



CITY OF ANN ARBOR ENGINEERING

2023 MISCELLANEOUS UTILITY PROJECTS

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 1994 EDITION OF THE CITY OF ANN ARBOR PUBLIC SERVICES DEPARTMENT STANDARD SPECIFICATIONS, ITS DETAILS, WHICH ARE INCLUDED BY REFERENCE, AND THIS PROJECT'S CONTRACT DOCUMENTS. THE OMISSION OF ANY CURRENT STANDARD DETAIL DOES NOT RELIEVE THE CONTRACTOR FROM THIS REQUIREMENT.



REV	01	EGL	PERMIT SUBMITTAL	DATE	BY	CHECKED
REV	02	BID SET		1-19-2023	BY	DRAWN
REV	01	EGL	PERMIT SUBMITTAL	11-18-2022	BY	CHECKED

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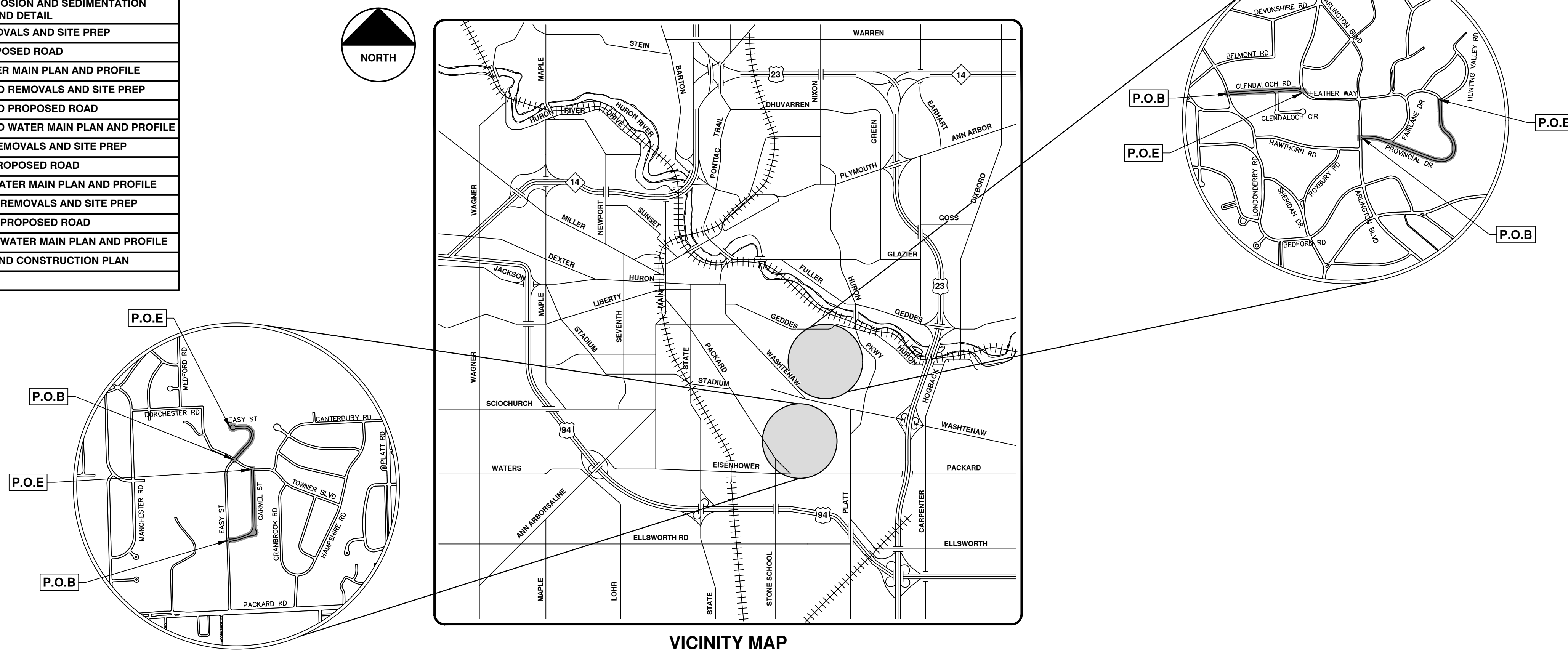
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
COVER SHEET
SCALE
DRAWING No. 2022-28-1
SHEET No. 1 OF 44

© 2023 MISCELLANEOUS UTILITY PROJECTS; BID No. RFP NO. 23-05; 2022-28

P:\0000_0100\0028220090_GOPE_Local_Streets_WM_&_Resurf\Drawings\Civil\Misc\220090COV.dwg - _a2_standard_bw.stb - Plot Date: 1/23/2023 11:06:33 AM

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RFP No. 23-05, FILE No. 2022-28



VICINITY MAP

PREPARED UNDER THE SUPERVISION OF

CHRISTOPHER ELENBAAS, P.E.
PROJECT MANAGER, OHM ADVISORS

1 / 19 / 2022
DATE

EXISTING LEGEND

EX = EXISTING		WATER MAIN
		WATER MAIN ABANDONED
I GATE VALVE IN BOX		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		HYDRANT (PLAN)
		REDUCER
		WATER STOP BOX
		INLET
		INLET JUNCTION CHAMBER
		STORM MANHOLE
		SANITARY MANHOLE
		CLEAN-OUT
		BARREL
		SIGN
		HAND HOLE

	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

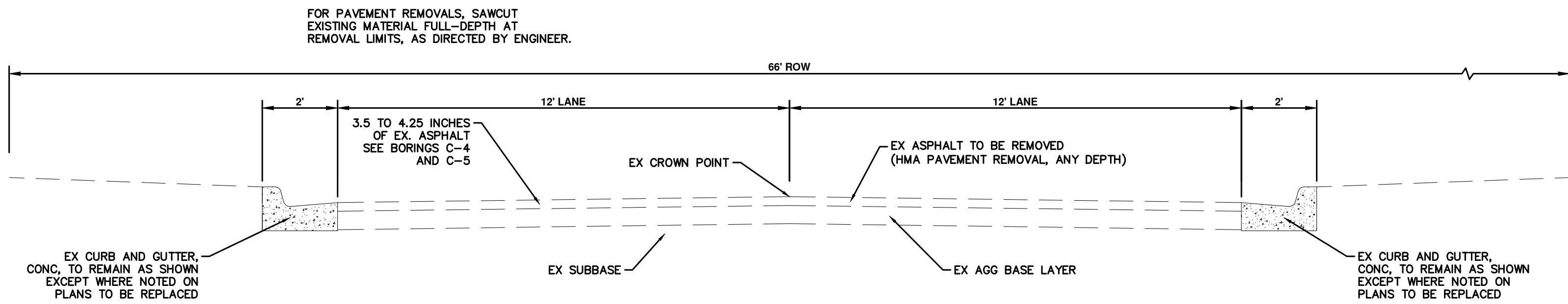


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REV 02	1-19-2023	BY	CHECKED

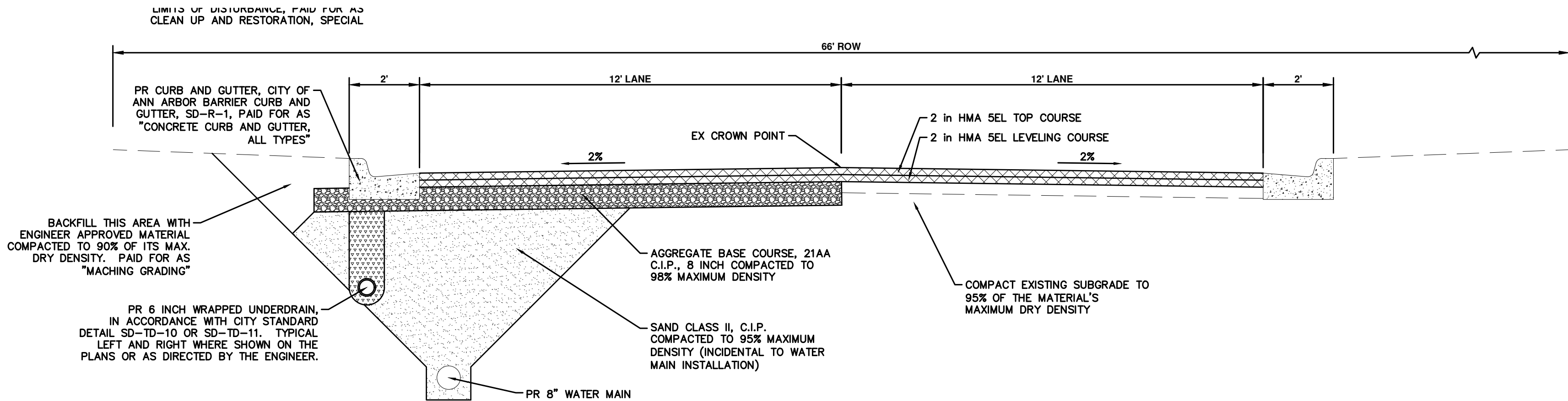
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
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LEGEND

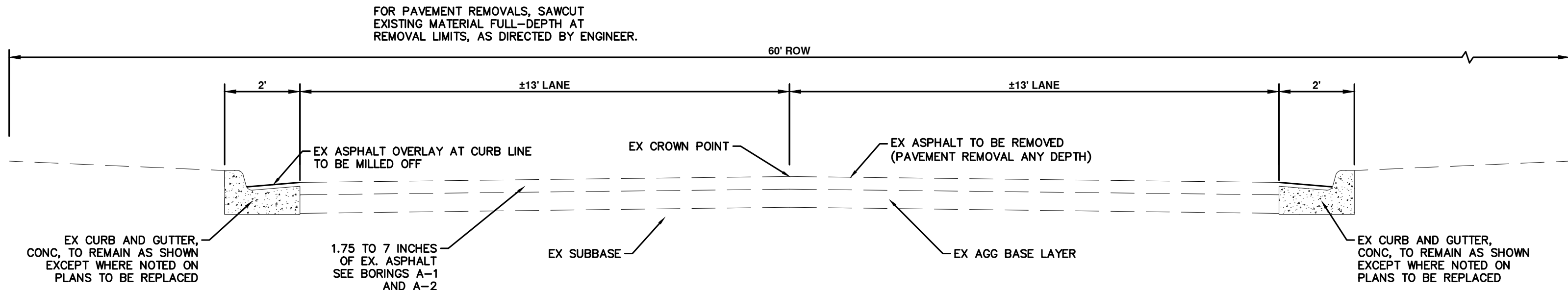
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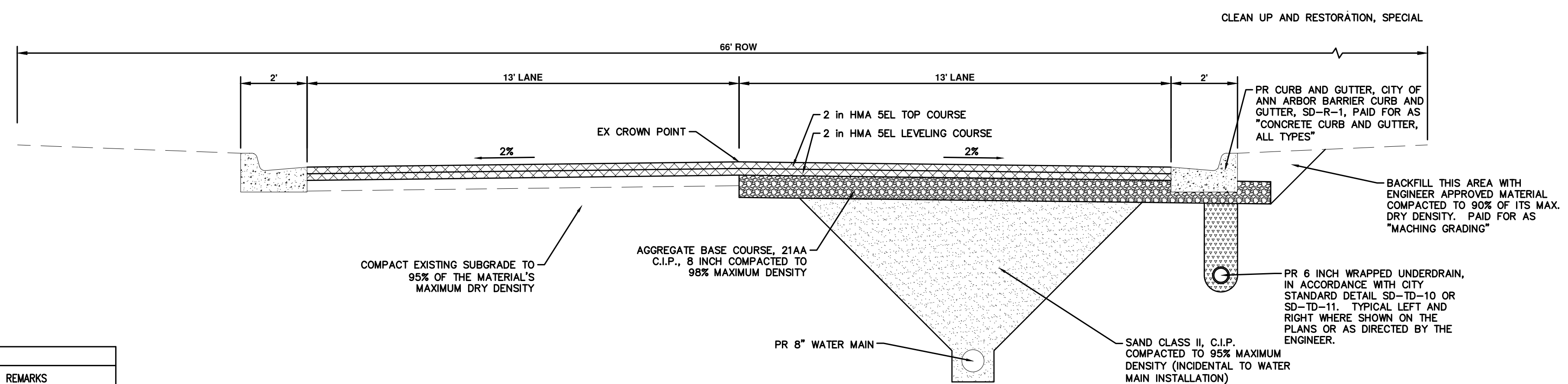
**EASY STREET
EXISTING TYPICAL SECTION**
P.O.B. TO P.O.E.
N.T.S.



**EASY STREET
PROPOSED TYPICAL SECTION**
STA 0+05 TO P.O.E.
N.T.S.




**GLENDALOCH ROAD
EXISTING TYPICAL SECTION**
P.O.B. TO P.O.E.
N.T.S.



**GLENDALOCH ROAD
PROPOSED TYPICAL SECTION**
P.O.B. TO P.O.E.
N.T.S.

HMA APPLICATION ESTIMATE				
IDEN. NO.	ITEM	RATE (LBS/SYD)	PERFORMANCE GRADE	REMARKS
SEL	HMA, SEL	220	58-28	LEVELING
SEL	HMA, SEL	220	58-28	ANI-260 MIN. WEARING
	* BOND COAT	0.05-0.15 GAL		

NOTE: MDOT TIER 1 RAP LIMITS APPLIES TO WEARING COURSE



CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
2023 MISCELLANEOUS UTILITY PROJECTS
EASY ST AND GLENDALOCH TYPICAL SECTIONS

811
Know what's below.
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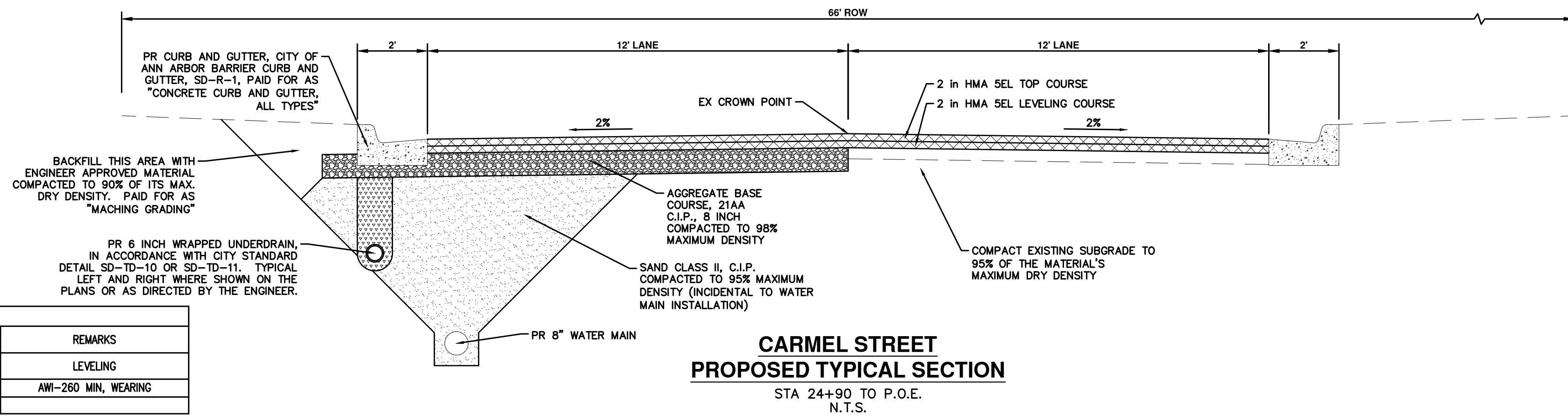
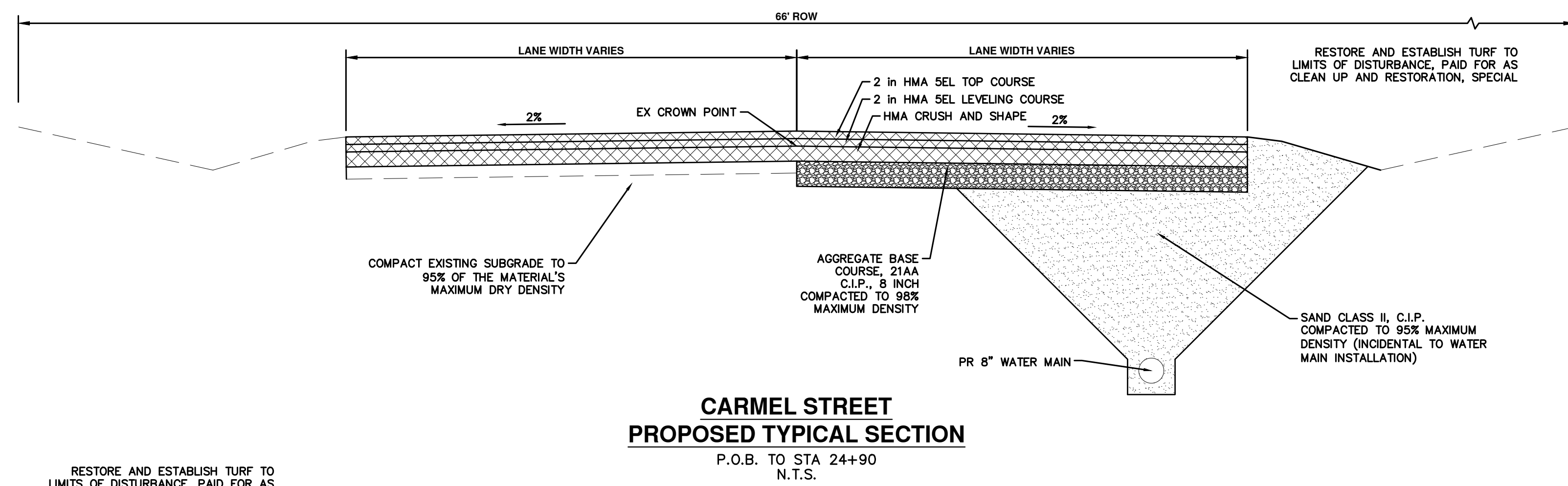
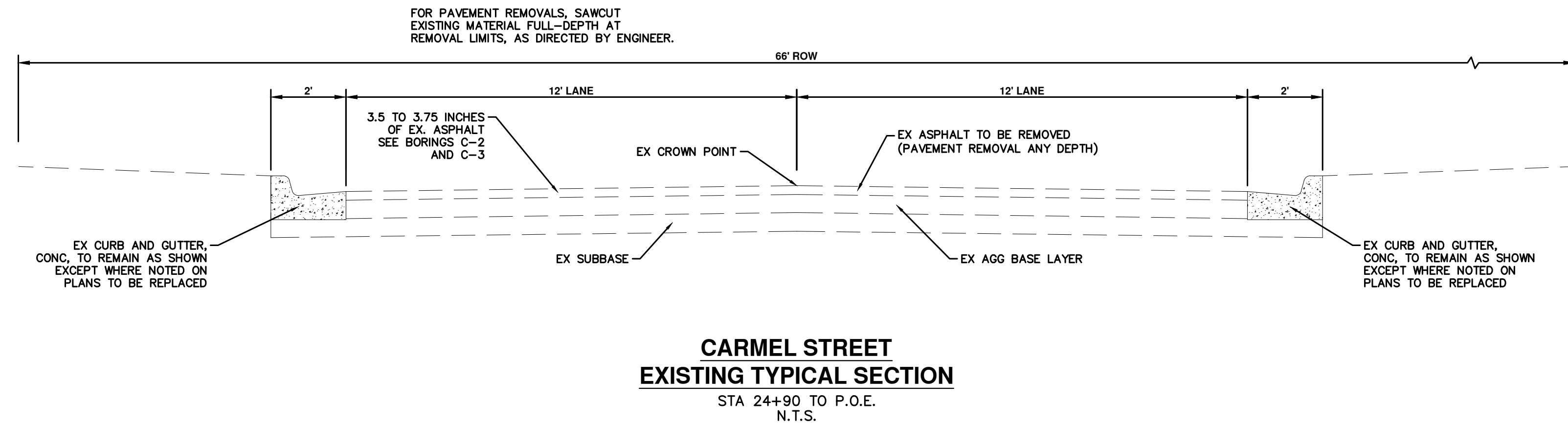
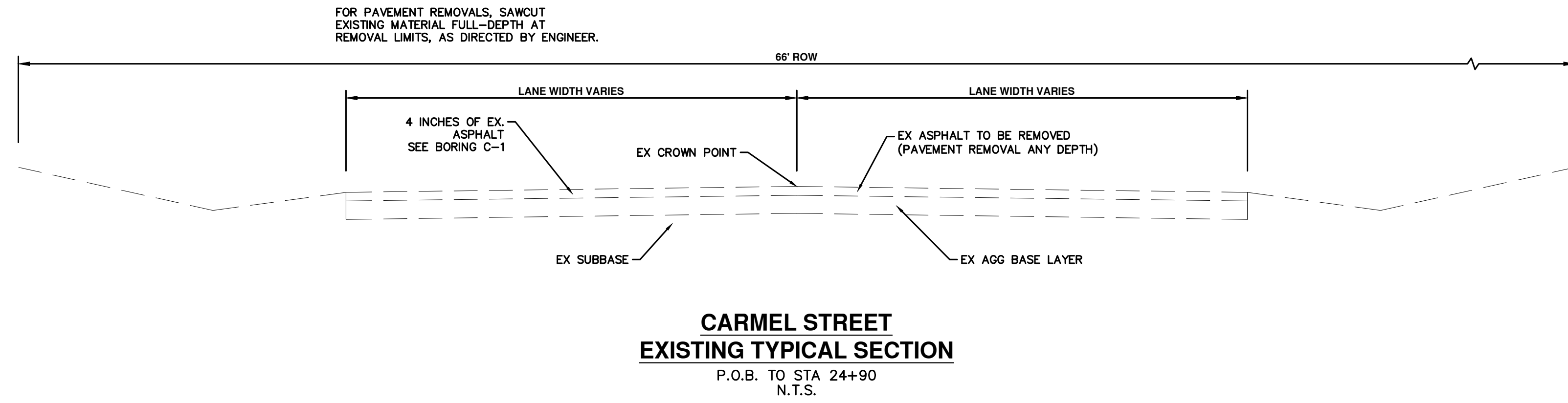
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REV. 02 BID SET
DATE 11-18-2022 BY DRAWN
DATE 1-19-2023 BY CHECKED

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SCALE PLAN: 1" = 25'
PROFILE: 1" = 4'

DRAWING No. 2022-28-4
SHEET No. 4 OF 44

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HMA APPLICATION ESTIMATE				
IDENT NO.	ITEM	RATE (LBS/SYD)	PERFORMANCE GRADE	REMARKS
SEL	HMA, SEL	220	58-28	LEVELING
SEL	HMA, SEL	220	58-28	AWI-260 MIN, WEARING
	* BOND COAT	0.05-0.15 GAL		

NOTE: MDOT TIER 1 RAP LIMITS APPLIES TO WEARING COURSE



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REV.	DATE	BY	CHECKED	DESCRIPTION
REV 01	11-18-2022	BY	DRAWN	REV. OF EGGLE PERMIT SUBMITTAL
REV 02	1-19-2023	BY	CHECKED	REV. 02 BID SET

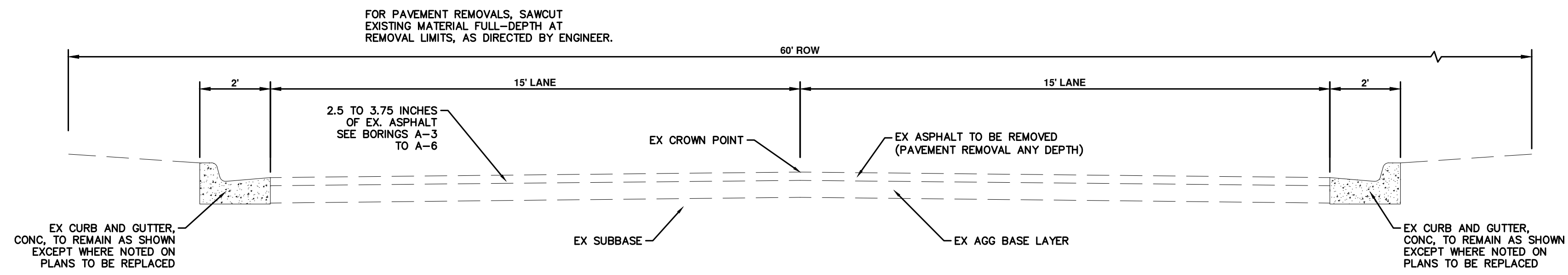
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2023 MISCELLANEOUS UTILITY PROJECTS
CARMEL ST TYPICAL SECTIONS

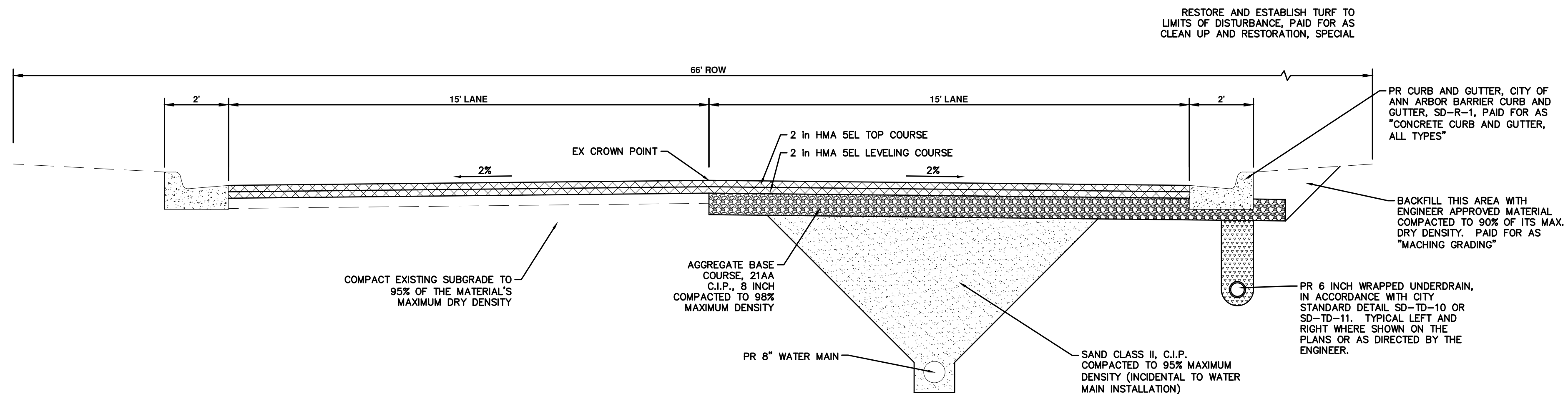
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PROFILE: 1" = 4'
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**PROVINCIAL DRIVE
EXISTING TYPICAL SECTION**

P.O.B. TO P.O.E.
N.T.S.



**PROVINCIAL DRIVE
PROPOSED TYPICAL SECTION**

P.O.B. TO P.O.E.
N.T.S.

HMA APPLICATION ESTIMATE				
IDENT NO.	ITEM	RATE (LBS/SYD)	PERFORMANCE GRADE	REMARKS
SEL	HMA, SEL	220	58-28	LEVELING
SEL	HMA, SEL	220	58-28	AWI-260 MIN, WEARING
	* BOND COAT	0.05-0.15 GAL		

NOTE: MDOT TIER 1 RAP LIMITS APPLIES TO WEARING COURSE



REV.	DESCRIPTION	DATE	BY	CHECKED
REV 02	BID SET	1-19-2023		
REV 01	EGLE PERMIT SUBMITTAL	11-18-2022		

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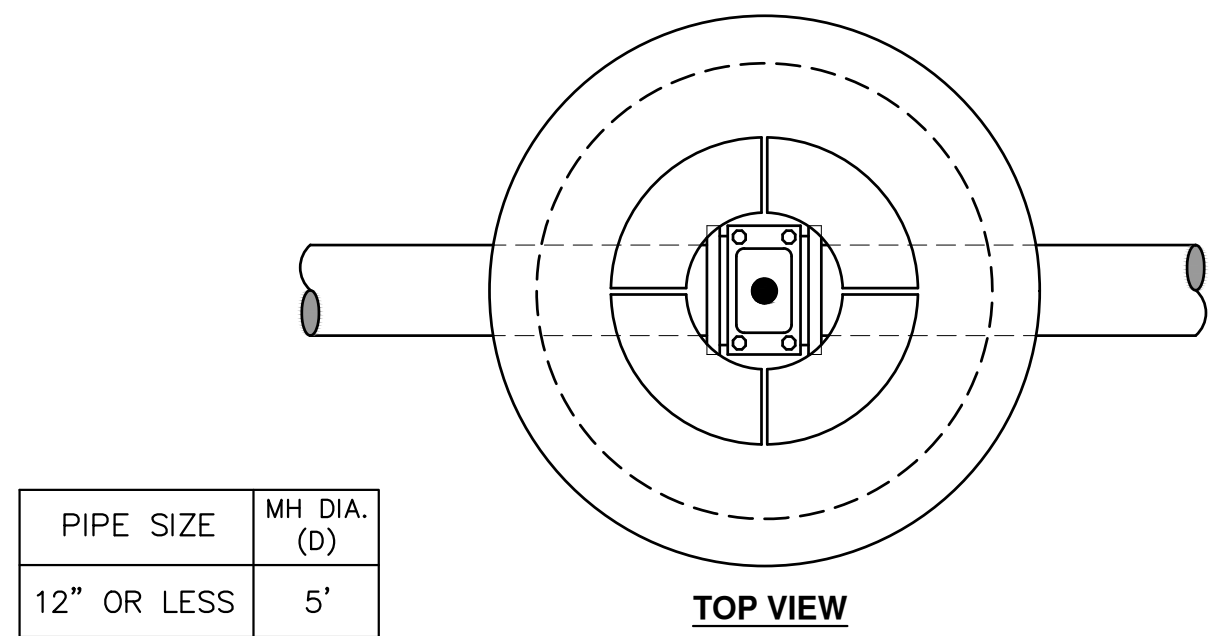


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2023 MISCELLANEOUS
UTILITY PROJECTS
PROVINCIAL DR TYPICAL SECTIONS

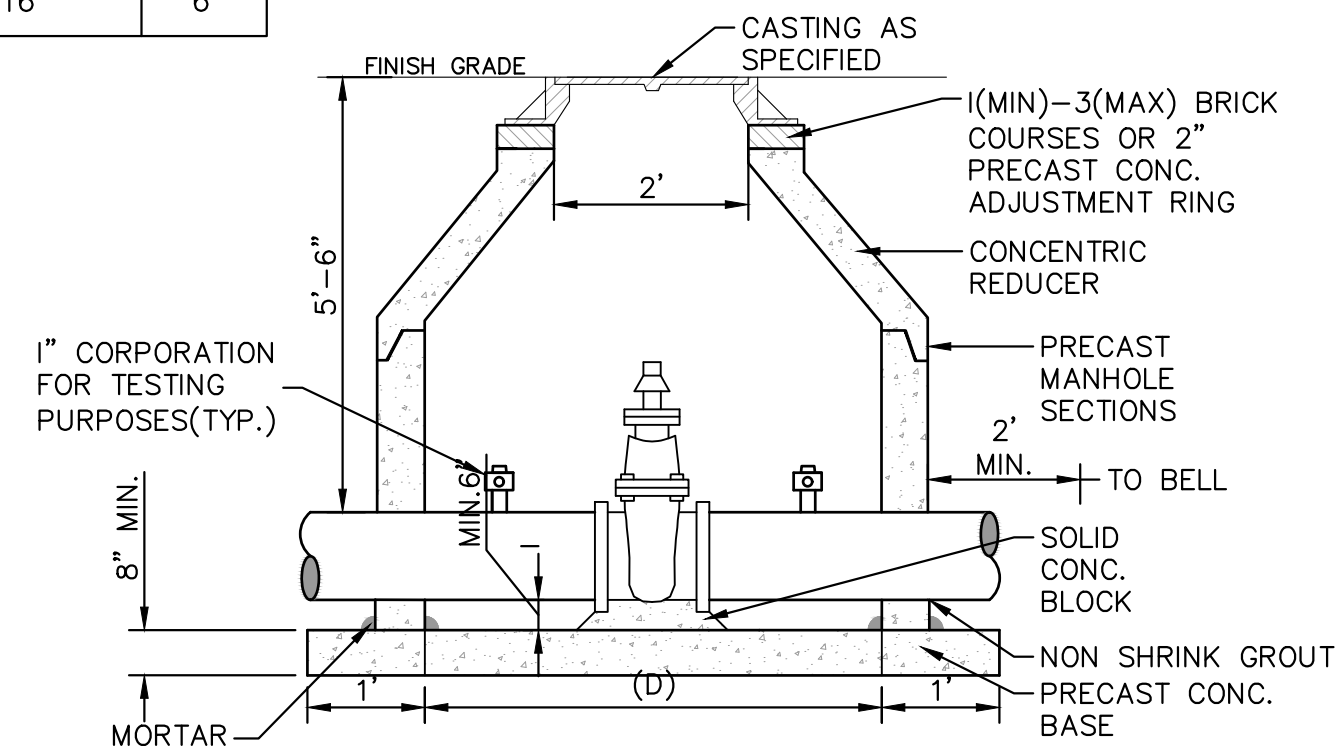
SCALE PLAN: 1" = 25'
PROFILE: 1" = 4'
DRAWING No. 2022-28-6

SHEET No.

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PIPE SIZE	MH DIA. (D)
12" OR LESS	5'
16"	6'



- NOTES:
- ALL LIFT HOLES AND JOINTS SHALL BE MORTARED BOTH INSIDE AND OUTSIDE
 - ALL JOINTS SHALL BE MADE WATER TIGHT WITH RUBBER GASKET JOINTS
 - NO STEPS ARE PERMITTED
 - MANHOLE SECTIONS SHALL MEET ASTM C-478

GATE WELL FOR MAIN 16" & SMALLER SD-W-3

MINIMUM STANDARDS

THE MDOT GRADE PI OR P-NC CONCRETE AT THE FITTING FACE SHALL EXTEND TO WITHIN 2 INCHES OF THE BELL AND SHALL EXTEND FROM THE FITTING FACE A MINIMUM OF 2 FEET TO THE UNDISTURBED SOLID GROUND.

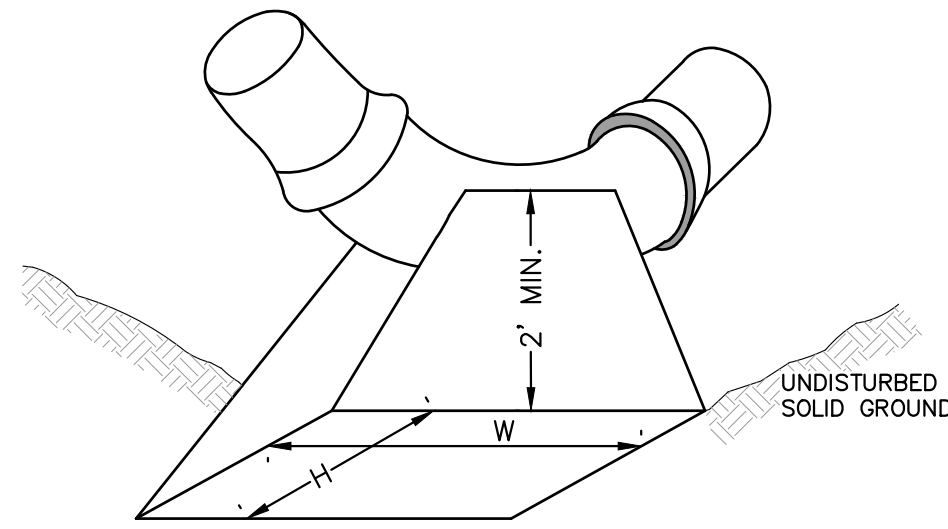
THE DIMENSIONS OF THE THRUST BLOCK AT THE FACE OF THE UNDISTURBED SOLID GROUND SHALL BE AS SHOWN IN THE TABLE BELOW.

IF THERE ISN'T SUFFICIENT SPACE FOR THE INSTALLATION OF THE THRUST BLOCK WITHOUT INTERFERENCE WITH OTHER SERVICES, ANOTHER ARRANGEMENT SATISFACTORY TO THE ENGINEER SHALL BE USED.

FITTINGS I.D.	PLUG TEE CROSS		BENDS				HYDRANT	
	W	H	90°	45°	22 1/2°	11 1/4°	W	H
4	1.0	1.0	1.0	1.0	1.0	1.0	2.0	1.5
6	2.0	1.5	2.0	2.0	2.0	1.0	1.0	2.5
8	2.5	2.0	3.5	2.0	2.0	1.0	1.0	2.0
12	3.5	3.0	5.5	3.0	3.5	2.5	2.0	1.0
16	6.0	3.5	6.0	4.0	5.0	3.0	2.5	2.0

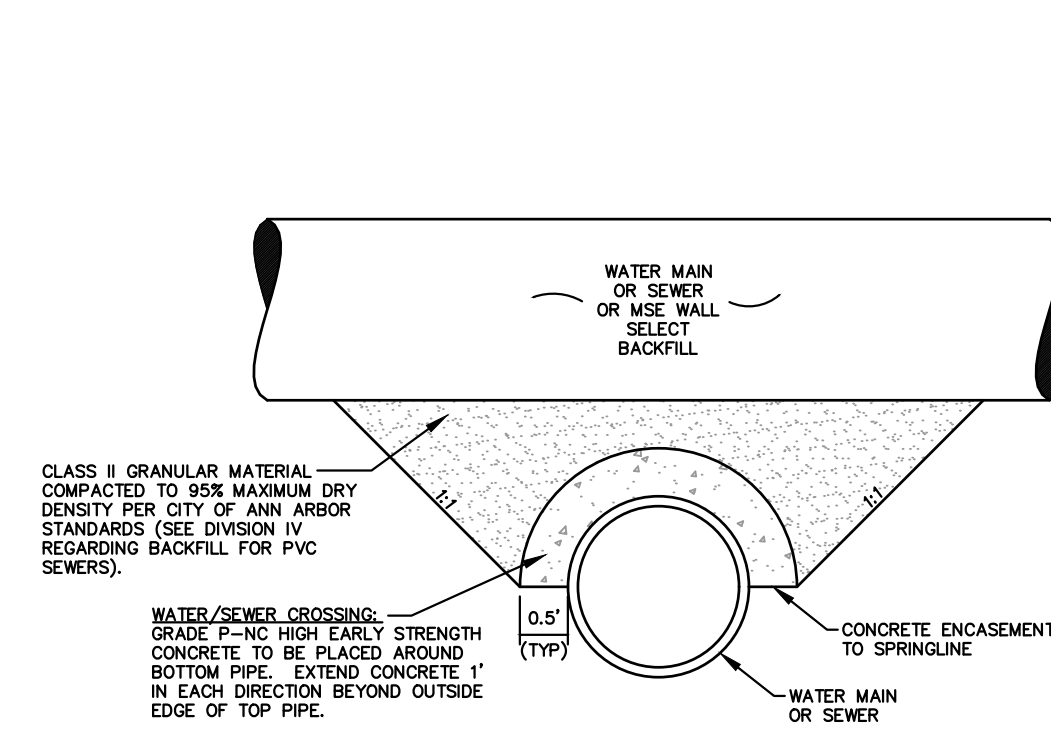
FOR FITTING SIZES LARGER THAN 16", THRUST BLOCK DIMENSIONS SHALL BE AS SPECIFIED BY ENGINEER.

W = WIDTH IN FEET
H = HEIGHT IN FEET

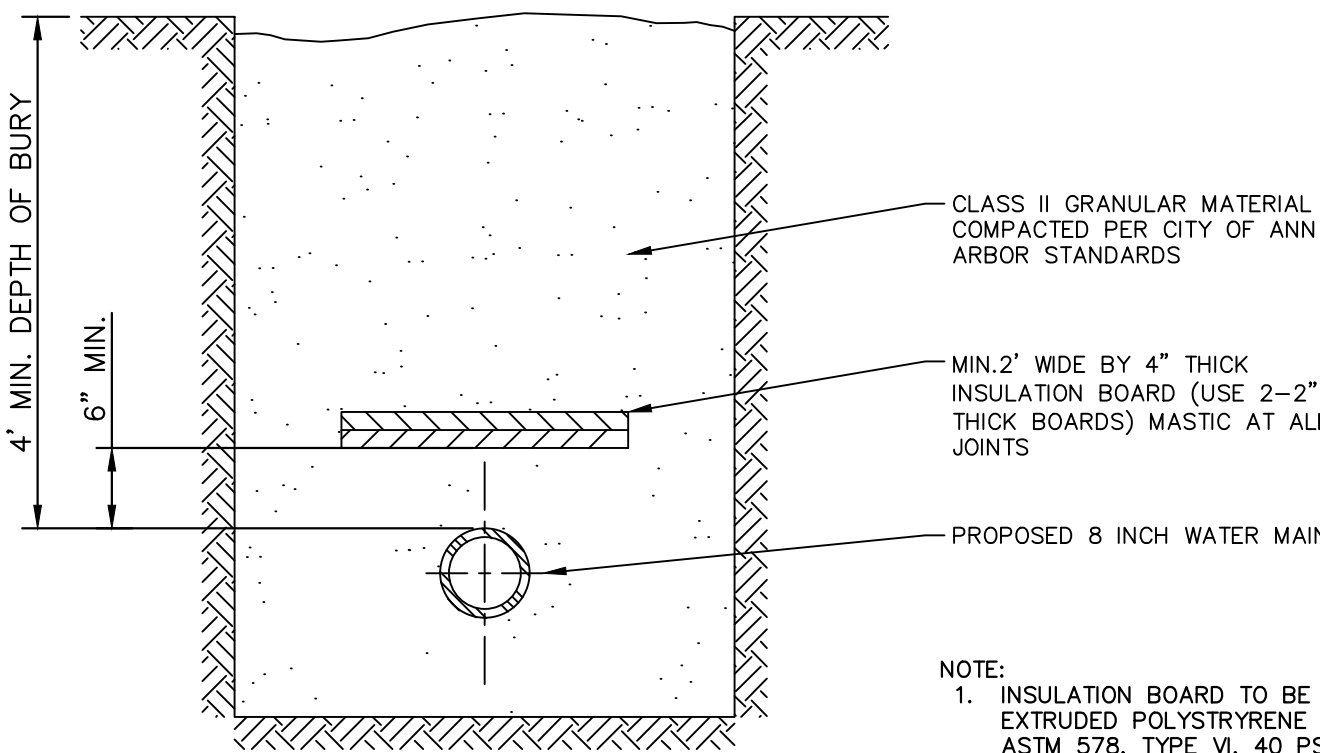


- NOTES:
- THESE ARE MINIMUM STANDARDS. WHERE SOIL CONDITIONS DICTATE, ADJUSTMENTS IN SIZE SHALL BE MADE AS DIRECTED BY THE PUBLIC SERVICES AREA ADMINISTRATOR.

THRUST BLOCK SD-W-2

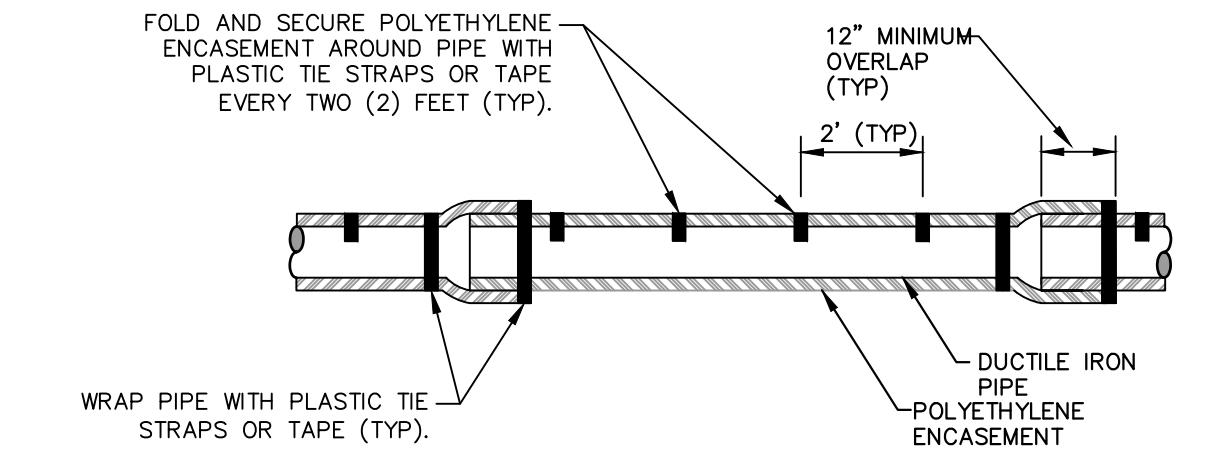


CONCRETE UTILITY SADDLE

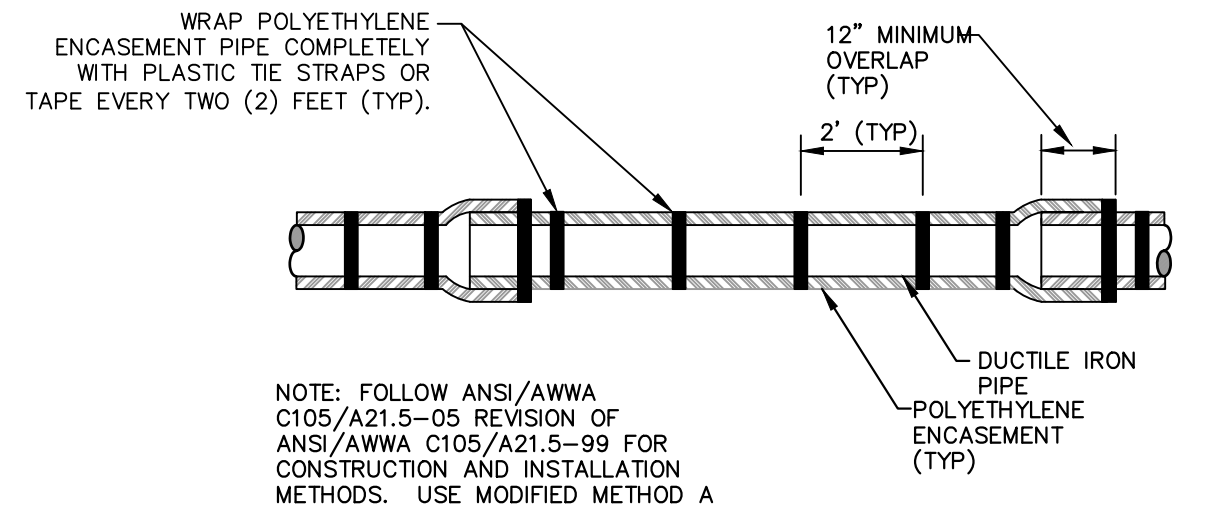


WATER MAIN INSULATION DETAIL

- NOTE:
- INSULATION BOARD TO BE CLOSED CELL, EXTRUDED POLYSTYRENE FOAM MEETING ASTM 578, TYPE VI, 40 PSI COMPRESSING STRENGTH (ASTM D1621) 0.1% MAX. WATER ABSORPTION (ASTM C272).
 - OVERLAP ALL INSULATION BOARD JOINTS

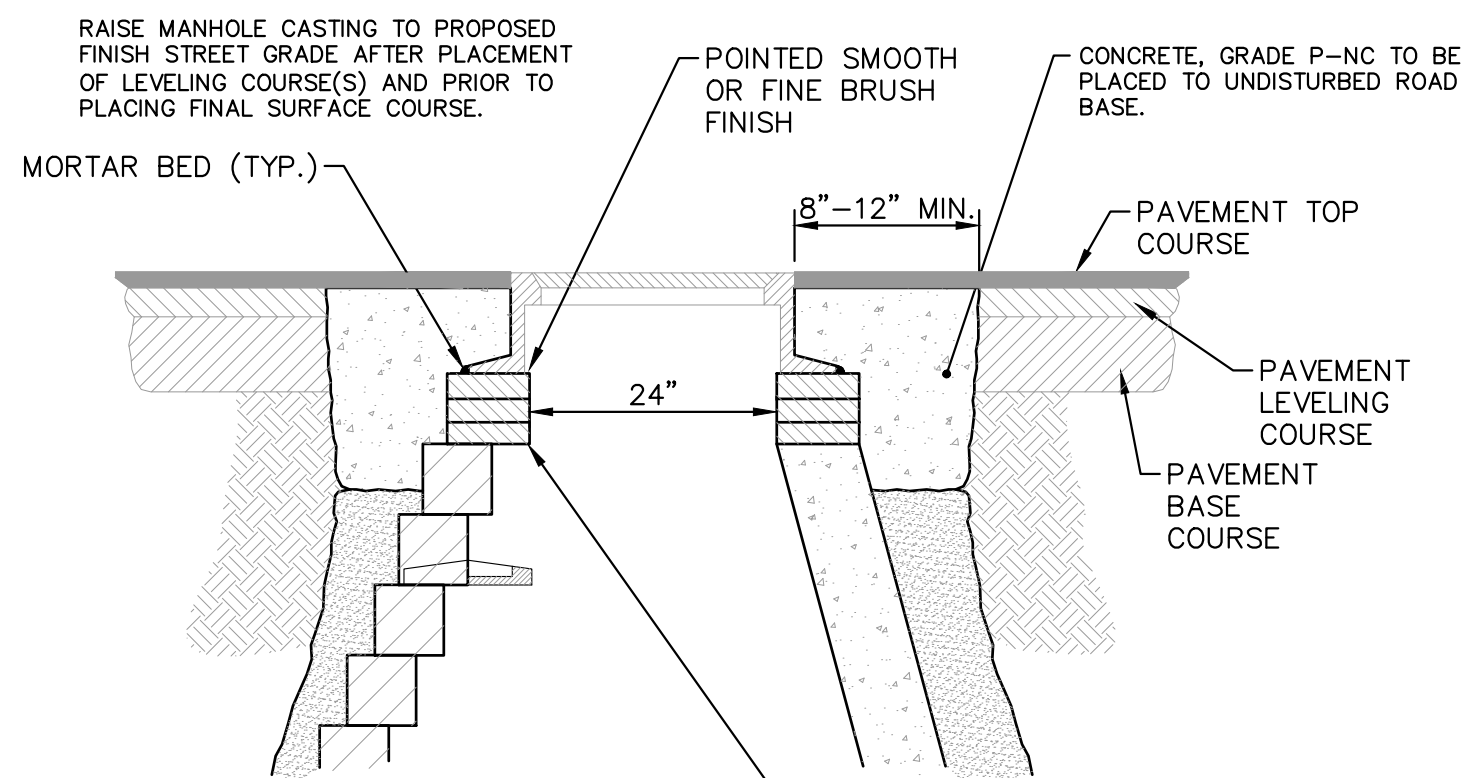


POLYETHYLENE ENCASEMENT (DRY INSTALLATION)



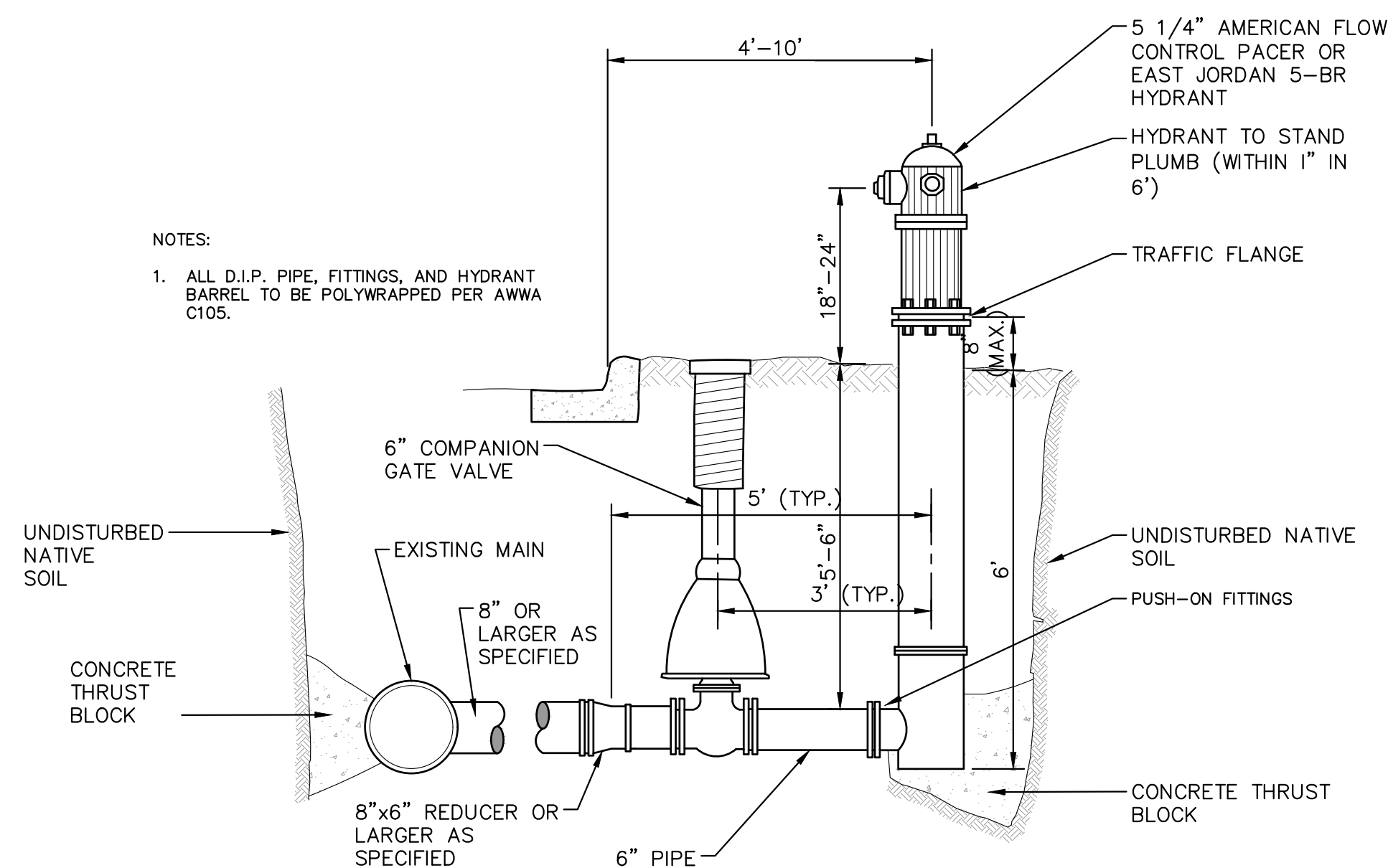
POLYETHYLENE ENCASEMENT (WET INSTALLATION)

APPLIES TO: POLYETHYLENE WRAPPED D.I. WATERMAIN SEE PLANS FOR LOCATIONS



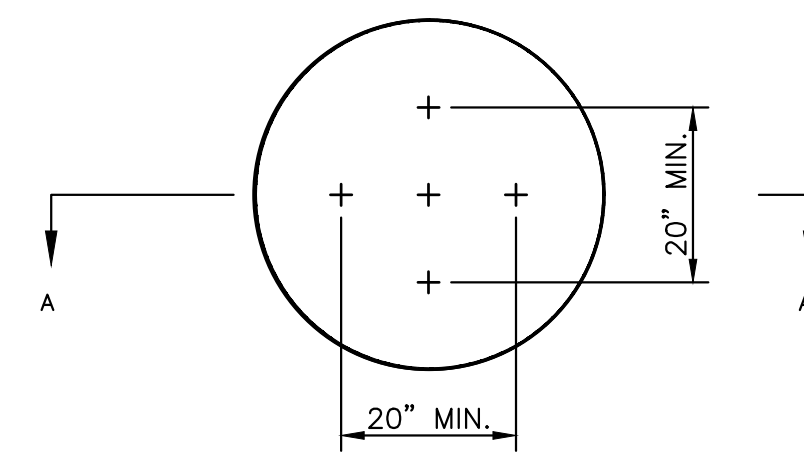
- NOTE:
- IF MANHOLE WILL BE PLACED IN GRAVEL ROAD, CASTING TO BE SET 6" TO 8" BELOW ROADWAY GRADE. ALL CONSTRUCTION METHODS SHALL REMAIN AS SHOWN ABOVE.
- ADDITIONAL REPAIRS NECESSARY BEYOND 15" BELOW GRADE TO BE PAID FOR AS, "ADDITIONAL DEPTH STRUCTURE ADJUST/REPAIR"

MANHOLE CASTING ADJUSTMENT SD-GU-6

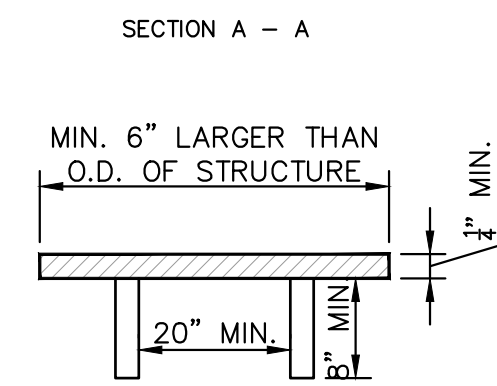


- NOTES:
- ALL D.I.P. PIPE, FITTINGS, AND HYDRANT BARREL TO BE POLYWRAPPED PER AWWA C105.

