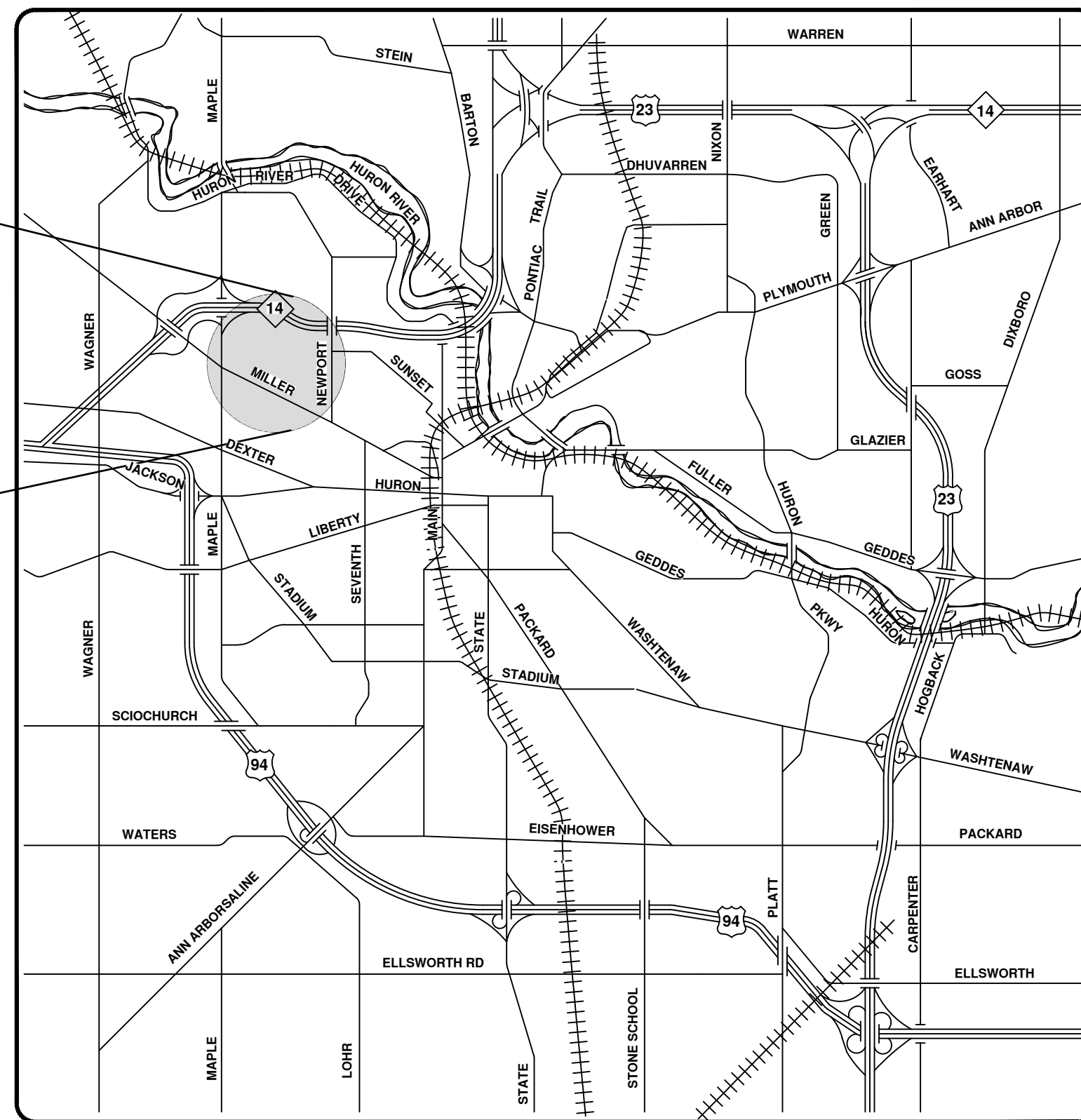
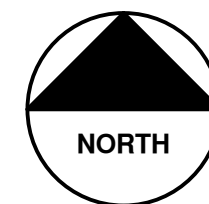
