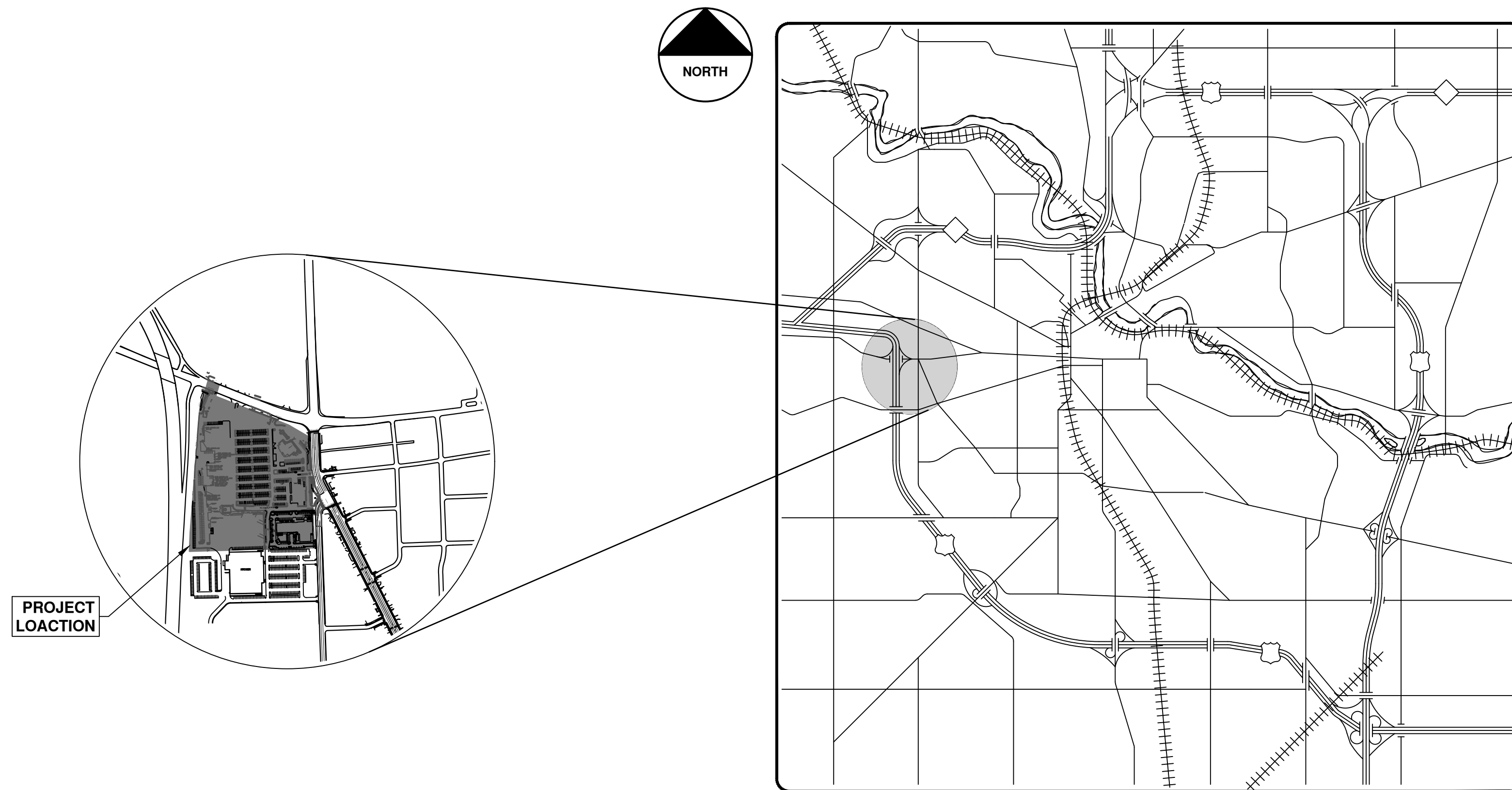




# CITY OF ANN ARBOR ENGINEERING

## WESTGATE WATERMAIN

RFP No. 25-10, FILE No. 2023013



VICINITY MAP

**NOTES:**

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174 OF 2013, THE CONTRACTOR SHALL CALL 811 OR 1-800-482-7171 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS, PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

THE UNDERGROUND LOCATIONS SHOWN FOR NATURAL GAS, TELEPHONE, ELECTRICAL POWER, CABLE TV AND FIBER OPTIC LINES ARE APPROXIMATE. THE CITY OF ANN ARBOR ASSUMES NO RESPONSIBILITY FOR THEIR ACCURATE REPRESENTATION IN THIS DRAWING. MISS DIG MUST BE CONTACTED PRIOR TO CONSTRUCTION TO LOCATE THESE UTILITIES.

THE CONSTRUCTION COVERED BY THESE PLANS SHALL CONFORM TO THE CITY OF ANN ARBOR PUBLIC SERVICES AREA DESIGN STANDARDS AND CONSTRUCTION SPECIFICATIONS ("STANDARDS"). THE OMISSION OF ANY STANDARD DETAIL DOES NOT RELIEVE THE CONTRACTOR OF THEIR OBLIGATION TO CONSTRUCT ITEMS IN COMPLETE ACCORDANCE WITH THOSE STANDARDS.

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PREPARED UNDER THE SUPERVISION OF

*Francisca Chan*  
FRANCISCA D CHAN, P.E. - MI LICENSE No. 6201311187  
PROJECT MANAGER

12 / 5 / 2024  
DATE



NO.	DATE	DESCRIPTION	REV.
01	01/23/2025	BID SET	00
		KMB	01
		FDC	01
		CHECKED	

CITY OF ANN ARBOR  
PUBLIC SERVICES  
301 EAST HURON STREET  
ANN ARBOR, MI 48106-6647  
www.a2gov.org



**CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING**

Description:  
The Westgate Watermain Project includes water main replacement and reconfiguration, and upsizing from 8 inch to 12 inch water main. In total, approximately 2,200 feet of new 12 inch water main, replacement of 4 fire hydrants, adding additional system valves, and restoration of all disturbed areas.

SCALE: \_\_\_\_\_  
DRAWING No. 2023013-1  
SHEET No. 1 OF 37

R:\2023013 Westgate Watermain\Plan Production\2023013Cov.dwg - a2 standard bw.stb - Plot Date: 1/23/2025 12:33:33 AM

**CONSTRUCTION NOTES:**

- Driveways and entrances to buildings, real property, and the like shall not be blocked except for short durations and only when approved by the Engineer. Vehicular and pedestrian access shall be maintained at all times. It shall be the Contractor's responsibility to coordinate all necessary driveway closures with the property owner(s) and resident(s) in the areas of construction.
- The location and depth of all existing utilities and service leads are to be field verified by the Contractor prior to construction.
- Location and depth of utilities as depicted on the plans is approximate and shown according to the best information available. It is the Contractor's responsibility to excavate ahead and adjust depth of conflict utilities accordingly. Any damage to utilities is the Contractor's responsibility to avoid and/or repair as necessary.
- The Contractor is to take special care to protect the existing water main and be responsible for maintaining consistent water service.
- During non-working hours no trench shall remain open; any open trench shall be properly secured with protective fencing. This work shall be included in the item of work "General Conditions".
- Trenches for new water services shall be excavated to MIOSHA and City of Ann Arbor Public Works requirements.
- City of Ann Arbor Public Works will install the corporation and copper service lead(s) to transfer the connection(s). If an existing water service is found to be failing or is not copper, the lead will be replaced to the curb box by Public Works.
- For the installation of corporations, or any other related activities, the Contractor shall not receive additional compensation for delays due to the scheduling of or coordination with the City of Ann Arbor Public Works.
- The Contractor shall backfill trenches in accordance with Trench Detail specified on plans. This work shall be included in the item of work "Excavate and Backfill for Water Service Tap and Lead". All concrete removals and replacements required for this work will be paid for separately.
- Water main fittings, other than those specifically listed as separate pay items, which are required to complete the work, such as blow-off assemblies, concrete thrust blocks, solid sleeves and mechanical plugs, shall not be paid for separately, but shall be included in the pipe pay items.
- "No Parking" signs shall be installed by the Contractor at locations as approved or directed by the Engineer. All signs shall be installed in accordance with the detailed specifications.
- Postal delivery and refuse pickup service shall be maintained at all times by the Contractor.
- All fittings, hydrants, valves and castings removed during construction are the property of the City of Ann Arbor. The Contractor within 48 hours shall deliver to City of Ann Arbor Public Works Facility at the W.R. Wheeler Service Center located at 4251 Stone School Road.
- Where street curbs are undermined due to construction activities, they shall be removed and replaced as directed by the Engineer.
- The Contractor shall be responsible for the continuous maintenance of the temporary road surface and soil erosion control measures within the construction area until the full completion of the project. This work shall be included in the item of work "General Conditions".
- All curb, sidewalk, driveway approach removals shall be approved by Engineer before the work is done.
- The location of material stock piles and on-site staging areas to be approved by the Engineer.
- All structures shall receive new castings as directed by the Engineer, as specified on the standard casting schedule. The existing castings are the property of the City of Ann Arbor. The Contractor shall deliver to City of Ann Arbor Public Works Facility at the W.R. Wheeler Service Center located at 4251 Stone School Road.
- Existing street name, guide, and regulatory signs, and mailboxes which conflict with the proposed construction shall be removed prior to construction, stored in a manner which will prevent damage, and re-set in locations as directed by the Engineer.

**SOIL EROSION AND SEDIMENTATION CONTROL NOTES:**

NOTIFY THE CITY OF ANN ARBOR SOIL EROSION CONTROL OFFICE 48 HOURS PRIOR TO BEGINNING WORK ON THE PROJECT. PHONE: 734-794-6265.

- THE CONTRACTOR SHALL IMPLEMENT AND MAINTAIN THE SOIL EROSION CONTROL MEASURES AS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER AT ALL TIMES DURING CONSTRUCTION. ANY MODIFICATIONS OR ADDITIONS TO THE SOIL EROSION CONTROL MEASURES DUE TO CONSTRUCTION OR CHANGED CONDITIONS SHALL BE AS DIRECTED AND APPROVED BY THE ENGINEER.
- ALL SOIL EROSION AND SEDIMENTATION CONTROL WORK SHALL CONFORM TO THE PERMIT REQUIREMENTS OF THE CITY OF ANN ARBOR, CHAPTER 55 ANN ARBOR UNIFIED DEVELOPMENT CODE, CITY OF ANN ARBOR STANDARDS DIVISION VII, THE LAWS OF THE STATE OF MICHIGAN, AND THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.
- DAILY, OR AFTER ANY STORM EVENT, INSPECTIONS OF EROSION CONTROL MEASURES SHALL BE MADE BY THE CONTRACTOR. PERIODIC INSPECTIONS MAY BE MADE BY THE ENGINEER TO DETERMINE THE EFFECTIVENESS OF EROSION AND SEDIMENTATION CONTROL MEASURES. ANY NECESSARY CORRECTIONS SHALL BE MADE WITHOUT DELAY, AND WITHOUT ADDITIONAL COST TO THE CITY OF ANN ARBOR.
- EROSION AND SEDIMENTATION FROM WORK ON THE SITE SHALL BE CONTAINED ON THE SITE AND NOT BE ALLOWED TO COLLECT ON ANY OFF-SITE AREAS, ROADWAYS OR WATERWAYS.
- ALL MUD/SOIL TRACKED ONTO ROADWAYS FROM THE SITE DUE TO CONSTRUCTION, SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR. IF SO ORDERED, THE CONTRACTOR SHALL PROVIDE AND OPERATE A VACUUM-TYPE STREET SWEEPER, AT NO ADDITIONAL COST TO THE CITY OF ANN ARBOR.
- RESTORATION OF ALL DISTURBED AREAS, INCLUDING PLACEMENT OF TOPSOIL, SEED, FERTILIZER AND MULCH AND/OR SOD SHALL BE PERFORMED WITHIN FIVE (5) DAYS OF THE COMPLETION OF FINAL GRADE.
- CONSTRUCTION OPERATIONS SHALL BE SCHEDULED AND PERFORMED SO THAT PREVENTATIVE SOIL EROSION CONTROL MEASURES ARE IN PLACE PRIOR TO EXCAVATION IN CRITICAL AREAS AND TEMPORARY STABILIZATION MEASURES ARE IN PLACE IMMEDIATELY FOLLOWING BACKFILLING OPERATIONS.
- SPECIAL PRECAUTIONS WILL BE TAKEN IN THE USE OF CONSTRUCTION EQUIPMENT TO PREVENT SITUATIONS THAT PROMOTE EROSION.
- PROPER DUST CONTROL SHALL BE MAINTAINED DURING CONSTRUCTION BY USE OF WATER TRUCKS AND/OR DUST PALLIATIVE AS REQUIRED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL TEMPORARY SOIL EROSION CONTROL MEASURES AND REMOVAL OF SOME MEASURES UPON AUTHORIZED COMPLETION OF THE PROJECT. FINAL COMPLETION OF PROJECT WILL NOT BE AUTHORIZED UNTIL ALL SITE WORK AND UTILITY CONSTRUCTION IS COMPLETE AND ALL SOILS ARE STABILIZED.
- THE CONTRACTOR SHALL NOT GRADE INTO ADJACENT PROPERTIES. SILT AND PROTECTIVE FENCE SHALL BE INSTALLED AND MAINTAINED TO PREVENT GRADING, EROSION AND SEDIMENTATION INTO THE ADJACENT PROPERTIES.
- TREE PROTECTION FENCING MUST REMAIN INTACT UNTIL RESTORATION OF THE SITE IS COMPLETE.

**SEQUENCE OF EROSION CONTROL MEASURES:**

- THE CONTRACTOR IS TO SUBMIT TO THE ENGINEER, A SEQUENCE OF CONSTRUCTION WITH RESPECT TO THE SOIL EROSION CONTROL MEASURES FOR REVIEW, COMMENT AND APPROVAL. THIS SCHEDULE IS TO INCLUDE INSPECTION AND REPAIR OF ALL TEMPORARY EROSION CONTROL MEASURES DAILY AND WITHIN 24 HOURS OF A STORM EVENT.

**SAMPLE SOIL EROSION AND SEDIMENTATION CONTROL INSTALLATION MINIMUM REQUIREMENTS:**

- INSTALL SILT FENCE, TREE PROTECTION FENCING, MUD MATS, INLET FILTERS ON EXISTING DRAINAGE FEATURES, AND ALL OTHER TEMPORARY SOIL EROSION CONTROLS, PRIOR TO ANY CLEARING OR EARTH MOVING OPERATION.
- STRIP AND STOCKPILE TOPSOIL. STABILIZE STOCKPILE AS REQUIRED.
- INSTALL WATER MAINS, STORM AND SANITARY SEWERS, AND OTHER ENCLOSED DRAINAGE FEATURES. NEW INLET FILTERS SHALL BE INSTALLED IMMEDIATELY FOLLOWING INSTALLATION OF NEW DRAINAGE INLETS.
- PERFORM MACHINE GRADING OPERATIONS AND CONSTRUCT PAVEMENTS (MAINLINE, SIDEWALKS, DRIVES, ETC.).
- CONTINUALLY MAINTAIN EROSION AND SEDIMENTATION CONTROL MEASURES, AS REQUIRED TO ALLOW DRAINAGE AND SEDIMENT REMOVAL. REMOVE ANY ACCUMULATED SEDIMENT IMMEDIATELY.
- COMPLETE ALL FINE GRADING.
- TEMPORARY SEED AND INSTALL EROSION CONTROL BLANKET IN ALL DISTURBED AREAS.
- REFER TO LANDSCAPE PLANTING PLANS FOR PERMANENT SITE STABILIZATION.
- CLEAN OUT STORM SEWER SYSTEMS.
- REMEDY ANY NOTED DEFECTS TO THE SATISFACTION OF THE CITY OF ANN ARBOR'S SOIL EROSION AND SEDIMENTATION CONTROL OFFICIAL.
- ALL TEMP. SOIL EROSION CONTROL MEASURES MUST BE REMOVED, WITH ENGINEERS APPROVAL, PRIOR TO FINAL INSPECTION

NOTE: THIS SEQUENCE IS FOR INFORMATION ONLY. IT IS INTENDED TO SHOW THE SEQUENCE OF CONSTRUCTION WITH RESPECT TO THE SOIL EROSION AND SEDIMENTATION CONTROL MEASURES. THE CONTRACTOR IS RESPONSIBLE FOR SUBMITTING THEIR OWN DETAILED CONSTRUCTION SEQUENCE AND SCHEDULE TO THE ENGINEER FOR REVIEW, COMMENT, AND APPROVAL.

**TEMPORARY SEEDING:**

- SEED IN ACCORDANCE WITH PROJECT DRAWINGS AND SPECIFICATIONS.
- ANY DISTURBED AREA NOT PAVED, SEEDED, MULCHED, SODDED OR BUILT UPON BY NOVEMBER 15TH OR JUNE 30TH IS TO BE TEMPORARILY STABILIZED PER SPECIFICATIONS.

THE ESTIMATED COST OF SOIL EROSION AND SEDIMENTATION CONTROL MEASURES, TOPSOIL, SEEDING, AND MULCH = \$30,000

WESTGATE WATERMAIN		
BM #	ELEV	DESCRIPTION
1	955.649	WESTERLY FLANGE BOLT ON FIRE HYDRANT IN REAR PARKING LOT, NORTH OF ENTRANCE TO PUBLIC LIBRARY
2	949.060	SET RR SPIKE EAST SIDE OF UTILITY POLE, WEST SIDE OF PARKING LOT, ACROSS FROM DOOR #2539
3	942.730	SET RR SPIKE EAST SIDE OF UTILITY POLE, SW OF SMOOTHIE KING BLDG. CORNER (150'+/-)
4	941.535	SET RR SPIKE SOUTH SIDE OF UTILITY POLE, NORTH SIDE OF JACKSON RD. 100'+/- EAST OF DRIVE FOR D&D BICYCLES
5	945.184	TOP OF NORTH SIDE OF CONC. BASE FOR LIGHT POLE, 50'+/- SOUTH OF SOUTHERLY BUILDING COR FOR ZINGERMANS ROADHOUSE
6	945.434	TOP OF WEST SIDE OF CONC. BASE FOR LIGHT POLE, 100'+/- EAST OF ENTRANCE TO ZINGERMANS ROADHOUSE
7	943.599	TOP OF SW ANCHOR BOLT FOR LIGHT POLE AT THE NE CORNER OF STADIUM & ABBOTT
8	941.786	TOP OF SW CORNER OF CONC. BASE FOR PEDESTRIAN SIGNAL AT SW CORNER OF STADIUM & MAPLE
9	954.733	TOP OF SOUTH SIDE OF CONC. BASE FOR LIGHT POLE AT SW CORNER OF PARKING LOT IN FRONT OF SCHULER BOOKS
10	951.715	TOP OF WEST SIDE OF CONC. BASE FOR LIGHT POLE AT NW CORNER OF LEWIS JEWELERS COMPLEX PARKING LOT
11	953.458	TOP OF EAST SIDE OF CONC. BASE FOR LIGHT POLE AT SW CORNER OF LEWIS JEWELERS COMPLEX PARKING LOT

AREA OF PROPOSED DISTURBANCE = 0.66 ACRES

**PERMITS REQUIRED TO BE OBTAINED BY THE CONTRACTOR PRIOR TO THE BEGINNING OF CONSTRUCTION.**


PERMIT	ISSUING AUTHORITY
LANE CLOSURE PERMIT*	CITY OF ANN ARBOR ENGINEERING
"NO PARKING" SIGNS PERMIT*	CITY OF ANN ARBOR ENGINEERING
GRADING/SOIL EROSION & SEDIMENTATION CONTROL PERMIT*	CITY OF ANN ARBOR CUSTOMER SERVICE
RIGHT-OF-WAY PERMIT*	CITY OF ANN ARBOR CUSTOMER SERVICE
MDOT RIGHT-OF-WAY PERMIT	MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT)
* NO COST TO CONTRACTOR	

**PERMITS REQUIRED TO BE OBTAINED BY THE CITY OF ANN ARBOR PRIOR TO THE BEGINNING OF CONSTRUCTION.**


PERMIT	ISSUING AUTHORITY
WATER MAIN CONSTRUCTION PERMIT	MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY (EGLE)

**CONTACT INFORMATION**


PUBLIC UTILITIES	OWNER	CONTACT
WATER	CITY OF ANN ARBOR PUBLIC WORKS W.R. WHEELER SERVICE CENTER 4251 STONE SCHOOL ROAD ANN ARBOR, MI 48108	(734) 794-6350
SANITARY		
STORM		
FORESTRY		MARK MORENO (734) 794-6361
SIGNS SIGNALS STREET LIGHTS		
FIBER OPTIC	CITY OF ANN ARBOR INFORMATION TECHNOLOGY LARCUM CITY HALL 301 E. HURON STREET ANN ARBOR, MI 48107	(734) 794-6550
PRIVATE UTILITIES	OWNER	CONTACT
GAS	DTE ENERGY 3150 E. MICHIGAN AVE. YPSILANTI TOWNSHIP, MI 48198	ADAM EGELER 734 929-8042 ADAM.EGELER@DTEENERGY.COM
ELECTRIC	DTE ENERGY WESTERN WAYNE SERVICE CENTER 8001 HAGGERTY ROAD BELLEVILLE, MI 48111	ANTHONY IGNASIAK (734) 397-4447
CABLE	COMCAST 27800 FRANKLIN ROAD SOUTHFIELD, MI 48034	STEPHEN BECK (248) 972-7511
PHONE	AT&T 550 S. MAPLE ROAD ANN ARBOR, MI 48103	CHRIS SHOUP (734) 263-7385 CS6558@ATT.COM
FIBER OPTIC	MCI/VERIZON 4401 STECKER STREET DEARBORN, MICHIGAN 48126	MARLON REDD (313) 588-0849 MARLON.REDD@VERIZON.COM
FIBER OPTIC	WINDSTREAM 1295 S LINDEN ROAD, SUITE B FLINT, MI 48532	DAVID BEGGS (810) 397-8956 DAVID.BEGGS@WINDSTREAM.COM
FIBER OPTIC	ADVANCED COMMUNICATIONS & DATA 1800 NORTH GRAND RIVER AVE LANSING, MI 48906	OSP@ACD.NET
STREET LIGHTING	DTE ENERGY 8001 HAGGERTY ROAD BELLEVILLE, MI 48111	LANCE ALLEY (734) 397-4188



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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING  
WESTGATE WATERMAIN

SCALE: NTS



DRAWING No. 2023013-2

SHEET No. 2 OF 37

STANDARD NOTES

**EXISTING LEGEND**

EX = EXISTING		WATER MAIN
		WATER MAIN ABANDONED
		STORM SEWER
		STORM SEWER ABANDONED
		SANITARY SEWER
		SANITARY SEWER ABANDONED
		GAS MAIN
		GAS MAIN (DEAD)
		ELECTRICAL OVER HEAD
		ELECTRICAL UNDER GROUND
		ELECTRICAL DUCT BANK
		TELEPHONE OVER HEAD
		TELEPHONE UNDER GROUND
		TELEPHONE DUCT BANK
		CABLE TV OVER HEAD
		CABLE TV UNDER GROUND
		FIBER OPTIC
		FIBER OPTIC DUCT BANK
		BOUNDARY
		BUILDING
		CENTERLINE OF DITCH
		CENTERLINE/CROWN OF ROAD
		CONTOUR MAJOR
		CONTOUR MINOR
		EDGE OF WATER
		FLOODPLAIN
		FENCE
		GRAVEL
		GUARDRAIL
		STONE WALL
		R.O.W.
		TREELINE
		WETLAND
		EDGE OF BRUSH
		HEDGE
		TREE (DECIDUOUS)
		TREE (CONIFEROUS)
		SHRUB (DECIDUOUS)
		STUMP
		TREE TO REMAIN & PROTECT (DECIDUOUS) CRITICAL ROOT ZONE (C.R.Z.) = DIAMETER BREST HEIGHT (INCHES) X 10
		TREE TO REMAIN & PROTECT (CONIFEROUS) CRITICAL ROOT ZONE (C.R.Z.) = DIAMETER BREST HEIGHT (INCHES) X 10

**PROPOSED LEGEND**

PROP = PROPOSED		WATER MAIN
		STORM SEWER
		SANITARY SEWER
		FIBER OPTIC
		ELECTRICAL
		CENTERLINE OF DITCH
		CENTERLINE OF ROAD
		FENCE
		GRAVEL
		SILT FENCE
		PROTECTIVE FENCE
		GUARDRAIL
		LOT/JUNIT
		CURB
		TEMPORARY GRADING PERMIT
		CONTOUR MAJOR
		CONTOUR MINOR
		WATER EASEMENT
		STORM EASEMENT
		SANITARY EASEMENT
		R.O.W.
		LIMITS OF CONSTRUCTION
		LIMIT OF GRADING
		STONE WALL
		DETECTABLE WARNING
		ASPHALT
		CONCRETE
		SIDEWALK
		TREE (DECIDUOUS)
		TREE (CONIFEROUS)
		TREE TO BE REMOVED (DECIDUOUS)
		TREE TO BE REMOVED (CONIFEROUS)
		STUMP TO BE REMOVED



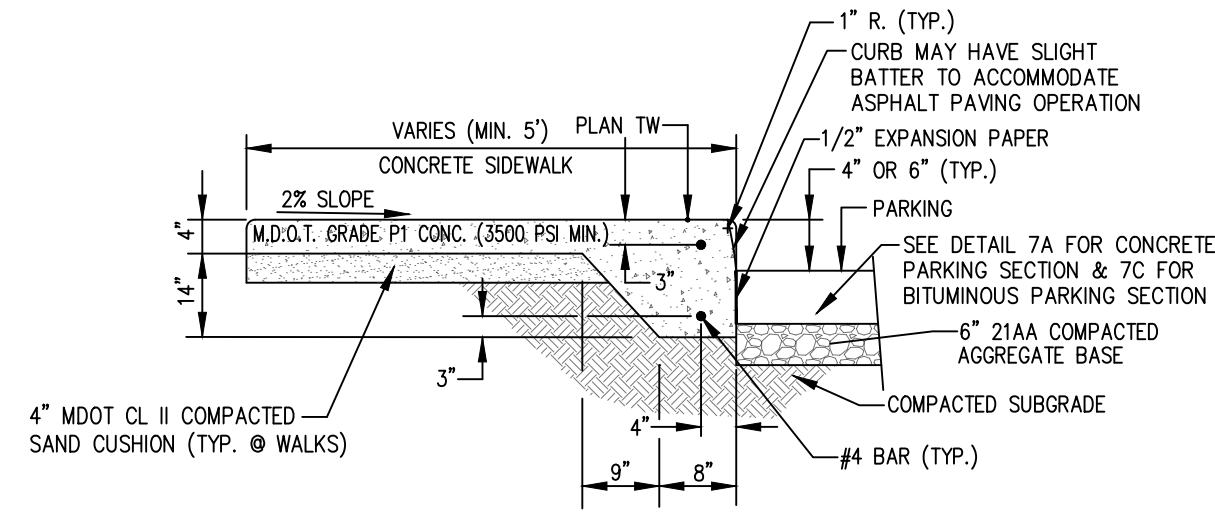
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		KMB DRAWN
		FDC CHECKED

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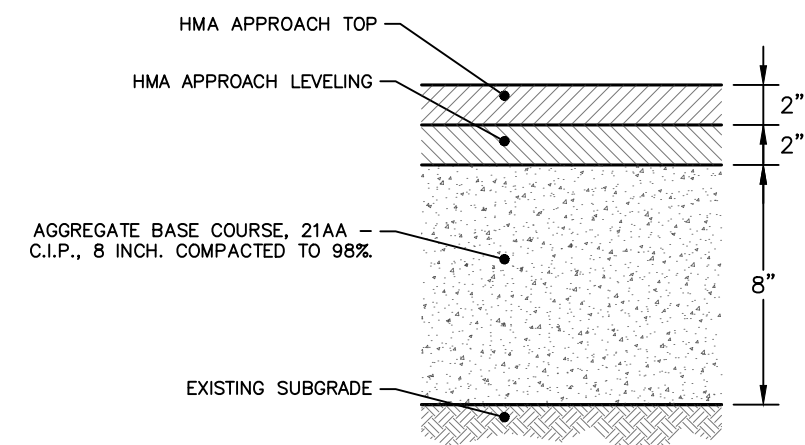


CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING  
WESTGATE WATERMAIN  
###  
LEGEND

SCALE: NTS	DRAWING No.
	2023013-3
SHEET No.	
3 OF 37	



**TYPICAL CONCRETE PAVEMENT  
INTEGRAL WALK/CURB**



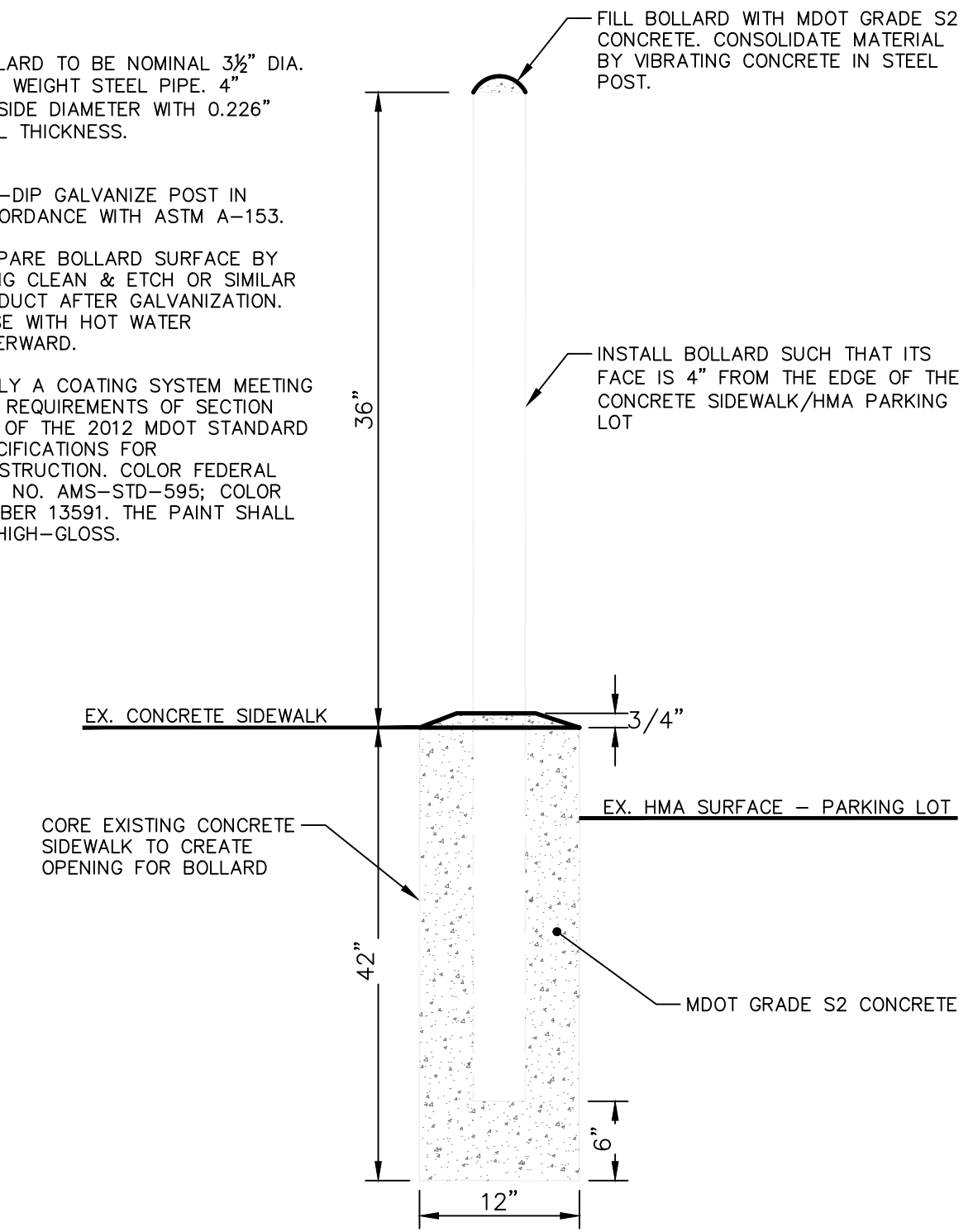
**WESTGATE PARKING AREA SECTION**  
NOT TO SCALE

HMA APPLICATION ESTIMATE						
HMA PAVEMENT	HMA MIX	RATE OF APPLICATION	THICKNESS (INCHES)	AWI (MIN.)	BINDER	LOCATION/NOTES
HMA APPROACH TOP	LVSP	220 LB/SYD	2	220 (TOP)	PG 58-28	TOP COURSE
HMA APPROACH LEVELING	LVSP	220 LB/SYD	2	-	PG 58-28	LEVELING COURSE
HAND PATCHING	LVSP	0 - 440 LB/SYD			PG 58-28	HAND PATCHING
ASPHALT EMULSION	SS-1h	0.05 - 0.15 GAL/SYD	-	-	-	INCLUDE IN COST OF HMA ITEM

NOTE:  
WESTGATE PARKING AREA TO BE RESTORED AND PAID FOR AS HMA APPROACH.  
S MAPLE ROAD AND STADIUM BLVD ASPHALT MIXTURE TO BE HIGH STRESS HOT MIX

**NOTES:**

- BOLLARD TO BE NOMINAL 3 1/2" DIA. STD. WEIGHT STEEL PIPE. 4" OUTSIDE DIAMETER WITH 0.226" WALL THICKNESS.
- HOT-DIP GALVANIZE POST IN ACCORDANCE WITH ASTM A-153.
- PREPARE BOLLARD SURFACE BY USING CLEAN & ETCH OR SIMILAR PRODUCT AFTER GALVANIZATION. RINSE WITH HOT WATER AFTERWARD.
- APPLY A COATING SYSTEM MEETING THE REQUIREMENTS OF SECTION 715 OF THE 2012 MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION. COLOR FEDERAL STD. NO. AMS-STD-595; COLOR NUMBER 13581. THE PAINT SHALL BE HIGH-GLOSS.



**BOLLARD DETAIL**



REV.	DESCRIPTION	DATE	DRAWN	CHECKED
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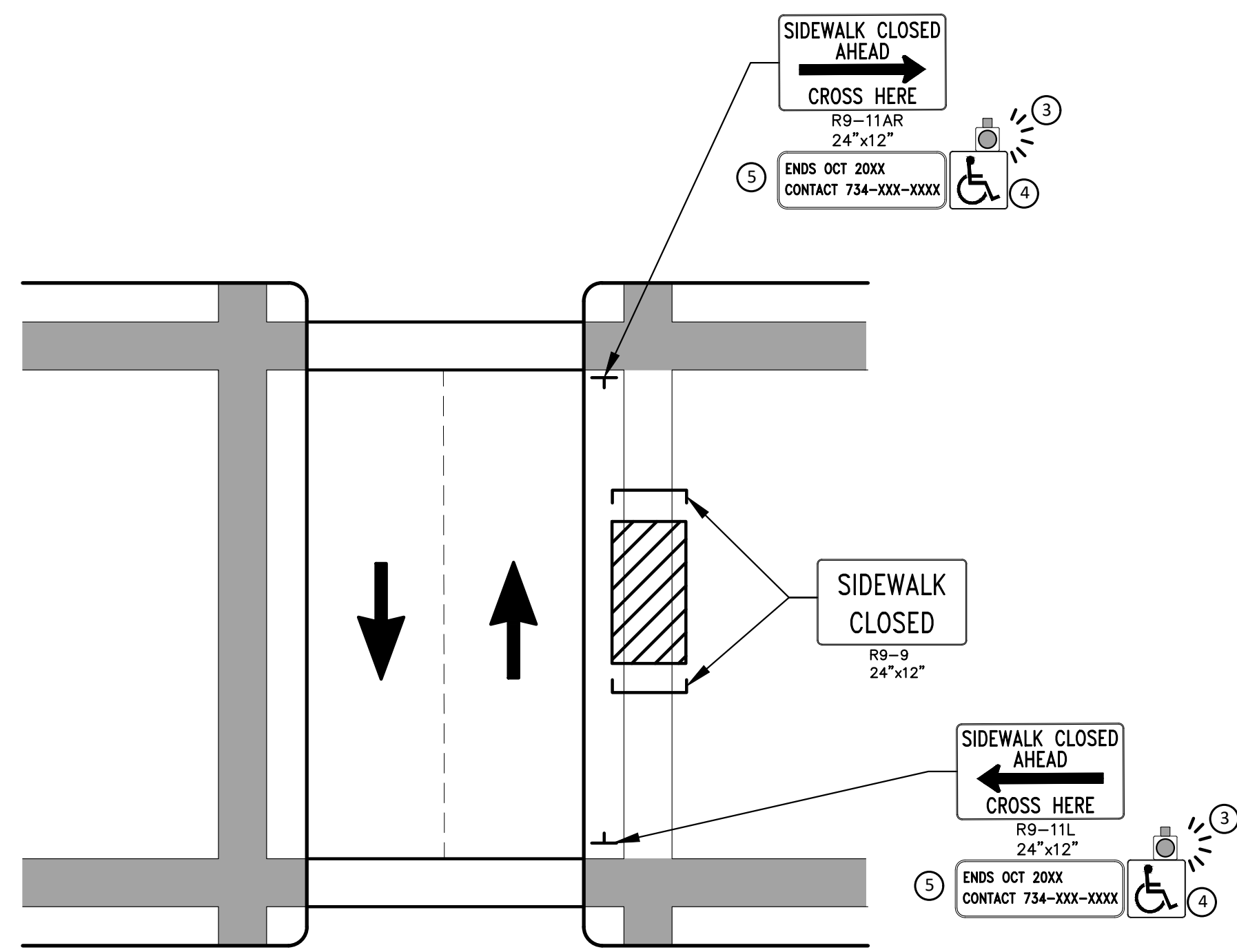
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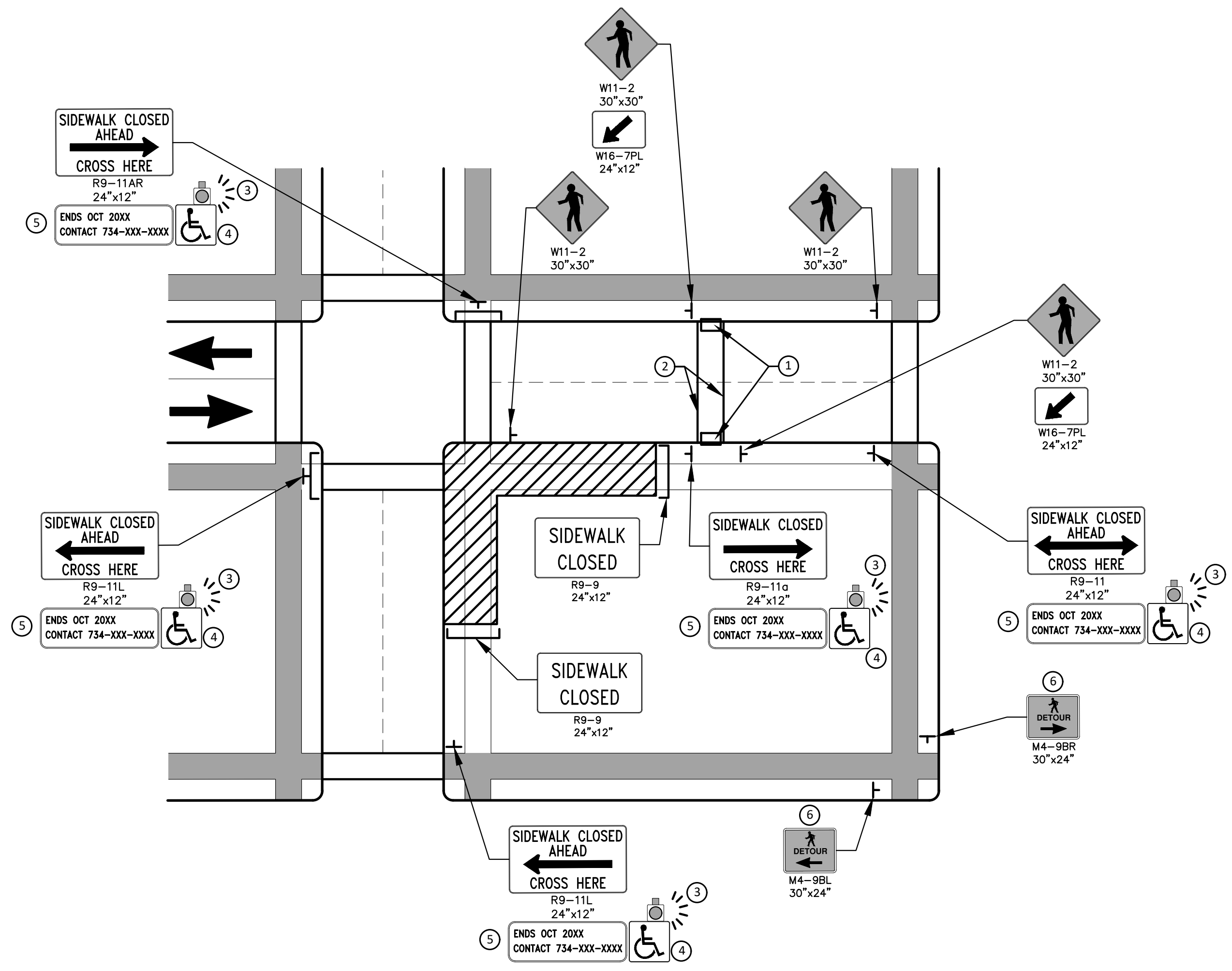
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING  
WESTGATE WATERMAIN  
PARKING LOT TYPICAL SECTION

SCALE PLAN: NTS  
DRAWING No. 2023013-4

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PEDESTRIAN DETOUR USING OPPOSITE SIDE OF STREET



OTHER SIDE OF STREET DETOUR OR DETOUR WITH TRAILBLAZING SIGNS  
(FOR CORNER SIDEWALK CLOSURE WITH OPTIONAL TEMPORARY CROSSWALK)

**GENERAL NOTES**

WHEN CLOSING OR RELOCATING CROSSWALKS OR SIDEWALKS, THE CONTRACTOR SHALL PROVIDE DETECTABLE TEMPORARY FACILITIES AND INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH EXISTING PEDESTRIAN FACILITIES.

TEMPORARY TRAFFIC CONTROL DEVICES FOR PEDESTRIANS ARE SHOWN. OTHER DEVICES MAY BE NECESSARY TO CONTROL VEHICULAR TRAFFIC. STAGE WORK, AS NECESSARY, TO PROVIDE AN ALTERNATE PEDESTRIAN ROUTE (APR) AT ALL TIMES. FOR ROADWAYS WITH NO AVAILABLE DETOURS, MAINTAIN ONE OPEN SIDEWALK AT ALL TIMES.