FIRE HYDRANT ASSEMBLY SD-W-1

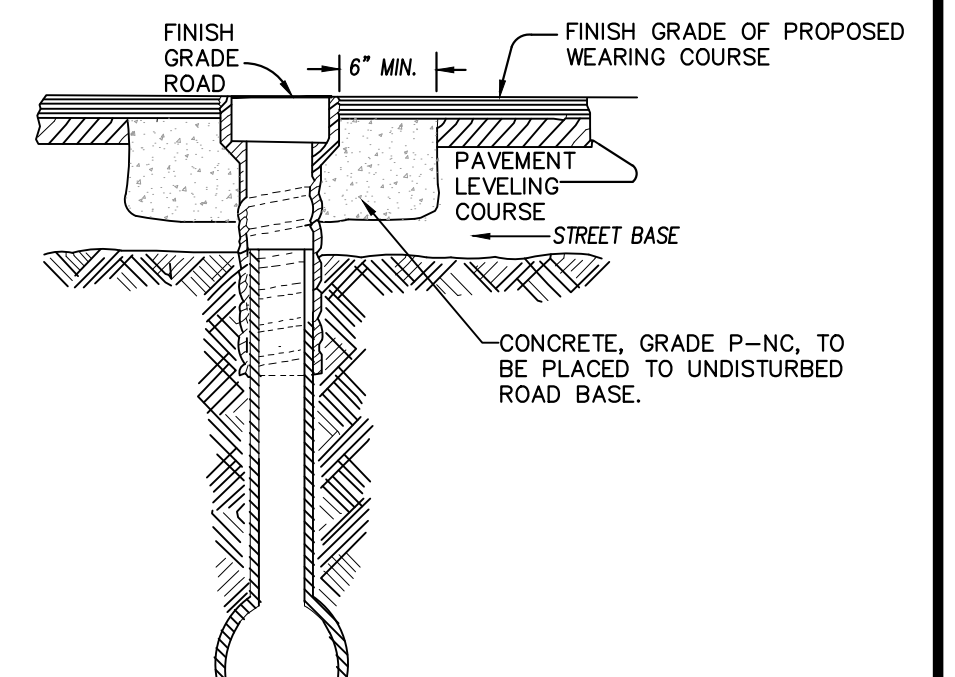


NOTE: PLATE MAY BE CIRCULAR, SQUARE OR RECTANGULAR



1/4" MIN. THICKNESS AND SUFFICIENT TO CARRY THE CONSTRUCTION LOAD.

STRUCTURE PLATE SD-GU-8



- NOTE:
- RAISE CASTING TO PROPOSED FINISH STREET GRADE AFTER PLACEMENT OF LEVELING COURSE(S) AND PRIOR TO PLACING FINAL SURFACE COURSE

WATER VALVE BOX ADJUSTMENT



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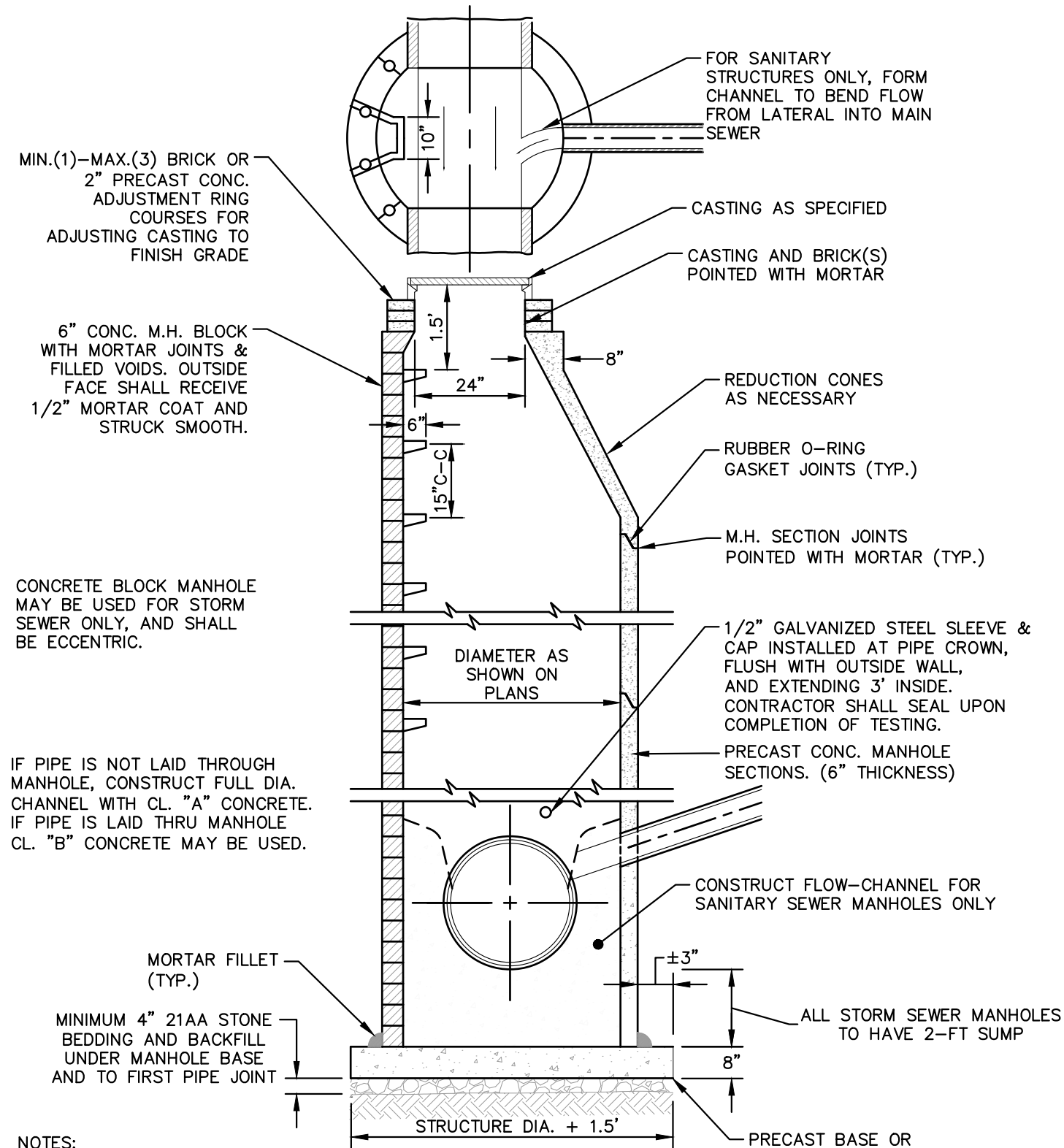
2023 MISCELLANEOUS UTILITY PROJECTS

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE: NTS
DRAWING No. 2022-28

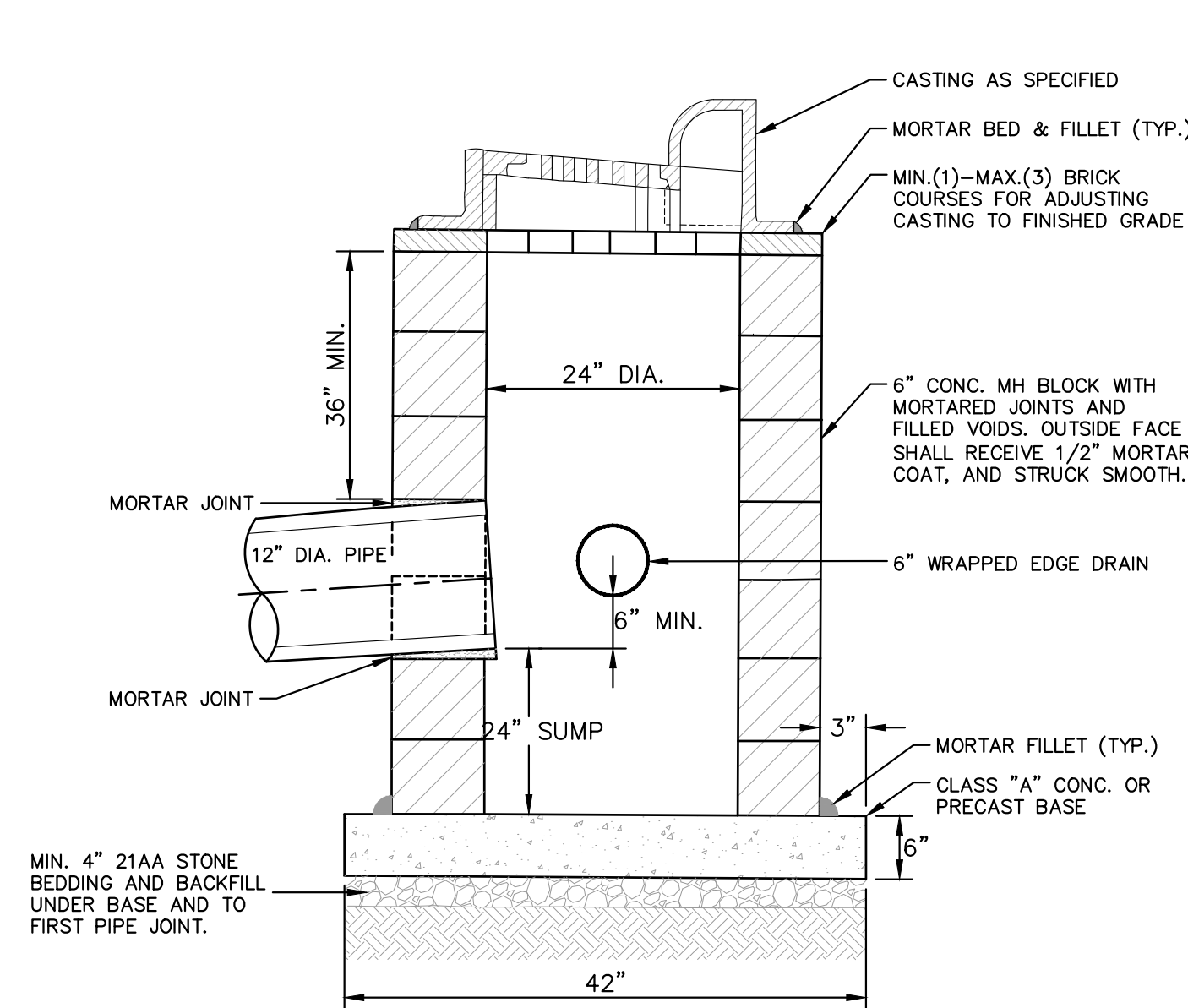
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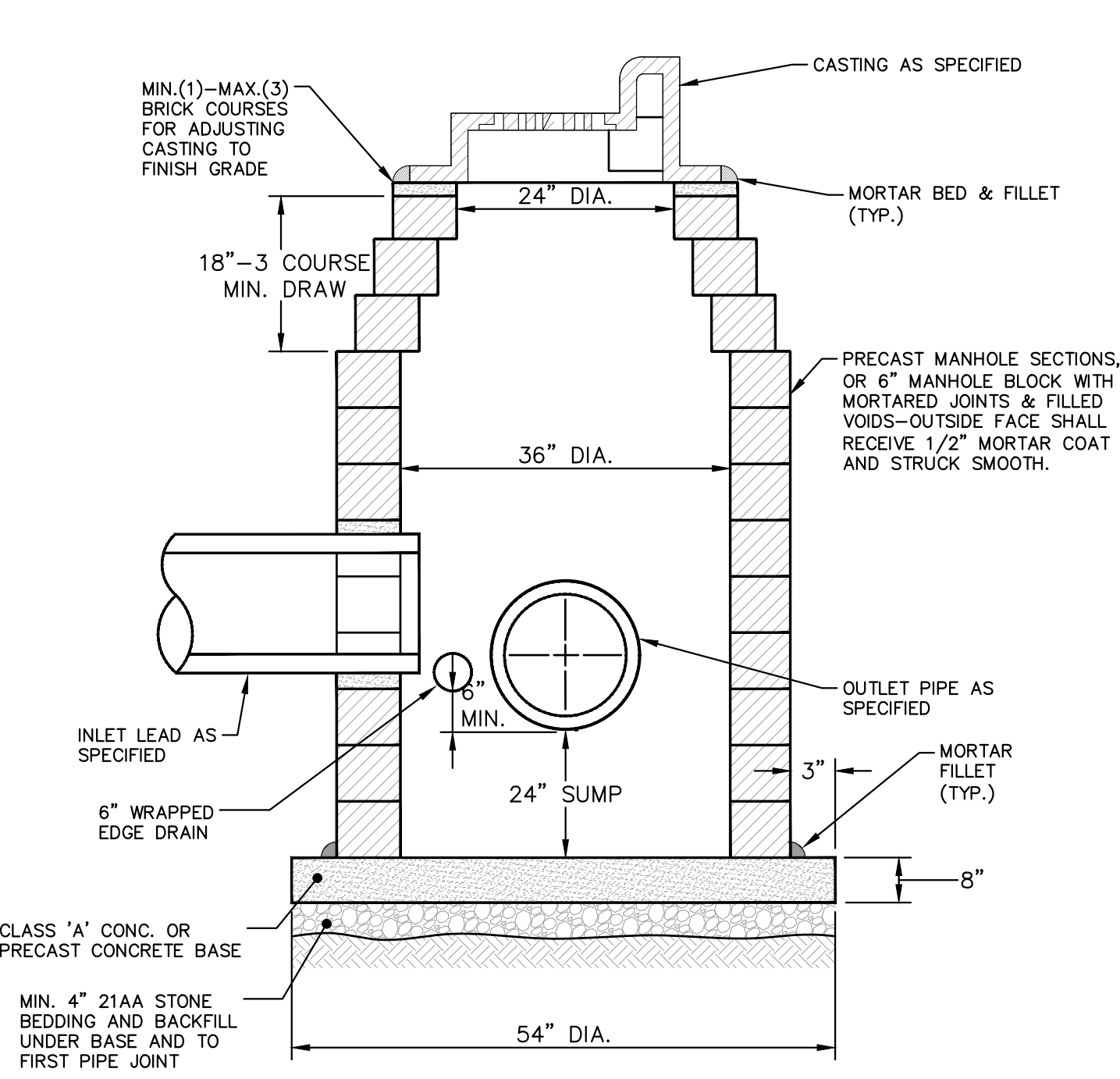
- NOTES:
1. ALL SANITARY MANHOLES SHALL BE PRECAST CONCRETE.
 2. ALL MANHOLES MUST HAVE ECCENTRIC CONES - BOTH STORM AND SANITARY
 3. ALL SANITARY SEWER OPENINGS SHALL BE PRECAST WITH RUBBER BOOT CONNECTIONS.
 4. 2' SUMP REQUIRED ON ALL DRAINAGE STRUCTURES.

STANDARD MANHOLE (TYPE I)



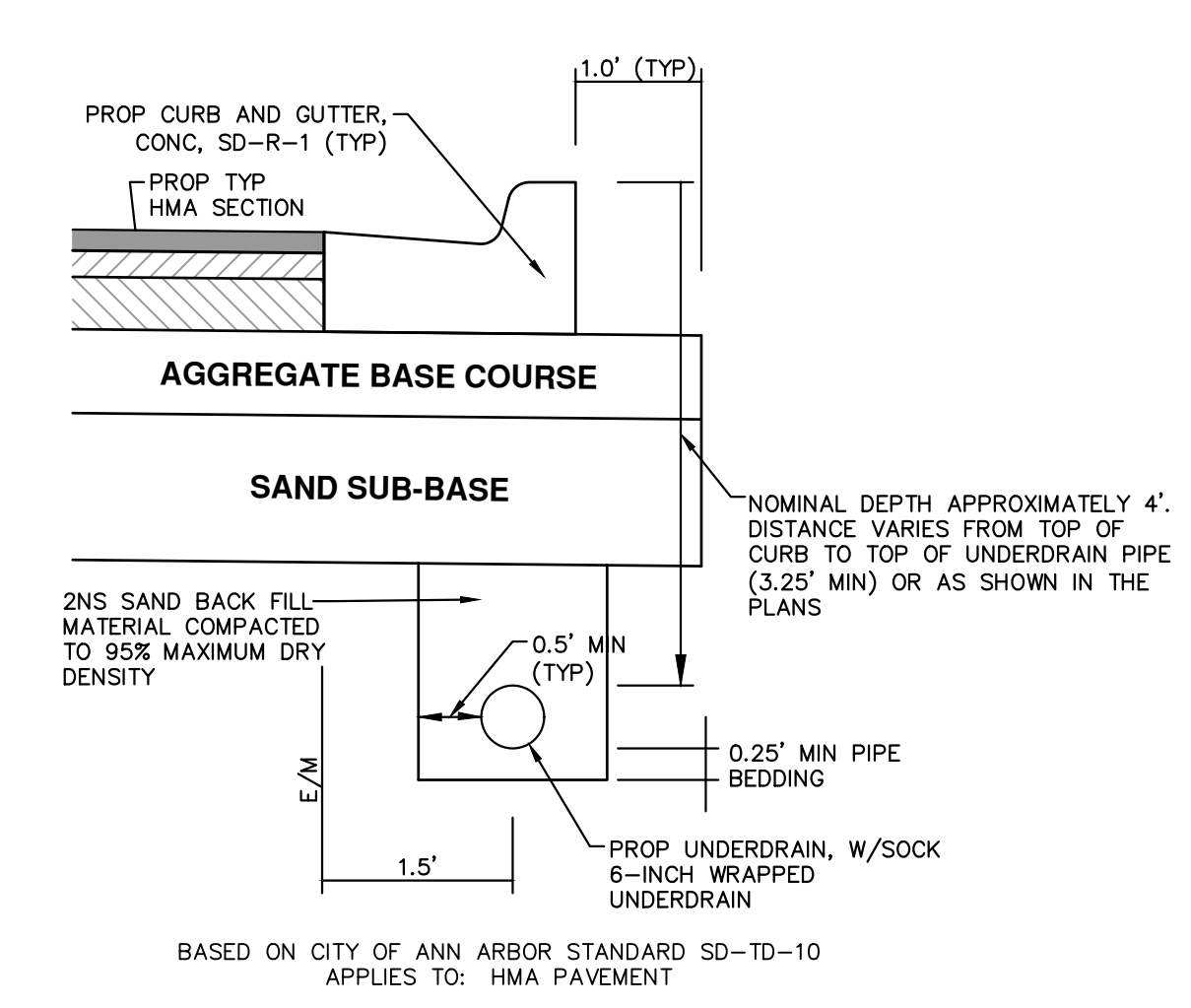
- NOTES:
1. MAY BE USED WITH ONLY SINGLE OUTLET PIPE, AND NO INLET PIPE
 2. FRONT EDGE OF INLET CASTING SHALL BE FLUSH WITH FRONT EDGE OF GUTTER (EDGE-OF-METAL)

SINGLE INLET STRUCTURE SD-S-10



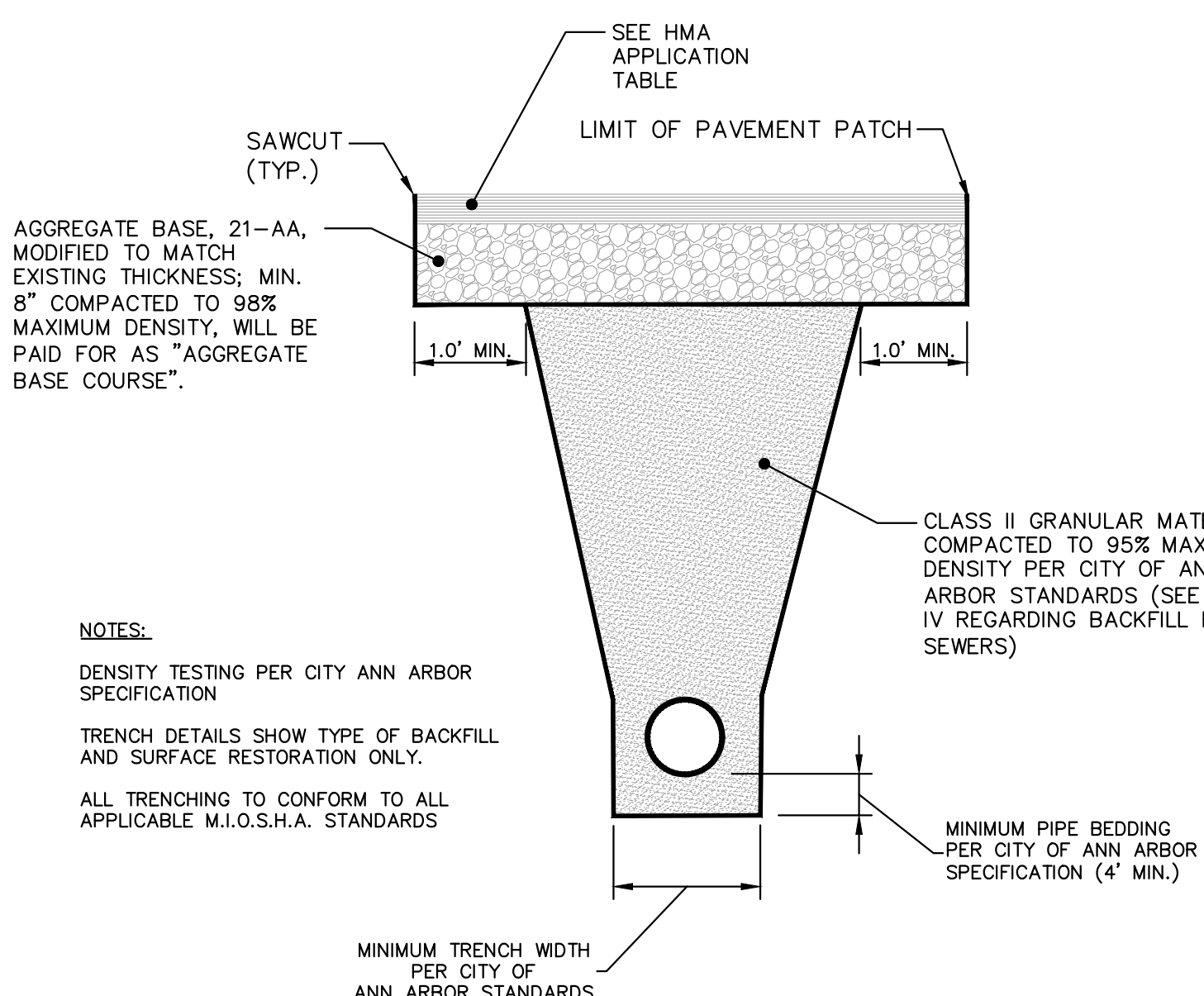
- NOTES:
1. SHALL BE USED IF SINGLE OUTLET PIPE AND SINGLE INLET PIPE.
 2. FRONT EDGE OF INLET CASTING SHALL BE FLUSH WITH FRONT EDGE OF GUTTER (EDGE-OF-METAL)

INLET-JUNCTION CHAMBER SD-S-9



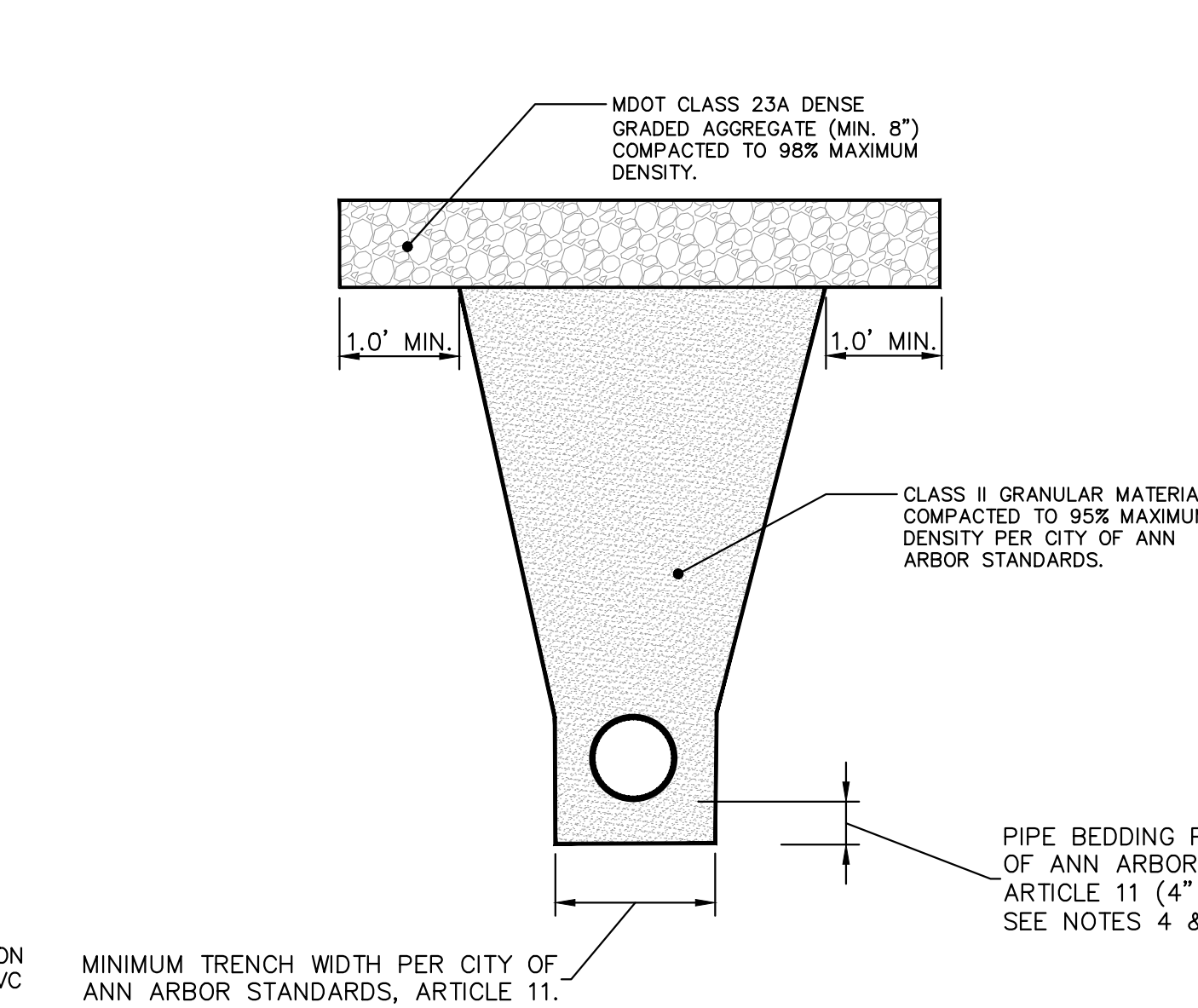
- NOTES:
- IN AREAS WHERE EDGE DRAIN CANNOT BE INSTALLED IN ACCORDANCE WITH THE DETAIL, THE EDGE DRAIN SHALL BE INSTALLED AT THE DEPTH AS INDICATED ON THE PLANS, OR AS DIRECTED BY ENGINEER. IN NO CASE SHALL THE EDGE DRAIN BE INSTALLED AT A GRADE LESS THAN 0.50% OR AT A DEPTH OF LESS THAN 2' BELOW TOP OF PROPOSED PAVEMENT.
- FOR PAVEMENT BASE AND SUBBASE THICKNESS, SEE TYPICAL PAVEMENT CROSS-SECTION(S)
- TRENCH DETAILS SHOW TYPE OF BACKFILL AND SURFACE RESTORATION ONLY
- ALL TRENCHING TO CONFORM TO ALL APPLICABLE M.I.O.S.H.A. STANDARDS
- EDGE DRAINS SHALL BE CONNECTED TO A DRAINAGE STRUCTURE AND WILL EXTEND A MINIMUM OF 100 FEET UPGRADE FROM THE STRUCTURE.
- ADDITIONAL LENGTHS OF EDGE DRAIN MAY BE REQUIRED BY THE ENGINEER BASED ON EXISTING SITE CONDITIONS, INCLUDING CONDITION OF THE SUBGRADE.

TRENCH DETAIL FOR UNDER DRAIN (UNDER HMA PAVEMENT)



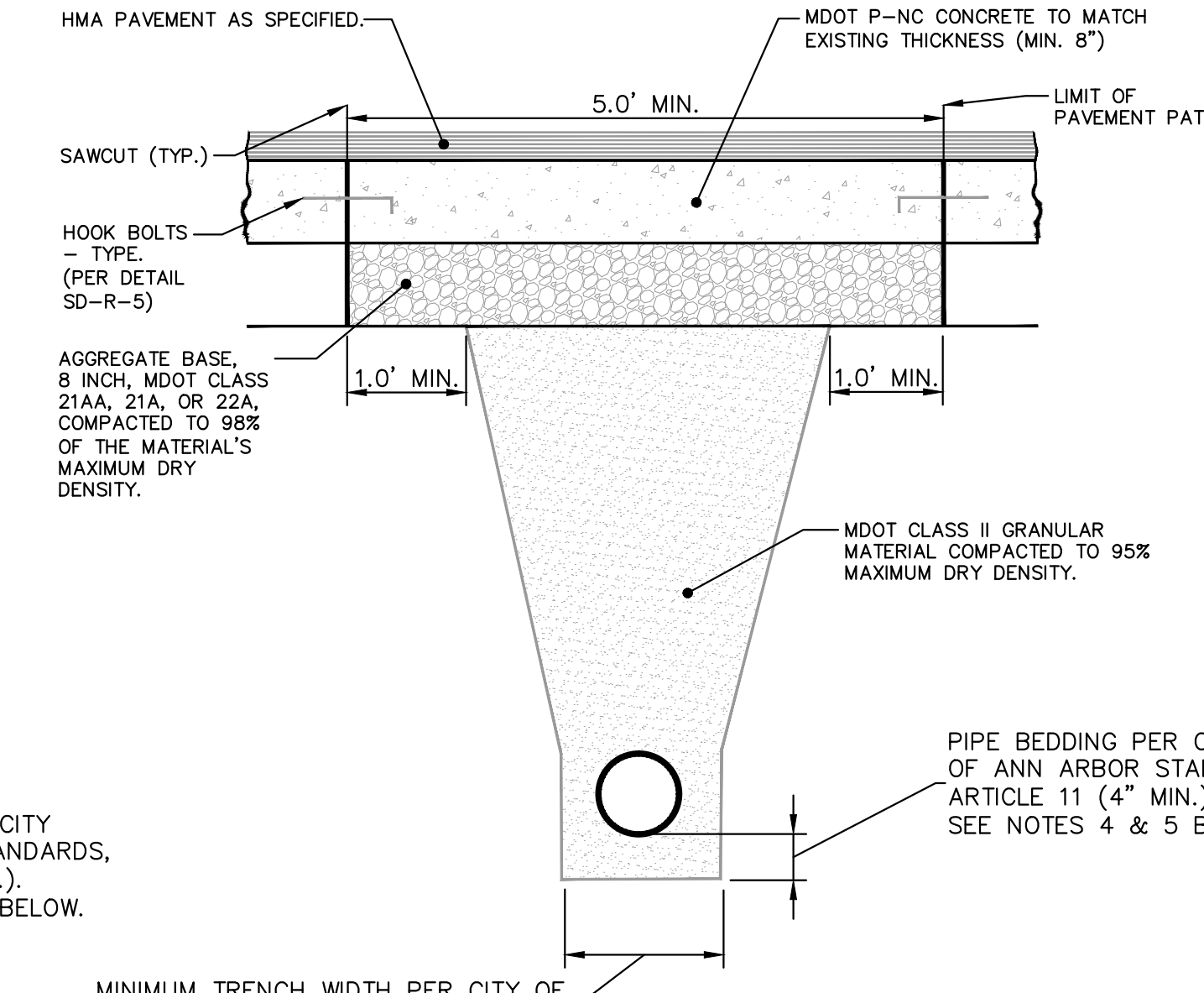
- NOTES:
- DENSITY TESTING PER CITY ANN ARBOR SPECIFICATION
- TRENCH DETAILS SHOW TYPE OF BACKFILL AND SURFACE RESTORATION ONLY.
- ALL TRENCHING TO CONFORM TO ALL APPLICABLE M.I.O.S.H.A. STANDARDS
- MINIMUM PIPE BEDDING PER CITY OF ANN ARBOR SPECIFICATION (4" MIN.)
- MINIMUM TRENCH WIDTH PER CITY OF ANN ARBOR STANDARDS

UTILITY TRENCH-TYPE I SD-TD-1 (MODIFIED) (UNDER HMA PAVEMENT)



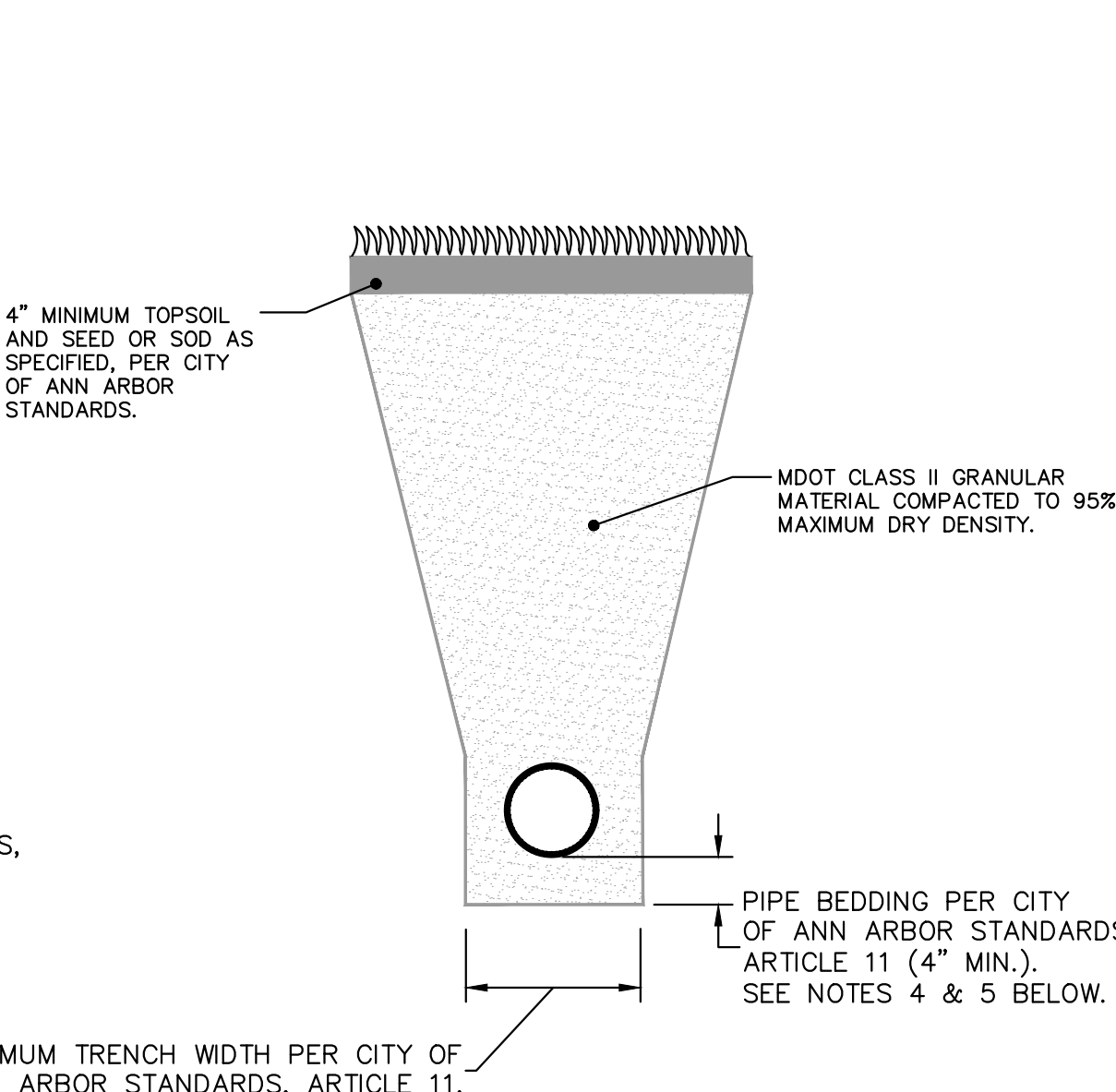
- NOTES:
1. ALL TRENCH EXCAVATION, BEDDING, BACKFILLING, AND SURFACE RESTORATION SHALL COMPLY WITH CITY OF ANN ARBOR STANDARDS, ARTICLE 11.
 2. TRENCH DETAILS SHOW TYPE OF BACKFILL AND SURFACE RESTORATION ONLY.
 3. ALL TRENCHING TO CONFORM TO ALL APPLICABLE M.I.O.S.H.A. AND CITY STANDARDS
 4. PIPE BEDDING THICKNESS UNDER CONCRETE PIPE 66" OR LARGER SHALL BE INCREASED TO 6".
 5. SEE SD-TD-1B FOR SANITARY PIPE BEDDING AREA DETAIL. SEE SD-TD-11 FOR EDGE DRAIN BEDDING AND BACKFILL DETAILS.

UTILITY TRENCH-TYPE II SD-TD-2 (UNDER GRAVEL ROAD)



- NOTES:
1. ALL TRENCH EXCAVATION, BEDDING, BACKFILLING, AND SURFACE RESTORATION SHALL COMPLY WITH CITY OF ANN ARBOR STANDARDS, ARTICLE 11.
 2. TRENCH DETAILS SHOW TYPE OF BACKFILL AND SURFACE RESTORATION ONLY.
 3. ALL TRENCHING TO CONFORM TO ALL APPLICABLE M.I.O.S.H.A. AND CITY STANDARDS
 4. PIPE BEDDING THICKNESS UNDER CONCRETE PIPE 66" OR LARGER SHALL BE INCREASED TO 6".
 5. SEE SD-TD-1B FOR SANITARY PIPE BEDDING AREA DETAIL. SEE SD-TD-11 FOR EDGE DRAIN BEDDING AND BACKFILL DETAILS.

UTILITY TRENCH-TYPE IV SD-TD-4 (UNDER CONCRETE PAVEMENT WITH BITUMINOUS OVERLAY)



- NOTES:
1. ALL TRENCH EXCAVATION, BEDDING, BACKFILLING, AND SURFACE RESTORATION SHALL COMPLY WITH CITY OF ANN ARBOR STANDARDS, ARTICLE 11.
 2. TRENCH DETAILS SHOW TYPE OF BACKFILL AND SURFACE RESTORATION ONLY.
 3. ALL TRENCHING TO CONFORM TO ALL APPLICABLE M.I.O.S.H.A. AND CITY STANDARDS
 4. PIPE BEDDING THICKNESS UNDER CONCRETE PIPE 66" OR LARGER SHALL BE INCREASED TO 6".
 5. SEE SD-TD-1B FOR SANITARY PIPE BEDDING AREA DETAIL.

