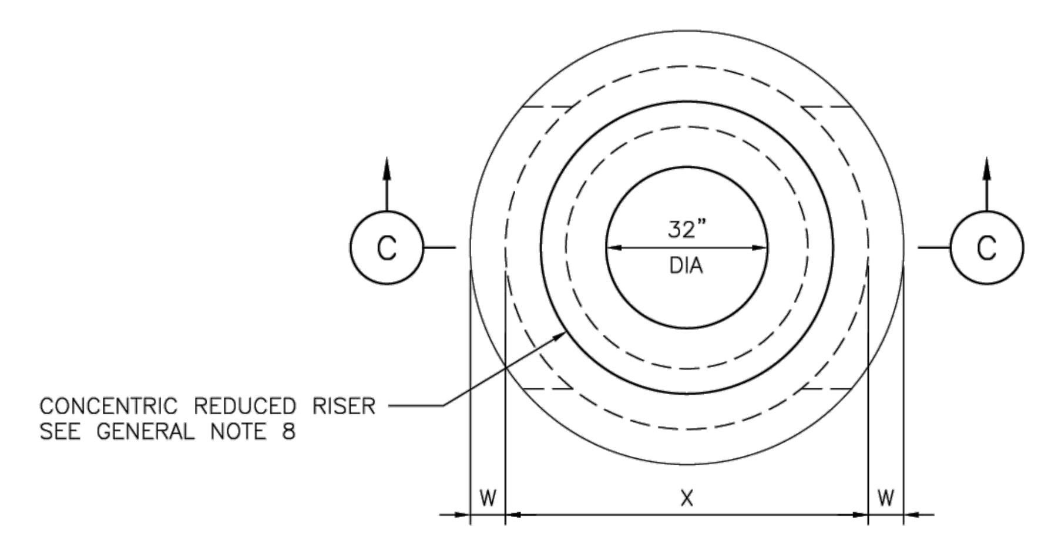


PLAN VIEW B

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

ECCENTRIC MANHOLE
(ALTERNATE CONFIGURATION)

TABLE–1

PRECAST ROUND MANHOLE (PRM) MINIMUM REQUIREMENTS FOR 24 IN. TO 42 IN. INTERNAL DIA STORM SEWER PIPES

	SIZE	BASE SLAB THICKNESS	BASE UNIT OR RISER THICKNESS	REDUCED RISER DIA	REDUCING SLAB THICKNESS	TOP SLAB THICKNESS	MAX DEPTH TO TOP OF BASE SLAB	MIN HEIGHT	MAX HOLE DIA
	X	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.

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 02082 FOR INVERT (BENCHING) REQUIREMENTS.
2. SEAL TONGUE AND GROOVE JOINTS WITH PREFORMED OR BULK MASTIC IN CONFORMANCE WITH MANUFACTURER'S RECOMMENDATIONS. TONGUE AND GROOVE JOINTS MAY BE GROUTED NO MORE THAN 1" BETWEEN EACH SECTION, OR ½ THE JOINT DEPTH, WHICHEVER IS GREATER.
3. DO NOT GROUT RUBBER GASKET JOINTS WITHOUT MANUFACTURER'S RECOMMENDATION.
4. INITIAL INSTALLATION OF GRADE ADJUSTMENT RINGS IS LIMITED TO 1'–0" MAX AS SHOWN.
5. GRADE ADJUSTMENT RINGS MAY BE INCREASED TO 1'–6" MAX WHEN FUTURE CONSTRUCTION AFFECTS FINAL GRADE OF STRUCTURE. MAKE ADJUSTMENTS GREATER THAN 1'–6" WITH ADDITIONAL RISERS. ADJUSTMENTS MAY BE MADE UP TO THE MAX DEPTH OF 25'–0". STRUCTURE MUST BE EVALUATED IF MAX DEPTH WILL BE EXCEEDED.

GENERAL NOTES:

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

APPROVED BY:	APPROVED BY:
Signed by: 1BEBB22072F84DC...	Signed by: BE463EF0DF454EB...
CITY ENGINEER	DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: MAR–02–2026	DWG NO: 02082–12

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

STORM SEWER TYPE "C"
PRECAST ROUND MANHOLE

FOR CITY OF HOUSTON USE ONLY

DRAWING SCALE
NOT TO SCALE

halff
TBPELS ENGINEERING FIRM #312
9303 NEW TRAILS DR. SUITE 400
THE WOODLANDS, TEXAS 77381
TEL (936) 777-6400
FAX (936) 756-6833
AVO: 36763.001 WO43

STATE OF TEXAS — MATTHEW A. BUCHTER — 156231 — LICENSED PROFESSIONAL ENGINEER
6/4/2026

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NO. P–6341

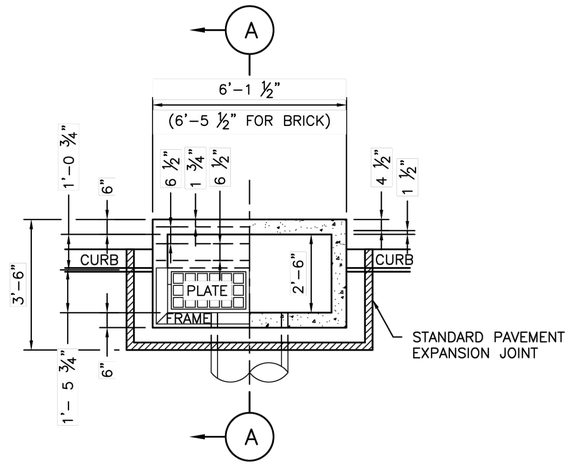
CITY OF HOUSTON

HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

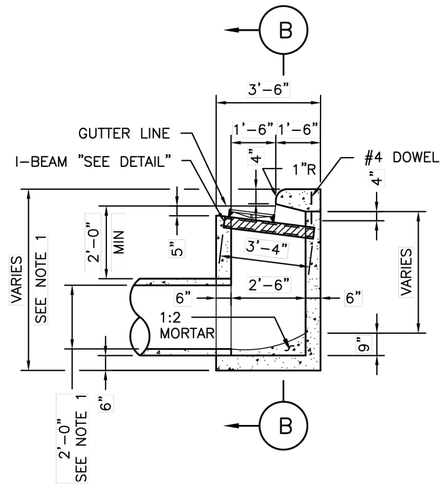
STORM SEWER DETAILS SHEET 2 OF 5

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–430220–040A–3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	

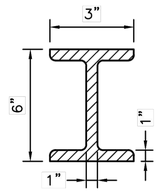


HALF PLAN HALF SECTION PLAN

PLAN VIEW



SECTION A–A



I–BEAM DETAIL

ACCEPTABLE ALTERNATE STEEL BEAM SIZES:

S6X17.25

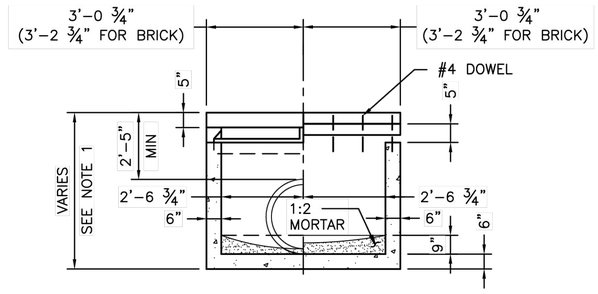
W6X16 (GALVANIZED)

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.
4. WHEN AN EXISTING "B–B" INLET WILL BE REPLACED BY A NEW INLET USE COH STD 02633–02.
5. EXISTING INLETS THAT WERE CONSTRUCTED ACCORDING TO 02632–04 SHALL BE MAINTAINED AS SPECIFIED IN DETAIL 02632–04.
6. EOR TO BE RESPONSIBLE FOR DESIGNING STRUCTURAL COMPONENTS IN THIS DETAIL.