PROVIDE A SMOOTH, CONTINUOUS, HARD SURFACE THROUGH THE LENGTH OF THE APR. COMPACTED GRAVEL, AGGREGATE, OR SLAG MATERIALS ARE NOT ALLOWED. PROVIDE A FIRM, STABLE, AND SLIP RESISTANT TEMPORARY WALKWAY SURFACE TO COVER SHORT SEGMENTS OF ROUGH, SOFT, OR UNEVEN GROUND.

THE PEDESTRIAN TRAFFIC SIGNALS CONTROLLING CLOSED CROSSWALKS SHALL BE COVERED OR DEACTIVATED BY THE CITY OF ANN ARBOR. THE CONTRACTOR SHALL SCHEDULE AND COORDINATE THIS WORK WITH THE ENGINEER A MINIMUM OF 72 HOURS (NOT INCLUDING WEEKENDS & HOLIDAYS) PRIOR TO THE BEGINNING OF WORK THAT REQUIRES A SIDEWALK CLOSURE.

POST MOUNTED SIGNS LOCATED ADJACENT TO A SIDEWALK SHALL HAVE A 7 FOOT MINIMUM CLEARANCE FROM THE BOTTOM OF THE SIGN TO THE SIDEWALK SURFACE.

WHEN THE ENGINEER DETERMINES THAT THE CONTRACTOR'S OPERATIONS OR PLACEMENT OF TRAFFIC CONTROL DEVICES HAS CAUSED A SITUATION THAT THE VISIBILITY OF IS REDUCED ENOUGH TO CREATE A HAZARD, THE TRAFFIC CONTROL DEVICES SHALL BE DELINEATED WITH FLAGS OR OTHER ENGINEER-APPROVED DEVICES AT NO ADDITIONAL COST TO THE PROJECT.

MINIMIZE DISRUPTION TO PEDESTRIANS TO THE MAXIMUM EXTENT FEASIBLE BY PROVIDING AN APR IN THE FOLLOWING ORDER OF PREFERENCE:

1. PROVIDE THE APR ON THE SAME SIDE OF THE STREET AS THE DISRUPTED ROUTE UTILIZING BYPASSES.
2. WHERE IT IS NOT FEASIBLE TO PROVIDE A SAME SIDE APR, PROVIDE A DETOUR ON THE OTHER SIDE OF THE STREET.
3. WHERE IT IS NOT FEASIBLE TO PROVIDE AN APR ON THE OTHER SIDE OF THE ROADWAY, PROVIDE AN APR DETOUR WITH TRAILBLAZING SIGNS AS SHOWN ON THE PROJECT PLANS.

**SPECIFIC NOTES**

1. TEMPORARY CURB RAMPS WITH DETECTABLE WARNINGS.
2. TEMPORARY PAVEMENT MARKING FOR CROSSWALK LINES.
3. AN APPROVED AUDIBLE MESSAGE DEVICE OR TACTILE MESSAGE SHALL BE PROVIDED FOR SIGHT-IMPAIRED PEDESTRIANS.
4. THE INTERNATIONAL SYMBOL OF ACCESSIBILITY SHOULD BE DISPLAYED WHEN ANY WALKWAY THROUGH A WORK ZONE HAS BEEN DETERMINED TO BE TPAR COMPLIANT. THE SYMBOL OF ACCESSIBILITY SHALL NOT BE DISPLAYED IF PERSONS WITH DISABILITIES SHOULD NOT USE THE PRIMARY TEMPORARY PEDESTRIAN DETOUR. THE REASON FOR THE NON-COMPLIANCE SHALL BE POSTED AND AN ALTERNATE ROUTE SHALL BE POSTED WHEN THE PRIMARY TEMPORARY PEDESTRIAN DETOUR IS NON-COMPLIANT TO TPAR STANDARDS.
5. TYPICAL SIGN MESSAGE FOR A TEMPORARY PEDESTRIAN DETOUR SHALL INCLUDE INFORMATION SUCH AS THE DURATION OF THE WALKWAY RESTRICTIONS (BEGINNING AND/OR END DATES) AND A PROJECT CONTACT NUMBER FOR 24 / 7 QUESTIONS OR REPORTING HAZARDS.
6. PEDESTRIAN DETOUR TRAILBLAZING SIGNS SHALL BE USED IF THE PEDESTRIAN DETOUR IS IN A LOCATION OTHER THAN ACROSS THE STREET FROM THE SIDEWALK CLOSURE.

**PEDESTRIAN TEMPORARY TRAFFIC CONTROL NOTES**

1. THE CONTRACTOR SHALL MAINTAIN PEDESTRIAN THROUGH MOVEMENTS FROM ONE END OF THE CONSTRUCTION AREA TO THE OTHER, ON AT LEAST ONE SIDE OF THE STREET DURING CONSTRUCTION. ANY SIDEWALK CLOSURES SHALL MEET THE REQUIREMENTS OF THE MMUTCD, PART 6.
2. PEDESTRIAN ACCESS SHALL BE PROVIDED TO ALL ADJACENT PROPERTIES, BUILDINGS, RESIDENCES AND COMMERCIAL PROPERTIES AT ALL TIMES. THIS MAY INCLUDE TEMPORARY WALKWAYS SPANNING THE CONSTRUCTION AREA.
3. IF SIDEWALKS ARE CLOSED, A TEMPORARY PEDESTRIAN ACCESS ROUTE (TPAR) SHALL BE PROVIDED ON THE SAME SIDE OF THE ROAD AS THE CLOSED SIDEWALK, IF POSSIBLE. SIGNS AND BARRICADES SHALL BE USED TO PROVIDE ADVANCE NOTICE OF THE CLOSURE AND THE ROUTE OF ANY PEDESTRIAN DETOURS. THE TPAR SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF 4 FEET. IF THE TPAR IS LESS THAN 5 FEET IN WIDTH, A 5 FOOT BY 5 FOOT PASSING SPACE SHALL BE PROVIDED AT LEAST EVERY 200 FEET. THE SURFACE OF THE TPAR SHALL BE SMOOTH AND CONTINUOUS FOR THE LENGTH OF THE TPAR. THE TPAR SHALL MAINTAIN THE SAME LEVEL OF ACCESSIBILITY AND DETECTABILITY AS THE FACILITY THAT IS BEING CLOSED. THE TPAR SHALL NOT LEAD PEDESTRIANS INTO CONFLICTS WITH VEHICLES, EQUIPMENT, OR CONSTRUCTION OPERATIONS.
4. IF THE TPAR IS ADJACENT TO MOVING TRAFFIC, CONSTRUCTION OPERATIONS/EQUIPMENT, OR DROP-OFFS, THEN CRASH WORTHY CHANNELIZING DEVICES THAT MEET THE REQUIREMENTS OF NCHRP 350 AND THE MMUTCD SHALL BE USED.
5. THE CONTRACTOR SHALL NOT STORE OR PLACE ANY CONSTRUCTION MATERIALS, EQUIPMENT OR SIGNS IN THE PEDESTRIAN PATH OF TRAVEL.
6. THE CONTRACTOR'S OPERATIONS SHALL NOT OCCUPY SIDEWALKS EXCEPT WHERE PROPER PROTECTION AND A TPAR HAVE BEEN PROVIDED.
7. WHEN DIRECTED BY THE ENGINEER, OR STATED ON THE PLANS, THE CONTRACTOR SHALL PROVIDE A TEMPORARY PEDESTRIAN TRAFFIC CONTROL PLAN FOR REVIEW AND WRITTEN APPROVAL BY THE ENGINEER A MINIMUM OF THREE WEEKS BEFORE SUCH PLAN IS IMPLEMENTED. THIS PLAN SHALL DETAIL THE CONSTRUCTION PHASING AND SCHEDULE AND THE SPECIFIC METHODS OF MAINTAINING SAFE PEDESTRIAN ACCESS THROUGHOUT THE CONSTRUCTION AREA. THIS PLAN SHALL PROVIDE THE LOCATION AND DETAILS OF TEMPORARY CONSTRUCTION SIGNING, MARKINGS, BARRICADES, CHANNELIZING DEVICES, TPARS AND METHODS TO MAINTAIN ACCESS TO ADJACENT PROPERTIES, BUSINESSES, RESIDENCES, ETC. NO WORK SHALL BE ALLOWED TO BEGIN UNTIL THIS PLAN IS APPROVED BY THE ENGINEER IN WRITING.
8. PROVISION OF THE TPAR AND ALL OF ITS ELEMENTS, INCLUDING BUT NOT LIMITED TO, CREATION OF THE TEMPORARY PEDESTRIAN CONTROL PLAN, SIGNS, CHANNELIZING DEVICES, BARRICADES, TEMPORARY PAVEMENT MARKINGS AND OTHER TRAFFIC CONTROL DEVICES SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE ITEM OF WORK "MINOR TRAF DEVICES."

**LEGEND**

- SIGN
- EXISTING PEDESTRIAN SURFACE
- WORK AREA
- PEDESTRIAN CHANNELIZATION DEVICE
- BARRIER
- SIDEWALK BARRICADE
- DIRECTION OF TRAFFIC
- TRAFFIC CONTROL DEVICE

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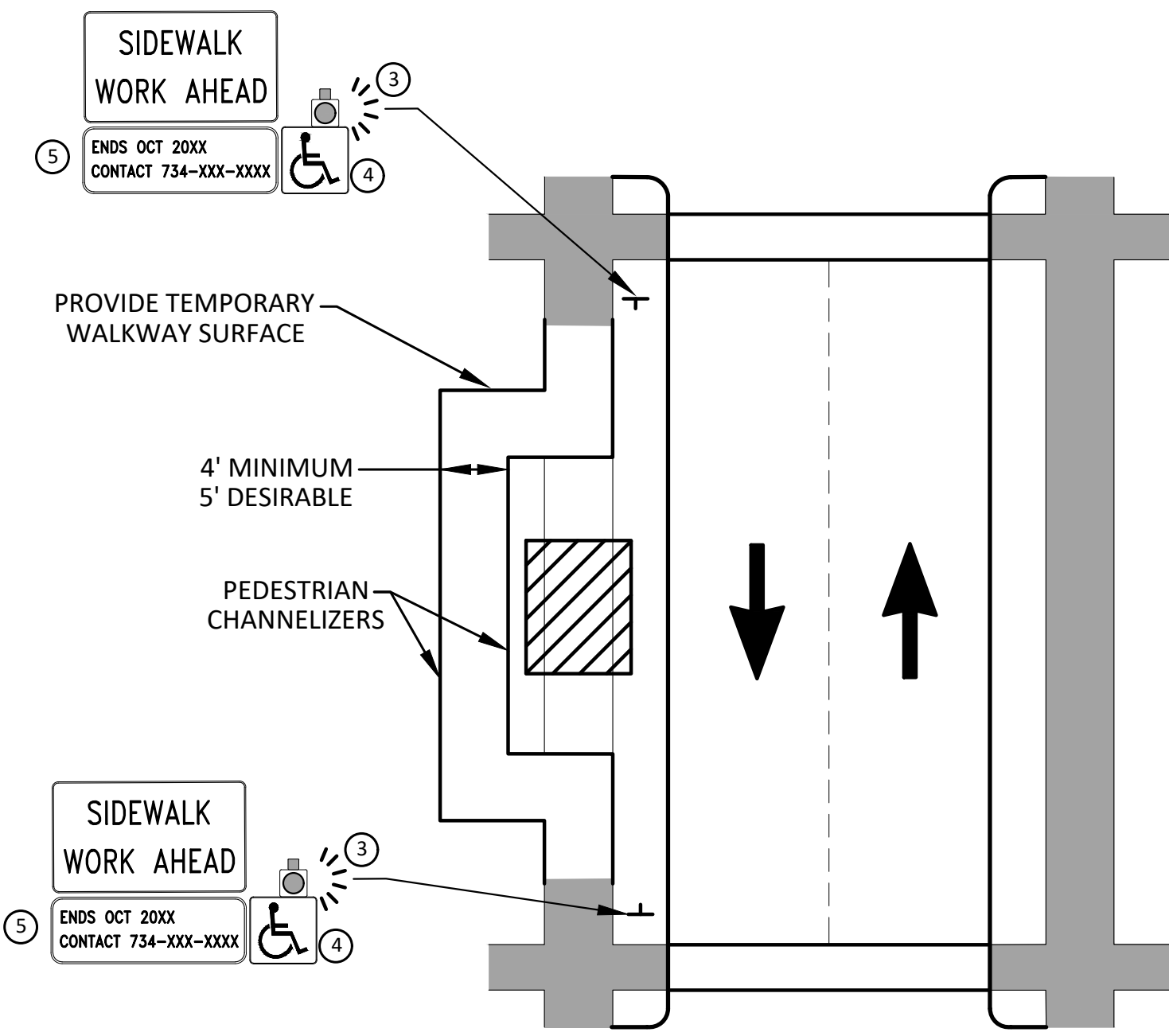
ALTERNATE PEDESTRIAN ROUTE (APR) DETOUR

SCALE: N.T.S.

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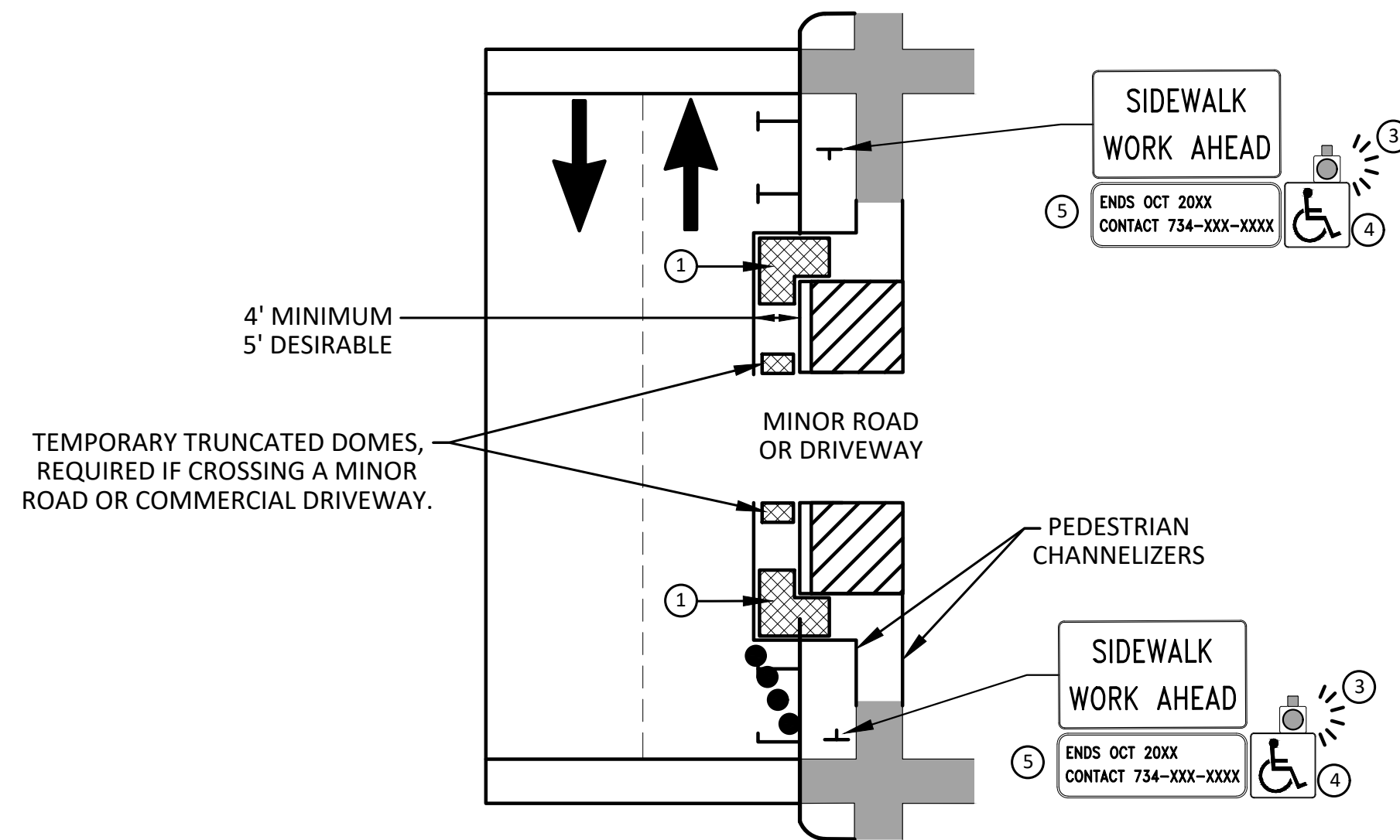
SHEET No. 5 OF 37

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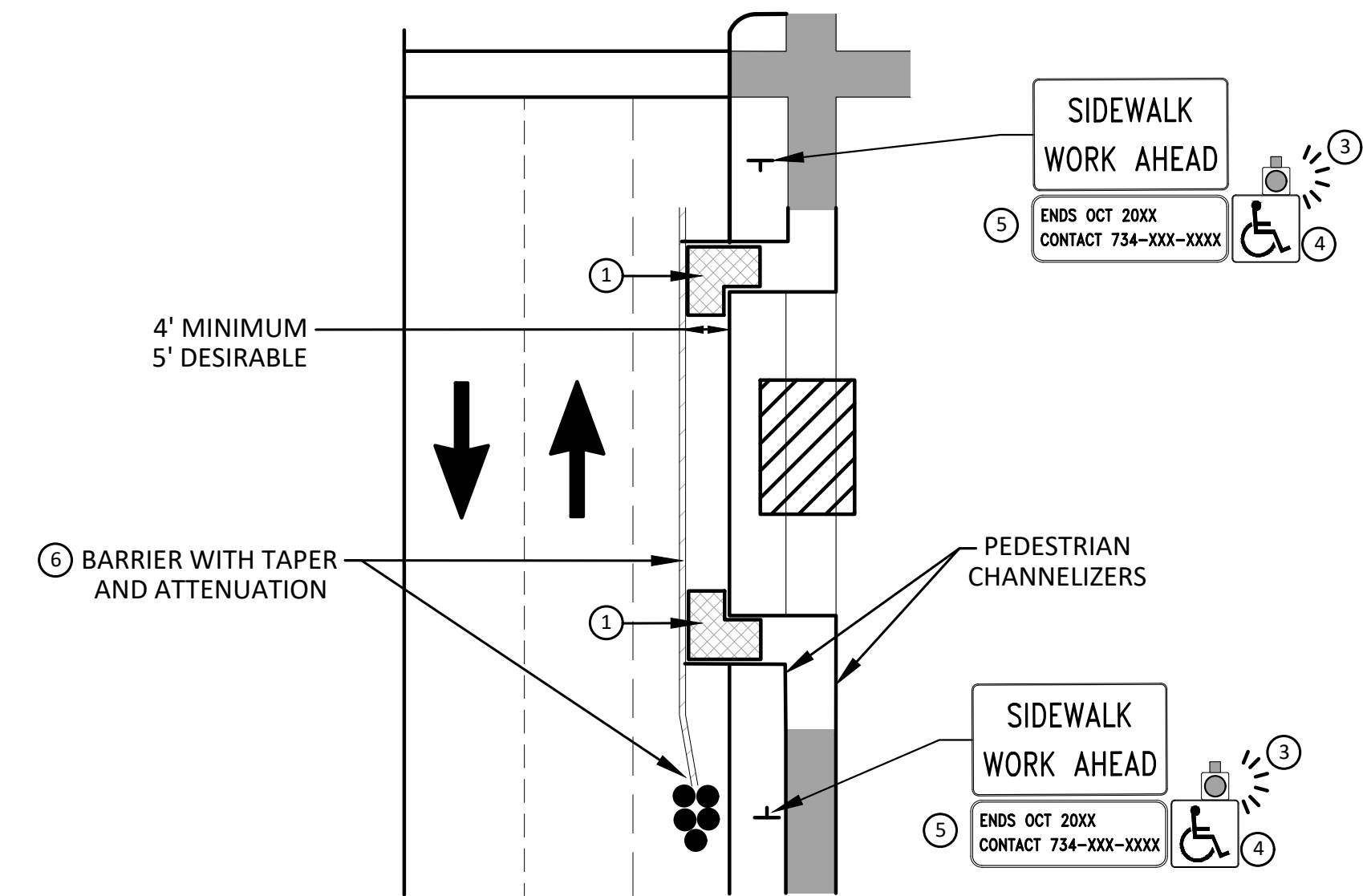


**BYPASS ON ADJACENT AVAILABLE  
RIGHT OF WAY**  
**BYPASS TYPE A**

NOTE: MAY ONLY BE USED ON ROADWAY WITH POSTED  
SPEED OF 45 MPH OR LESS.



**SIDEWALK BYPASS USING PARKING OR  
SHOULDER ON LOW SPEED ROADWAY**  
**BYPASS TYPE B**



**SIDEWALK BYPASS USING  
SHOULDER OR PARKING LANE ON  
HIGH SPEED ROADWAY**  
**BYPASS TYPE C**

**GENERAL NOTES**

WHEN CLOSING OR RELOCATING CROSSWALKS OR SIDEWALKS, THE CONTRACTOR SHALL PROVIDE DETECTABLE TEMPORARY FACILITIES AND INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH EXISTING PEDESTRIAN FACILITIES.

TEMPORARY TRAFFIC CONTROL DEVICES FOR PEDESTRIANS ARE SHOWN. OTHER DEVICES MAY BE NECESSARY TO CONTROL VEHICULAR TRAFFIC. STAGE WORK, AS NECESSARY, TO PROVIDE AN ALTERNATE PEDESTRIAN ROUTE (APR) AT ALL TIMES. FOR ROADWAYS WITH NO AVAILABLE DETOURS, MAINTAIN ONE OPEN SIDEWALK AT ALL TIMES.

PROVIDE A SMOOTH, CONTINUOUS, HARD SURFACE THROUGH THE LENGTH OF THE APR. COMPACTED GRAVEL, AGGREGATE, OR SLAG MATERIALS ARE NOT ALLOWED. PROVIDE A FIRM, STABLE, AND SLIP RESISTANT TEMPORARY WALKWAY SURFACE TO COVER SHORT SEGMENTS OF ROUGH, SOFT, OR UNEVEN GROUND.

THE PEDESTRIAN TRAFFIC SIGNALS CONTROLLING CLOSED CROSSWALKS SHALL BE COVERED OR DEACTIVATED BY THE CITY OF ANN ARBOR. THE CONTRACTOR SHALL SCHEDULE AND COORDINATE THIS WORK WITH THE ENGINEER A MINIMUM OF 72 HOURS (NOT INCLUDING WEEKENDS & HOLIDAYS) PRIOR TO THE BEGINNING OF WORK THAT REQUIRES A SIDEWALK CLOSURE.

POST MOUNTED SIGNS LOCATED ADJACENT TO A SIDEWALK SHALL HAVE A 7 FOOT MINIMUM CLEARANCE FROM THE BOTTOM OF THE SIGN TO THE SIDEWALK SURFACE.

WHEN THE ENGINEER DETERMINES THAT THE CONTRACTOR'S OPERATIONS OR PLACEMENT OF TRAFFIC CONTROL DEVICES HAS CAUSED A SITUATION THAT THE VISIBILITY OF A TRAFFIC CONTROL DEVICE IS REDUCED ENOUGH TO CREATE A HAZARD, THE TRAFFIC CONTROL DEVICES SHALL BE DELINEATED WITH FLAGS OR OTHER ENGINEER-APPROVED DEVICES AT NO ADDITIONAL COST TO THE PROJECT.

MINIMIZE DISRUPTION TO PEDESTRIANS TO THE MAXIMUM EXTENT FEASIBLE BY PROVIDING AN APR IN THE FOLLOWING ORDER OF PREFERENCE:

1. PROVIDE THE APR ON THE SAME SIDE OF THE STREET AS THE DISRUPTED ROUTE UTILIZING BYPASSES.
2. WHERE IT IS NOT FEASIBLE TO PROVIDE A SAME SIDE APR, PROVIDE A DETOUR ON THE OTHER SIDE OF THE STREET.
3. WHERE IT IS NOT FEASIBLE TO PROVIDE AN APR ON THE OTHER SIDE OF THE ROADWAY, PROVIDE AN APR DETOUR WITH TRAILBLAZING SIGNS AS SHOWN ON THE PROJECT PLANS.

**SPECIFIC NOTES**

1. TEMPORARY CURB RAMP WITH DETECTABLE WARNINGS.
2. 5 DEVICE TAPER 25 FEET LONG, RECOMMENDED WHEN THE CLOSED AREA WAS USED AS AN INTERMITTENT TRAFFIC LANE OR BYPASS LANE. STREET PARKING SHALL BE PROHIBITED FOR AT LEAST 50 FEET IN ADVANCE OF THE MID-BLOCK CROSSWALK.
3. AN APPROVED AUDIBLE MESSAGE DEVICE OR TACTILE MESSAGE SHOULD BE PROVIDED FOR SIGHT-IMPAIRED PEDESTRIANS.
4. THE INTERNATIONAL SYMBOL OF ACCESSIBILITY SHALL BE DISPLAYED WHEN ANY WALKWAY THROUGH A WORK ZONE HAS BEEN DETERMINED TO BE TPAR COMPLIANT. THE SYMBOL OF ACCESSIBILITY SHALL NOT BE DISPLAYED IF PERSONS WITH DISABILITIES SHOULD NOT USE THE PRIMARY TEMPORARY PEDESTRIAN DETOUR. THE REASON FOR THE NON-COMPLIANCE SHALL BE POSTED AND AN ALTERNATE ROUTE SHALL BE POSTED WHEN THE PRIMARY TEMPORARY PEDESTRIAN DETOUR IS NON-COMPLIANT TO TPAR STANDARDS.
5. TYPICAL SIGN MESSAGE FOR A TEMPORARY PEDESTRIAN DETOUR SHALL INCLUDE INFORMATION SUCH AS THE DURATION OF THE WALKWAY RESTRICTIONS (BEGINNING AND/OR END DATES) AND A PROJECT CONTACT NUMBER FOR 24 / 7 QUESTIONS OR REPORTING HAZARDS.
6. SEE MMUTCD FOR GUIDANCE ON PLACEMENT AND USAGE OF BARRIER.

**LEGEND**

- SIGN
- ▨ EXISTING PEDESTRIAN SURFACE
- ▩ WORK AREA
- ▤ PEDESTRIAN CHANNELIZATION DEVICE
- BARRIER
- SIDEWALK BARRICADE
- DIRECTION OF TRAFFIC
- TRAFFIC CONTROL DEVICE



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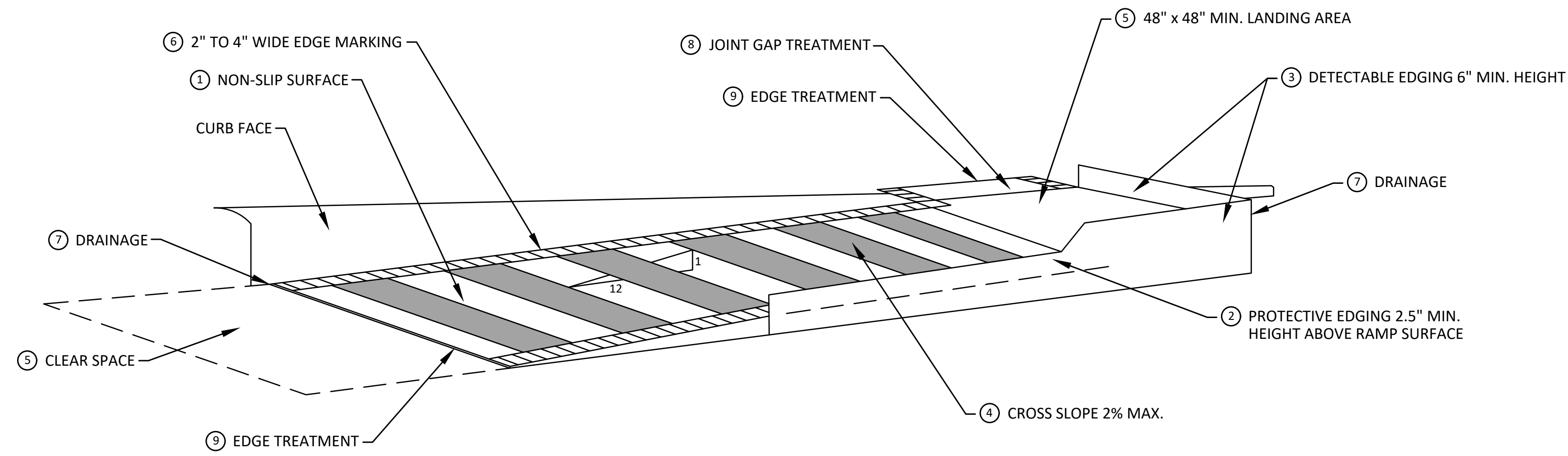
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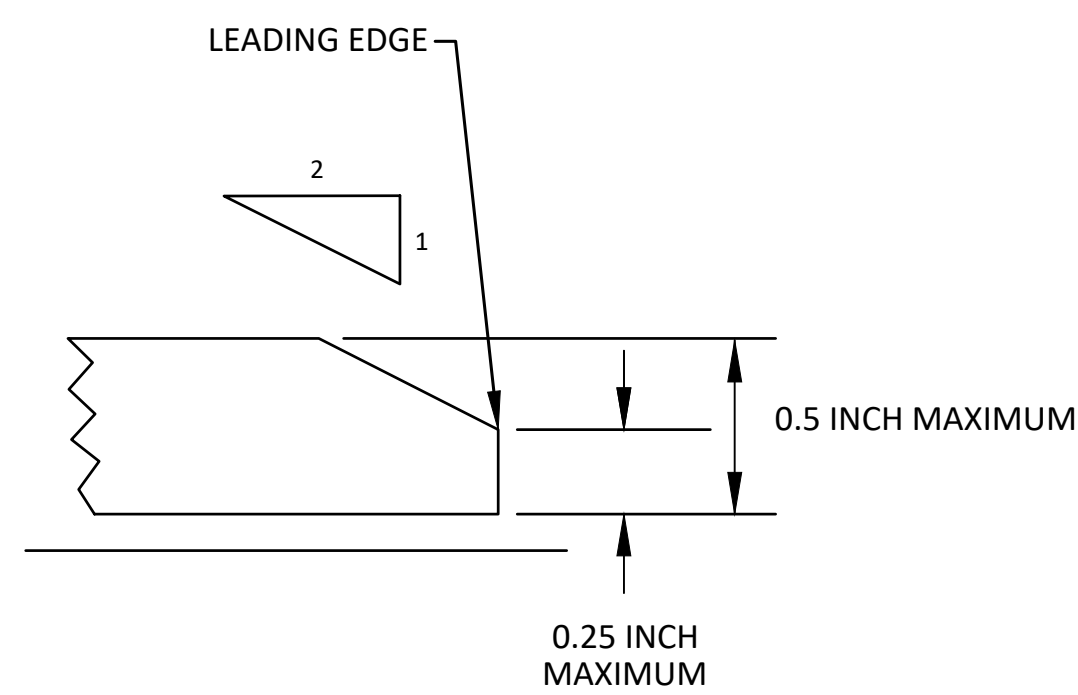
**CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING**  
**WESTGATE WATERMAIN**  
**ALTERNATE PEDESTRIAN ROUTE (APR) BYPASS**

SCALE: N.T.S.  
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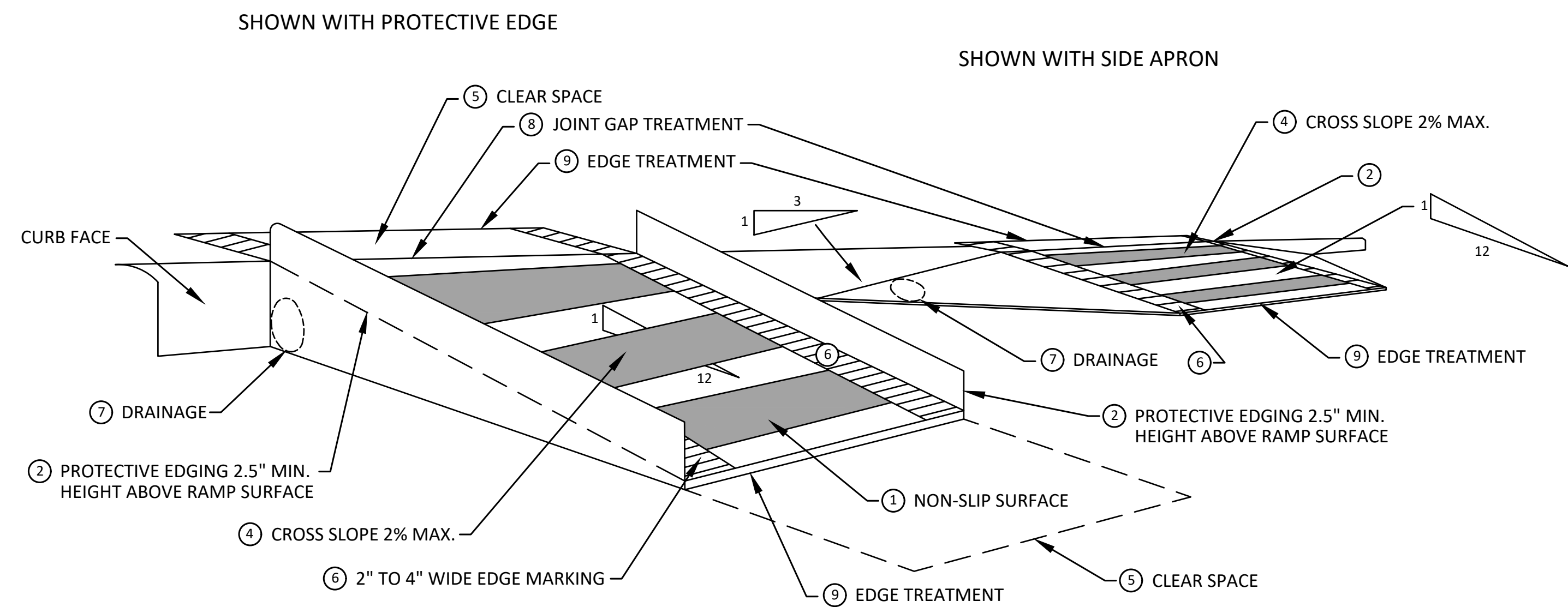
**TEMPORARY CURB RAMP  
PARALLEL TO CURB**



**EDGE TREATMENT**

**SPECIFIC NOTES**

- 1 CURB RAMPS SHALL BE 48" MIN. WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE. PROTECTIVE EDGING WITH A 2.5" MIN. HEIGHT ABOVE THE RAMP SHALL BE PLACED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3. PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.
- 2 DETECTABLE EDGING ANYTIME A HANDRAIL IS REQUIRED, AND ANYTIME THE PATH CHANGES DIRECTION. THIS INCLUDES A TURN ONTO THE RAMP FROM THE PATH. DETECTABLE EDGING MUST BEGIN A MAXIMUM OF 2.5" ABOVE THE RAMP SURFACE, AND EXTEND AT LEAST 6" ABOVE THE RAMP SURFACE. CONTRASTING COLOR SHALL BE PLACED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
- 3 CURB RAMPS AND LANDINGS SHALL HAVE A 2% MAX. CROSS SLOPE.
- 4 CLEAR SPACE OF 48" x 48" MIN. SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
- 5 THE CURB RAMP WALKWAY EDGE SHALL BE MARKED WITH A CONTRASTING COLOR, 2" TO 4" WIDE MARKING. THE MARKING IS OPTIONAL WHERE COLOR CONTRASTING EDGING IS USED.
- 6 WATER FLOW IN THE GUTTER SYSTEM SHALL NOT BE IMPEDED.
- 7 LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 1/2" WIDTH.
- 8 CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED 1/2". LATERAL EDGES SHOULD BE VERTICAL UP TO 1/4" HIGH, AND BEVELED AT 1:2 BETWEEN 1/4" AND 1/2" HEIGHT.



**TEMPORARY CURB RAMP  
PERPENDICULAR TO CURB**



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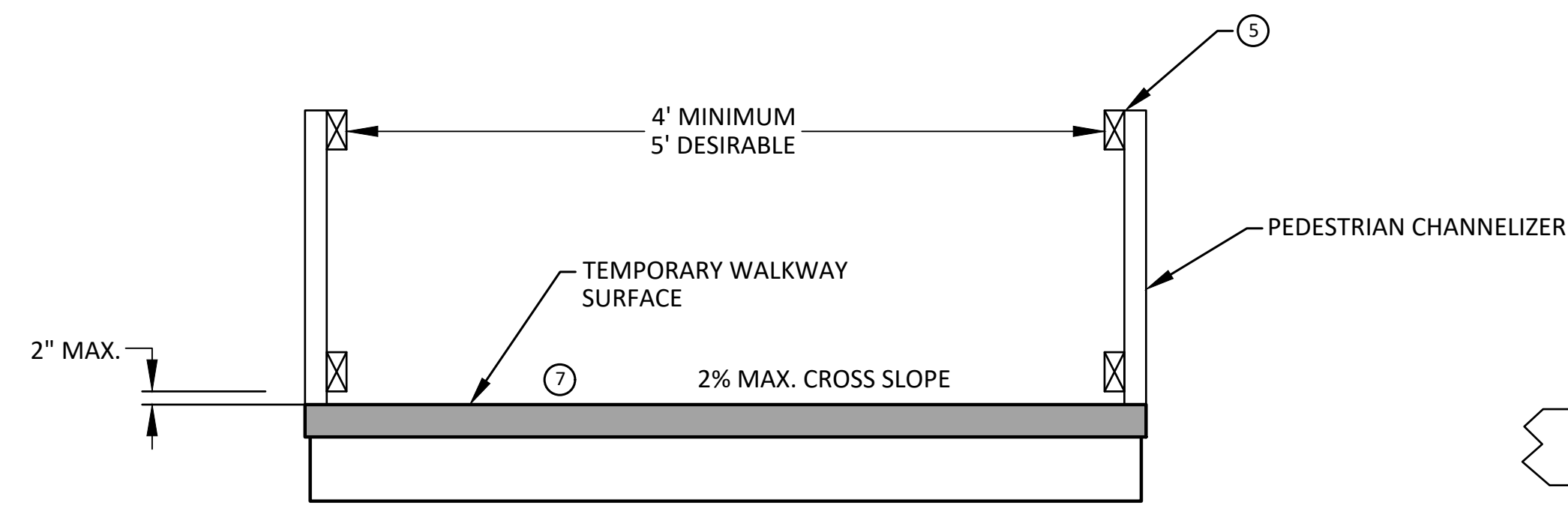
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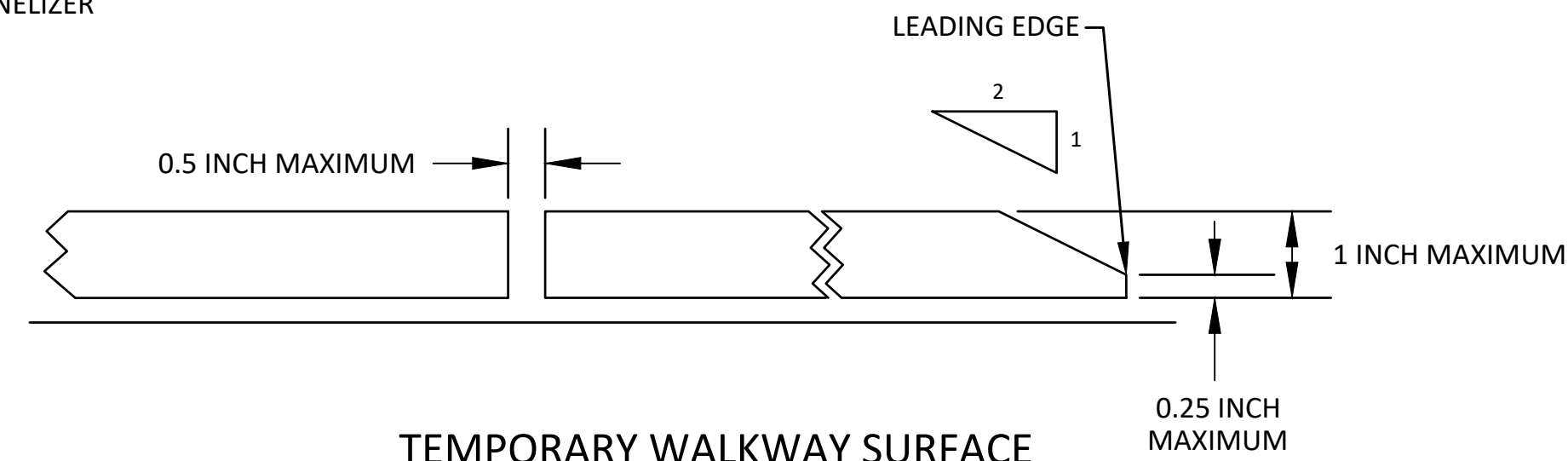
**CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING**  
**WESTGATE WATERMAIN**  
TPAR RAMPS