UTILITY TRENCH-TYPE VI SD-TD-6 (IN GREENBELT AREA REQUIRING CLASS II BACKFILL)

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

NO.	DESCRIPTION	DATE	DRAWN	CHECKED

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

2023 MISCELLANEOUS UTILITY PROJECTS

STANDARD STORM SEWER AND TRENCH DETAILS

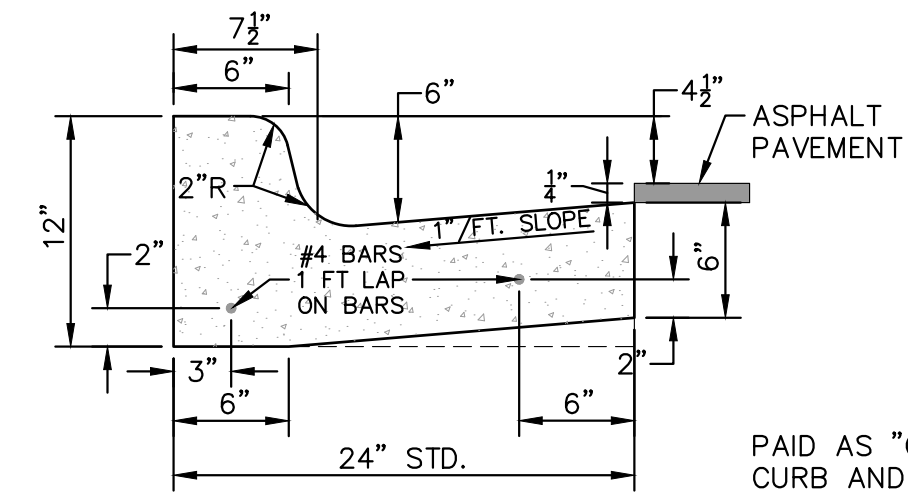
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE: NTS

DRAWING NO. 2022-28-8

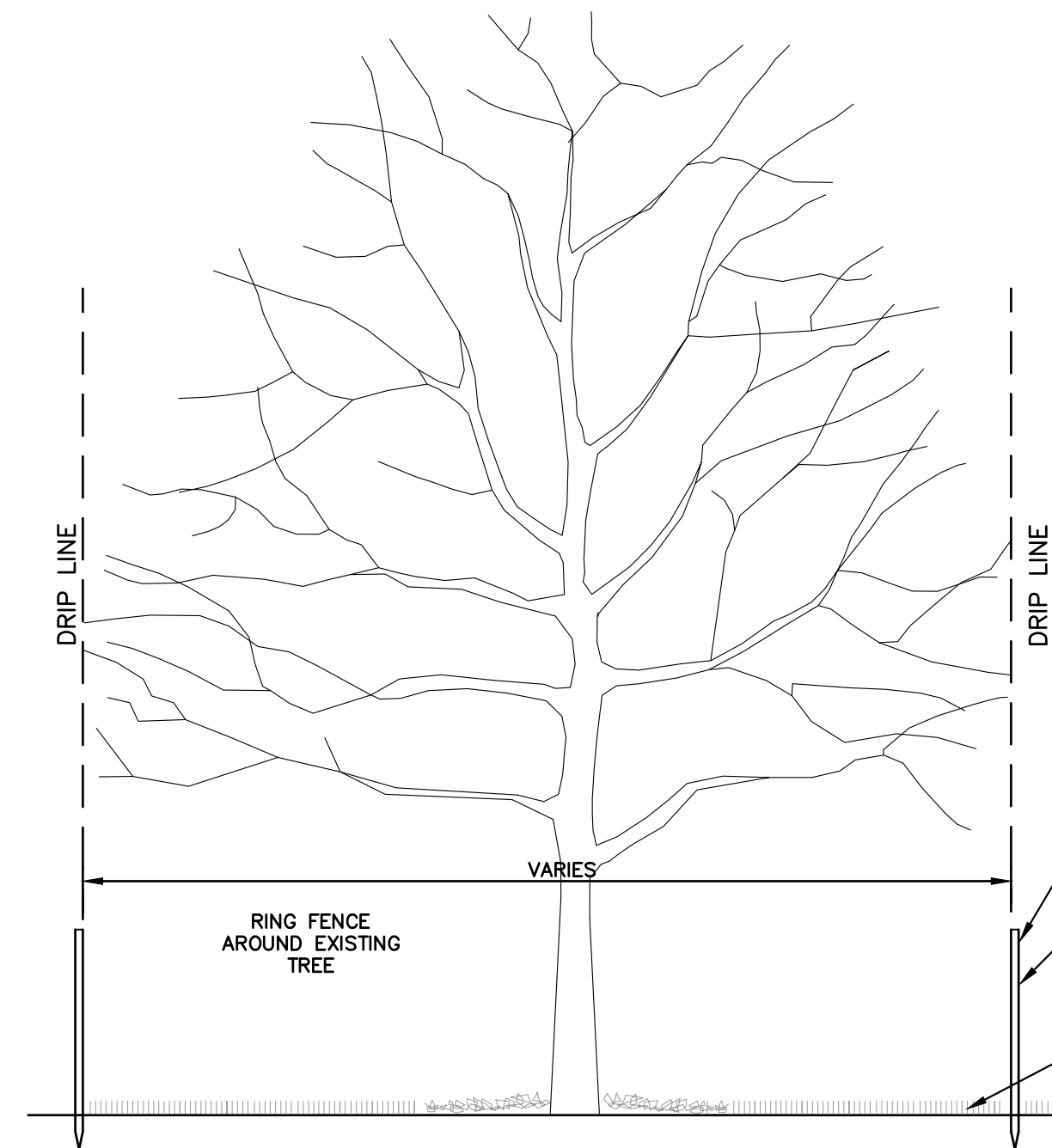
SHEET NO. 8 OF 44

P:\0000_0100\0028220090_GOPE_Local_Streets_WM_&_Resurf\Drawings\Civil\Details\AA_Standard_Details.dwg Dwg. Created: 12-Jan-23 - _g2 standard bw.stb - Plot Date: 23-Jan-23

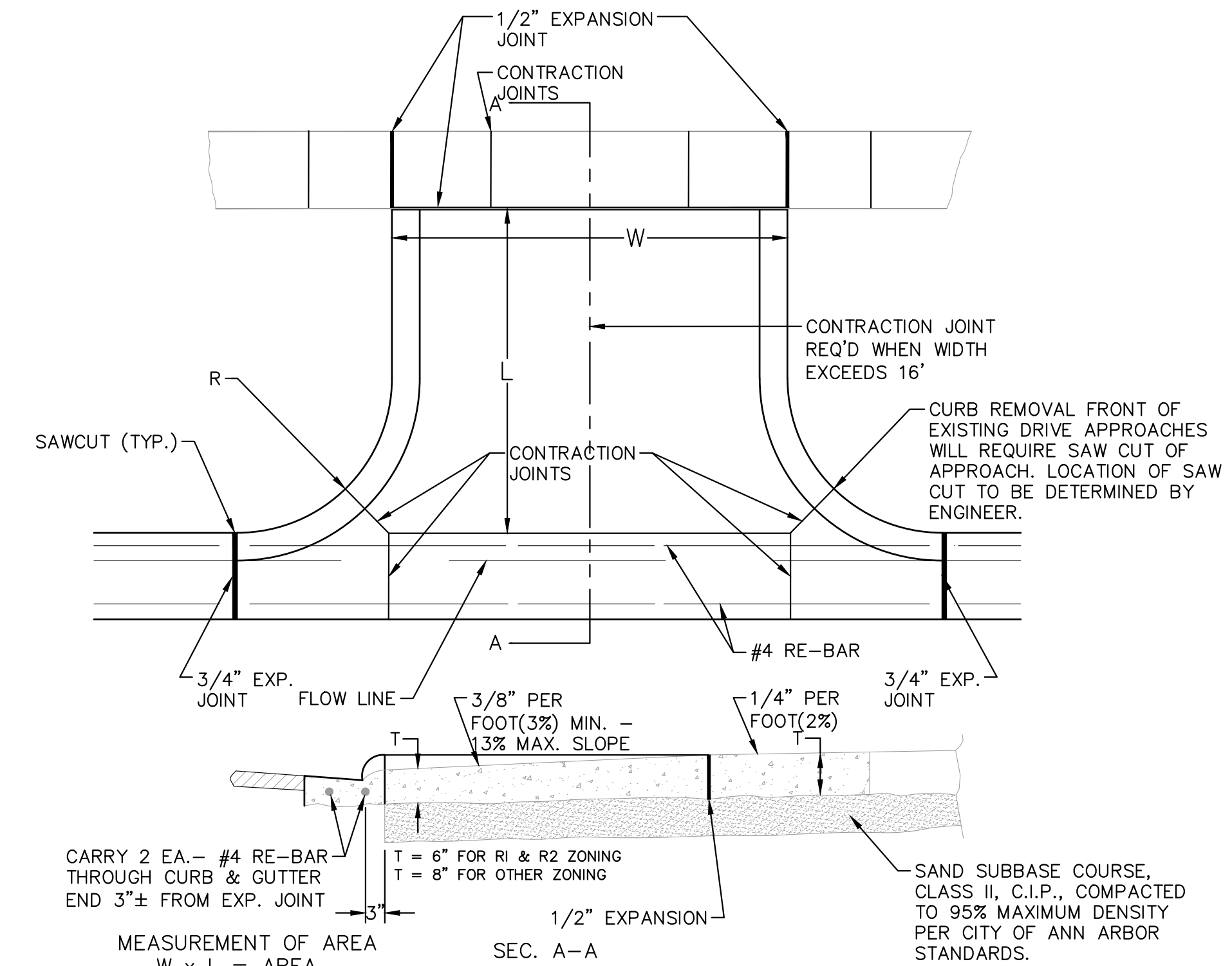


PAID AS "CONCRETE CURB OR CURB AND GUTTER - ALL TYPES" OR "CONCRETE CURB" OR "CURB AND GUTTER - ALL TYPES (HIGH EARLY)"

CURB AND GUTTER, CONC, DET F4, SPECIAL



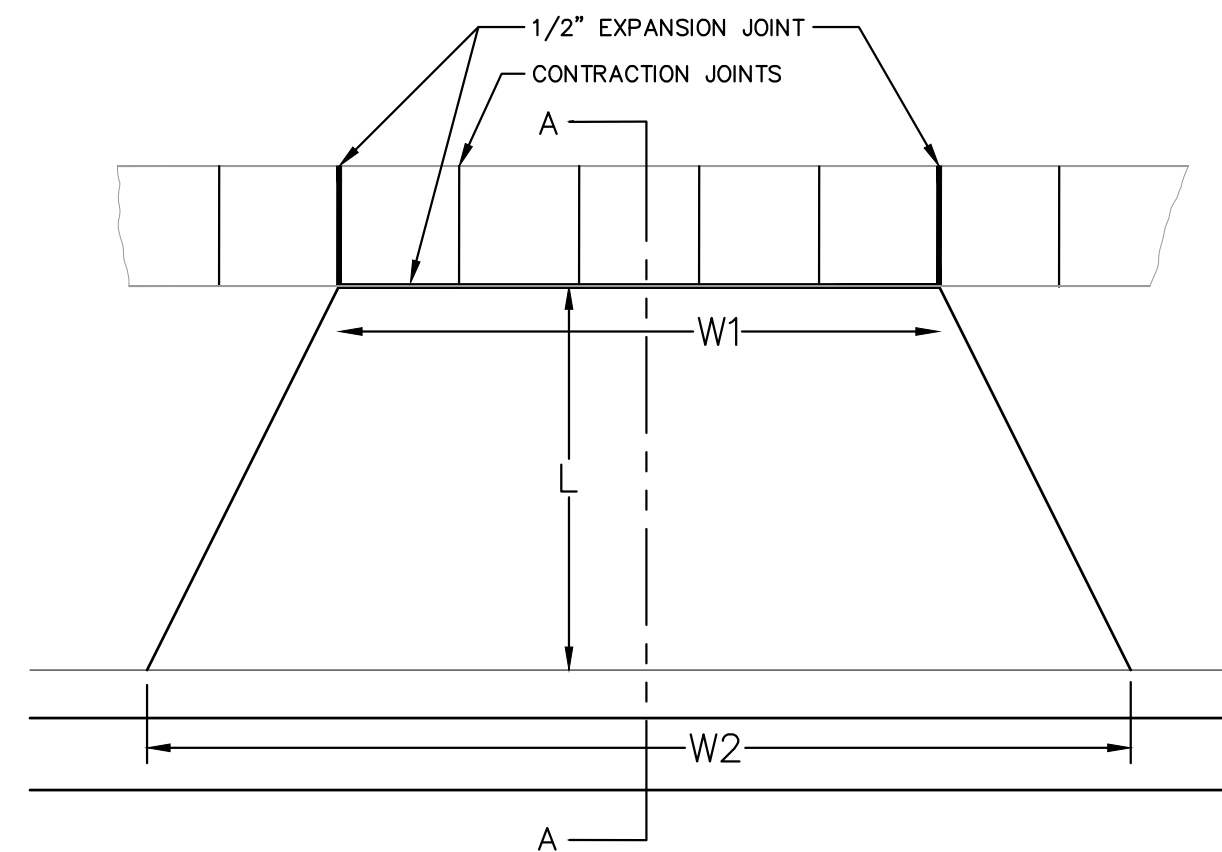
TREE PROTECTION DETAIL



MEASUREMENT OF AREA
 $W \times L = \text{AREA}$
 SEC. A-A

NOTE:
 1. DRIVE APPROACH TO BE CLASS 'A' CONCRETE.
 2. R (RADIUS) AND W (DRIVE WIDTH) AS REQUIRED FOR ZONING BY CITY CODE
 3. IF GUTTER IS OVERLAID, GUTTER OF THE APPROACH SHALL BE AT SAME ELEVATION AS EXISTING GUTTER AND ASPHALT WEDGE SHALL BE PLACED IN THE APPROACH.

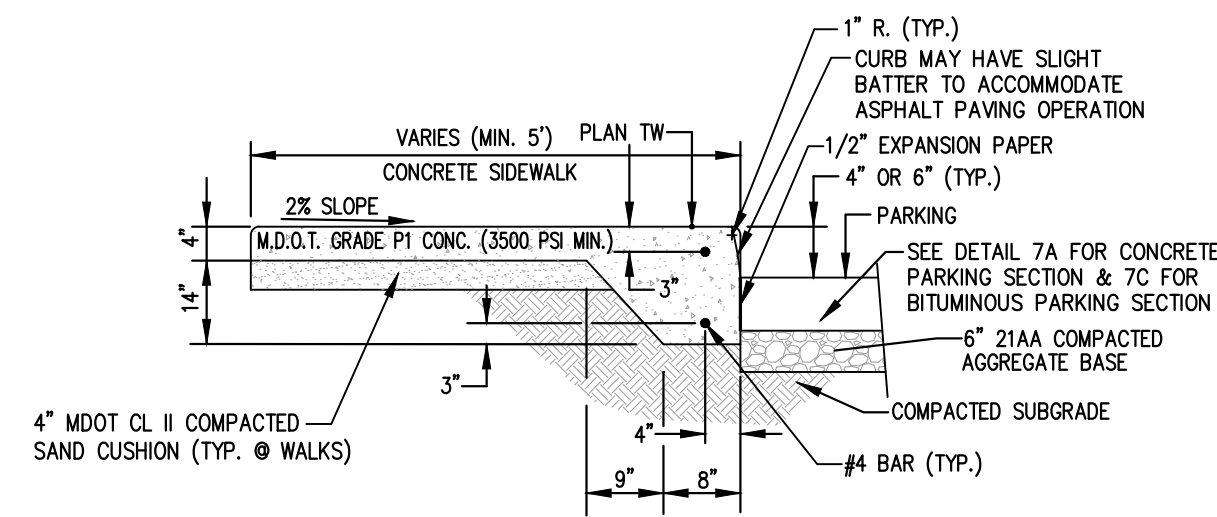
TYPE 'M' DRIVE APPROACH



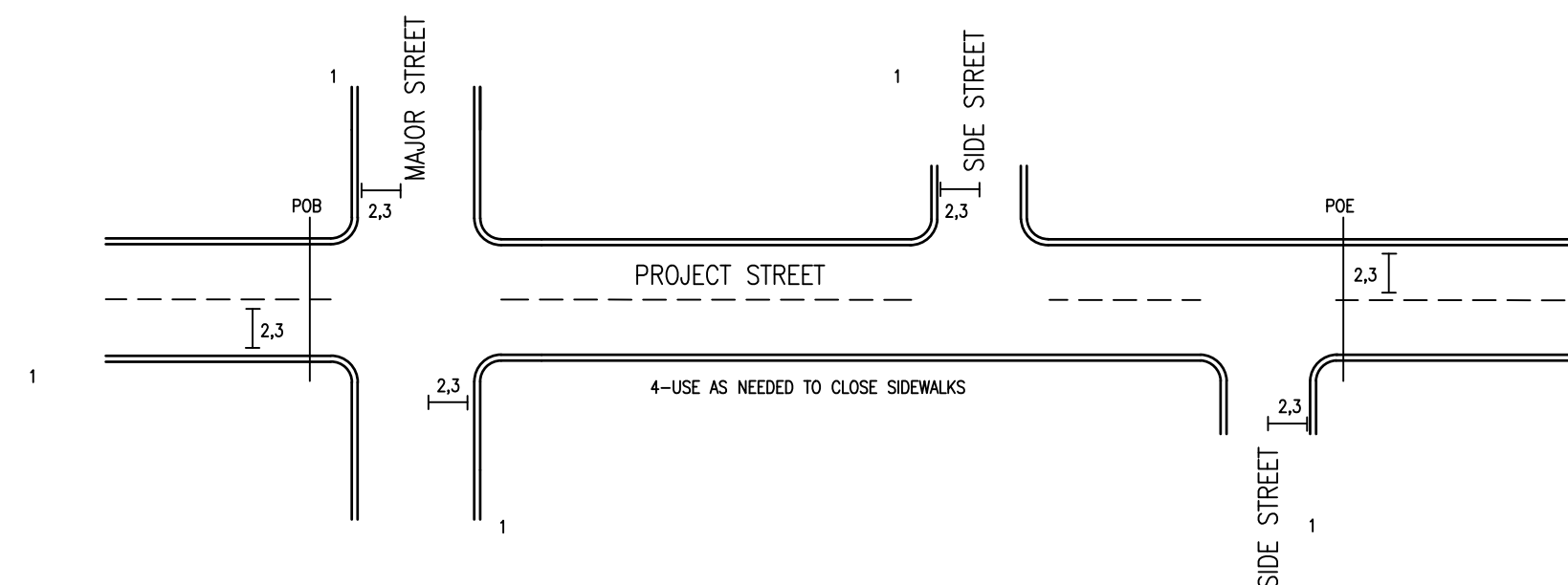
T = 6" FOR SINGLE FAMILY OR DUPLEX USES
 T = 8" FOR OTHER USES

TYPE 'L' DRIVE APPROACH

NOTE:
 1. MINIMUM REQUIREMENT FOR DRIVE APPROACH TO BE MDOT 3500 CONCRETE.
 2. R (RADIUS) AND W1 (OPENING WIDTH) AND W2 (CURB CUT WIDTH) AS REQUIRED PER TABLE A, ARTICLE 6 OF CITY STANDARDS
 3. IF GUTTER IS OVERLAID, GUTTER OF THE APPROACH SHALL BE AT SAME ELEVATION AS EXISTING CONCRETE GUTTER AND ASPHALT WEDGE SHALL BE PLACED IN THE APPROACH.



TYPICAL CONCRETE PAVEMENT INTEGRAL WALK/CURB



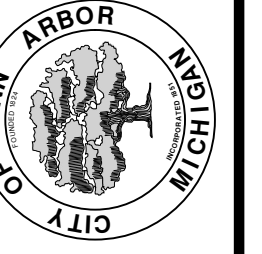
TYPICAL ROAD CLOSURES

SIGN LEGEND			
ID. NUMBER	SIGN	SIGN DESIGNATION	SIZE
2		TYPE III BARRICADE	5'x4' (MIN.)
3		R11-4	60x30
4		R9-9	24x12



REV.	DESCRIPTION	DATE	DRAWN	CHECKED

CITY OF ANN ARBOR
 PUBLIC SERVICES
 301 EAST HURON STREET
 P.O. BOX 866
 ANN ARBOR, MI 48107-0867
 www.aagov.org



2023 MISCELLANEOUS UTILITY PROJECTS
 STANDARD MISCELLANEOUS DETAILS

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
 SCALE: NTS
 DRAWING No. 2022-28-9
 SHEET No.

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

1. 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.
2. ALL SOIL EROSION AND SEDIMENTATION CONTROL WORK SHALL CONFORM TO THE PERMIT REQUIREMENTS OF THE CITY OF ANN ARBOR, THE LAWS OF THE STATE OF MICHIGAN, AND THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.
3. 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.
4. 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.
5. 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.
6. 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.
7. 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.
8. SPECIAL PRECAUTIONS WILL BE TAKEN IN THE USE OF CONSTRUCTION EQUIPMENT TO PREVENT SITUATIONS THAT PROMOTE EROSION.
9. PROPER DUST CONTROL SHALL BE MAINTAINED DURING CONSTRUCTION BY USE OF WATER TRUCKS AND/OR OTHER METHODS APPROVED BY THE ENGINEER.
10. 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.

11. 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.
12. TREE PROTECTION FENCING MUST REMAIN INTACT UNTIL RESTORATION OF THE SITE IS COMPLETE.

SEQUENCE OF EROSION CONTROL MEASURES:

1. 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:

- 1.1. 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.
- 1.2. STRIP AND STOCKPILE TOPSOIL. STABILIZE STOCKPILE AS REQUIRED.
- 1.3. 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.
- 1.4. PERFORM MACHINE GRADING OPERATIONS AND CONSTRUCT PAVEMENTS (MAINLINE, SIDEWALKS, DRIVES, ETC.).
- 1.5. CONTINUALLY MAINTAIN EROSION AND SEDIMENTATION CONTROL MEASURES, AS REQUIRED TO ALLOW DRAINAGE AND SEDIMENT REMOVAL. REMOVE ANY ACCUMULATED SEDIMENT IMMEDIATELY.
- 1.6. COMPLETE ALL FINE GRADING.
- 1.7. TEMPORARY SEED AND INSTALL EROSION CONTROL BLANKET IN ALL DISTURBED AREAS.
- 1.8. REFER TO LANDSCAPE PLANTING PLANS FOR PERMANENT SITE STABILIZATION.
- 1.9. CLEAN OUT STORM SEWER SYSTEMS.
- 1.10. REMEDY ANY NOTED DEFECTS TO THE SATISFACTION OF THE CITY OF ANN ARBOR'S SOIL EROSION AND SEDIMENTATION CONTROL OFFICIAL.
- 1.11. 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:

1. SEED IN ACCORDANCE WITH PROJECT DRAWINGS AND SPECIFICATIONS.
2. 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 = \$35,000.

EASY STREET

- MoC - MORLEY LOAM - 6% TO 12% SLOPES

GLENDALOECH ROAD

- WawabB - WAWASEE LOAM - 2% TO 6% SLOPES
- WawabC - WAWASEE LOAM - 6% TO 12% SLOPES

CARMEL STREET

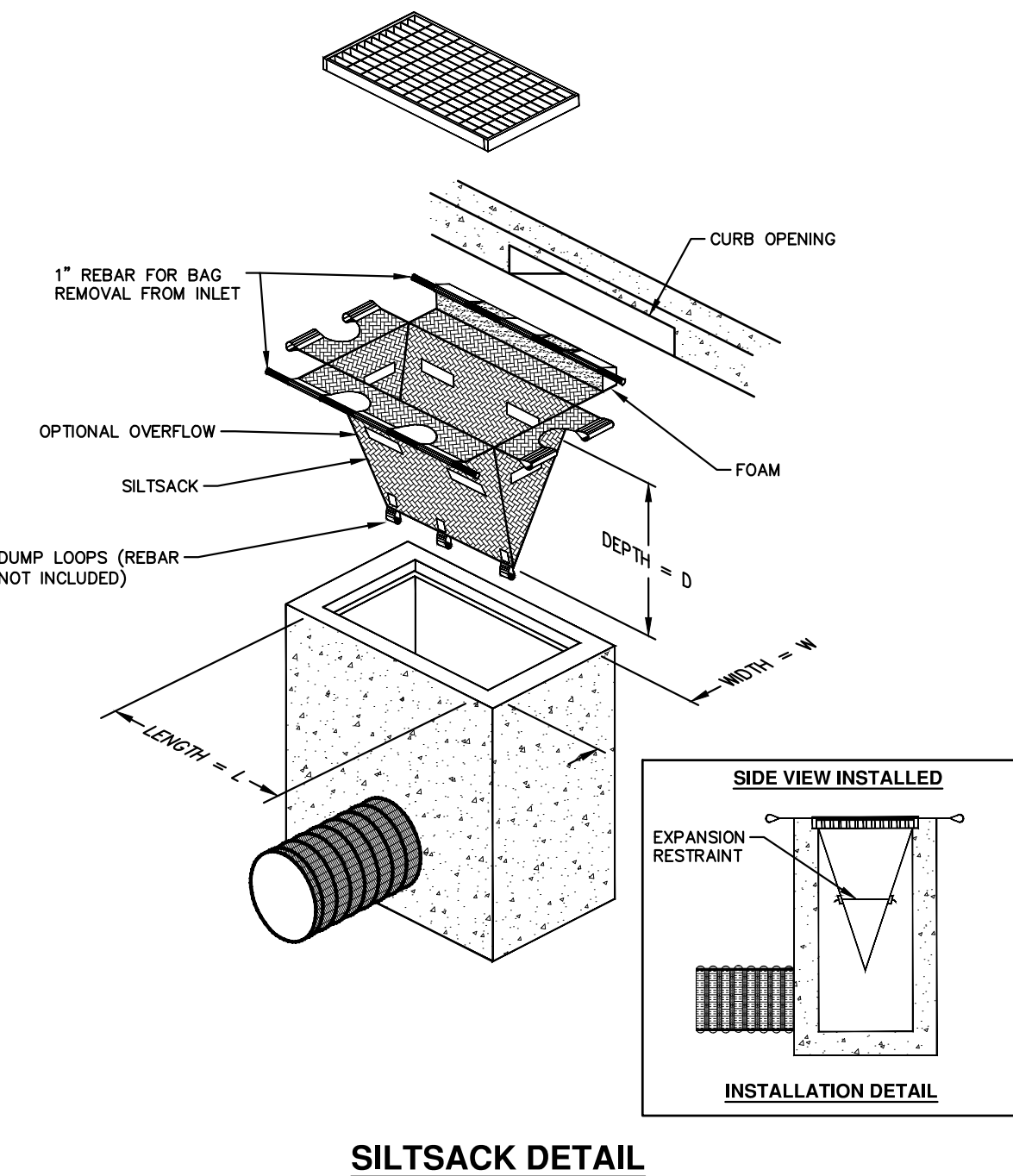
- MoC - MORLEY LOAM - 6% TO 12% SLOPES
- BnB - BOYER LOAMY SAND - 1% TO 6% SLOPES
- WgA - WASEPI SANDY LOAM - 0% TO 4% SLOPES

PROVINCIAL DRIVE

- BnB - BOYER LOAMY SAND - 1% TO 6% SLOPES
- SpC - SPRINKS LOAMY SAND - 6% TO 12% SLOPES
- WawabB - WAWASEE LOAM - 2% TO 6% SLOPES
- WawabC - WAWASEE LOAM - 6% TO 12% SLOPES

AREA OF PROPOSED DISTURBANCE

EASY STREET - 0.67 ac
 GLENDALOECH ROAD - 0.81 ac
 CARMEL STREET - 1.0 ac
 PROVINCIAL DRIVE - 1.96 ac



NOTE: THE SILTSACK WILL BE MANUFACTURED FROM A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS.

REGULAR FLOW SILTSACK

(FOR AREAS OF LOW TO MODERATE PRECIPITATION AND RUN-OFF)

PROPERTIES	REQUIRED VALUE	TEST METHOD
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20%
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	800 PSI
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	80%
APPARENT OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL./MIN./SQ FT
PERMITTIVITY	ASTM D-4491	0.55 SEC-1

HI-FLOW SILTSACK

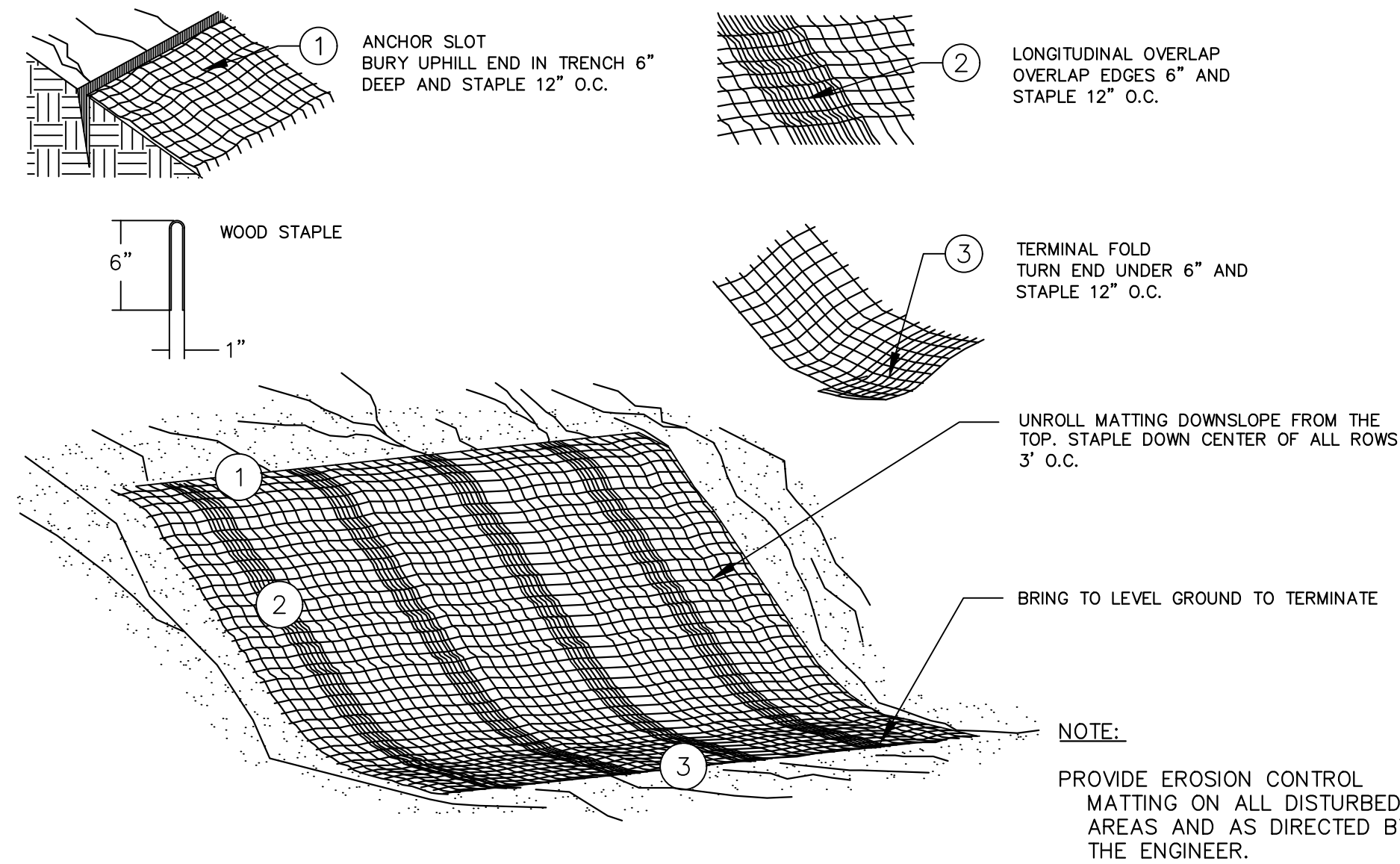
(FOR AREAS OF MODERATE TO HEAVY PRECIPITATION AND RUN-OFF)

PROPERTIES	REQUIRED VALUE	TEST METHOD
GRAB TENSILE STRENGTH	ASTM D-4632	265 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20%
PUNCTURE	ASTM D-4833	135 LBS
MULLEN BURST	ASTM D-3786	420 PSI
TRAPEZOID TEAR	ASTM D-4533	45 LBS
UV RESISTANCE	ASTM D-4355	90%
APPARENT OPENING SIZE	ASTM D-4751	20 US SIEVE
FLOW RATE	ASTM D-4491	200 GAL./MIN./SQ FT
PERMITTIVITY	ASTM D-4491	1.5 SEC-1

OIL-ABSORBANT SILTSACK

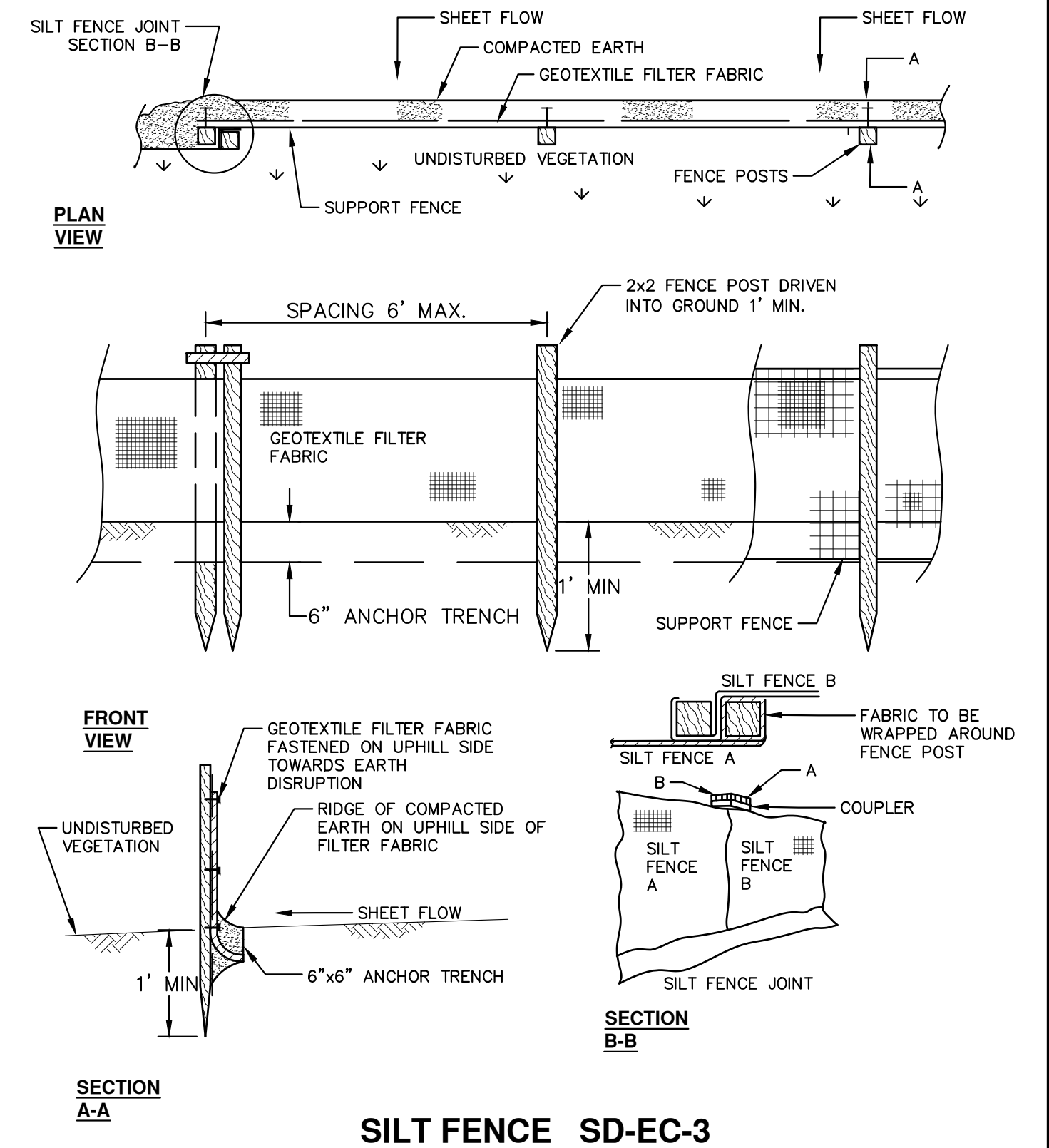
(FOR AREAS WHERE THERE IS A CONCERN FOR OIL RUN-OFF OR SPILLS)

IT IS THE INTENT OF THE PLANS AND SPECIFICATIONS THAT THE CONTRACTOR INSTALL THE REBAR AS SHOWN IN THIS DETAIL TO PROVIDE A FULLY FUNCTIONING UNIT. ALL COSTS ASSOCIATED WITH FURNISHING, CLEANING AS MANY TIMES AS REQUIRED, DISPOSAL OF SEDIMENT, AND REMOVING THE INLET FILTER WHEN NO LONGER NEEDED IS INCLUDED IN THE ITEM OF WORK AND WILL NOT BE PAID FOR SEPARATELY.



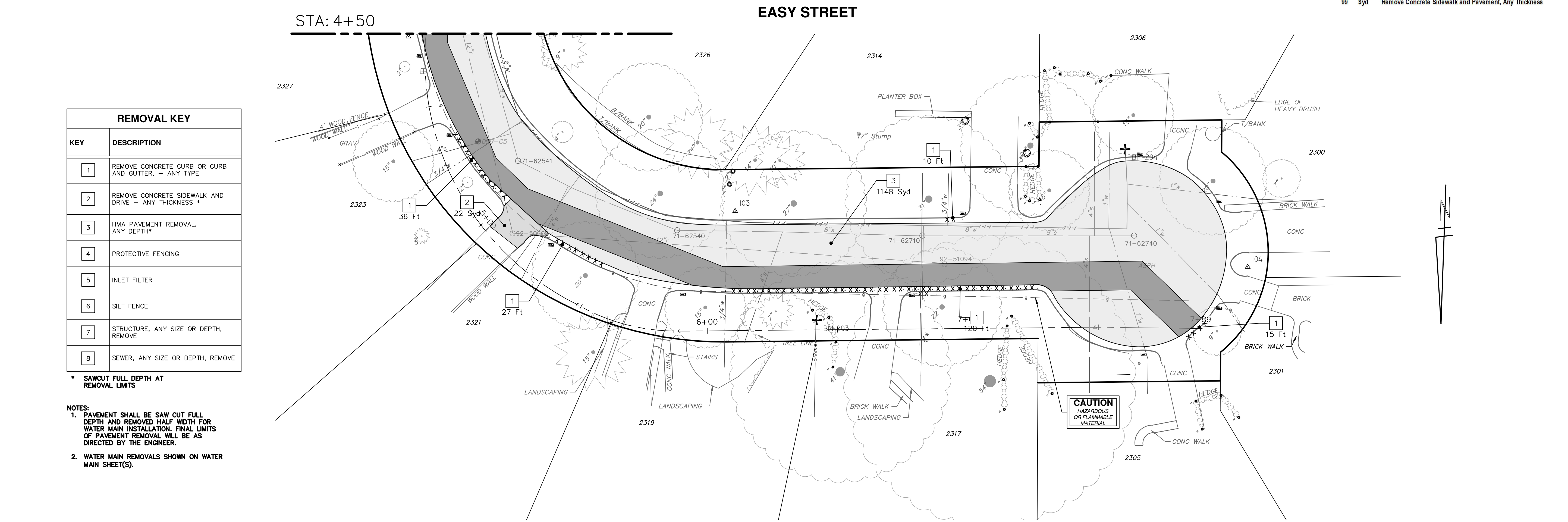
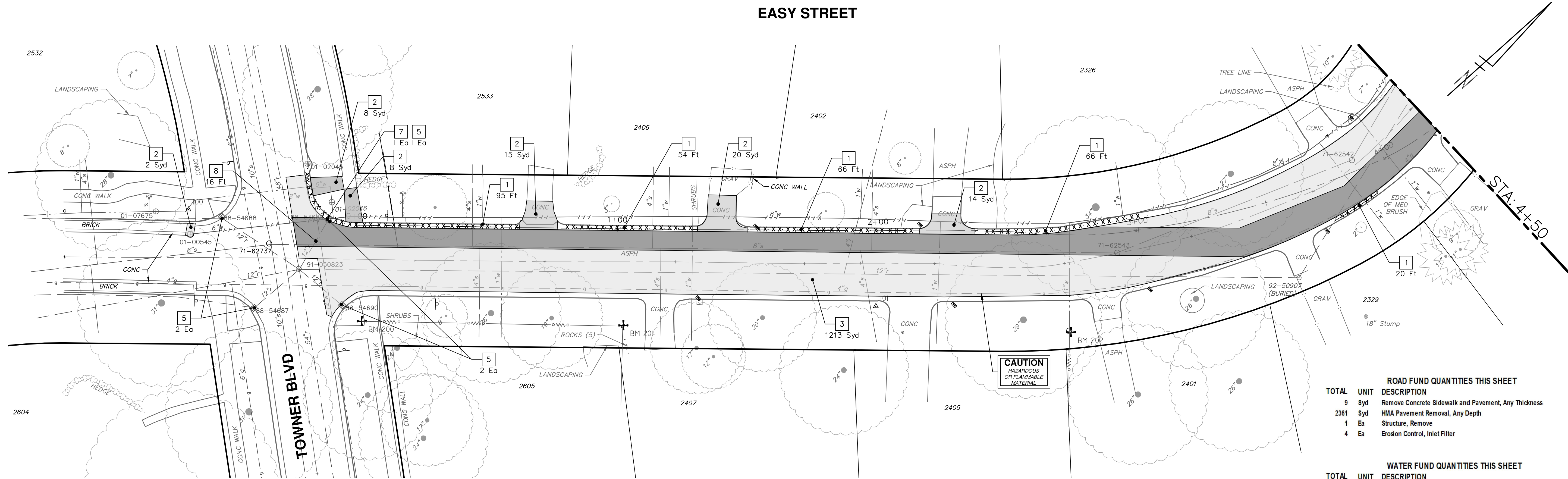
MULCH BLANKET DETAIL

APPLIES TO ALL AREAS TO BE PERMANENTLY RESTORED WITH GRASS. SEE LANDSCAPE PLANS FOR MORE DETAILS.



SILT FENCE SD-EC-3

P:\0000_0100\0028220090_GOPE_Local_Streets_WM_&_Resurf\Drawings\Civil\Removal\220090REM_EASY.dwg Dwg Created: 20-Jan-23 - a2 standard bw.stb - Plot Date: 23-Jan-23




REMOVAL KEY	
KEY	DESCRIPTION
1	REMOVE CONCRETE CURB OR CURB AND GUTTER, - ANY TYPE
2	REMOVE CONCRETE SIDEWALK AND DRIVE - ANY THICKNESS *
3	HMA PAVEMENT REMOVAL, ANY DEPTH*
4	PROTECTIVE FENCING
5	INLET FILTER
6	SILT FENCE
7	STRUCTURE, ANY SIZE OR DEPTH, REMOVE
8	SEWER, ANY SIZE OR DEPTH, REMOVE

* SAWCUT FULL DEPTH AT REMOVAL LIMITS

NOTES:
 1. PAVEMENT SHALL BE SAW CUT FULL DEPTH AND REMOVED HALF WIDTH FOR WATER MAIN INSTALLATION. FINAL LIMITS OF PAVEMENT REMOVAL WILL BE AS DIRECTED BY THE ENGINEER.
 2. WATER MAIN REMOVALS SHOWN ON WATER MAIN SHEET(S).


ROAD FUND QUANTITIES THIS SHEET		
TOTAL	UNIT	DESCRIPTION
9	Syd	Remove Concrete Sidewalk and Pavement, Any Thickness
2361	Syd	HMA Pavement Removal, Any Depth
1	Ea	Structure, Remove
4	Ea	Erosion Control, Inlet Filter

WATER FUND QUANTITIES THIS SHEET		
TOTAL	UNIT	DESCRIPTION
506	Ft	Remove Concrete Curb or Curb and Gutter, Any Thickness
99	Syd	Remove Concrete Sidewalk and Pavement, Any Thickness



Know what's below.
Call Before you dig.

REV	DATE	BY	CHECKED	
REV 01	11-18-2022			
REV 02	1-19-2023			
DESCRIPTION				
EASY STREET REMOVALS - P.O.B. TO P.O.E.				



CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2023 MISCELLANEOUS UTILITY PROJECTS

EASY STREET REMOVALS - P.O.B. TO P.O.E.

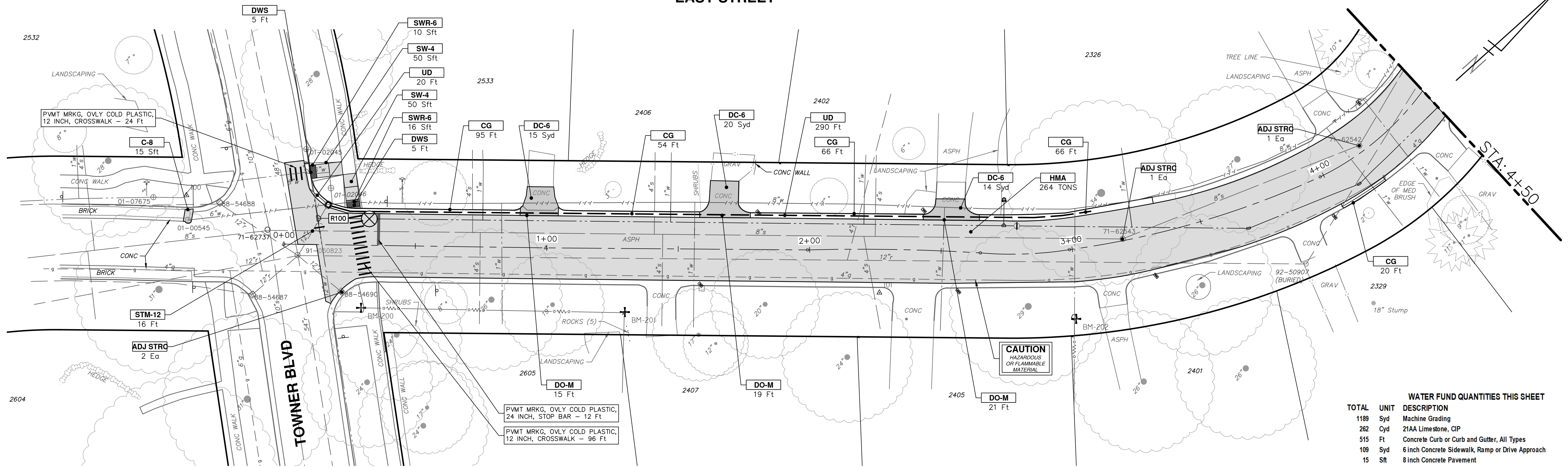
SHEET No. **11 OF 44**

SCALE PLAN: 1" = 20'

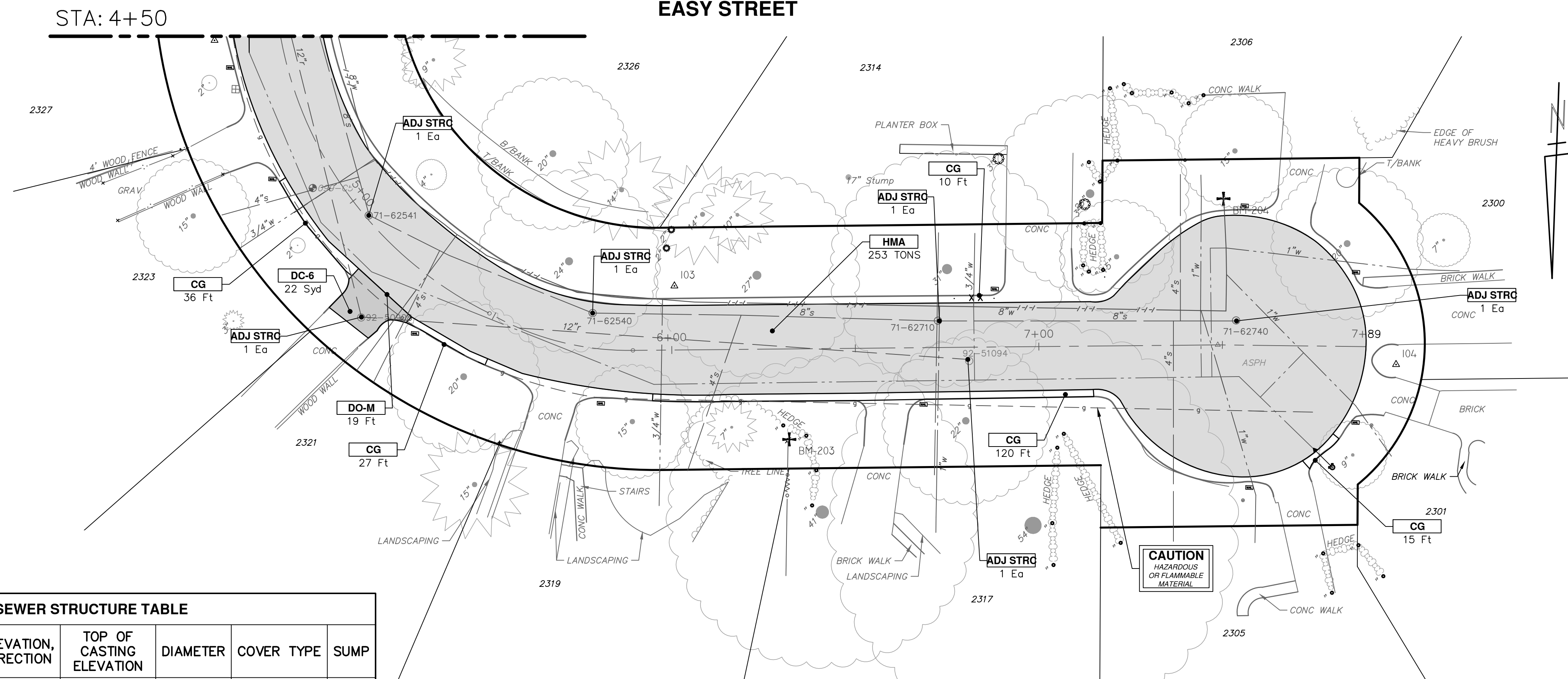
DRAWING No. **2022-28-11**

P:\0000_0100\0028220090_GOPE_LocalStreets_WM_&_Resurf\Drawings\Civil\Plans_Const\220090CON_EASY.dwg Dwg Created: 17-Jan-23 - Plot Date: 23-Jan-23

EASY STREET



EASY STREET



WATER FUND QUANTITIES THIS SHEET

TOTAL	UNIT	DESCRIPTION
1189	Syd	Machine Grading
262	Cyd	21AA Limestone, CIP
515	Ft	Concrete Curb or Curb and Gutter, All Types
109	Syd	6 inch Concrete Sidewalk, Ramp or Drive Approach
15	SF	8 inch Concrete Pavement

ROAD FUND QUANTITIES THIS SHEET

TOTAL	UNIT	DESCRIPTION
1175	Syd	Machine Grading
262	Cyd	21AA Limestone, CIP
546	Ton	HMA, 5EL
50	Sft	4 inch Concrete Sidewalk
10	Ft	Detectable Warning Surface
310	Ft	6 inch Wrapped Underdrain
120	Ft	Pavt Mrkg, Ovly Cold Plastic, 12 inch, Crosswalk
12	Ft	Pavt Mrkg, Ovly Cold Plastic, 24 inch, Stop Bar
16	Ft	12 inch CL IV RCP Storm Sewer Pipe, Tr Det I
1	Ea	Single Inlet w/ 2 foot Sump
4000	Lb	Structure Covers
8	Ea	Adjust Structure Cover

CONSTRUCTION KEY

KEY	DESCRIPTION
HMA	HMA, PAVEMENT LEVELING COURSE/TOP COURSE PER TYPICAL SECTION
HMA CR	HMA, CRUSH AND SHAPE
CG	CURB AND GUTTER, CONCRETE, F4, SPECIAL
DC-6	6 INCH CONCRETE DRIVE APPROACH - HIGH EARLY
C-8	8 INCH CONCRETE PAVEMENT - HIGH EARLY
SW-4	4 INCH CONCRETE SIDEWALK
SWR-6	6 INCH CONCRETE SIDEWALK OR SIDEWALK RAMP
DWS	DETECTABLE WARNING, CAST IN PLACE
DO-M	DRIVEWAY OPENING, CONCRETE, DETAIL M
DC-6	6 INCH CONCRETE DRIVE, HIGH EARLY
SI	SINGLE INLET WITH 2 FOOT SUMP
STM-12	12 INCH CL IV RCP STORM SEWER, TR DET 1
UD	6 INCH UNDERDRAIN
ADJ STRC	ADJUST STRUCTURE COVER

STORM SEWER STRUCTURE TABLE

STRUCTURE	UTILITY STATION	INVERT ELEVATION, SIZE & DIRECTION	TOP OF CASTING ELEVATION	DIAMETER	COVER TYPE	SUMP
R100	0+17	12" S 814.85 6" W 815.26 6" NE 815.26	819.30	24"	K	YES



REV.	DATE	DESCRIPTION	DRAWN	CHECKED
1	11-18-2022	REV 01 EGGLE PERMIT SUBMITTAL		
2	1-19-2023	REV 02 BID SET		

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
ANN ARBOR MI 48106-0647
www.aagov.org

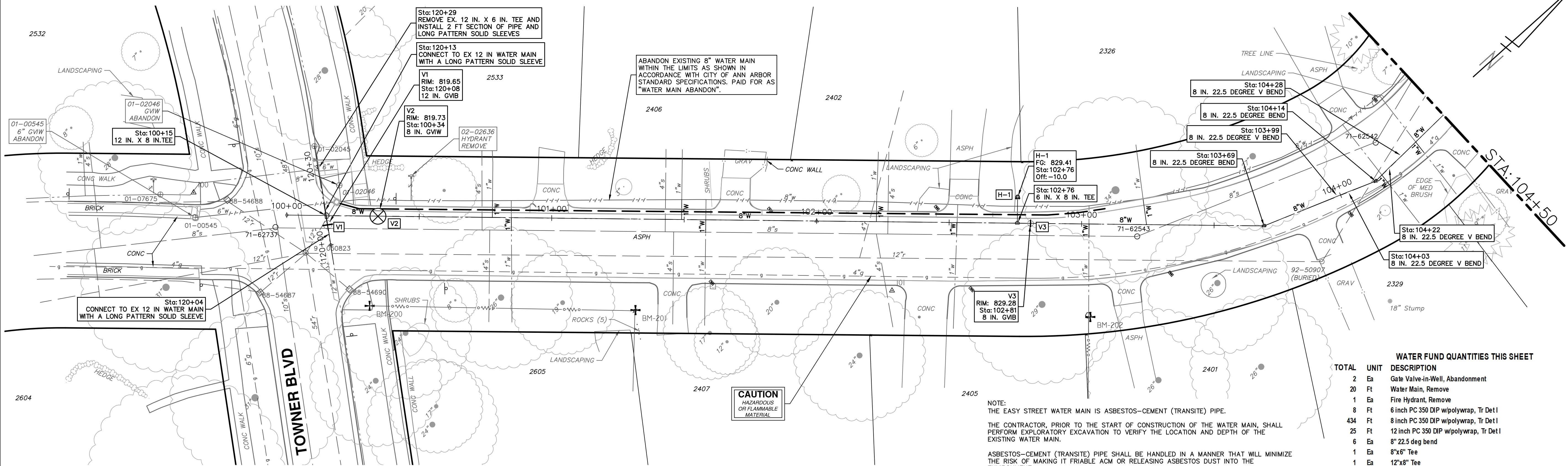


CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
2023 MISCELLANEOUS UTILITY PROJECTS
EASY STREET PROPOSED ROAD - P.O.B. TO P.O.E.

SCALE PLAN: 1" = 20'
DRAWING No. 2022-28-12
SHEET No.