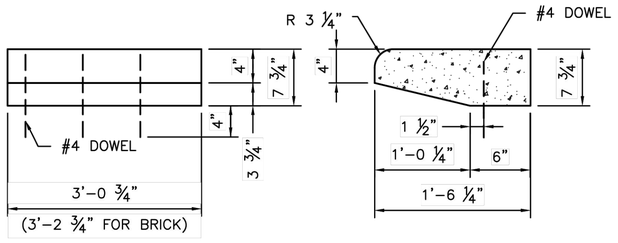
GENERAL NOTES:

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



HALF SECTION THRU GRATE HALF SECTION THRU CURB BEAM

SECTION B–B



HALF FRONT ELEV TRANSVERSE SECTION

PRECAST CURB BEAM

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

STORM SEWER TYPE "B–B" INLET FOR MAINTENANCE ONLY

(SCALE: NOT TO SCALE)

APPROVED BY:

Signed by: 1BEBB22072F84DC...	Signed by: BE463EF0DF454EB...
CITY ENGINEER	DIRECTOR OF HPW
EFF DATE: MAR–02–2026	DWG NO: 02632–04

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SURVEYED BY:
AMANI ENGINEERING, INC.
FB NO. P–6341

STATE OF TEXAS MATTHEW A. BUCHTER 156231 LICENSED PROFESSIONAL ENGINEER 6/4/2026

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TBPELS ENGINEERING FIRM #F-312

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

STORM SEWER DETAILS
SHEET 3 OF 5

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–430220–040A–3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 73 OF 79	

PLOT STYLE: Coh.ctb
PLOT DATE: Jun 04, 2026 – 2:57PM ah5647
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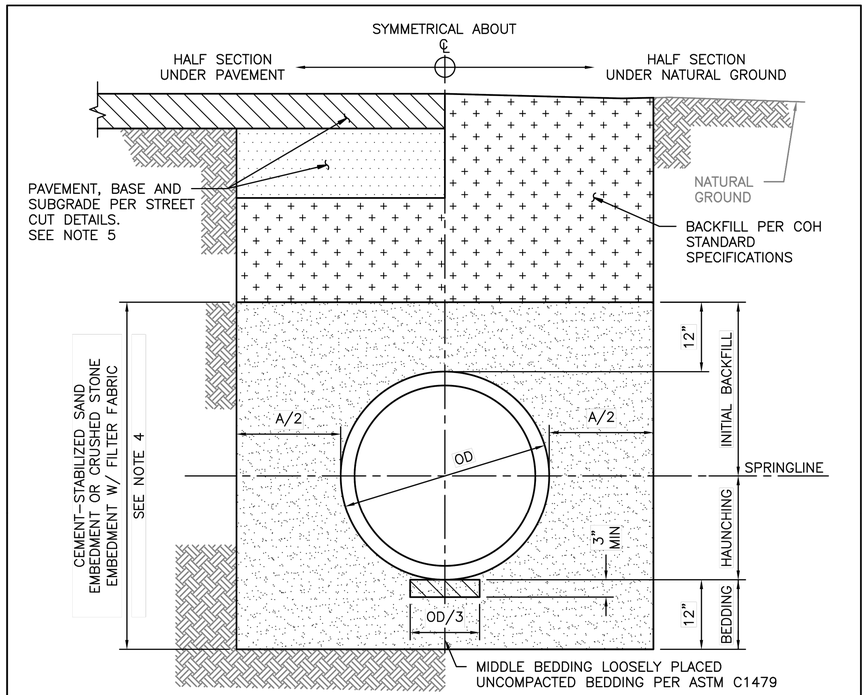

TYPICAL CROSS-SECTION

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"
30" OR LESS	24"
36" TO 42"	36"
GREATER THAN 42"	48"

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.
5. REFER TO THE COH STD DETAILS 02951-01 THROUGH 05 FOR STREET CUT REQUIREMENTS.
6. FOR THERMOPLASTIC STORM SEWER PIPE INSTALLATION REFER TO COH STD DETAIL 02317-10G.

APPROVED BY:

Signed by: 1BEBB22072F84DC...
CITY ENGINEER

Signed by: BE463EF0DF454EB...
DIRECTOR OF HPW

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

SANITARY OR STORM SEWER
BEDDING AND BACKFILL FOR DRY
STABLE TRENCH

(SCALE: NOT TO SCALE)

EFF DATE: MAR-02-2026 | DWG NO: 02317-03

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5303 NEW TRAILS DR, SUITE 400
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FB NO. P-6341

STATE OF TEXAS
MATTHEW A. BUCHTER
156231
LICENSED
PROFESSIONAL ENGINEER
6/4/2026

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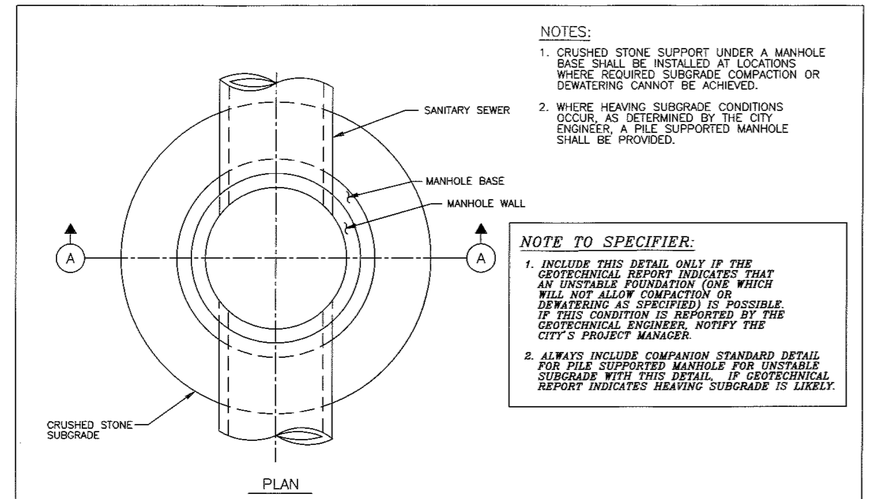
TBPELS ENGINEERING FIRM #312

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

STORM SEWER DETAILS
SHEET 4 OF 5

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 74 OF 79	



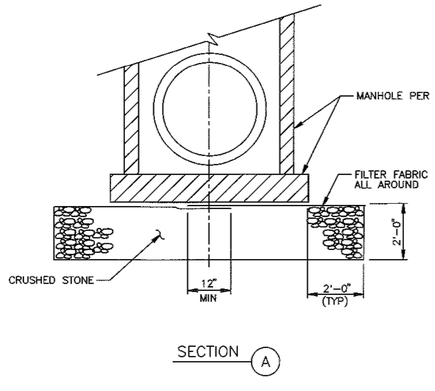
PLAN

NOTES:

1. CRUSHED STONE SUPPORT UNDER A MANHOLE BASE SHALL BE INSTALLED AT LOCATIONS WHERE REQUIRED SUBGRADE COMPACTION OR DEWATERING CANNOT BE ACHIEVED.
2. WHERE HEAVING SUBGRADE CONDITIONS OCCUR, AS DETERMINED BY THE CITY ENGINEER, A PILE SUPPORTED MANHOLE SHALL BE PROVIDED.