SCALE: N.T.S.  
DRAWING No. 2023013-7

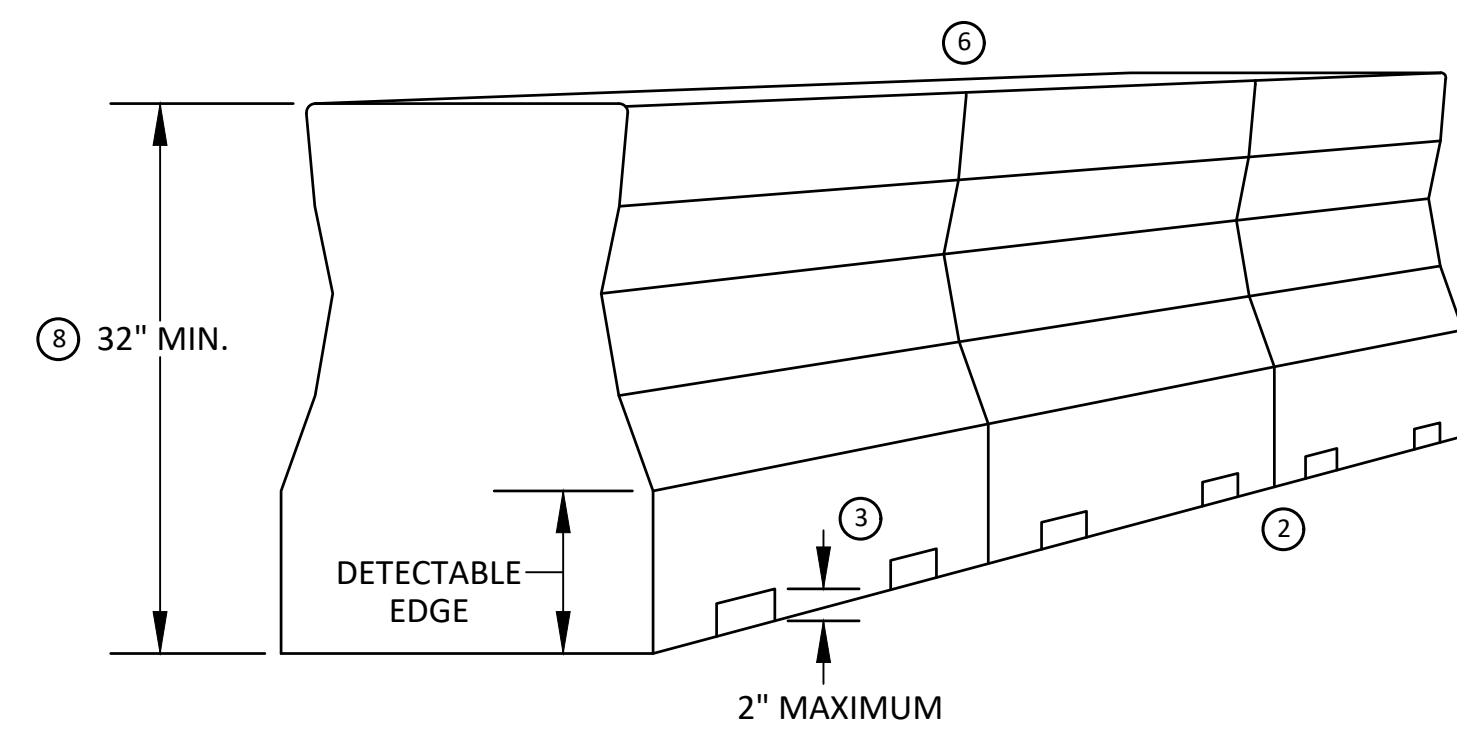
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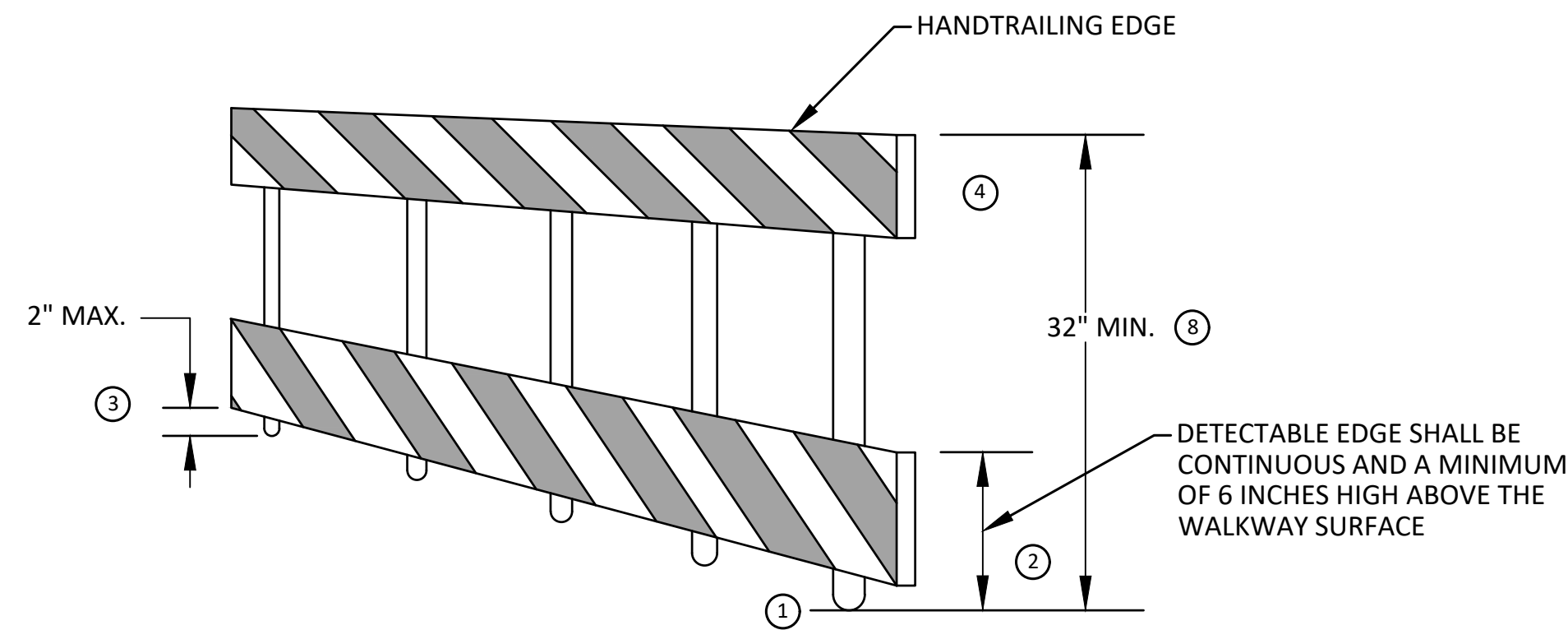
TEMPORARY PEDESTRIAN ACCESS



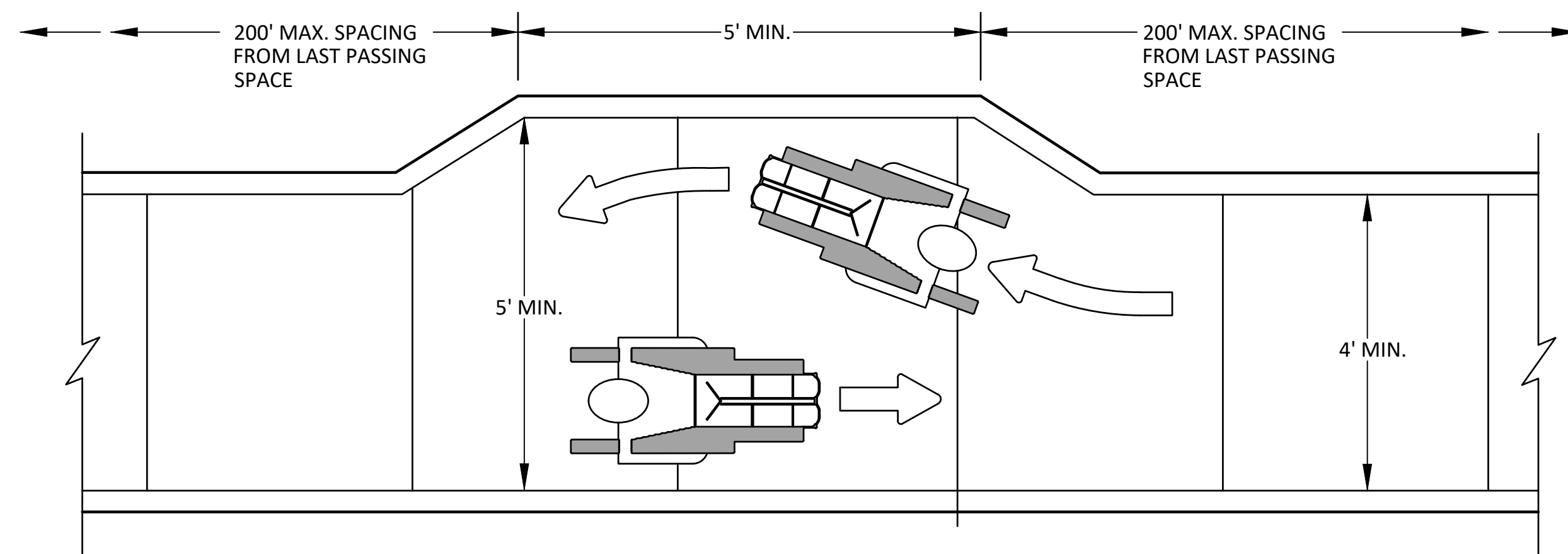
TEMPORARY WALKWAY SURFACE



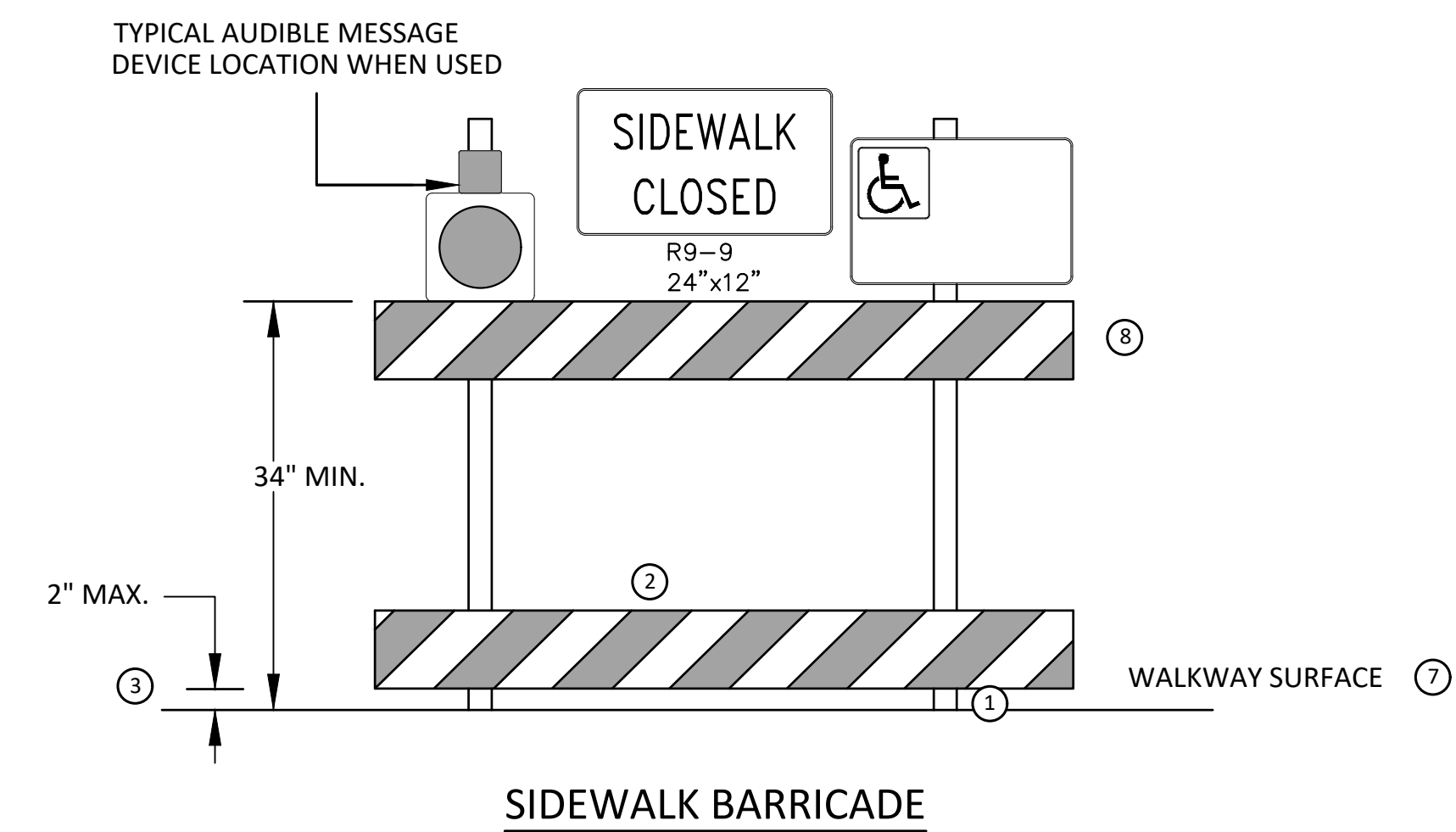
PEDESTRIAN CHANNELIZER USING A BARRIER  
(MINIMUM REQUIREMENTS)



PEDESTRIAN CHANNELIZER  
(MINIMUM REQUIREMENTS)



NARROW TEMPORARY PEDESTRIAN ACCESS ROUTE PASSING DETAIL



SIDEWALK BARRICADE

GENERAL NOTES

RAILINGS OR OTHER OBJECTS MAY PROTRUDE A MAXIMUM OF 4 INCHES INTO THE WALKWAY CLEAR SPACE WHEN LOCATED A MINIMUM OF 27 INCHES ABOVE THE WALKWAY SURFACE.

ANY PEDESTRIAN DEVICES USED TO PROVIDE POSITIVE PROTECTION FOR PEDESTRIANS OR WORKERS SHALL MEET NCHRP 350 CRASHWORTHY REQUIREMENTS APPROPRIATE FOR THE BARRIER'S APPLICATION.

BARRICADES SHALL BE PLACED CONTINUOUSLY ACROSS THE ENTIRE WIDTH OF THE WALKWAY SURFACE BEING CLOSED.

SPECIFIC NOTES

1 ANY TRIPPING HAZARD IN THE WALKWAY NEEDS A DETECTABLE EDGE. BALLAST SHALL BE LOCATED BEHIND OR INTERNAL TO THE DEVICE. ANY SUPPORT ON THE FRONT OF THE DEVICE SHALL NOT EXTEND INTO THE 48 INCH MINIMUM WALKWAY CLEAR SPACE AND SHALL NOT EXCEED 0.5 INCHES IN HEIGHT ABOVE THE WALKWAY SURFACE.

2 DETECTABLE EDGES SHALL BE CONTINUOUS AND A MINIMUM OF 6 INCHES IN HEIGHT ABOVE WALKWAY SURFACE AND HAVE COLOR MARKINGS CONTRASTING WITH THE WALKWAY SURFACE.

3 DEVICES SHALL NOT BLOCK WATER DRAINAGE FROM THE WALKWAY. A GAP HEIGHT OR OPENING FROM THE WALKWAY SURFACE UP TO A MAXIMUM OF 2 INCHES IS ALLOWED FOR DRAINAGE PURPOSES.

4 PROVIDE A HANDRAIL ON BOTH SIDES OF THE RAMP IF THE RAMP IS NOT EXPOSED TO VEHICLE TRAFFIC AND HAS A TOTAL RISE GREATER THAN 6 INCHES, AND A LENGTH GREATER THAN 72 INCHES.

- ENSURE THE HANDRAIL IS 1.25 AND 1.5 INCHES WIDE AND CONFIGURED TO BE A "GRASPABLE" CROSS-SECTION.

SEE CONSTRUCTION SUBSECTION 2.A FOR ADDITIONAL DETAILS.

WHEN THE RAMP IS EXPOSED TO TRAFFIC, IN LIEU OF HANDRAILS, USE A PROTECTIVE EDGE 2.5 INCHES MINIMUM HEIGHT ABOVE THE RAMP SURFACE OR 1:10 FLARE ON BOTH SIDES OF THE RAMP.

5 ALL DEVICES SHALL BE FREE OF SHARP OR ROUGH EDGES, AND FASTENERS (BOLTS) SHALL BE ROUNDED TO PREVENT HARM TO HANDS, ARMS OR CLOTHING OF PEDESTRIANS.

6 ALL DEVICES USED TO CHANNELIZE PEDESTRIAN FLOW SHOULD INTERLOCK SUCH THAT GAPS DO NOT ALLOW PEDESTRIANS TO STRAY FROM THE INTENDED CHANNELIZED PATH.

7 A WALKWAY SURFACE SHALL BE FIRM, STABLE, AND SLIP RESISTANT. COMPACTED GRAVEL, AGGREGATE, OR SLAG MATERIALS ARE NOT ALLOWED.

8 LONGITUDINAL CHANNELIZING DEVICES FOR PEDESTRIANS SHALL BE 32 INCHES IN HEIGHT OR GREATER.



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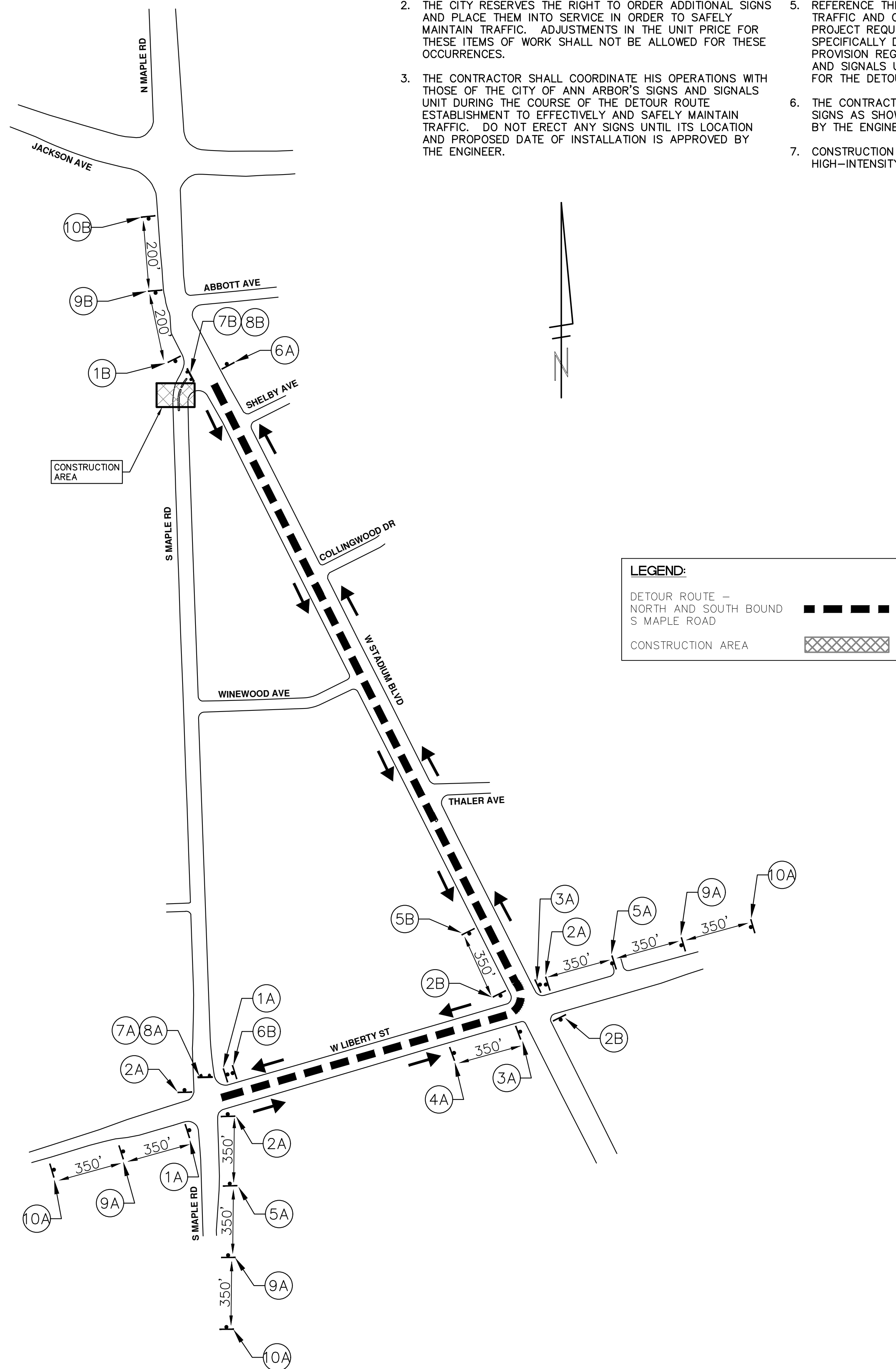
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING  
WESTGATE WATERMAIN  
TPAR WALKWAY DEVICES

SCALE: N.T.S.  
DRAWING No. 2023013-8



**DETOUR CONSTRUCTION NOTES:**

1. DEPENDING ON THE DETOUR ROUTE THAT IS PUT IN PLACE, CONFLICTING SIGNS MAY BE PRESENT. PRIOR TO THE ORDERING OR PLACEMENT OF ANY SIGNS, MEET WITH THE ENGINEER TO VERIFY THE EXACT NUMBER AND LOCATION OF THE SIGNS TO BE PLACED. THE ENGINEER AND THE CONTRACTOR SHALL WORK TOGETHER TO ELIMINATE ALL CONFLICTS.
2. THE CITY RESERVES THE RIGHT TO ORDER ADDITIONAL SIGNS AND PLACE THEM INTO SERVICE IN ORDER TO SAFELY MAINTAIN TRAFFIC. ADJUSTMENTS IN THE UNIT PRICE FOR THESE ITEMS OF WORK SHALL NOT BE ALLOWED FOR THESE OCCURRENCES.
3. THE CONTRACTOR SHALL COORDINATE HIS OPERATIONS WITH THOSE OF THE CITY OF ANN ARBOR'S SIGNS AND SIGNALS UNIT DURING THE COURSE OF THE DETOUR ROUTE ESTABLISHMENT TO EFFECTIVELY AND SAFELY MAINTAIN TRAFFIC. DO NOT ERECT ANY SIGNS UNTIL ITS LOCATION AND PROPOSED DATE OF INSTALLATION IS APPROVED BY THE ENGINEER.
4. THE DETOUR IS TO BE IN PLACE DURING S MAPLE RD WATERMAIN TIE IN. AS DIRECTED BY THE ENGINEER, THE CONTRACTOR WILL CLOSE AND DETOUR NORTH AND SOUTH BOUND S MAPLE RD TRAFFIC. SEE "SPECIAL PROVISION FOR MAINTAINING TRAFFIC AND CONSTRUCTION SEQUENCING" FOR DETAILS ON CONSTRUCTION STAGING, SEQUENCING, CLOSURE AND DETOUR LIMITATIONS, AND OTHER DETAILS.
5. REFERENCE THE "SPECIAL PROVISION FOR MAINTAINING TRAFFIC AND CONSTRUCTION SEQUENCING" FOR ADDITIONAL PROJECT REQUIREMENTS. THE CONTRACTOR'S ATTENTION IS SPECIFICALLY DIRECTED TO THE SECTION OF SAME SPECIAL PROVISION REGARDING COORDINATION WITH THE CITY SIGNS AND SIGNALS UNIT FOR MODIFICATIONS TO TRAFFIC SIGNALS FOR THE DETOUR.
6. THE CONTRACTOR SHALL FURNISH, ERECT, AND MAINTAIN SIGNS AS SHOWN ON THE PLANS OR OTHERWISE DIRECTED BY THE ENGINEER.
7. CONSTRUCTION WARNING SIGNS SHALL HAVE AN ORANGE, HIGH-INTENSITY, REFLECTORIZED BACKGROUND.
8. SIGNS SHALL CONFORM TO THE 2011 MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
9. THE CONTRACTOR SHALL DRIVE ALL SIGNS INTO EXPOSED GROUND OR INSERT INTO A BORED HOLE IN PAVEMENT AS NECESSARY TO PERMANENTLY SECURE. ALL HOLES IN PAVEMENT SHALL BE FILLED WITH ENGINEER-APPROVED MORTAR WHEN THE SIGN IS REMOVED AND NO LONGER NEEDED. COSTS FOR THIS WORK SHALL BE INCLUDED IN THE PAY ITEM "SIGN, TYPE B, TEMP, PRISMATIC, FURN & OPER"
10. ADVANCE WARNING SIGNS SHALL BE PROVIDED WITH TWO (2) TYPE A FLASHING LIGHTS AND ONE (1) DAY-GLOW ORANGE FLAG.
11. CITY TO BE NOTIFIED A MINIMUM OF 7 DAYS PRIOR TO IMPLEMENTING NORTH AND SOUTH BOUND S MAPLE RD DETOUR. MESSAGE BOARDS TO BE PLACED 7 DAYS PRIOR TO IMPLEMENTATION OF DETOUR.



NORTH BOUND S MAPLE RD			SOUTH BOUND S MAPLE RD		
SIGN	NUMBER	QUANTITY	SIGN	NUMBER	QUANTITY
(1A) NB S MAPLE RD DETOUR ↑	D3-1 M4-9S 30"x24"	2	(1B) SB S MAPLE RD DETOUR ↑	D3-1 M4-9S 30"x24"	1
(2A) NB S MAPLE RD DETOUR →	D3-1 M4-9R 30"x24"	3	(2B) SB S MAPLE RD DETOUR →	D3-1 M4-9R 30"x24"	2
(3A) NB S MAPLE RD DETOUR ←	D3-1 M4-9L 30"x24"	2	(3B) SB S MAPLE RD DETOUR ←	D3-1 M4-9L 30"x24"	0
(4A) NB S MAPLE RD DETOUR ↙	D3-1 M4-9L (MOD) 30"x24"	1	(4B) SB S MAPLE RD DETOUR ↙	D3-1 M4-9L (MOD) 30"x24"	0
(5A) NB S MAPLE RD DETOUR ↘	D3-1 M4-9R (MOD) 30"x24"	2	(5B) SB S MAPLE RD DETOUR ↘	D3-1 M4-9R (MOD) 30"x24"	1
(6A) NB S MAPLE RD END DETOUR	D3-1 M4-8A 24"x18"	1	(6B) SB S MAPLE RD END DETOUR	D3-1 M4-8A 24"x18"	1
(7A) ROAD CLOSED TO THRU TRAFFIC	R11-4 60"x30"	1	(7B) ROAD CLOSED TO THRU TRAFFIC	R11-4 60"x30"	1
(8A) DETOUR →	M4-10R 48"x18"	1	(8B) DETOUR ←	M4-10L 48"x18"	1
(9A) DETOUR AHEAD	D3-1 W20-2 36"x36"	3	(9B) DETOUR AHEAD	D3-1 W20-2 36"x36"	1
(10A) ROAD WORK AHEAD	D3-1 W20-1 36"x36"	3	(10B) ROAD WORK AHEAD	D3-1 W20-1 36"x36"	1
BARRICADE, TYPE III, HIGH INTENSITY, DOUBLE SIDED, LIGHTED, FURN & OPER - 2 EACH			BARRICADE, TYPE III, HIGH INTENSITY, DOUBLE SIDED, LIGHTED, FURN & OPER - 2 EACH		
SIGN, PORTABLE, CHANGEABLE MESSAGE, FURN & OPER NTCIP-COMPLIANT - 2 EACH			SIGN, PORTABLE, CHANGEABLE MESSAGE, FURN & OPER NTCIP-COMPLIANT - 2 EACH		
VERIFY EXACT QUANTITY AND LOCATION WITH ENGINEER PRIOR TO ORDERING			VERIFY EXACT QUANTITY AND LOCATION WITH ENGINEER PRIOR TO ORDERING		

PRCMS MESSAGE PHASING		
PRIOR TO CONSTRUCTION	DURING CONSTRUCTION	DURING CONSTRUCTION
S MAPLE RD CONSTRUCTION	NB S MAPLE RD CLSD TO THRU TRAFFIC	SB S MAPLE RD CLSD TO THRU TRAFFIC
MONTH DATE *	FOLLOW POSTED DETOUR	FOLLOW POSTED DETOUR

NOTE: PRCMS LOCATIONS AND MESSAGES WILL BE AS DIRECTED BY THE ENGINEER. TO BE PLACED ONE WEEK PRIOR TO CONSTRUCTION.

\* THE CONTRACTOR SHALL PLACE THE APPROPRIATE DATE AS APPROVED BY THE ENGINEER.

**811**  
Know what's below. Call before you dig.

REV.	DATE	DRAWN	CHECKED
00	01/23/2025	KMB	FDC

DESCRIPTION

CITY OF ANN ARBOR  
PUBLIC SERVICES  
301 EAST HURON STREET  
ANN ARBOR, MI 48106-6647  
ANN ARBOR: 734.794.4410  
WWW.A2gov.ORG

**CITY OF ANN ARBOR - ENGINEERING**  
**WESTGATE WATERMAIN**

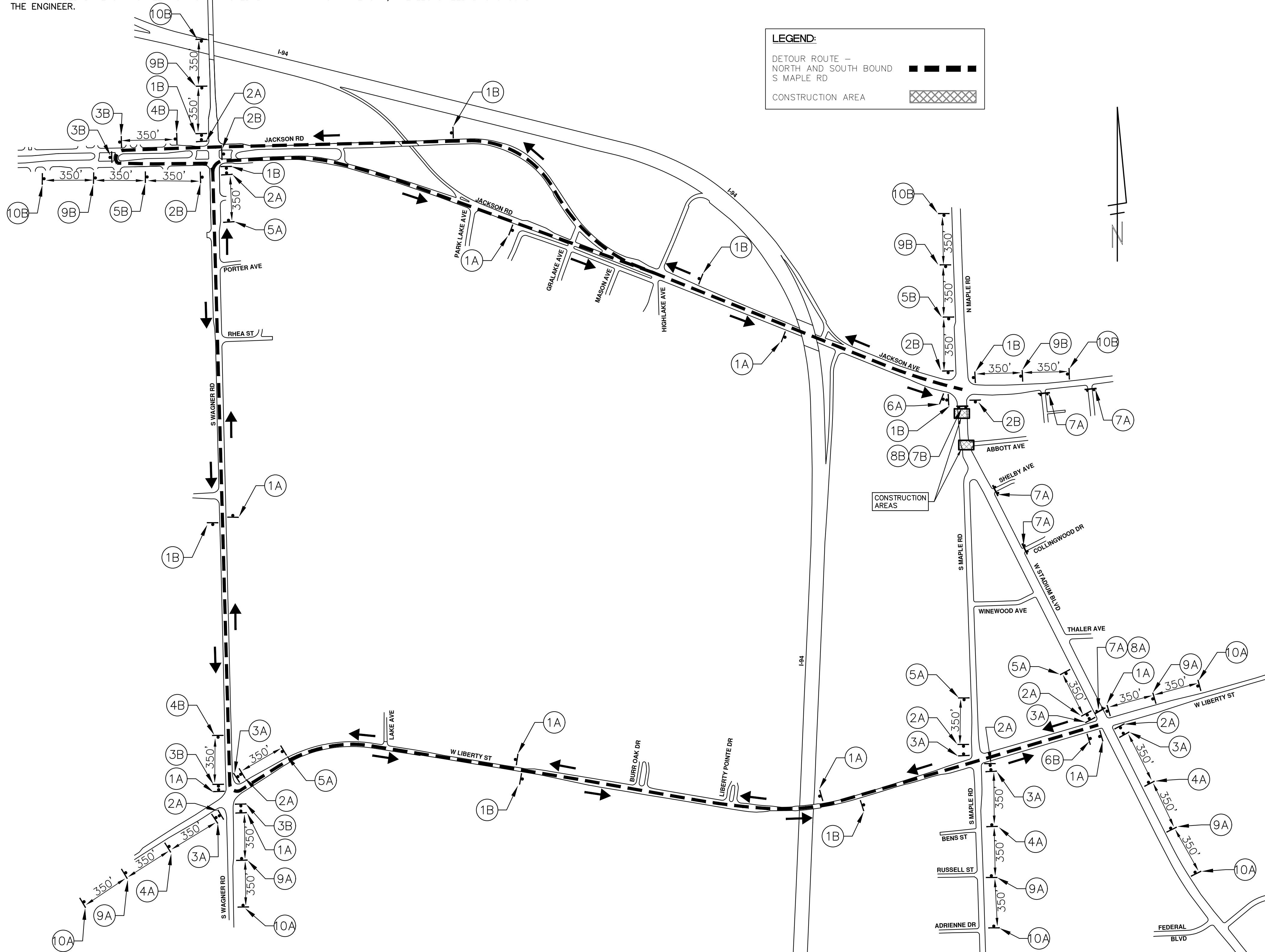
DETOUR ROUTE - LEWIS JEWELLERS WATER MAIN CONNECTION

SCALE PLAN: 1" = 400'  
DRAWING No. 2023013-9  
SHEET No. 9 OF 37

**DETOUR CONSTRUCTION NOTES:**

1. DEPENDING ON THE DETOUR ROUTE THAT IS PUT IN PLACE, CONFLICTING SIGNS MAY BE PRESENT. PRIOR TO THE ORDERING OR PLACEMENT OF ANY SIGNS, MEET WITH THE ENGINEER TO VERIFY THE EXACT NUMBER AND LOCATION OF THE SIGNS TO BE PLACED. THE ENGINEER AND THE CONTRACTOR SHALL WORK TOGETHER TO ELIMINATE ALL CONFLICTS.
2. THE CITY RESERVES THE RIGHT TO ORDER ADDITIONAL SIGNS AND PLACE THEM INTO SERVICE IN ORDER TO SAFELY MAINTAIN TRAFFIC. ADJUSTMENTS IN THE UNIT PRICE FOR THESE ITEMS OF WORK SHALL NOT BE ALLOWED FOR THESE OCCURRENCES.
3. THE CONTRACTOR SHALL COORDINATE HIS OPERATIONS WITH THOSE OF THE CITY OF ANN ARBOR'S SIGNS AND SIGNALS UNIT 7 DAYS IN ADVANCE OF THE DETOUR ROUTE ESTABLISHMENT, DURING THE COURSE OF THE DETOUR ROUTE, AND WILL NOTIFY 2 DAYS PRIOR TO THE DETOUR SETUP BEING LIFTED TO EFFECTIVELY AND SAFELY MAINTAIN TRAFFIC. DO NOT ERECT ANY SIGNS UNTIL ITS LOCATION AND PROPOSED DATE OF INSTALLATION IS APPROVED BY THE ENGINEER.
4. THE DETOUR IS TO BE IN PLACE DURING S MAPLE RD/ABBOTT AVE WATERMAIN TIE IN. AS DIRECTED BY THE ENGINEER, THE CONTRACTOR WILL CLOSE AND DETOUR NORTH AND SOUTH BOUND S MAPLE RD TRAFFIC. SEE "SPECIAL PROVISION FOR MAINTAINING TRAFFIC AND CONSTRUCTION SEQUENCING" FOR DETAILS ON CONSTRUCTION STAGING, SEQUENCING, CLOSURE AND DETOUR LIMITATIONS, AND OTHER DETAILS.
5. REFERENCE THE "SPECIAL PROVISION FOR MAINTAINING TRAFFIC AND CONSTRUCTION SEQUENCING" FOR ADDITIONAL PROJECT REQUIREMENTS. THE CONTRACTOR'S ATTENTION IS SPECIFICALLY DIRECTED TO THE SECTION OF SAME SPECIAL PROVISION REGARDING COORDINATION WITH THE CITY SIGNS AND SIGNALS UNIT FOR MODIFICATIONS TO TRAFFIC SIGNALS FOR THE DETOUR.
6. THE CONTRACTOR SHALL FURNISH, ERECT, AND MAINTAIN SIGNS AS SHOWN ON THE PLANS OR OTHERWISE DIRECTED BY THE ENGINEER.
7. CONSTRUCTION WARNING SIGNS SHALL HAVE AN ORANGE, HIGH-INTENSITY, REFLECTORIZED BACKGROUND.

8. SIGNS SHALL CONFORM TO THE 2011 MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
9. THE CONTRACTOR SHALL DRIVE ALL SIGNS INTO EXPOSED GROUND OR INSERT INTO A BORED HOLE IN PAVEMENT AS NECESSARY TO PERMANENTLY SECURE. ALL HOLES IN PAVEMENT SHALL BE FILLED WITH ENGINEER-APPROVED MORTAR WHEN THE SIGN IS REMOVED AND NO LONGER NEEDED. COSTS FOR THIS WORK SHALL BE INCLUDED IN THE PAY ITEM "SIGN, TYPE B, TEMP, PRISMATIC, FURN & OPER"
10. ADVANCE WARNING SIGNS SHALL BE PROVIDED WITH TWO (2) TYPE A FLASHING LIGHTS AND ONE (1) DAY-GLOW ORANGE FLAG.
11. CITY TO BE NOTIFIED A MINIMUM OF 7 DAYS PRIOR TO IMPLEMENTING NORTH AND SOUTH BOUND S MAPLE RD DETOUR. MESSAGE BOARDS TO BE PLACED 7 DAYS PRIOR TO IMPLEMENTATION OF DETOUR.



**LEGEND:**

DETOUR ROUTE - NORTH AND SOUTH BOUND S MAPLE RD

CONSTRUCTION AREA

NORTH BOUND S MAPLE RD		
SIGN	NUMBER	QUANTITY
(1A) NB S MAPLE RD DETOUR	D3-1	9
(1A) NB S MAPLE RD DETOUR	M4-9S 30"x24"	9
(2A) NB S MAPLE RD DETOUR	D3-1	8
(2A) NB S MAPLE RD DETOUR	M4-9R 30"x24"	8
(3A) NB S MAPLE RD DETOUR	D3-1	6
(3A) NB S MAPLE RD DETOUR	M4-9L 30"x24"	6
(4A) NB S MAPLE RD DETOUR	D3-1	3
(4A) NB S MAPLE RD DETOUR	M4-9L (MOD) 30"x24"	3
(5A) NB S MAPLE RD DETOUR	D3-1	4
(5A) NB S MAPLE RD DETOUR	M4-9R (MOD) 30"x24"	4
(6A) NB S MAPLE RD END DETOUR	D3-1	1
(6A) NB S MAPLE RD END DETOUR	M4-8A 24"x18"	1
(7A) ROAD CLOSED TO THRU TRAFFIC	R11-4 60"x30"	5
(8A) DETOUR	M4-10L 48"x18"	1
(9A) NB S MAPLE RD DETOUR AHEAD	D3-1	5
(9A) NB S MAPLE RD DETOUR AHEAD	W20-2 36"x36"	5
(10A) NB S MAPLE RD ROAD WORK AHEAD	D3-1	5
(10A) NB S MAPLE RD ROAD WORK AHEAD	W20-1 36"x36"	5
BARRICADE, TYPE III, HIGH INTENSITY, DOUBLE SIDED, LIGHTED, FURN & OPER - 2 EACH		
SIGN, PORTABLE, CHANGEABLE MESSAGE, FURN & OPER NTCIP-COMPLIANT - 2 EACH		
VERIFY EXACT QUANTITY AND LOCATION WITH ENGINEER PRIOR TO ORDERING		

SOUTH BOUND S MAPLE RD		
SIGN	NUMBER	QUANTITY
(1B) SB S MAPLE RD DETOUR	D3-1	9
(1B) SB S MAPLE RD DETOUR	M4-9S 30"x24"	9
(2B) SB S MAPLE RD DETOUR	D3-1	4
(2B) SB S MAPLE RD DETOUR	M4-9R 30"x24"	4
(3B) SB S MAPLE RD DETOUR	D3-1	4
(3B) SB S MAPLE RD DETOUR	M4-9L 30"x24"	4
(4B) SB S MAPLE RD DETOUR	D3-1	2
(4B) SB S MAPLE RD DETOUR	M4-9L (MOD) 30"x24"	2
(5B) SB S MAPLE RD DETOUR	D3-1	2
(5B) SB S MAPLE RD DETOUR	M4-9R (MOD) 30"x24"	2
(6B) SB S MAPLE RD END DETOUR	D3-1	1
(6B) SB S MAPLE RD END DETOUR	M4-8A 24"x18"	1
(7B) ROAD CLOSED TO THRU TRAFFIC	R11-4 60"x30"	1
(8B) DETOUR	M4-10R 48"x18"	1
(9B) SB S MAPLE RD DETOUR AHEAD	D3-1	4
(9B) SB S MAPLE RD DETOUR AHEAD	W20-2 36"x36"	4
(10B) SB S MAPLE RD ROAD WORK AHEAD	D3-1	4
(10B) SB S MAPLE RD ROAD WORK AHEAD	W20-1 36"x36"	4
BARRICADE, TYPE III, HIGH INTENSITY, DOUBLE SIDED, LIGHTED, FURN & OPER - 2 EACH		
SIGN, PORTABLE, CHANGEABLE MESSAGE, FURN & OPER NTCIP-COMPLIANT - 2 EACH		
VERIFY EXACT QUANTITY AND LOCATION WITH ENGINEER PRIOR TO ORDERING		

PRCMS MESSAGE PHASING

PRIOR TO CONSTRUCTION	DURING CONSTRUCTION	DURING CONSTRUCTION
S MAPLE RD CONSTRUCTION	NB S MAPLE RD CLSD TO THRU TRAFFIC AT ABBOTT AVE	SB S MAPLE RD CLSD TO THRU TRAFFIC AT ABBOTT AVE
MONTH DATE *	FOLLOW POSTED DETOUR	FOLLOW POSTED DETOUR

NOTE: PRCMS LOCATIONS AND MESSAGES WILL BE AS DIRECTED BY THE ENGINEER. TO BE PLACED ONE WEEK PRIOR TO CONSTRUCTION.

\*THE CONTRACTOR SHALL PLACE THE APPROPRIATE DATE AS APPROVED BY THE ENGINEER.