P:\0000_0100\0028220090_GOPE_Local_Streets_WM_&_Resurf\Drawings\Civil\Plans_Const\220090WM_EASY.dwg Dwg Created: 17-Jan-23 - _a2 standard bw.stb - Plot Date: 23-Jan-23

EASY STREET



CAUTION
HAZARDOUS
OR FLAMMABLE
MATERIAL

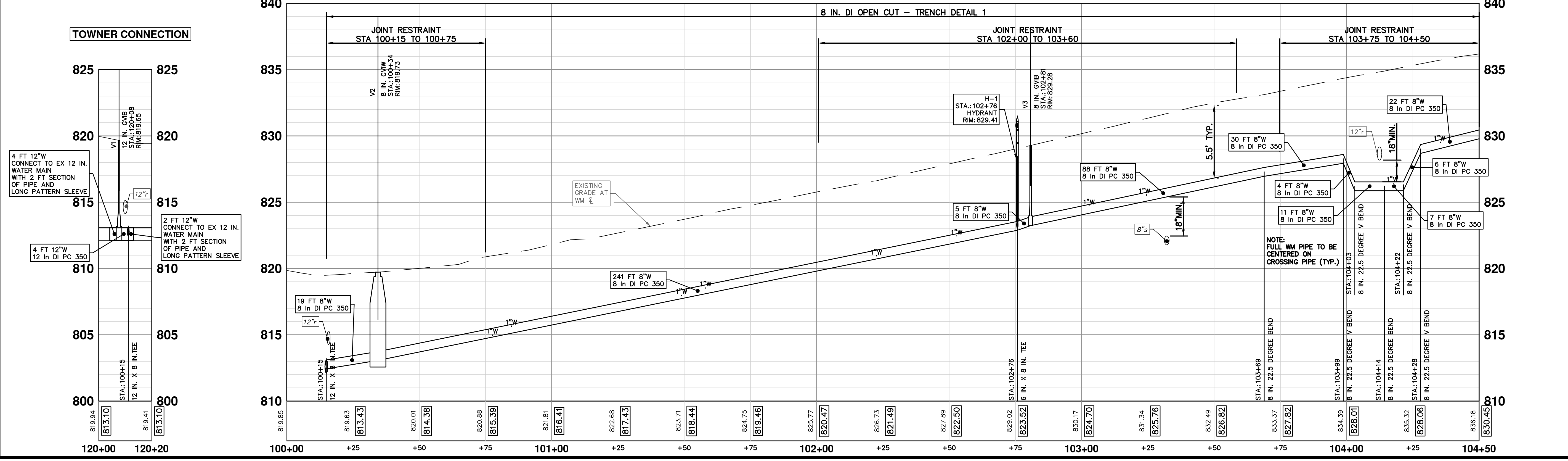
NOTE:
THE EASY STREET WATER MAIN IS ASBESTOS-CEMENT (TRANSITE) PIPE.
THE CONTRACTOR, PRIOR TO THE START OF CONSTRUCTION OF THE WATER MAIN, SHALL PERFORM EXPLORATORY EXCAVATION TO VERIFY THE LOCATION AND DEPTH OF THE EXISTING WATER MAIN.
ASBESTOS-CEMENT (TRANSITE) PIPE SHALL BE HANDLED IN A MANNER THAT WILL MINIMIZE THE RISK OF MAKING IT FRIABLE ACM OR RELEASING ASBESTOS DUST INTO THE ENVIRONMENT.
AT THE START OF WORK INVOLVING ASBESTOS-CEMENT PIPE, THE CONTRACTOR SHALL ENSURE THAT:
1. THE ASBESTOS-CEMENT PIPE SHALL BE EXPOSED WITH MINIMAL DISTURBANCE.
2. MECHANICAL EXCAVATION SHALL NOT BE USED WITHIN SIX INCHES OF THE ASBESTOS-CEMENT PIPE.
3. THE SOIL WITHIN SIX INCHES OF THE ASBESTOS-CEMENT PIPE SHALL BE UNCOVERED BY HAND OF WITH A SHOVEL.
4. ONCE THE PIPE HAS BEEN EXPOSED, AN ASSESSMENT BY THE ENGINEER AND CONTRACTOR SHALL BE MADE BEFORE PROCEEDING TO DETERMINE WHETHER THE ASBESTOS-CEMENT PIPE IS DAMAGED, CRACKED OR BROKEN.
ALL COSTS ASSOCIATED WITH THIS WORK SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE ITEM OF WORK 8" PC350 DIP W/ POLYWRAP, TR DET 1


WATER FUND QUANTITIES THIS SHEET

TOTAL	UNIT	DESCRIPTION
2	EA	Gate Valve-in-Well, Abandonment
20	FT	Water Main, Remove
1	EA	Fire Hydrant, Remove
8	FT	6 inch PC 350 DIP w/polywrap, Tr Det I
434	FT	8 inch PC 350 DIP w/polywrap, Tr Det I
25	FT	12 inch PC 350 DIP w/polywrap, Tr Det I
6	EA	8" 22.5 deg bend
1	EA	8"x6" Tee
1	EA	12"x8" Tee
1	EA	Fire Hydrant Assembly
1	EA	8" Gate Valve in Box
1	EA	12" Gate Valve in Box
1	EA	8" Gate Valve in Well
57	FT	Excavate and Backfill for Water Service Lead

WATER MAIN STRUCTURE TABLE


STRUCTURE	TYPE	STATION	RIM	DEPTH	DIAMETER	COVER TYPE
V2	8 in. GVIW	100+34	819.73	6.66	48"	B
H-1	HYDRANT	102+76	829.41	6.36		
V3	8 in. GVIB	102+81	829.28	6.04		
V1	12 in. GVIB	120+08	819.65	7.55		





Know what's below.
Call before you dig.

REV 02 BID SET	1-19-2023
REV 01 ELEC PERMIT SUBMITTAL	11-18-2022
REV.	DATE
DESCRIPTION	BY
DRAWN	CHECKED



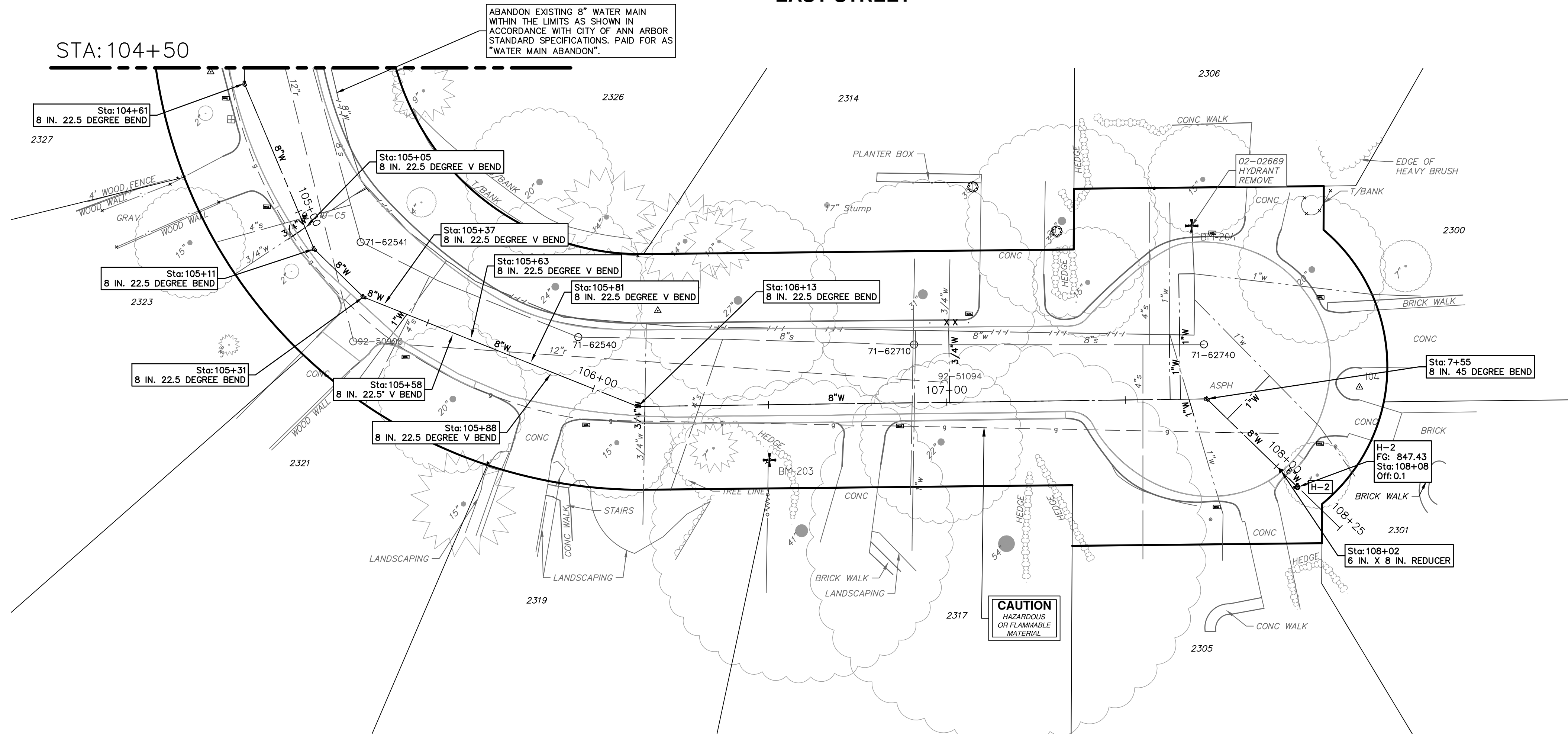
CITY OF ANN ARBOR - PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 86407
ANN ARBOR MI 48108-6407
www.a2gov.org

2023 MISCELLANEOUS UTILITY PROJECTS
EASY STREET WATER MAIN - P.O.B. TO STA 104+50

CITY OF ANN ARBOR - ENGINEERING
SCALE PLAN: 1" = 20'
PROFILE: 1" = 4'
DRAWING NO: 2022-28-13
SHEET NO: 13 OF 44

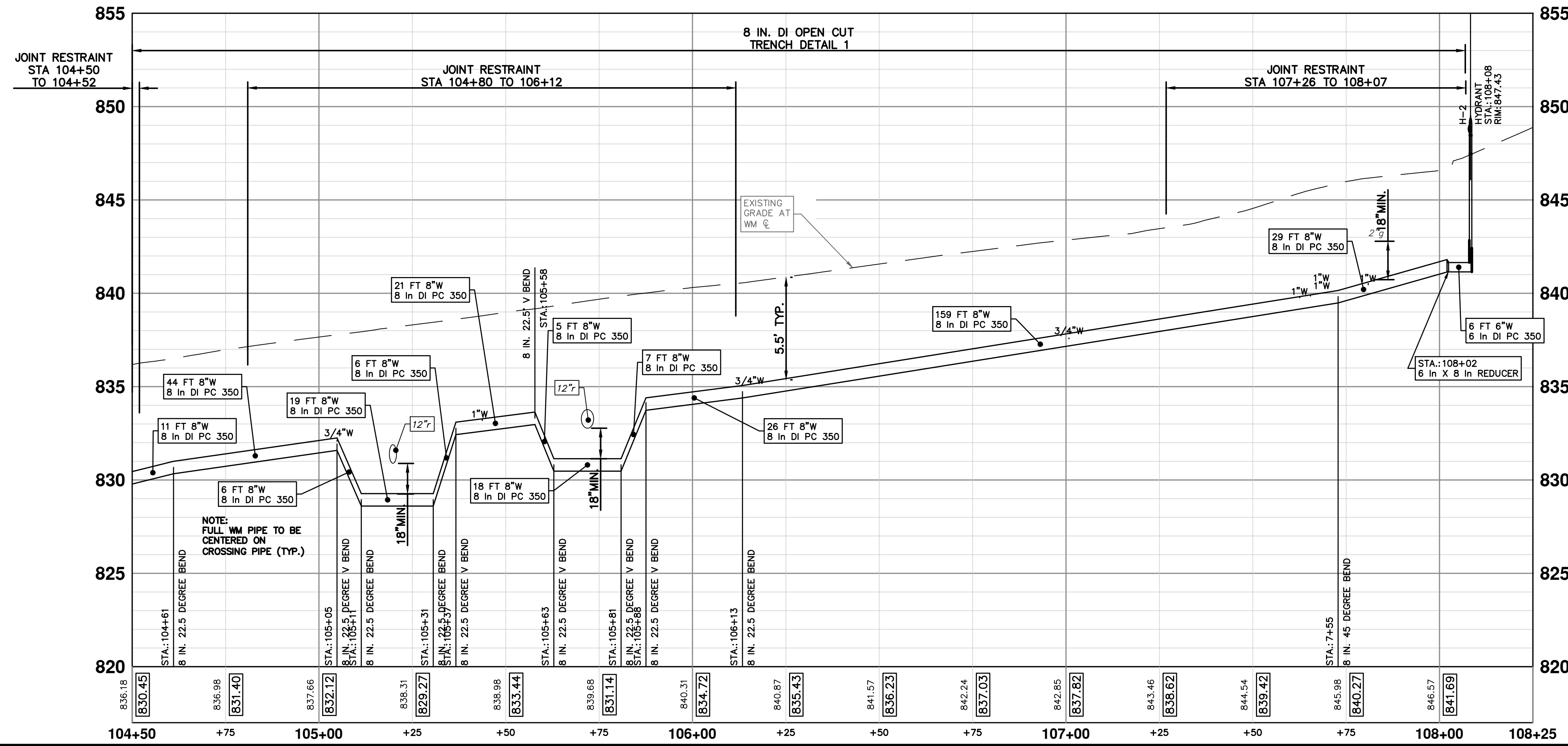
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EASY STREET



WATER FUND QUANTITIES THIS SHEET

TOTAL	UNIT	DESCRIPTION
1	Ea	Fire Hydrant, Remove
2	Ft	6 inch PC 350 DIP w/polywrap, Tr Det I
355	Ft	8 inch PC 350 DIP w/polywrap, Tr Det I
10	Ea	8" 22.5 deg bend
1	Ea	8" 45 deg bend
1	Ea	8"x6" reducer
1	Ea	Fire Hydrant Assembly
158	Ft	Excavate and Backfill for Water Service Lead



WATER MAIN STRUCTURE TABLE

STRUCTURE	TYPE	STATION	RIM	DEPTH	DIAMETER	COVER TYPE
H-2	HYDRANT	108+08	847.43	6.23		

NOTE:
THE EASY STREET WATER MAIN IS ASBESTOS-CEMENT (TRANSITE) PIPE.
THE CONTRACTOR, PRIOR TO THE START OF CONSTRUCTION OF THE WATER MAIN, SHALL PERFORM EXPLORATORY EXCAVATION TO VERIFY THE LOCATION AND DEPTH OF THE EXISTING WATER MAIN.
ASBESTOS-CEMENT (TRANSITE) PIPE SHALL BE HANDLED IN A MANNER THAT WILL MINIMIZE THE RISK OF MAKING IT FRAGILE ACM OR RELEASING ASBESTOS DUST INTO THE ENVIRONMENT.
AT THE START OF WORK INVOLVING ASBESTOS-CEMENT PIPE, THE CONTRACTOR SHALL ENSURE THAT:
1. THE ASBESTOS-CEMENT PIPE SHALL BE EXPOSED WITH MINIMAL DISTURBANCE.
2. MECHANICAL EXCAVATION SHALL NOT BE USED WITHIN SIX INCHES OF THE ASBESTOS-CEMENT PIPE.
3. THE SOIL WITHIN SIX INCHES OF THE ASBESTOS-CEMENT PIPE SHALL BE UNCOVERED BY HAND OF WITH A SHOVEL.
4. ONCE THE PIPE HAS BEEN EXPOSED, AN ASSESSMENT BY THE ENGINEER AND CONTRACTOR SHALL BE MADE BEFORE PROCEEDING TO DETERMINE WHETHER THE ASBESTOS-CEMENT PIPE IS DAMAGED, CRACKED OR BROKEN.
ALL COSTS ASSOCIATED WITH THIS WORK SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE ITEM OF WORK 8" PC350 DIP W/ POLYWRAP, TR DET 1

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

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
2023 MISCELLANEOUS UTILITY PROJECTS
EASY STREET WATER MAIN - STA 104+50 TO P.O.E.

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

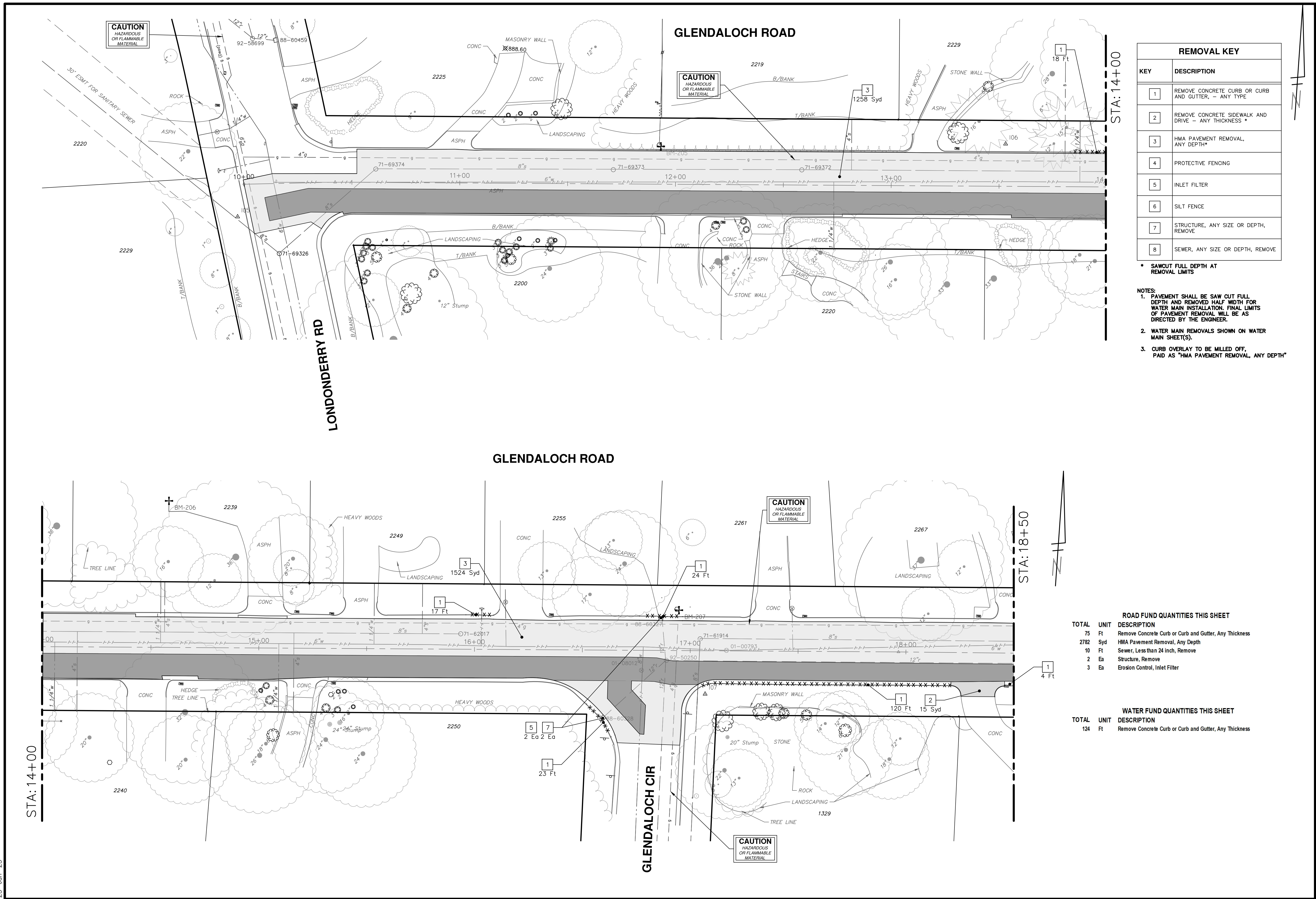
DRAWING NO. 2022-28-14
SHEET NO. 14 OF 44

REV. 01 EGGLE PERMIT SUBMITTAL DESCRIPTION
REV. 19-2023 11-18-2022 DATE
BY DRAWN
BY CHECKED

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CITY OF ANN ARBOR
MICHIGAN

P:\0000_0100\0028220090_GOPE_Local_Streets_WM_&_Resurf\Drawings\Civil\Removal\220090REM_GLENDALOCH.dwg Dwg Created: 17-Jan-23 - _a2_standard bw.stb - Plot Date: 23-Jan-23




REMOVAL KEY	
KEY	DESCRIPTION
1	REMOVE CONCRETE CURB OR CURB AND GUTTER, - ANY TYPE
2	REMOVE CONCRETE SIDEWALK AND DRIVE - ANY THICKNESS *
3	HMA PAVEMENT REMOVAL, ANY DEPTH*
4	PROTECTIVE FENCING
5	INLET FILTER
6	SILT FENCE
7	STRUCTURE, ANY SIZE OR DEPTH, REMOVE
8	SEWER, ANY SIZE OR DEPTH, REMOVE

* SAWCUT FULL DEPTH AT REMOVAL LIMITS

NOTES:
 1. PAVEMENT SHALL BE SAW CUT FULL DEPTH AND REMOVED HALF WIDTH FOR WATER MAIN INSTALLATION. FINAL LIMITS OF PAVEMENT REMOVAL WILL BE AS DIRECTED BY THE ENGINEER.
 2. WATER MAIN REMOVALS SHOWN ON WATER MAIN SHEET(S).
 3. CURB OVERLAY TO BE MILLED OFF, PAID AS "HMA PAVEMENT REMOVAL, ANY DEPTH"


ROAD FUND QUANTITIES THIS SHEET		
TOTAL	UNIT	DESCRIPTION
75	Ft	Remove Concrete Curb or Curb and Gutter, Any Thickness
2782	Syd	HMA Pavement Removal, Any Depth
10	Ft	Sewer, Less than 24 inch, Remove
2	Ea	Structure, Remove
3	Ea	Erosion Control, Inlet Filter

WATER FUND QUANTITIES THIS SHEET		
TOTAL	UNIT	DESCRIPTION
124	Ft	Remove Concrete Curb or Curb and Gutter, Any Thickness



Know what's below. Call before you dig.

REV. 01	DATE	DESCRIPTION	BY	CHECKED
REV. 02	11-18-2022	REV. 01 ELEC PERMIT SUBMITTAL	BY	DRAWN
REV. 03	1-19-2023	REV. 02 BID SET	BY	DRAWN



CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2023 MISCELLANEOUS UTILITY PROJECTS

GLENDALOCH ROAD REMOVALS - P.O.B. TO STA 18+50

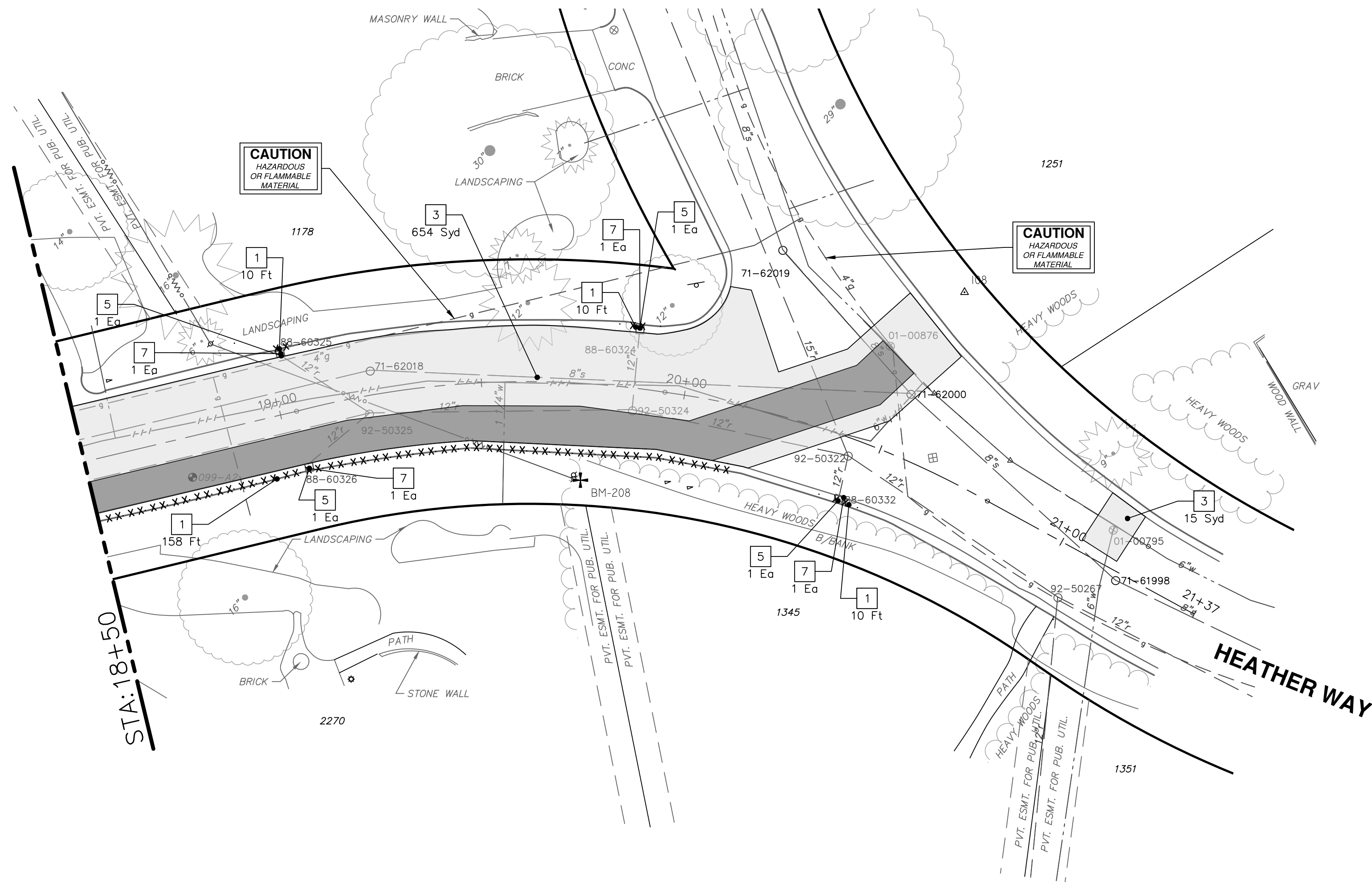
SCALE PLAN: 1" = 20'

DRAWING No. 2022-28-15

SHEET No. 15 OF 44

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GLENDALOCH ROAD



REMOVAL KEY	
KEY	DESCRIPTION
1	REMOVE CONCRETE CURB OR CURB AND GUTTER, - ANY TYPE
2	REMOVE CONCRETE SIDEWALK AND DRIVE - ANY THICKNESS *
3	HMA PAVEMENT REMOVAL, ANY DEPTH*
4	PROTECTIVE FENCING
5	INLET FILTER
6	SILT FENCE
7	STRUCTURE, ANY SIZE OR DEPTH, REMOVE
8	SEWER, ANY SIZE OR DEPTH, REMOVE

- * SAWCUT FULL DEPTH AT REMOVAL LIMITS
- NOTES:
- PAVEMENT SHALL BE SAW CUT FULL DEPTH AND REMOVED HALF WIDTH FOR WATER MAIN INSTALLATION. FINAL LIMITS OF PAVEMENT REMOVAL WILL BE AS DIRECTED BY THE ENGINEER.
 - WATER MAIN REMOVALS SHOWN ON WATER MAIN SHEET(S).
 - CURB OVERLAY TO BE MILLED OFF, PAID AS "HMA PAVEMENT REMOVAL, ANY DEPTH"

ROAD FUND QUANTITIES THIS SHEET

TOTAL	UNIT	DESCRIPTION
30	Ft	Remove Concrete Curb or Curb and Gutter, Any Thickness
654	Syd	HMA Pavement Removal, Any Depth
20	Ft	Sewer, Less than 24 inch, Remove
4	Ea	Structure, Remove
4	Ea	Erosion Control, Inlet Filter

WATER FUND QUANTITIES THIS SHEET

TOTAL	UNIT	DESCRIPTION
158	Ft	Remove Concrete Curb or Curb and Gutter, Any Thickness
15	Syd	HMA Pavement Removal, Any Depth



REV.	DESCRIPTION	DATE	BY	CHECKED
REV 01	EGLLE PERMIT SUBMITTAL	11-18-2022	BY	DRAWN
REV 02	BID SET	1-19-2023	BY	DRAWN

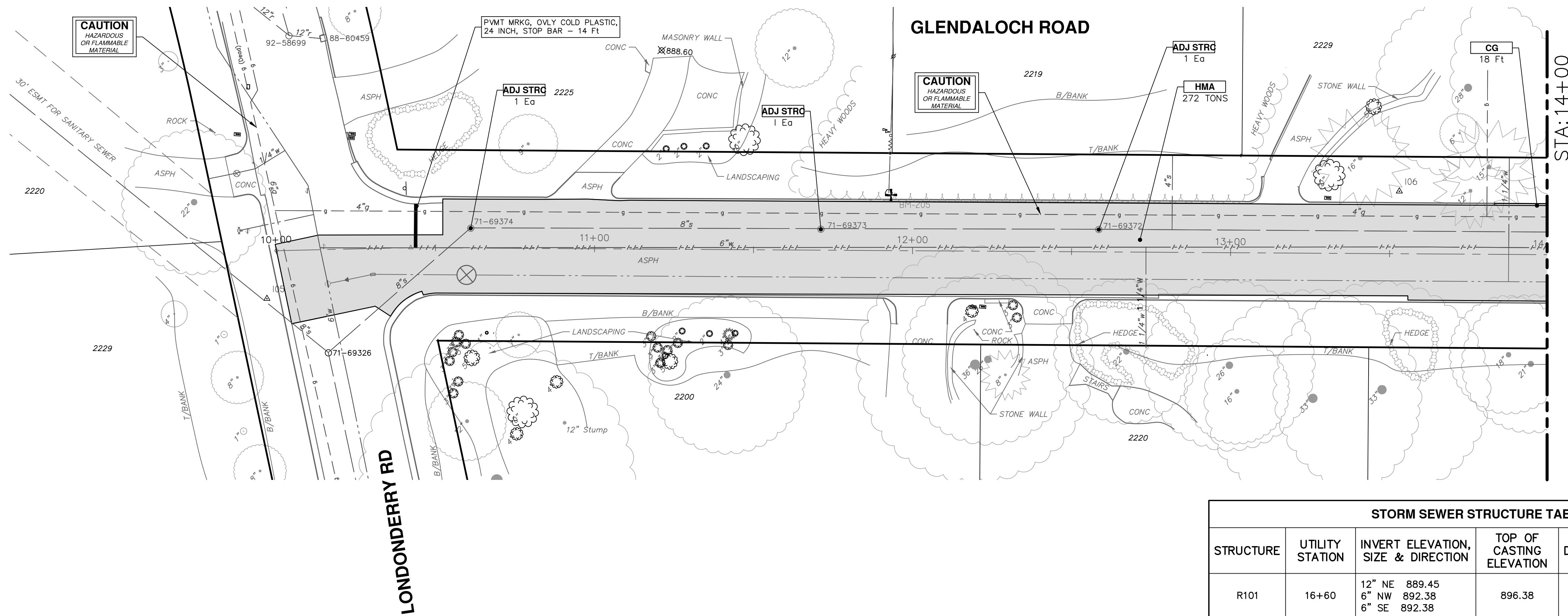
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ANN ARBOR, MI 48106-1667
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
2023 MISCELLANEOUS UTILITY PROJECTS
GLENDALOCH ROAD REMOVALS - STA 18+50 TO P.O.E.

SCALE PLAN: 1" = 20'
DRAWING No. 2022-28-16

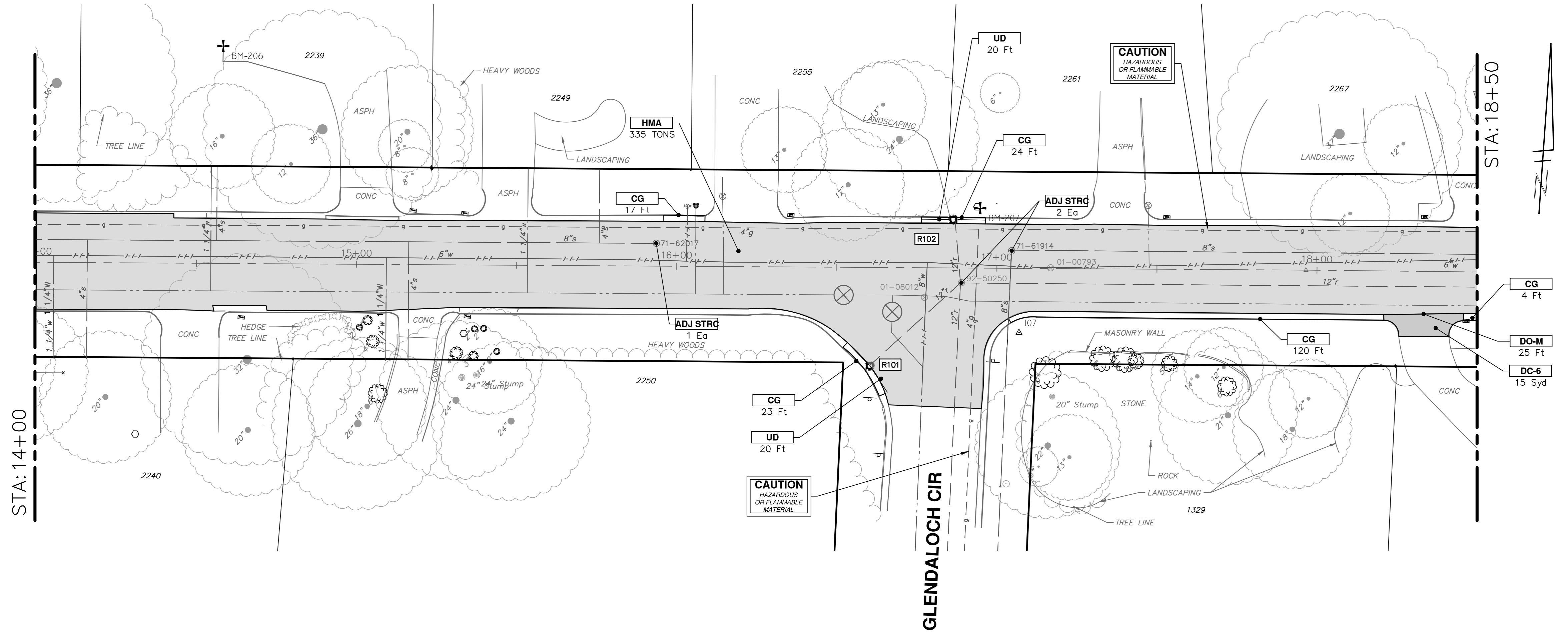
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CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	HMA, PAVEMENT LEVELING COURSE/TOP COURSE PER TYPICAL SECTION
HMA CR	HMA, CRUSH AND SHAPE
CG	CURB AND GUTTER, CONCRETE, F4, SPECIAL
DC-6	6 INCH CONCRETE DRIVE APPROACH - HIGH EARLY
C-8	8 INCH CONCRETE PAVEMENT - HIGH EARLY
SW-4	4 INCH CONCRETE SIDEWALK
SWR-6	6 INCH CONCRETE SIDEWALK OR SIDEWALK RAMP
DWS	DETECTABLE WARNING, CAST IN PLACE
DO-M	DRIVEWAY OPENING, CONCRETE, DETAIL M
DC-6	6 INCH CONCRETE DRIVE, HIGH EARLY
SI	SINGLE INLET WITH 2 FOOT SUMP
STM-12	12 INCH CL IV RCP STORM SEWER, TR DET 1
UD	6 INCH UNDERDRAIN
ADJ STRC	ADJUST STRUCTURE COVER

NOTE: CURB OVERLAY TO BE MILLED OFF, PAID AS "HMA PAVEMENT REMOVAL, ANY DEPTH"

STORM SEWER STRUCTURE TABLE						
STRUCTURE	UTILITY STATION	INVERT ELEVATION, SIZE & DIRECTION	TOP OF CASTING ELEVATION	DIAMETER	COVER TYPE	SUMP
R101	16+60	12" NE 889.45 6" NW 892.38 6" SE 892.38	896.38	24"	K	YES
R102	16+86	12" S 886.64 6" E 889.37 6" W 889.37	893.37	24"	K	YES



ROAD FUND QUANTITIES THIS SHEET		
TOTAL	UNIT	DESCRIPTION
2775	Syd	Machine Grading
643	Ton	HMA, SEL
85	Ft	Concrete Curb or Curb and Gutter, All Types
25	Ft	Concrete Type M Drive Opening
40	Ft	6 inch Wrapped Underdrain
14	Ft	Pav Mtg, Only Cold Plastic, 24 inch, Stop Bar
10	Ft	12 inch CL IV RCP Storm Sewer Pipe, Tr Det 1
2	Ea	Single Inlet w/ 2 foot Sump
4000	Lb	Structure Covers
6	Ea	Adjust Structure Cover

WATER FUND QUANTITIES THIS SHEET		
TOTAL	UNIT	DESCRIPTION
370	Cyd	21A Limestone, CIP
124	Ft	Concrete Curb or Curb and Gutter, All Types
15	Syd	6 inch Concrete Sidewalk, Ramp or Drive Approach
25	Ft	Concrete Type M Drive Opening

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE PLAN: 1" = 20'

DRAWING No. 2022-28-17

SHEET No. 17 OF 44

2023 MISCELLANEOUS UTILITY PROJECTS

GLENDALLOCH ROAD PROPOSED ROAD - P.O.B. TO STA 18+50

REV. DATE BY CHECKED

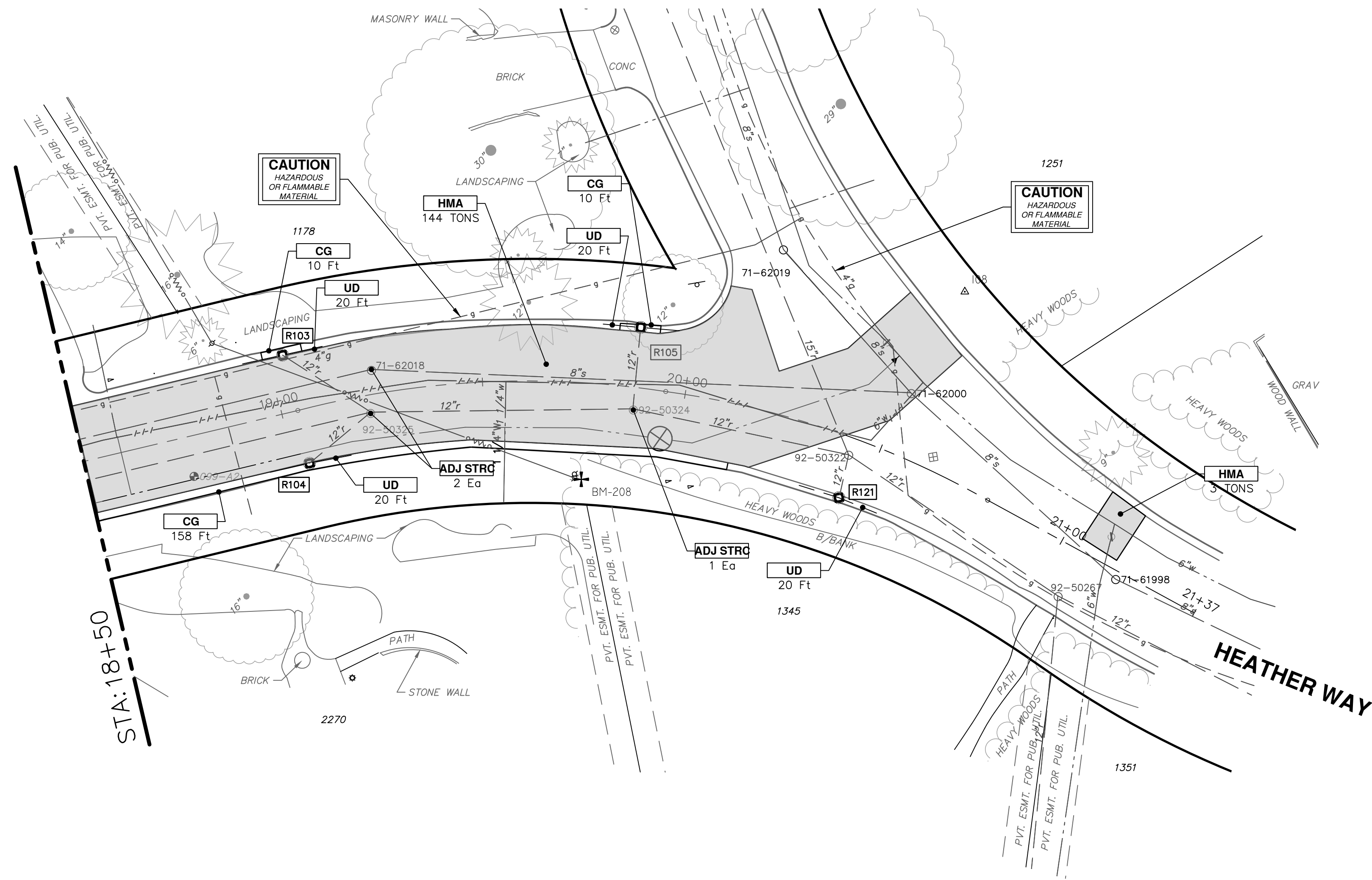
REV 01 11-18-2022 DATE DRAWN

REV 02 1-19-2023 DATE DRAWN

REV 03 1-19-2023 DATE DRAWN

17 OF 44

GLENDALOCH ROAD



CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	HMA, PAVEMENT LEVELING COURSE/TOP COURSE PER TYPICAL SECTION
HMA CR	HMA, CRUSH AND SHAPE
CG	CURB AND GUTTER, CONCRETE, F4, SPECIAL
DC-6	6 INCH CONCRETE DRIVE APPROACH - HIGH EARLY
C-8	8 INCH CONCRETE PAVEMENT - HIGH EARLY
SW-4	4 INCH CONCRETE SIDEWALK
SWR-6	6 INCH CONCRETE SIDEWALK OR SIDEWALK RAMP
DWS	DETECTABLE WARNING, CAST IN PLACE
DO-M	DRIVEWAY OPENING, CONCRETE, DETAIL M
DC-6	6 INCH CONCRETE DRIVE, HIGH EARLY
SI	SINGLE INLET WITH 2 FOOT SUMP
STM-12	12 INCH CL IV RCP STORM SEWER, TR DET 1
UD	6 INCH UNDERDRAIN
ADJ STRC	ADJUST STRUCTURE COVER

NOTE: CURB OVERLAY TO BE MILLED OFF, PAID AS "HMA PAVEMENT REMOVAL, ANY DEPTH"

STORM SEWER STRUCTURE TABLE						
STRUCTURE	UTILITY STATION	INVERT ELEVATION, SIZE & DIRECTION	TOP OF CASTING ELEVATION	DIAMETER	COVER TYPE	SUMP
R103	19+04	12" SE 868.72 6" E 869.92 6" W 869.92	873.92	24"	K	YES
R104	19+04	12" NE 868.52 6" E 869.78 6" W 869.78	873.78	24"	K	NO
R105	19+87	12" S 861.98 6" E 862.23 6" W 862.23	865.98	24"	K	YES
R121	20+45	12" NE 859.50 6" SE 861.39 6" NW 861.39	865.39	24"	K	YES

ROAD FUND QUANTITIES THIS SHEET		
TOTAL	UNIT	DESCRIPTION
654	Syd	Machine Grading
88	Cyd	21AA Limestone, CIP
155	Ton	HMA, SEL
20	Ft	Concrete Curb or Curb and Gutter, All Types
60	Ft	6 inch Wrapped Underdrain
20	Ft	12 inch CL IV RCP Storm Sewer Pipe, Tr Det 1
3	Ea	Single Inlet w/ 2 foot Sump
1600	Lb	Structure Covers
3	Ea	Adjust Structure Cover

WATER FUND QUANTITIES THIS SHEET		
TOTAL	UNIT	DESCRIPTION
158	Ft	Concrete Curb or Curb and Gutter, All Types



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2023 MISCELLANEOUS UTILITY PROJECTS
GLENDALOCH ROAD PROPOSED ROAD - STA 18+50 TO P.O.E.

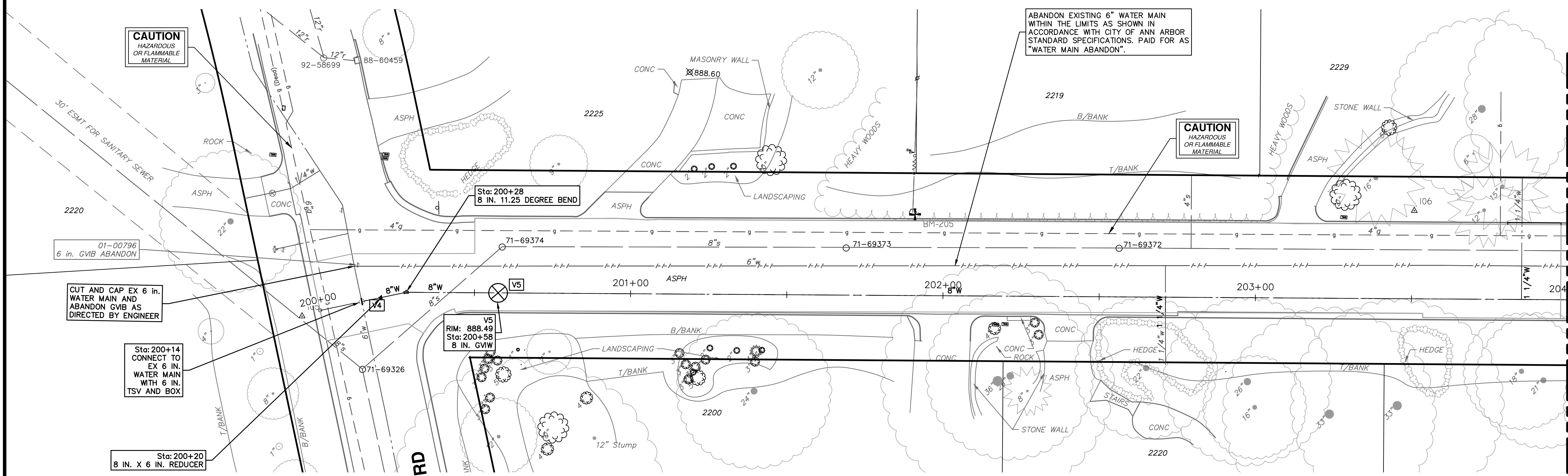
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE PLAN: 1" = 20'
DRAWING No. 2022-28-18

SHEET No.

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GLENDALOCH ROAD

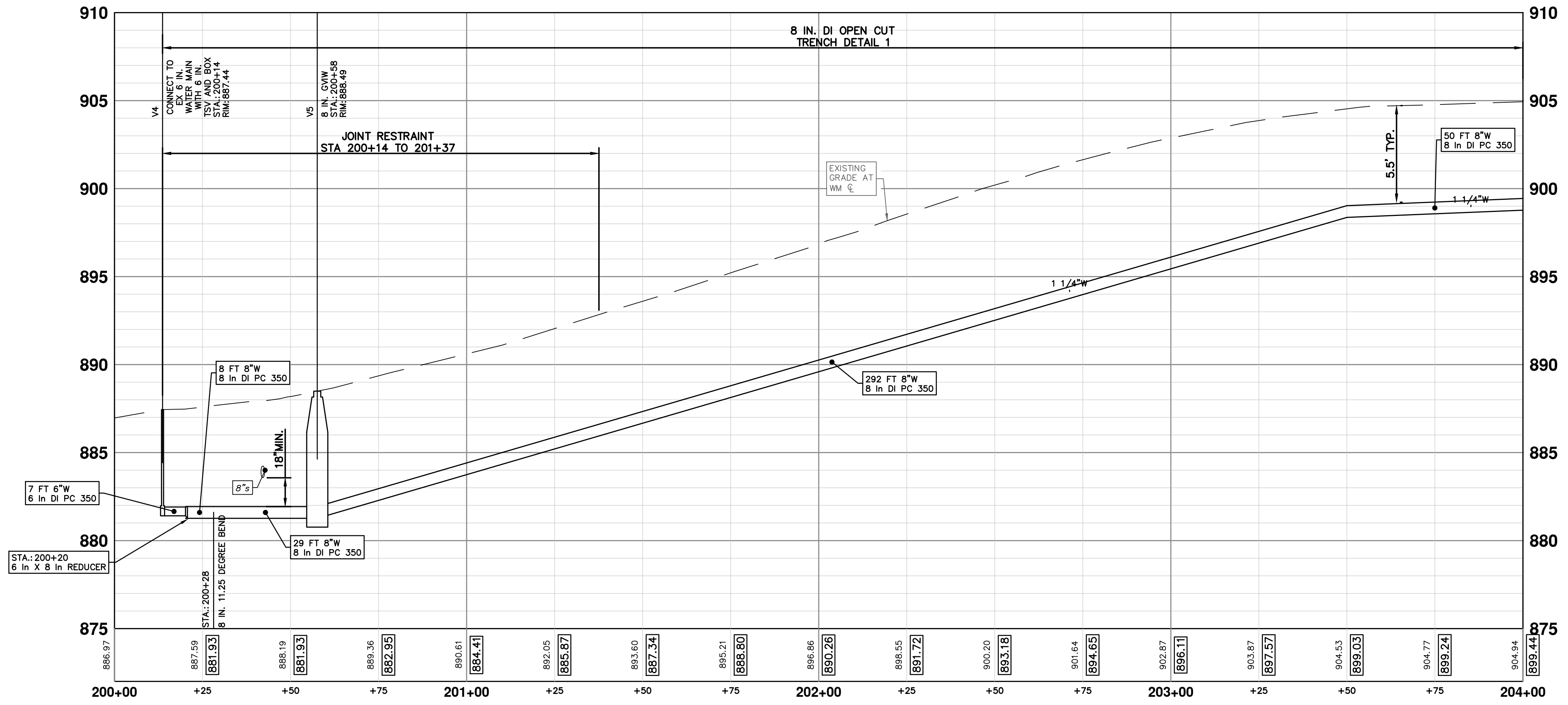



WATER FUND QUANTITIES THIS SHEET

TOTAL	UNIT	DESCRIPTION
1	Ea	Gate Valve-in-Box, Abandonment
5	Ft	Water Main, Remove
7	Ft	6 inch PC 350 DIP wipolywrap, Tr Det I
378	Ft	8 inch PC 350 DIP wipolywrap, Tr Det I
1	Ea	8" 11.25 deg bend
1	Ea	8"x6" reducer
1	Ea	8" Gate Valve in Well
1	Ea	6"x6" Tapping Sleeve and Valve in Box
20	Ft	Excavate and Backfill for Water Service Lead

WATER MAIN STRUCTURE TABLE


STRUCTURE	TYPE	STATION	RIM	DEPTH	DIAMETER	COVER TYPE
V4	CONNECT TO EX 6 in. WATER MAIN WITH 6 in. TSV AND BOX	200+14	887.44	6.04		
V5	8 in. GVIW	200+58	888.49	7.23	48"	B





Know what's below.
Call before you dig.