NOTE TO SPECIFIER:

1. *INCLUDE THIS DETAIL ONLY IF THE GEOTECHNICAL REPORT INDICATES THAT AN UNSTABLE FOUNDATION (ONE WHICH WILL NOT ALLOW COMPACTION OR DEWATERING AS SPECIFIED) IS POSSIBLE. IF THIS CONDITION IS REPORTED BY THE GEOTECHNICAL ENGINEER, NOTIFY THE CITY'S PROJECT MANAGER.*
2. *ALWAYS INCLUDE COMPANION STANDARD DETAIL FOR PILE SUPPORTED MANHOLE FOR UNSTABLE SUBGRADE WITH THIS DETAIL. IF GEOTECHNICAL REPORT INDICATES HEAVING SUBGRADE IS LIKELY.*



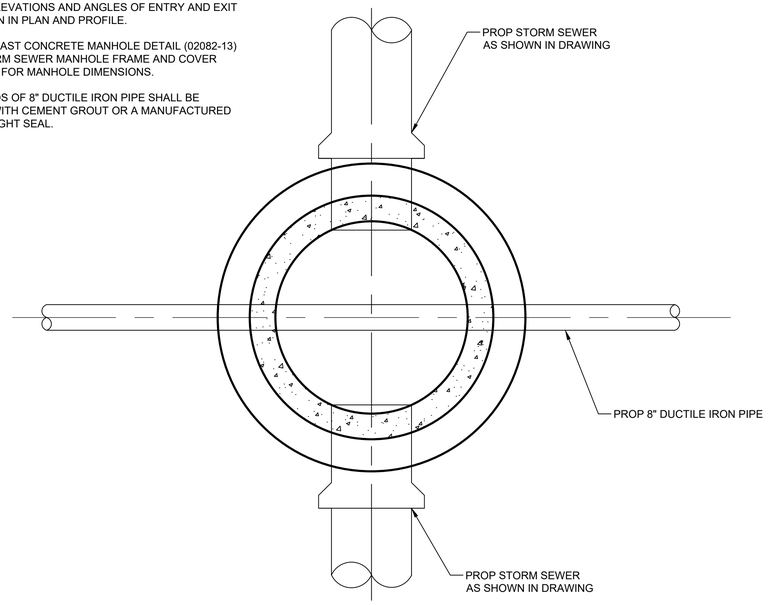
SECTION (A)

CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING ENGINEERING, CONSTRUCTION AND REAL ESTATE DIVISION	
SANITARY SEWER CRUSHED STONE SUPPORTED MANHOLE FOR WET STABLE TRENCH (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: OCT-01-2002	DWG NO: 02082-05

COH

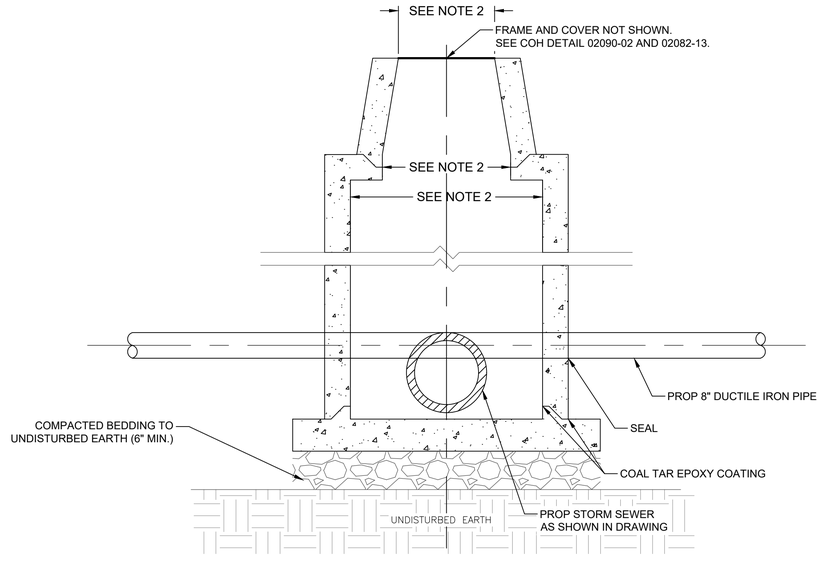
NOTES:

1. CONTRACTOR SHALL DETERMINE PIPE SIZES, PIPE INVERT ELEVATIONS AND ANGLES OF ENTRY AND EXIT AS SHOWN IN PLAN AND PROFILE.
2. SEE PRECAST CONCRETE MANHOLE DETAIL (02082-13) AND STORM SEWER MANHOLE FRAME AND COVER (02090-02) FOR MANHOLE DIMENSIONS.
3. BOTH ENDS OF 8" DUCTILE IRON PIPE SHALL BE SEALED WITH CEMENT GROUT OR A MANUFACTURED WATER TIGHT SEAL.



CONFLICT MANHOLE PLAN VIEW

NTS



CONFLICT MANHOLE SECTION

NTS

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TBPELS ENGINEERING FIRM #312
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AVO: 36763.001 WO43

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NO. P-6341

STATE OF TEXAS
MATTHEW A. BUCHTER
154231
LICENSED
PROFESSIONAL ENGINEER
6/4/2026

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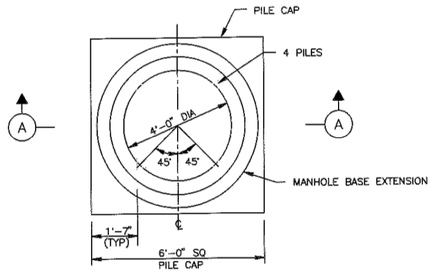
TBPELS ENGINEERING FIRM #1-312