**811** Know what's below. Call before you dig.

CITY OF ANN ARBOR - ENGINEERING WESTGATE WATERMAIN  
 DETOUR ROUTE - S MAPLE AND ABBOTT AVE WATER MAIN CONNECTION

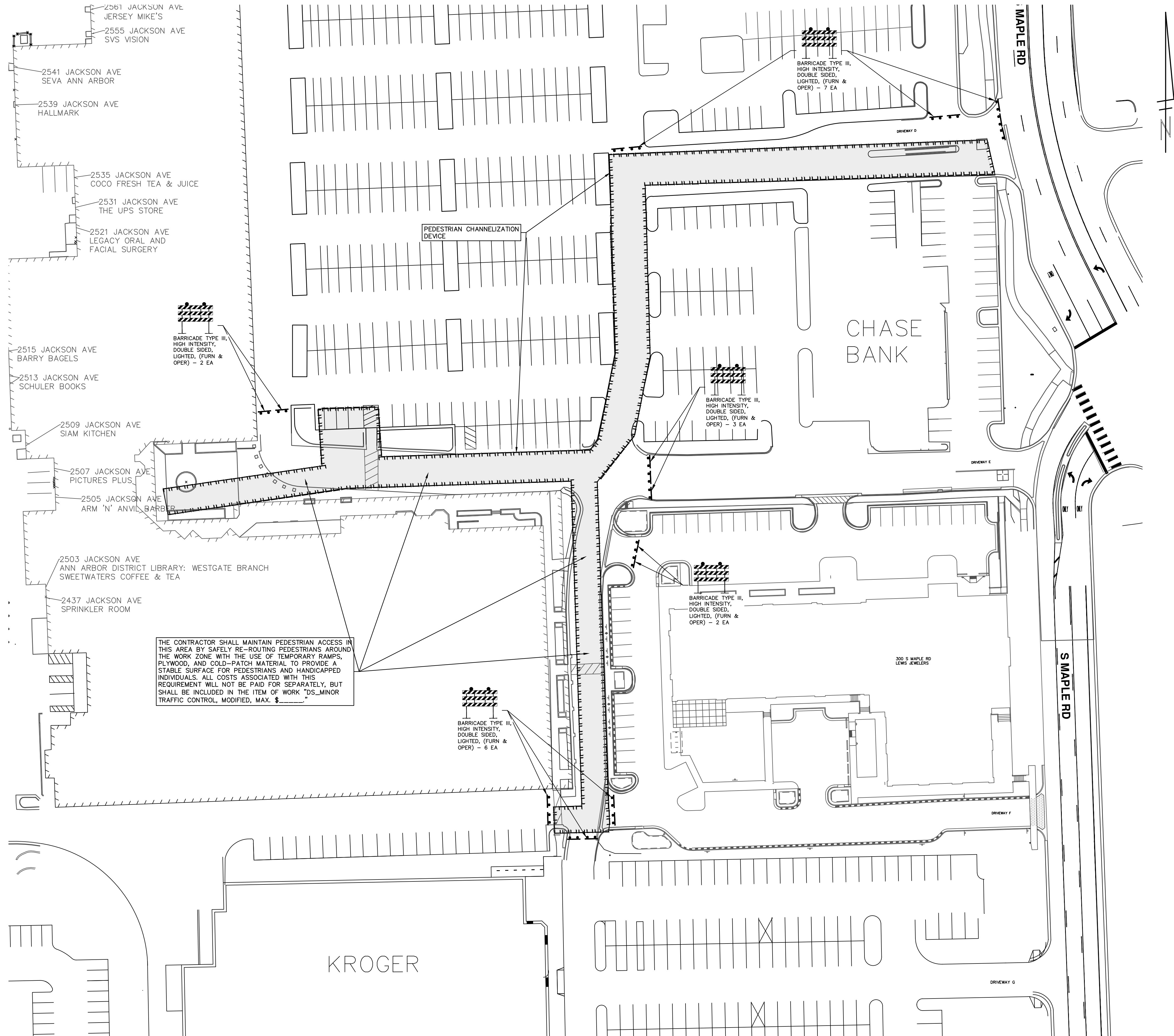
CITY OF ANN ARBOR PUBLIC SERVICES  
 301 EAST HURON STREET  
 ANN ARBOR, MI 48106-0647  
 ANN ARBOR: 734.794.6410  
 WWW.ANARBOR.MI.GOV

SCALE PLAN: 1" = 400'  
 DRAWING No. 2023013-10  
 SHEET No. 10 OF 37

REV.	DATE	DESCRIPTION
00	01/23/2025	BID SET
		KMB DRAWN
		FDC CHECKED

**CONSTRUCTION COORDINATION AND MAINTENANCE OF TRAFFIC REQUIREMENTS:**

1. THE CONTRACTOR SHALL STAGE AND EXECUTE THE PROJECT'S CONSTRUCTION SUCH THAT NO MORE THAN TWO ROADWAY CONNECTIONS "DRIVEWAYS" BETWEEN JACKSON AVENUE AND MAPLE ROAD ARE CLOSED AT ANY ONE TIME. ADDITIONALLY, IF DRIVEWAY "A" IS CLOSED, THEN DRIVEWAY "B" MUST REMAIN OPEN. SIMILARLY, DRIVEWAY "D" AND "E" CANNOT BOTH BE CLOSED SIMULTANEOUSLY.
2. THE CONTRACTOR MUST MAINTAIN VEHICLE AND PEDESTRIAN ACCESS TO ALL BUSINESSES DURING REGULAR BUSINESS HOURS.
3. WHILE PERFORMING THE WORK ON MAPLE ROAD, THE CONTRACTOR SHALL WORK CONSECUTIVE DAYS TO COMPLETE THE WORK AND OPEN THE ROAD TO TRAFFIC AS SOON AS POSSIBLE.
4. SEE "SPECIAL PROVISION FOR MAINTAINING TRAFFIC AND CONSTRUCTION SEQUENCING" FOR DETAILS ON CONSTRUCTION STAGING, SEQUENCING, CLOSURE, DETOUR LIMITATIONS, AND OTHER DETAILS.
5. THE CONTRACTOR MUST PROVIDE ALTERNATIVE MAINTENANCE OF TRAFFIC CONFIGURATIONS FOR REVIEW AND APPROVAL. CONFIGURATION MUST MEET CITY OF ANN ARBOR SPECIFICATION REQUIREMENTS.
6. PROPER SIGNAGE:
  - 6.1. ADVANCED WARNING SIGNS  
PLACE WARNING SIGNS AT ALL ENTRANCES TO THE SHOPPING PLAZA STATING "CONSTRUCTION AHEAD - EXPECT DELAYS" AND "LANE/SHOPS OPEN - USE CAUTION."  
USE STANDARD MUTCD-COMPLIANT SIGNS LIKE "ROAD WORK AHEAD" (W20-1) AND "FLAGGER AHEAD" (W20-7A) IF APPLICABLE.
  - 6.2. DIRECTIONAL SIGNS  
INSTALL SIGNS SHOWING DETOUR ROUTES, ALTERNATIVE PARKING, OR TEMPORARY PEDESTRIAN PATHWAYS (IF APPLICABLE).  
USE "OPEN DURING CONSTRUCTION" OR "BUSINESS ACCESS OPEN" SIGNS TO REASSURE CUSTOMERS, PAID FOR AS DS\_ADDITIONAL SIGNS.
  - 6.3. SPEED REDUCTION SIGNS  
IF REQUIRED, PLACE SPEED LIMIT SIGNS TO SLOW DOWN VEHICLES NEAR THE ACTIVE WORK ZONE.
  - 6.4. BARRICADES AND REFLECTIVE TAPE  
USE TYPE II OR III BARRICADES WITH REFLECTIVE TAPE AROUND THE WORK ZONE. FOR NIGHTTIME OPERATIONS, INCLUDE FLASHING WARNING LIGHTS.
  - 6.5. PEDESTRIANS AND ADA COMPLIANCE  
PLACE "SIDEWALK CLOSED - USE OTHER SIDE" SIGNS WHERE SIDEWALKS ARE IMPACTED.  
ENSURE TEMPORARY PEDESTRIAN WALKWAYS HAVE ADA-COMPLIANT ACCESS RAMPS.
7. WORK METHODS:
  - 7.1. SECTIONAL WORK ZONES  
DIVIDE THE TRENCHING WORK INTO SMALLER, MANAGEABLE SECTIONS (E.G. 300-500 FEET AT A TIME). THIS KEEPS PARTS OF THE PLAZA OPEN AND ALLOWS FOR CONTINUOUS PROGRESS.  
USE STEEL TRENCH PLATES TO COVER OPEN TRENCHES TEMPORARILY FOR VEHICLE AND PEDESTRIAN ACCESS.
  - 7.2. PHASED OPERATIONS  
WORK IN PHASES:  
PHASE 1: EXCAVATE AND INSTALL WATER MAIN FOR SECTION 1.  
PHASE 2: BACKFILL AND RESTORE SECTION 1 WHILE SECTION 2 EXCAVATION BEGINS.
  - 7.3. TRAFFIC MANAGEMENT  
USE FLAGGERS OR TEMPORARY TRAFFIC SIGNALS TO MANAGE VEHICLE FLOW.  
ESTABLISH A ONE-WAY TRAFFIC SYSTEM IF LANE REDUCTION IS REQUIRED.
  - 7.4. PEDESTRIAN SAFETY  
ERECT TEMPORARY BARRIERS SEPARATING PEDESTRIAN WALKWAYS FROM THE CONSTRUCTION ZONE.  
USE CLEAR SIGNAGE TO DIRECT PEDESTRIANS TO SAFE CROSSING POINTS.
  - 7.5. STAGING AND STORAGE  
KEEP CONSTRUCTION EQUIPMENT, MATERIALS, AND DEBRIS CONFINED TO DESIGNATED AREAS TO AVOID ENCRoACHING ON PARKING OR DRIVING LANES.
  - 7.6. DUST AND NOISE CONTROL  
USE WATER SPRAYING TO SUPPRESS DUST.  
ADHERE TO LOCAL NOISE ORDINANCES TO AVOID DISRUPTING BUSINESSES.



R:\2023013 Westgate Watermain\Plan Production\2023013Mtrf1.dwg Dwg Created: 16-Jan-25 - a2 standard bw.stb - Plot Date: 23-Jan-25

**811**  
Know what's below.  
Call before you dig.

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
00	01/23/2025	BID SET	KMB	FDC

**CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING**  
**WESTGATE WATERMAIN**  
TRAFFIC CONTROL  
WESTGATE SHOPPING CENTER

SCALE PLAN: 1" = 40'

DRAWING No. 2023013-11

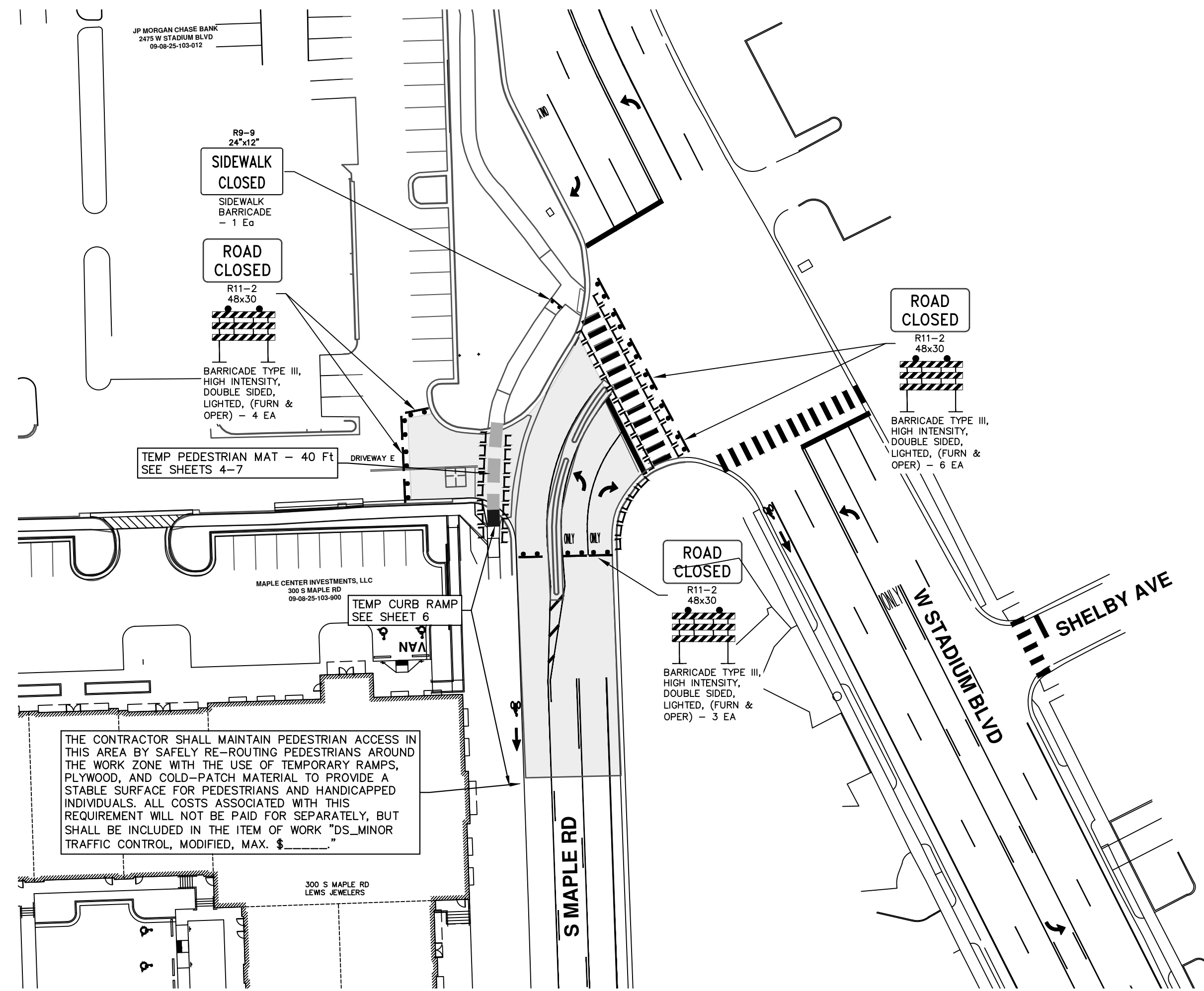
SHEET No. 11 OF 37

CITY OF ANN ARBOR  
PUBLIC SERVICES  
301 EAST HURON STREET  
ANN ARBOR, MI 48107-0647  
ANN ARBOR 734.794.6410  
WWW.A2GOV.ORG

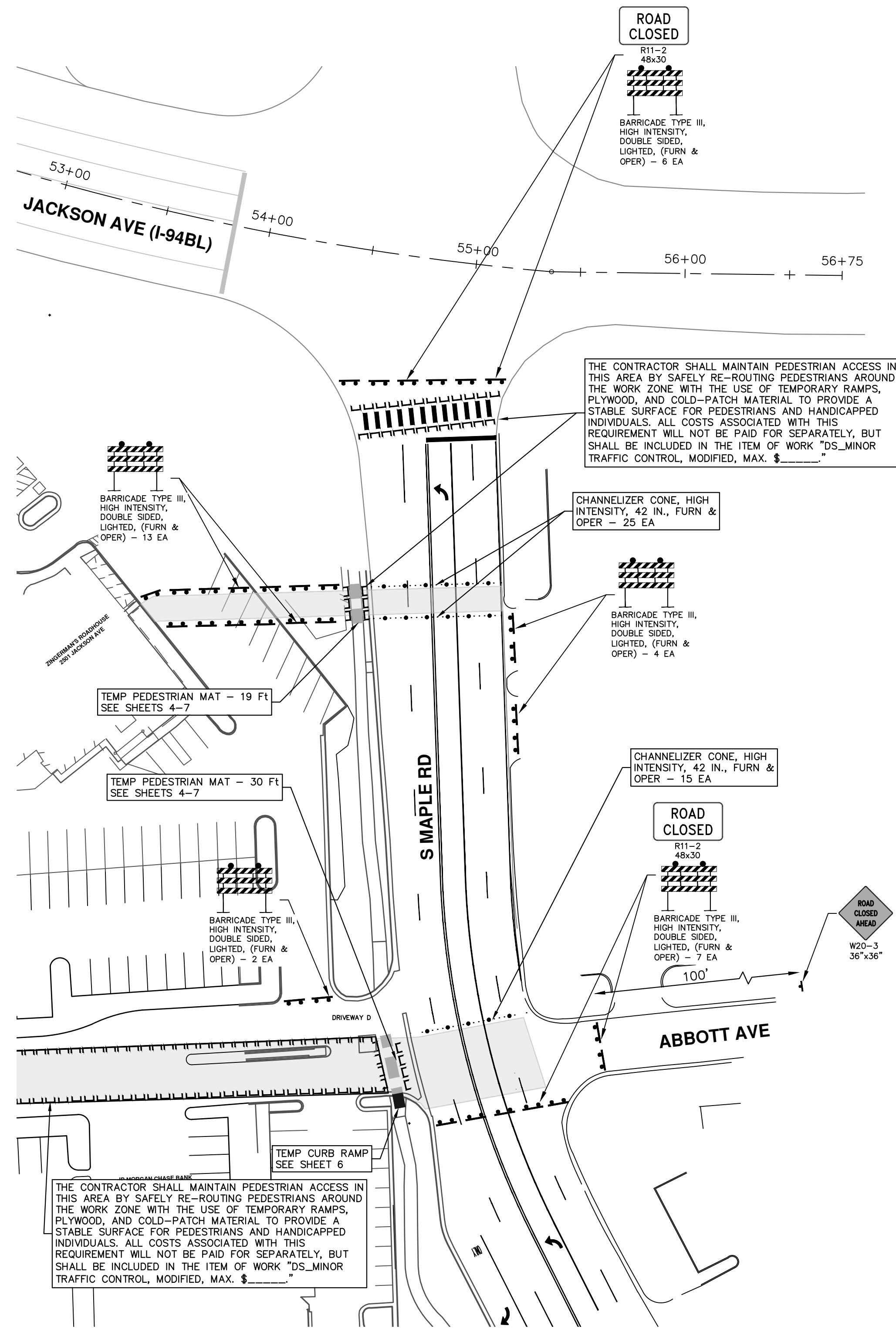
**CONSTRUCTION COORDINATION AND MAINTENANCE OF TRAFFIC REQUIREMENTS:**

- THE CONTRACTOR SHALL STAGE AND EXECUTE THE PROJECT'S CONSTRUCTION SUCH THAT NO MORE THAN TWO ROADWAY CONNECTIONS "DRIVEWAYS" BETWEEN JACKSON AVENUE AND MAPLE ROAD ARE CLOSED AT ANY ONE TIME. ADDITIONALLY, IF DRIVEWAY "A" IS CLOSED, THEN DRIVEWAY "B" MUST REMAIN OPEN. SIMILARLY, DRIVEWAY "D" AND "E" CANNOT BOTH BE CLOSED SIMULTANEOUSLY.
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- WHILE PERFORMING THE WORK ON MAPLE ROAD, THE CONTRACTOR SHALL WORK CONSECUTIVE DAYS TO COMPLETE THE WORK AND OPEN THE ROAD TO TRAFFIC AS SOON AS POSSIBLE.
- SEE "SPECIAL PROVISION FOR MAINTAINING TRAFFIC AND CONSTRUCTION SEQUENCING" FOR DETAILS ON CONSTRUCTION STAGING, SEQUENCING, CLOSURE, DETOUR LIMITATIONS, AND OTHER DETAILS.
- PROPER SIGNAGE:
  - ADVANCED WARNING SIGNS  
PLACE WARNING SIGNS AT ALL ENTRANCES TO THE SHOPPING PLAZA STATING "CONSTRUCTION AHEAD - EXPECT DELAYS" AND "LANE/SHOPS OPEN - USE CAUTION."  
USE STANDARD MUTCD-COMPLIANT SIGNS LIKE "ROAD WORK AHEAD" (W20-1) AND "FLAGGER AHEAD" (W20-7A) IF APPLICABLE.
  - DIRECTIONAL SIGNS  
INSTALL SIGNS SHOWING DETOUR ROUTES, ALTERNATIVE PARKING, OR TEMPORARY PEDESTRIAN PATHWAYS (IF APPLICABLE).  
USE "OPEN DURING CONSTRUCTION" OR "BUSINESS ACCESS OPEN" SIGNS TO REASSURE CUSTOMERS, PAID FOR AS DS\_ADDITIONAL SIGNS.
  - SPEED REDUCTION SIGNS  
IF REQUIRED, PLACE SPEED LIMIT SIGNS TO SLOW DOWN VEHICLES NEAR THE ACTIVE WORK ZONE.
  - BARRICADES AND REFLECTIVE TAPE  
USE TYPE II OR III BARRICADES WITH REFLECTIVE TAPE AROUND THE WORK ZONE. FOR NIGHTTIME OPERATIONS, INCLUDE FLASHING WARNING LIGHTS.

- PEDESTRIANS AND ADA COMPLIANCE  
PLACE "SIDEWALK CLOSED - USE OTHER SIDE" SIGNS WHERE SIDEWALKS ARE IMPACTED.  
ENSURE TEMPORARY PEDESTRIAN WALKWAYS HAVE ADA-COMPLIANT ACCESS RAMPS.
- WORK METHODS:
  - SECTIONAL WORK ZONES  
DIVIDE THE TRENCHING WORK INTO SMALLER, MANAGEABLE SECTIONS (E.G. 300-500 FEET AT A TIME). THIS KEEPS PARTS OF THE PLAZA OPEN AND ALLOWS FOR CONTINUOUS PROGRESS.  
USE STEEL TRENCH PLATES TO COVER OPEN TRENCHES TEMPORARILY FOR VEHICLE AND PEDESTRIAN ACCESS.
  - PHASED OPERATIONS  
WORK IN PHASES:  
PHASE 1: EXCAVATE AND INSTALL WATER MAIN FOR SECTION 1.  
PHASE 2: BACKFILL AND RESTORE SECTION 1 WHILE SECTION 2 EXCAVATION BEGINS.
- TRAFFIC MANAGEMENT  
USE FLAGGERS OR TEMPORARY TRAFFIC SIGNALS TO MANAGE VEHICLE FLOW.  
ESTABLISH A ONE-WAY TRAFFIC SYSTEM IF LANE REDUCTION IS REQUIRED.
- PEDESTRIAN SAFETY  
ERECT TEMPORARY BARRIERS SEPARATING PEDESTRIAN WALKWAYS FROM THE CONSTRUCTION ZONE.  
USE CLEAR SIGNAGE TO DIRECT PEDESTRIANS TO SAFE CROSSING POINTS.
- STAGING AND STORAGE  
KEEP CONSTRUCTION EQUIPMENT, MATERIALS, AND DEBRIS CONFINED TO DESIGNATED AREAS TO AVOID ENCROACHING ON PARKING OR DRIVING LANES.
- DUST AND NOISE CONTROL  
USE WATER SPRAYING TO SUPPRESS DUST.  
ADHERE TO LOCAL NOISE ORDINANCES TO AVOID DISRUPTING BUSINESSES.



**LEWIS JEWELERS WATER MAIN CONNECTION**



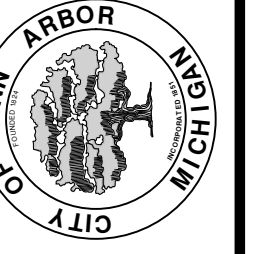
**S MAPLE AND ABBOTT AVE WATER MAIN CONNECTION**

R:\2023013 Westgate Watermain\Plan Production\2023013Mtrf3.dwg Dwg Created: 22-Jan-25 - \_a2 standard b.w.stb - Plot Date: 23-Jan-25



REV.	DATE	DESCRIPTION
00	01/23/2025	BID SET
		KMB DRAWN
		FDC CHECKED

CITY OF ANN ARBOR  
PUBLIC SERVICES  
301 EAST HURON STREET  
ANN ARBOR, MI 48106-1667  
ANN ARBOR 734.794.6410  
www.a2gov.org



CITY OF ANN ARBOR - ENGINEERING  
WESTGATE WATERMAIN  
TRAFFIC CONTROL  
LEWIS JEWELERS AND ABBOTT AVE WATER MAIN CONNECTION

SCALE PLAN: 1" = 40'  
DRAWING No. 2023013-12

**MDOT LANE CLOSURE NOTIFICATION/REQUEST FORM**  
(FOR SHIFTS, LANE, SHOULDER, STRUCTURE AND RAMP CLOSURES)

TRANSPORTATION SERVICE CENTER (TSC)	DATE
COUNTY	REQUEST NUMBER
JOB NUMBER	REQUESTOR NAME
PRIME CONTRACTOR	24 HOURS CONTACT

ROUTE	DIRECTION	LOCATION OF CLOSURE (Cross Street to Cross Street, Mile point to Mile point, Exit name and Number)	WORK DESCRIPTION	DETOUR YES/NO	EXISTING NUMBER LANE(S)	CLOSURE TYPE (Place "X" in the boxes that apply)				DURATION OF CLOSURE and TYPE (Place "X" in the boxes that apply)		RESTRICTIONS			SPEED LIMITS	
						LANE NUMBER	RIGHT SHOULDER	ENTRANCE RAMP	EXIT RAMP	DATE MM/DD	TIME	HAZ. REQUIRING MOVING	HEIGHT	WEIGHT	WIDTH	POSTED

DETOUR ROUTE
SUMMARY

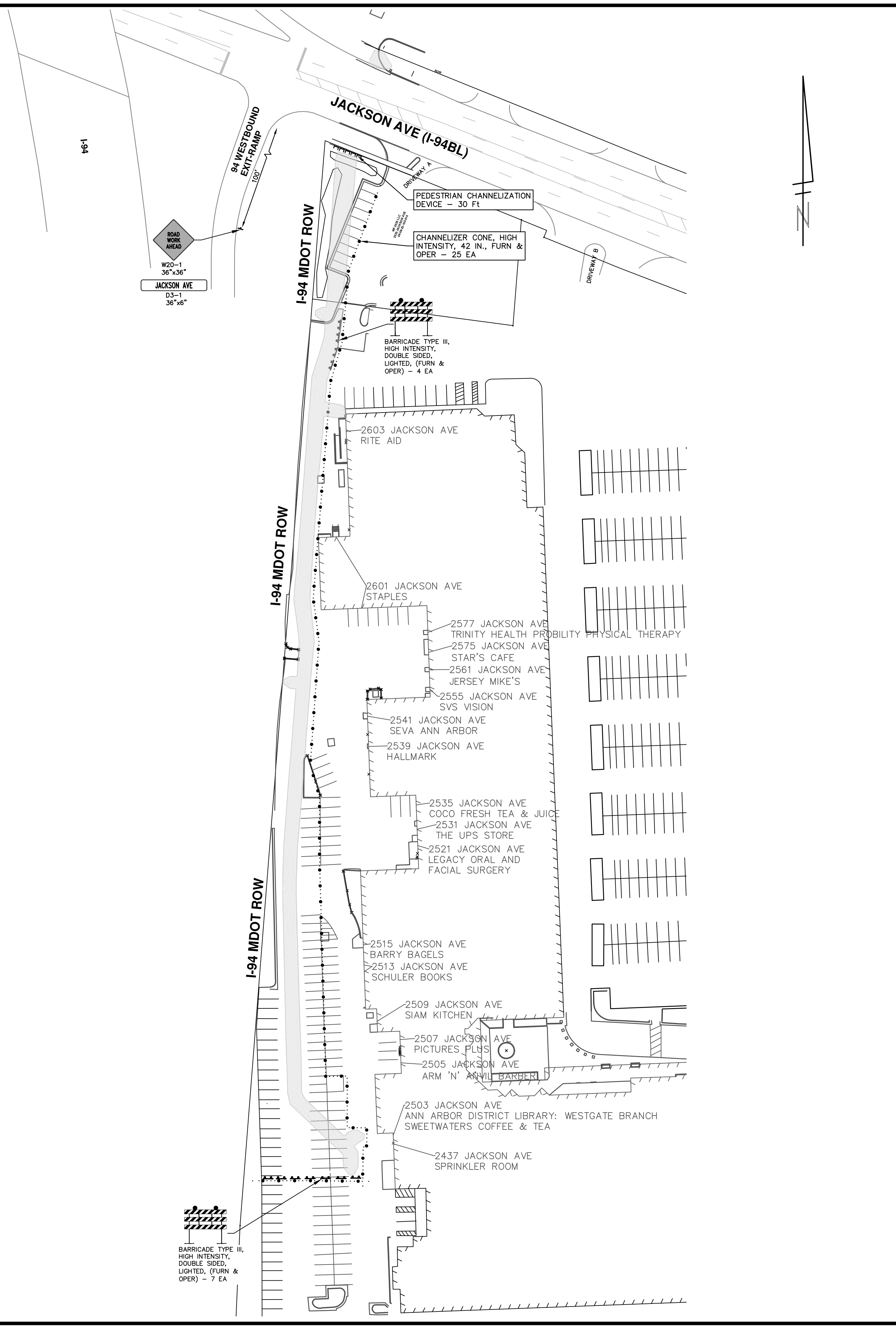
Submit form a minimum of seven (7) calendar days prior to the start of requested closures to the Engineer for approval.

NOTE: Southeast Michigan Transportation Operations Center (SEMTOC) shall be called in 'Real Time' when lane closures are beginning and when lane closures are removed in addition to providing advance notification on this Lane Closure Form. This includes shoulder closures and moving operations. Please notify SEMTOC and refer to the Main Job Number associated with the project.

**CONSTRUCTION COORDINATION AND MAINTENANCE OF TRAFFIC REQUIREMENTS:**

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- SEE "SPECIAL PROVISION FOR MAINTAINING TRAFFIC AND CONSTRUCTION SEQUENCING" FOR DETAILS ON CONSTRUCTION STAGING, SEQUENCING, CLOSURE, DETOUR LIMITATIONS, AND OTHER DETAILS.
- WHILE PERFORMING THE WORK ON JACKSON AVE, AN MDOT LANE CLOSURE NOTIFICATION/REQUEST FORM (AS SHOWN ON THIS SHEET) TO BE SUBMITTED A MINIMUM OF 7 BUSINESS DAYS IN ADVANCE OF THE PROPOSED CLOSURE TO THE MDOT BRIGHTON TSC OPERATIONS/TRAFFIC AND SAFETY UNIT FOR REVIEW AND APPROVAL. FORM TO BE SUBMITTED VIA EMAIL TO GEORGE SEIF AT SEIFG@MICHIGAN.GOV.
- THE CONTRACTOR MUST PROVIDE MAINTENANCE OF TRAFFIC CONFIGURATION FOR REVIEW AND APPROVAL. CONFIGURATION MUST MEET CITY OF ANN ARBOR SPECIFICATIONS REQUIREMENTS.
- PROPER SIGNAGE:
  - ADVANCED WARNING SIGNS  
PLACE WARNING SIGNS AT ALL ENTRANCES TO THE SHOPPING PLAZA STATING "CONSTRUCTION AHEAD - EXPECT DELAYS" AND "LANE/SHOPS OPEN - USE CAUTION."  
USE STANDARD MUTCD-COMPLIANT SIGNS LIKE "ROAD WORK AHEAD" (W20-1) AND "FLAGGER AHEAD" (W20-7A) IF APPLICABLE.
  - DIRECTIONAL SIGNS

- INSTALL SIGNS SHOWING DETOUR ROUTES, ALTERNATIVE PARKING, OR TEMPORARY PEDESTRIAN PATHWAYS (IF APPLICABLE).  
USE "OPEN DURING CONSTRUCTION" OR "BUSINESS ACCESS OPEN" SIGNS TO REASSURE CUSTOMERS, PAID FOR AS DS\_ADDITIONAL SIGNS.
- 7.3. SPEED REDUCTION SIGNS  
IF REQUIRED, PLACE SPEED LIMIT SIGNS TO SLOW DOWN VEHICLES NEAR THE ACTIVE WORK ZONE.
  - 7.4. BARRICADES AND REFLECTIVE TAPE  
USE TYPE II OR III BARRICADES WITH REFLECTIVE TAPE AROUND THE WORK ZONE. FOR NIGHTTIME OPERATIONS, INCLUDE FLASHING WARNING LIGHTS.
  - 7.5. PEDESTRIANS AND ADA COMPLIANCE  
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ENSURE TEMPORARY PEDESTRIAN WALKWAYS HAVE ADA-COMPLIANT ACCESS RAMPS.
  6. WORK METHODS:
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    - 6.2. PHASED OPERATIONS  
WORK IN PHASES:  
PHASE 1: EXCAVATE AND INSTALL WATER MAIN FOR SECTION 1.  
PHASE 2: BACKFILL AND RESTORE SECTION 1 WHILE SECTION 2 EXCAVATION BEGINS.
    - 6.3. TRAFFIC MANAGEMENT  
USE FLAGGERS OR TEMPORARY TRAFFIC SIGNALS TO MANAGE VEHICLE FLOW.  
ESTABLISH A ONE-WAY TRAFFIC SYSTEM IF LANE REDUCTION IS REQUIRED.
    - 6.4. PEDESTRIAN SAFETY  
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USE CLEAR SIGNAGE TO DIRECT PEDESTRIANS TO SAFE CROSSING POINTS.
    - 6.5. STAGING AND STORAGE  
KEEP CONSTRUCTION EQUIPMENT, MATERIALS, AND DEBRIS CONFINED TO DESIGNATED AREAS TO AVOID ENCRDACHING ON PARKING OR DRIVING LANES.
    - 6.6. DUST AND NOISE CONTROL  
USE WATER SPRAYING TO SUPPRESS DUST.  
ADHERE TO LOCAL NOISE ORDINANCES TO AVOID DISRUPTING BUSINESSES.



R:\2023013 Westgate Watermain\Plan Production\2023013Mtrf2.dwg Dwg Created: 12-Jan-25 - \_a2 standard bw.stb - Plot Date: 23-Jan-25

**811** Know what's below. Call before you dig.

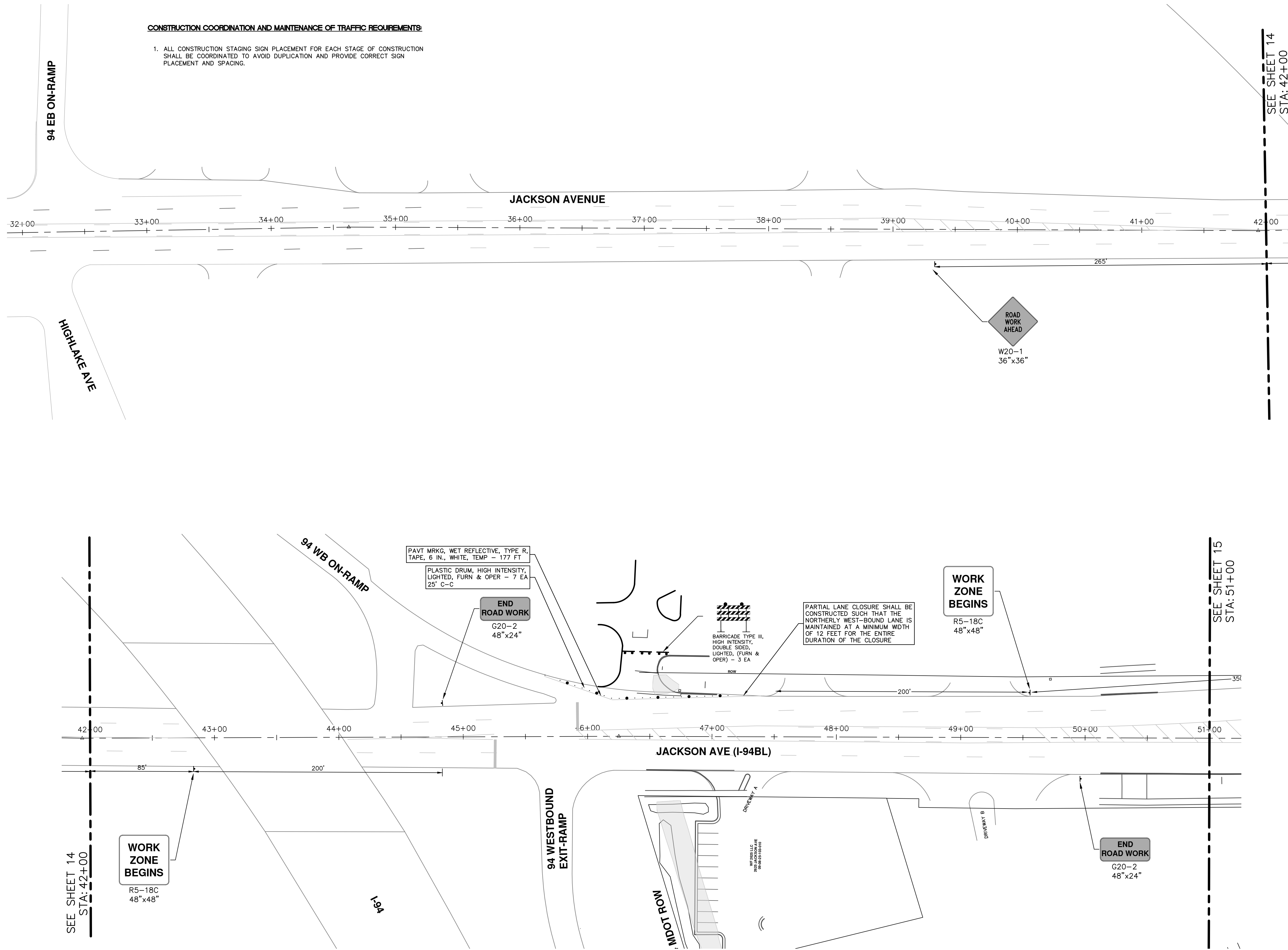
REV.	DATE	DESCRIPTION
00	01/23/2025	BID SET
		KMB DRAWN
		FDC CHECKED

**CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING**  
**WESTGATE WATERMAIN**  
TRAFFIC CONTROL  
WESTGATE SHOPPING CENTER BEHIND BUILDINGS

SCALE PLAN: 1" = 60'  
DRAWING No. 2023013-13  
SHEET No. 13 OF 37

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**CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING**

**WESTGATE WATERMAIN**

TRAFFIC CONTROL - JACKSON AVE WATER MAIN BORE

STA. 33+00 - STA. 51+00

SCALE: 1" = 40'

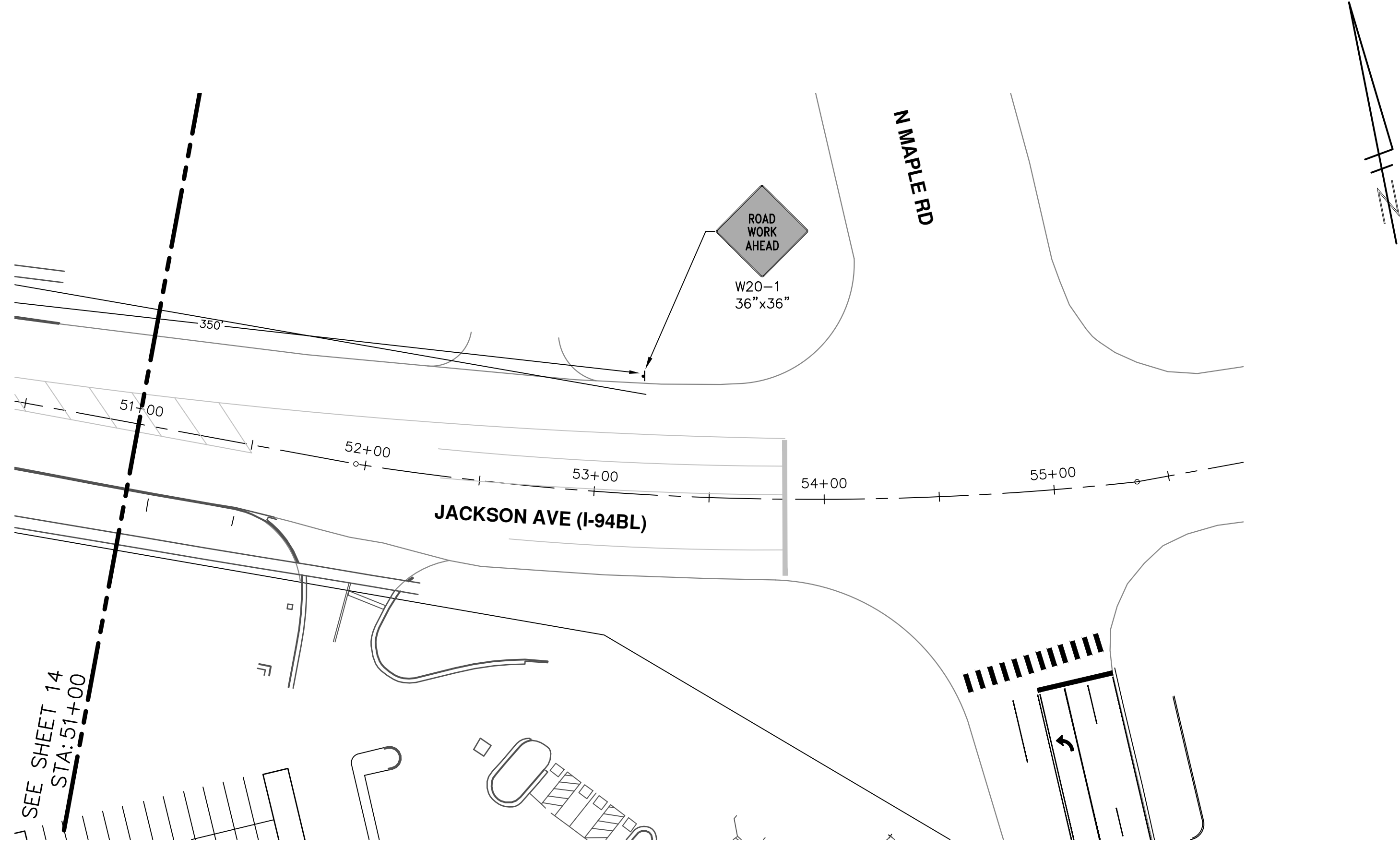
DRAWING No. 2023013-14

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REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	BID SET	01/23/2025	KMB	FDC

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CITY OF ANN ARBOR MICHIGAN



SHEET No.