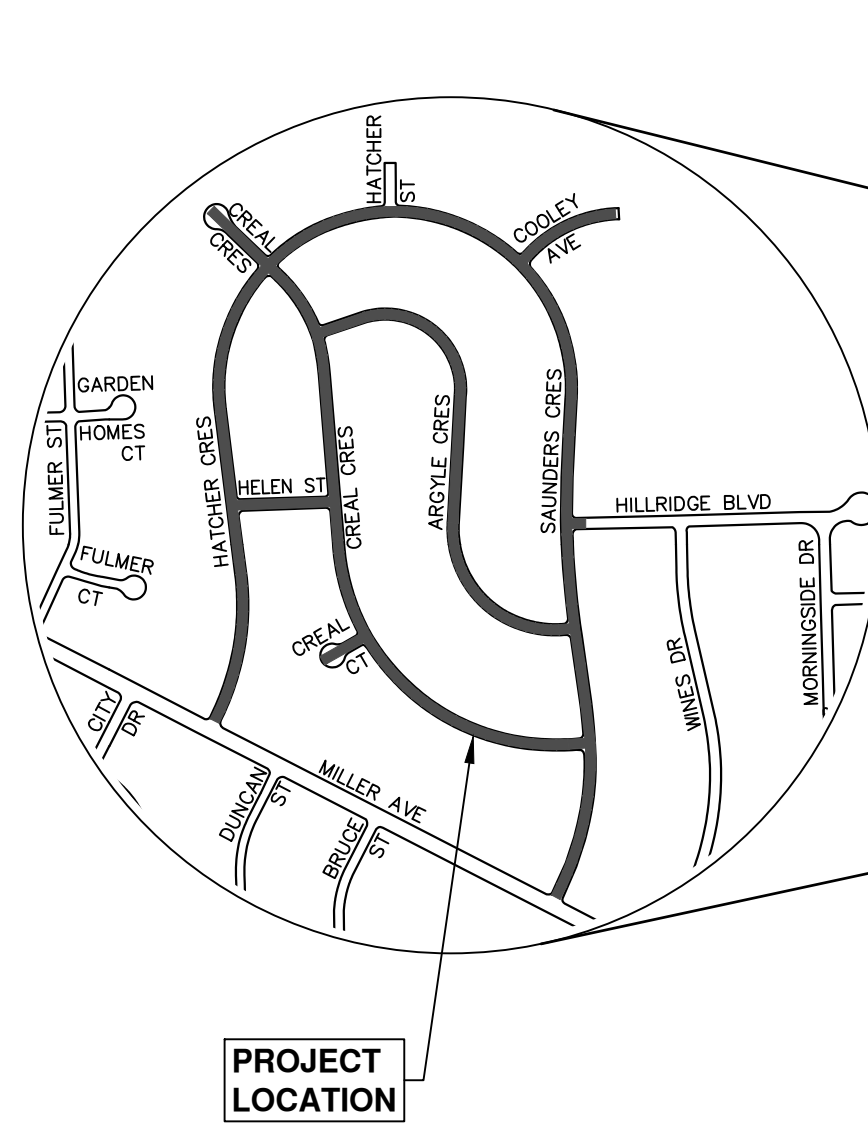