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

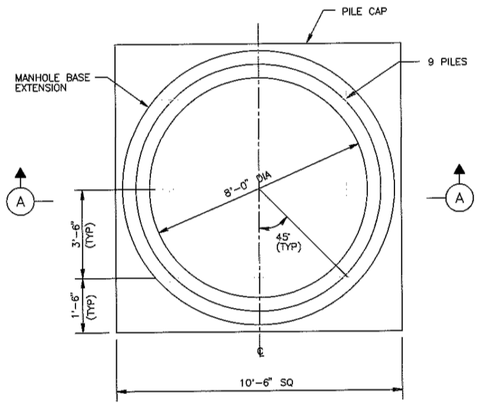
MARKET STREET STORM SEWER IMPROVEMENTS

STORM SEWER DETAILS SHEET 5 OF 5

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 75 OF 79	

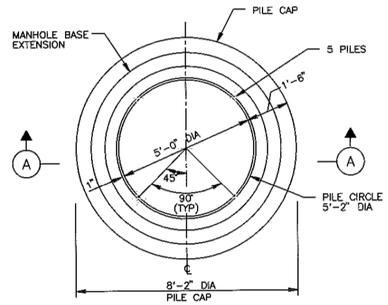


6 PILE PLAN
4'-0" ID MANHOLE



9 PILE PLAN
8'-0" ID MANHOLE

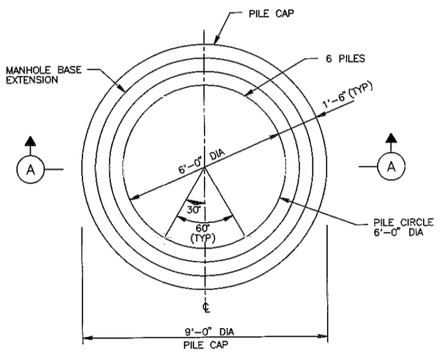
NOTES:
1. PILING SUPPORT SHALL BE INSTALLED AT ALL LOCATIONS WHERE HEAVY SUBGRADE CONDITIONS ARE LIKELY TO OCCUR.
2. 12" SQUARE CONCRETE PILES SHALL BE USED, SEE TABLE 1 BELOW FOR ADDITIONAL INFORMATION.



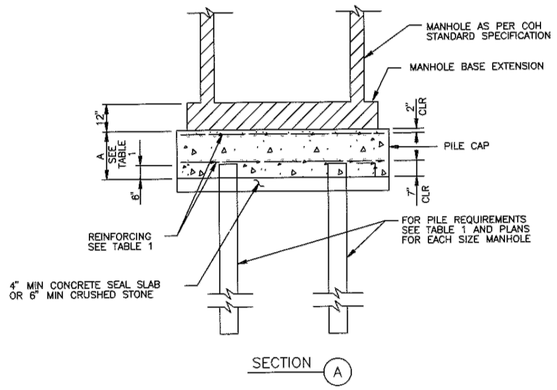
PLAN
5'-0" ID MANHOLE

TABLE 1
PILE INFORMATION

MANHOLE STATION (STA)	MANHOLE ID (FT)	NUMBER OF PILES	RECOMMENDED PILE LENGTH (FT)	AXIAL SERVICE LOAD (DL+LL) (K)	SKIN FRICTION RESISTANCE @ 15' W/ PILE SIZE SHOWN (K)	PERFORMANCE RATIO (%)	PILE CAP DIMEN A (FT)	PILE CAP REINF (EW, T&B)
9+89	8	9	20	5.76	12.77	45.1	2'-0"	# 7 @ 6"
13+66	4	4	20	9.33	12.6	74.0	1'-9"	# 6 @ 6"
15+40	4	4	20	5.56	7.92	70.2	1'-9"	# 6 @ 6"



6 PILE PLAN
6'-0" ID MANHOLE



SECTION A

COH

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TBPELS ENGINEERING FIRM #312
9303 NEW TRAILS DR, SUITE 400
THE WOODLANDS, TEXAS 77381
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SURVEYED BY:
AMANI ENGINEERING, INC.
FB NO. P-6341

STATE OF TEXAS
MATHEW A. BUCHTER
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PROFESSIONAL ENGINEER

6/4/2026

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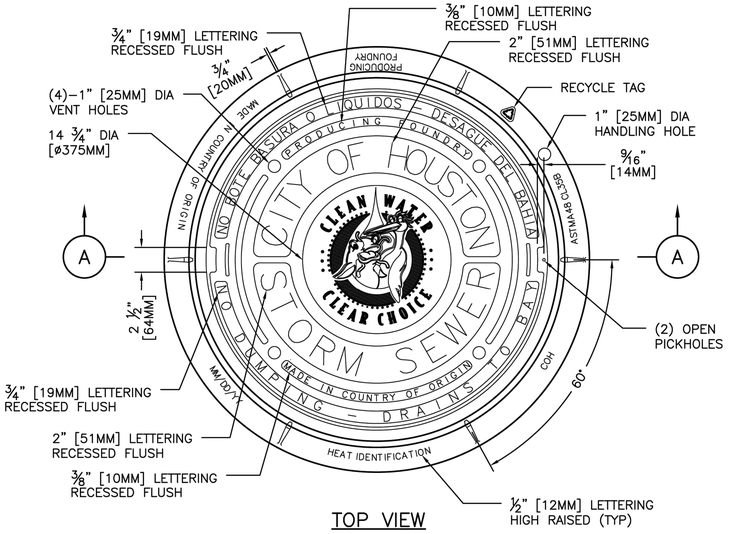
TBPELS ENGINEERING FIRM #F-312

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

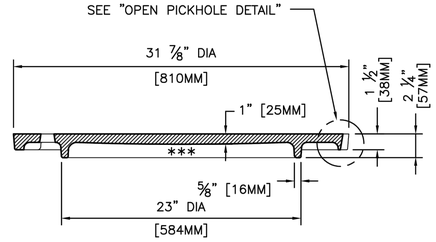
MARKET STREET STORM SEWER IMPROVEMENTS

PILE SUPPORTED MANHOLE DETAILS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 76 OF 79	



TOP VIEW



*** MACHINED SURFACE

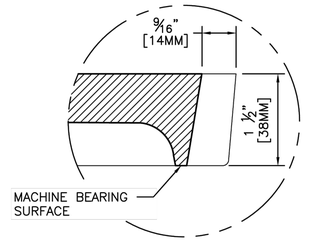
COVER SECTION

NOTES:

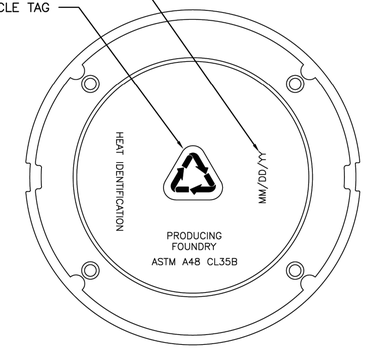
1. APPROXIMATE WEIGHTS:

   FRAME – 125 LBS (57KGS)
   COVER – 205 LBS (93KGS)
   UNIT – 330 LBS (150KGS)