SCALE : 1" = 40'  
DRAWING No.  
2023013-15

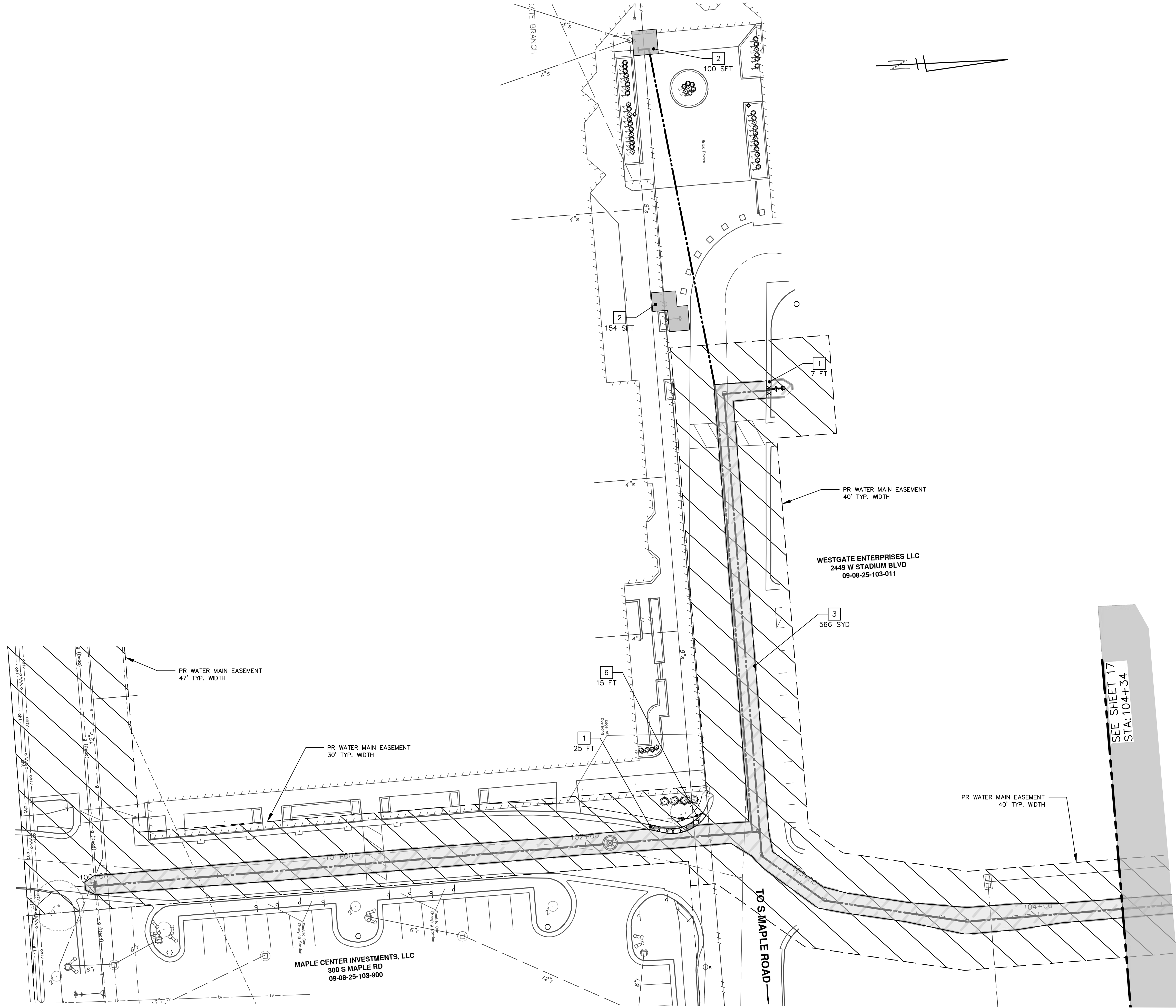
**CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING**  
**WESTGATE WATERMAIN**  
TRAFFIC CONTROL - JACKSON AVE WATER MAIN BORE  
STA. 51+00 - STA. 54+00

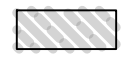


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REV.	DESCRIPTION
00	BID SET
	DATE
	01/23/2025
	DATE
	KMB
	DRAWN
	FDC
	CHECKED





REMOVAL KEY	
KEY	DESCRIPTION
1	Curb, Gutter, and Curb and Gutter, Any Type, Rem *
2	Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem
3	HMA, Any Thickness, Rem *
4	Concrete Bollard, Rem
5	Erosion Control, Inlet Protection, Fabric Drop
6	Protective Fencing
7	Light Pole, Rem and Salvage
8	Concrete Pavt, Any Thickness, Rem
9	Cold-Milling HMA Surface
10	Fence, Salvage and Re-Erect
 Approx. Limits of Water Trench	

- \* SAWCUT FULL DEPTH AT REMOVAL LIMITS AS DIRECTED BY ENGINEER
- \* WATER MAIN REMOVALS SHOWN ON WATER MAIN SHEETS

SEE SHEET 17  
STA: 104+34

**CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING**

**WESTGATE WATERMAIN REMOVALS**

SE WATER MAIN REROUTE STA. 100+00 - STA. 104+50

SCALE PLAN: 1" = 20'

DRAWING No. 2023013-16

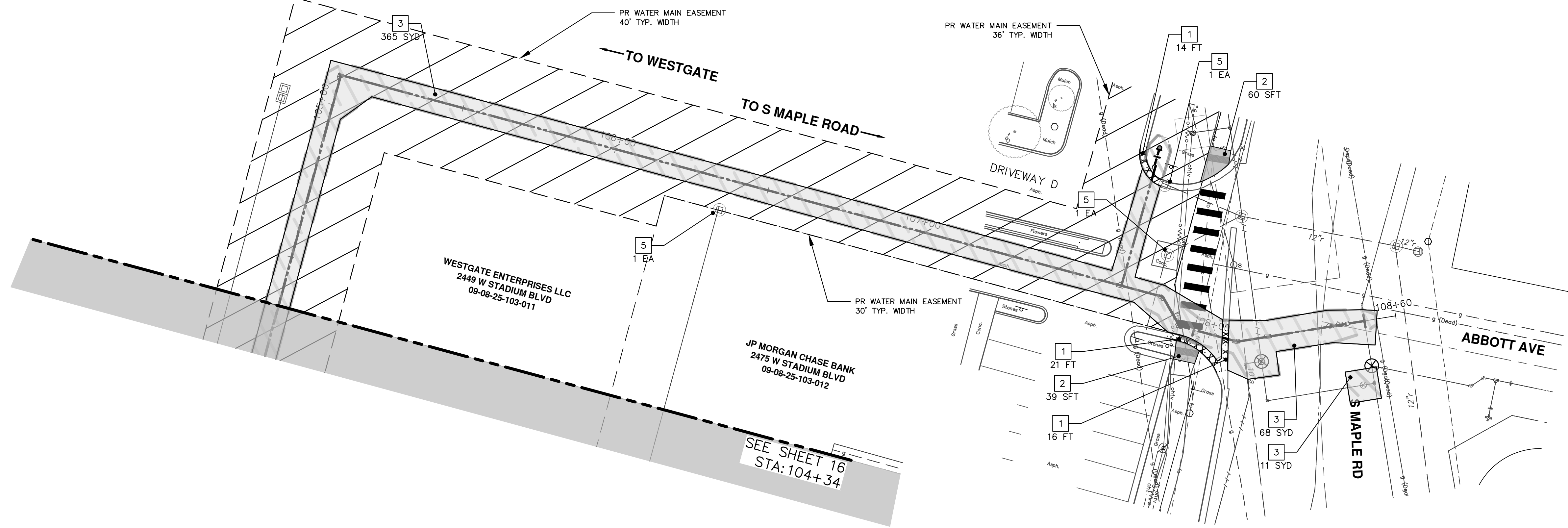
SHEET No. 16 OF 37

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DATE DATE  
BY BY  
DRAWN DRAWN  
CHECKED CHECKED





**NOTES:**

- SEE SHEET 20 FOR ADDITIONAL REMOVALS ON S MAPLE RD.

REMOVAL KEY	
KEY	DESCRIPTION
1	Curb, Gutter, and Curb and Gutter, Any Type, Rem *
2	Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem
3	HMA, Any Thickness, Rem *
4	Concrete Bollard, Rem
5	Erosion Control, Inlet Protection, Fabric Drop
6	Protective Fencing
7	Light Pole, Rem and Salvage
8	Concrete Pavt, Any Thickness, Rem
9	Cold-Milling HMA Surface
10	Fence, Salvage and Re-Erect
	Approx. Limits of Water Trench

- \* SAWCUT FULL DEPTH AT REMOVAL LIMITS AS DIRECTED BY ENGINEER
- \* WATER MAIN REMOVALS SHOWN ON WATER MAIN SHEETS

**CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING**

**WESTGATE WATERMAIN REMOVALS**

SE WATER MAIN REROUTE STA. 104+50 - STA. 108+76

SCALE PLAN: 1" = 20'  
PROFILE: 1" = 4'

DRAWING No. 2023013-17

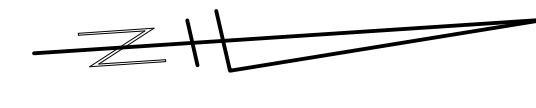
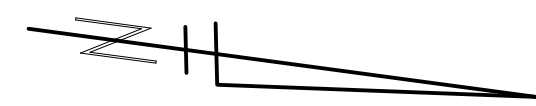
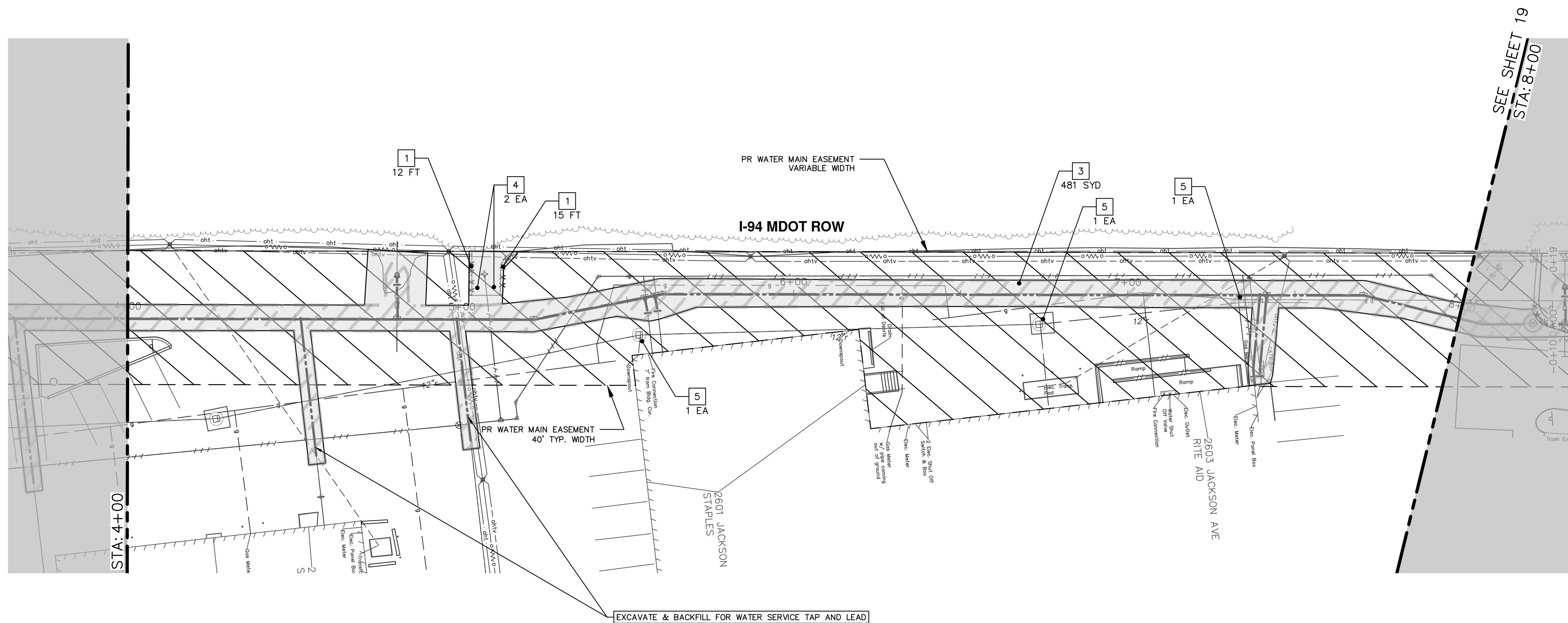
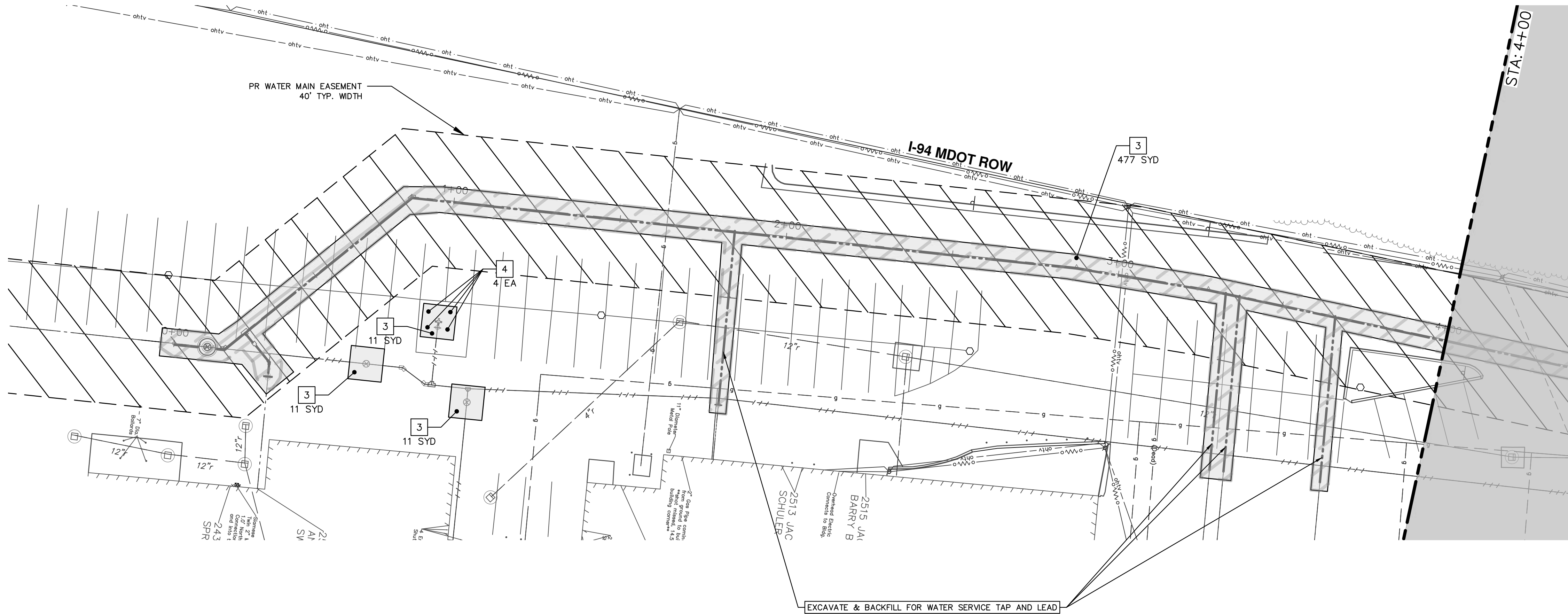
SHEET No. 17 OF 37


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00 REV. COPY A2REVDATE.DWG TO PROJECT FOLDER AND REVISION THIS WHEN GOING OUT FOR BID DATE DATE



REMOVAL KEY	
KEY	DESCRIPTION
1	Curb, Gutter, and Curb and Gutter, Any Type, Rem *
2	Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem
3	HMA, Any Thickness, Rem *
4	Concrete Bollard, Rem
5	Erosion Control, Inlet Protection, Fabric Drop
6	Protective Fencing
7	Light Pole, Rem and Salvage
8	Concrete Pavt, Any Thickness, Rem
9	Cold-Milling HMA Surface
10	Fence, Salvage and Re-Erect
	Approx. Limits of Water Trench

- SAWCUT FULL DEPTH AT REMOVAL LIMITS AS DIRECTED BY ENGINEER
- WATER MAIN REMOVALS SHOWN ON WATER MAIN SHEETS

**CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING**

**WESTGATE WATERMAIN REMOVALS**

WEST SIDE STA. 0+00 - STA. 8+00

SCALE: 1" = 20'

DRAWING No. 2023013-18

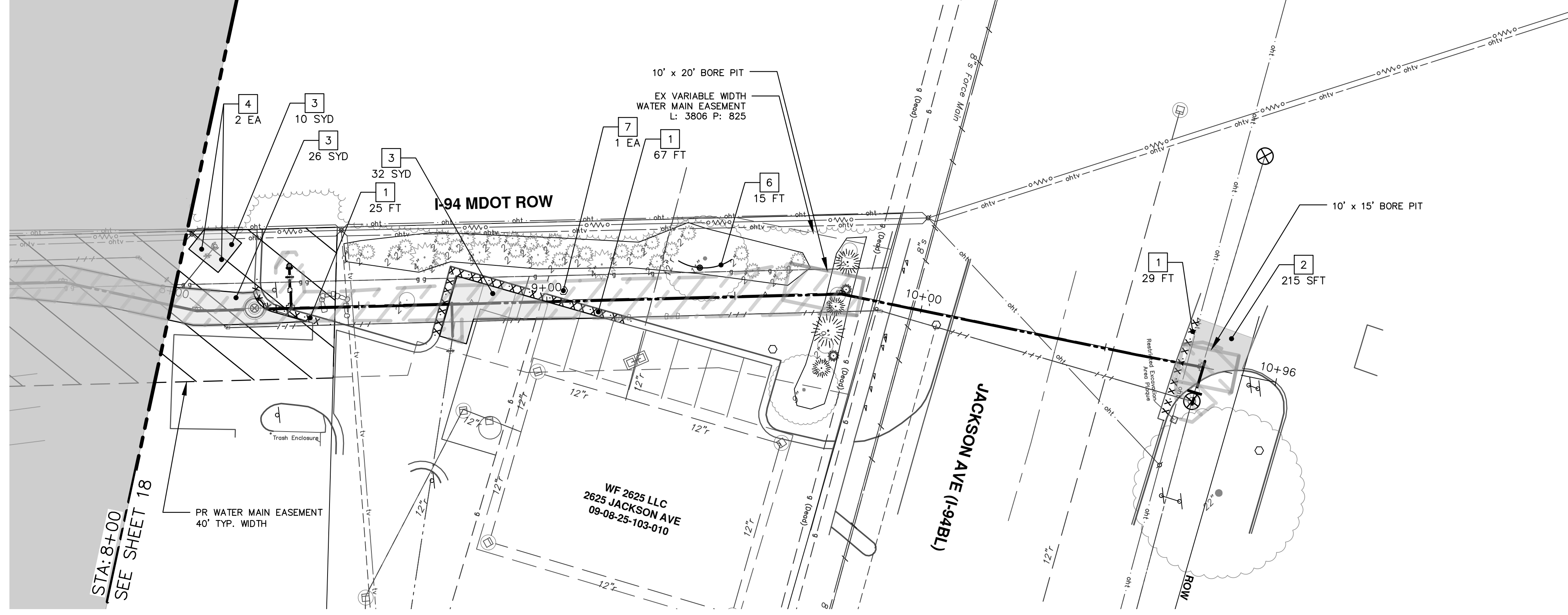
SHEET No. 18 OF 37

**811**  
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CITY OF ANN ARBOR MICHIGAN

REV.	DATE	BY	CHECKED
00			
DESCRIPTION		DATE	BY
REVISE THIS WHEN GOING OUT FOR BID		DATE	BY
COPY 2 REVISES TO PROJECT FOLDER AND		DATE	BY



REMOVAL KEY	
KEY	DESCRIPTION
1	Curb, Gutter, and Curb and Gutter, Any Type, Rem *
2	Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem
3	HMA, Any Thickness, Rem *
4	Concrete Bollard, Rem
5	Erosion Control, Inlet Protection, Fabric Drop
6	Protective Fencing
7	Light Pole, Rem and Salvage
8	Concrete Pavt, Any Thickness, Rem
9	Cold-Milling HMA Surface
10	Fence, Salvage and Re-Erect
	Approx. Limits of Water Trench

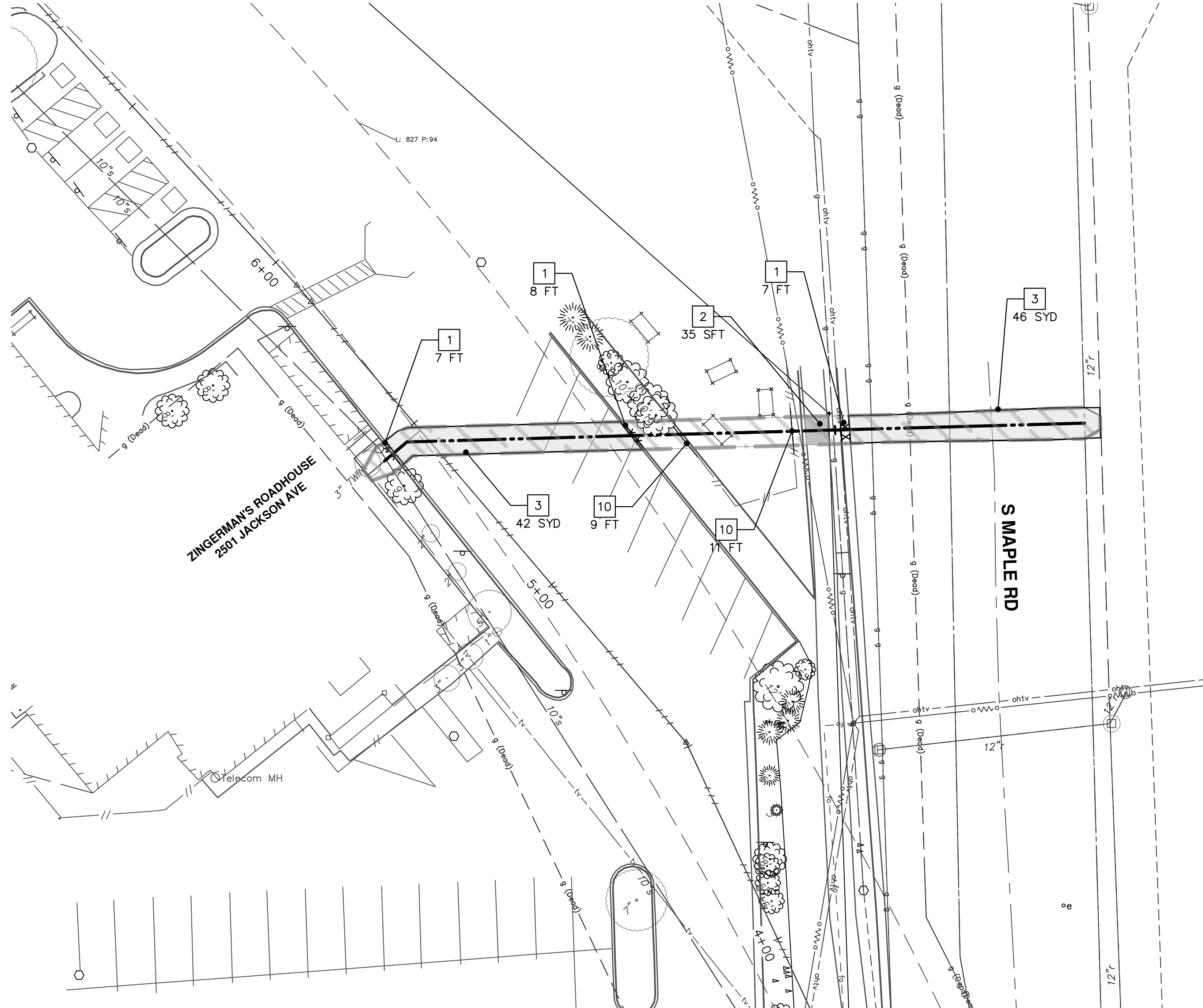
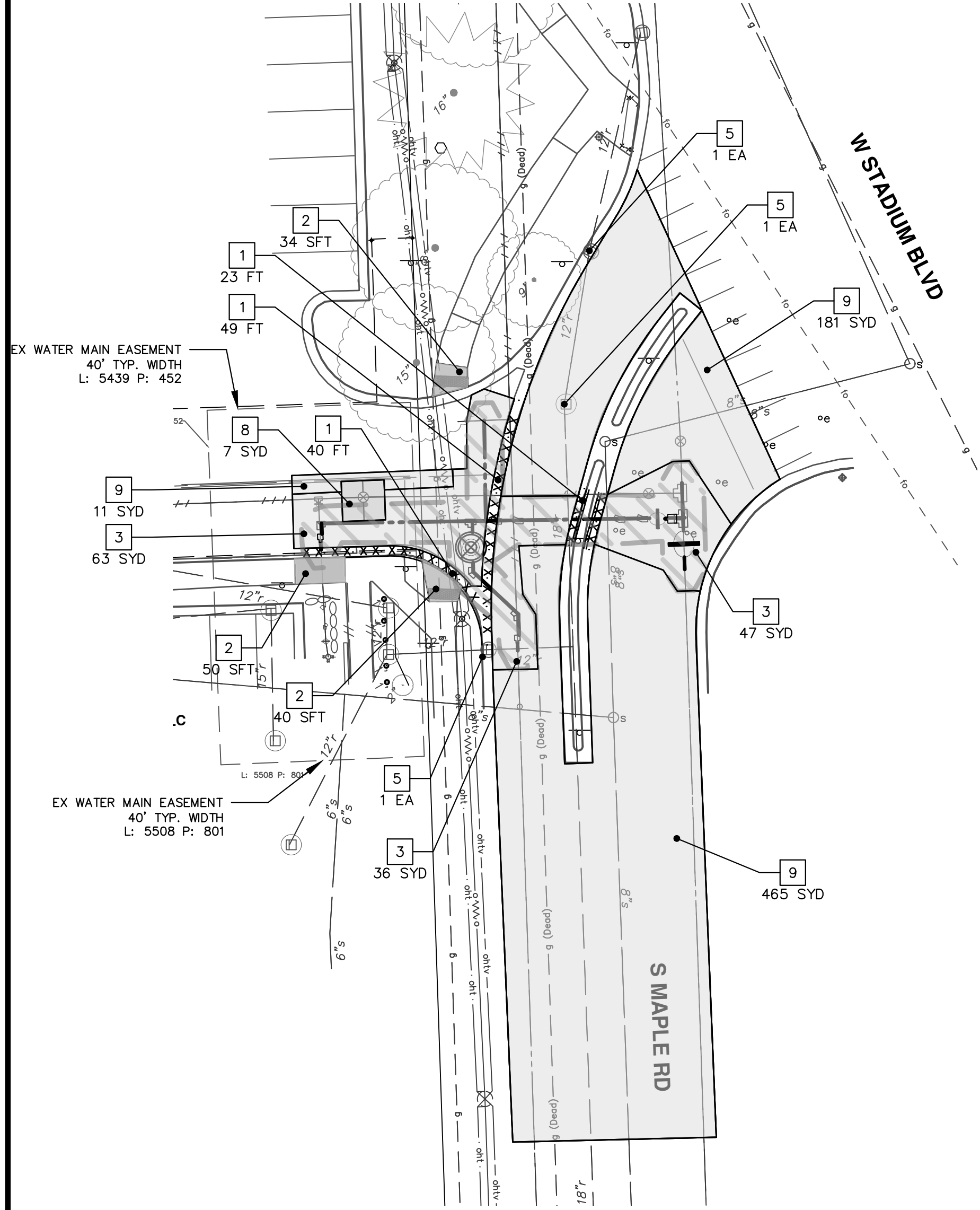
- \* SAWCUT FULL DEPTH AT REMOVAL LIMITS AS DIRECTED BY ENGINEER
- \* WATER MAIN REMOVALS SHOWN ON WATER MAIN SHEETS



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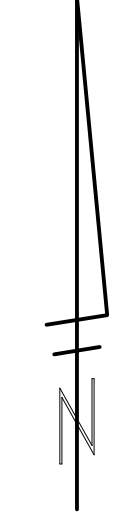
REV.	DESCRIPTION	DATE	BY	CHECKED
00	REVISE THIS WHEN GOING OUT FOR BID	DATE	BY	CHECKED
	COPY 2 REVISES TO PROJECT FOLDER AND			






REMOVAL KEY	
KEY	DESCRIPTION
1	Curb, Gutter, and Curb and Gutter, Any Type, Rem *
2	Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem
3	HMA, Any Thickness, Rem *
4	Concrete Ballard, Rem
5	Erosion Control, Inlet Protection, Fabric Drop
6	Protective Fencing
7	Light Pole, Rem and Salvage
8	Concrete Pavt, Any Thickness, Rem
9	Cold-Milling HMA Surface
10	Fence, Salvage and Re-Erect
[Hatched Box]	Approx. Limits of Water Trench

- \* SAWCUT FULL DEPTH AT REMOVAL LIMITS AS DIRECTED BY ENGINEER
- \* WATER MAIN REMOVALS SHOWN ON WATER MAIN SHEETS



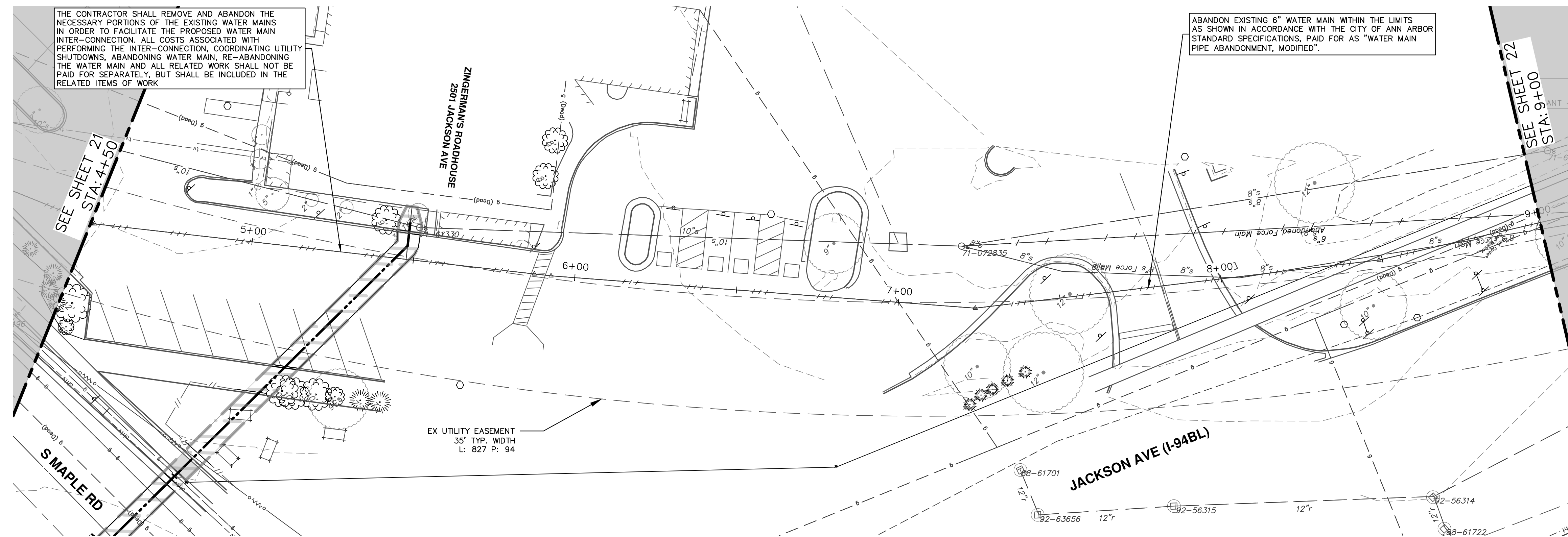
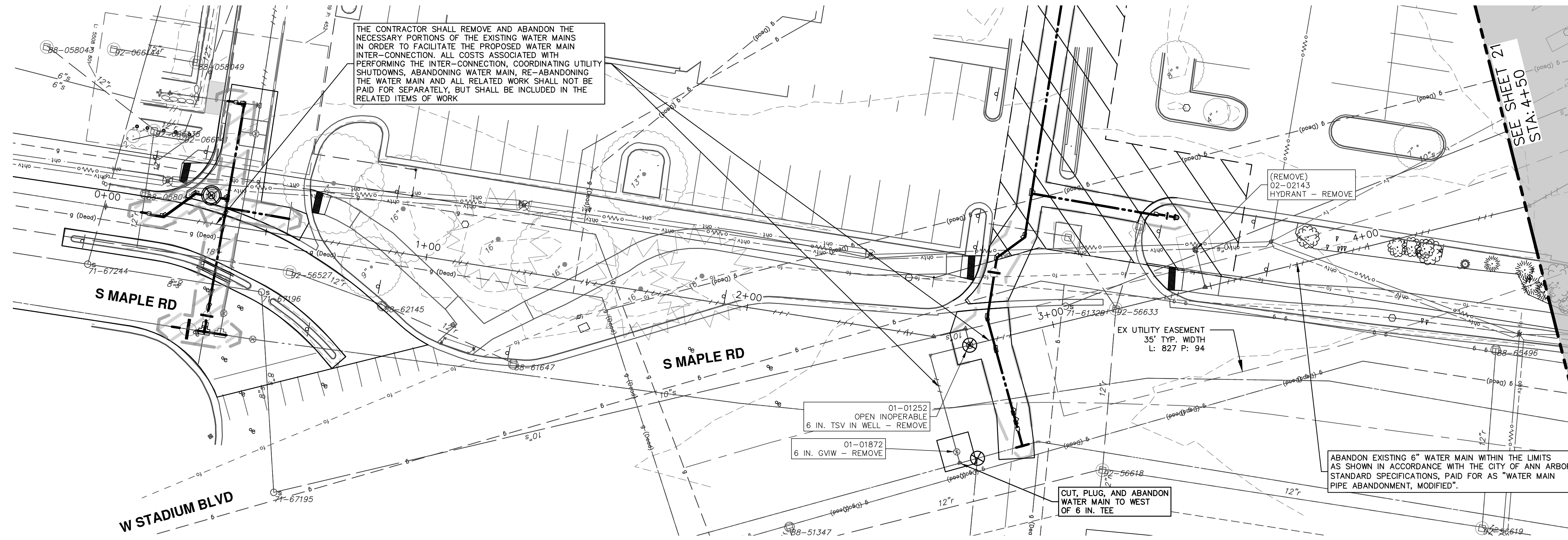
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00	REVISE THIS WHEN GOING OUT FOR BID			
	COPY A2REVDATE:DWG TO PROJECT FOLDER AND			

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING  
 WESTGATE WATERMAIN  
 REMOVALS  
 S MAPLE RECONNECTIONS

SCALE PLAN: 1" = 20'  
 DRAWING No. 2023013-20



**REMOVAL KEY**

KEY	DESCRIPTION
1	Curb, Gutter, and Curb and Gutter, Any Type, Rem *
2	Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem
3	HMA, Any Thickness, Rem *
4	Concrete Ballard, Rem
5	Erosion Control, Inlet Protection, Fabric Drop
6	Protective Fencing
7	Light Pole, Rem and Salvage
8	Concrete Pavt, Any Thickness, Rem
9	Cold-Milling HMA Surface
10	Fence, Salvage and Re-Erect
	Approx. Limits of Water Trench

- SAWCUT FULL DEPTH AT REMOVAL LIMITS AS DIRECTED BY ENGINEER
- WATER MAIN REMOVALS SHOWN ON WATER MAIN SHEETS

**WATER MAIN STRUCTURE REMOVALS**

STRUCTURE	TYPE
01-01872	6 in. GVIW - Remove
01-01252 OPEN INOPERABLE	6 in. TSV in Well - Remove
02-02143	HYDRANT - Remove



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NO	REVISION	DATE	BY	CHECKED

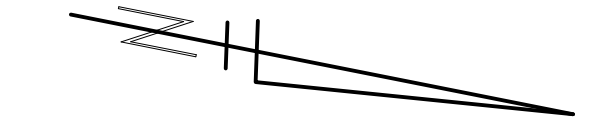
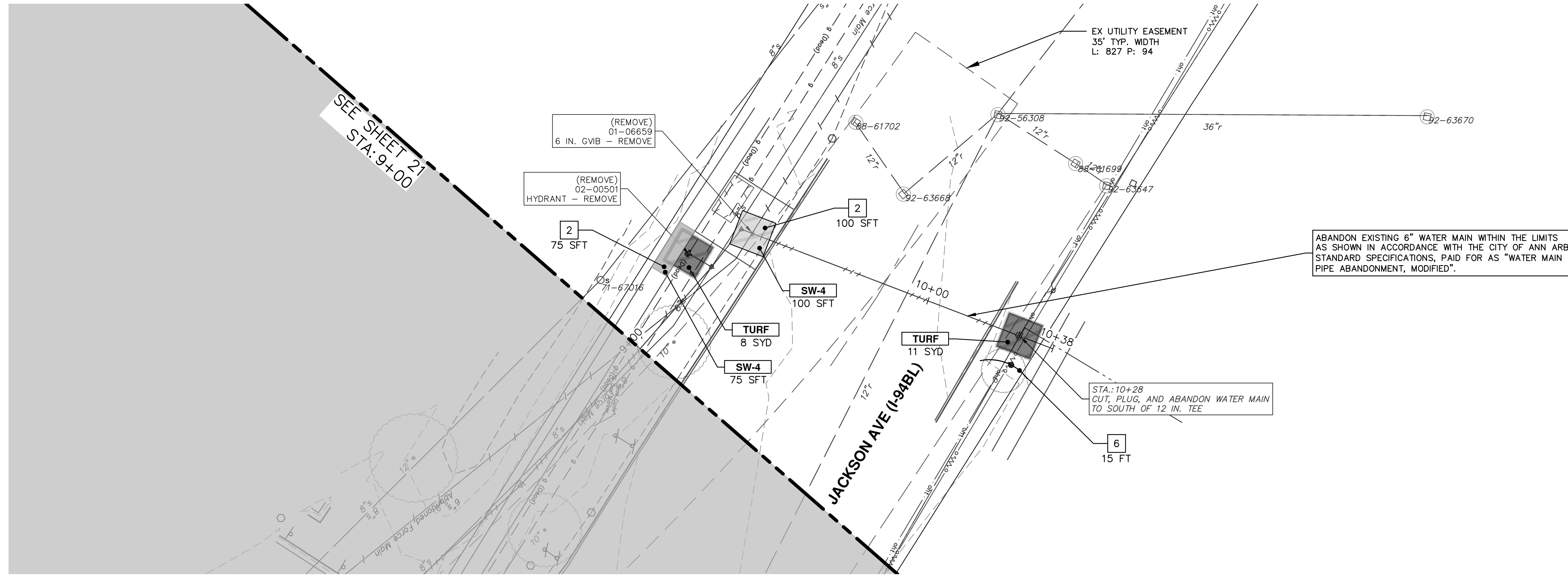
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**CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING**  
**WESTGATE WATERMAIN**  
6 IN WATER MAIN ABANDON

S MAPLE 6IN WATER MAIN ABANDON STA 0+00 TO 9+00

SCALE: 1" = 20'  
DRAWING No. 2023013-21



WATER MAIN STRUCTURE REMOVALS	
STRUCTURE	TYPE
01-06659	6 in. GVB - Remove
02-00501	HYDRANT - Remove

REMOVAL KEY	
KEY	DESCRIPTION
1	Curb, Gutter, and Curb and Gutter, Any Type, Rem *
2	Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem
3	HMA, Any Thickness, Rem *
4	Concrete Bollard, Rem
5	Erosion Control, Inlet Protection, Fabric Drop
6	Protective Fencing
7	Light Pole, Rem and Salvage
8	Concrete Pavt, Any Thickness, Rem
9	Cold-Milling HMA Surface
10	Fence, Salvage and Re-Erect
	Approx. Limits of Water Trench

- \* SAWCUT FULL DEPTH AT REMOVAL LIMITS AS DIRECTED BY ENGINEER
- \* WATER MAIN REMOVALS SHOWN ON WATER MAIN SHEETS

CONSTRUCTION KEY	
KEY	DESCRIPTION
	PLACE HMA, PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER.
	Conc, Curb or Curb & Gutter, All Types
	Conc, Driveway Opening, Type M
	Conc, Sidewalk, 4 In.
	Conc, Sidewalk, Drive Approach, or Ramp, 6 In.
	Adjust Structure Cover
	Structure Cover
	Steel Bollard
	Turf Restoration
	Detectable Warning Surface



NO.	DATE	BY	CHECKED

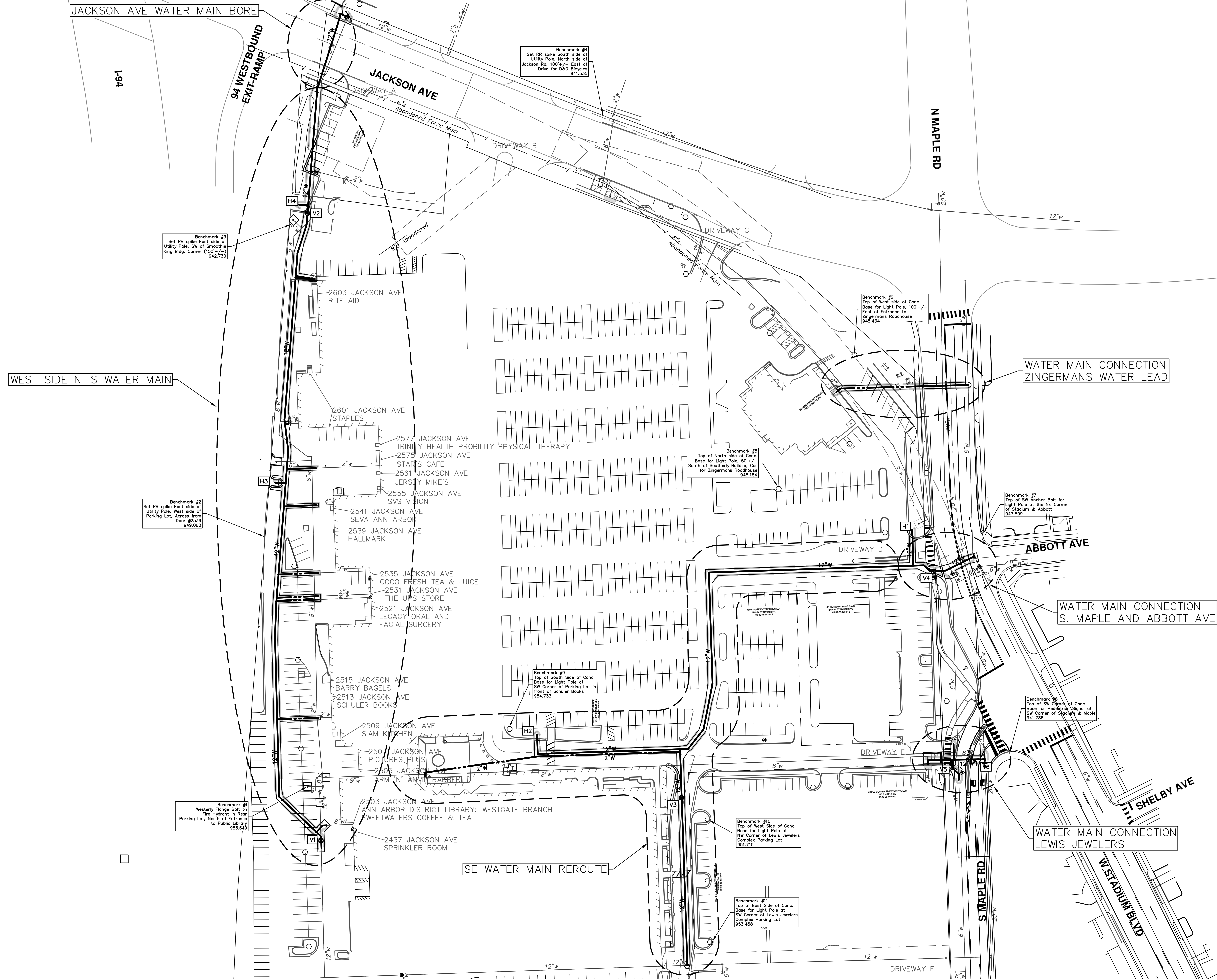
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WESTGATE WATERMAIN  
6 IN WATER MAIN ABANDON  
S MAPLE 6IN WATER MAIN ABANDON STA 9+00 TO 10+38