CITY OF ANN ARBOR ENGINEERING

CRESCENTS WATER MAIN REPLACEMENT PROJECT

RFP No. 23-61, FILE No. 2022012



VICINITY MAP

NOTES

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

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

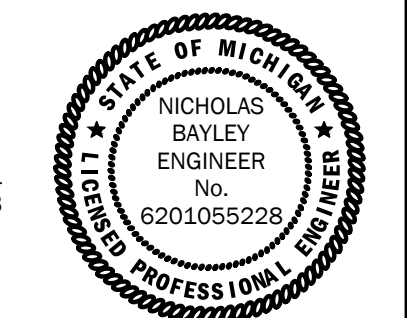
THE CONSTRUCTION COVERED BY THESE PLANS SHALL CONFORM TO THE 1994 EDITION OF THE CITY OF ANN ARBOR PUBLIC SERVICES DEPARTMENT STANDARD SPECIFICATIONS, ITS DETAILS, WHICH ARE INCLUDED BY REFERENCE, AND THIS PROJECT'S CONTRACT DOCUMENTS. THE OMISSION OF ANY CURRENT STANDARD DETAIL DOES NOT RELIEVE THE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

Sheet List Table	
Sheet Number	Sheet Title
1	Cover Sheet
2	Standard Notes
3	Legend
4	Alternate Pedestrian Route (APR) Detour
5	Alternate Pedestrian Route (APR) Bypass
6	TPAR Ramps
7	TPAR Walkway Devices
8	Water Main Details
9	Storm Sewer and Trench Details
10	Misc. Details
Typical Sections	
11	Argyle Crescent
12	Creal Crescent
13	Creal Crescent & Helen Street
14	Traffic Control
Creal Crescent Removals	
15	Sta. 30+00 - Sta. 39+00
16	Sta. 39+00 - Sta. 48+00
17	Sta. 48+00 - Sta. 52+79
18	Helen Street & Creal Court Removals
Argyle Crescent Removals	
19	Sta. 20+00 - Sta. 29+00
20	Sta. 29+00 - Sta. 35+60
Hatcher Crescent Removals	
21	Sta. 40+00 - Sta. 50+00
22	Sta. 50+00 - Sta. 58+50
Saunders Crescent Removals	
23	Sta. 58+50 - Sta. 65+50
24	Sta. 65+50 - Sta. 72+50
25	Sta. 72+50 - Sta. 79+50
26	Sta. 79+50 - Sta. 83+93
Cooley Ave Removals	
27	Sta. 70+50 - Sta. 76+00
Creal Crescent North Water Main	
28	Sta. 0+00 - Sta. 2+32
Creal Crescent Water Main	
29	Sta. 0+00 - Sta. 4+00
30	Sta. 4+00 - Sta. 8+50
31	Sta. 8+50 - Sta. 13+00
32	Sta. 13+00 - Sta. 17+50
33	Sta. 17+50 - Sta. 20+72
Argyle Crescent Water Main	
34	Sta. 0+00 - Sta. 4+00
35	Sta. 4+00 - Sta. 8+50
36	Sta. 8+50 - Sta. 13+00
37	Sta. 13+00 - Sta. 15+98
Helen Street Water Main	
38	Sta. 0+00 - Sta. 3+29
Creal Court Water Main	
39	Sta. 0+00 - Sta. 1+46

Cooley Ave Water Main	
40	Sta. 70+00 - Sta. 74+00
41	Sta. 74+00 - Sta. 75+31
Hatcher Saunders Crescent Water Main	
42	Sta. 20+18 - Sta. 24+50
43	Sta. 24+50 - Sta. 28+00
44	Sta. 28+00 - Sta. 31+50
45	Sta. 31+50 - Sta. 33+50
46	Sta. 33+50 - Sta. 38+50
47	Sta. 38+50 - Sta. 42+00
48	Sta. 42+00 - Sta. 45+50
49	Sta. 45+50 - Sta. 49+00
50	Sta. 49+00 - Sta. 53+00
51	Sta. 53+00 - Sta. 56+50
52	Sta. 56+50 - Sta. 60+00
53	Sta. 60+00 - Sta. 63+88
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55	R115, R116, R117, R120, R114, R113
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59	R150 R151 R149 R126
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Creal Crescent Road Plans	
64	Sta. 30+00 - Sta. 39+00
65	Sta. 39+00 - Sta. 48+00
66	Sta. 48+00 - Sta. 52+79
Helen Street & Creal Court Road Plans	
Argyle Crescent Road Plans	
68	Sta. 20+00 - Sta. 29+00
69	Sta. 29+00 - Sta. 35+60
Hatcher Crescent Road Plans	
70	Sta. 40+00 - Sta. 50+00
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Saunders Crescent Road Plans	
72	Sta. 58+50 - Sta. 65+50
73	Sta. 65+50 - Sta. 72+50
74	Sta. 72+50 - Sta. 79+50
75	Sta. 79+50 - Sta. 83+93
Cooley Ave Road Plans	
76	Sta. 70+00 - Sta. 76+00
Intersection Grade Sheets	
77	Helen St - Creal Crescent & Saunders Crescent - Hillridge Blvd