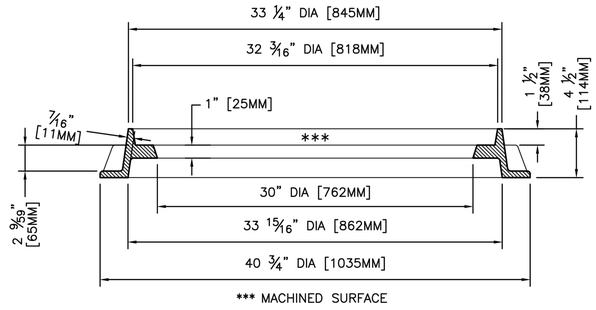
2. MATERIALS – GRAY IRON ASTM A48 CL35B.
3. CASTING MUST BE MANUFACTURED AND PROOF TESTED IN ACCORDANCE WITH AASHTO M306.
4. EJ V1430 ASY OR APPROVED EQUAL
5. IDENTIFICATION MARKINGS MUST COMPLY WITH CITY SPECIFICATIONS. MARKINGS NOT SHOWN ON THIS DETAIL MUST BE PLACED ON THE CASTING:
   A. PROVIDE ALL FRAME MARKINGS ON THE TOP SIDE OF THE FRAME.
   B. PROVIDE GRATE AND COVER MARKINGS ON EITHER TOP OR BOTTOM OF CASTING.



OPEN PICKHOLE DETAIL



BOTTOM VIEW OF COVER



*** MACHINED SURFACE

FRAME SECTION

SECTION A–A

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

STORM SEWER MANHOLE FRAME AND COVER

(SCALE: NOT TO SCALE)

APPROVED BY:

CITY ENGINEER	DIRECTOR OF HPW
Signed by: 1BEBB2072F84DC...	Signed by: BE463EFCDF454EB...
EFF DATE: MAR–02–2026	DWG NO: 02090–02

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 WARRANT 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.

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THE WOODLANDS, TEXAS 77381
TEL (936) 777-6400
FAX (936) 756-6833
AVO: 36763.001 WO43

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NO. P–6341

STATE OF TEXAS
MATTHEW A. BUCHTHAL
156231
LICENSED PROFESSIONAL ENGINEER
6/4/2026

The seal appearing on this document was authorized by Matthew A. Buchtal, PE # 156231 on 6/4/2026
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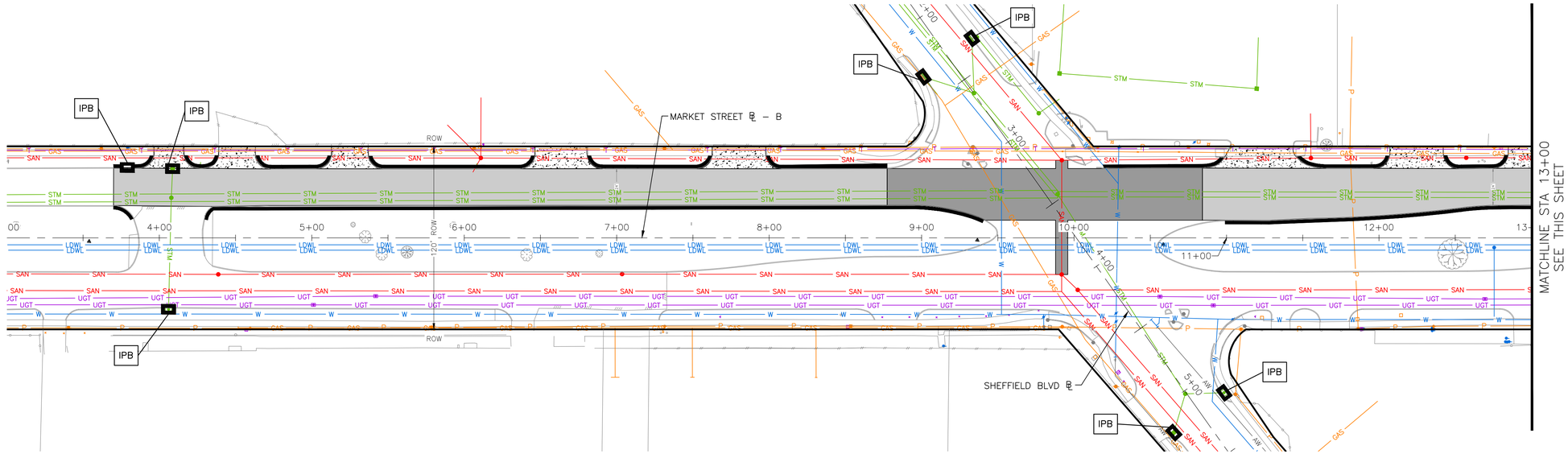
TBPELS ENGINEERING FIRM #312

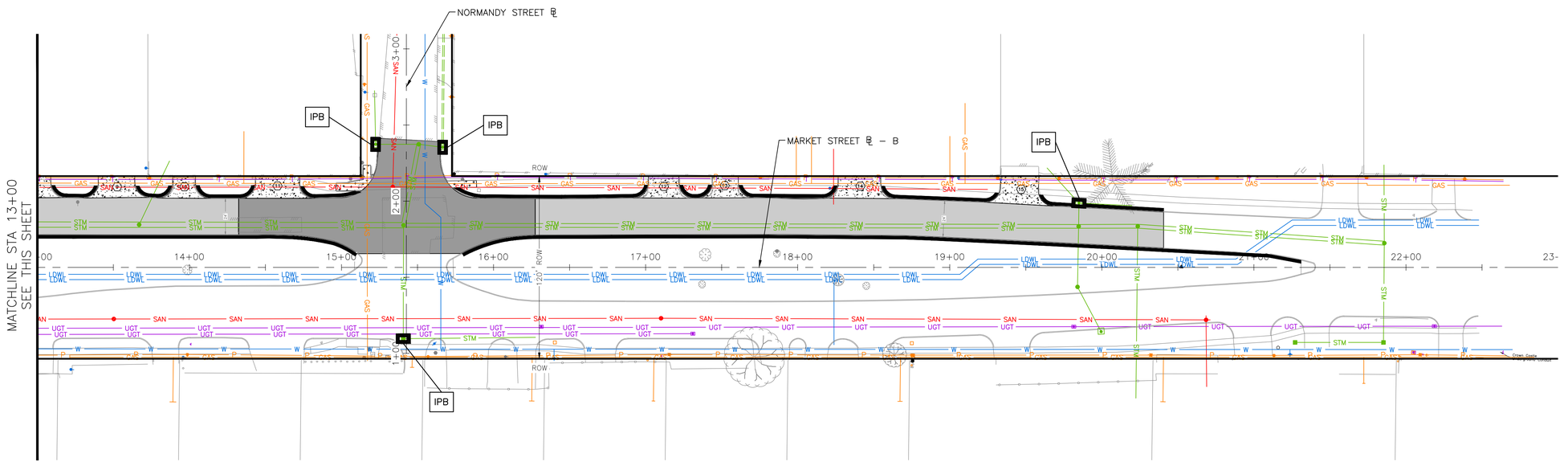
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

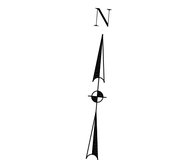
MARKET STREET STORM SEWER IMPROVEMENTS

STORM SEWER MANHOLE FRAME AND COVER

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–430220–040A–3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 77 OF 79	