REV 01	EGLE PERMIT SUBMITTAL	DATE	BY	CHECKED
REV 02	BID SET	11-18-2022	BY	DRAWN
REV 03		1-19-2023	BY	



CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

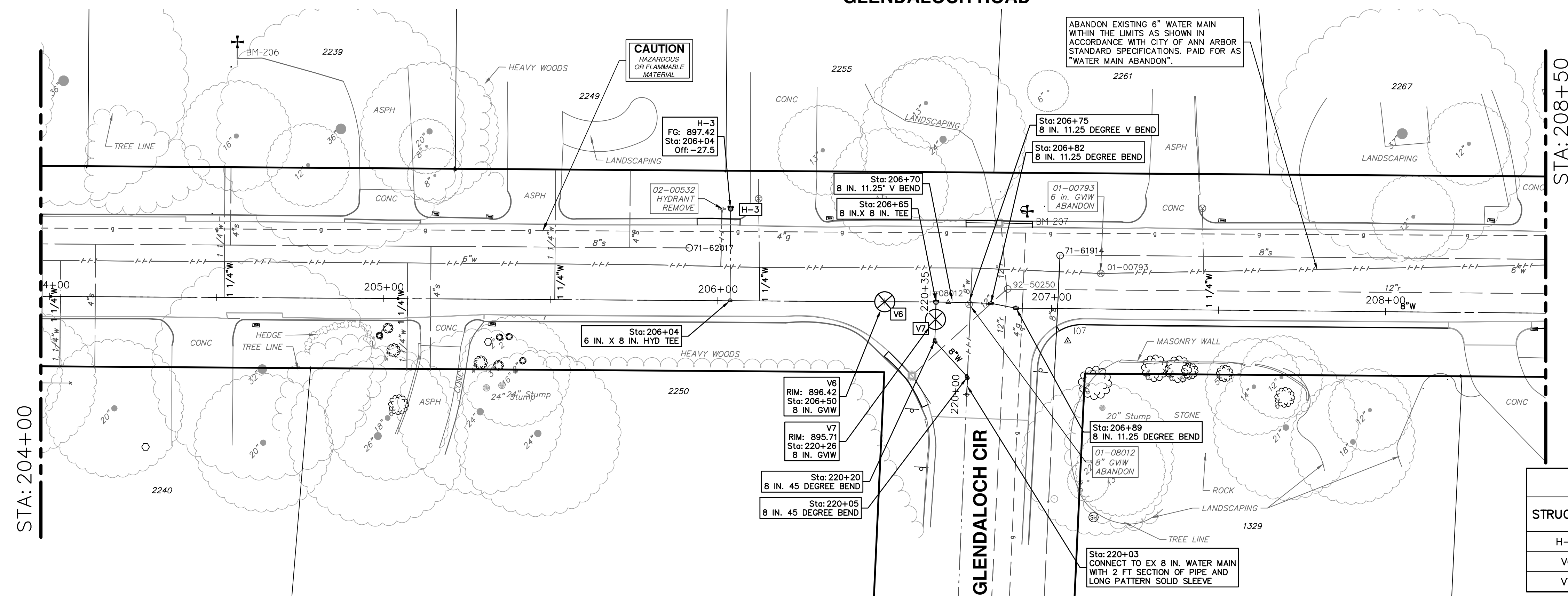
2023 MISCELLANEOUS UTILITY PROJECTS

GLENDALOCH ROAD WATER MAIN- P.O.B. TO STA 18+50

SHEET No. 19 OF 44

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GLENDALOCH ROAD

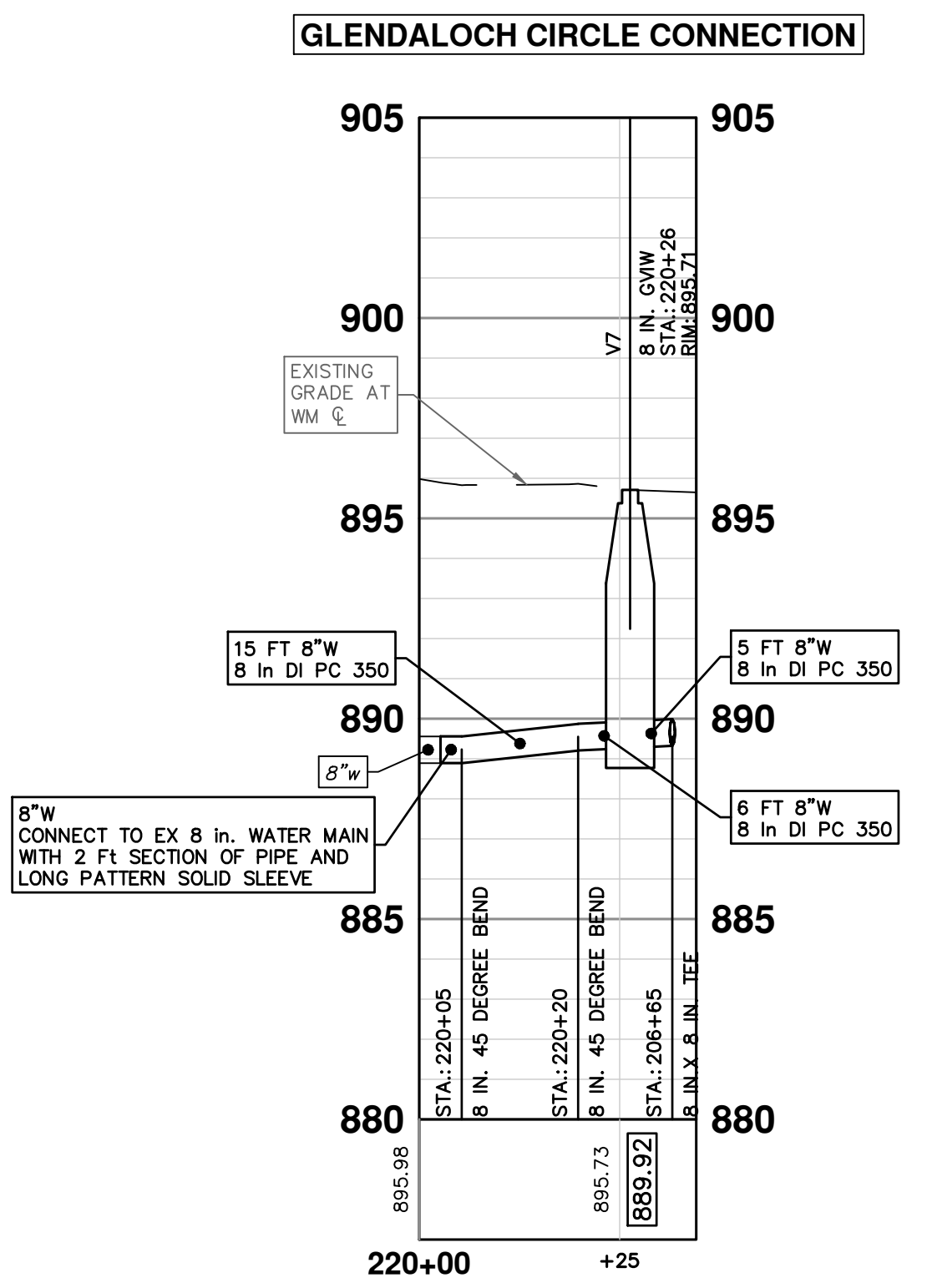
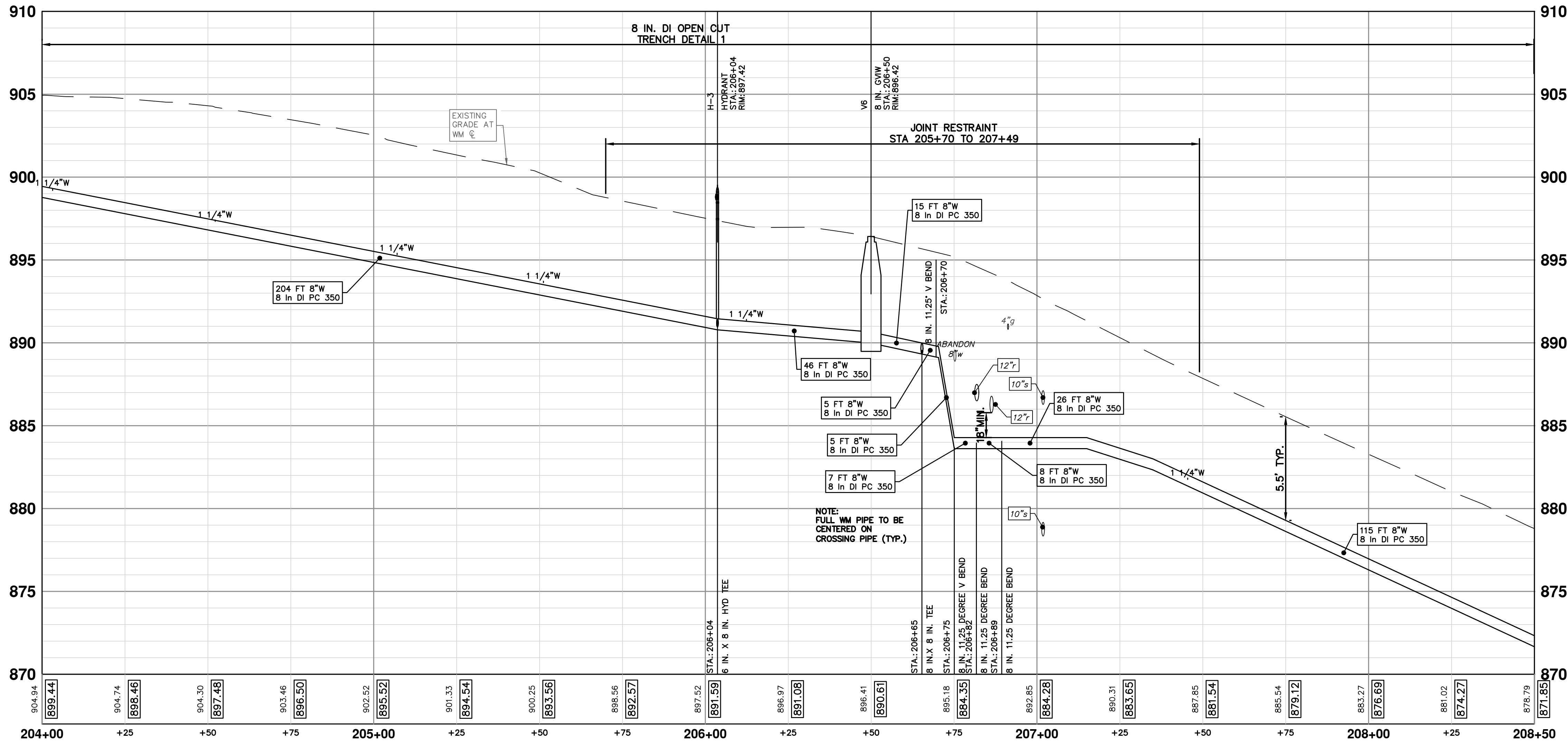


WATER FUND QUANTITIES THIS SHEET

TOTAL	UNIT	DESCRIPTION
2	Ea	Gate Valve-in-Well, Abandonment
10	Ft	Water Main, Remove
1	Ea	Fire Hydrant, Remove
26	Ft	6 inch PC 350 DIP w/polywrap, Tr Det I
488	Ft	8 inch PC 350 DIP w/polywrap, Tr Det I
4	Ea	8" 11.25 deg bend
2	Ea	8" 45 deg bend
1	Ea	8"x6" Tee
1	Ea	8"x8" Tee
1	Ea	Fire Hydrant Assembly
2	Ea	8" Gate Valve in Well

WATER MAIN STRUCTURE TABLE

STRUCTURE	TYPE	STATION	RIM	DEPTH	DIAMETER	COVER TYPE
H-3	HYDRANT	206+04	897.42	6.51		
V6	8 in. GVIW	206+50	896.42	6.43	48"	B
V7	8 in. GVIW	220+26	895.71	6.44	48"	B



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

REV: 02 BID SET
1-19-2023

REV: 01 EGGLE PERMIT SUBMITTAL
11-18-2022

REV: _____
DATE

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CITY OF ANN ARBOR
MICHIGAN

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2023 MISCELLANEOUS UTILITY PROJECTS

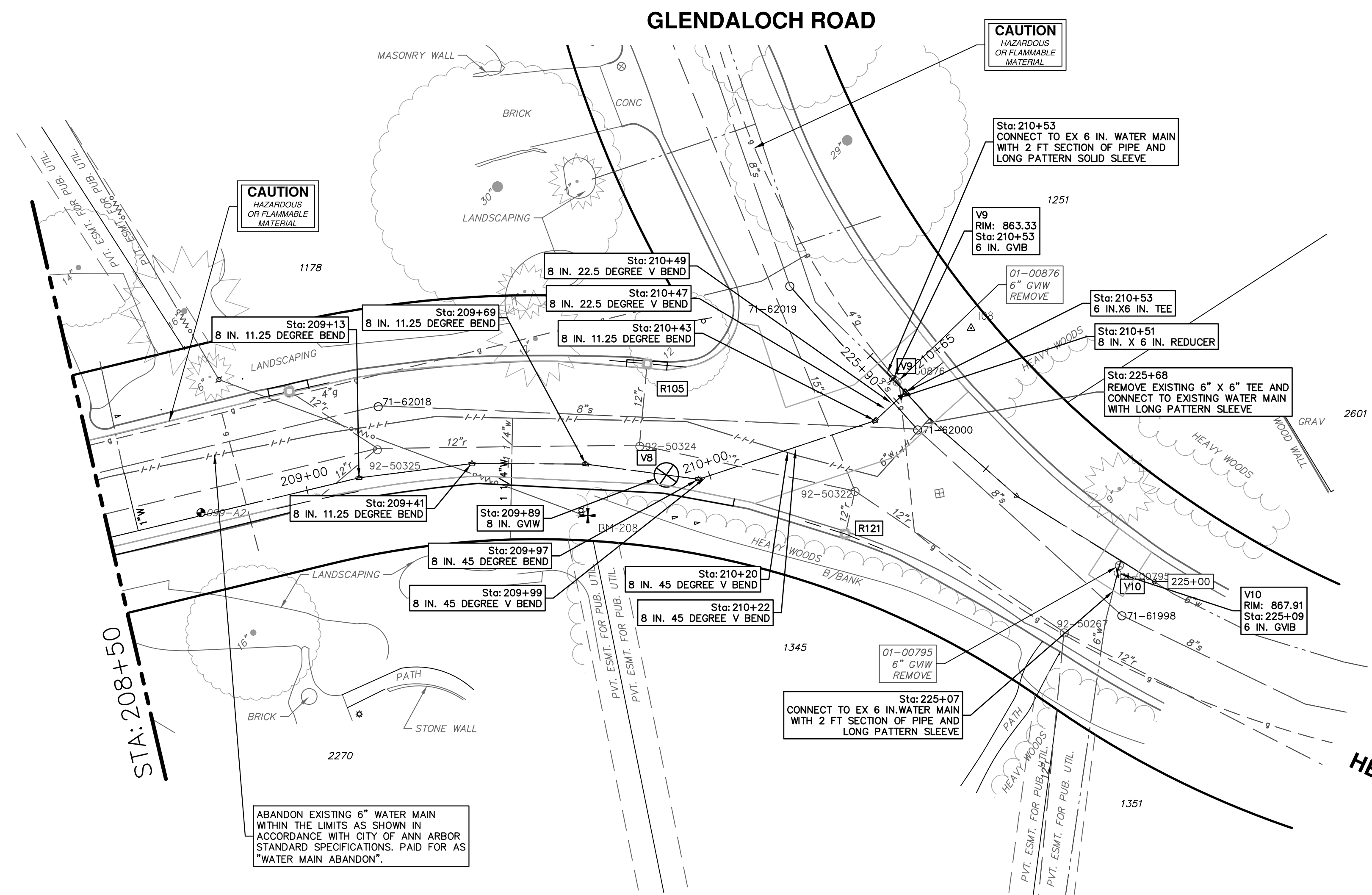
SCALE PLAN: 1" = 20'

PROFILE: 1" = 4'

DRAWING NO. 2022-28-20

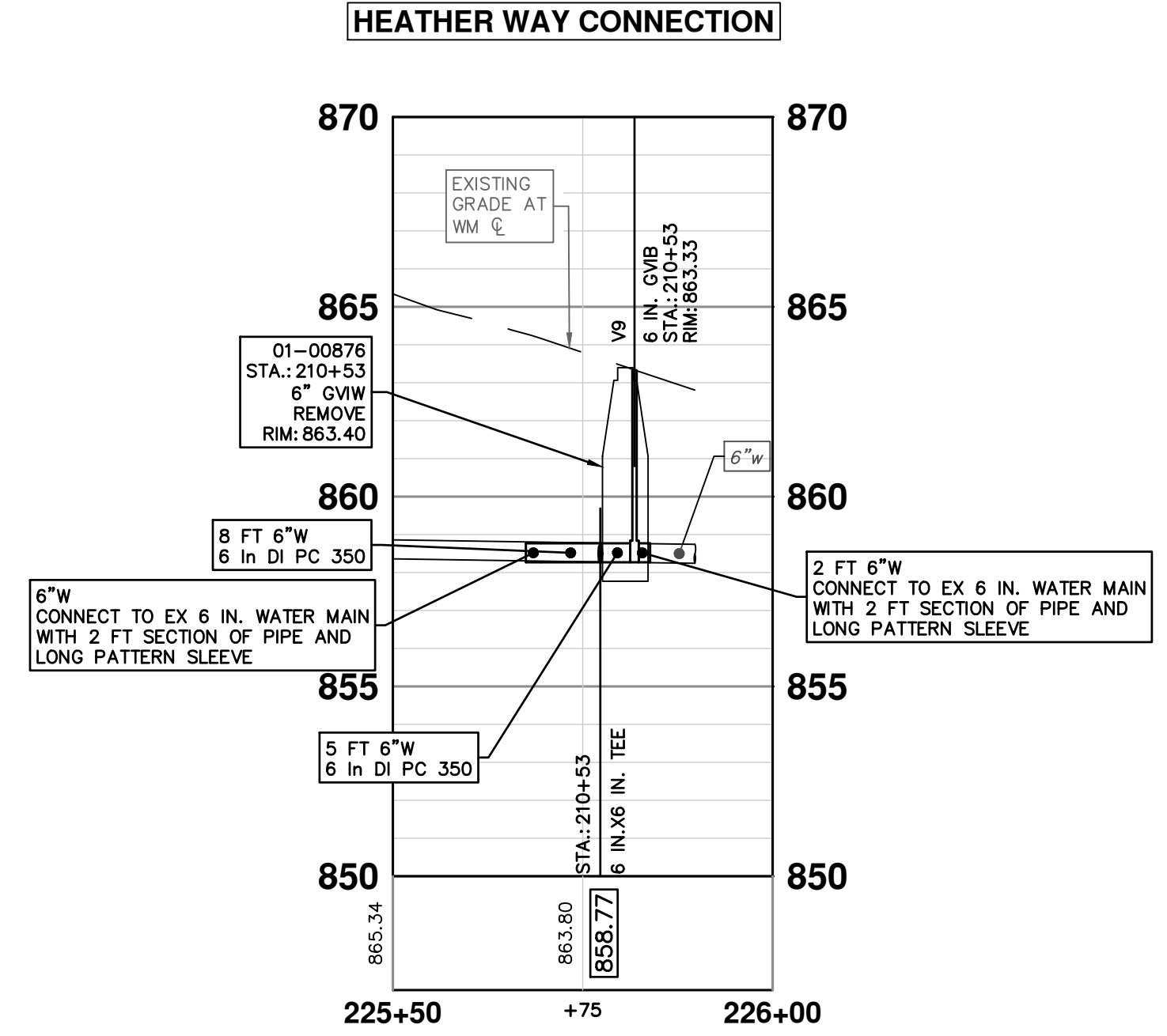
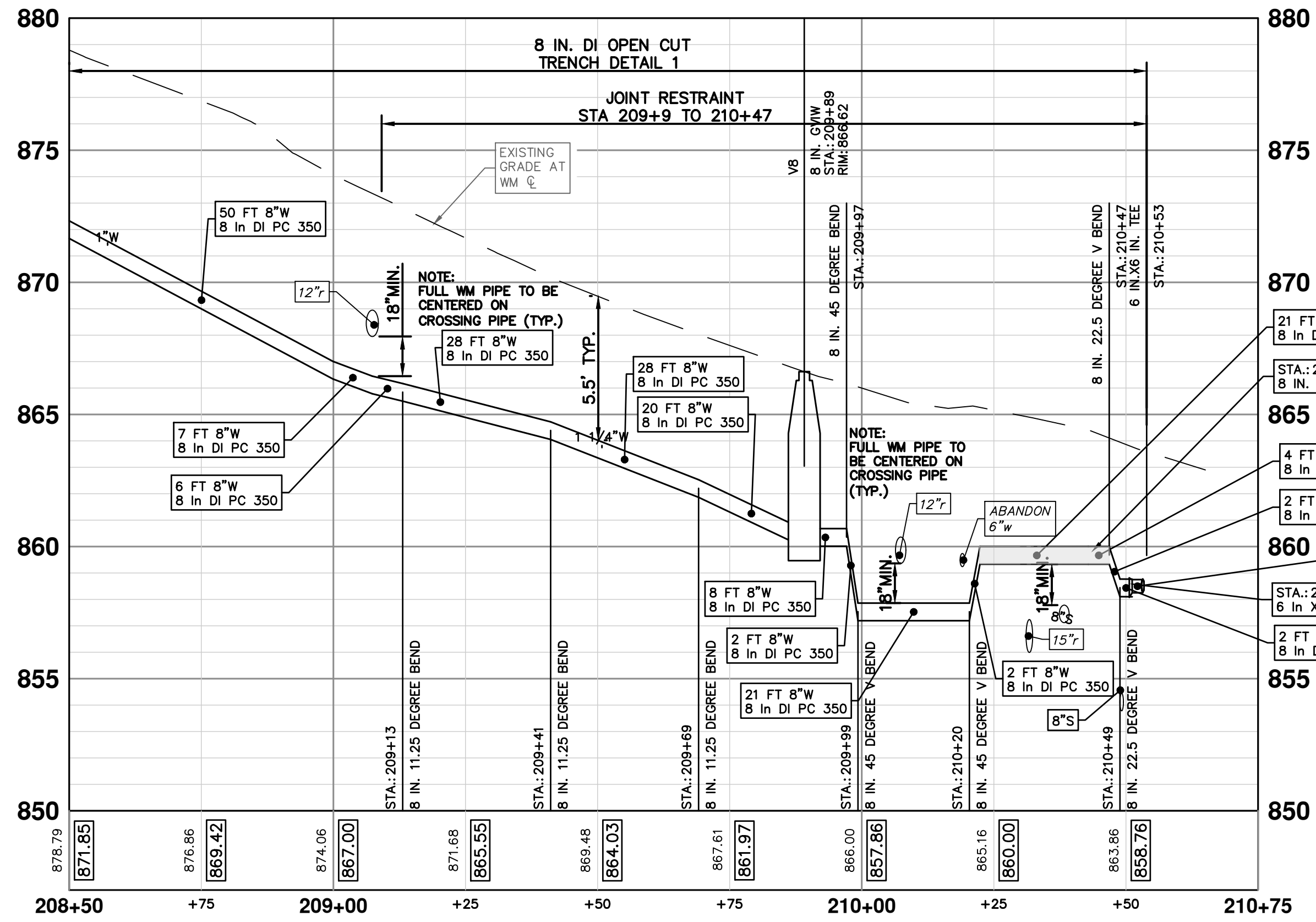
SHEET NO. 20 OF 44

GLENDALOCH ROAD WATER MAIN - STA 204+00 TO STA 208+50



STRUCTURE	TYPE	STATION	RIM	DEPTH	DIAMETER	COVER TYPE
V8	8 in. GVWB	209+89	866.62	6.65	48"	B
V9	6 in. GVWB	210+53	863.33	5.06		
V10	6 in. GVWB	225+09	867.91	6.18		

TOTAL	UNIT	DESCRIPTION
2	Ea	Structure, Remove
20	Ft	Water Main, Remove
20	Ft	6 inch PC 350 DIP w/polywrap, Tr Det I
203	Ft	8 inch PC 350 DIP w/polywrap, Tr Det I
4	Ea	8" 11.25 deg bend
2	Ea	8" 22.5 deg bend
4	Ea	8" 45 deg bend
1	Ea	8"x6" reducer
1	Ea	6"x6" Tee
2	Ea	6" Gate Valve in Box
1	Ea	8" Gate Valve in Well
45	Ft	Excavate and Backfill for Water Service Lead



CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2023 MISCELLANEOUS UTILITY PROJECTS

GLENDALOCH ROAD WATER MAIN - STA 18+50 TO P.O.E.

SHEET No. 21 OF 44

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

REV 02 BID SET 1-19-2023
REV 01 EFILE PERMIT SUBMITTAL 11-18-2022

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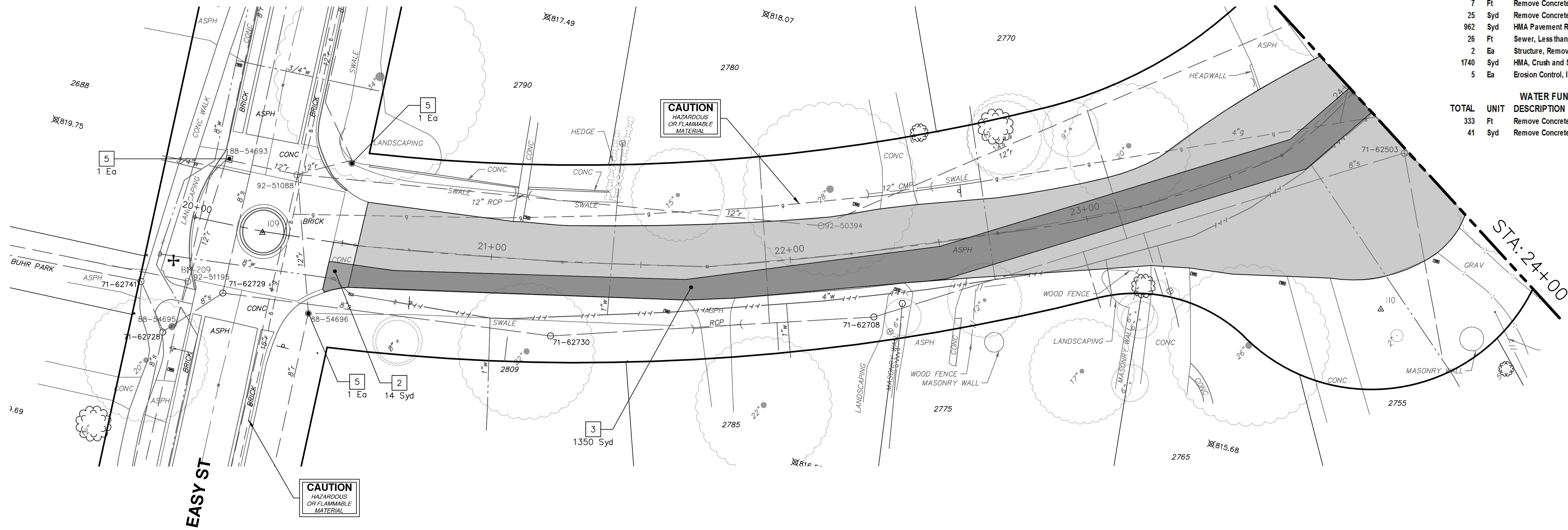
CITY OF ANN ARBOR MICHIGAN

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

DRAWING No. 2022-28-21

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CARMEL STREET



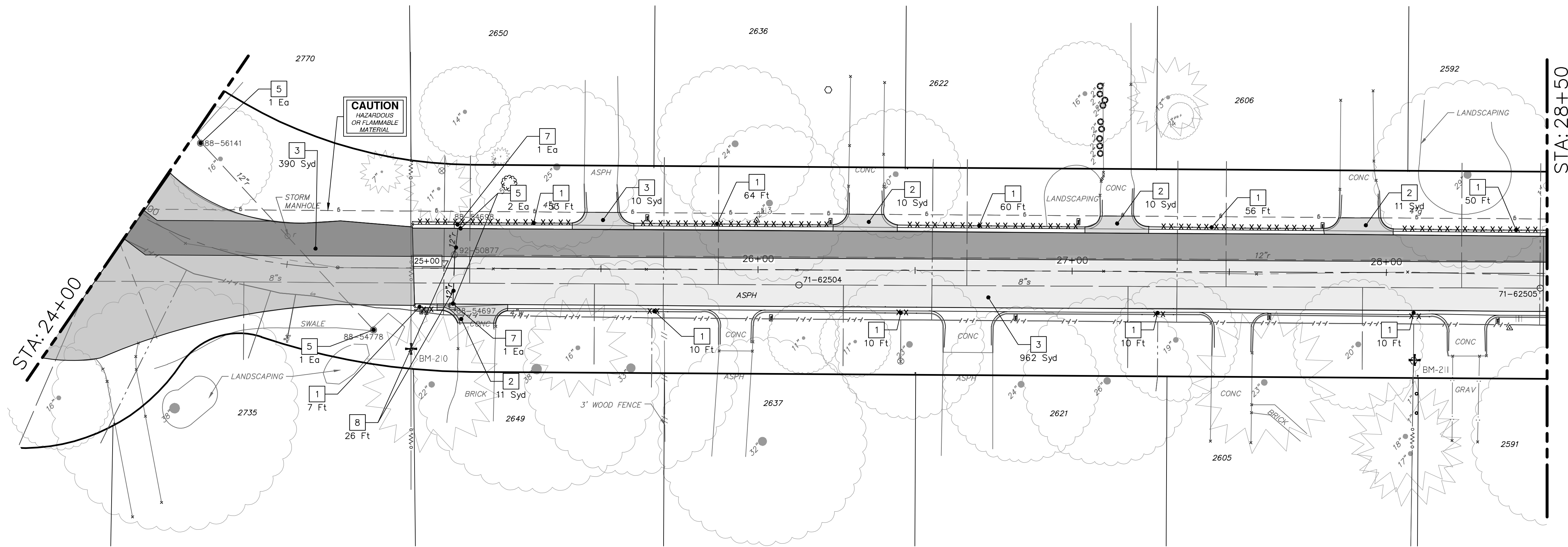
ROAD FUND QUANTITIES THIS SHEET

TOTAL	UNIT	DESCRIPTION
7	Ft	Remove Concrete Curb or Curb and Gutter, Any Thickness
25	Syd	Remove Concrete Sidewalk and Pavement, Any Thickness
962	Syd	HMA Pavement Removal, Any Depth
26	Ft	Sewer, Less than 24 inch, Remove
2	Ea	Structure, Remove
1740	Syd	HMA, Crush and Shape
5	Ea	Erosion Control, Inlet Filter

WATER FUND QUANTITIES THIS SHEET

TOTAL	UNIT	DESCRIPTION
333	Ft	Remove Concrete Curb or Curb and Gutter, Any Thickness
41	Syd	Remove Concrete Sidewalk and Pavement, Any Thickness

CARMEL STREET



REMOVAL KEY

KEY	DESCRIPTION
1	REMOVE CONCRETE CURB OR CURB AND GUTTER, - ANY TYPE
2	REMOVE CONCRETE SIDEWALK AND DRIVE - ANY THICKNESS *
3	HMA PAVEMENT REMOVAL, ANY DEPTH*
4	PROTECTIVE FENCING
5	INLET FILTER
6	SILT FENCE
7	STRUCTURE, ANY SIZE OR DEPTH, REMOVE
8	SEWER, ANY SIZE OR DEPTH, REMOVE

* SAWCUT FULL DEPTH AT REMOVAL LIMITS

NOTES:

- PAVEMENT SHALL BE SAW CUT FULL DEPTH AND REMOVED HALF WIDTH FOR WATER MAIN INSTALLATION. FINAL LIMITS OF PAVEMENT REMOVAL WILL BE AS DIRECTED BY THE ENGINEER.
- WATER MAIN REMOVALS SHOWN ON WATER MAIN SHEET(S).



CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
PO BOX 8647
ANN ARBOR MI 48106-8647
www.a2gov.org



CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2023 MISCELLANEOUS UTILITY PROJECTS

CARMEL STREET PROPOSED ROAD - P.O.B. TO STA 28+50

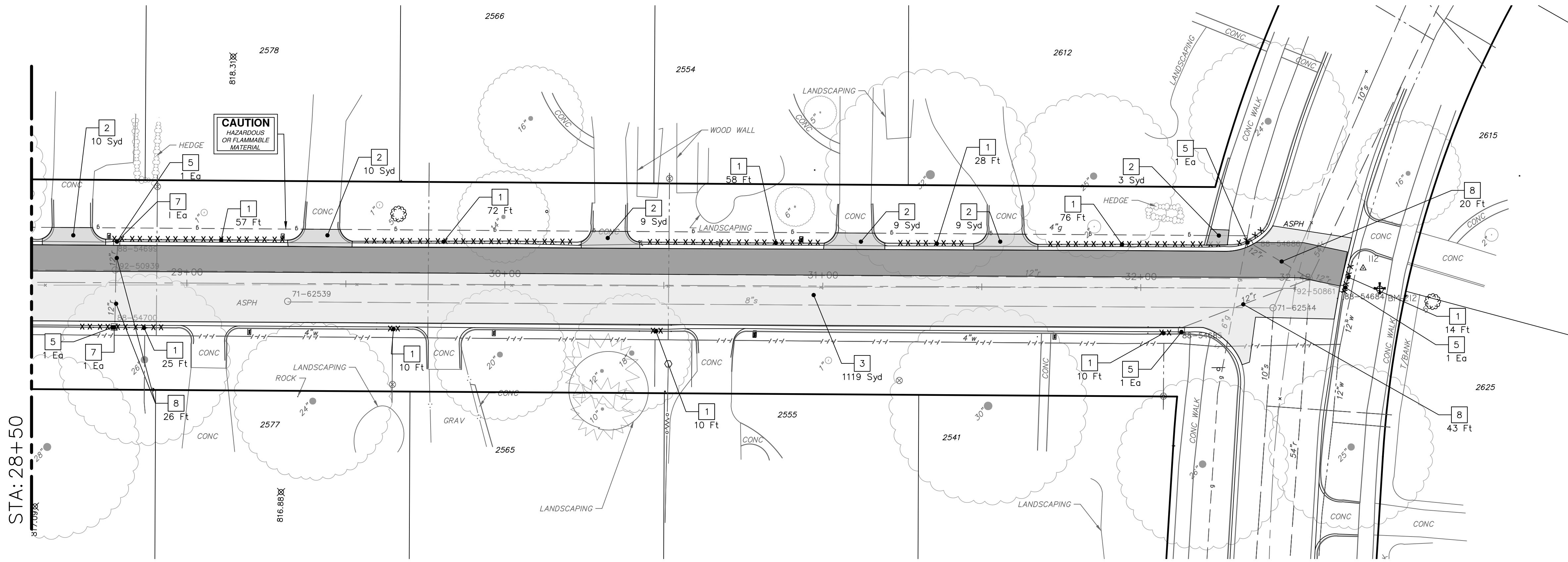
SCALE PLAN: 1" = 20'

DRAWING NO. 2022-28-22

SHEET NO. 22 OF 44

P:\0000_0100\0028220090_GOPE_Local_Streets_WM_&_Resurf\Drawings\Civil\Removal\220090REM_CARMEL.dwg Dwg Created: 21-Jan-23 - a2_standard_bw.stb - Plot Date: 23-Jan-23

CARMEL STREET



STA: 28+50

TOWNER BLVD

REMOVAL KEY	
KEY	DESCRIPTION
1	REMOVE CONCRETE CURB OR CURB AND GUTTER, - ANY TYPE
2	REMOVE CONCRETE SIDEWALK AND DRIVE - ANY THICKNESS *
3	HMA PAVEMENT REMOVAL, ANY DEPTH*
4	PROTECTIVE FENCING
5	INLET FILTER
6	SILT FENCE
7	STRUCTURE, ANY SIZE OR DEPTH, REMOVE
8	SEWER, ANY SIZE OR DEPTH, REMOVE

- * SAWCUT FULL DEPTH AT REMOVAL LIMITS
- NOTES:
 1. PAVEMENT SHALL BE SAW CUT FULL DEPTH AND REMOVED HALF WIDTH FOR WATER MAIN INSTALLATION. FINAL LIMITS OF PAVEMENT REMOVAL WILL BE AS DIRECTED BY THE ENGINEER.
 2. WATER MAIN REMOVALS SHOWN ON WATER MAIN SHEET(S).

ROAD FUND QUANTITIES THIS SHEET

TOTAL	UNIT	DESCRIPTION
1119	Syd	HMA Pavement Removal, Any Depth
89	Ft	Sewer, Less than 24 inch, Remove
2	Ea	Structure, Remove
3	Ea	Erosion Control, Inlet Filter

WATER FUND QUANTITIES THIS SHEET

TOTAL	UNIT	DESCRIPTION
345	Ft	Remove Concrete Curb or Curb and Gutter, Any Thickness
50	Syd	Remove Concrete Sidewalk and Pavement, Any Thickness



REV.	DESCRIPTION	DATE	BY	CHECKED
REV 01	EFILE PERMIT SUBMITTAL	11-18-2022		
REV 02	BID SET	1-19-2023		

CITY OF ANN ARBOR
 PUBLIC SERVICES
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 ANN ARBOR, MI 48106-6647
 ANN ARBOR 734.794.4410
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2023 MISCELLANEOUS UTILITY PROJECTS

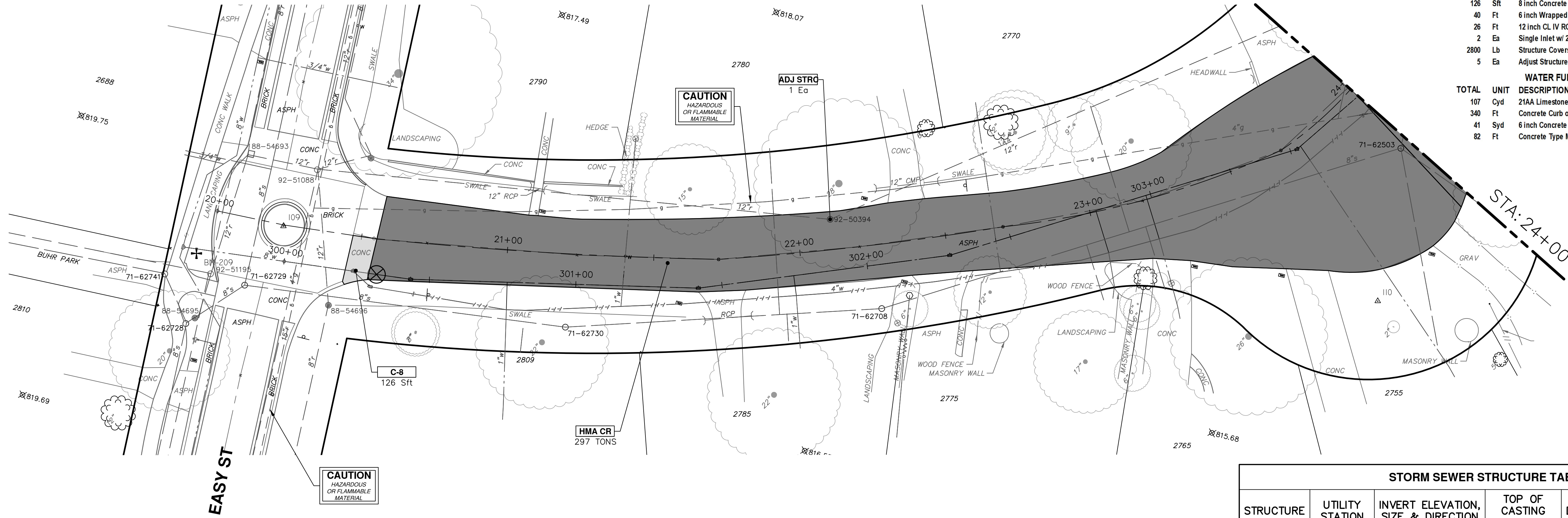
CARMEL STREET PROPOSED ROAD- STA 28+50 TO P.O.E.

SCALE PLAN: 1" = 20'

DRAWING No. 2022-28-23

P:\0000_0100\0028220090_GOPE_Local_Streets_WM_&_Resurf\Drawings\Civil\Plans_Const\220090CON_CARMEL.dwg Dwg Created: 16-Dec-22 - _a2 standard bw.stb - Plot Date: 23-Jan-23

CARMEL STREET

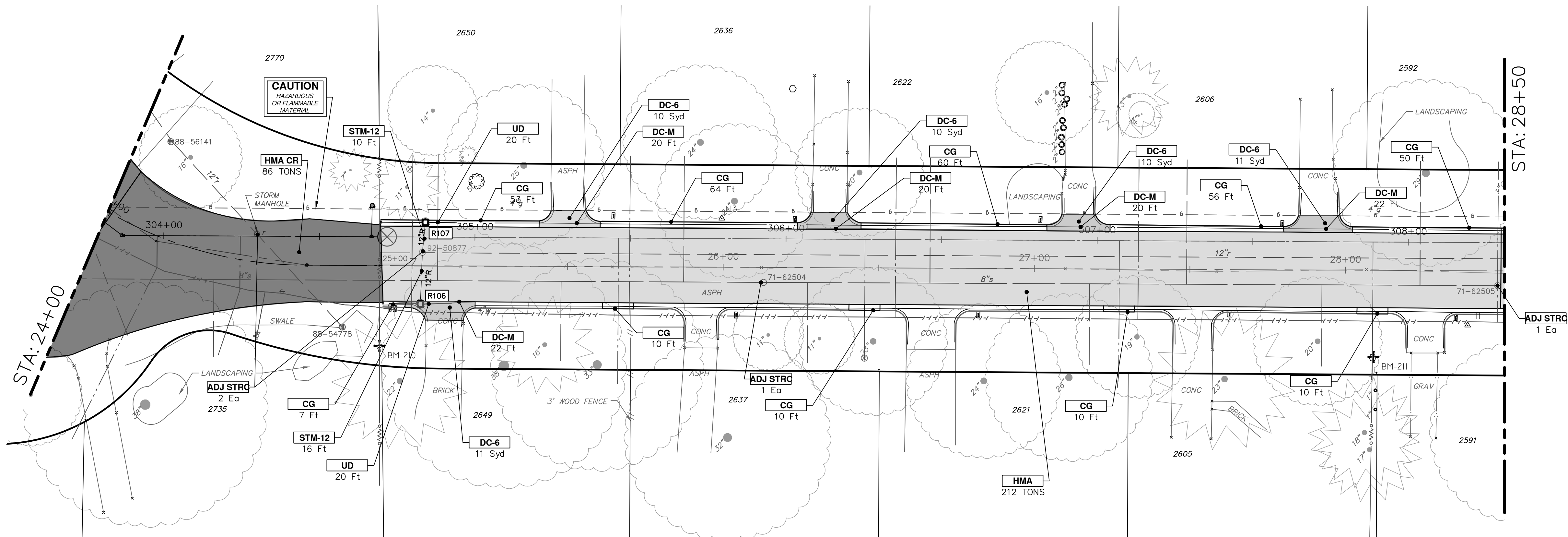


ROAD FUND QUANTITIES THIS SHEET		
TOTAL	UNIT	DESCRIPTION
2702	Syd	Machine Grading
625	Ton	HMA, SEL
126	Sft	8 inch Concrete Pavement
40	Ft	6 inch Wrapped Underdrain
26	Ft	12 inch CL IV RCP Storm Sewer Pipe, Tr Det I
2	Ea	Single Inlet w/ 2 foot Sump
2800	Lb	Structure Covers
5	Ea	Adjust Structure Cover

WATER FUND QUANTITIES THIS SHEET		
TOTAL	UNIT	DESCRIPTION
107	Cyd	21AA Limestone, CIP
340	Ft	Concrete Curb or Curb and Gutter, All Types
41	Syd	6 inch Concrete Sidewalk, Ramp or Drive Approach
82	Ft	Concrete Type M Drive Opening

STORM SEWER STRUCTURE TABLE						
STRUCTURE	UTILITY STATION	INVERT ELEVATION, SIZE & DIRECTION	TOP OF CASTING ELEVATION	DIAMETER	COVER TYPE	SUMP
R106	25+03	12" W 809.51 6" N 810.02 6" S 810.02	813.77	24"	K	YES
R107	25+04	12" E 809.26 6" N 809.87 6" S 809.87	813.62	24"	K	YES

CARMEL STREET



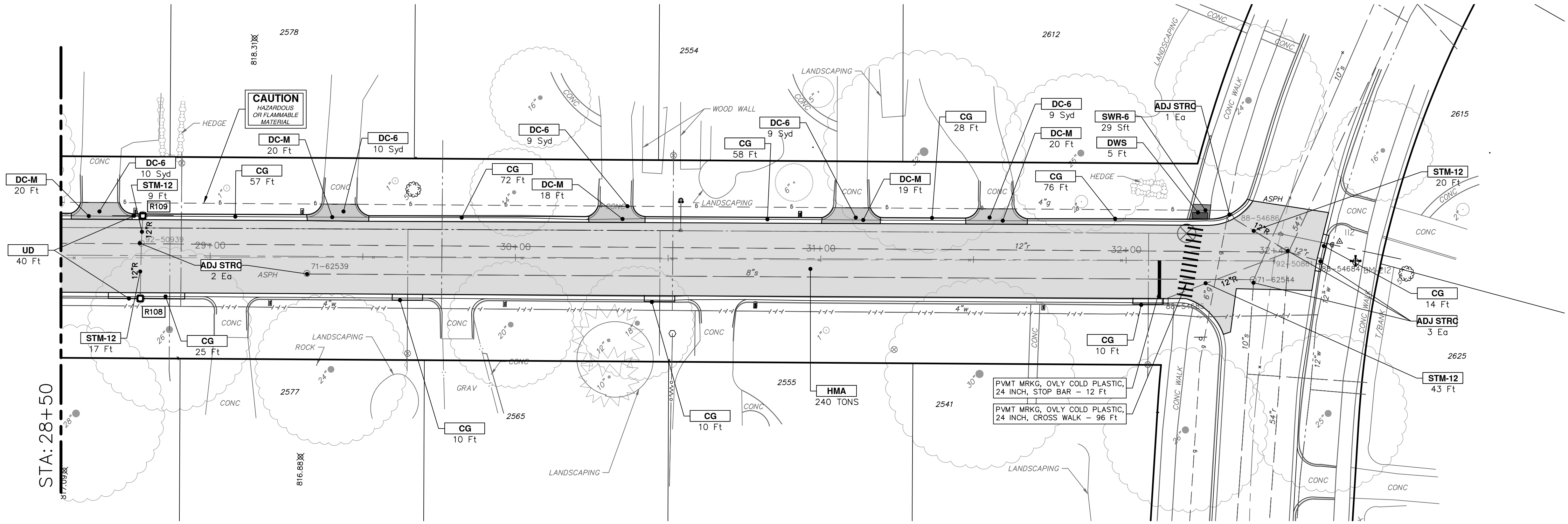
CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	HMA, PAVEMENT LEVELING COURSE, TOP COURSE PER TYPICAL SECTION
HMA CR	HMA, CRUSH AND SHAPE
CG	CURB AND GUTTER, CONCRETE, F4, SPECIAL
DC-6	6 INCH CONCRETE DRIVE APPROACH - HIGH EARLY
C-8	8 INCH CONCRETE PAVEMENT - HIGH EARLY
SW-4	4 INCH CONCRETE SIDEWALK
SWR-6	6 INCH CONCRETE SIDEWALK OR SIDEWALK RAMP
DWS	DETECTABLE WARNING, CAST IN PLACE
DO-M	DRIVEWAY OPENING, CONCRETE, DETAIL M
DC-6	6 INCH CONCRETE DRIVE, HIGH EARLY
SI	SINGLE INLET WITH 2 FOOT SUMP
STM-12	12 INCH CL IV RCP STORM SEWER, TR DET 1
UD	6 INCH UNDERDRAIN
ADJ STRC	ADJUST STRUCTURE COVER



REV	DATE	BY	CHECKED
REV 01	11-18-2022		
REV 02	1-19-2023		

CITY OF ANN ARBOR
PUBLIC SERVICES
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ANN ARBOR, MI 48106-0647
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CARMEL STREET




CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	HMA, PAVEMENT LEVELING COURSE/TOP COURSE PER TYPICAL SECTION
HMA CR	HMA, CRUSH AND SHAPE
CG	CURB AND GUTTER, CONCRETE, F4, SPECIAL
DC-6	6 INCH CONCRETE DRIVE APPROACH - HIGH EARLY
C-8	8 INCH CONCRETE PAVEMENT - HIGH EARLY
SW-4	4 INCH CONCRETE SIDEWALK
SWR-6	6 INCH CONCRETE SIDEWALK OR SIDEWALK RAMP
DWS	DETECTABLE WARNING, CAST IN PLACE
DO-M	DRIVEWAY OPENING, CONCRETE, DETAIL M
DC-6	6 INCH CONCRETE DRIVE, HIGH EARLY
SI	SINGLE INLET WITH 2 FOOT SUMP
STM-12	12 INCH CL IV RCP STORM SEWER, TR DET 1
UD	6 INCH UNDERDRAIN
ADJ STRC	ADJUST STRUCTURE COVER

TOWNER BLVD

STORM SEWER STRUCTURE TABLE						
STRUCTURE	UTILITY STATION	INVERT ELEVATION, SIZE & DIRECTION	TOP OF CASTING ELEVATION	DIAMETER	COVER TYPE	SUMP
R108	28+77	12" W 809.81 V.I.F. 6" N 811.01 6" S 811.01	815.01	24"	K	YES
R109	28+78	12" E 810.07 6" N 811.81 6" S 811.81	815.51	24"	K	YES


ROAD FUND QUANTITIES THIS SHEET		
TOTAL	UNIT	DESCRIPTION
1101	Syd	Machine Grading
256	Ton	HMA, 5EL
15	Ft	Concrete Curb or Curb and Gutter, All Types
4	Syd	6 inch Concrete Sidewalk, Ramp or Drive Approach
5	Ft	Detectable Warning Surface
40	Ft	6 inch Wrapped Underdrain
96	Ft	Pavt Mrkg, Ovlv Cold Plastic, 12 inch, Crosswalk
12	Ft	Pavt Mrkg, Ovlv Cold Plastic, 24 inch, Stop Bar
89	Ft	12 inch CL IV RCP Storm Sewer Pipe, Tr Det 1
2	Ea	Single Inlet w/ 2 foot Sump
1600	Lb	Structure Covers
5	Ea	Adjust Structure Cover

WATER FUND QUANTITIES THIS SHEET		
TOTAL	UNIT	DESCRIPTION
124	Cyd	21AA Limestone, CIP
345	Ft	Concrete Curb or Curb and Gutter, All Types
51	Syd	6 inch Concrete Sidewalk, Ramp or Drive Approach
97	Ft	Concrete Type M Drive Opening



Know what's below.
Call Before you dig.

REV	DESCRIPTION	DATE	BY	CHECKED
REV 01	EGLLE PERMIT SUBMITTAL	11-18-2022		
REV 02	BID SET	1-19-2023		



CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2023 MISCELLANEOUS UTILITY PROJECTS

CARMEL STREET PROPOSED ROAD- STA 28+50 TO P.O.E.