PREPARED UNDER THE SUPERVISION OF

Nicholas Bayley
NICHOLAS BAYLEY, P.E. - MI LICENSE No. 6201055228
PROJECT ENGINEER



11/14/2023
DATE



NO	DATE	DESCRIPTION	BY/CC/KB	REV.
	11-14-2023		DF/CC/KB	DRAWN
				CHECKED
				NO

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



CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
PROJECT DESCRIPTION AND LIMITS

SCALE
DRAWING No.
2022012-1

SHEET No.
1 OF 77

R:\2022012 Crescents WM Replacement\Plan Production\2022012Cov.dwg - Plot Date: 11/14/2023 7:17:26 AM - _a2 standard bw.stb -

© CRESCENTS WATER MAIN REPLACEMENT PROJECT; BID No. 23-61; 2022012

R:\2022012 Crescents WM Replacement\Plan Production\2022012Cov.dwg - _a2 standard bw.stb - Plot Date: 11/14/2023 7:17:28 AM

CONSTRUCTION NOTES:

- Driveways and entrances to buildings, real property, and the like shall not be blocked except for short durations and only when approved by the Engineer. Vehicular and pedestrian access shall be maintained at all times. It shall be the Contractor's responsibility to coordinate all necessary driveway closures with the property owner(s) and resident(s) in the areas of construction.
- The location and depth of all existing utilities and service leads are to be field verified by the Contractor prior to construction.
- Location and depth of utilities as depicted on the plans is approximate and shown according to the best information available. It is the Contractor's responsibility to excavate ahead and adjust depth of conflict utilities accordingly. Any damage to utilities is the Contractor's responsibility to avoid and/or repair as necessary.
- The Contractor is to take special care to protect the existing water main and be responsible for maintaining consistent water service.
- During non-working hours no trench shall remain open; any open trench shall be properly secured with protective fencing. This work shall be included in the item of work "General Conditions".
- Trenches for new water services shall be excavated to MIOSHA and City of Ann Arbor Public Works requirements.
- City of Ann Arbor Public Works will install the corporation and copper service lead(s) to transfer the connection(s). If an existing water service is found to be failing or is not copper, the lead will be replaced to the curb box by Public Works.
- For the installation of corporations, or any other related activities, the Contractor shall not receive additional compensation for delays due to the scheduling of or coordination with the City of Ann Arbor Public Works.
- The Contractor shall backfill trenches in accordance with Trench Detail specified on plans. This work shall be included in the item of work "Excavate and Backfill for Water Service Tap and Lead". All concrete removals and replacements required for this work will be paid for separately.
- All ductile iron pipe and fittings shall be polyethylene wrapped per ANSI/AWWA C105/A21.5.
- Cor-blu bolts to be used at all mechanical water main joints at hydrants and Megalug fittings
- The Contractor shall construct, flush, and bacteriologically test the water main per Detailed Specification "Water Main Installation and Testing" and as approved by the Engineer. All chlorinated water shall be discharged directly into an approved sanitary sewer. The Contractor shall supply all necessary hoses, fittings and the like to accomplish this work.