SCALE: 1" = 20'  
DRAWING No. 2023013-22

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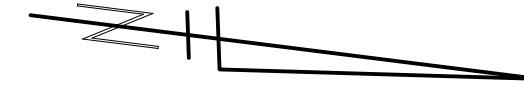
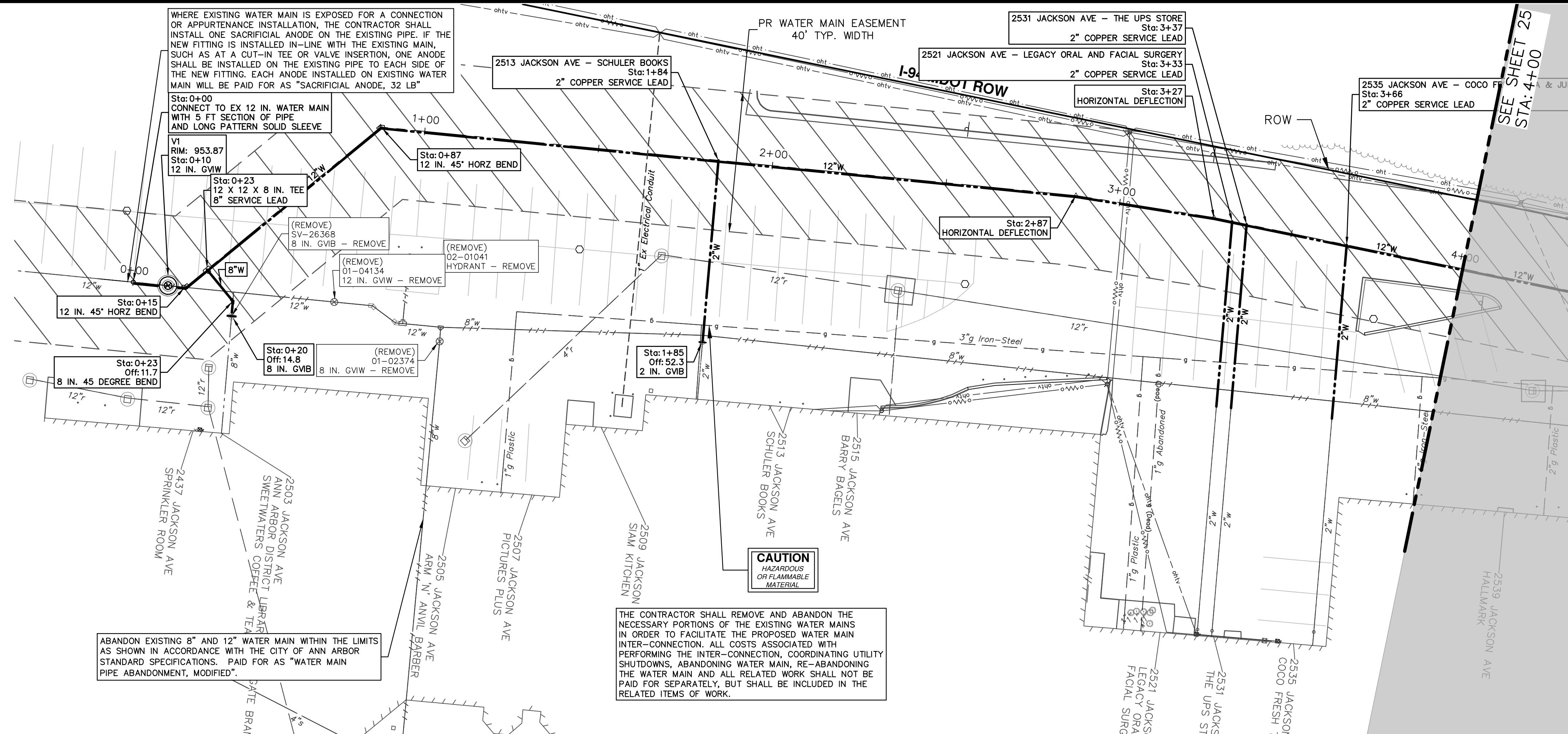
REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	BID SET	01/23/2025	KMB	FDC

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**CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING**  
**WESTGATE WATERMAIN**  
OVERALL WATER MAIN LAYOUT

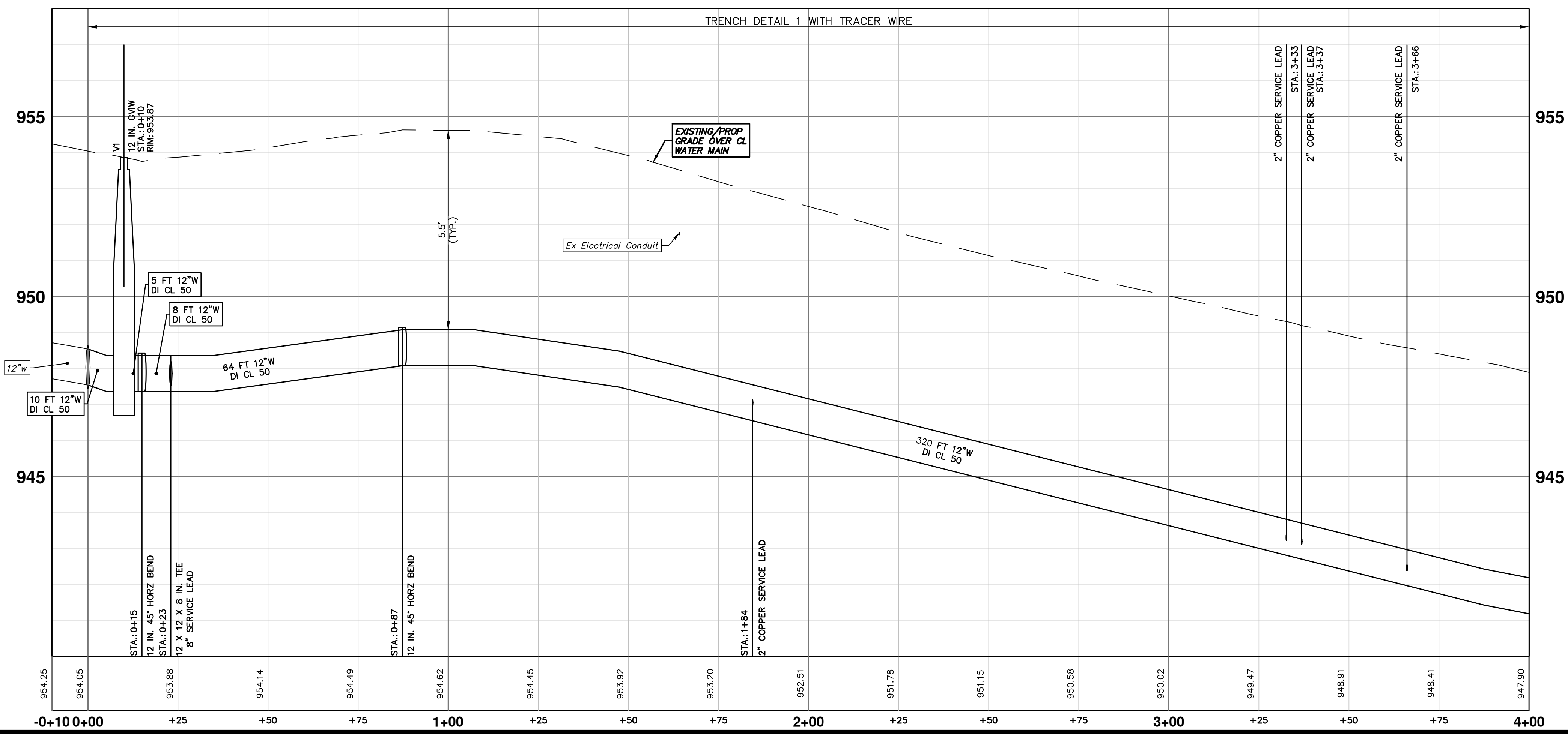
SCALE PLAN: 1" = 60'  
DRAWING No. 2023013-23



SEE SHEET 25  
STA: 4+00

WATER MAIN STRUCTURES			
STRUCTURE	TYPE	STATION	RIM
V1	12 in. GVIW	0+10	953.87

WATER MAIN STRUCTURE REMOVALS	
STRUCTURE	TYPE
SV-26368	8 in. GVB - Remove
01-02374	8 in. GVIW - Remove
01-04134	12 in. GVIW - Remove
02-01041	HYDRANT - Remove



- NOTES:**
- THE WATER SERVICE LEADS ARE SHOWN IN ACCORDANCE WITH EXISTING CITY OF ANN ARBOR RECORDS. COMMUNICATION SHALL BE MAINTAINED WITH WESTGATE TENANTS TO ENSURE PROPER SERVICE IS PROVIDED DURING AND UPON COMPLETION OF WATER MAIN CONSTRUCTION.

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00			

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SCALE PLAN: 1" = 20'

DRAWING No. 2023013-24

SHEET No. 24 OF 37

WESTGATE WATERMAIN

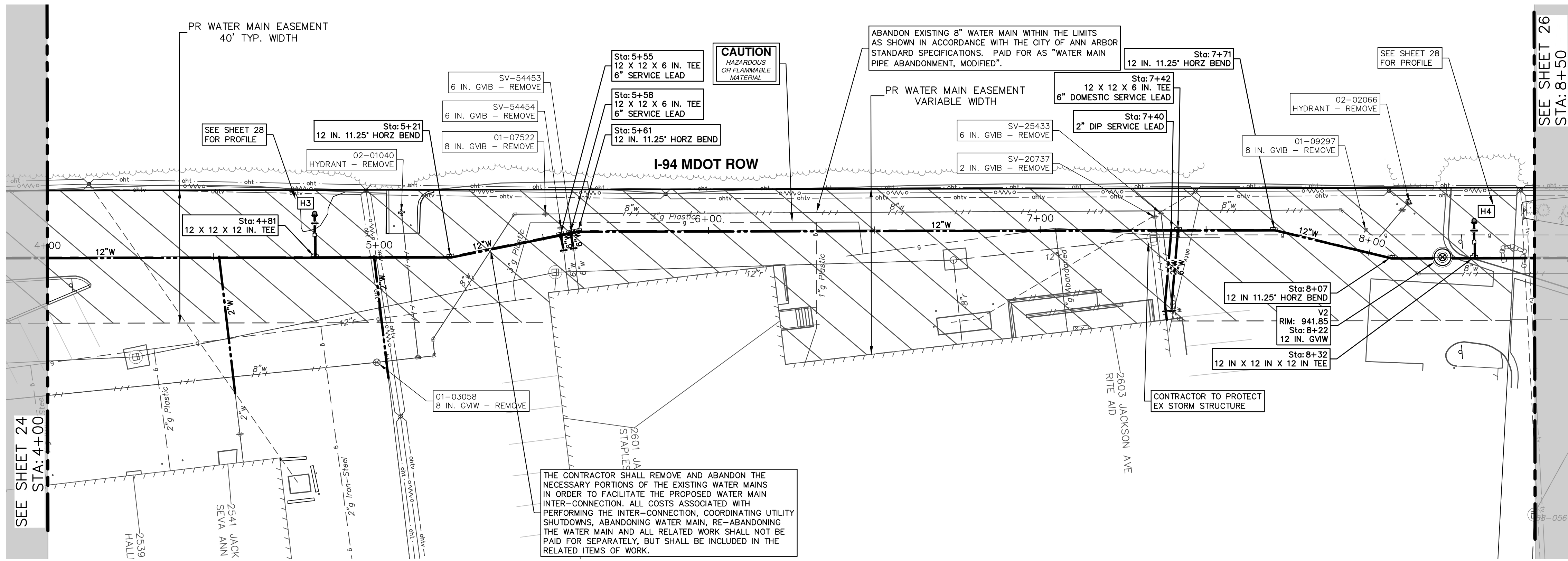
WEST SIDE NORTH-SOUTH WATER MAIN

STA. 0+00 - STA. 4+00

PROFILE: 1" = 2'

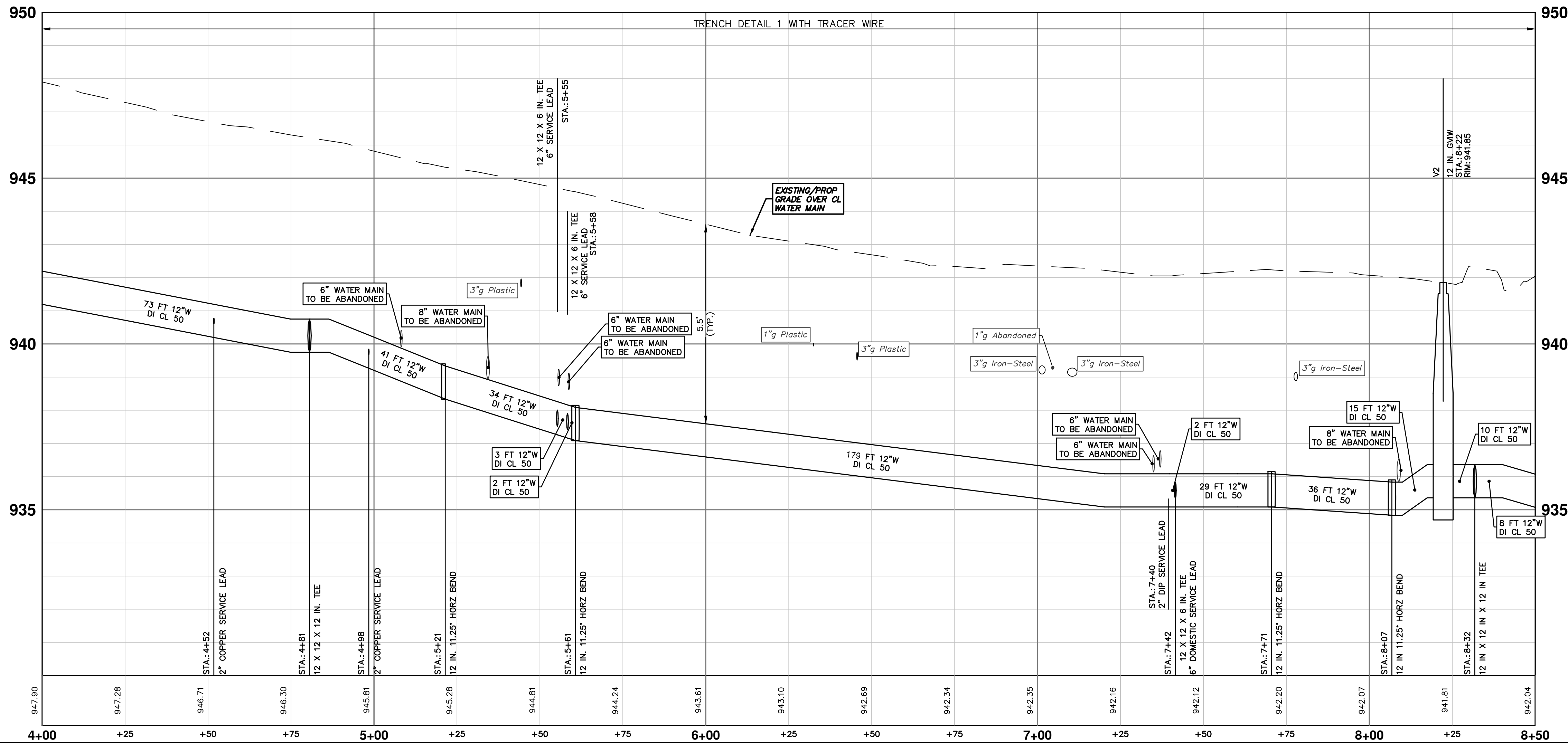


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WATER MAIN STRUCTURES			
STRUCTURE	TYPE	STATION	RIM
V2	12 in. GVW	8+22	941.85

WATER MAIN STRUCTURE REMOVALS	
STRUCTURE	TYPE
SV-20737	2 in. GVIB - Remove
SV-25433	6 in. GVIB - Remove
SV-54453	6 in. GVIB - Remove
SV-54454	6 in. GVIB - Remove
01-09297	8 in. GVIB - Remove
01-07522	8 in. GVIB - Remove
01-03058	8 in. GVIB - Remove
02-02066	HYDRANT - Remove
02-01040	HYDRANT - Remove



**NOTES:**

1. THE WATER SERVICE LEADS ARE SHOWN IN ACCORDANCE WITH EXISTING CITY OF ANN ARBOR RECORDS. COMMUNICATION SHALL BE MAINTAINED WITH WESTGATE TENANTS TO ENSURE PROPER SERVICE IS PROVIDED DURING AND UPON COMPLETION OF WATER MAIN CONSTRUCTION.



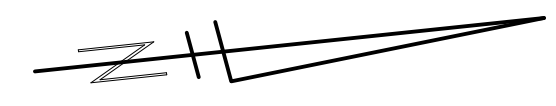
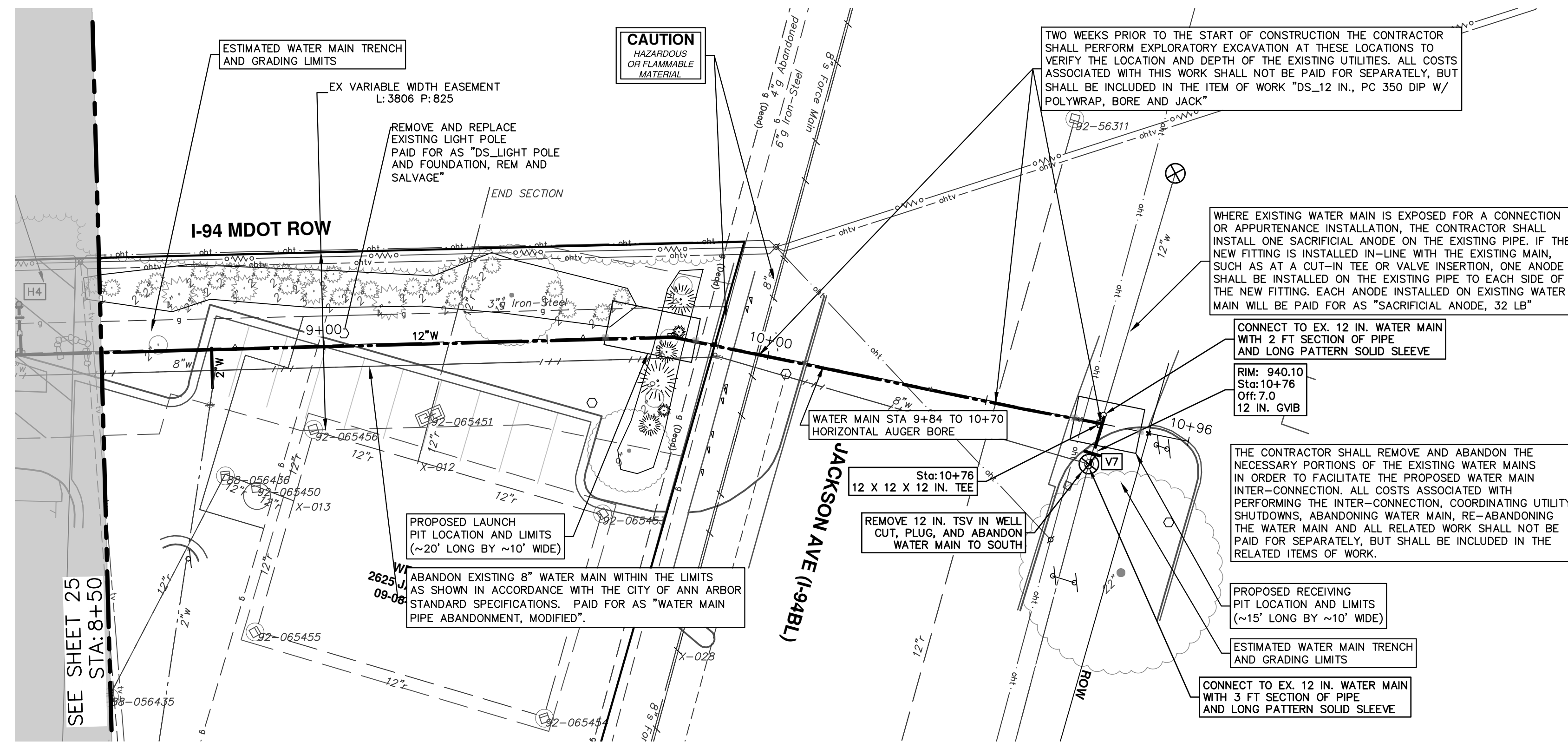
NO.	DATE	BY	CHECKED

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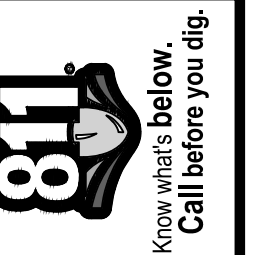
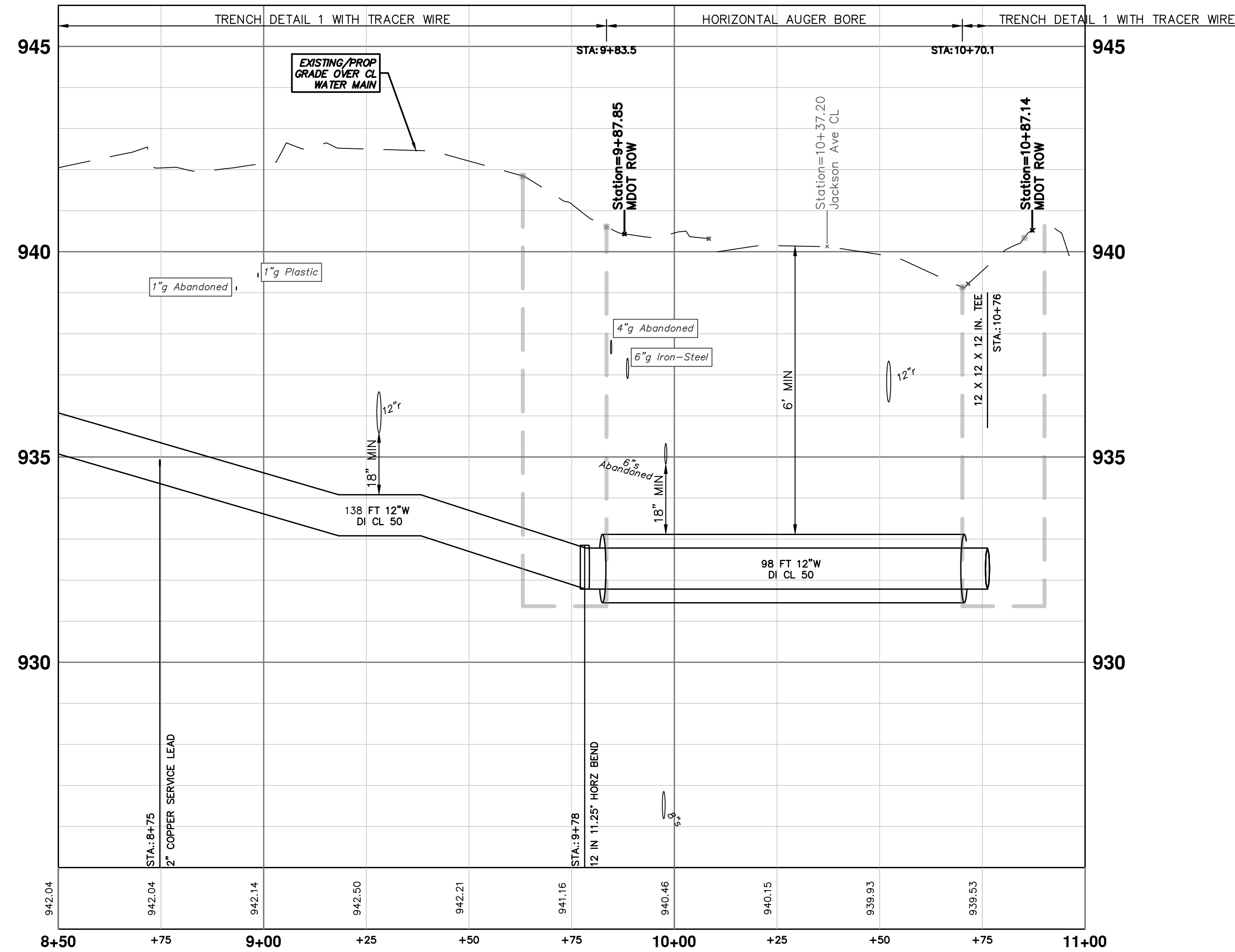
CITY OF ANN ARBOR - ENGINEERING  
WESTGATE WATERMAIN  
WEST SIDE NORTH-SOUTH WATER MAIN  
STA. 4+00 - STA. 8+50

SCALE PLAN: 1" = 20'  
PROFILE: 1" = 2'  
DRAWING NO. 2023013-25



WATER MAIN STRUCTURES			
STRUCTURE	TYPE	STATION	RIM
V7	12 in. G.VIB	10+76	940.10

WATER MAIN STRUCTURE REMOVALS	
STRUCTURE	TYPE
01-03225	REMOVE 12 IN. TSV IN WELL CUT, PLUG, AND ABANDON WATER MAIN TO SOUTH



NO.	DATE	BY	CHECKED	DESCRIPTION
00				REV.
				DATE
				BY
				DRAWN
				CHECKED

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WESTGATE WATERMAIN  
WEST SIDE NORTH-SOUTH WATER MAIN  
STA. 8+50 - STA. 10+81

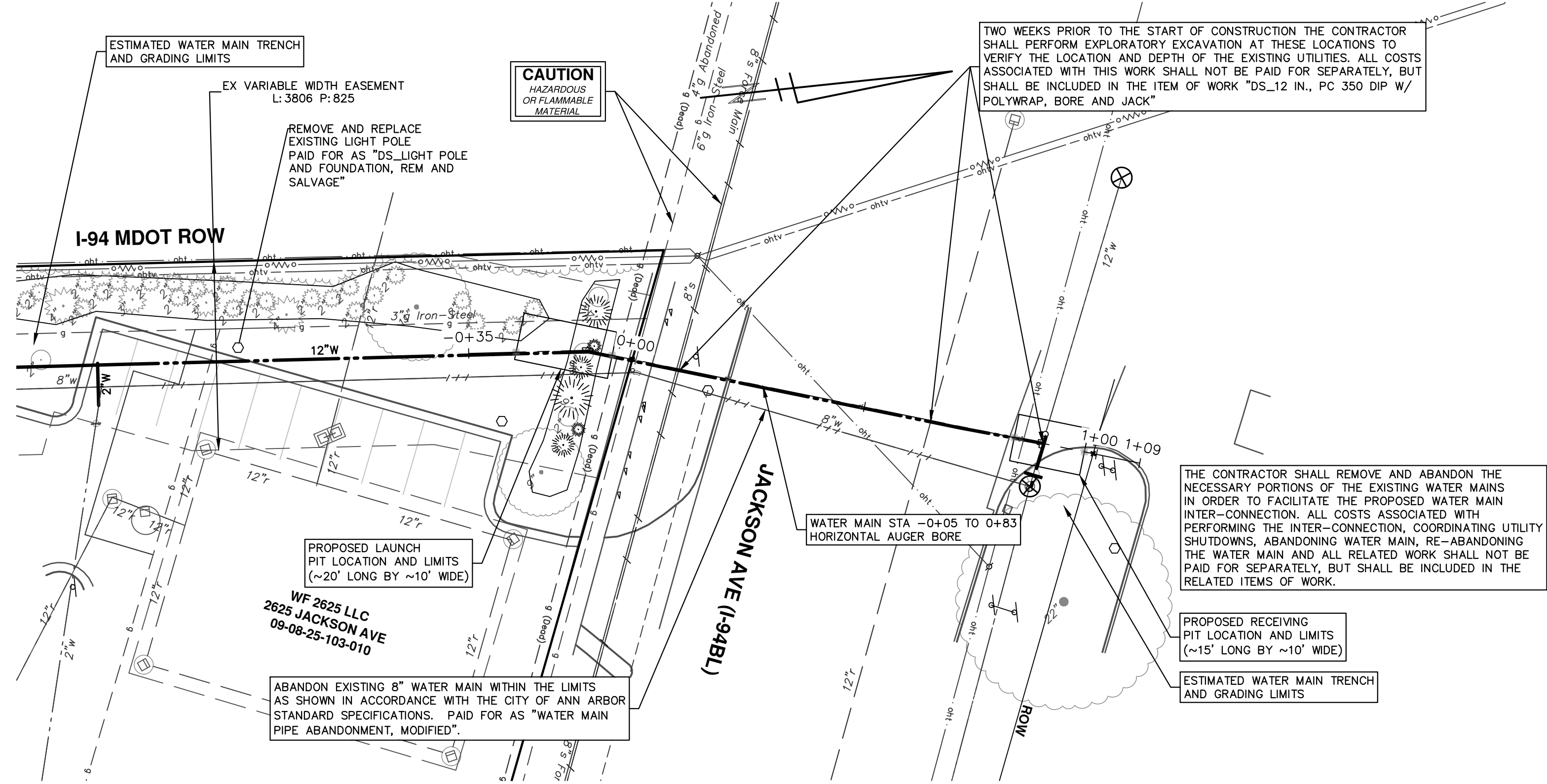
SCALE PLAN: 1" = 20'  
PROFILE: 1" = 2'  
DRAWING No. 2023013-26

R:\2023013 Westgate Watermain\Plan Production\2023013Watr1.dwg Dwg Created: 16-Jan-25 - \_a2 standard bw.stb - Plot Date: 23-Jan-25

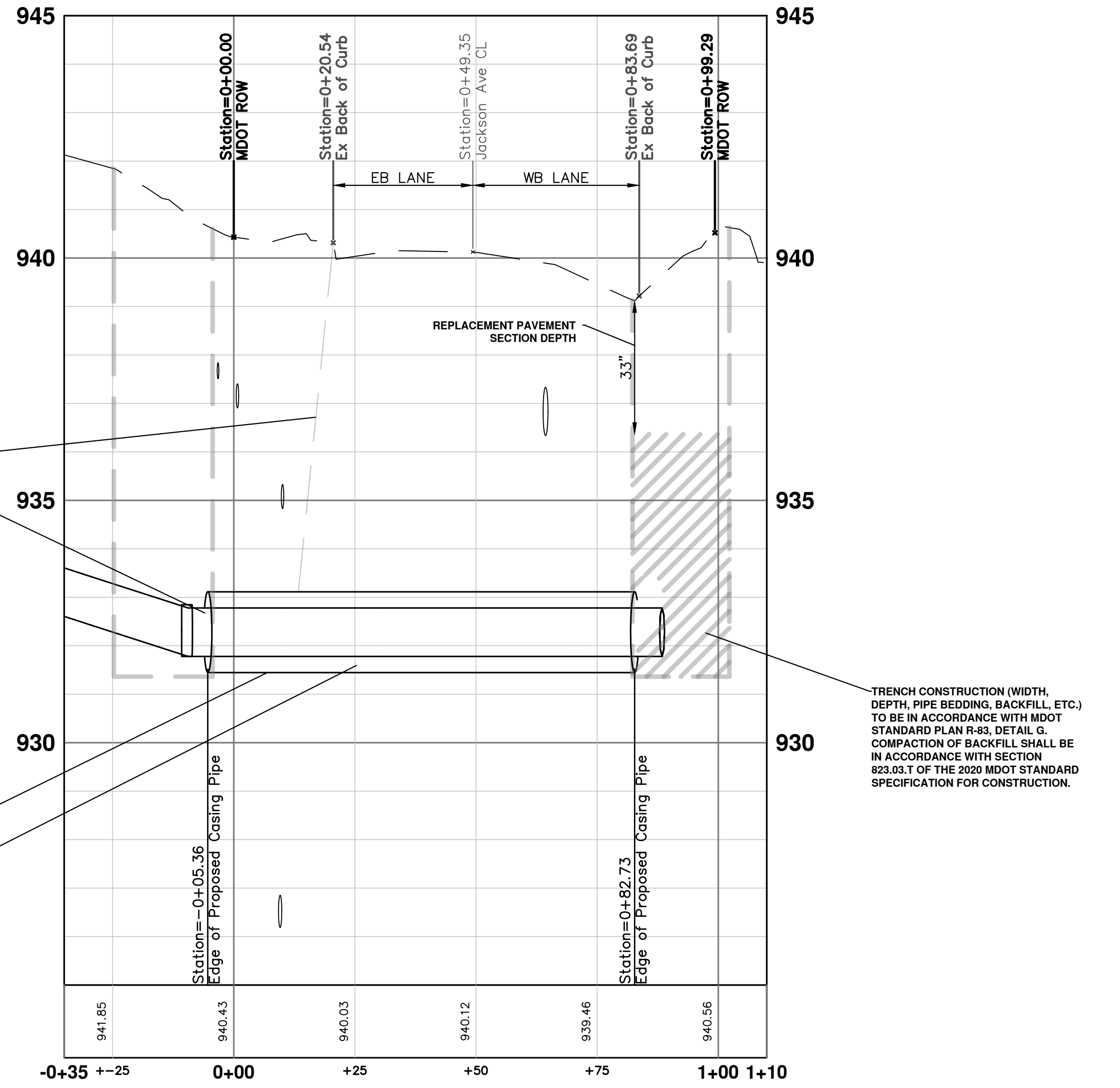
**NOTES:**

1. THE AREA BETWEEN THE CASING PIPE AND WATER MAIN SHALL BE LEFT OPEN EXCEPT FOR SOLID BRICK MASONRY BULKHEAD AT EACH END, AND MANUFACTURED SPACERS WHEN REQUIRED.
2. EACH JOINT OF CASING PIPE SHALL BE WELDED TOGETHER ALONG ENTIRE CIRCUMFERENCE OF PIPE.
3. MANUFACTURED SPACERS SHALL BE USED.
4. WOOD BLOCK SPACERS ARE NOT ALLOWED.
5. BORING SHALL BE AT 90 DEGREES TO ALL CROSSINGS UNLESS OTHERWISE APPROVED. THE BORING OF THE HOLE AND INSTALLATION OF THE CASING PIPE SHALL BE SIMULTANEOUS. BORE HOLE DIAMETER SHALL ESSENTIALLY BE THE SAME AS THE OUTSIDE DIAMETER OF THE CASING PIPE TO BE INSTALLED.
6. STEEL PIPE CASING SHALL BE SMOOTH STEEL PIPE FABRICATED IN SECTIONS IN ACCORDANCE WITH ASTM A53, TYPE E OR S, GRADE B OR ASTM A139, GRADE B. LENGTHS OF CASING PIPE SHALL BE AS LONG AS PRACTICAL FOR SITE CONDITIONS.
7. JOINTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM. JOINTS BETWEEN SECTIONS SHALL BE COMPLETELY WELDED TO THE PRECEDING SECTIONS. PRIOR TO WELDING JOINTS, THE CONTRACTOR SHALL ENSURE THAT BOTH ENDS OF THE CASING SECTIONS BEING WELDED ARE SQUARE.
8. STEEL PIPE CASING SIZE AND WALL THICKNESS SHALL BE AS SPECIFIED IN ARTICLE I OF THESE STANDARDS. VERIFY CASING SIZES PRIOR TO ORDERING AND SIZING CASING INSULATORS.
9. CASING SPACERS SHALL BE RESTRAINED-TYPE BOLTED SPACERS AND SHALL HAVE A MAXIMUM SPACING AS SHOWN, OR AS RECOMMENDED BY MANUFACTURER, WHICHEVER IS CLOSER.
10. REFER TO ARTICLE I, XXVI CASING PIPE, FOR PIPE SIZES.

<p><b>CITY OF ANN ARBOR PUBLIC SERVICES</b> 301 EAST HURON STREET ANN ARBOR, MI 48107-8647 734-794-6410 www.a2gov.org</p>			
REV. NO.	DATE	DRAWN BY	CHECKED BY
<b>TYPICAL PIPE CASING DETAIL</b>			
DR. ENG.	CH. ENG.	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-W-6	



**AA - JACKSON AVENUE JACK AND BORE UTILITY INSTALLATION**



- NOTES:**
1. EXISTING PAVEMENT AND CURB/GUTTER TO BE SAWCUT TO FULL DEPTH AT PROPOSED LIMITS OF REMOVAL.
  2. ALL EXCAVATION WORK WITHIN THE LIMITS OF THE ROADWAY, AND WITHIN A 1:1 ANGLE OF INFLUENCE BEHIND THE BACK OF CURB, SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH SECTION 206 OF THE 2020 MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION, UP TO THE BOTTOM OF THE REPLACEMENT XX-INCH-THICK (CIP) AGGREGATE BASE.
  3. CLASS II GRANULAR MATERIAL SHALL MEET THE MATERIAL REQUIREMENTS OF GRANULAR MATERIAL CLASS II AS SET FORTH IN SECTION 902 OF THE 2020 MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION. PLACEMENT AND COMPACTION SHALL BE IN ACCORDANCE WITH SECTION 301 OF THE 2020 MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.
  4. 21AA LIMESTONE SHALL MEET THE MATERIAL REQUIREMENTS OF DENSE-GRADED AGGREGATE 21AA AS SET FORTH IN SECTION 902 OF THE 2020 MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION. PLACEMENT AND COMPACTION SHALL BE IN ACCORDANCE WITH SECTION 302 OF THE 2020 MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.

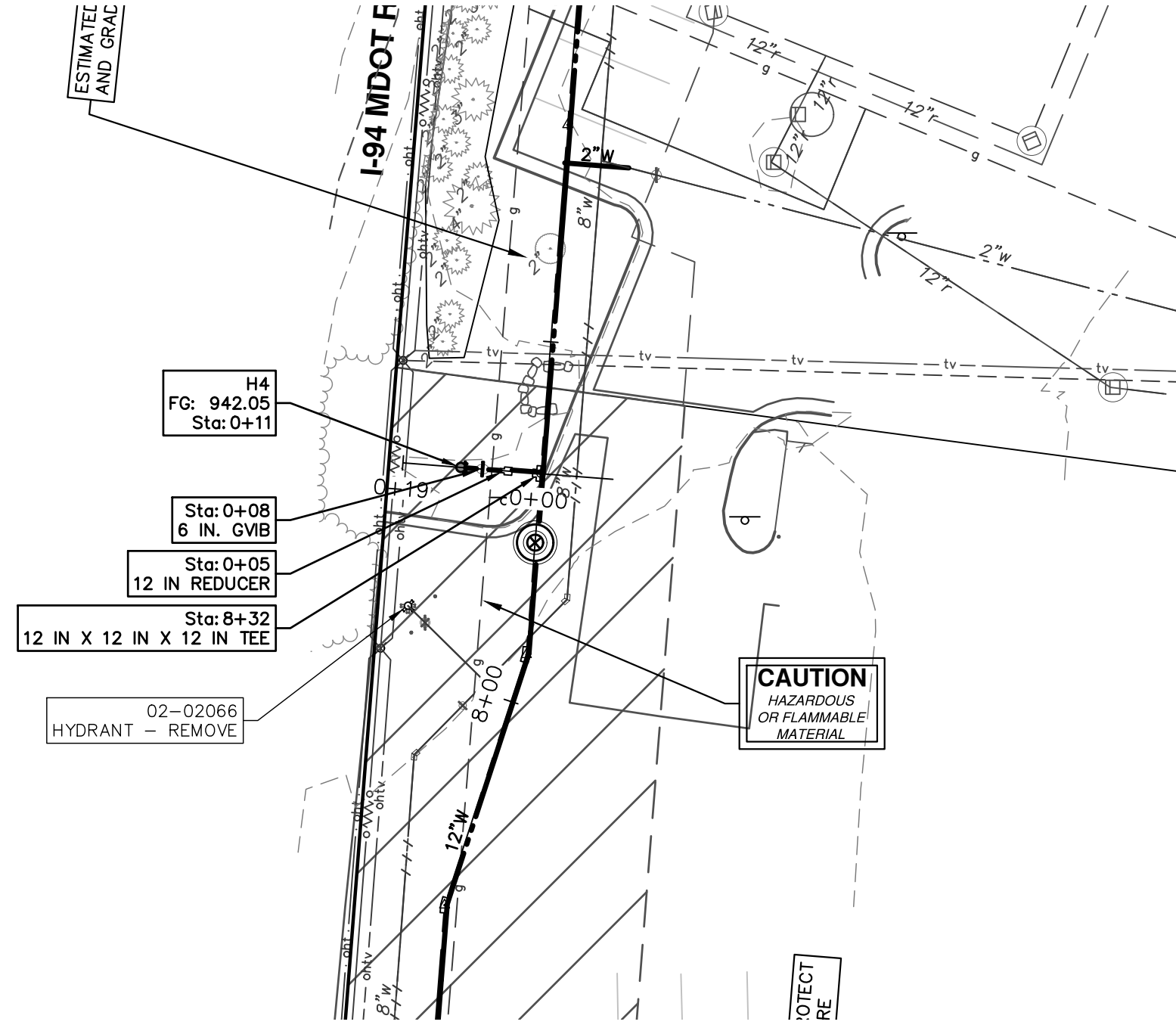
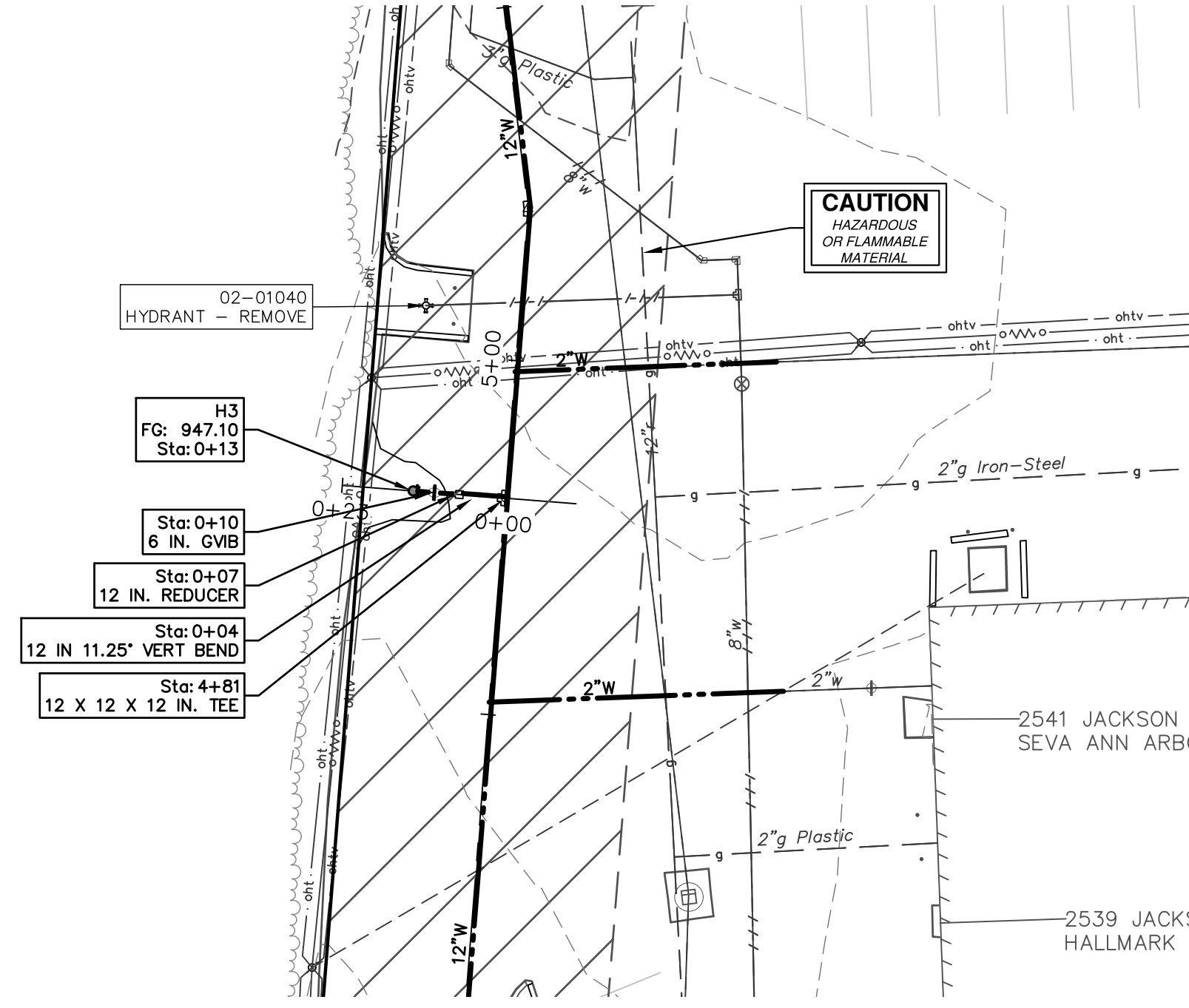
<p>Know what's below. Call before you dig.</p>			
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING  
 WESTGATE WATERMAIN  
 WEST SIDE NORTH-SOUTH WATER MAIN  
 JACKSON AVE MDOT PLAN