LEGEND

IPB — INLET PROTECTION BARRIER

SOD STRIPS

NOTES

1. SEE SHEET 79 FOR SWPPP DETAILS
2. CONTRACTOR TO PLACE 2' WIDE SODDING STRIP AS SHOWN ON PLANS

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TBPELS ENGINEERING FIRM # 312

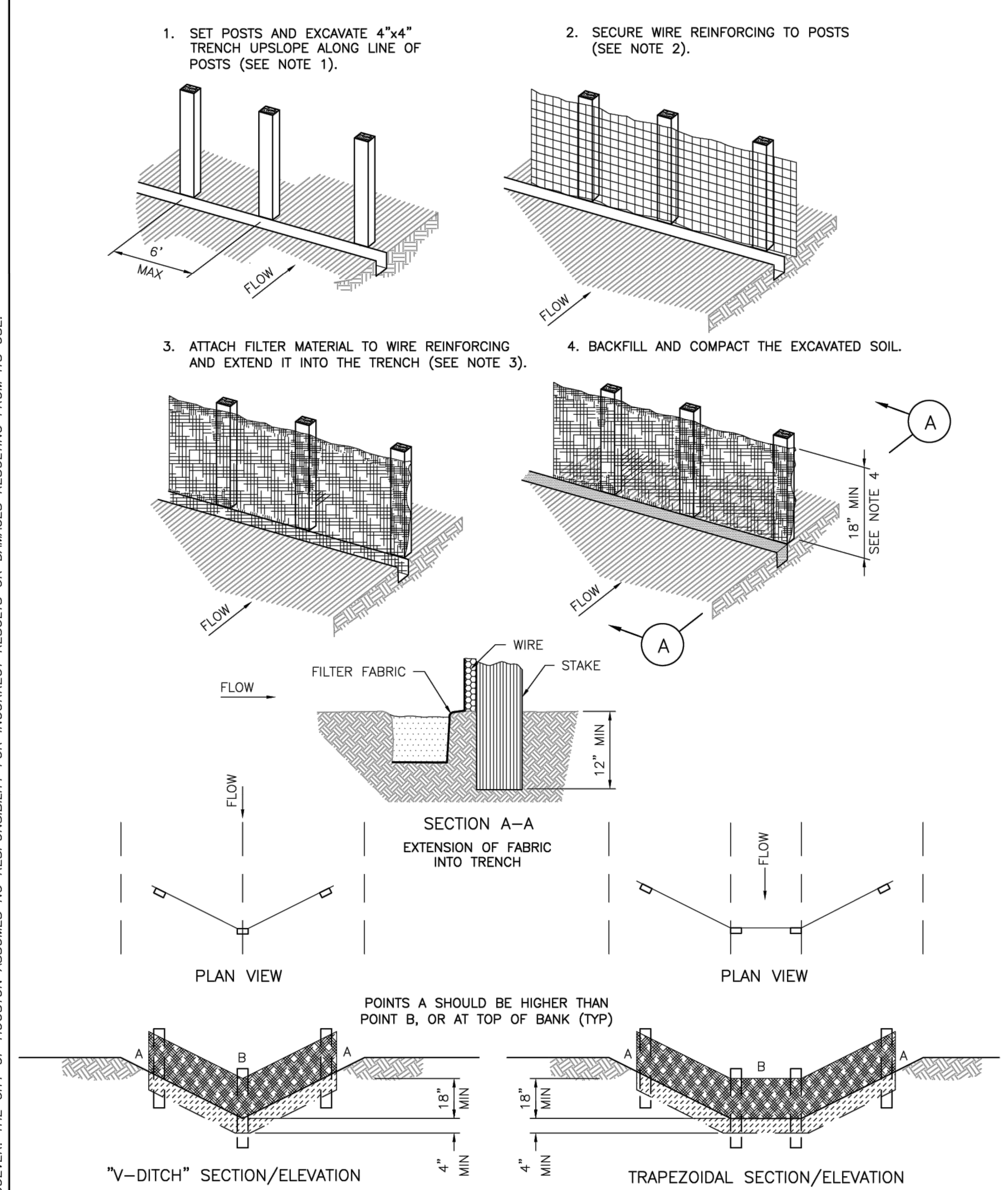
CITY OF HOUSTON

HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

SWPPP
STA 3+00 TO STA 23+00

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430220-040A-3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 78 OF 79	



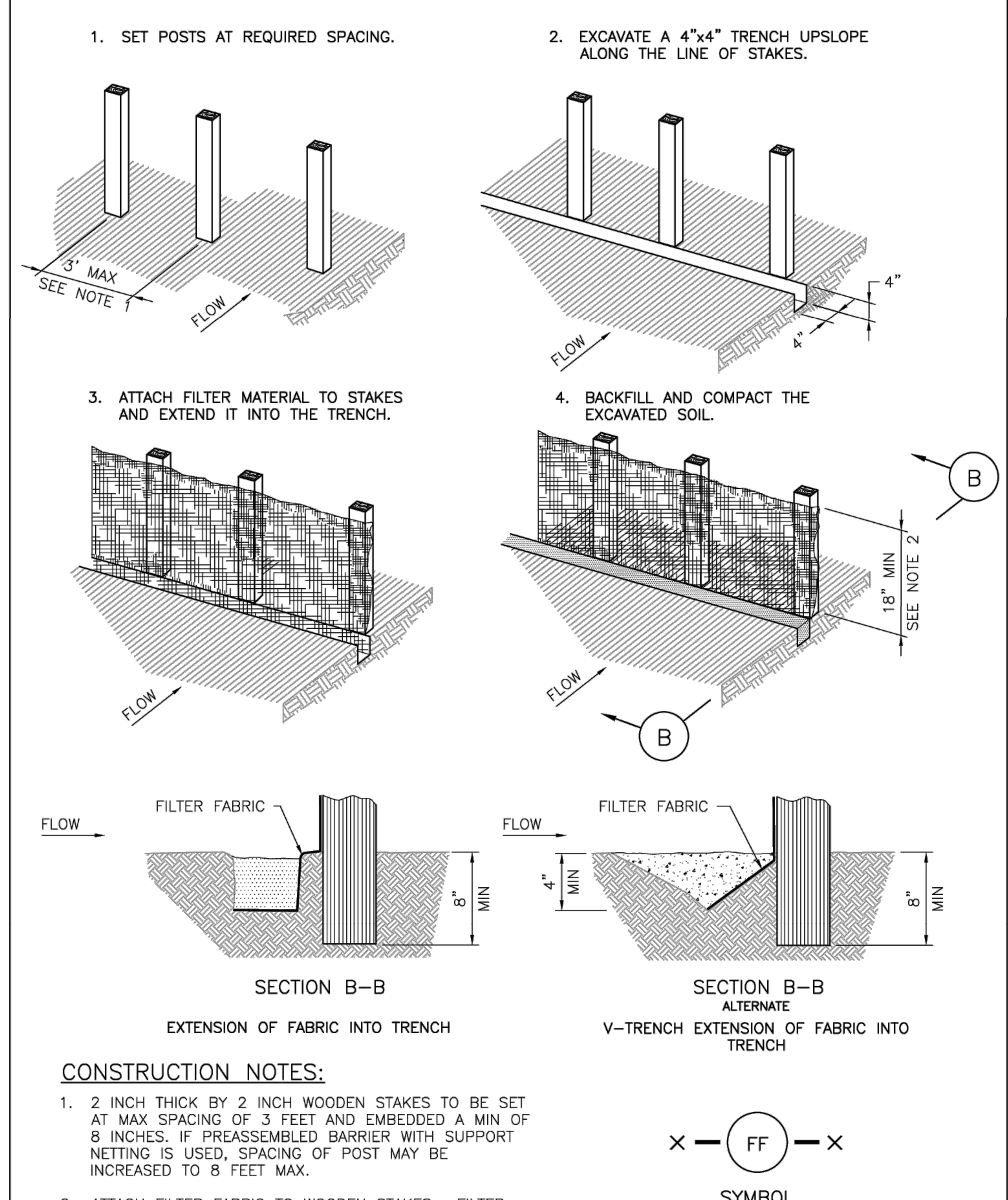
CONSTRUCTION NOTES:

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 01570 FOR FILTER FABRIC BARRIER.

× — (RFB) — ×

SYMBOL

REINFORCED FILTER FABRIC BARRIER



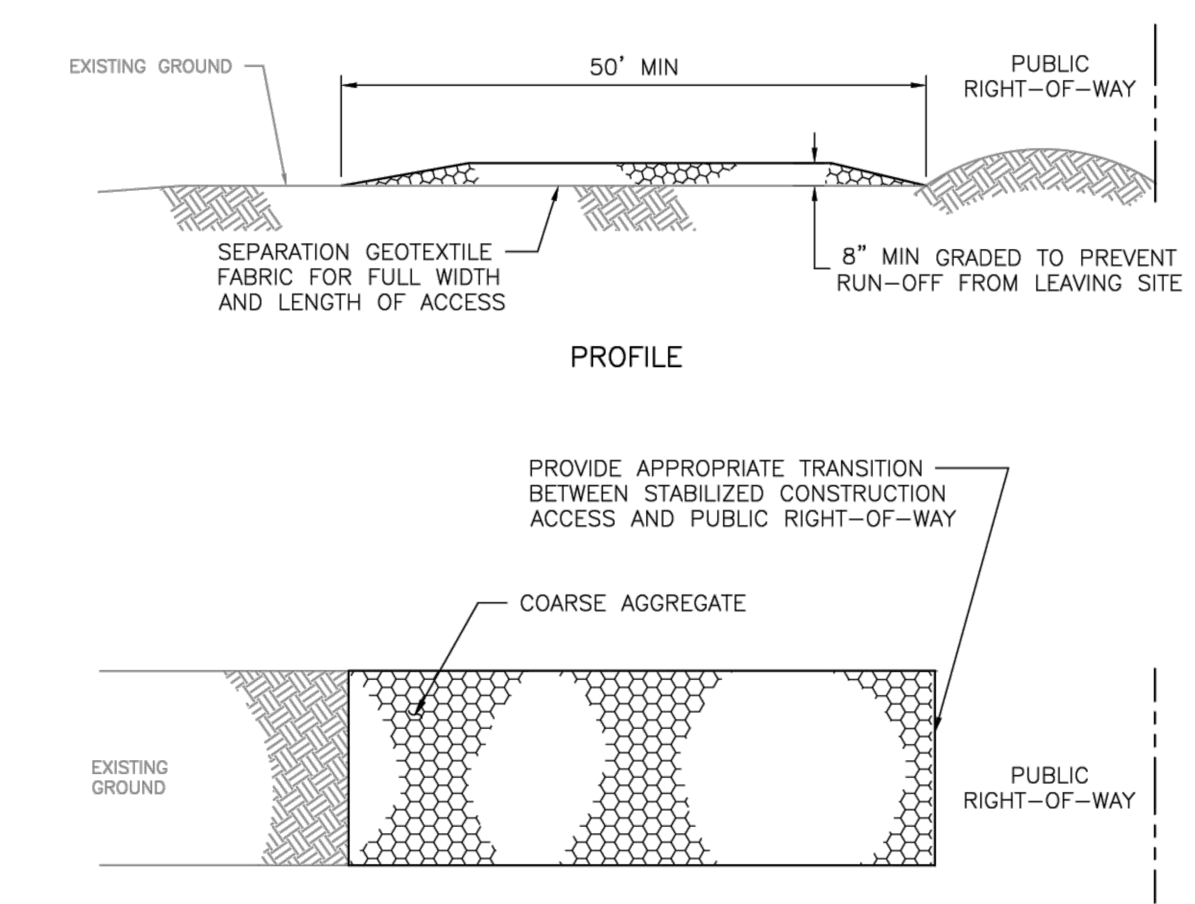
CONSTRUCTION NOTES:

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 01570 FOR FILTER FABRIC BARRIER.

× — (FF) — ×

SYMBOL

FILTER FABRIC BARRIER



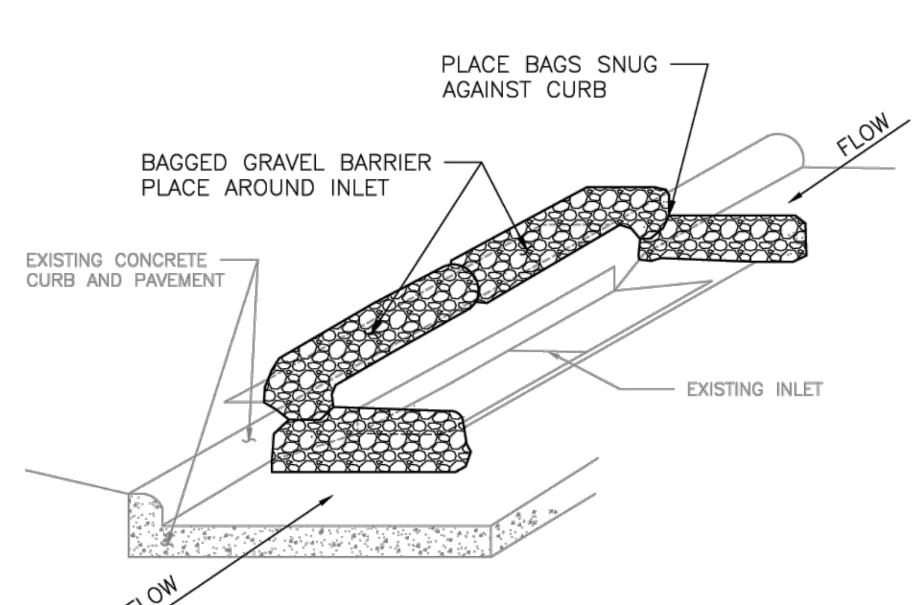
CONSTRUCTION NOTES:

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 01575 FOR STABILIZED CONSTRUCTION ACCESS.
7. STABILIZED CONSTRUCTION ACCESS SHALL BE MAINTAINED FREE OF SEDIMENT FOR THE DURATION OF THE PROJECT.