- Water main fittings, other than those specifically listed as separate pay items, which are required to complete the work, such as blow-off assemblies, concrete thrust blocks, solid sleeves and mechanical plugs, shall not be paid for separately, but shall be included in the pipe pay items.
- "No Parking" signs shall be installed by the Contractor at locations as approved or directed by the Engineer. All signs shall be installed in accordance with the detailed specifications.
- Postal delivery and refuse pickup service shall be maintained at all times by the Contractor.
- All fittings, hydrants, valves and castings removed during construction are the property of the City of Ann Arbor. The Contractor within 48 hours shall deliver to City of Ann Arbor Public Works Facility at the W.R. Wheeler Service Center located at 4251 Stone School Road.
- Where street curbs are undermined due to construction activities, they shall be removed and replaced as directed by the Engineer.
- The Contractor shall be responsible for the continuous maintenance of the temporary road surface and soil erosion control measures within the construction area until the full completion of the project. This work shall be included in the item of work "General Conditions".
- All curb, sidewalk, driveway approach removals shall be approved by Engineer before the work is done.
- Sawed sewer pipe connections shall be coupled with a Fernco flexible coupling and a stainless steel shear ring.
- The location of material stock piles and on-site staging areas to be approved by the Engineer.
- For mainline paving, the width of the mat for each pass of the paver shall be not less than 10.5' or greater than 15', as directed by the Engineer. The Engineer will direct the layout of the longitudinal joints during construction.
- All structures shall receive new castings as directed by the Engineer, as specified on the standard casting schedule. The existing castings are the property of the City of Ann Arbor. The Contractor shall deliver to City of Ann Arbor Public Works Facility at the W.R. Wheeler Service Center located at 4251 Stone School Road.
- Payment for drainage structure sumps, where specified, shall be included in the payment for the various drainage structure sizes and or types.
- Where sewer pipes of different sizes or materials are joined, Fernco flexible couplings with stainless steel shear rings shall be used. The Contractor's purchase price for these devices, including shipping, shall be paid as an extra. Prior to payment for this item, the Contractor shall submit receipts for the Engineer's review and approval. All other costs associated with the installation of these devices shall be included in the payment for the sewer.
- Where sewer and water main are to be removed & replaced or added, all pipe shall be installed using Trench Detail detailed in the specifications or shown on Plans. Backfill for sewer and water construction shall be MDOT Granular Material, Class II, Modified.
- Existing street name, guide, and regulatory signs, and mailboxes which conflict with the proposed construction shall be removed prior to construction, stored in a manner which will prevent damage, and re-set in locations as directed by the Engineer. This work will not be paid for separately, but shall be included in "Machine Grading, Modified"
- In areas where edge drain cannot be installed in accordance with Typical Edge Drain Trench SD-TD-4, 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.