SCALE PLAN: 1" = 20'  
 PROFILE: 1" = 2'

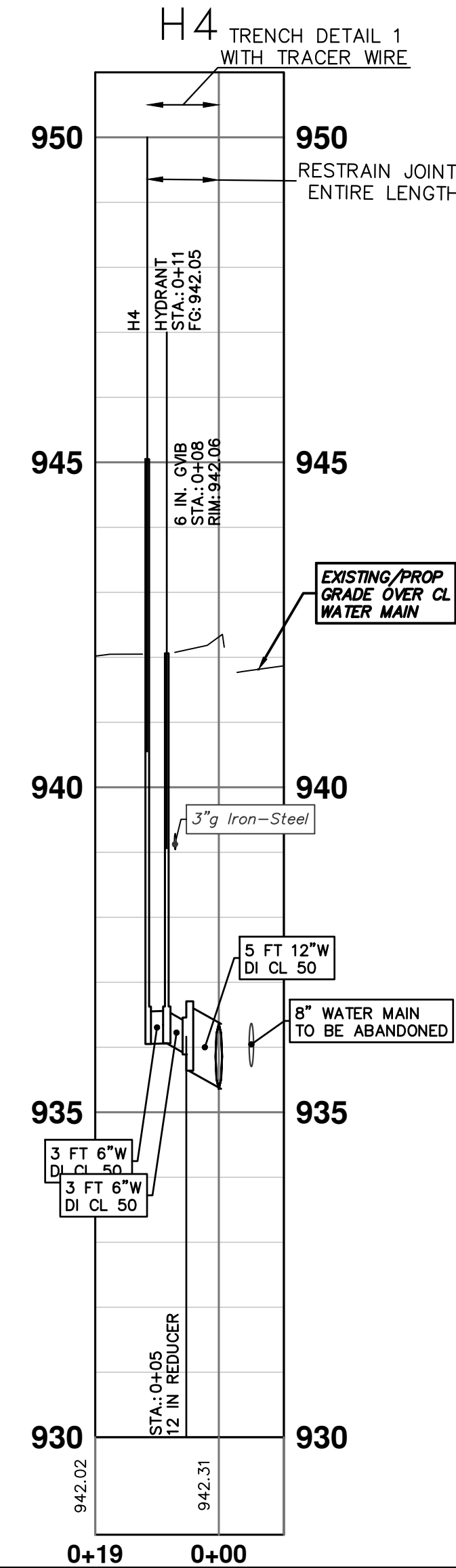
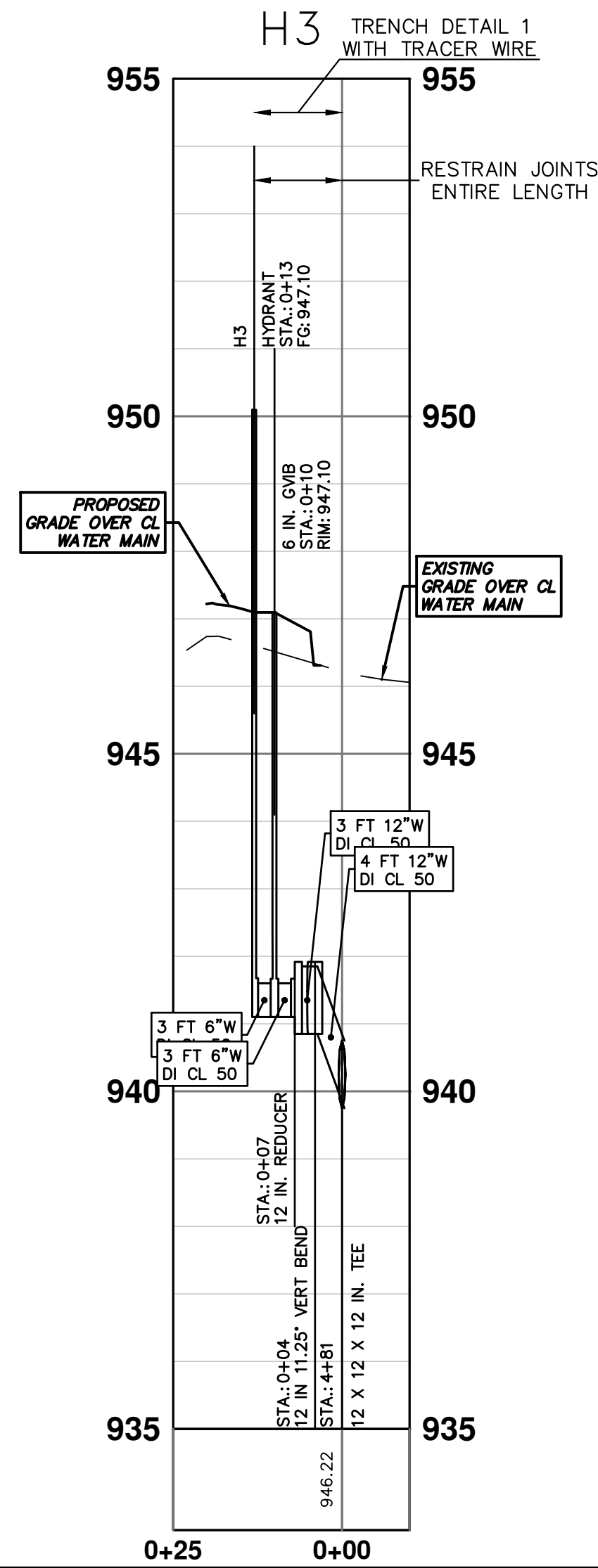
DRAWING NO. 2023013-27

SHEET No. 27 OF 37



THE CONTRACTOR SHALL REMOVE AND ABANDON THE NECESSARY PORTIONS OF THE EXISTING WATER MAINS IN ORDER TO FACILITATE THE PROPOSED WATER MAIN INTER-CONNECTION. ALL COSTS ASSOCIATED WITH PERFORMING THE INTER-CONNECTION, COORDINATING UTILITY SHUTDOWNS, ABANDONING WATER MAIN, RE-ABANDONING THE WATER MAIN AND ALL RELATED WORK SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE RELATED ITEMS OF WORK.

WATER MAIN STRUCTURES			
STRUCTURE	TYPE	STATION	FG
H3	HYDRANT	0+13	947.10
H4	HYDRANT	0+11	942.05

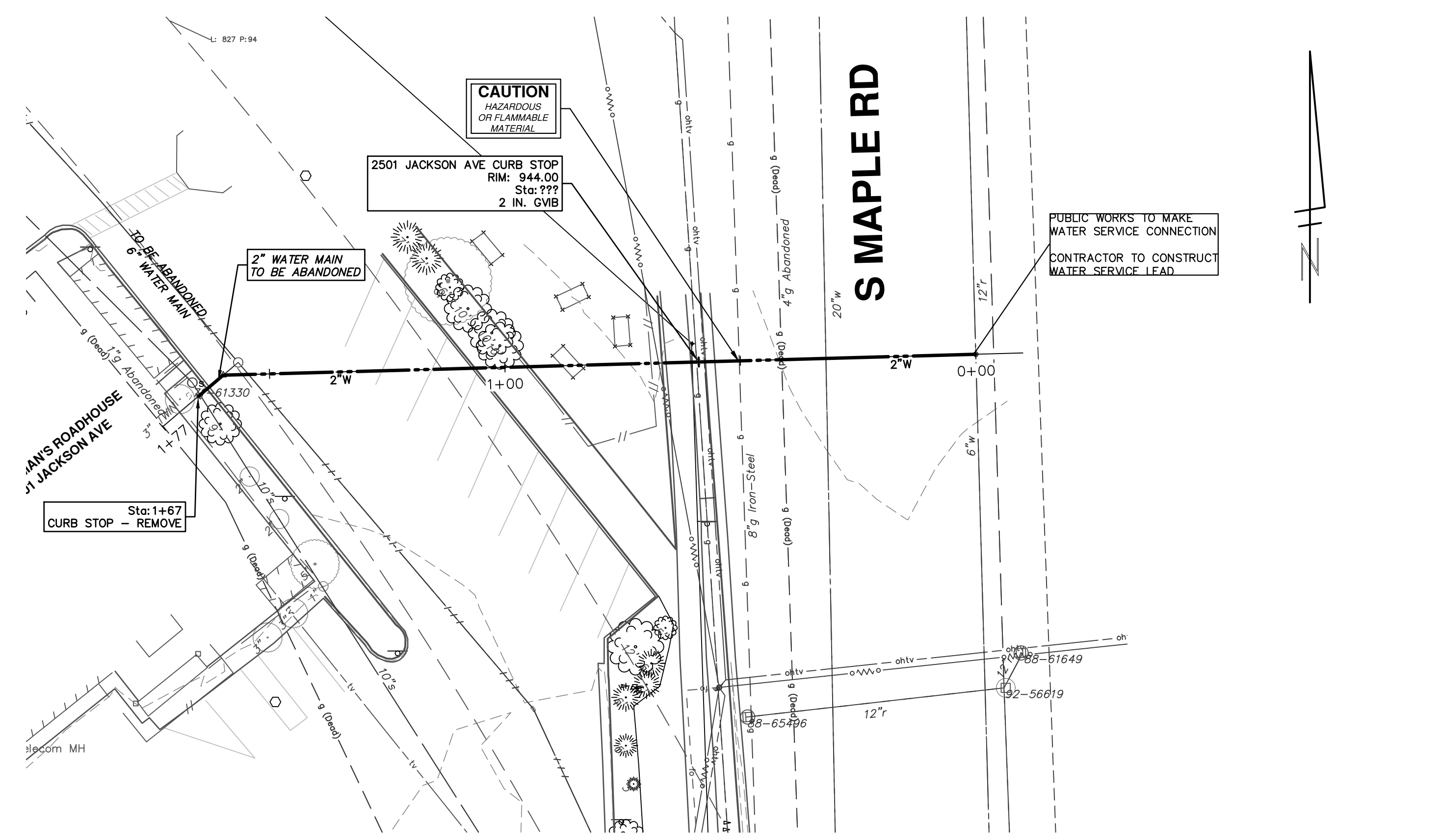
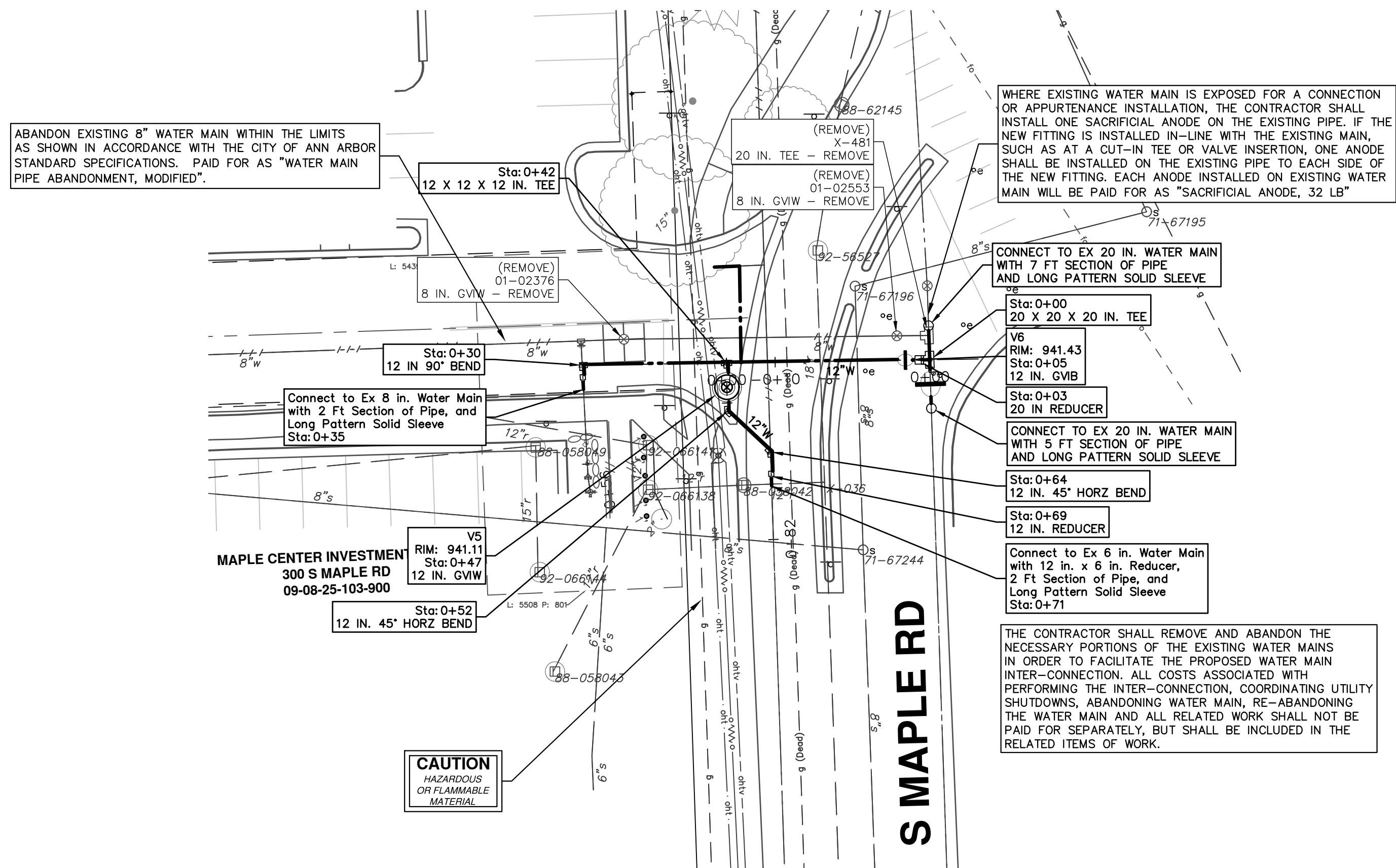


NO.	DESCRIPTION	DATE	BY	CHECKED
00	REVISE THIS WHEN GOING OUT FOR BID			
01	COPY A2REVDATE:DWG TO PROJECT FOLDER AND			

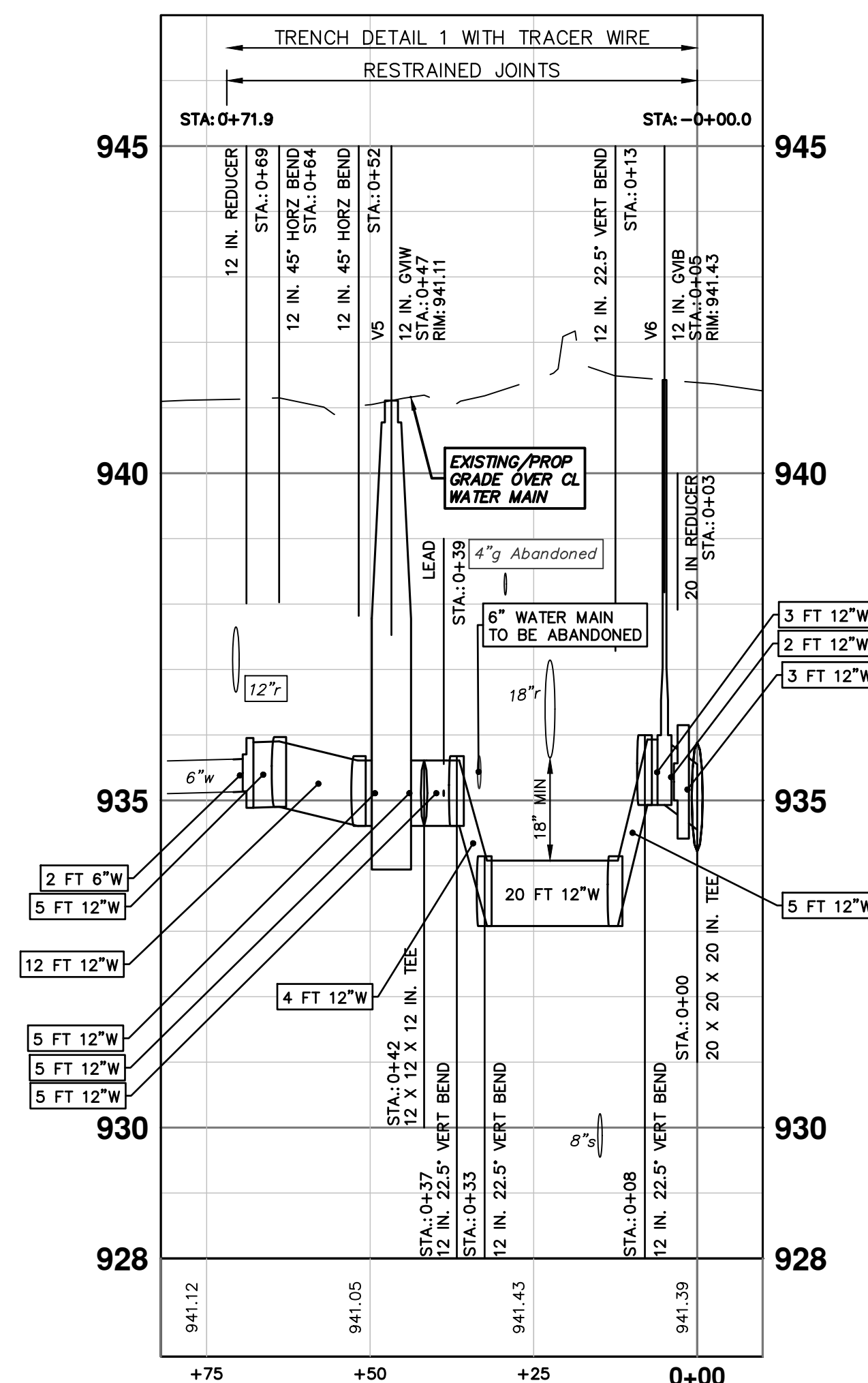
CITY OF ANN ARBOR  
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING  
WESTGATE WATERMAIN  
WEST SIDE NORTH-SOUTH WATER MAIN  
HYDRANTS H3, H4  
SCALE PLAN: 1" = 20'  
PROFILE: 1" = 2'  
DRAWING No. 2023013-28  
SHEET No. 28 OF 37



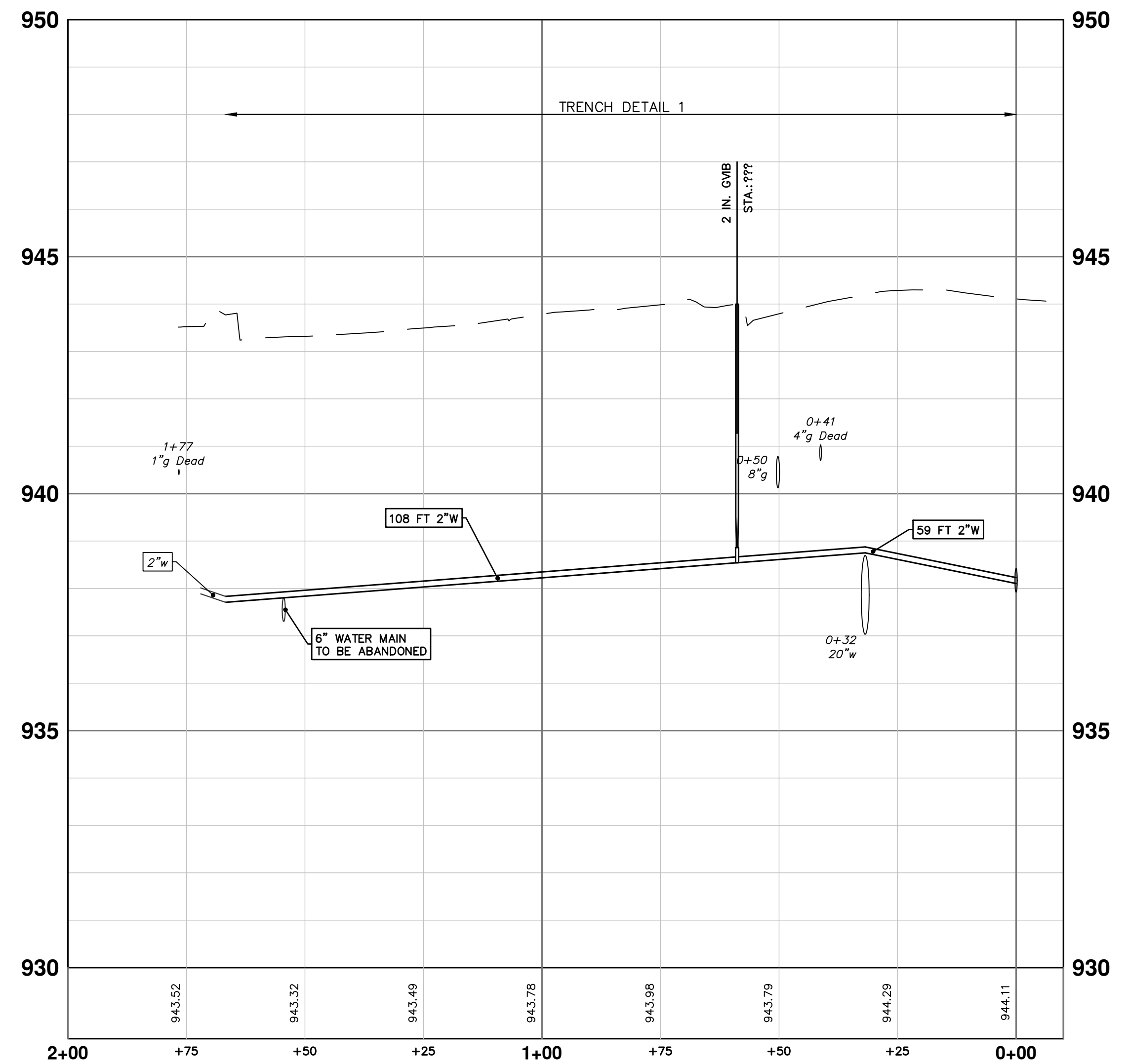
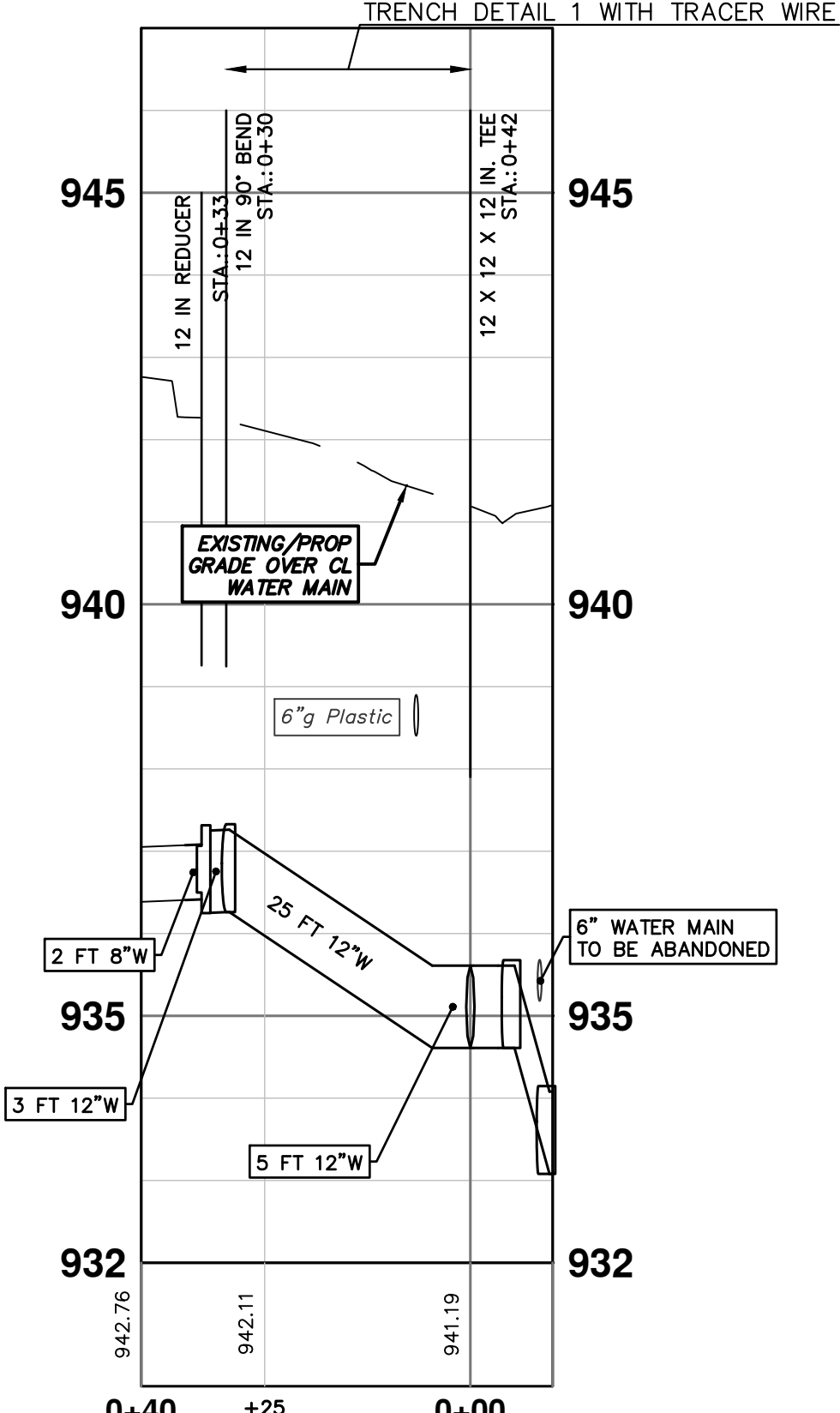
S MAPLE WATER TIE-IN




WATER MAIN STRUCTURES			
STRUCTURE	TYPE	STATION	RIM
V6	12 in. GVB	0+05	941.43
V5	12 in. GVB	0+47	941.11

WATER MAIN STRUCTURE REMOVALS	
STRUCTURE	TYPE
01-02553	8 in. GVB - Remove
01-02376	8 in. GVB - Remove

LEWIS JEWELERS HYDRANT RECONNECTION






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COPY A REVISIONS TO PROJECT FOLDER AND  
REVISE THIS WHEN GOING OUT FOR BID

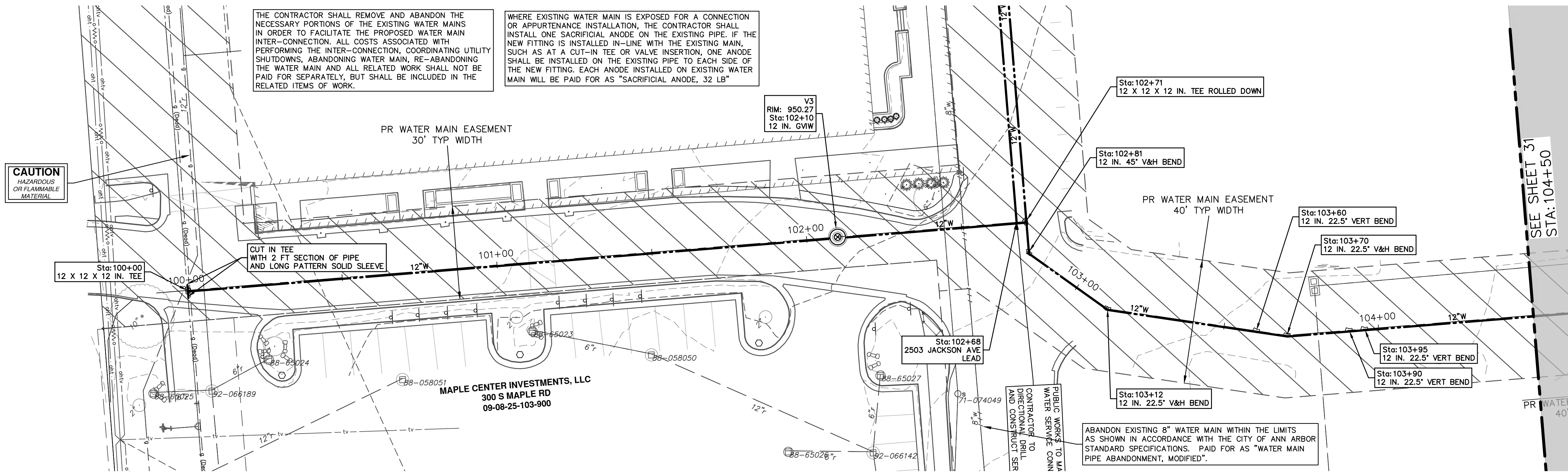
NO.	DATE	DESCRIPTION



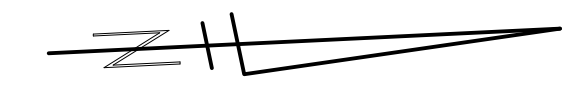
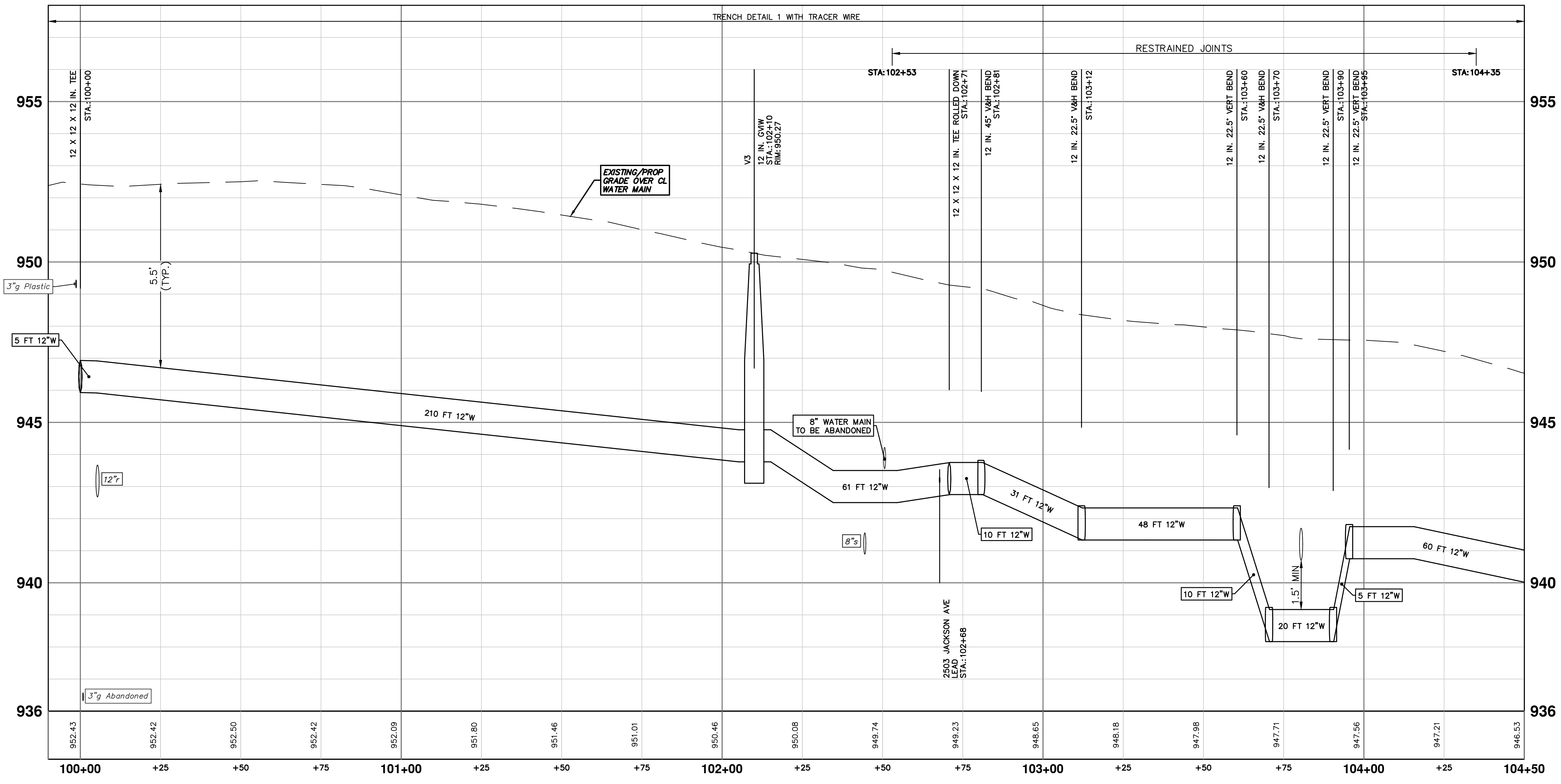
**CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING**  
**WESTGATE WATERMAIN**  
 S MAPLE WATER TIE-IN  
 S MAPLE RECONNECTIONS AND ZINGERMANS WATER LEAD

SCALE PLAN: #####  
 PROFILE: 1" = 2'  
 DRAWING NO. 2023013-29  
 SHEET NO. 29 OF 37

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STRUCTURE	TYPE	STATION	RIM
V3	12 in. GVW	102+10	950.27



**CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING**

**WESTGATE WATERMAIN**

SE WATER MAIN REROUTE

STA. 100+00 - STA. 104+50

SCALE PLAN: 1" = 20'  
PROFILE: 1" = 2'

DRAWING No. 2023013-30

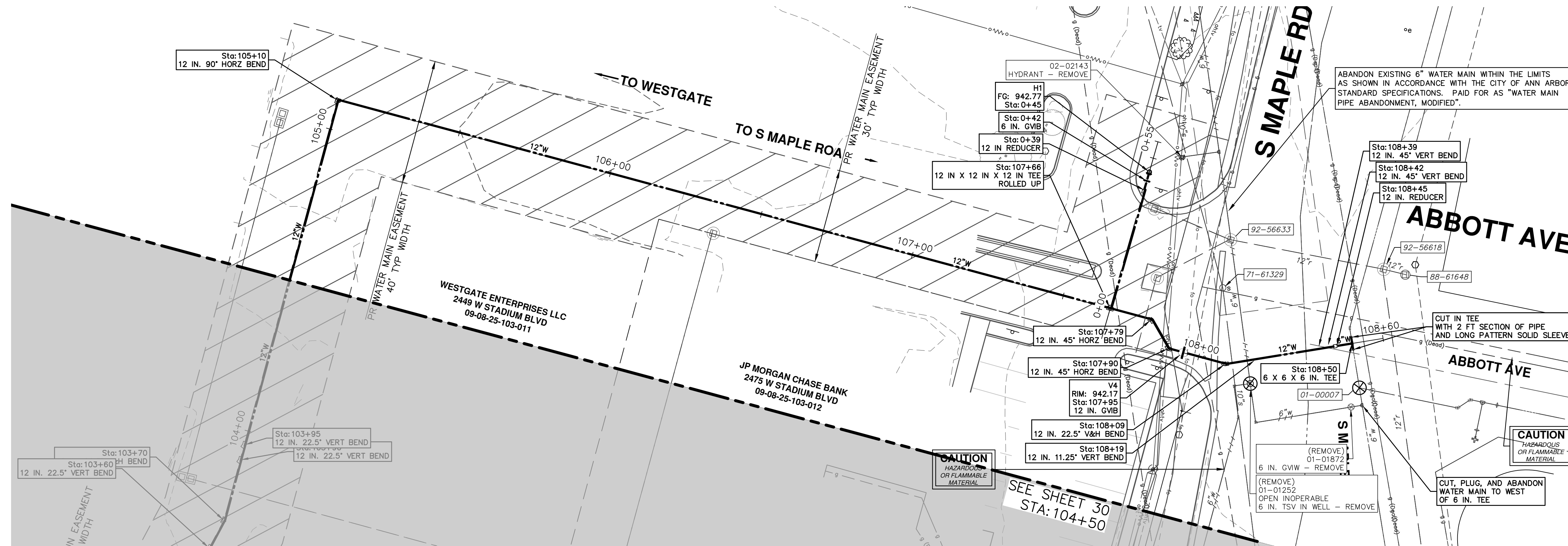
SHEET No. 30 OF 37

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REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	BID SET	01/23/2025	KMB	FDC

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ANN ARBOR 734.794.6410  
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R:\2023013 Westgate Watermain\Plan Production\2023013Watr2.dwg Dwg Created: 16-Jan-25 -- a2 standard bw.stb -- Plot Date: 23-Jan-25

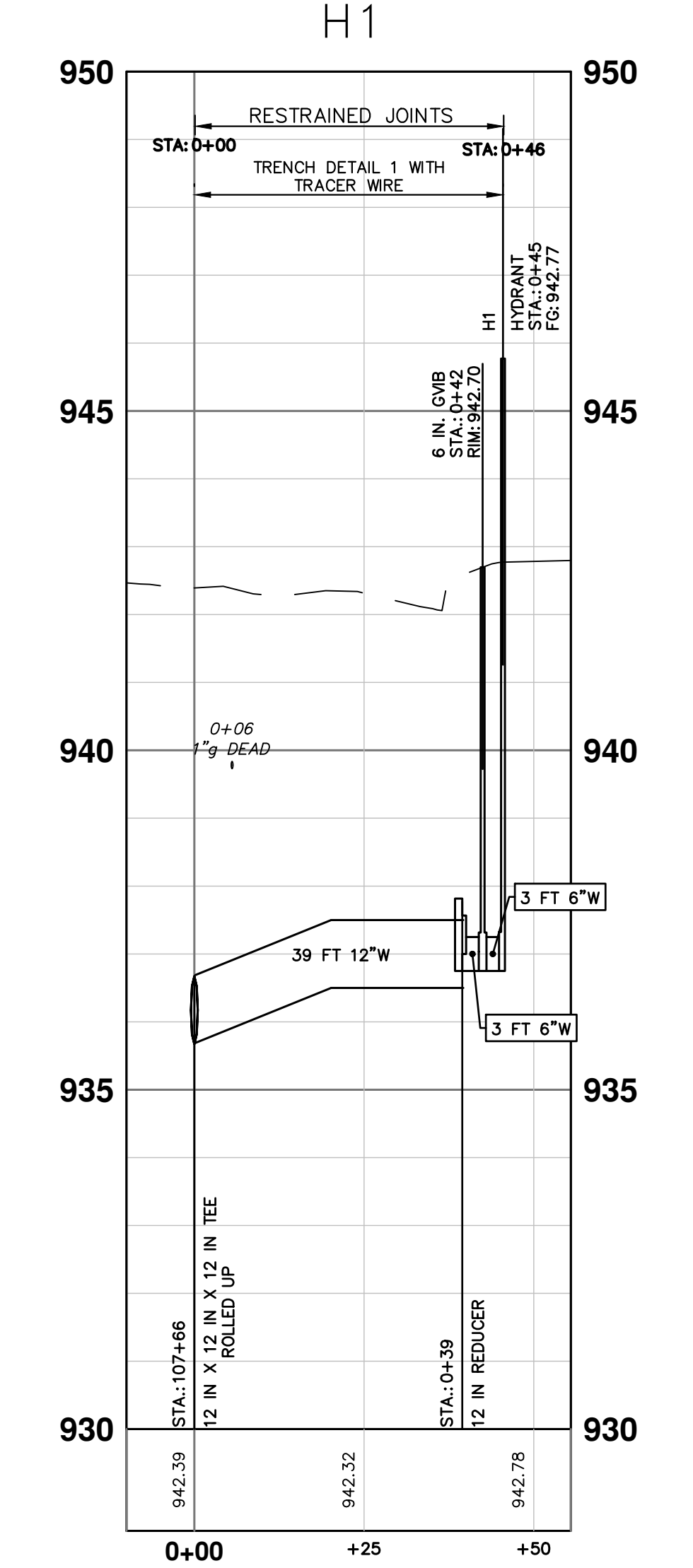
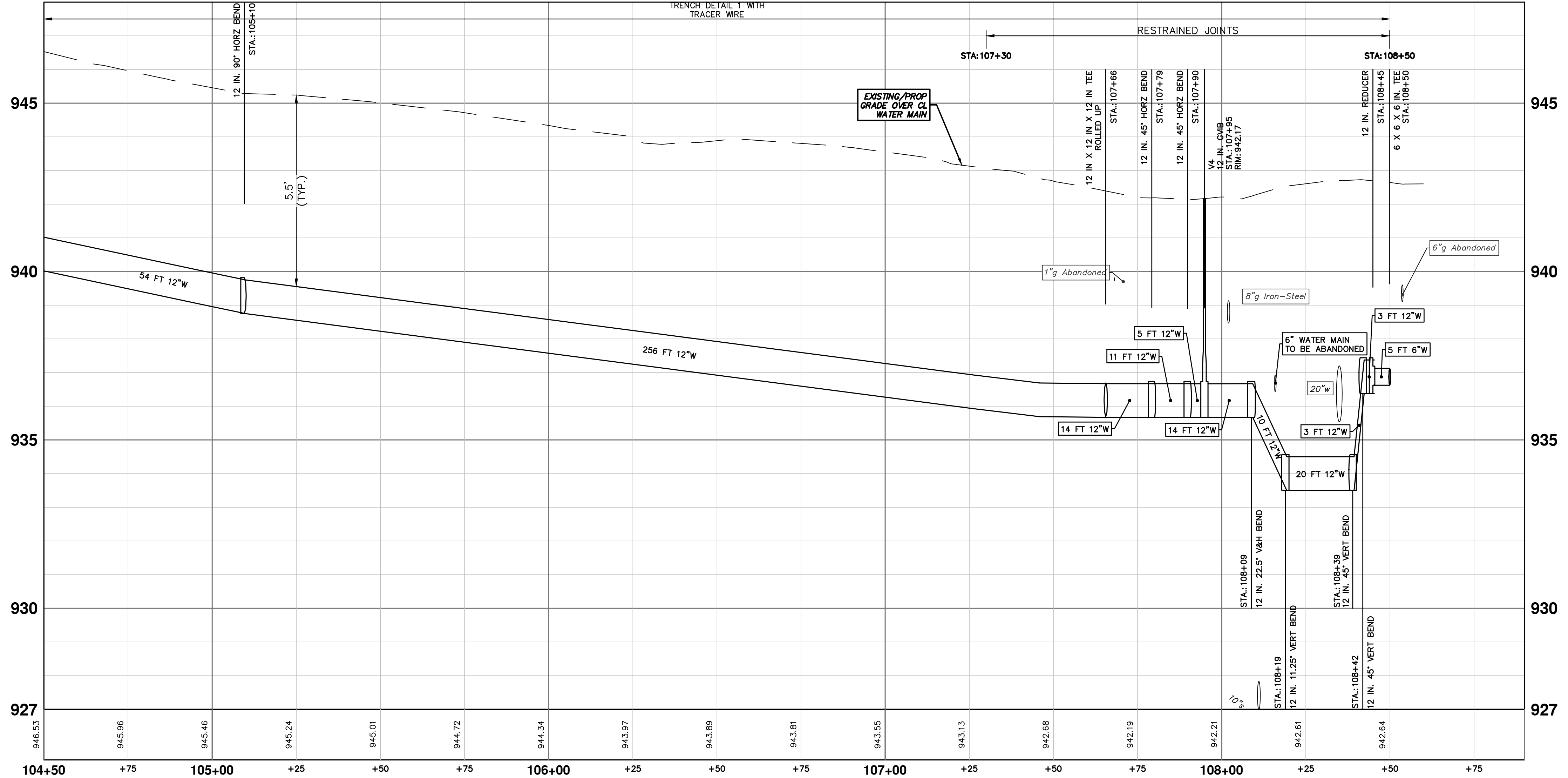


THE CONTRACTOR SHALL REMOVE AND ABANDON THE NECESSARY PORTIONS OF THE EXISTING WATER MAINS IN ORDER TO FACILITATE THE PROPOSED WATER MAIN INTER-CONNECTION. ALL COSTS ASSOCIATED WITH PERFORMING THE INTER-CONNECTION, COORDINATING UTILITY SHUTDOWNS, ABANDONING WATER MAIN, RE-ABANDONING THE WATER MAIN AND ALL RELATED WORK SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE RELATED ITEMS OF WORK.