SCALE PLAN: 1" = 20'

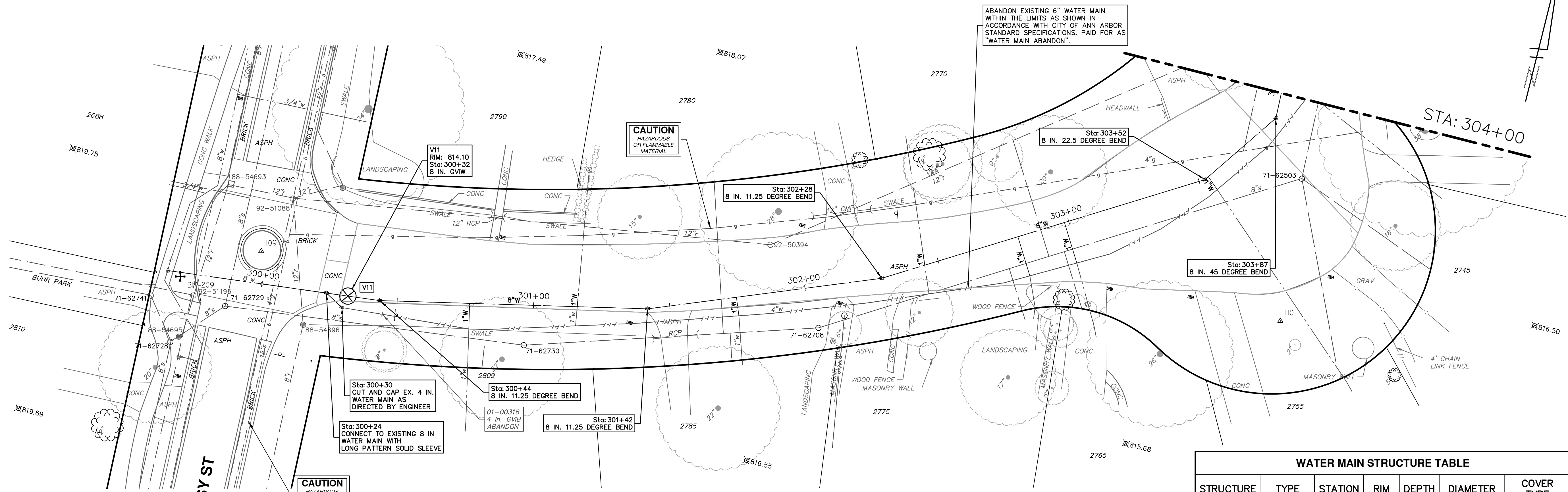
DRAWING No. 2022-28-25

SHEET No. 25 OF 44

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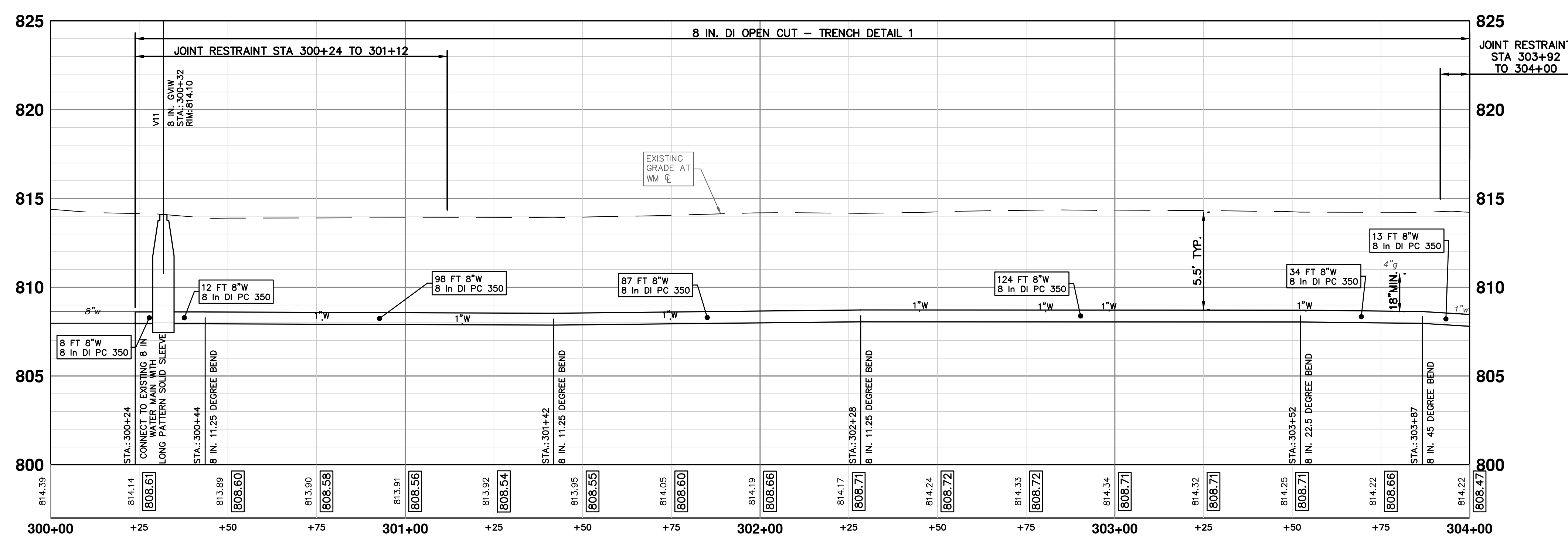
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CARMEL STREET



STRUCTURE	TYPE	STATION	RIM	DEPTH	DIAMETER	COVER TYPE
V11	8 in. GVW	300+32	814.10	6.15	48"	B

TOTAL	UNIT	DESCRIPTION
1	Ea	Gate Valve-in-Box, Abandonment
376	Ft	8 inch PC 350 DIP w/polywrap, Tr Det1
3	Ea	8" 11.25 deg bend
1	Ea	8" 22.5 deg bend
1	Ea	8" 45 deg bend
1	Ea	8" Gate Valve in Well
69	Ft	Excavate and Backfill for Water Service Lead



Know what's below. Call before you dig.

REV.	DATE	BY	CHECKED
REV 01	11-18-2022	BY	CHECKED
REV 02	1-19-2023	BY	CHECKED

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ANN ARBOR, MI 48106-1667
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE PLAN: 1" = 20'

PROFILE: 1" = 4'

DRAWING No. 2022-28-26

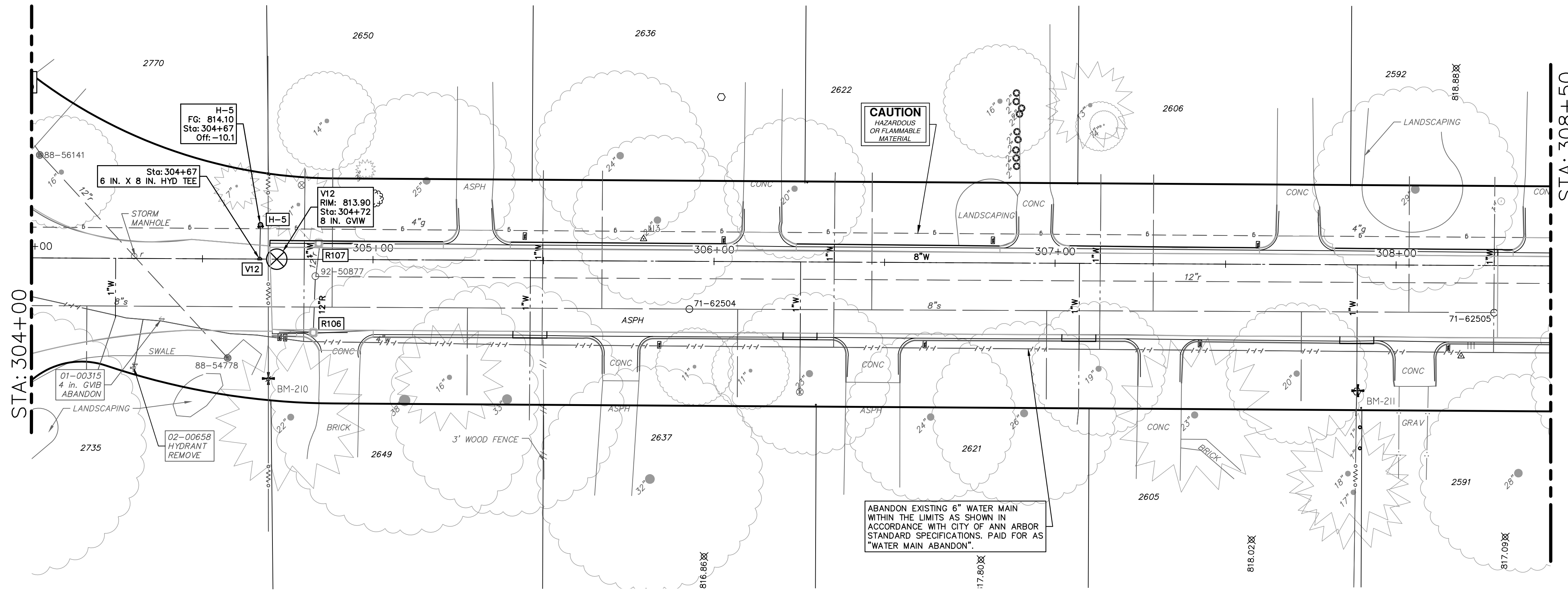
SHEET No. 26 OF 44

2023 MISCELLANEOUS UTILITY PROJECTS

CARMEL STREET WATER MAIN- P.O.B. TO STA 304+00

P:\0000_0100\0028220090_GOPE_Local_Streets_WM_&_Resurf\Drawings\Civil\Plans\Const\220090WM_CARMEL.dwg Dwg Created: 16-Dec-22 --_a2_standard bw.stb -- Plot Date: 23-Jan-23

CARMEL STREET

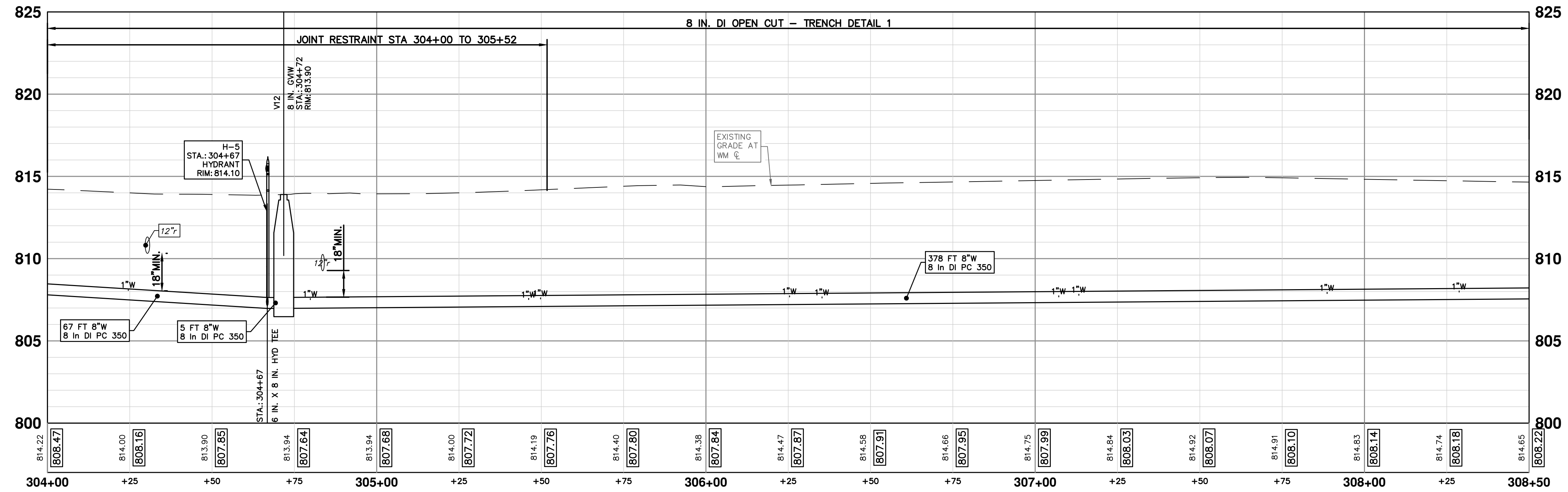


WATER FUND QUANTITIES THIS SHEET

TOTAL	UNIT	DESCRIPTION
1	Ea	Gate Valve-in-Box, Abandonment
1	Ea	Fire Hydrant, Remove
10	Ft	6 inch PC 350 DIP w/polywrap, Tr Det I
450	Ft	8 inch PC 350 DIP w/polywrap, Tr Det I
1	Ea	8"x6" Tee
1	Ea	Fire Hydrant Assembly
1	Ea	8" Gate Valve in Well
142	Ft	Excavate and Backfill for Water Service Lead

WATER MAIN STRUCTURE TABLE

STRUCTURE	TYPE	STATION	RIM	DEPTH	DIAMETER	COVER TYPE
H-5	HYDRANT	304+67	814.10	27.75		
V12	8 in. GWV	304+72	813.90	6.92	48"	B

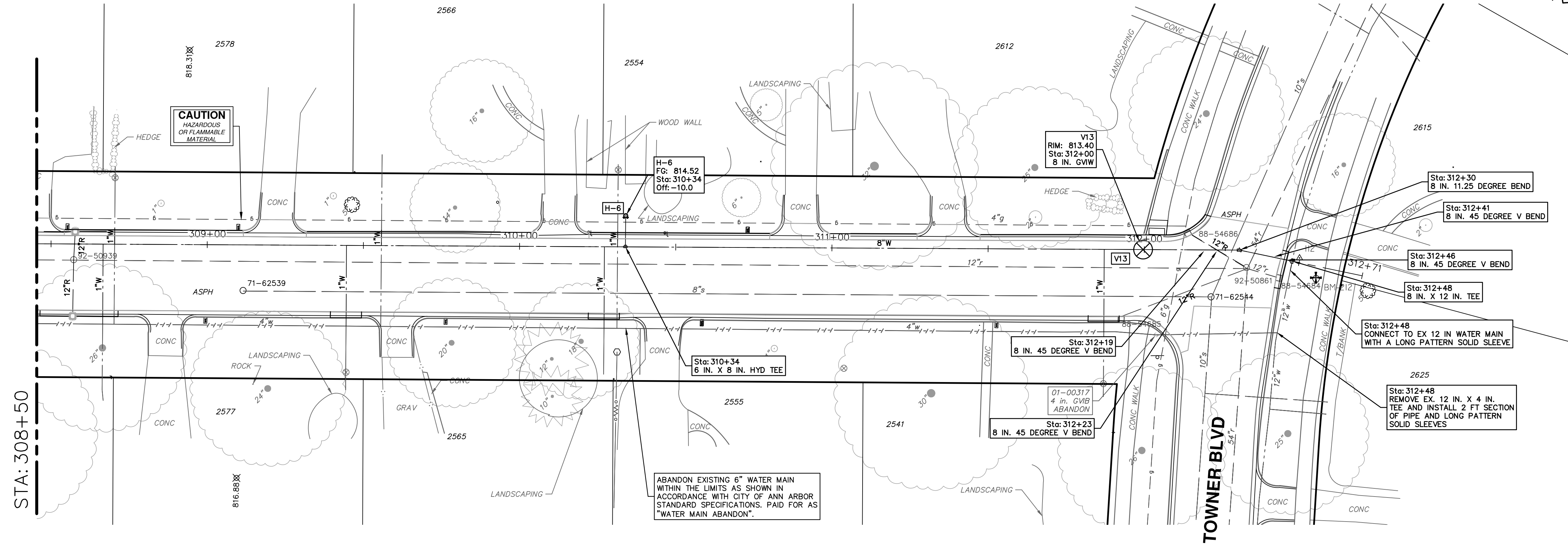


REV	DATE	BY	CHECKED	DESCRIPTION
REV 01	11-18-2022	BY	BY	DATE
REV 02	1-19-2023	BY	BY	DATE

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PUBLIC SERVICES
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P:\0000_0100\0028220090_GOPE_Local_Streets_WM_&_Resurf\Drawings\Civil\Plans\Const\220090WM_CARMEL.dwg Dwg Created: 16-Dec-22 --_a2_standard bw.stb -- Plot Date: 23-Jan-23

CARMEL STREET



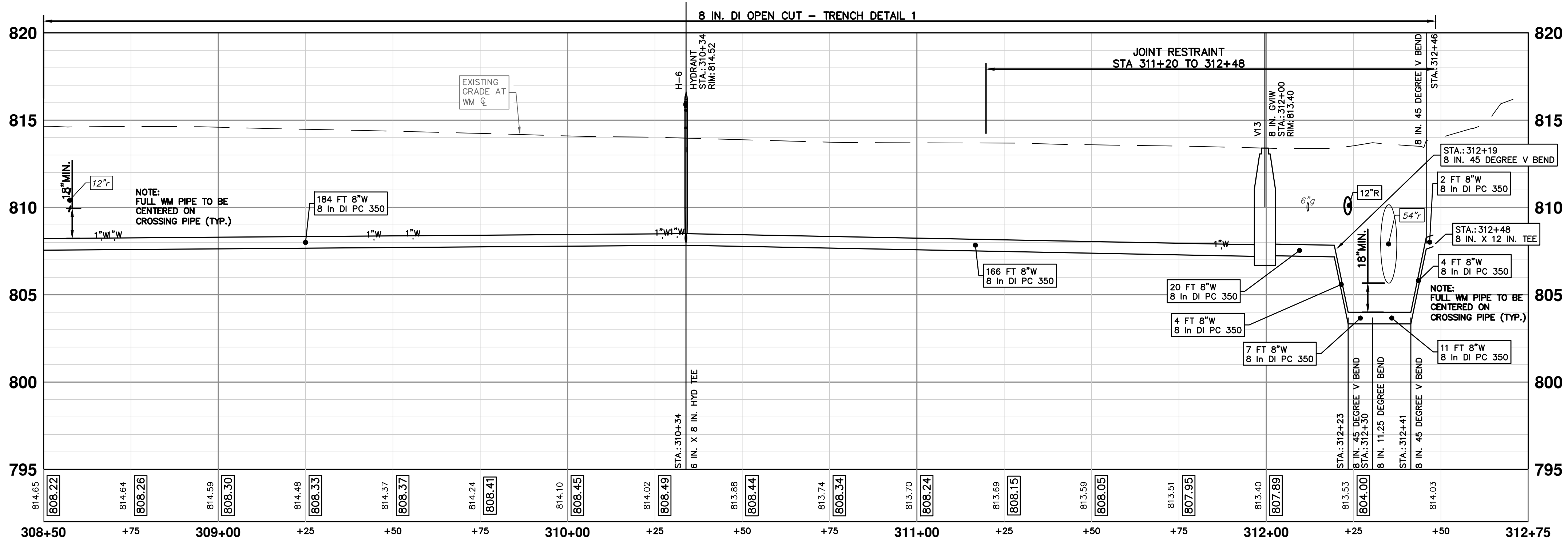
STA: 308+50


TOWNER BLVD

ABANDON EXISTING 6" WATER MAIN WITHIN THE LIMITS AS SHOWN IN ACCORDANCE WITH CITY OF ANN ARBOR STANDARD SPECIFICATIONS. PAID FOR AS "WATER MAIN ABANDON".

STRUCTURE	TYPE	STATION	RIM	DEPTH	DIAMETER	COVER TYPE
H-6	HYDRANT	310+34	814.52	38.75		
V13	8 in. GVW	312+00	813.40	6.21	48"	B


TOTAL	UNIT	DESCRIPTION
1	Ea	Gate Valve in-Box, Abandonment
10	Ft	6 inch PC 350 DIP w/polywrap, Tr Det I
398	Ft	8 inch PC 350 DIP w/polywrap, Tr Det I
5	Ft	12 inch PC 350 DIP w/polywrap, Tr Det I
1	Ea	8" 11.25 deg bend
4	Ea	8" 45 deg bend
1	Ea	8"x8" Tee
1	Ea	12"x8" Tee
1	Ea	Fire Hydrant Assembly
1	Ea	8" Gate Valve in Well
125	Ft	Excavate and Backfill for Water Service Lead





Know what's below.
Call Before you dig.

REV	DATE	BY	CHECKED	
REV 02 BID SET	1-19-2023			
REV 01 EFILE PERMIT SUBMITTAL	11-18-2022			



CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
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ANN ARBOR MI 48106-8647
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2023 MISCELLANEOUS UTILITY PROJECTS

CARMEL STREET WATER MAIN- STA 308+50 TO P.O.E.

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

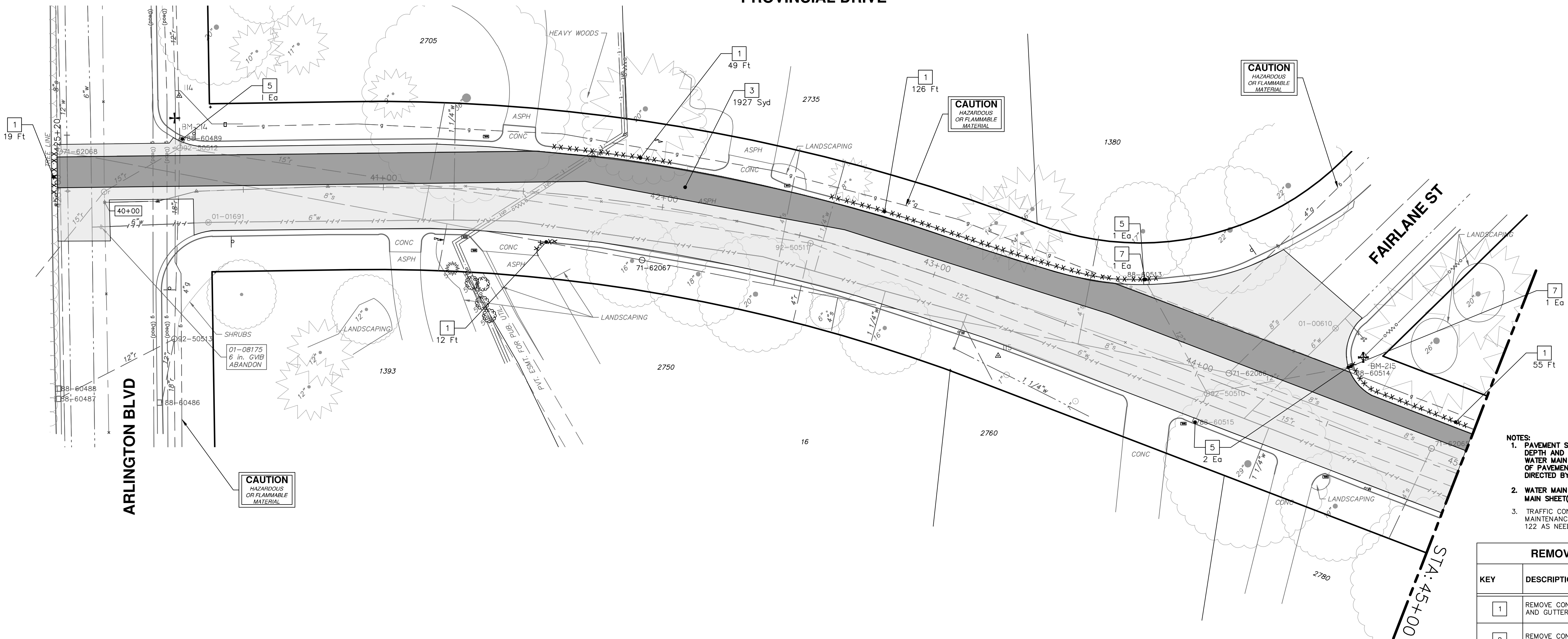
SCALE PLAN: 1" = 20'
PROFILE: 1" = 4'

DRAWING NO. 2022-28-28

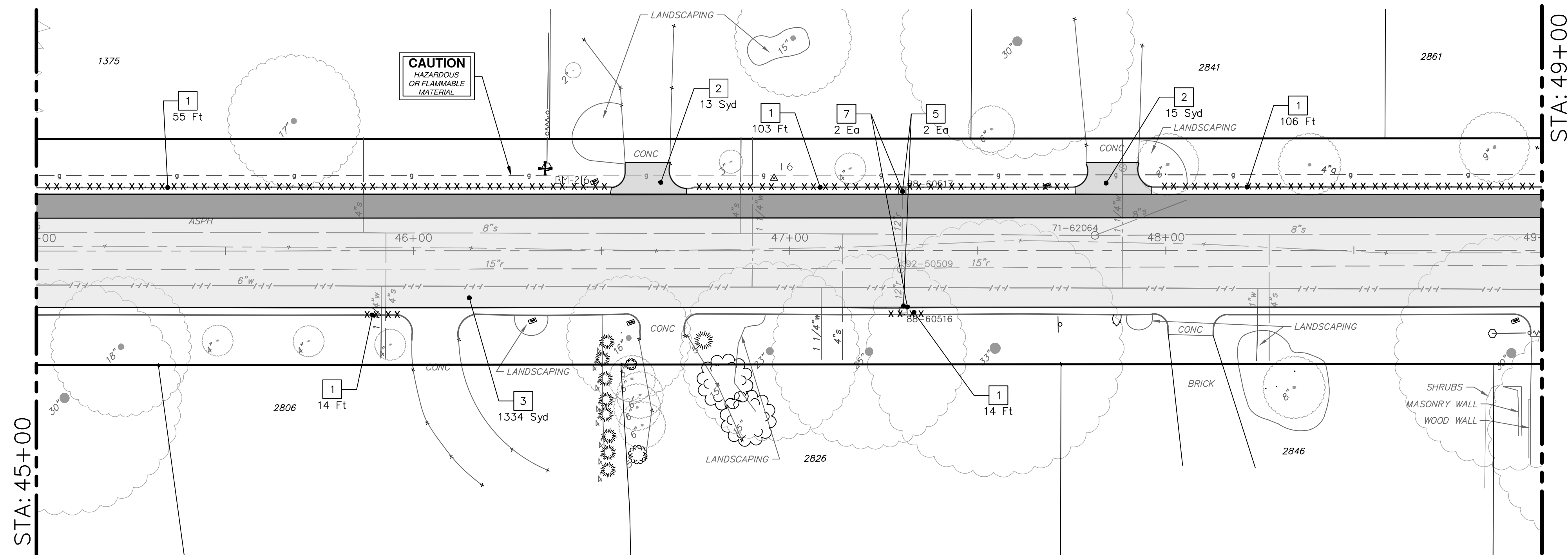
SHEET NO. 28 OF 44

P:\0000_0100\0028220090_GOPE_Locall_Streets_WM_&_Resurf\Drawings\Civil\Removal\220090REM_PROVINCIAL.dwg Dwg Created: 22-Jan-23 -_a2 standard bw.stb - Plot Date: 23-Jan-23

PROVINCIAL DRIVE



PROVINCIAL DRIVE



- NOTES:**
- PAVEMENT SHALL BE SAW CUT FULL DEPTH AND REMOVED HALF WIDTH FOR WATER MAIN INSTALLATION. FINAL LIMITS OF PAVEMENT REMOVAL WILL BE AS DIRECTED BY THE ENGINEER.
 - WATER MAIN REMOVALS SHOWN ON WATER MAIN SHEET(S).
 - TRAFFIC CONTROL TO FOLLOW MDOT MAINTENANCE OF TRAFFIC TYPICAL 110 OR 122 AS NEEDED.

REMOVAL KEY	
KEY	DESCRIPTION
1	REMOVE CONCRETE CURB OR CURB AND GUTTER, - ANY TYPE
2	REMOVE CONCRETE SIDEWALK AND DRIVE - ANY THICKNESS *
3	HMA PAVEMENT REMOVAL, ANY DEPTH*
4	PROTECTIVE FENCING
5	INLET FILTER
6	SILT FENCE
7	STRUCTURE, ANY SIZE OR DEPTH, REMOVE
8	SEWER, ANY SIZE OR DEPTH, REMOVE


* SAWCUT FULL DEPTH AT REMOVAL LIMITS

ROAD FUND QUANTITIES THIS SHEET

TOTAL	UNIT	DESCRIPTION
40	Ft	Remove Concrete Curb or Curb and Gutter, Any Thickness
28	Syd	Remove Concrete Sidewalk and Pavement, Any Thickness
3261	Syd	HMA Pavement Removal, Any Depth
20	Ft	Sewer, Less than 24 inch, Remove
4	Ea	Structure, Remove
6	Ea	Erosion Control, Inlet Filter


WATER FUND QUANTITIES THIS SHEET

TOTAL	UNIT	DESCRIPTION
611	Ft	Remove Concrete Curb or Curb and Gutter, Any Thickness



Know what's below.
Call Before you dig.

REV	DATE	BY	CHECKED	
REV 01	11-18-2022			
REV 02	1-19-2023			
REV 03	1-19-2023			
REV 04	1-19-2023			



CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2023 MISCELLANEOUS UTILITY PROJECTS

PROVINCIAL DRIVE REMOVALS- P.O.B. TO STA 49+00

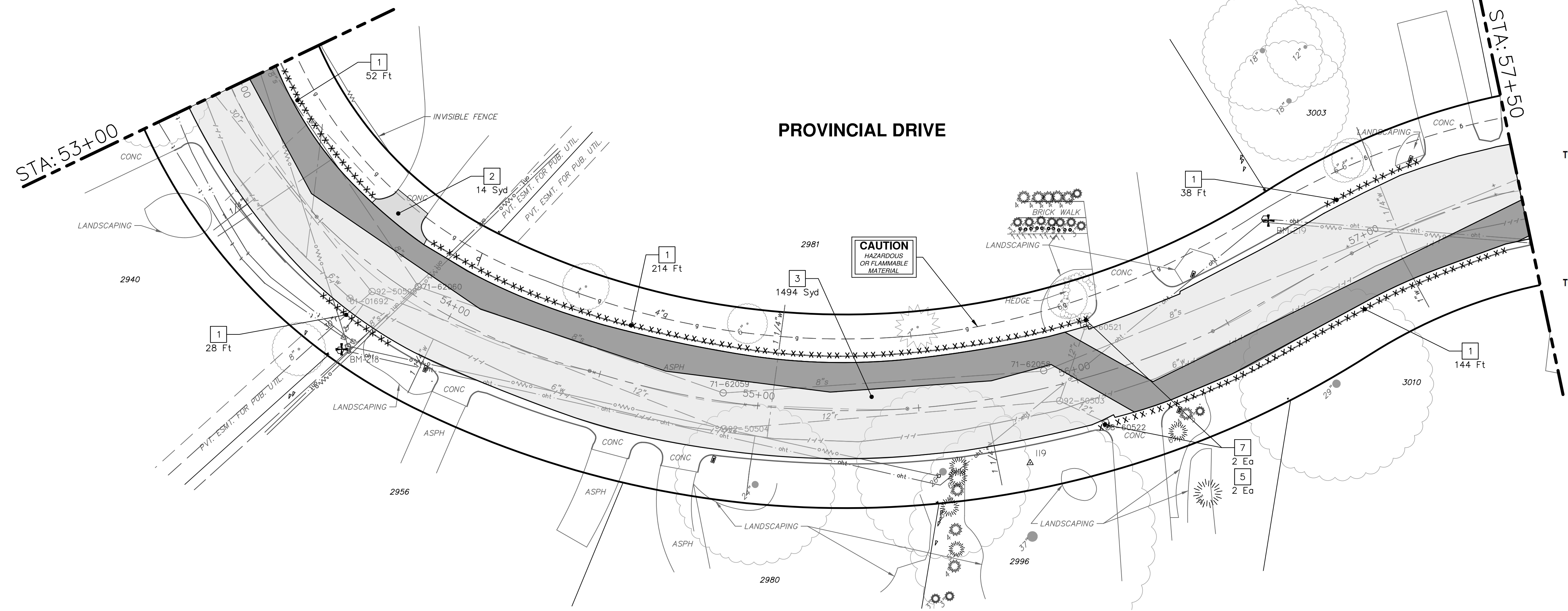
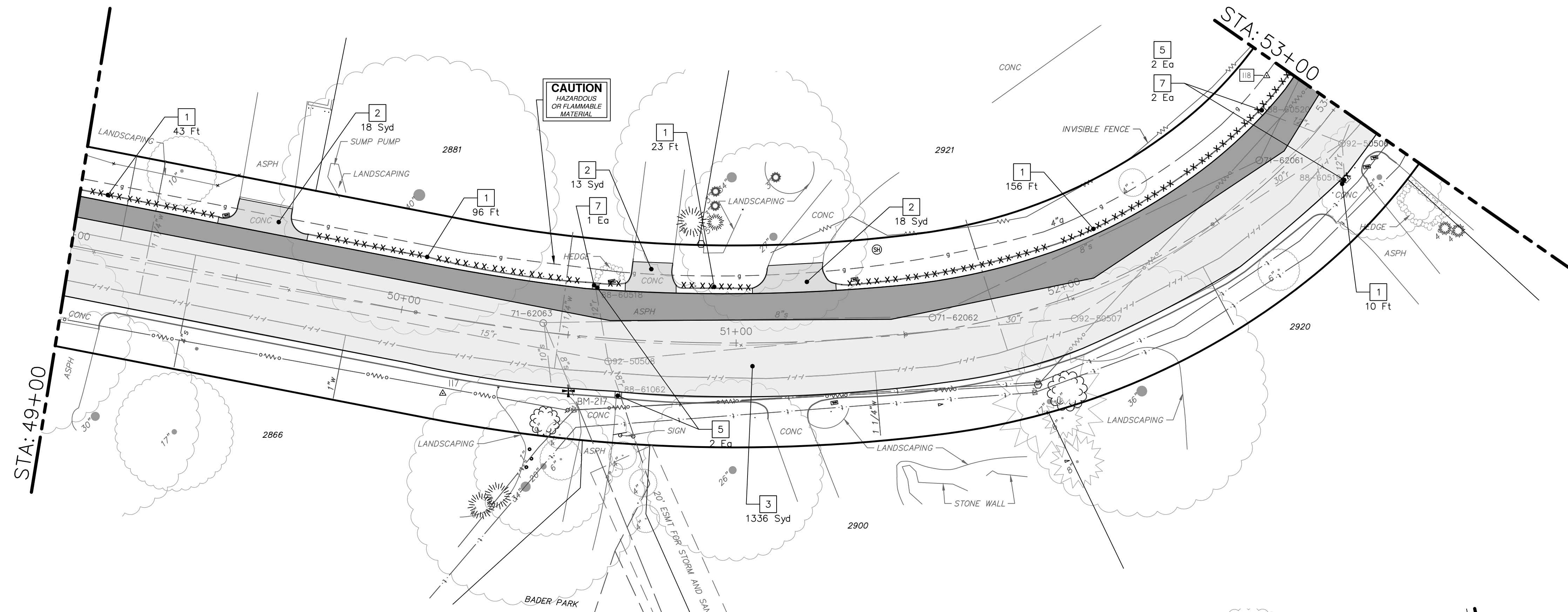
SCALE PLAN: 1" = 20'

DRAWING No. 2022-28-29

SHEET No. 29 OF 44

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PROVINCIAL DRIVE




REMOVAL KEY	
KEY	DESCRIPTION
1	REMOVE CONCRETE CURB OR CURB AND GUTTER, - ANY TYPE
2	REMOVE CONCRETE SIDEWALK AND DRIVE - ANY THICKNESS *
3	HMA PAVEMENT REMOVAL, ANY DEPTH*
4	PROTECTIVE FENCING
5	INLET FILTER
6	SILT FENCE
7	STRUCTURE, ANY SIZE OR DEPTH, REMOVE
8	SEWER, ANY SIZE OR DEPTH, REMOVE

- * SAWCUT FULL DEPTH AT REMOVAL LIMITS
- NOTES:
 1. PAVEMENT SHALL BE SAW CUT FULL DEPTH AND REMOVED HALF WIDTH FOR WATER MAIN INSTALLATION. FINAL LIMITS OF PAVEMENT REMOVAL WILL BE AS DIRECTED BY THE ENGINEER.
 2. WATER MAIN REMOVALS SHOWN ON WATER MAIN SHEET(S).


ROAD FUND QUANTITIES THIS SHEET		
TOTAL	UNIT	DESCRIPTION
43	Ft	Remove Concrete Curb or Curb and Gutter, Any Thickness
2830	Syd	HMA Pavement Removal, Any Depth
25	Ft	Sewer, Less than 24 inch, Remove
5	Ea	Structure, Remove
2	Ea	Erosion Control, Inlet Filter

WATER FUND QUANTITIES THIS SHEET		
TOTAL	UNIT	DESCRIPTION
765	Ft	Remove Concrete Curb or Curb and Gutter, Any Thickness
64	Syd	Remove Concrete Sidewalk and Pavement, Any Thickness



Know what's below.
Call Before you dig.

REV 01	EGLE PERMIT SUBMITTAL	DATE	BY	CHECKED
REV 02	BID SET	1-19-2023	BY	DRAWN
		11-18-2022	DATE	CHECKED



CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2023 MISCELLANEOUS UTILITY PROJECTS

PROVINCIAL DRIVE REMOVALS - STA 49+00 TO STA 57+50

SHEET No. 30 OF 44

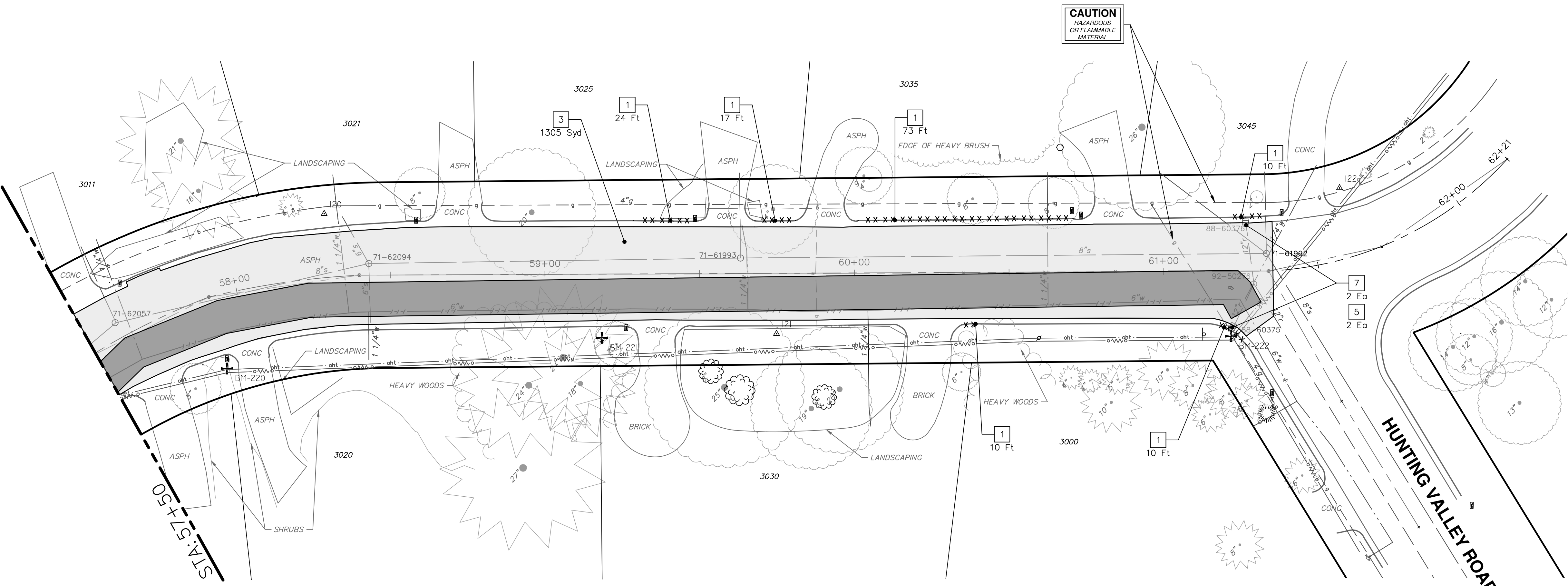
SCALE PLAN: 1"=40'

DRAWING No. 2022-28-30

ANN ARBOR PUBLIC SERVICES
 301 EAST HURON STREET
 ANN ARBOR, MI 48106-6647
 ANN ARBOR: 734/764-4410
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PROVINCIAL DRIVE



REMOVAL KEY	
KEY	DESCRIPTION
1	REMOVE CONCRETE CURB OR CURB AND GUTTER, - ANY TYPE
2	REMOVE CONCRETE SIDEWALK AND DRIVE - ANY THICKNESS *
3	HMA PAVEMENT REMOVAL, ANY DEPTH*
4	PROTECTIVE FENCING
5	INLET FILTER
6	SILT FENCE
7	STRUCTURE, ANY SIZE OR DEPTH, REMOVE
8	SEWER, ANY SIZE OR DEPTH, REMOVE

- * SAWCUT FULL DEPTH AT REMOVAL LIMITS
- NOTES:
 1. PAVEMENT SHALL BE SAW CUT FULL DEPTH AND REMOVED HALF WIDTH FOR WATER MAIN INSTALLATION. FINAL LIMITS OF PAVEMENT REMOVAL WILL BE AS DIRECTED BY THE ENGINEER.
 2. WATER MAIN REMOVALS SHOWN ON WATER MAIN SHEET(S).

TOTAL	UNIT	DESCRIPTION
120	Ft	Remove Concrete Curb or Curb and Gutter, Any Thickness
1305	Syd	HMA Pavement Removal, Any Depth
10	Ft	Sewer, Less than 24 inch, Remove
2	Ea	Structure, Remove
2	Ea	Erosion Control, Inlet Filter

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE PLAN: 1"=50'

DRAWING No. 2022-28-31

SHEET No. 31 OF 44

2023 MISCELLANEOUS UTILITY PROJECTS

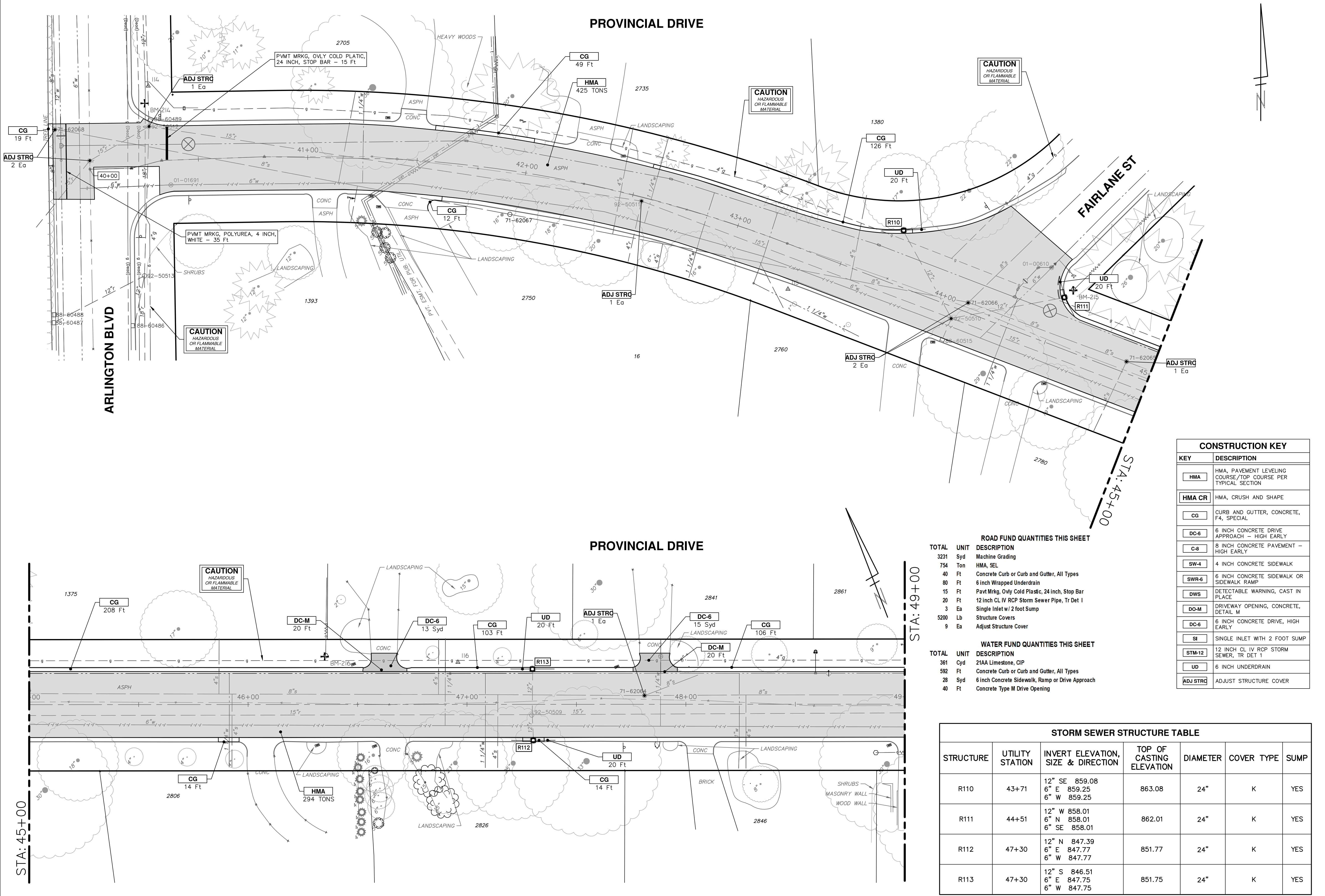
PROVINCIAL DRIVE REMOVALS - STA 57+50 TO P.O.E.

811
Know what's below. Call Before you dig.

REV	DATE	BY	CHECKED
REV 01 EGGLE PERMIT SUBMITTAL	11-18-2022		
REV 02 BID SET	1-19-2023		

CITY OF ANN ARBOR
 PUBLIC SERVICES
 301 EAST HURON STREET
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CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	HMA, PAVEMENT LEVELING COURSE/TOP COURSE PER TYPICAL SECTION
HMA CR	HMA, CRUSH AND SHAPE
CG	CURB AND GUTTER, CONCRETE, F4, SPECIAL
DC-6	6 INCH CONCRETE DRIVE APPROACH - HIGH EARLY
C-8	8 INCH CONCRETE PAVEMENT - HIGH EARLY
SW-4	4 INCH CONCRETE SIDEWALK
SWR-6	6 INCH CONCRETE SIDEWALK OR SIDEWALK RAMP
DWS	DETECTABLE WARNING, CAST IN PLACE
DO-M	DRIVEWAY OPENING, CONCRETE, DETAIL M
DC-6	6 INCH CONCRETE DRIVE, HIGH EARLY
SI	SINGLE INLET WITH 2 FOOT SUMP
STM-12	12 INCH CL IV RCP STORM SEWER, TR DET 1
UD	6 INCH UNDERDRAIN
ADJ STRC	ADJUST STRUCTURE COVER

ROAD FUND QUANTITIES THIS SHEET		
TOTAL	UNIT	DESCRIPTION
3231	Syd	Machine Grading
754	Ton	HMA, 5EL
40	Ft	Concrete Curb or Curb and Gutter, All Types
80	Ft	6 inch Wrapped Underdrain
15	Ft	Pavt Mrkg, Ovly Cold Platic, 24 inch, Stop Bar
20	Ft	12 inch CL IV RCP Storm Sewer Pipe, Tr Det 1
3	Ea	Single Inlet w/ 2 foot Sump
5200	Lb	Structure Covers
9	Ea	Adjust Structure Cover

WATER FUND QUANTITIES THIS SHEET		
TOTAL	UNIT	DESCRIPTION
361	Cyd	21AA Limestone, CIP
592	Ft	Concrete Curb or Curb and Gutter, All Types
28	Syd	6 inch Concrete Sidewalk, Ramp or Drive Approach
40	Ft	Concrete Type M Drive Opening

STORM SEWER STRUCTURE TABLE						
STRUCTURE	UTILITY STATION	INVERT ELEVATION, SIZE & DIRECTION	TOP OF CASTING ELEVATION	DIAMETER	COVER TYPE	SUMP
R110	43+71	12" SE 859.08 6" E 859.25 6" W 859.25	863.08	24"	K	YES
R111	44+51	12" W 858.01 6" N 858.01 6" SE 858.01	862.01	24"	K	YES
R112	47+30	12" N 847.39 6" E 847.77 6" W 847.77	851.77	24"	K	YES
R113	47+30	12" S 846.51 6" E 847.75 6" W 847.75	851.75	24"	K	YES

Know what's below. Call Before you dig.

1-19-2023
11-18-2022

REV 02 BID SET
REV 01 EGGLE PERMIT SUBMITTAL

DATE
BY
CHECKED

BY
DRAWN

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2023 MISCELLANEOUS UTILITY PROJECTS

PROVINCIAL DRIVE PROPOSED ROAD- P.O.B. TO STA 49+00

SCALE PLAN: 1" = 20'

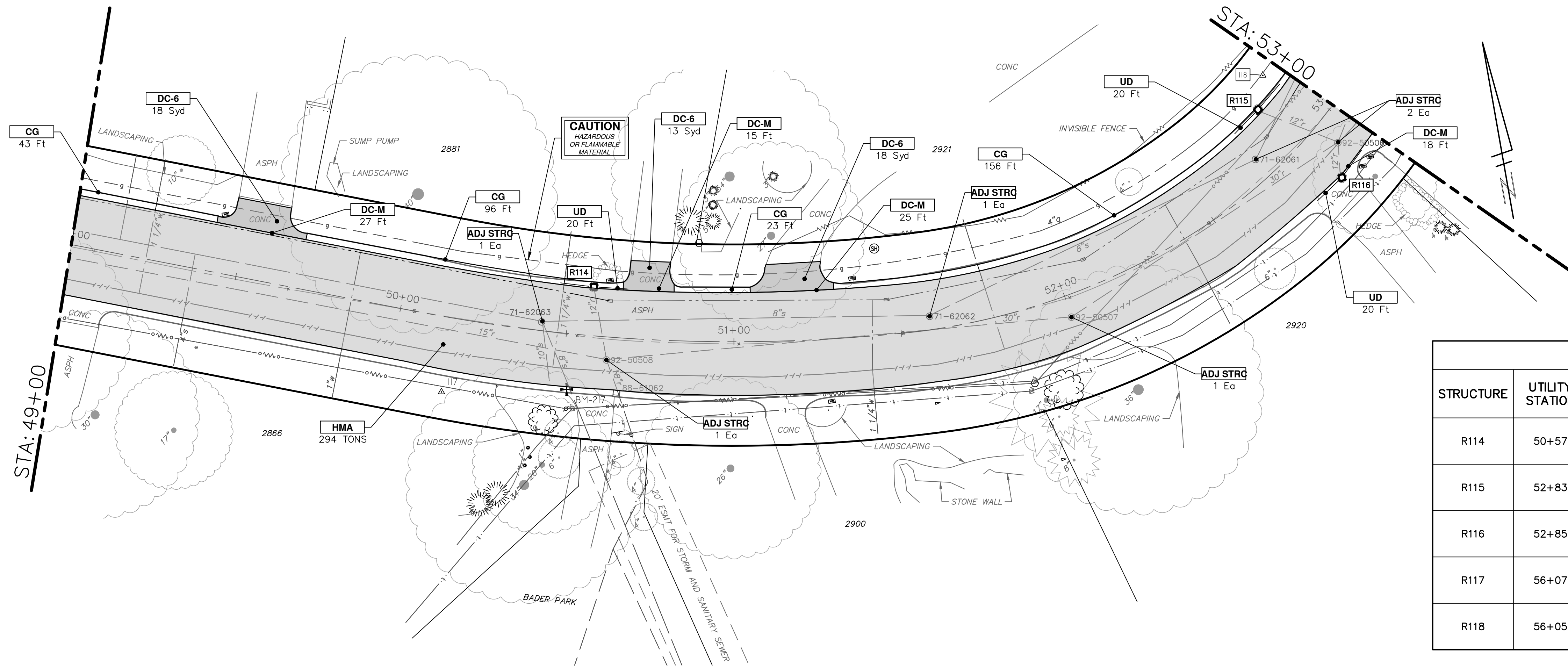
DRAWING NO. 2022-28-32

SHEET No.