SOIL EROSION AND SEDIMENTATION CONTROL NOTES:

- NOTIFY THE CITY OF ANN ARBOR SOIL EROSION CONTROL OFFICE 48 HOURS PRIOR TO BEGINNING WORK ON THE PROJECT. PHONE: 734-794-6265.
- THE CONTRACTOR SHALL IMPLEMENT AND MAINTAIN THE SOIL EROSION CONTROL MEASURES AS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER AT ALL TIMES DURING CONSTRUCTION. ANY MODIFICATIONS OR ADDITIONS TO THE SOIL EROSION CONTROL MEASURES DUE TO CONSTRUCTION OR CHANGED CONDITIONS SHALL BE AS DIRECTED AND APPROVED BY THE ENGINEER.
 - ALL SOIL EROSION AND SEDIMENTATION CONTROL WORK SHALL CONFORM TO THE PERMIT REQUIREMENTS OF THE CITY OF ANN ARBOR, CHAPTER 55 ANN ARBOR UNIFIED DEVELOPMENT CODE, CITY OF ANN ARBOR STANDARDS DIVISION VII, THE LAWS OF THE STATE OF MICHIGAN, AND THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.
 - DAILY, OR AFTER ANY STORM EVENT, INSPECTIONS OF EROSION CONTROL MEASURES SHALL BE MADE BY THE CONTRACTOR. PERIODIC INSPECTIONS MAY BE MADE BY THE ENGINEER TO DETERMINE THE EFFECTIVENESS OF EROSION AND SEDIMENTATION CONTROL MEASURES. ANY NECESSARY CORRECTIONS SHALL BE MADE WITHOUT DELAY, AND WITHOUT ADDITIONAL COST TO THE CITY OF ANN ARBOR.
 - EROSION AND SEDIMENTATION FROM WORK ON THE SITE SHALL BE CONTAINED ON THE SITE AND NOT BE ALLOWED TO COLLECT ON ANY OFF-SITE AREAS, ROADWAYS OR WATERWAYS.
 - ALL MUD/SOIL TRACKED ONTO ROADWAYS FROM THE SITE DUE TO CONSTRUCTION, SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR. IF SO ORDERED, THE CONTRACTOR SHALL PROVIDE AND OPERATE A VACUUM-TYPE STREET SWEEPER, AT NO ADDITIONAL COST TO THE CITY OF ANN ARBOR.
 - RESTORATION OF ALL DISTURBED AREAS, INCLUDING PLACEMENT OF TOPSOIL, SEED, FERTILIZER AND MULCH AND/OR SOD SHALL BE PERFORMED WITHIN FIVE (5) DAYS OF THE COMPLETION OF FINAL GRADE.
 - CONSTRUCTION OPERATIONS SHALL BE SCHEDULED AND PERFORMED SO THAT PREVENTATIVE SOIL EROSION CONTROL MEASURES ARE IN PLACE PRIOR TO EXCAVATION IN CRITICAL AREAS AND TEMPORARY STABILIZATION MEASURES ARE IN PLACE IMMEDIATELY FOLLOWING BACKFILLING OPERATIONS.
 - SPECIAL PRECAUTIONS WILL BE TAKEN IN THE USE OF CONSTRUCTION EQUIPMENT TO PREVENT SITUATIONS THAT PROMOTE EROSION.
 - PROPER DUST CONTROL SHALL BE MAINTAINED DURING CONSTRUCTION BY USE OF WATER TRUCKS AND/OR DUST PALLIATIVE AS REQUIRED.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL TEMPORARY SOIL EROSION CONTROL MEASURES AND REMOVAL OF SOME MEASURES UPON AUTHORIZED COMPLETION OF THE PROJECT. FINAL COMPLETION OF PROJECT WILL NOT BE AUTHORIZED UNTIL ALL SITE WORK AND UTILITY CONSTRUCTION IS COMPLETE AND ALL SOILS ARE STABILIZED.