WHERE EXISTING WATER MAIN IS EXPOSED FOR A CONNECTION OR APPURTENANCE INSTALLATION, THE CONTRACTOR SHALL INSTALL ONE SACRIFICIAL ANODE ON THE EXISTING PIPE. IF THE NEW FITTING IS INSTALLED IN-LINE WITH THE EXISTING MAIN, SUCH AS AT A CUT-IN TEE OR VALVE INSERTION, ONE ANODE SHALL BE INSTALLED ON THE EXISTING PIPE TO EACH SIDE OF THE NEW FITTING. EACH ANODE INSTALLED ON EXISTING WATER MAIN WILL BE PAID FOR AS "SACRIFICIAL ANODE, 32 LB".

STRUCTURE	TYPE	STATION	RIM
V4	12 in. GVIW	107+95	942.17

STRUCTURE	TYPE	STATION	FG
H1	HYDRANT	0+45	942.77



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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING  
WESTGATE WATERMAIN  
SE WATER MAIN REROUTE  
STA. 104+50 - STA. 108+63 AND HYDRANT H1

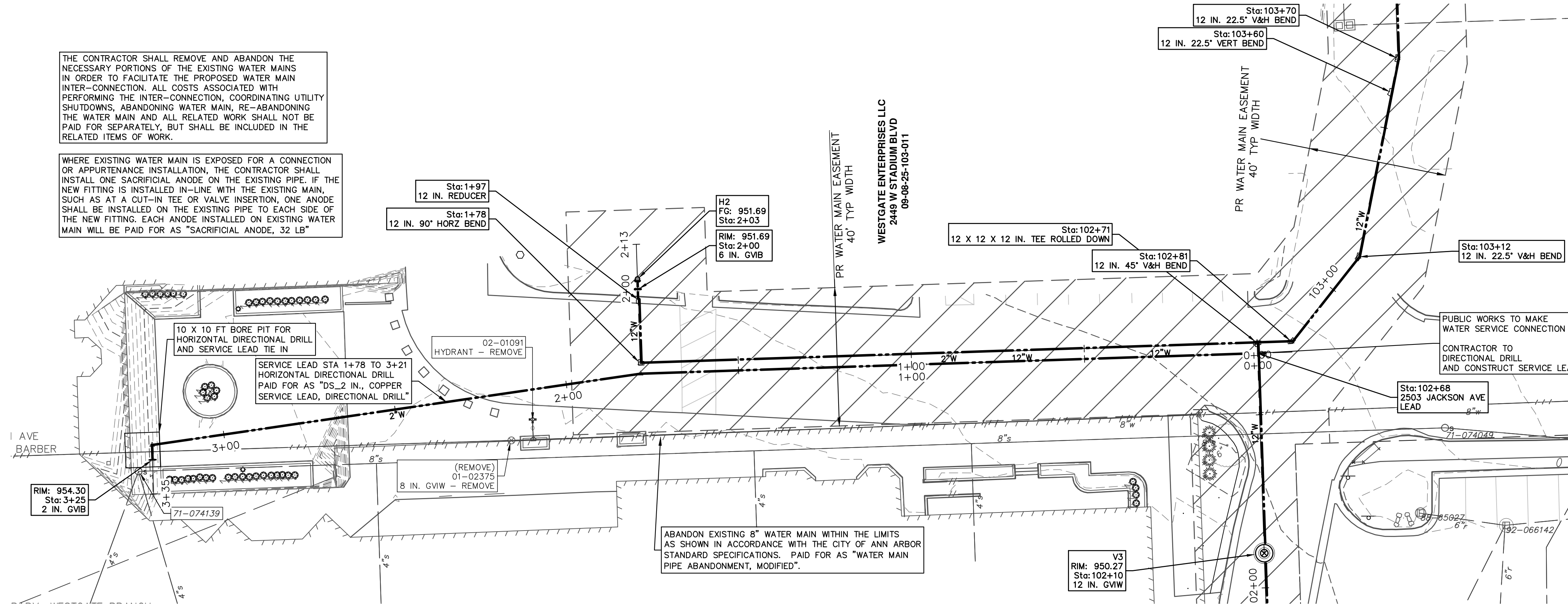
SHEET No. 31 OF 37  
SCALE PLAN: 1" = 20'  
PROFILE: 1" = 2'  
DRAWING No. 2023013-31

NO.	DATE	DESCRIPTION	BY	CHKD
00	01/23/2025	REV.	DD	DD
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THE CONTRACTOR SHALL REMOVE AND ABANDON THE NECESSARY PORTIONS OF THE EXISTING WATER MAINS IN ORDER TO FACILITATE THE PROPOSED WATER MAIN INTER-CONNECTION. ALL COSTS ASSOCIATED WITH PERFORMING THE INTER-CONNECTION, COORDINATING UTILITY SHUTDOWNS, ABANDONING WATER MAIN, RE-ABANDONING THE WATER MAIN AND ALL RELATED WORK SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE RELATED ITEMS OF WORK.

WHERE EXISTING WATER MAIN IS EXPOSED FOR A CONNECTION OR APPURTENANCE INSTALLATION, THE CONTRACTOR SHALL INSTALL ONE SACRIFICIAL ANODE ON THE EXISTING PIPE. IF THE NEW FITTING IS INSTALLED IN-LINE WITH THE EXISTING MAIN, SUCH AS AT A CUT-IN TEE OR VALVE INSERTION, ONE ANODE SHALL BE INSTALLED ON THE EXISTING PIPE TO EACH SIDE OF THE NEW FITTING. EACH ANODE INSTALLED ON EXISTING WATER MAIN WILL BE PAID FOR AS "SACRIFICIAL ANODE, 32 LB"

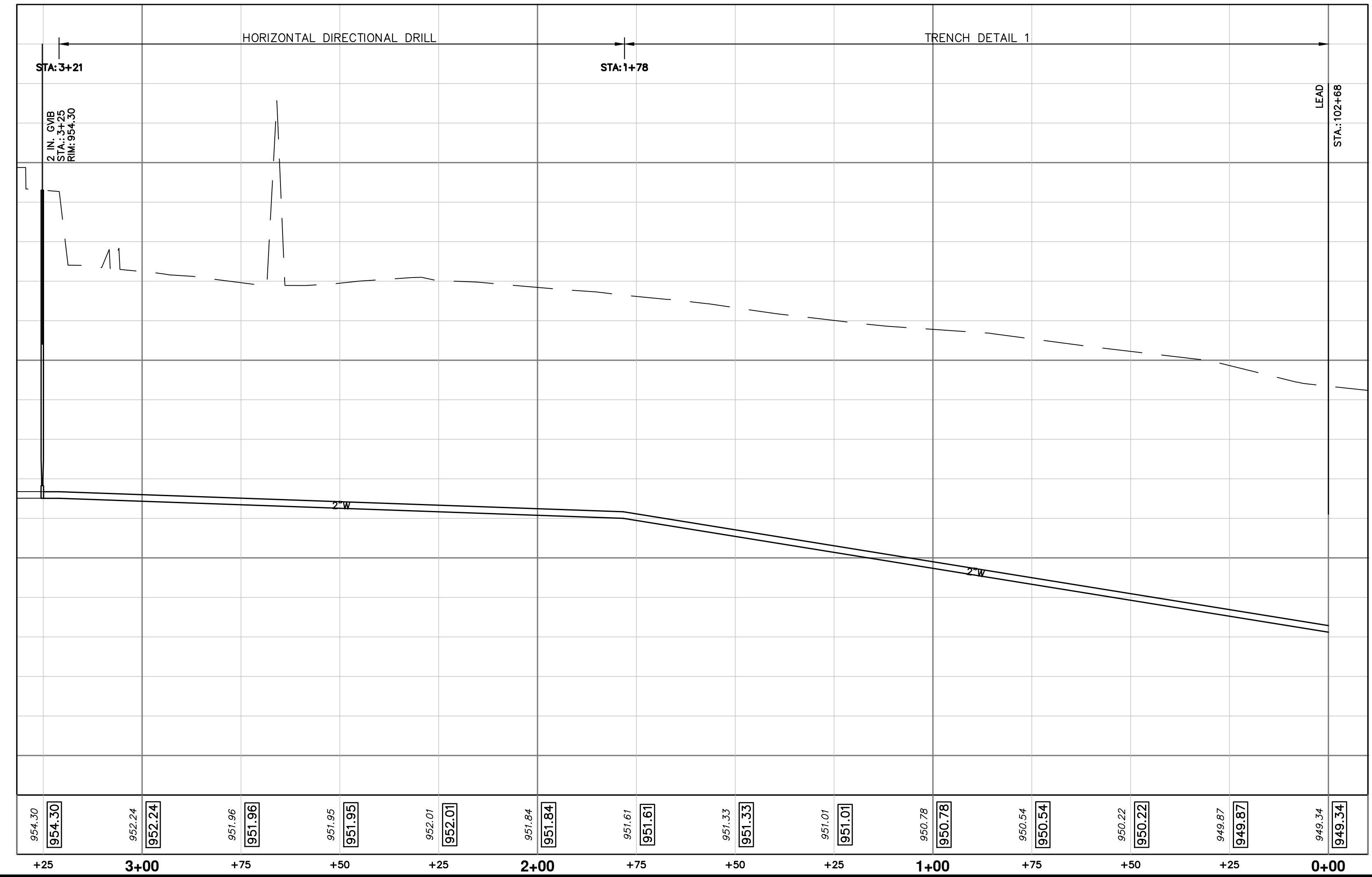
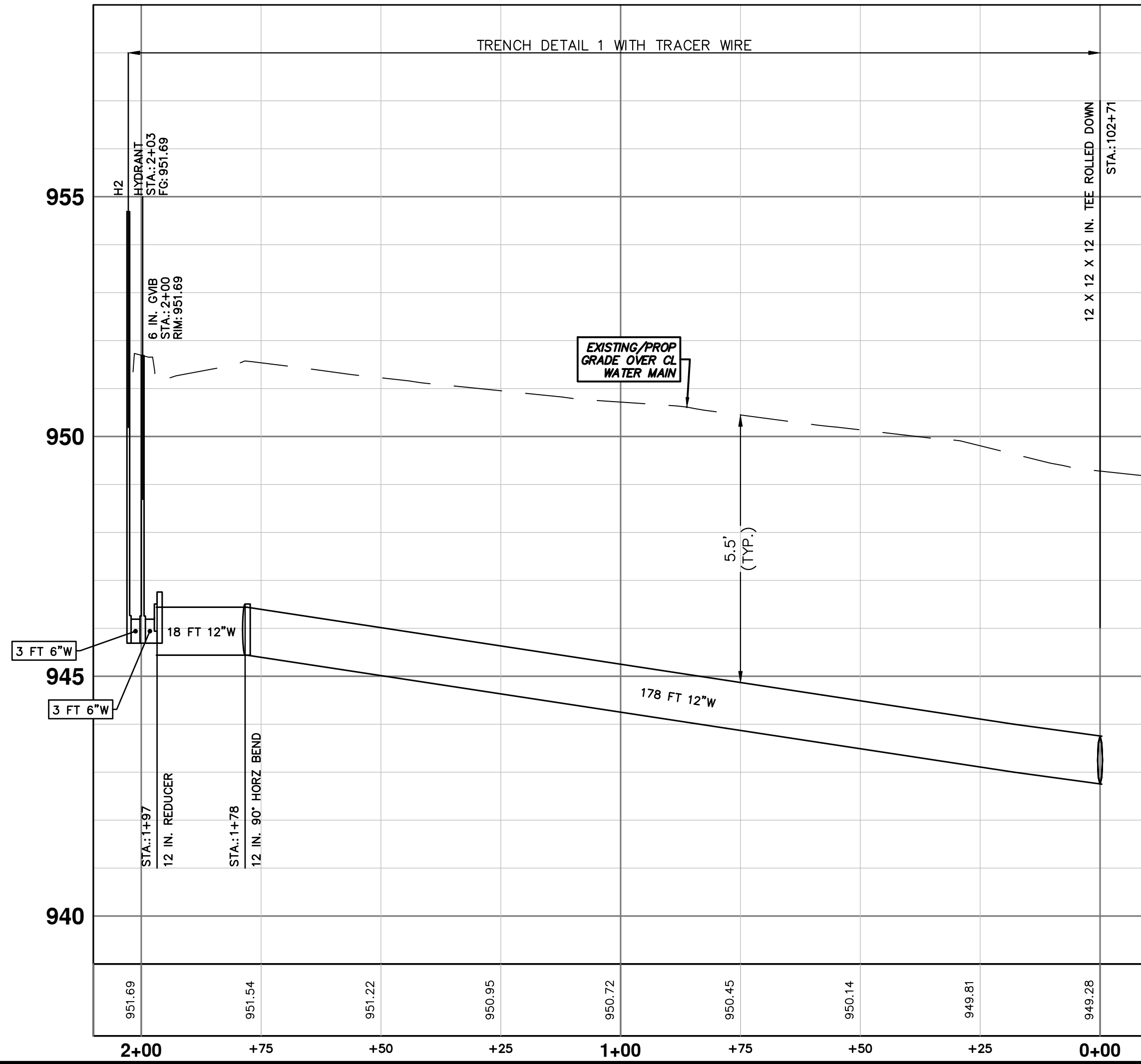


WATER MAIN STRUCTURES			
STRUCTURE	TYPE	STATION	FG
H2	HYDRANT	2+03	951.69

WATER MAIN STRUCTURE REMOVALS	
STRUCTURE	TYPE
01-02375	8 in. GVIW - Remove
02-01091	HYDRANT - Remove

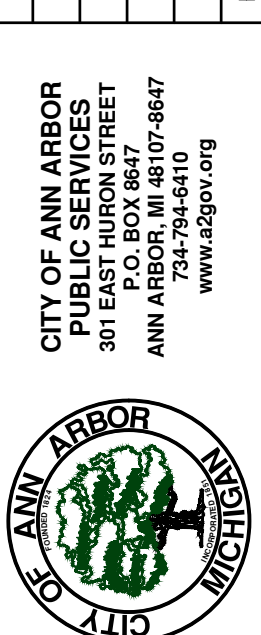
H2

2503 JACKSON WATER SERVICE



NO	BID SET	DATE	DESCRIPTION	REV.
		01/23/2025	DRAWN	KMB
			CHECKED	FDC

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING  
WESTGATE WATERMAIN  
SE WATER MAIN REROUTE  
HYDRANT H2 & 2503 JACKSON AVE SERVICE LEAD

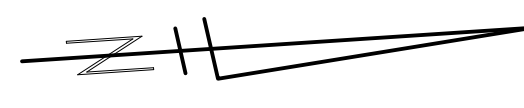
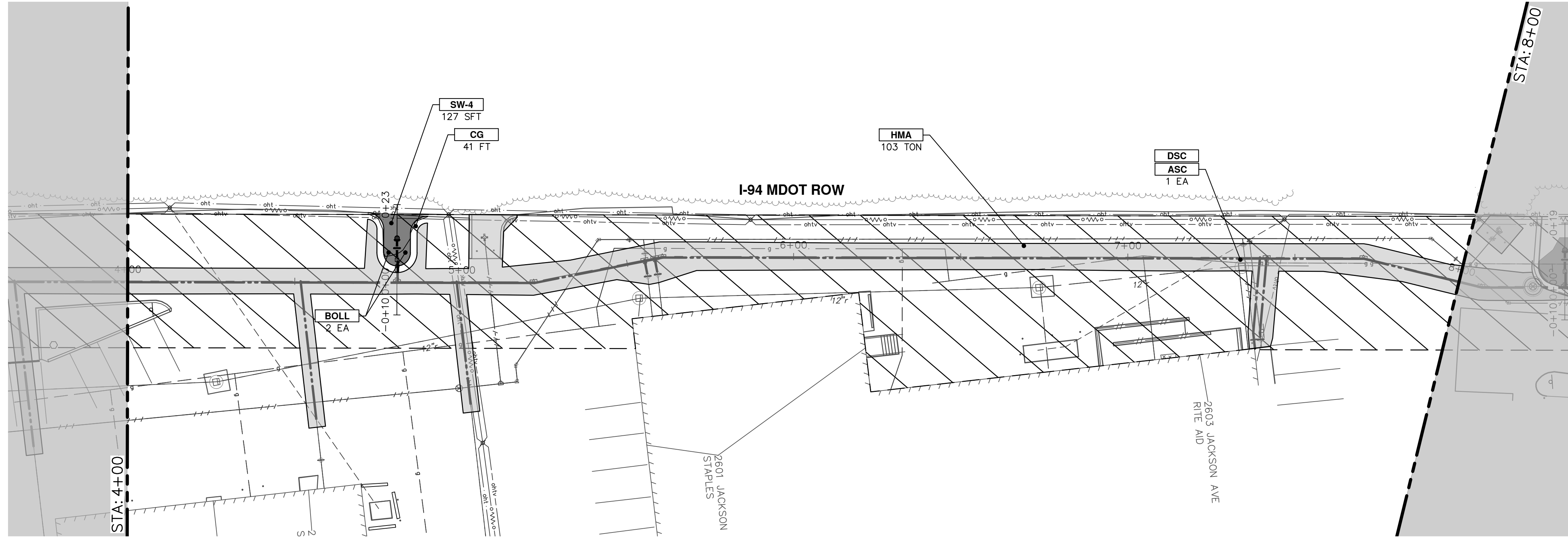
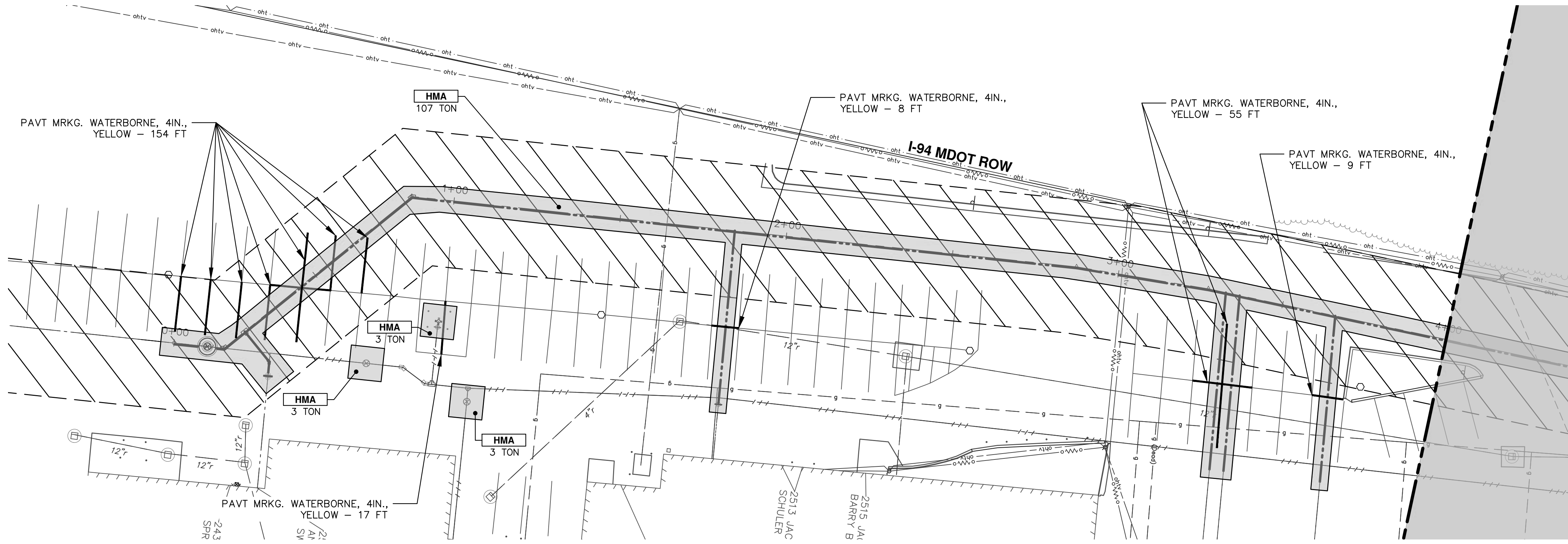
SCALE PLAN: 1" = 20'  
PROFILE: 1" = 2'

DRAWING No. 2023013-32

SHEET No. 32 OF 37



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CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	PLACE HMA. PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER.
CG	Conc. Curb or Curb & Gutter, All Types
DOM	Conc. Driveway Opening, Type M
SW-4	Conc. Sidewalk, 4 In.
SWR-6	Conc. Sidewalk, Drive Approach, or Ramp, 6 In.
ASC	Adjust Structure Cover
DSC	Structure Cover
BOLL	Steel Bollard
TURF	Turf Restoration
DWS	Detectable Warning Surface

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REV. DATE BY CHECKED

**CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING**

**WESTGATE WATERMAIN**

RESTORATION

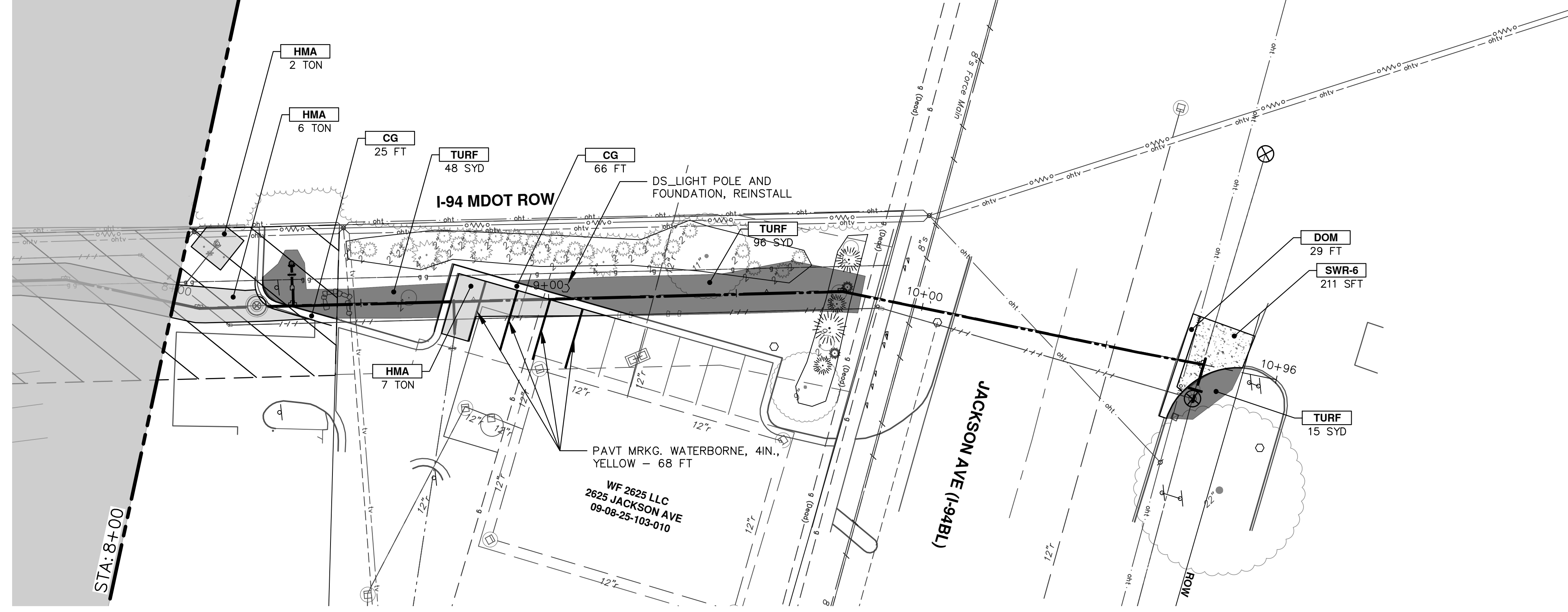
WEST SIDE RESTORATION STA. 0+00 - STA. 8+00

SCALE: 1" = 20'

DRAWING No. 2023013-33

SHEET No. 33 OF 37

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ANN ARBOR 734.794.4410  
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CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	PLACE HMA. PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER.
CG	Conc. Curb or Curb & Gutter, All Types
DOM	Conc. Driveway Opening, Type M
SW-4	Conc. Sidewalk, 4 In.
SWR-6	Conc. Sidewalk, Drive Approach, or Ramp, 6 In.
ASC	Adjust Structure Cover
DSC	Structure Cover
BOLL	Steel Bollard
TURF	Turf Restoration
DWS	Detectable Warning Surface



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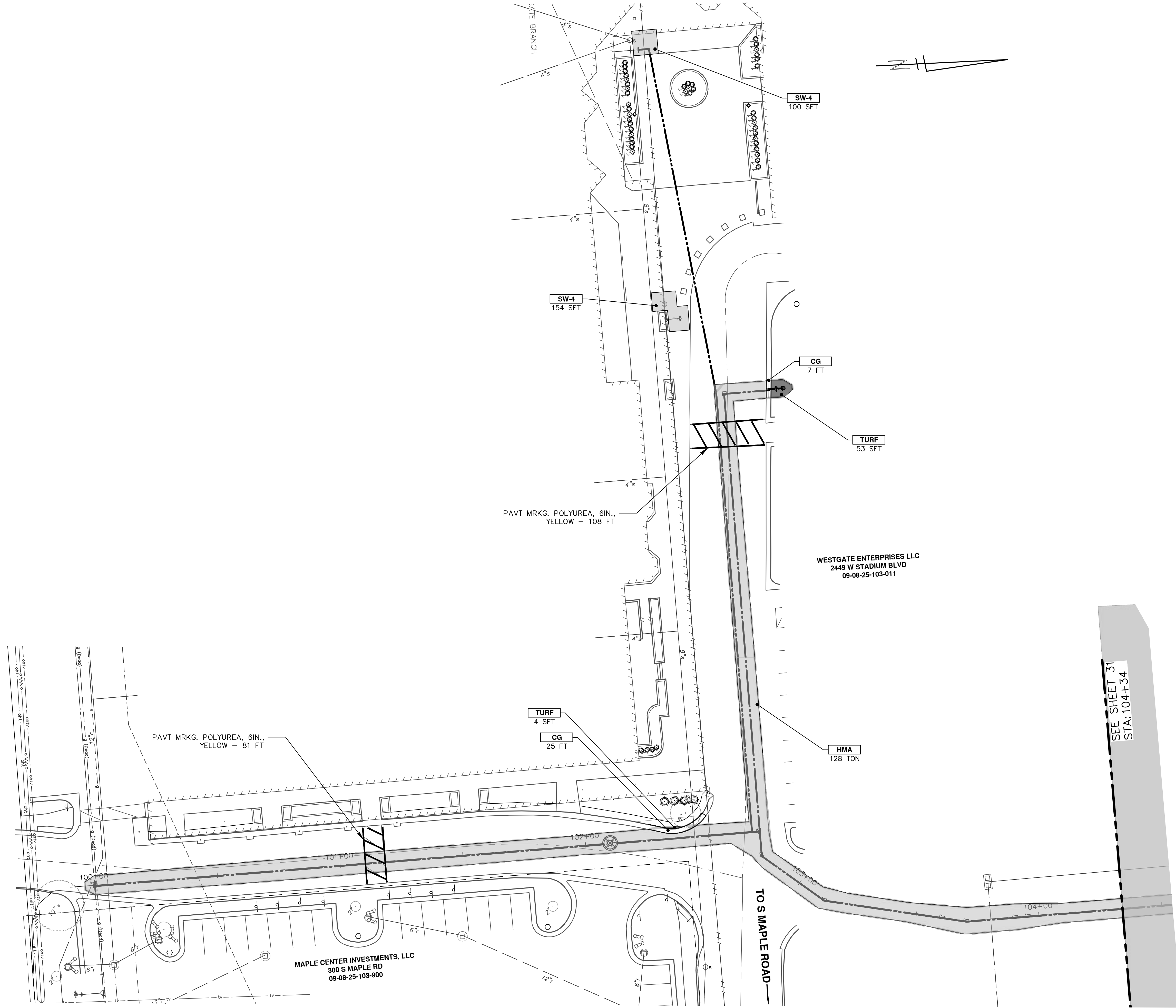


CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING  
WESTGATE WATERMAIN  
RESTORATION

WEST SIDE RESTORATION STA. 8+00 - STA. 10+00

SCALE: 1" = 20'  
DRAWING No. 2023013-34

NO	REVISION	DATE	BY	CHECKED



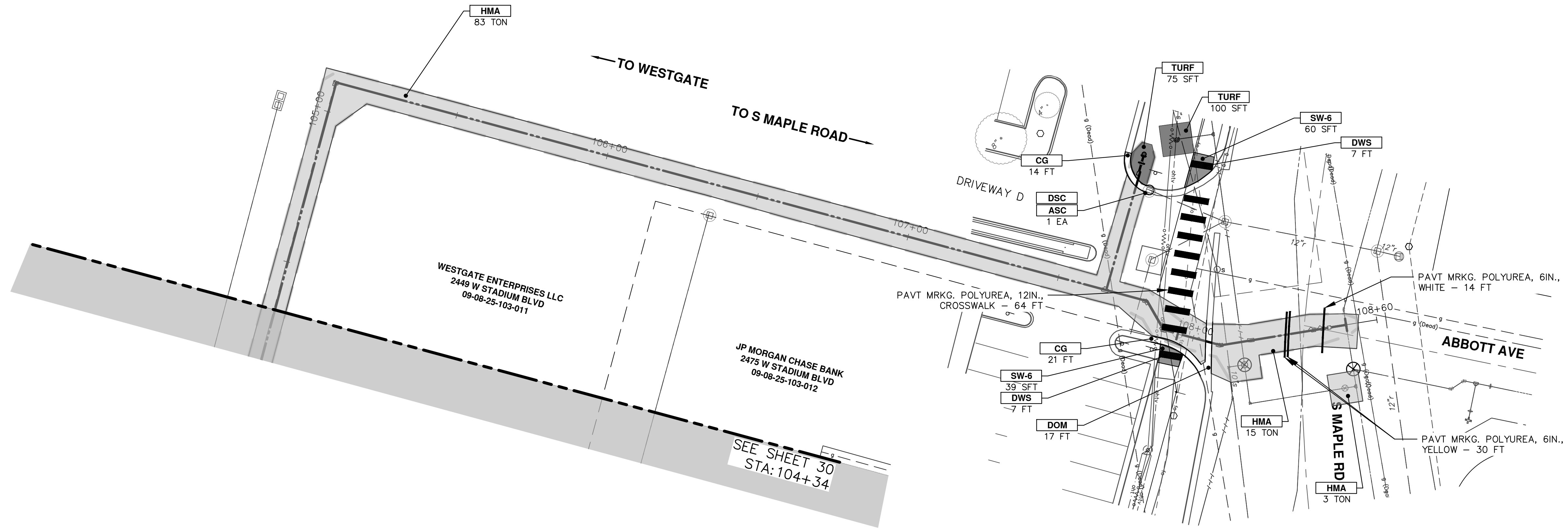
CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	PLACE HMA, PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER.
CG	Conc. Curb or Curb & Gutter, All Types
DOM	Conc. Driveway Opening, Type M
SW-4	Conc. Sidewalk, 4 In.
SWR-6	Conc. Sidewalk, Drive Approach, or Ramp, 6 In.
ASC	Adjust Structure Cover
DSC	Structure Cover
BOLL	Steel Bollard
TURF	Turf Restoration
DWS	Detectable Warning Surface



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CONSTRUCTION KEY	
KEY	DESCRIPTION
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CG	Conc. Curb or Curb & Gutter, All Types
DOM	Conc. Driveway Opening, Type M
SW-4	Conc. Sidewalk, 4 In.
SWR-6	Conc. Sidewalk, Drive Approach, or Ramp, 6 In.
ASC	Adjust Structure Cover
DSC	Structure Cover
BOLL	Steel Bollard
TURF	Turf Restoration
DWS	Detectable Warning Surface

SEE SHEET 30  
STA: 104+34

WESTGATE ENTERPRISES LLC  
2449 W STADIUM BLVD  
09-08-25-103-011

JP MORGAN CHASE BANK  
2475 W STADIUM BLVD  
09-08-25-103-012

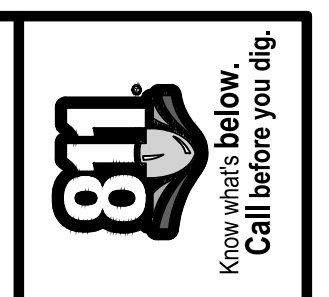
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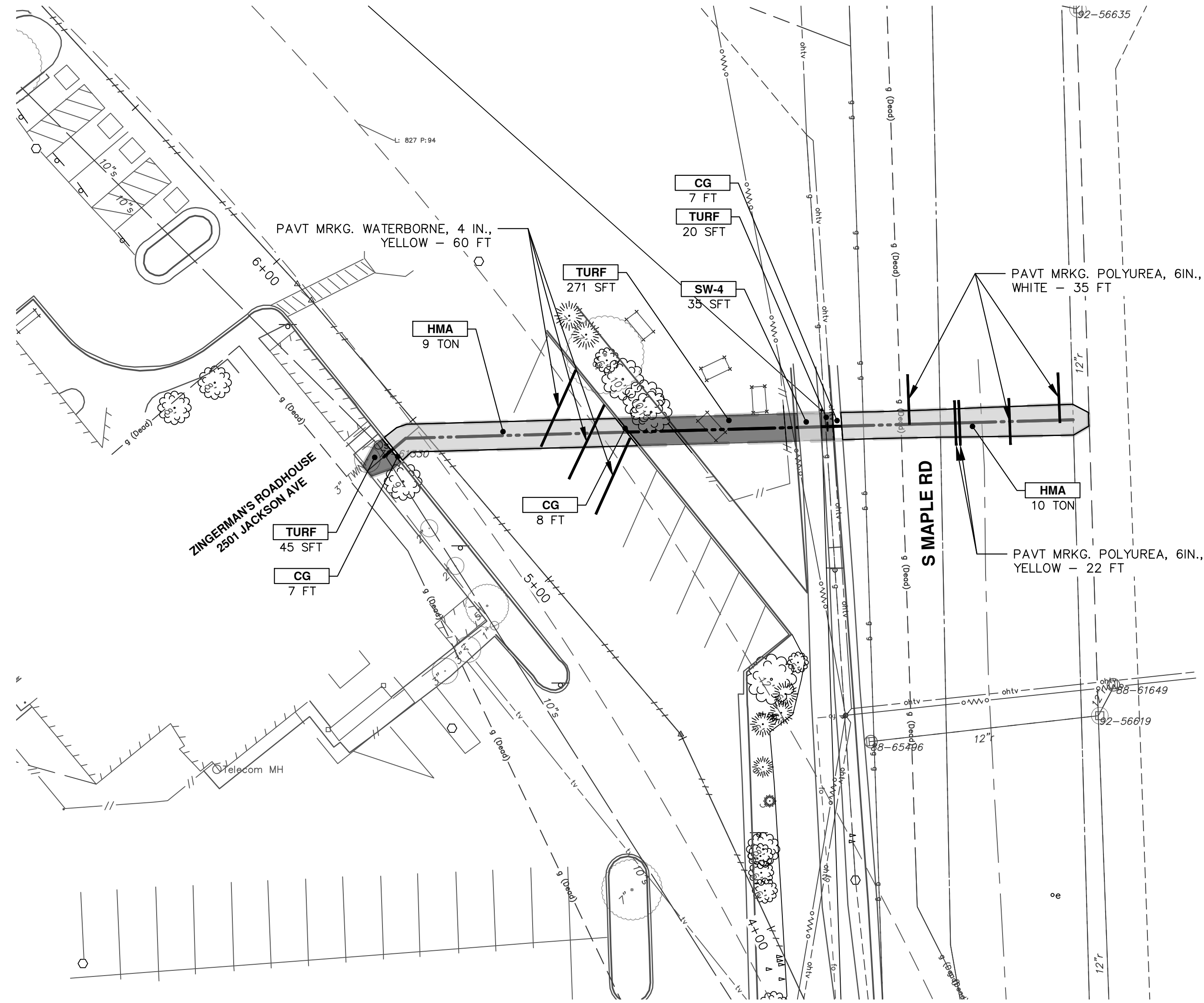
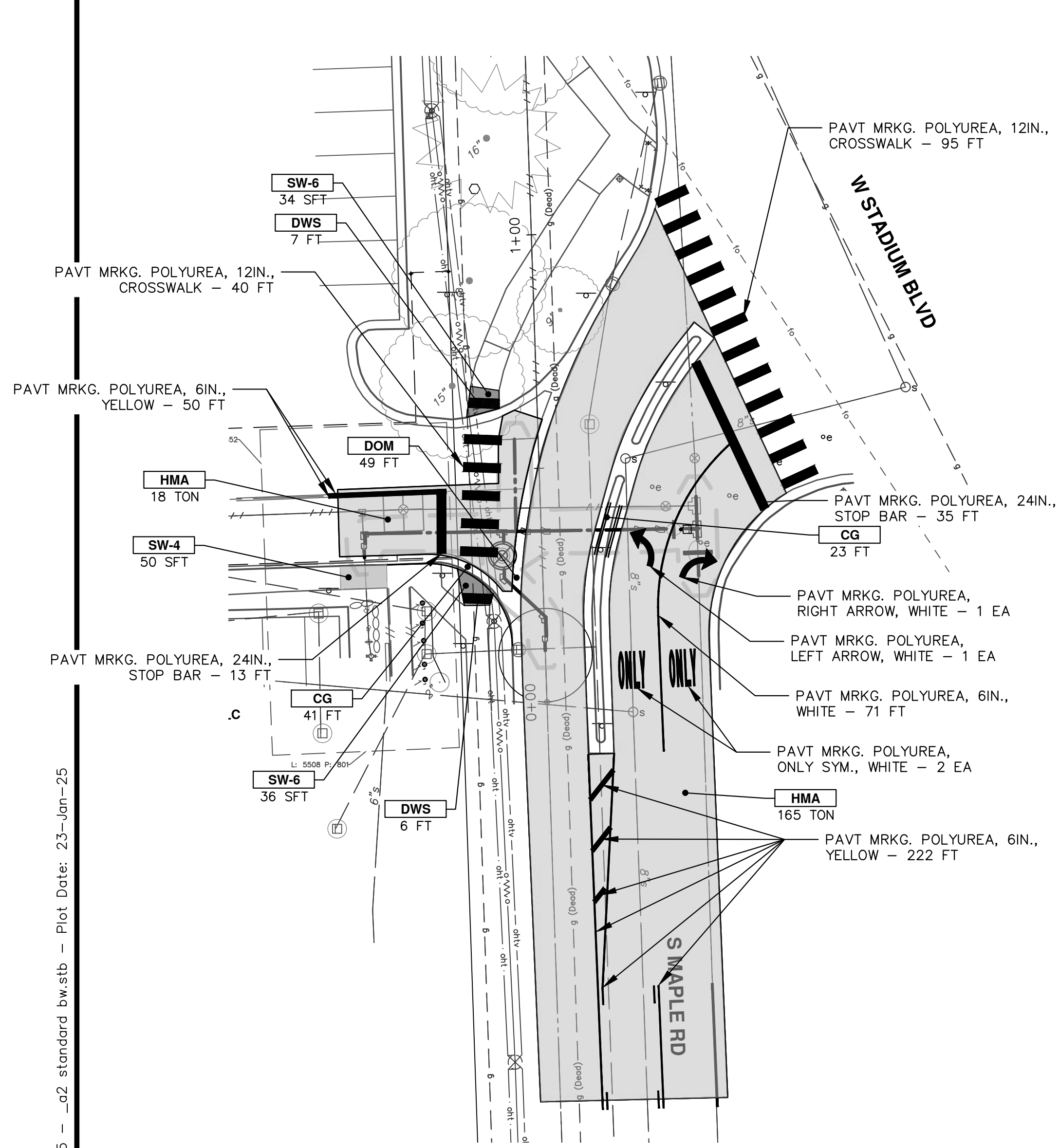
**CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING**  
**WESTGATE WATERMAIN**  
RESTORATION

SCALE PLAN: 1" = 20'  
PROFILE: 1" = 4'  
DRAWING No. 2023013-36

SE WATER MAIN REROUTE RESTORATION STA. 104+50 - STA. 108+76



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CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	PLACE HMA, PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER.
CG	Conc. Curb or Curb & Gutter, All Types
DOM	Conc. Driveway Opening, Type M
SW-4	Conc. Sidewalk, 4 In.
SWR-6	Conc. Sidewalk, Drive Approach, or Ramp, 6 In.
ASC	Adjust Structure Cover
DSC	Structure Cover
BOLL	Steel Bollard
TURF	Turf Restoration
DWS	Detectable Warning Surface