(SC)

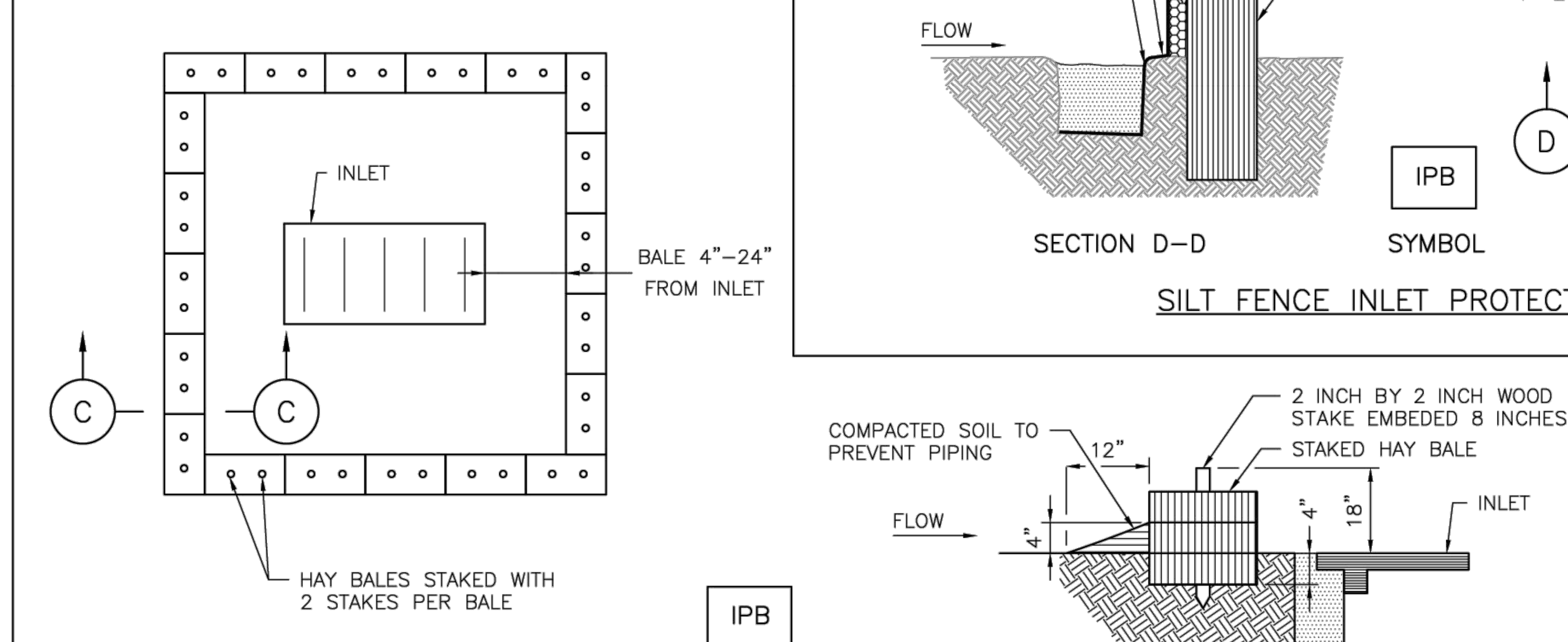
SYMBOL

STABILIZED CONSTRUCTION ACCESS



INLET PROTECTION BARRIER

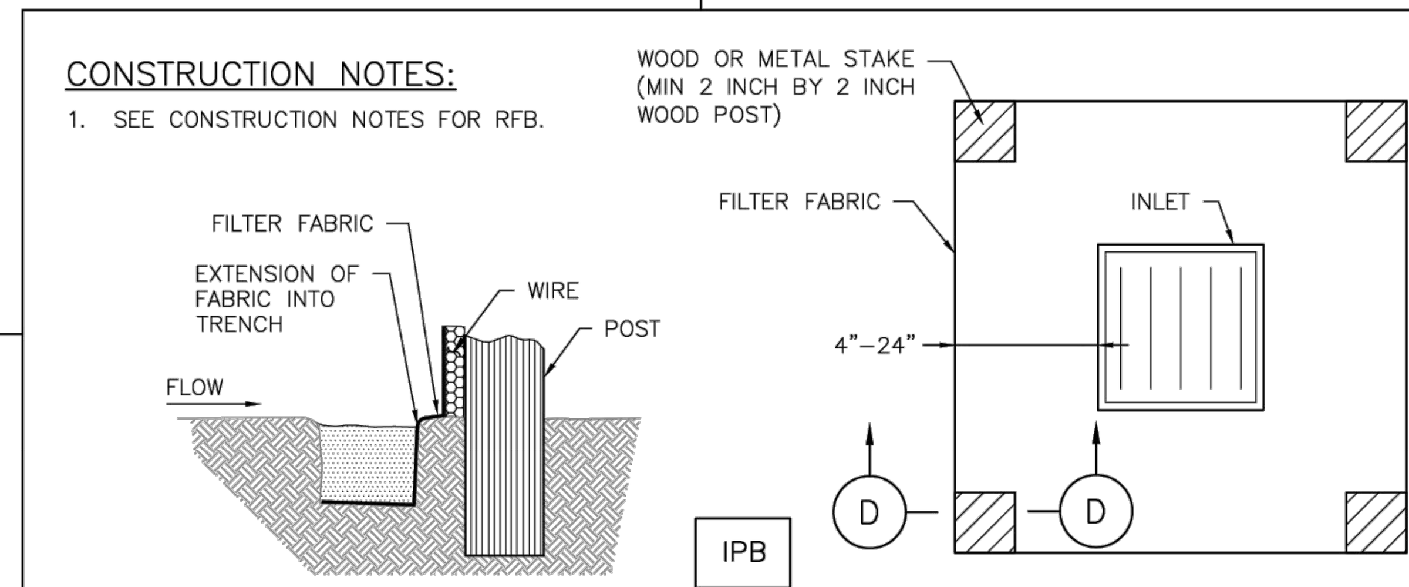
(FOR STAGE II INLETS)
BAGGED GRAVEL BARRIER



HAY BALE INLET PROTECTION BARRIER

CONSTRUCTION NOTES:

1. SEE CONSTRUCTION NOTES FOR RFB.



SILT FENCE INLET PROTECTION BARRIER

APPROVED BY:	APPROVED BY:
CITY ENGINEER	DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: MAR–02–2026	DWG NO: 01570–01

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

STORMWATER POLLUTION PREVENTION PLAN DETAILS

FOR CITY OF HOUSTON USE ONLY

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STATE OF TEXAS
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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

MARKET STREET STORM SEWER IMPROVEMENTS

SWPPP DETAILS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–430220–040A–3 (WO#43)	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
AHMED SIDDIQUI, P.E.	
SHEET NO. 79 OF 79	