32 OF 44

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PROVINCIAL DRIVE



ROAD FUND QUANTITIES THIS SHEET

TOTAL	UNIT	DESCRIPTION
2839	Syd	Machine Grading
654	Ton	HMA, SEL
48	Ft	Concrete Curb or Curb and Gutter, All Types
10	Ft	Concrete Type M Drive Opening
100	Ft	6 inch Wrapped Underdrain
25	Ft	12 inch CL IV RCP Storm Sewer Pipe, Tr Det 1
5	Ea	Single Inlet w/ 2 foot Sump
5200	Lb	Structure Covers
12	Ea	Adjust Structure Cover

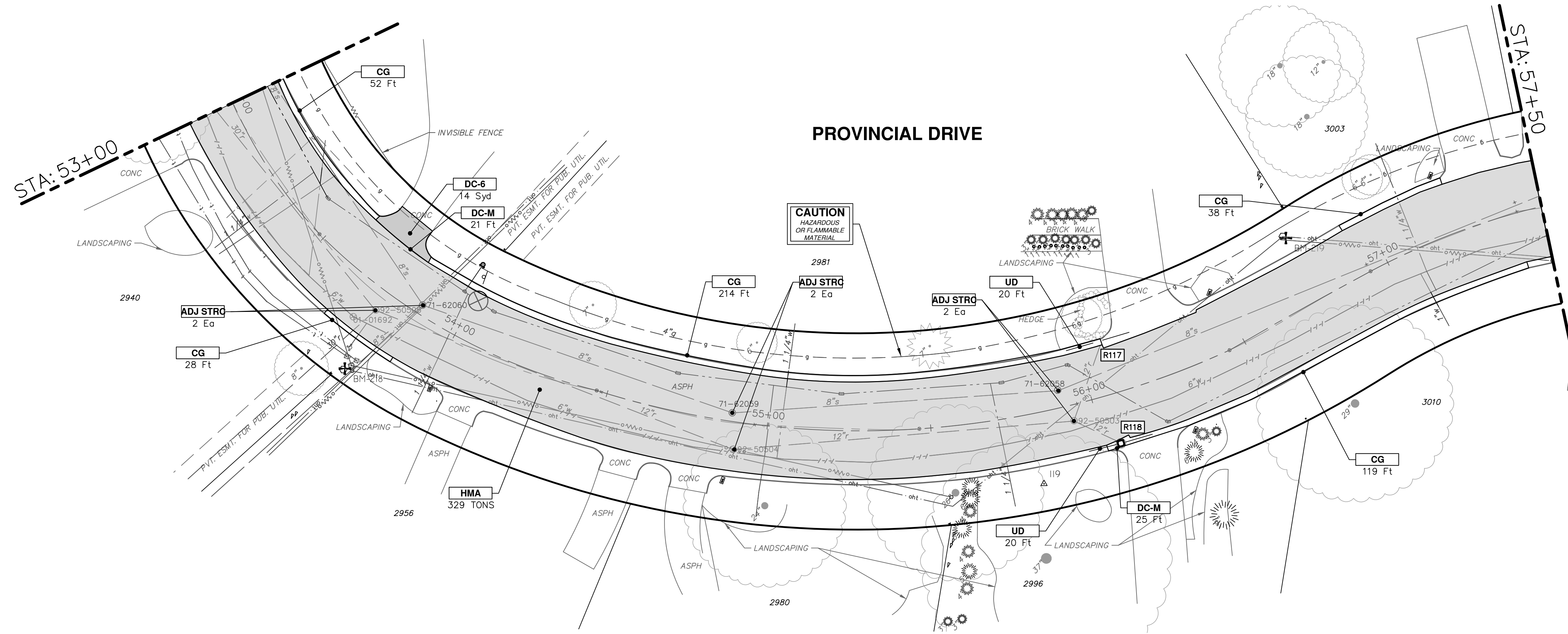
WATER FUND QUANTITIES THIS SHEET

TOTAL	UNIT	DESCRIPTION
316	Cyd	21AA Limestone, CIP
754	Ft	Concrete Curb or Curb and Gutter, All Types
63	Syd	6 inch Concrete Sidewalk, Ramp or Drive Approach
88	Ft	Concrete Type M Drive Opening

STORM SEWER STRUCTURE TABLE

STRUCTURE	UTILITY STATION	INVERT ELEVATION, SIZE & DIRECTION	TOP OF CASTING ELEVATION	DIAMETER	COVER TYPE	SUMP
R114	50+57	12" S 836.04 6" E 837.31 6" W 837.31	841.31	24"	K	YES
R115	52+83	12" SE 830.35 6" NE 831.82 6" SW 831.82	835.82	24"	K	YES
R116	52+85	12" N 832.17 6" NE 832.18 6" SW 832.18	836.17	24"	K	YES
R117	56+07	12" E 845.76 6" NW 846.49 6" SE 846.49	850.49	24"	K	YES
R118	56+05	12" S 845.23 6" NW 846.58 6" SE 846.58	850.58	24"	K	YES

PROVINCIAL DRIVE



CONSTRUCTION KEY

KEY	DESCRIPTION
HMA	HMA, PAVEMENT LEVELING COURSE/TOP COURSE PER TYPICAL SECTION
HMA CR	HMA, CRUSH AND SHAPE
CG	CURB AND GUTTER, CONCRETE, F4, SPECIAL
DC-6	6 INCH CONCRETE DRIVE APPROACH - HIGH EARLY
C-8	8 INCH CONCRETE PAVEMENT - HIGH EARLY
SW-4	4 INCH CONCRETE SIDEWALK
SWR-6	6 INCH CONCRETE SIDEWALK OR SIDEWALK RAMP
DWS	DETECTABLE WARNING, CAST IN PLACE
DO-M	DRIVEWAY OPENING, CONCRETE, DETAIL M
DC-6	6 INCH CONCRETE DRIVE, HIGH EARLY
SI	SINGLE INLET WITH 2 FOOT SUMP
STM-12	12 INCH CL IV RCP STORM SEWER, TR DET 1
UD	6 INCH UNDERDRAIN
ADJ STRC	ADJUST STRUCTURE COVER



REV	DATE	DESCRIPTION	BY	CHECKED
REV 01	11-18-2022	EGLE PERMIT SUBMITTAL		
REV 02	1-19-2023	BID SET		

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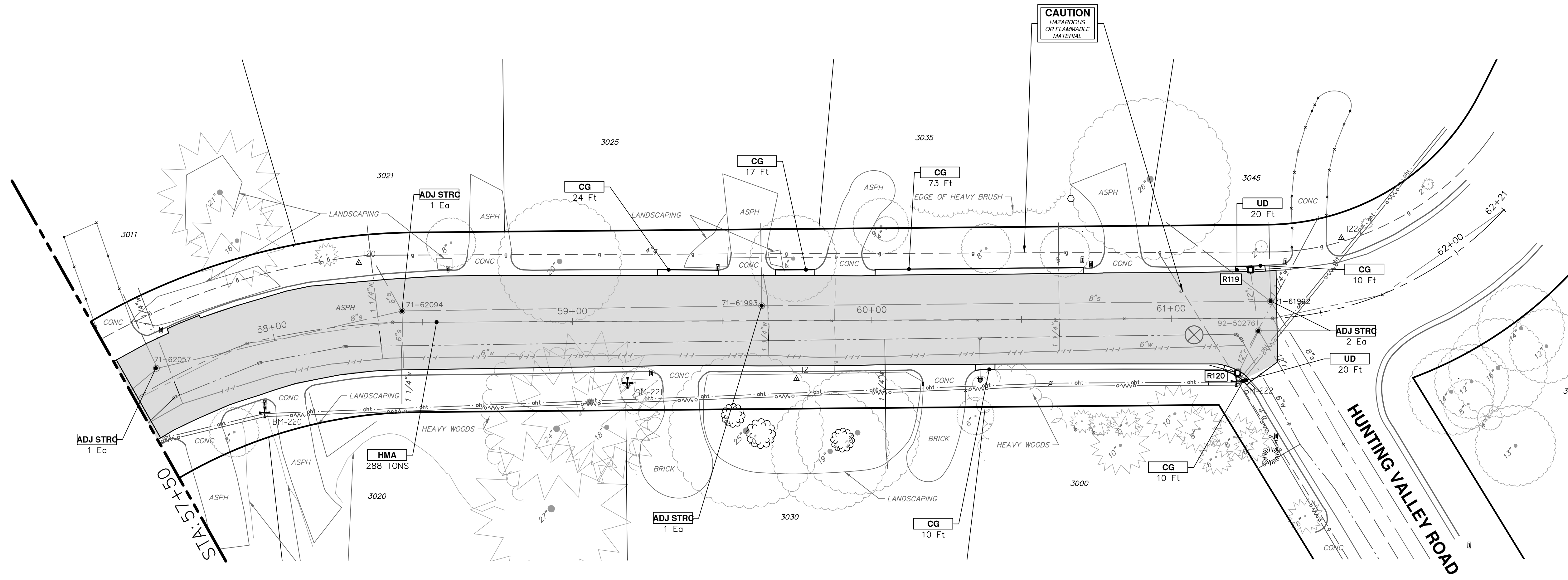


CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
2023 MISCELLANEOUS UTILITY PROJECTS
PROVINCIAL DRIVE PROPOSED ROAD - STA 49+00 TO STA 57+50

SCALE PLAN: 1"=40'
DRAWING No. 2022-28-33

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PROVINCIAL DRIVE



ROAD FUND QUANTITIES THIS SHEET

TOTAL	UNIT	DESCRIPTION
1305	Syd	Machine Grading
302	Ton	HMA, SEL
120	Ft	Concrete Curb or Curb and Gutter, All Types
40	Ft	6 inch Wrapped Underdrain
15	Ft	12 inch CL IV RCP Storm Sewer Pipe, Tr Det 1
2	Ea	Single Inlet w/ 2 foot Sump
2400	Lb	Structure Covers
5	Ea	Adjust Structure Cover

WATER FUND QUANTITIES THIS SHEET

TOTAL	UNIT	DESCRIPTION
290	Cyd	21AA Limestone, CIP

CONSTRUCTION KEY

KEY	DESCRIPTION
HMA	HMA, PAVEMENT LEVELING COURSE/TOP COURSE PER TYPICAL SECTION
HMA CR	HMA, CRUSH AND SHAPE
CG	CURB AND GUTTER, CONCRETE, F4, SPECIAL
DC-6	6 INCH CONCRETE DRIVE APPROACH -- HIGH EARLY
C-8	8 INCH CONCRETE PAVEMENT -- HIGH EARLY
SW-4	4 INCH CONCRETE SIDEWALK
SWR-6	6 INCH CONCRETE SIDEWALK OR SIDEWALK RAMP
DWS	DETECTABLE WARNING, CAST IN PLACE
DO-M	DRIVEWAY OPENING, CONCRETE, DETAIL M
DC-6	6 INCH CONCRETE DRIVE, HIGH EARLY
SI	SINGLE INLET WITH 2 FOOT SUMP
STM-12	12 INCH CL IV RCP STORM SEWER, TR DET 1
UD	6 INCH UNDERDRAIN
ADJ STRC	ADJUST STRUCTURE COVER

STORM SEWER STRUCTURE TABLE

STRUCTURE	UTILITY STATION	INVERT ELEVATION, SIZE & DIRECTION	TOP OF CASTING ELEVATION	DIAMETER	COVER TYPE	SUMP
R119	61+27	12" E 867.35 6" N 869.16 6" S 869.16	873.16	24"	K	YES
R120	61+22	12" NW 867.35 6" NE 868.78 6" S 868.78	872.78	24"	K	YES

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE PLAN: 1"=50'

DRAWING No. 2022-28-34

SHEET No. 34 OF 44

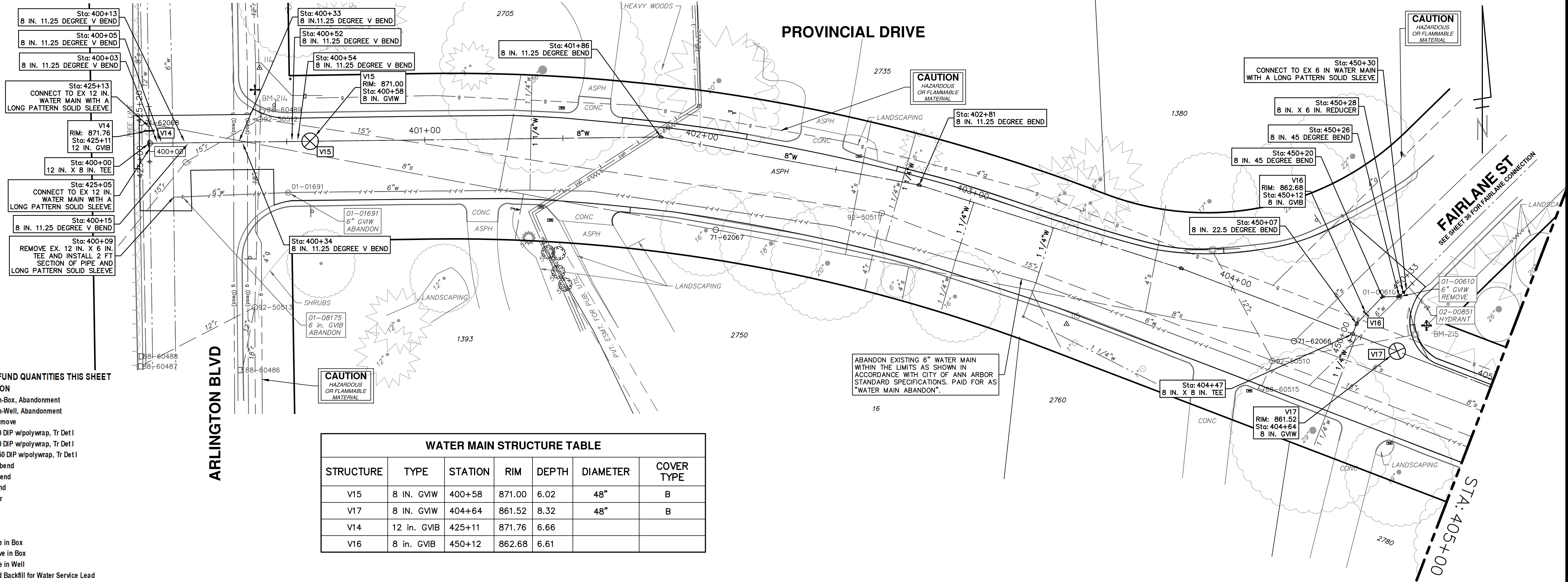
2023 MISCELLANEOUS UTILITY PROJECTS

PROVINCIAL DRIVE PROPOSED ROAD - STA 57+50 TO P.O.E.

REV.	DESCRIPTION	DATE	BY	CHECKED
REV 01	EGL PERMIT SUBMITTAL	11-18-2022		
REV 02	BID SET	1-19-2023		

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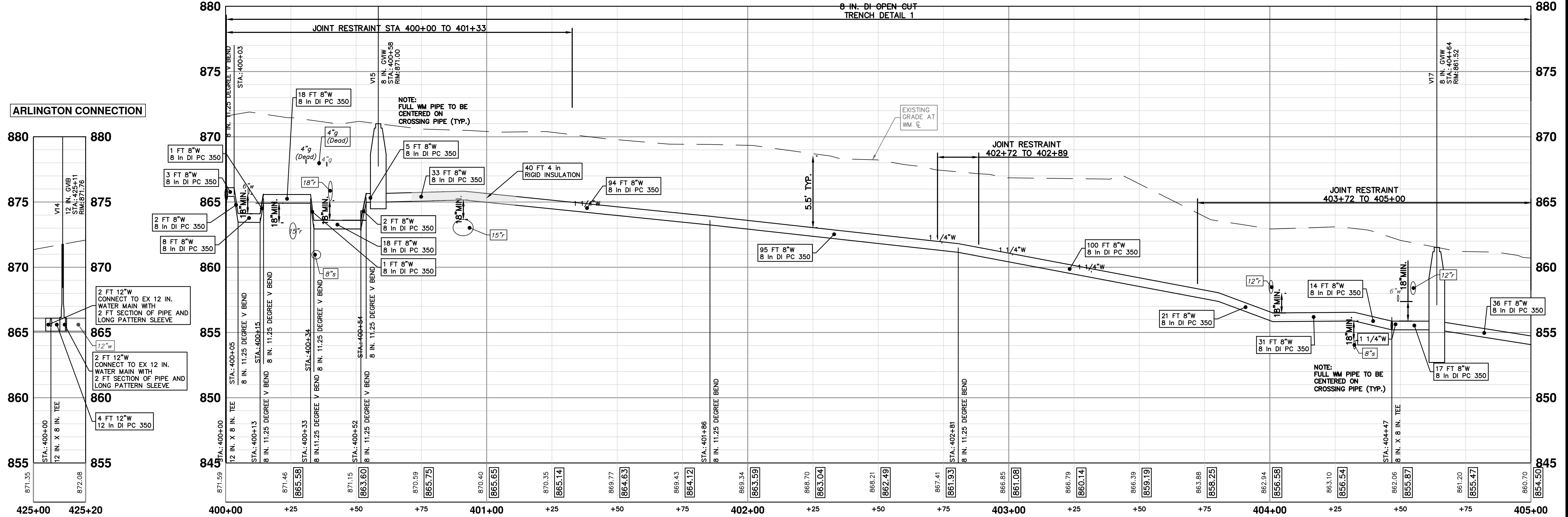


WATER FUND QUANTITIES THIS SHEET

TOTAL	UNIT	DESCRIPTION
1	Ea	Gate Valve-in-Box, Abandonment
1	Ea	Gate Valve-in-Well, Abandonment
1	Ea	Structure, Remove
5	Ft	6 inch PC 350 DIP w/polywrap, Tr Det I
511	Ft	8 inch PC 350 DIP w/polywrap, Tr Det I
12	Ft	12 inch PC 350 DIP w/polywrap, Tr Det I
10	Ea	8" 11.25 deg bend
1	Ea	8" 22.5 deg bend
2	Ea	8" 45 deg bend
1	Ea	8"x6" reducer
1	Ea	8"x8" Tee
1	Ea	8"x8" Tee
1	Ea	12"x8" Tee
1	Ea	8" Gate Valve in Box
1	Ea	12" Gate Valve in Box
2	Ea	8" Gate Valve in Well
54	Ft	Excavate and Backfill for Water Service Lead

WATER MAIN STRUCTURE TABLE

STRUCTURE	TYPE	STATION	RIM	DEPTH	DIAMETER	COVER TYPE
V15	8 IN. G.V.W.	400+58	871.00	6.02	48"	B
V17	8 IN. G.V.W.	404+64	861.52	8.32	48"	B
V14	12 in. G.V.B.	425+11	871.76	6.66		
V16	8 in. G.V.B.	450+12	862.68	6.61		



Know what's below. Call before you dig.

REV.	DATE	BY	CHECKED	DESCRIPTION
REV 01	11-18-2022			EGLE PERMIT SUBMITTAL
REV 02	1-19-2023			BID SET

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2023 MISCELLANEOUS UTILITY PROJECTS

PROVINCIAL DRIVE WATER MAIN - P.O.B. TO STA 405+00

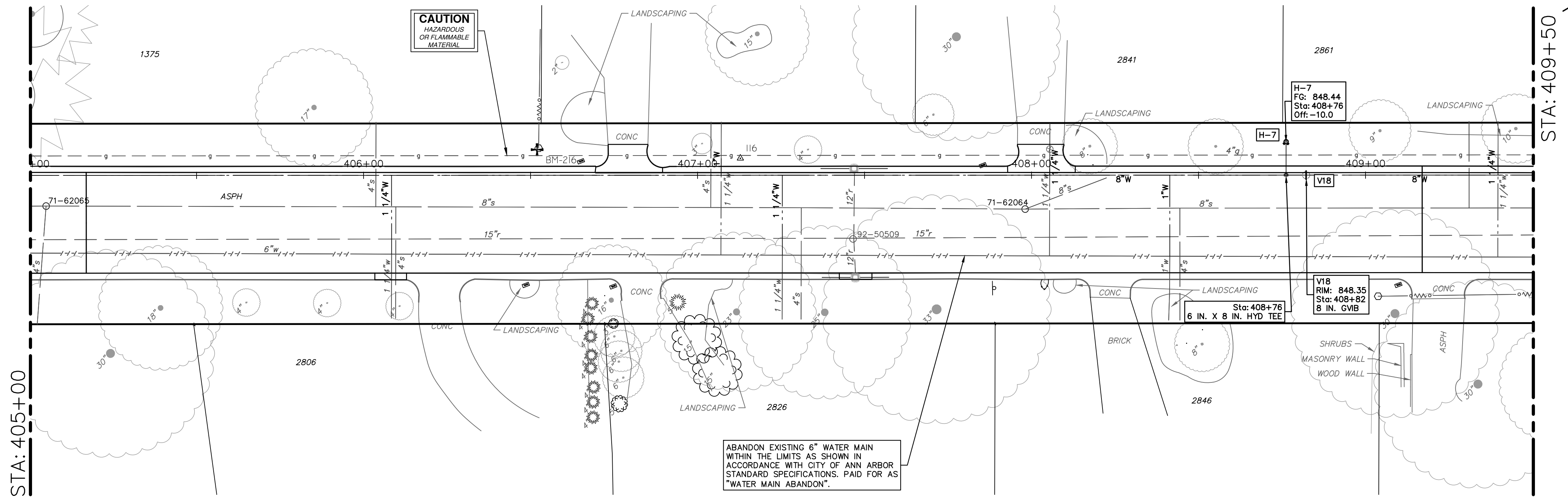
SCALE PLAN: 1" = 20'
PROFILE: 1" = 4'

DRAWING NO. 2022-28-35

SHEET NO. 35 OF 44

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PROVINCIAL DRIVE

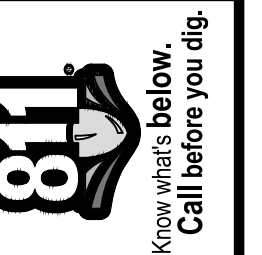
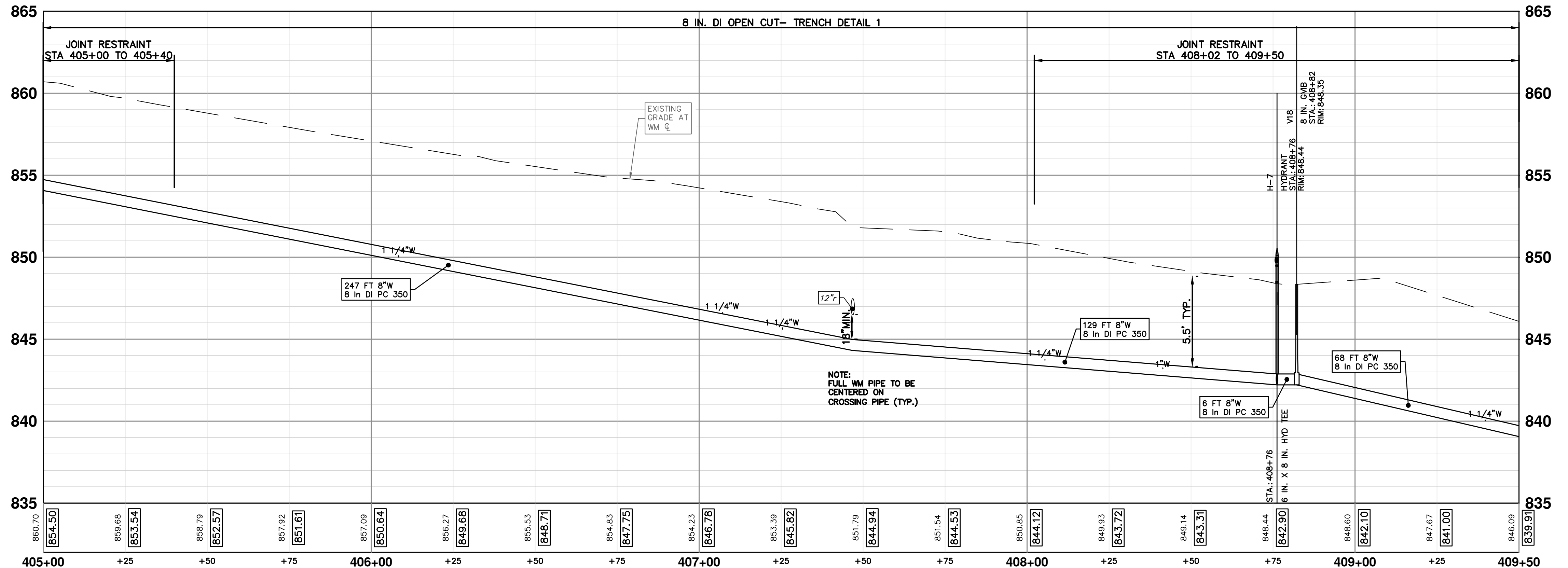
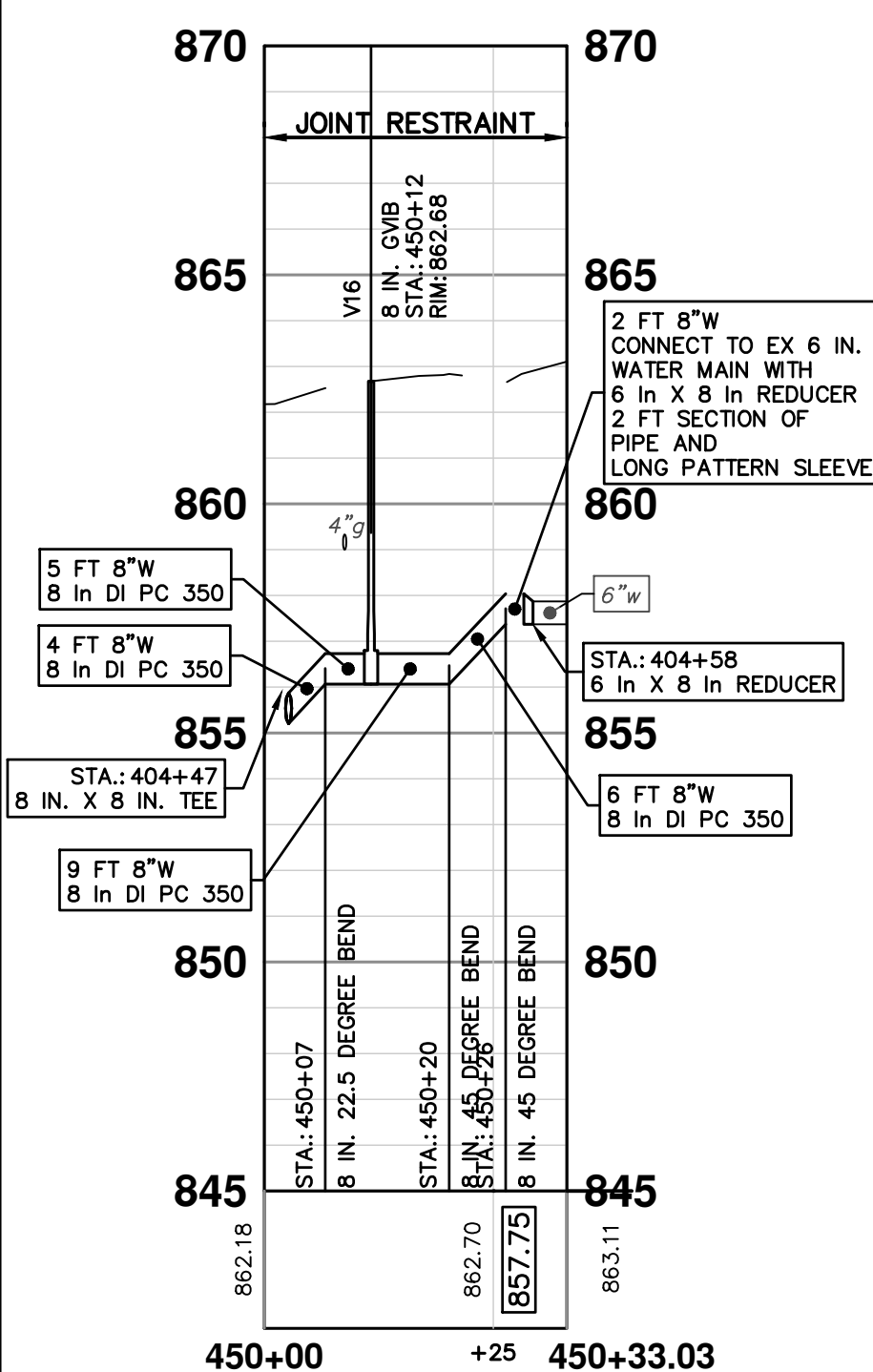


STRUCTURE	TYPE	STATION	RIM	DEPTH	DIAMETER	COVER TYPE
H-7	HYDRANT	408+76	848.44	6.19		
V18	8 in. GVB	408+82	848.35	6.13		

TOTAL	UNIT	DESCRIPTION
10	Ft	6 inch PC 350 DIP w/polywrap, Tr Detl
450	Ft	8 inch PC 350 DIP w/polywrap, Tr Detl
1	Ea	8"x6" Tee
1	Ea	Fire Hydrant Assembly
1	Ea	8" Gate Valve in Box
90	Ft	Excavate and Backfill for Water Service Lead

ABANDON EXISTING 6" WATER MAIN WITHIN THE LIMITS AS SHOWN IN ACCORDANCE WITH CITY OF ANN ARBOR STANDARD SPECIFICATIONS. PAID FOR AS "WATER MAIN ABANDON".

FAIRLANE CONNECTION SEE SHEET 35 FOR PLAN VIEW



REV.	DATE	BY	CHECKED	DESCRIPTION
1	11-18-2022			REV 01 EGGLE PERMIT SUBMITTAL
2	1-19-2023			REV 02 BID SET

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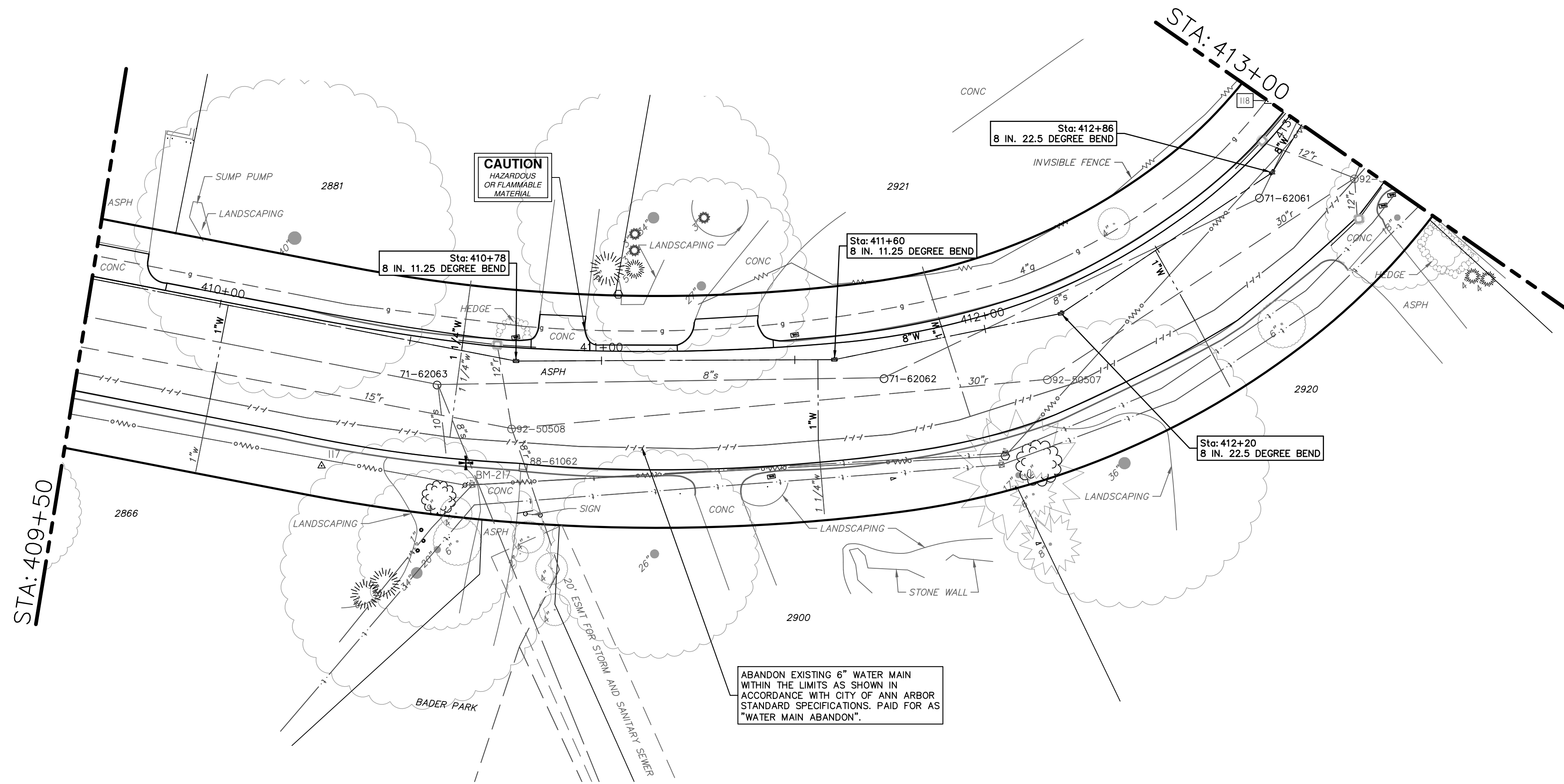


CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
2023 MISCELLANEOUS UTILITY PROJECTS
PROVINCIAL DRIVE WATER MAIN - STA 405+00 TO STA 409+50

SCALE PLAN: 1"=30'
PROFILE: 1"=4'
DRAWING NO.: 2022-28-36

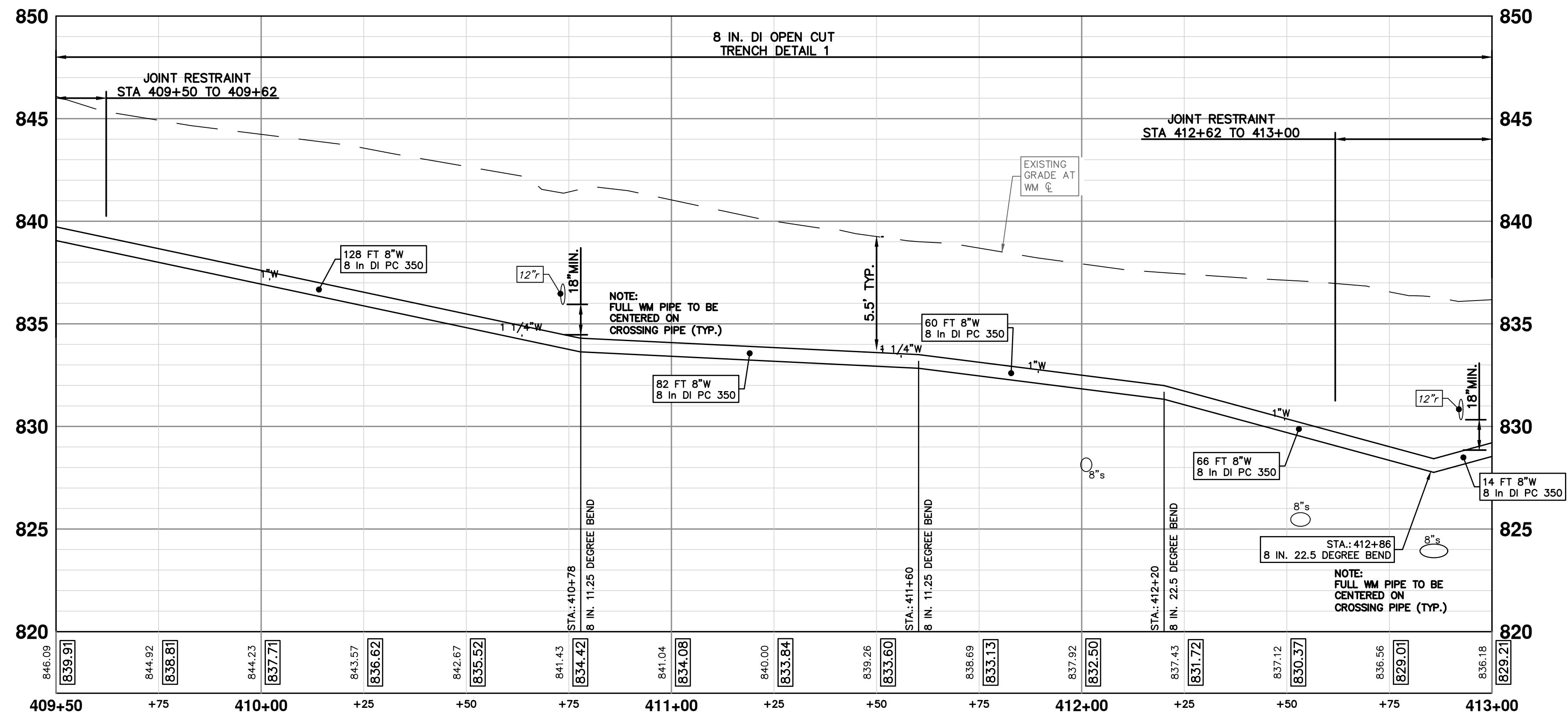
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PROVINCIAL DRIVE



WATER FUND QUANTITIES THIS SHEET

TOTAL	UNIT	DESCRIPTION
350	Ft	8 inch PC 350 DIP w/polywrap, Tr Det1
2	Ea	8" 11.25 deg bend
2	Ea	8" 22.5 deg bend
89	Ft	Excavate and Backfill for Water Service Lead



REV.	DATE	BY	CHECKED	DESCRIPTION
REV 01	11-18-2022	BY	BY	EGLE PERMIT SUBMITTAL
REV 02	1-19-2023	BY	BY	BID SET

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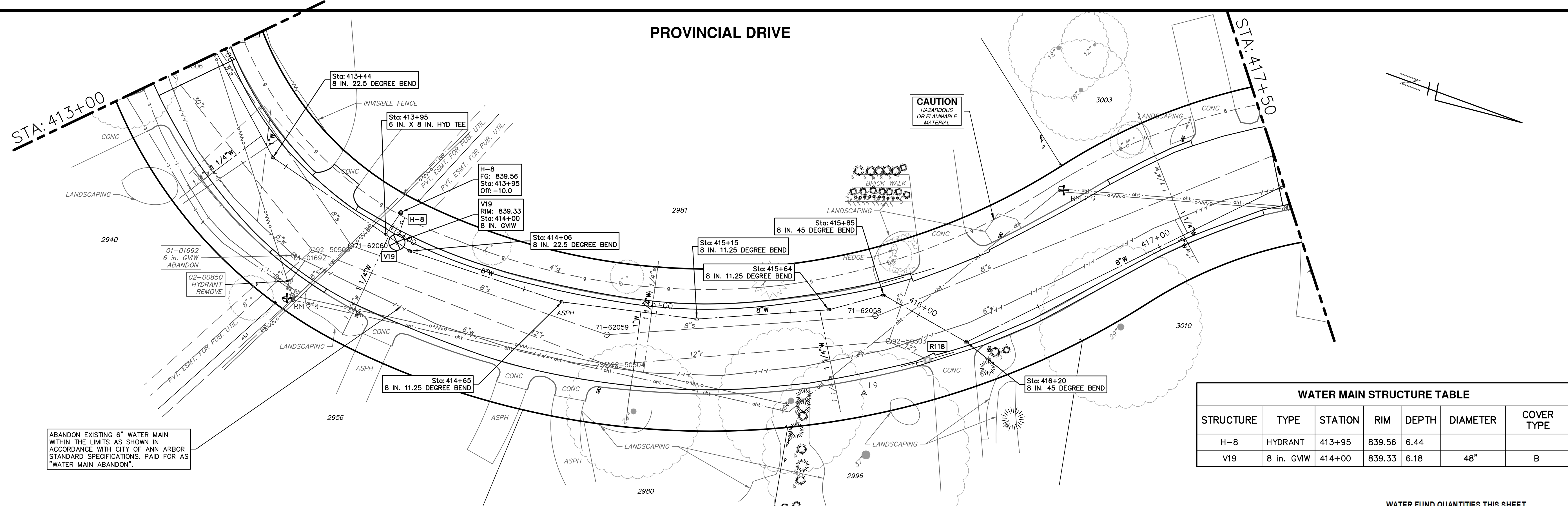


CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
2023 MISCELLANEOUS UTILITY PROJECTS
PROVINCIAL DRIVE WATER MAIN- STA 409+50 TO STA 413+00

SCALE PLAN: 1"=20'
PROFILE: 1"=4'
DRAWING No. 2022-28-37

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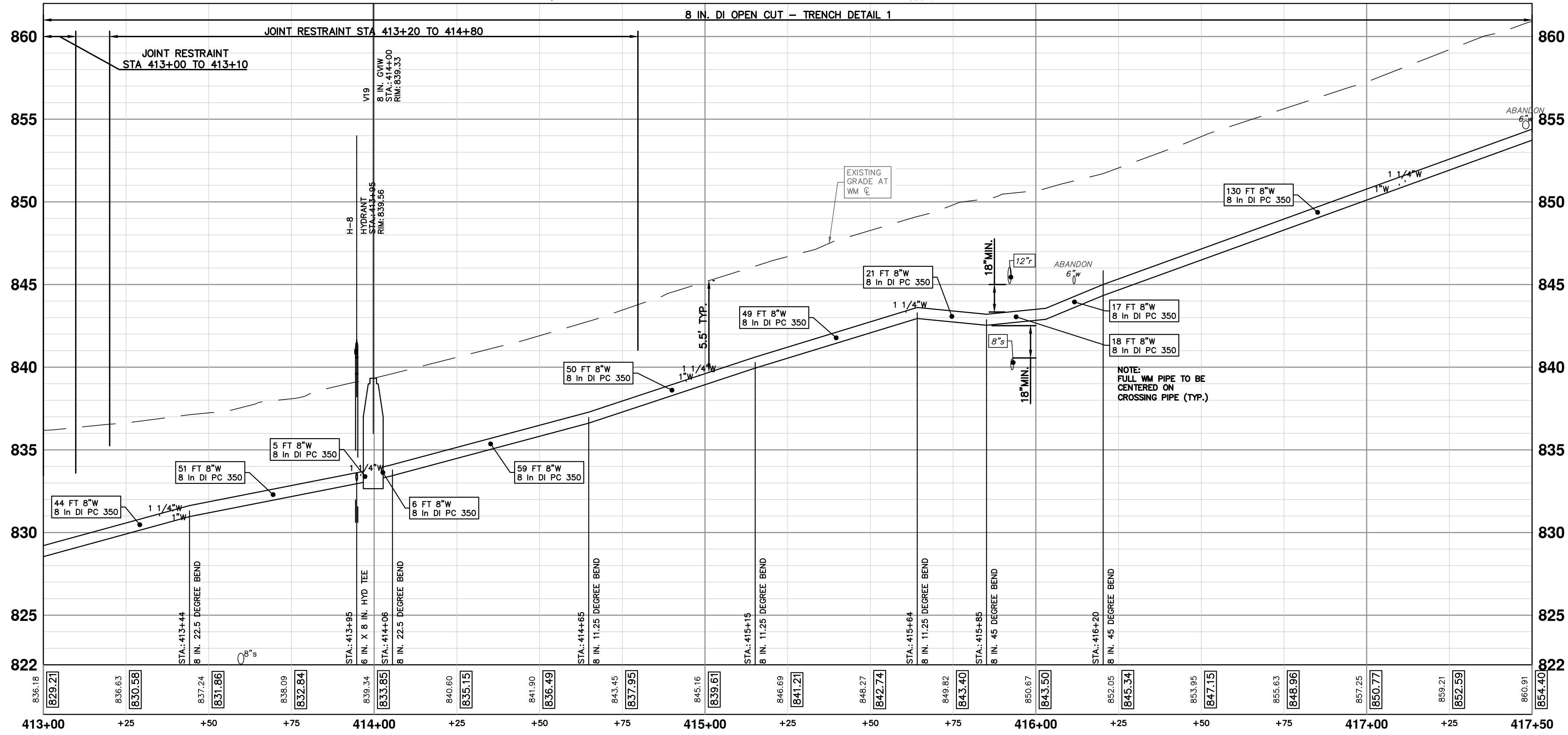
PROVINCIAL DRIVE



ABANDON EXISTING 6" WATER MAIN WITHIN THE LIMITS AS SHOWN IN ACCORDANCE WITH CITY OF ANN ARBOR STANDARD SPECIFICATIONS. PAID FOR AS "WATER MAIN ABANDON".

STRUCTURE	TYPE	STATION	RIM	DEPTH	DIAMETER	COVER TYPE
H-8	HYDRANT	413+95	839.56	6.44		
V19	8 in. GVW	414+00	839.33	6.18	48"	B

TOTAL	UNIT	DESCRIPTION
1	Ea	Gate Valve-in-Well, Abandonment
1	Ea	Fire Hydrant, Remove
10	Ft	6 inch PC 350 DIP w/polywrap, Tr Det I
450	Ft	8 inch PC 350 DIP w/polywrap, Tr Det I
3	Ea	8" 11.25 deg bend
2	Ea	8" 22.5 deg bend
2	Ea	8" 45 deg bend
1	Ea	8"x6" Tee
1	Ea	Fire Hydrant Assembly
1	Ea	8" Gate Valve in Well
124	Ft	Excavate and Backfill for Water Service Lead



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REV 02 BID SET 1-19-2023
REV 01 FEEL PERMIT SUBMITTAL 11-18-2022

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2023 MISCELLANEOUS UTILITY PROJECTS

PROVINCIAL DRIVE WATER MAIN- STA 413+00 TO STA 417+50

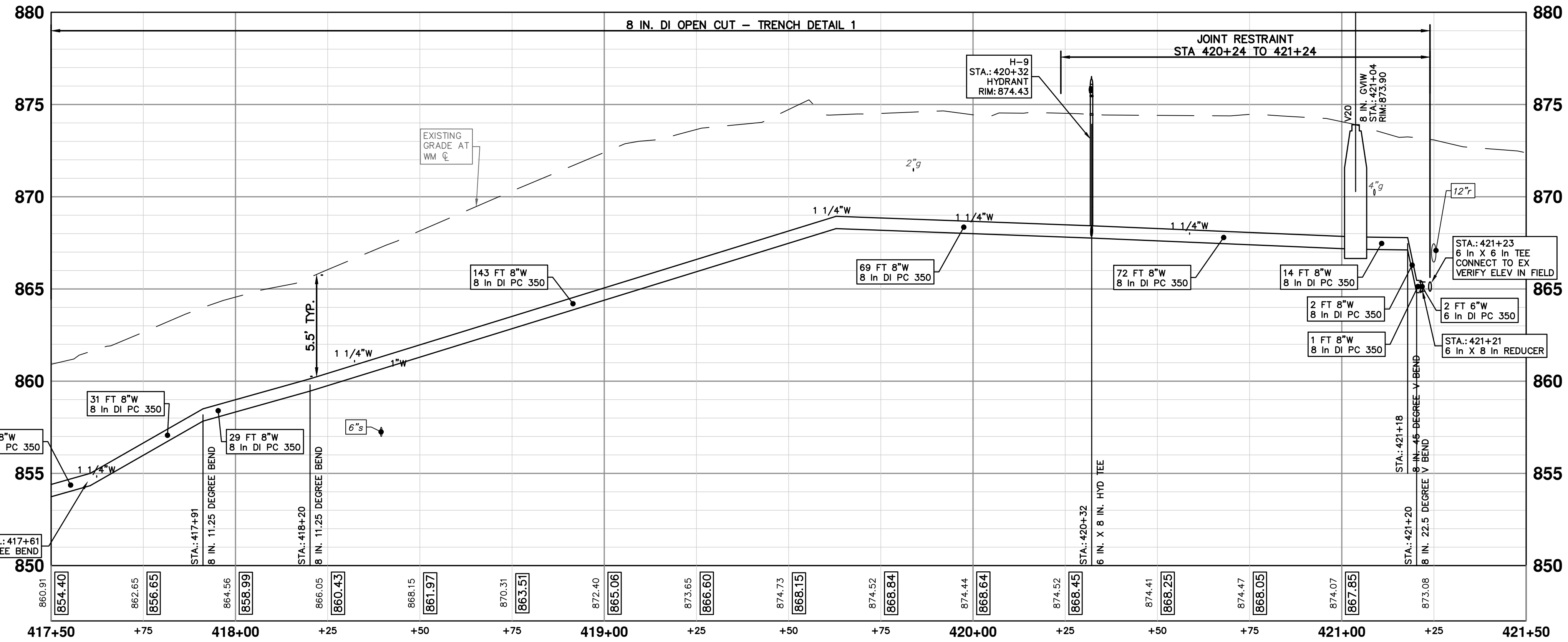
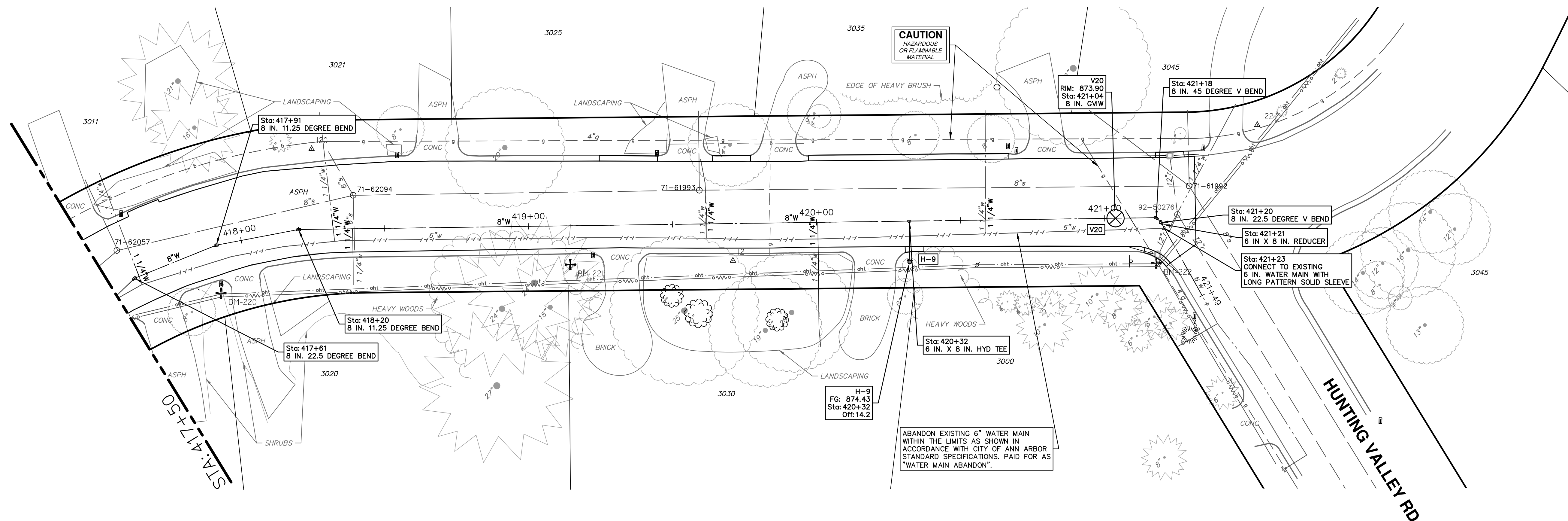
SCALE PLAN: 1"=20'
PROFILE: 1"=4'

DRAWING NO. 2022-28-38

SHEET NO. 38 OF 44

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PROVINCIAL DRIVE



WATER MAIN STRUCTURE TABLE						
STRUCTURE	TYPE	STATION	RIM	DEPTH	DIAMETER	COVER TYPE
H-9	HYDRANT	420+32	874.43	6.58		
V20	8 in. GVIW	421+04	873.90	6.75	48"	B

WATER FUND QUANTITIES THIS SHEET		
TOTAL	UNIT	DESCRIPTION
25	Ft	6 inch PC 350 DIP w/polywrap, Tr Detl
371	Ft	8 inch PC 350 DIP w/polywrap, Tr Detl
2	Ea	8" 11.25 deg bend
2	Ea	8" 22.5 deg bend
1	Ea	8" 45 deg bend
1	Ea	8"x6" reducer
1	Ea	8"x6" Tee
1	Ea	Fire Hydrant Assembly
1	Ea	8" Gate Valve in Well
31	Ft	Excavate and Backfill for Water Service Lead

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

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

DRAWING NO. 2022-28-39

SHEET No. 39 OF 44

2023 MISCELLANEOUS UTILITY PROJECTS

PROVINCIAL DRIVE WATER MAIN - STA 417+50 TO P.O.E.