 - THE CONTRACTOR SHALL NOT GRADE INTO ADJACENT PROPERTIES. SILT AND PROTECTIVE FENCE SHALL BE INSTALLED AND MAINTAINED TO PREVENT GRADING, EROSION AND SEDIMENTATION INTO THE ADJACENT PROPERTIES.
 - TREE PROTECTION FENCING MUST REMAIN INTACT UNTIL RESTORATION OF THE SITE IS COMPLETE.
- SEQUENCE OF EROSION CONTROL MEASURES:**
- THE CONTRACTOR IS TO SUBMIT TO THE ENGINEER, A SEQUENCE OF CONSTRUCTION WITH RESPECT TO THE SOIL EROSION CONTROL MEASURES FOR REVIEW, COMMENT AND APPROVAL. THIS SCHEDULE IS TO INCLUDE INSPECTION AND REPAIR OF ALL TEMPORARY EROSION CONTROL MEASURES DAILY AND WITHIN 24 HOURS OF A STORM EVENT.
- SAMPLE SOIL EROSION AND SEDIMENTATION CONTROL INSTALLATION MINIMUM REQUIREMENTS:**
- INSTALL SILT FENCE, TREE PROTECTION FENCING, MUD MATS, INLET FILTERS ON EXISTING DRAINAGE FEATURES, AND ALL OTHER TEMPORARY SOIL EROSION CONTROLS, PRIOR TO ANY CLEARING OR EARTH MOVING OPERATION.
 - STRIP AND STOCKPILE TOPSOIL. STABILIZE STOCKPILE AS REQUIRED.
 - INSTALL WATER MAINS, STORM AND SANITARY SEWERS, AND OTHER ENCLOSED DRAINAGE FEATURES. NEW INLET FILTERS SHALL BE INSTALLED IMMEDIATELY FOLLOWING INSTALLATION OF NEW DRAINAGE INLETS.
 - PERFORM MACHINE GRADING OPERATIONS AND CONSTRUCT PAVEMENTS (MAINLINE, SIDEWALKS, DRIVES, ETC.).
 - CONTINUALLY MAINTAIN EROSION AND SEDIMENTATION CONTROL MEASURES, AS REQUIRED TO ALLOW DRAINAGE AND SEDIMENT REMOVAL. REMOVE ANY ACCUMULATED SEDIMENT IMMEDIATELY.
 - COMPLETE ALL FINE GRADING.
 - TEMPORARY SEED AND INSTALL EROSION CONTROL BLANKET IN ALL DISTURBED AREAS.
 - REFER TO LANDSCAPE PLANTING PLANS FOR PERMANENT SITE STABILIZATION.
 - CLEAN OUT STORM SEWER SYSTEMS.
 - REMEDY ANY NOTED DEFECTS TO THE SATISFACTION OF THE CITY OF ANN ARBOR'S SOIL EROSION AND SEDIMENTATION CONTROL OFFICIAL.
 - ALL TEMP. SOIL EROSION CONTROL MEASURES MUST BE REMOVED, WITH ENGINEERS APPROVAL, PRIOR TO FINAL INSPECTION
- NOTE: THIS SEQUENCE IS FOR INFORMATION ONLY. IT IS INTENDED TO SHOW THE SEQUENCE OF CONSTRUCTION WITH RESPECT TO THE SOIL EROSION AND SEDIMENTATION CONTROL MEASURES. THE CONTRACTOR IS RESPONSIBLE FOR SUBMITTING THEIR OWN DETAILED CONSTRUCTION SEQUENCE AND SCHEDULE TO THE ENGINEER FOR REVIEW, COMMENT, AND APPROVAL.
- TEMPORARY SEEDING:**
- SEED IN ACCORDANCE WITH PROJECT DRAWINGS AND SPECIFICATIONS.
 - ANY DISTURBED AREA NOT PAVED, SEEDED, MULCHED, SODDED OR BUILT UP 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 = \$25,000