811 Know what's below. Call Before you dig.

REV. DATE DESCRIPTION

REV. 01 11-18-2022 PERMIT SUBMITTAL

REV. 02 11-19-2023 BID SET

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- MH 71-67507 (RIM = 826.62)
12" RCP N - IE = 814.17
12" RCP S - IE = 818.47
18" RCP W - IE = 813.97
18" RCP SE - IE = 813.62
- MH 71-67516 (RIM = 825.83)
12" RCP N - IE = 816.48
12" RCP S - IE = 816.38
- MH 71-61332 (RIM = 825.76)
12" RCP W - IE = 814.67
12" RCP SE - IE = 814.66

QUANTITIES THIS SHEET

TOTAL	UNIT	DESCRIPTION
1	LSUM	Traffic Control, North Seventh, Max \$5,000
20	Ft	Remove Concrete Curb or Curb and Gutter, Any Thickness
50	Syd	Remove Concrete Sidewalk and Pavement, Any Thickness
134	Syd	HMA Pavement Removal, Any Depth
500	Ft	Sewer, Any Size/Depth, Abandon in Place
59	Ton	HMA, SEL
20	Ft	Concrete Curb or Curb and Gutter, All Types
450	Sft	4 inch Concrete Sidewalk
15	Ft	Protective Fencing
60	Ft	6 inch SDR 35 Sanitary Sewer Pipe, Tr Det I
5	Ea	Erosion Control, Inlet Filter
5000	Dir	N Seventh Landscaping Allowance

REMOVAL KEY

KEY	DESCRIPTION
1	REMOVE CONCRETE CURB OR CURB AND GUTTER, - ANY TYPE
2	REMOVE CONCRETE SIDEWALK AND DRIVE - ANY THICKNESS
3	PAVEMENT REMOVAL, ANY DEPTH
4	PROTECTIVE FENCING
5	INLET FILTER
6	FILL WITH GROUT AND ABANDON 12-INCH SANITARY SEWER
7	SILT FENCE
8	REMOVE AND SALVAGE BRICK PAVERS
9	SALVAGE AND REPLACE LANDSCAPING

401 N 7TH STREET LATERAL REMOVAL AND ABANDONMENT PLAN

SCALE: 1"=40'

CONSTRUCTION KEY

KEY	DESCRIPTION
HMA	PLACE HMA, SEL. PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER.
CG	PLACE CURB AND GUTTER, CONC, F4, SPECIAL
DC-6	PLACE CONC. DRIVE APPROACH, NON-REINFORCED, P-NC, 6 INCH. PLACE AND COMPACT 6 INCH SUBBASE, CIP, CLASS II GRANULAR MATERIAL, MODIFIED.
SW-4	PLACE SIDEWALK, CONC, 4 INCH, MODIFIED
TURF RES	TURF RESTORATION
SAN CO	6" PVC SANITARY SEWER CLEANOUT

401 N 7TH STREET LATERAL CONSTRUCTION PLAN

SCALE: 1"=20'



- SW-4
- SAN CO
- CG
- HMA
- 6" PVC SERVICE @ 3.5%, 59 FT
- INVERT OF MAIN AT WYE: 816.10
- INVERT OF WYE AT MAIN: 816.71

- NOTES:**
- A LICENSED PLUMBER MUST MAKE CONNECTIONS TO HOUSE SERVICE AT HOUSE AND AT SANITARY SEWER MAIN.
 - A BUILDING PERMIT SHALL BE OBTAINED FROM THE CITY OF ANN ARBOR.
 - TRAFFIC CONTROL SHALL FOLLOW MD-21A.
 - A CITY OF ANN ARBOR ROW PERMIT REQUIRED.

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2023 MISCELLANEOUS UTILITY PROJECTS

7TH ST

REMOVAL AND CONSTRUCTION PLAN

SCALE PLAN: 1" = 40'

DRAWING No. 2022-28-40

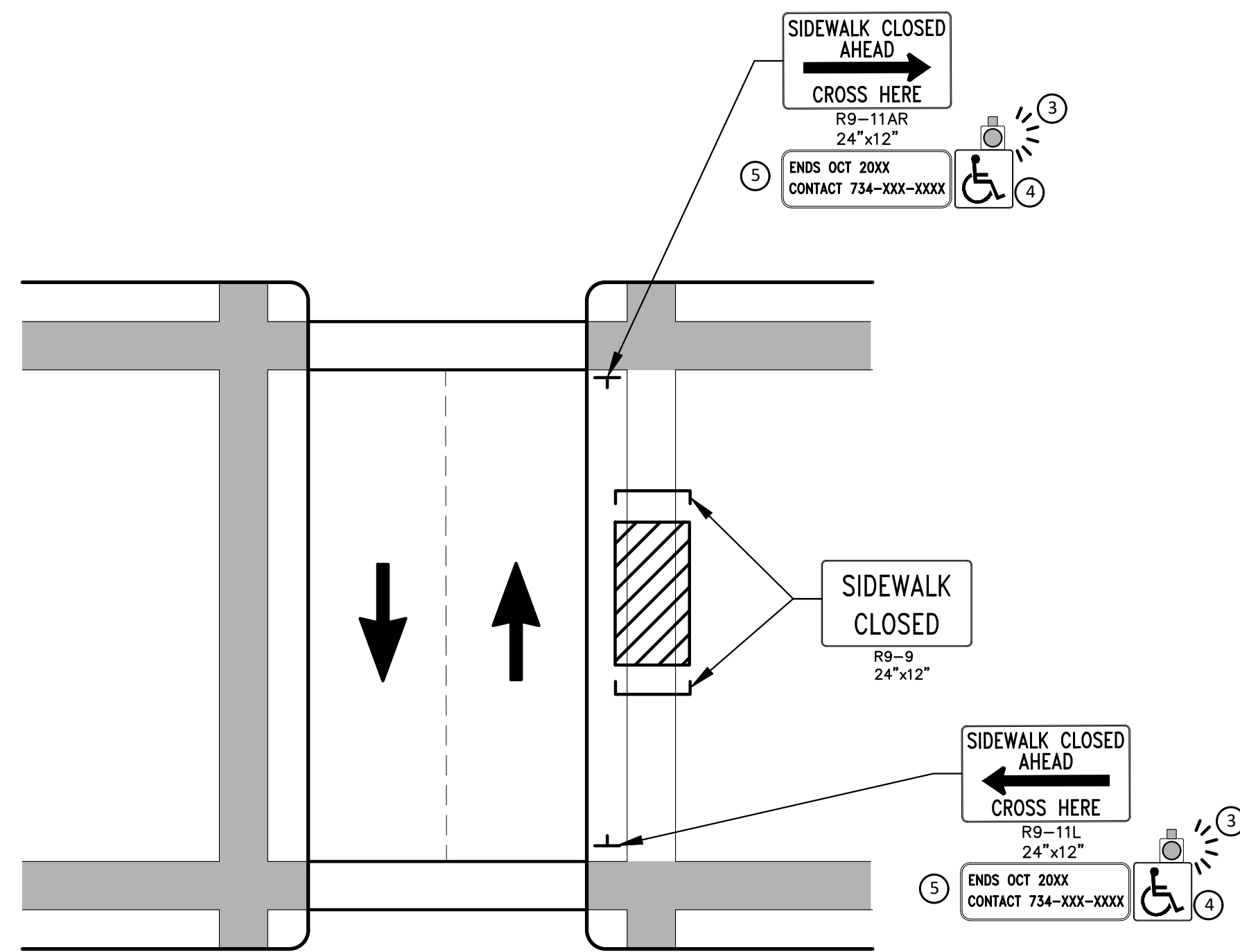
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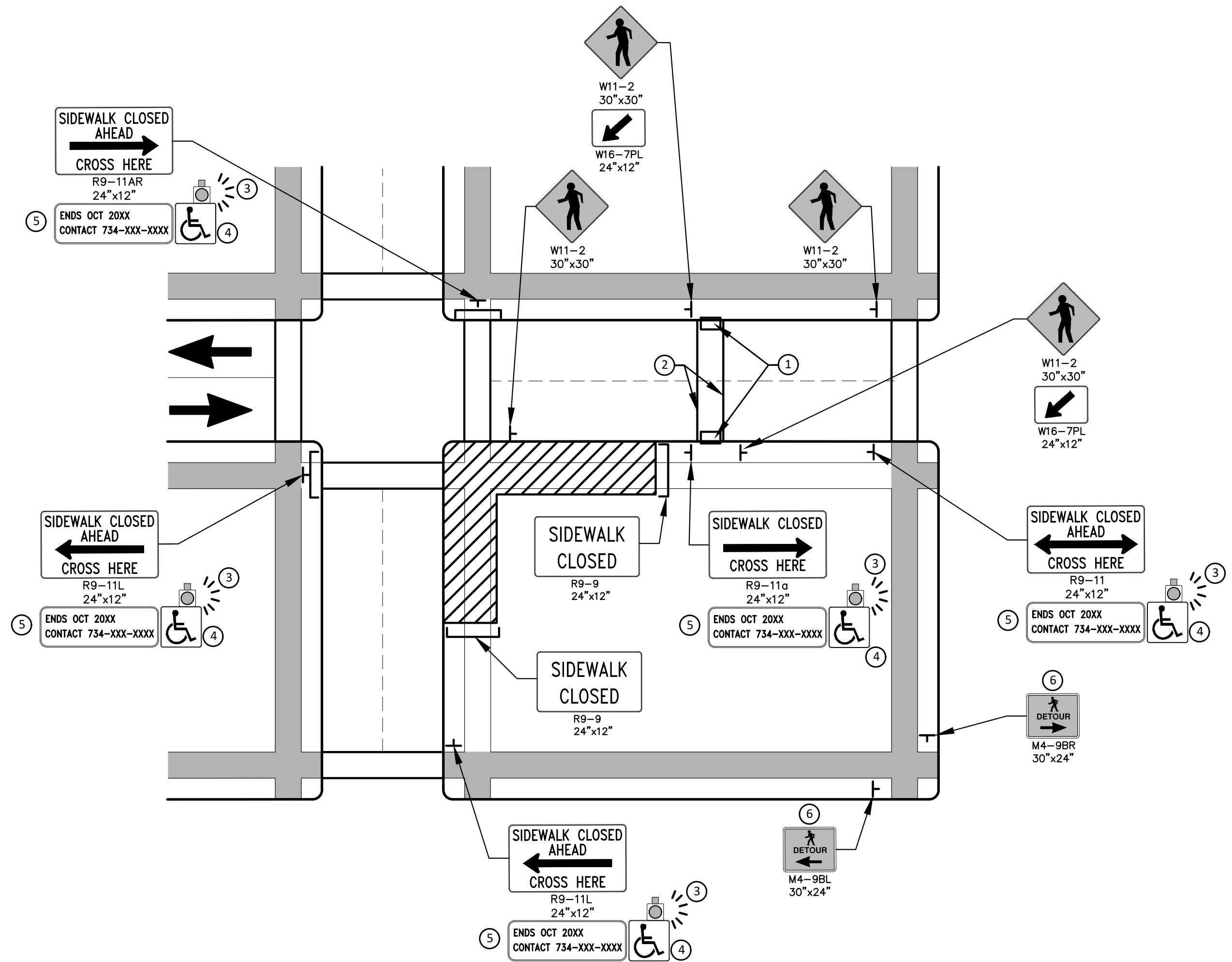
CITY OF ANN ARBOR
MICHIGAN

SHEET No. 40 OF 44

REV.	DESCRIPTION	DATE	DRAWN	CHECKED



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.

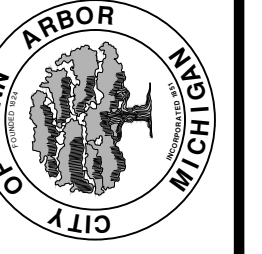
PEDESTRIAN TEMPORARY TRAFFIC CONTROL NOTES

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."



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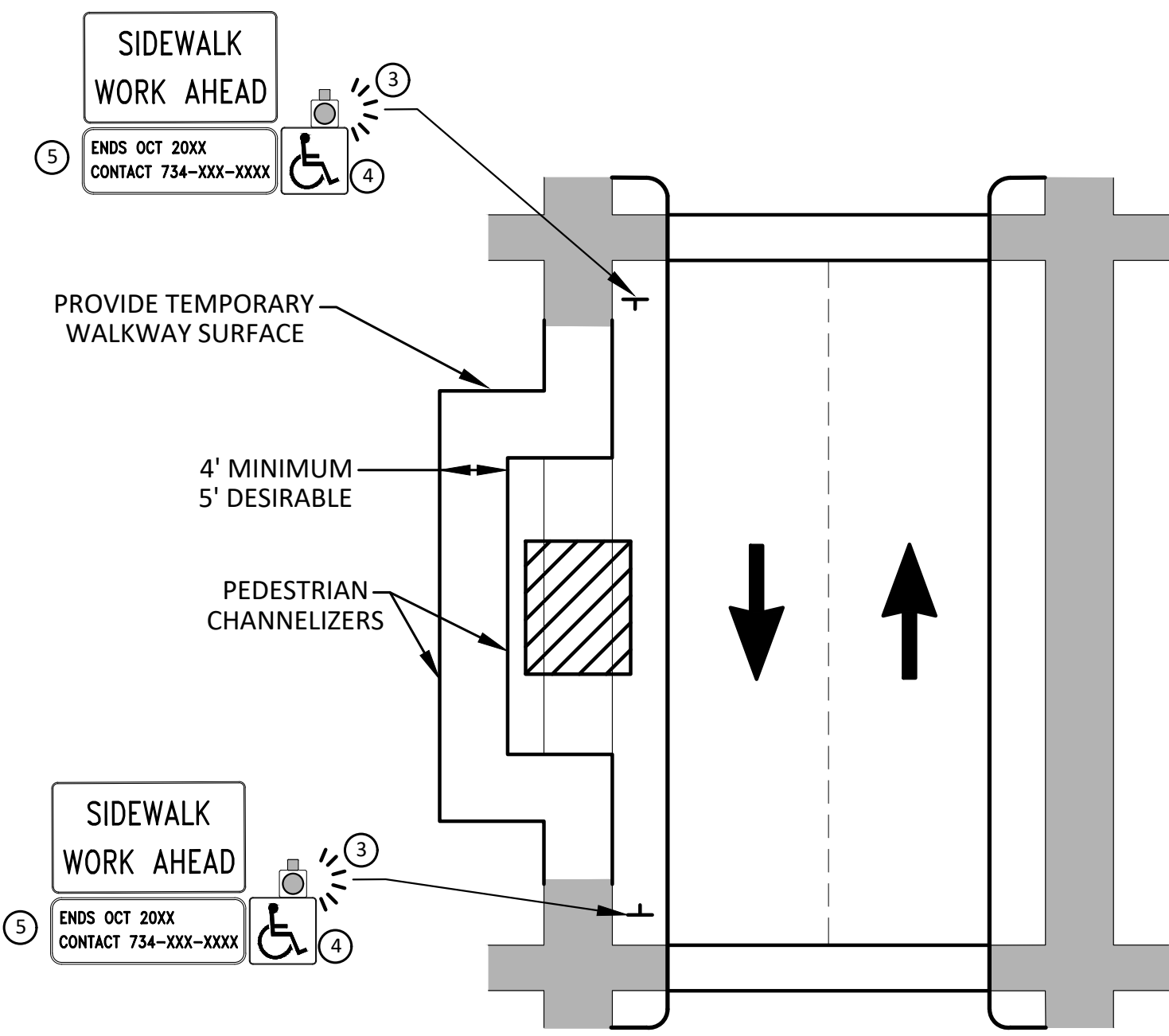
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TAPR DETAILS - ALTERNATE PEDESTRIAN ROUTE (APR) DETOUR

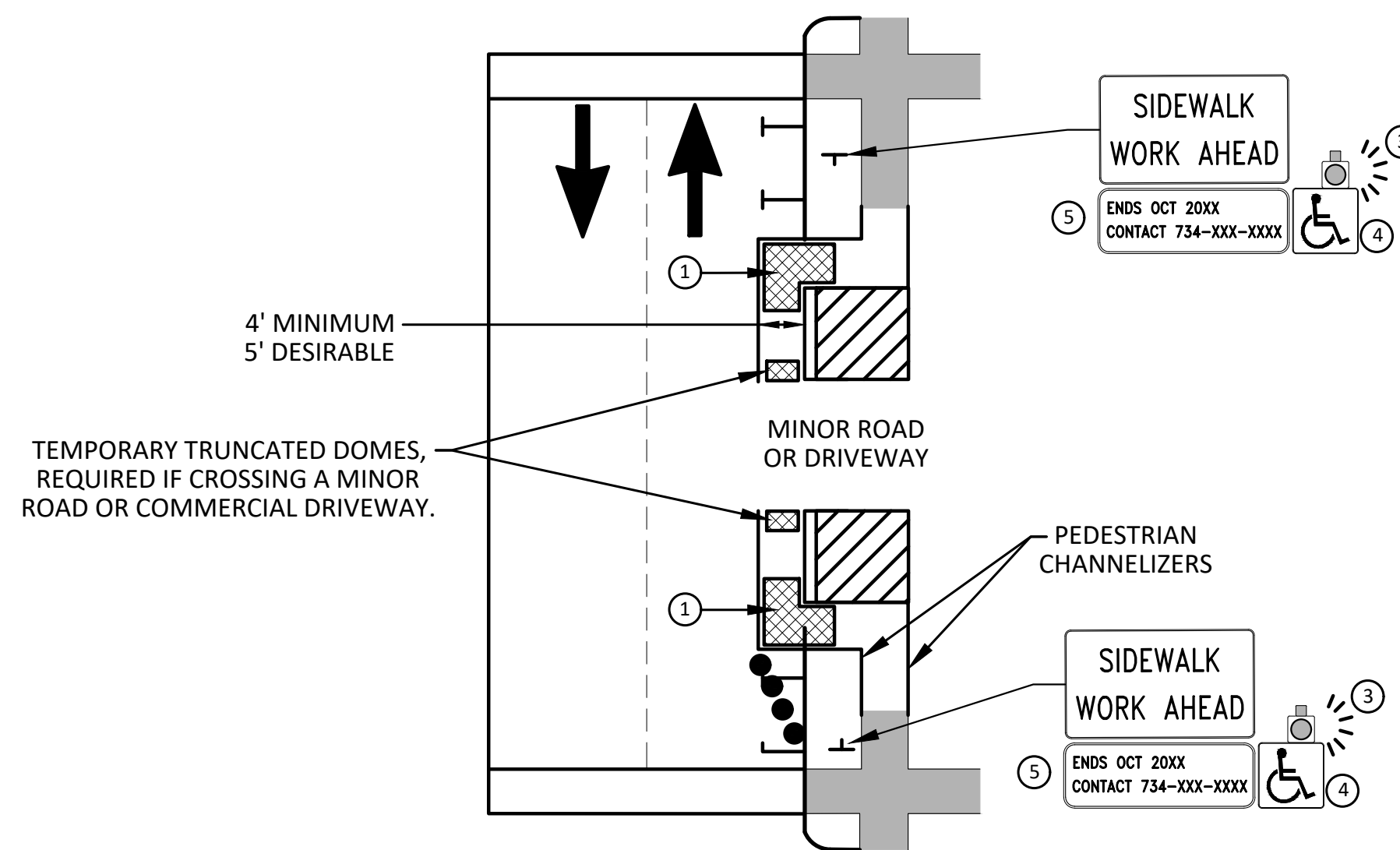
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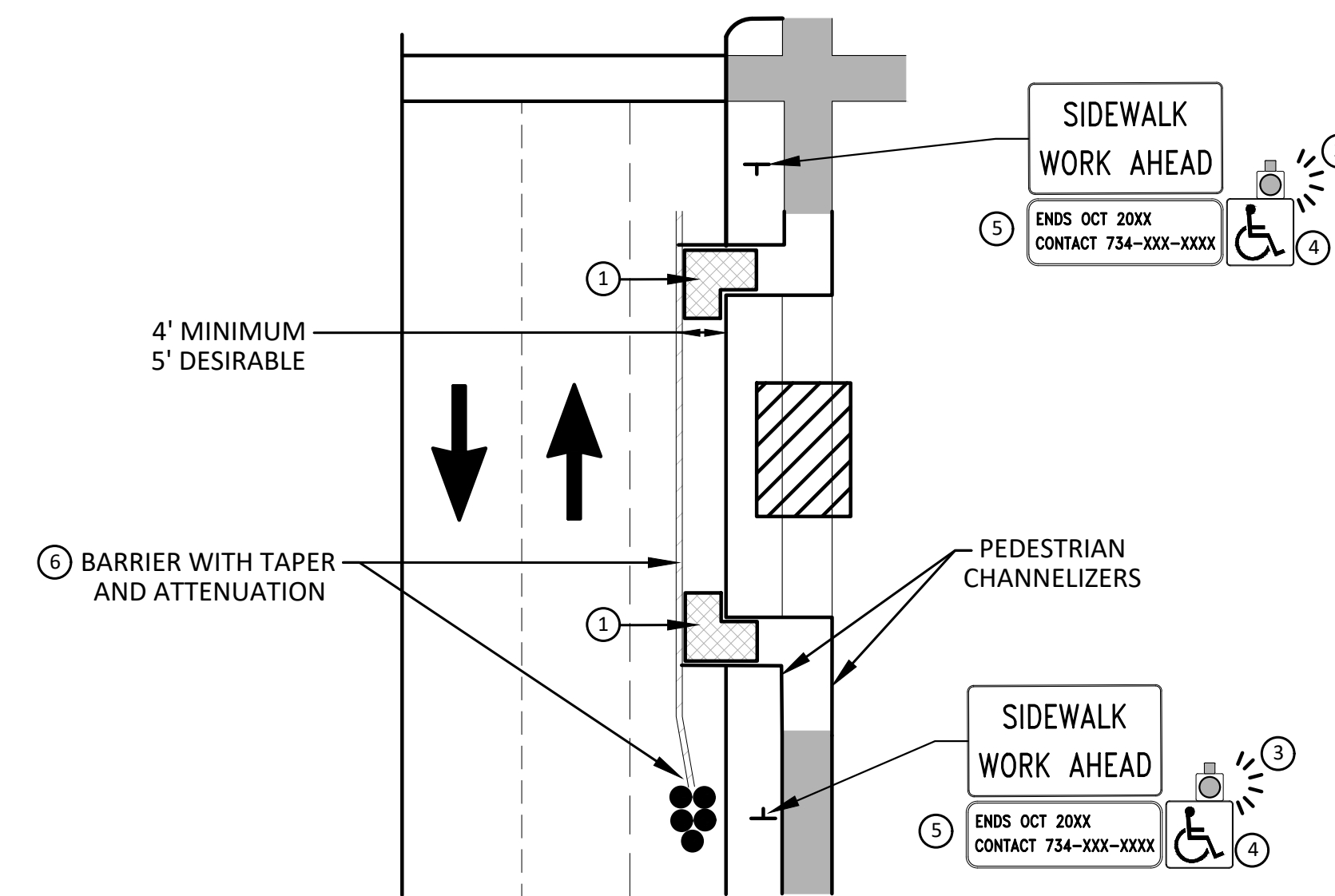


**BYPASS ON ADJACENT AVAILABLE
RIGHT OF WAY**
BYPASS TYPE A

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.

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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.

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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. S 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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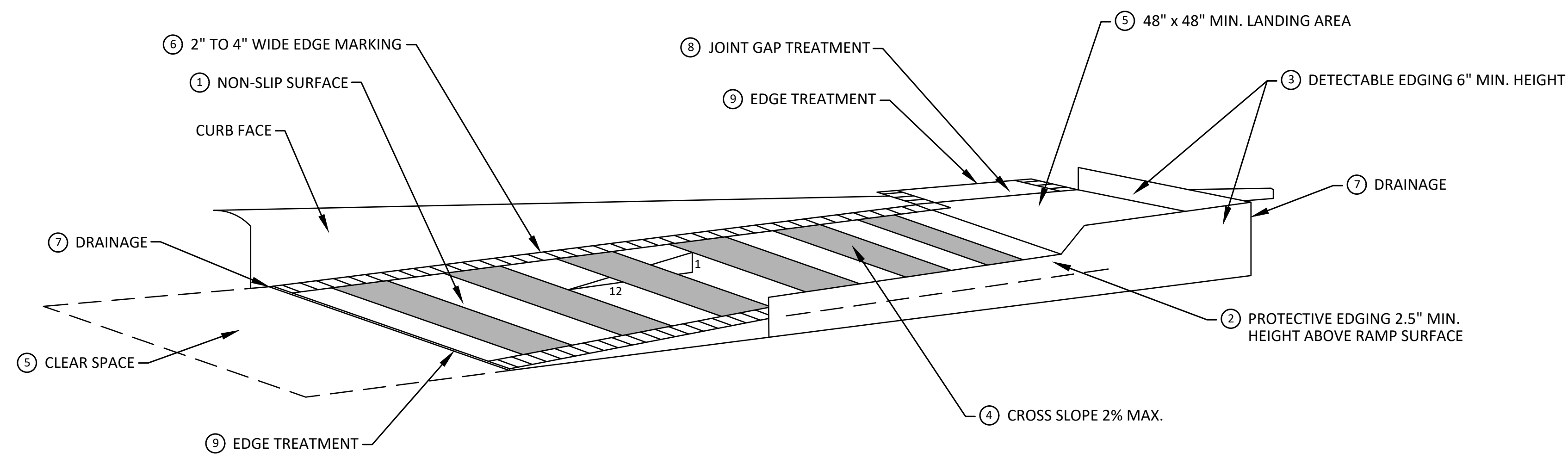
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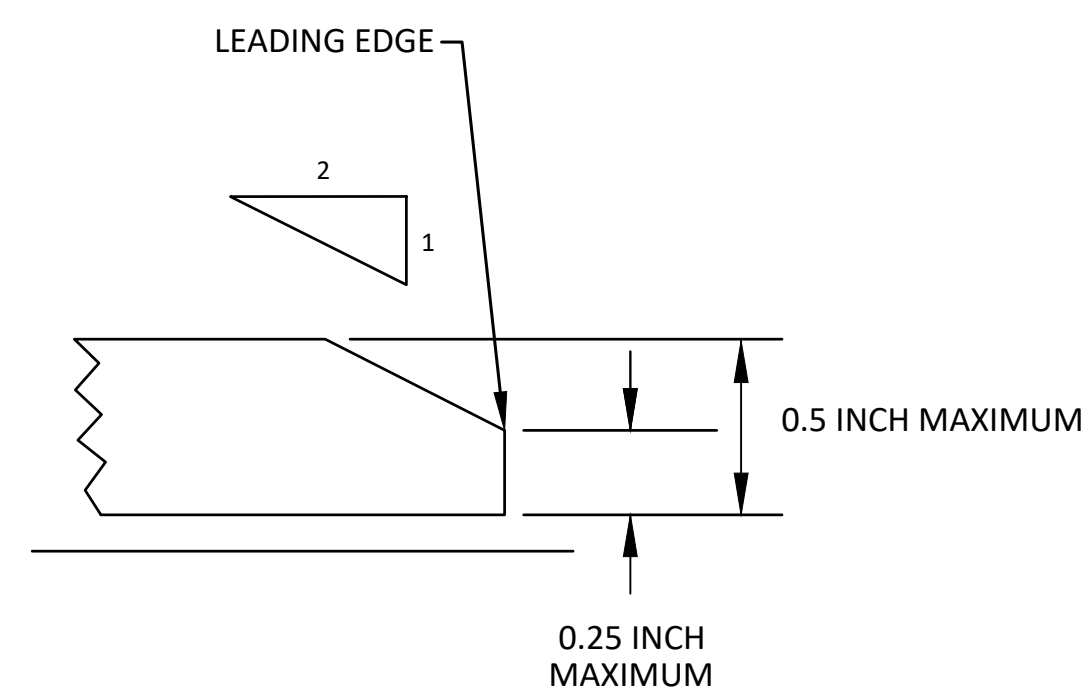
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TAPR DETAILS - ALTERNATE PEDESTRIAN ROUTE (APR) BYPASS

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DRAWING No. 2022-28-42

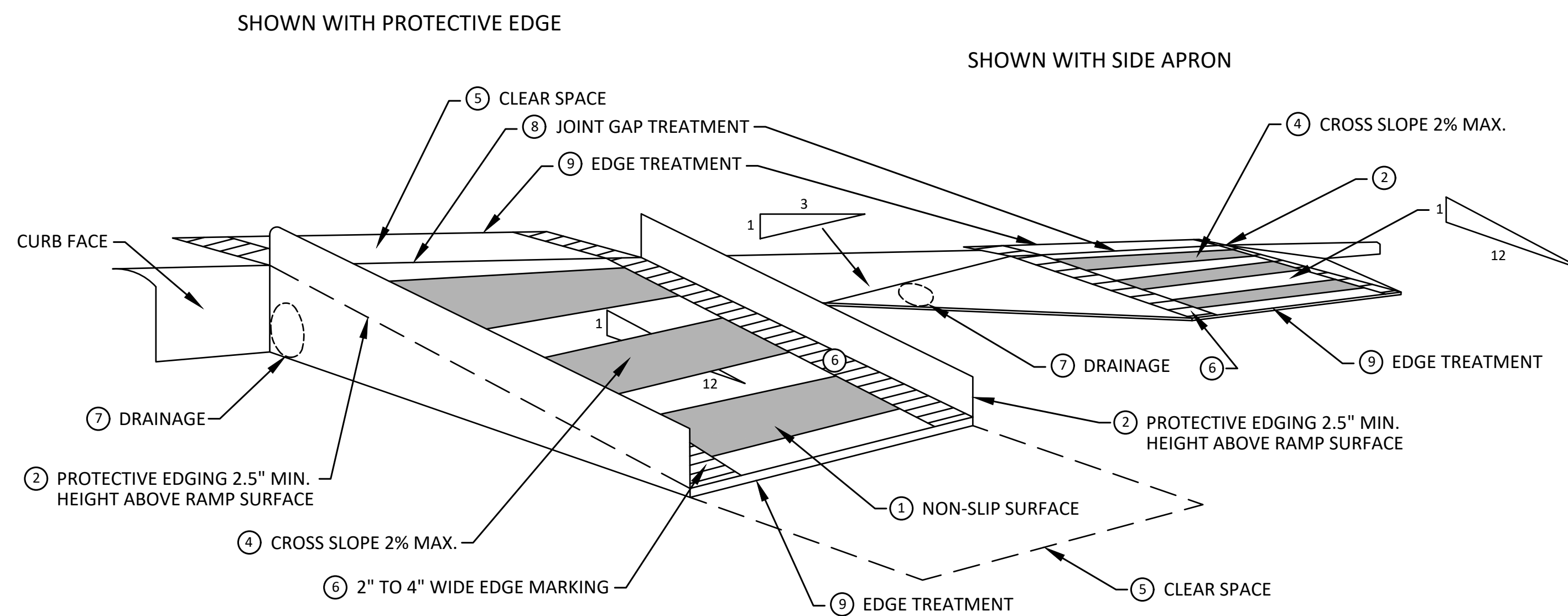
P:\0000_0100\0028220090_Local_Streets_WM_&_Resurf\Drawings\Civil\Details\TAPR_Details.dwg Dwg Created: 16-Dec-22 - _a2_standard.bw.stb - Plot Date: 23-Jan-23



**TEMPORARY CURB RAMP
PARALLEL TO CURB**



EDGE TREATMENT



**TEMPORARY CURB RAMP
PERPENDICULAR TO CURB**

SPECIFIC NOTES

- 1 CURB RAMP 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 RAMP 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 RAMP 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.



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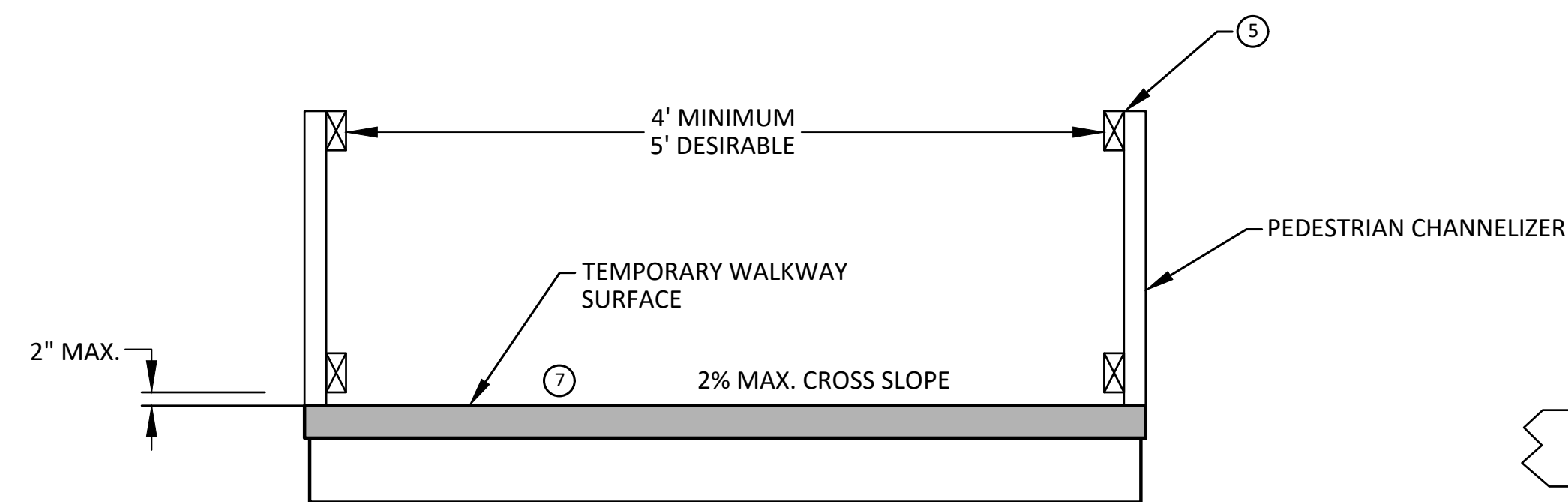
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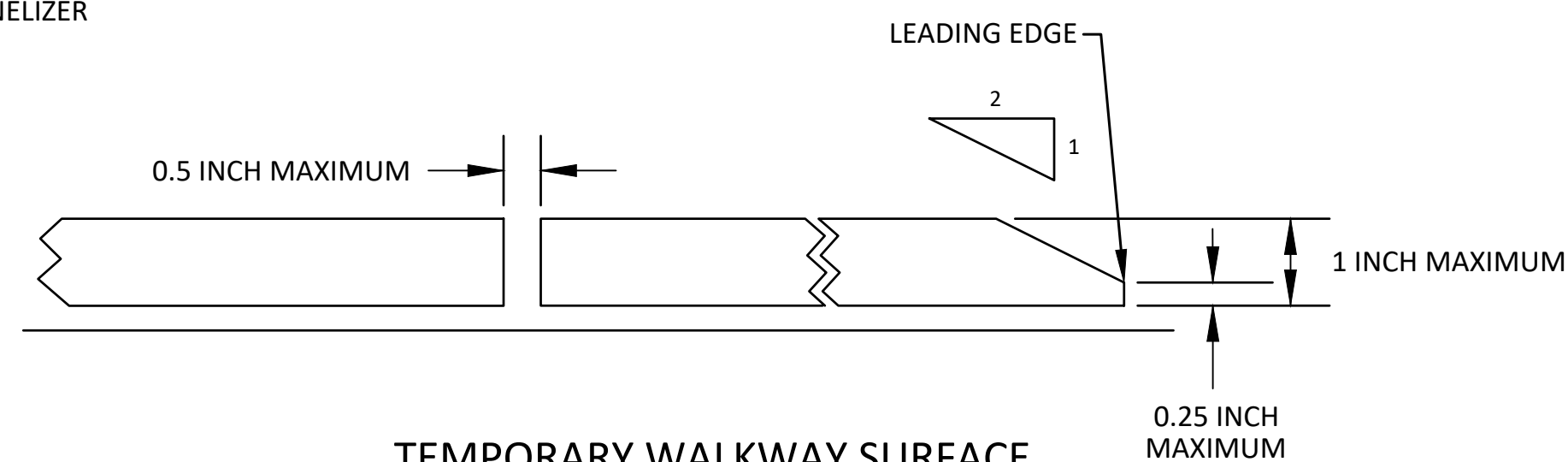
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TAPR DETAILS - TPAR RAMPS

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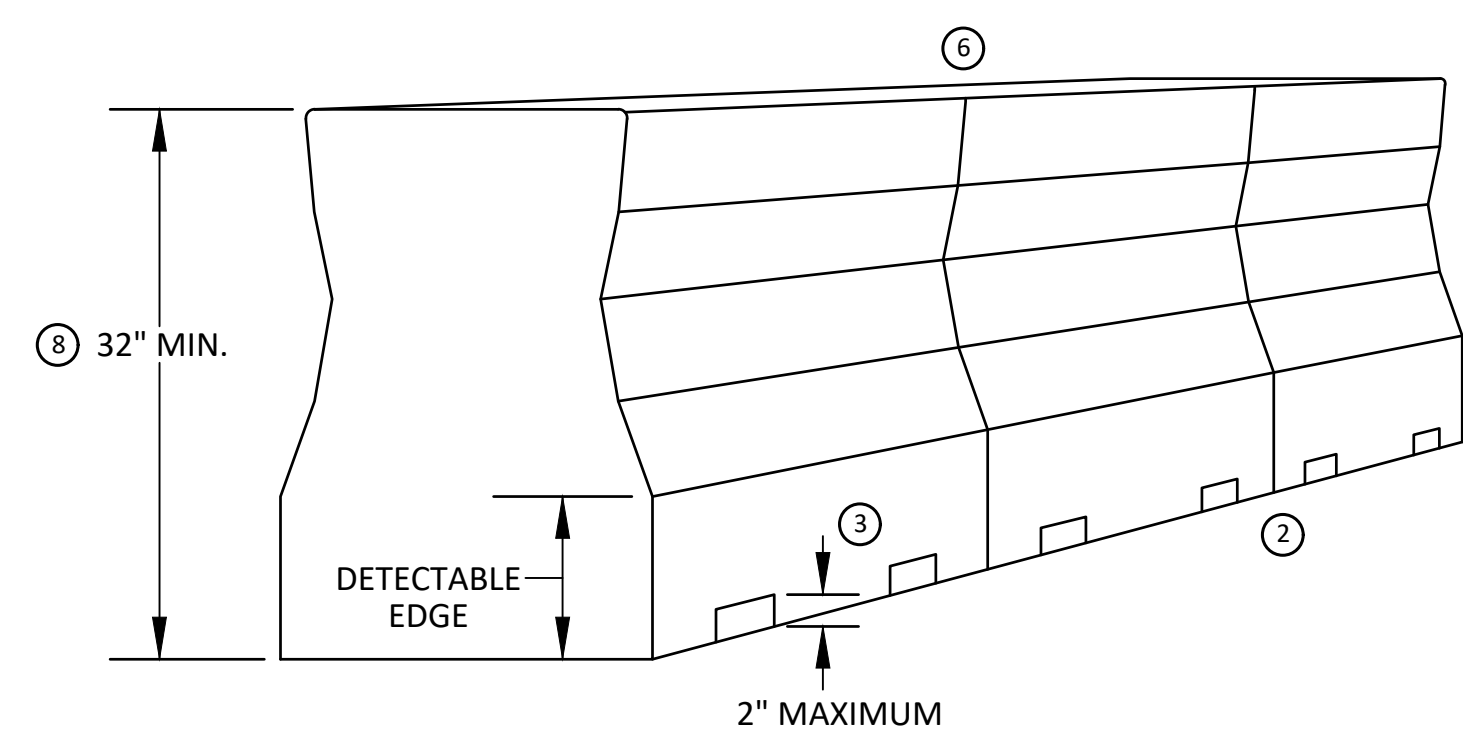
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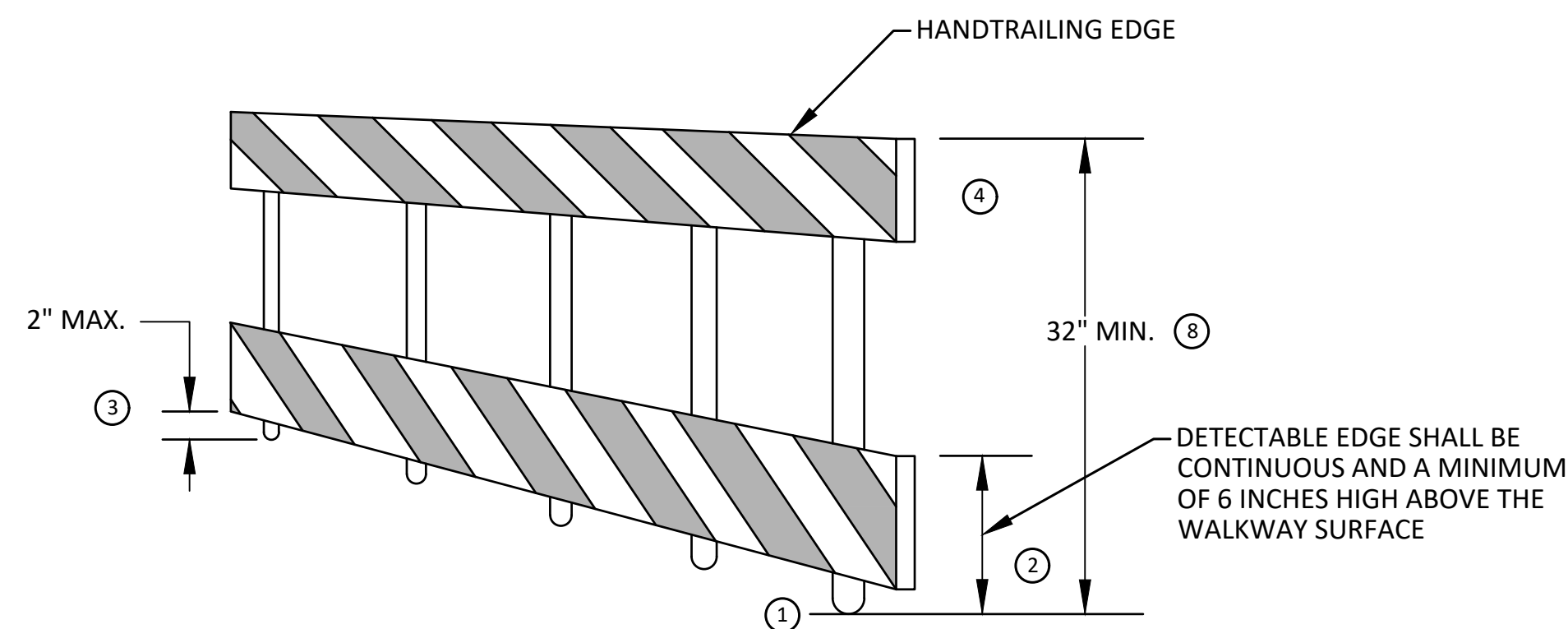
TEMPORARY PEDESTRIAN ACCESS



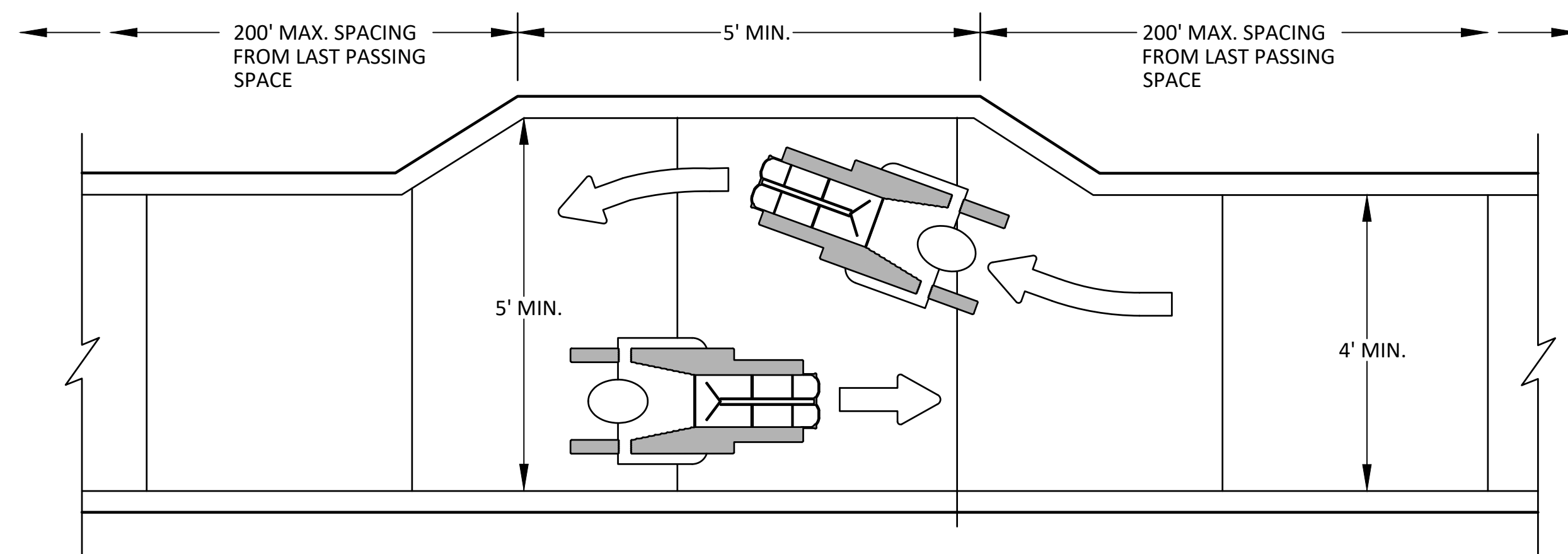
TEMPORARY WALKWAY SURFACE



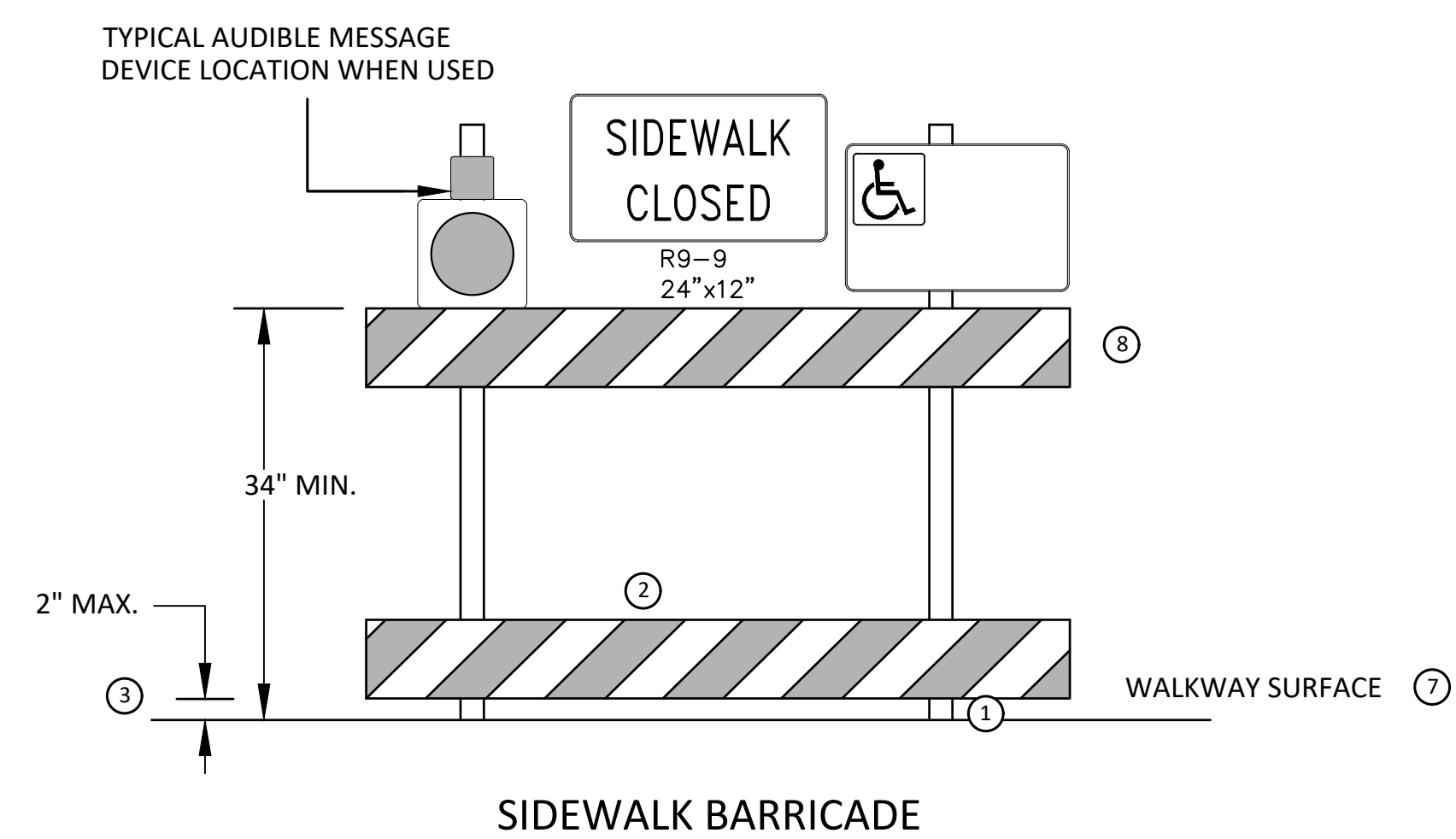
PEDESTRIAN CHANNELIZER USING A BARRIER
(MINIMUM REQUIREMENTS)



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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TAPR DETAILS - TPAR WALKWAY DEVICES

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