AREA OF PROPOSED DISTURBANCE = 3.0 ACRES

CRESCENTS WATER MAIN REPLACEMENT PROJECT		
BM #	ELEV	DESCRIPTION
1	970.624	SET RR SPIKE IN SW SIDE OF U.P. @ NE CORNER OF MILLER AND HATCHER
2	965.238	SET RR SPIKE IN E SIDE OF L.P. ON W SIDE OF HATCHER BETWEEN HSE NO'S 1431 AND 1435
3	952.886	SET RR SPIKE IN NW SIDE OF L.P. @ SE CORNER OF HATCHER AND HELEN
4	956.148	SET RR SPIKE IN E SIDE OF L.P. ON W SIDE OF HATCHER BETWEEN HSE NO'S 1521 AND 1531
5	958.077	SET RR SPIKE IN NWLY SIDE OF L.P. ON ELY SIDE OF HATCHER BETWEEN HSE NO'S 1610 AND 1620
6	959.301	SET RR SPIKE IN NLY SIDE OF L.P. @ SW CORNER OF HATCHER AND CREAL.
7	959.918	SET RR SPIKE IN WLY SIDE OF L.P. ON ELY SIDE OF CREAL IN FRONT OF HSE NO. 1704.
8	967.427	SET RR SPIKE IN N SIDE OF U.P. ON S SIDE OF HATCHER BETWEEN HSE NO'S 1735 AND 1740.
9	970.074	SET RR SPIKE IN NELY SIDE OF L.P. ON WLY SIDE OF SANDERS AT COOLEY.
10	968.966	SET RR SPIKE IN SE SIDE OF L.P. ON N SIDE OF COOLEY AT HSE NO. 1800.
11	971.874	TOP OF SLY ANCHOR BOLT FOR L.P. @ WLY PARKING LOT CORNER AT WINES SCHOOL.
12	966.889	SET RR SPIKE IN WLY SIDE OF L.P. ON E. SIDE OF SAUNDERS BETWEEN HSE NO'S 1614 AND 1610.
13	965.074	SET RR SPIKE IN WLY SIDE OF L.P. ON ELY SIDE OF SAUNDERS BETWEEN HSE NO'S 1524 AND 1520
14	967.470	SET RR SPIKE IN SWLY SIDE OF L.P. AT NE CORNER OF SAUNDERS AND HILLRIDGE
15	971.877	SET RR SPIKE IN W. SIDE OF L.P. ON E. SIDE OF SAUNDERS AT ARGYLE
16	966.666	SET RR SPIKE IN NELY SIDE OF L.P. @ SW CORNER OF SAUNDERS AND CREAL
17	962.098	SET RR SPIKE IN WLY SIDE OF U.P. ON ELY SIDE OF SAUNDERS BETWEEN HSE NO'S 1124 AND 1120.
18	948.288	SET RR SPIKE IN N. SIDE OF U.P. ON S. SIDE OF MILLER BETWEEN HSE NO'S 1799 AND 1801.
19	971.590	SET RR SPIKE IN NELY SIDE OF L.P. ON SLY SIDE OF CREAL BETWEEN HSE NO'S 1215 AND 1221.
20	970.644	SET RR SPIKE IN NE SIDE OF L.P. AT SW CORNER OF CREAL AND CREAL CT.
21	962.055	SET RR SPIKE IN ELY SIDE OF L.P. ON WLY SIDE OF CREAL BETWEEN HSE NO'S 1415 AND 1421
22	954.233	SET RR SPIKE IN NELY SIDE OF L.P. AT SW CORNER OF CREAL AND HELEN
23	960.718	SET RR SPIKE IN E SIDE OF L.P. ON W. SIDE OF CREAL BETWEEN HSE NO'S 1515 AND 1521
24	962.289	SET RR SPIKE IN ELY SIDE OF L.P. ON WLY SIDE OF CREAL AND ARGYLE
25	966.050	SET RR SPIKE IN SLY SIDE OF L.P. ON NLY SIDE OF ARGYLE BETWEEN HSE NO'S 1634 AND 1630.
26	967.873	SET RR SPIKE IN WLY SIDE OF L.P. ON ELY SIDE OF ARGYLE BETWEEN HSE NO'S 1604 AND 1600.
27	964.063	SET RR SPIKE IN WLY SIDE OF L.P. ON ELY SIDE OF ARGYLE BETWEEN HSE NO'S 1520 AND 1514.
28	963.505	SET RR SPIKE IN NELY SIDE OF L.P. ON WLY SIDE OF ARGYLE BETWEEN HSE NO'S 1445 AND 1451.
29	971.385	SET BOAT SPIKE IN NLY SIDE OF L.P. ON SWLY SIDE OF ARGYLE BETWEEN HSE NO'S 1421 AND 1425.

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

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

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

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

CONTACT INFORMATION

PUBLIC UTILITIES	OWNER	CONTACT
WATER	CITY OF ANN ARBOR PUBLIC WORKS W.R. WHEELER SERVICE CENTER 4251 STONE SCHOOL ROAD ANN ARBOR, MI 48108	(734) 794-6350
SANITARY		
STORM		
FORESTRY		
SIGNS SIGNALS STREET LIGHTS	MARK MORENO	(734) 794-6361
FIBER OPTIC	CITY OF ANN ARBOR INFORMATION TECHNOLOGY LARCOM CITY HALL 301 E. HURON STREET ANN ARBOR, MI 48107	(734) 794-6550
PRIVATE UTILITIES	OWNER	CONTACT
GAS	DTE ENERGY 3150 E. MICHIGAN AVE, YPSILANTI TOWNSHIP, MI 48198	ROBERT CZAPIEWSKI (734) 544-7818
ELECTRIC	DTE ENERGY WESTERN WAYNE SERVICE CENTER 8001 HAGGERTY ROAD BELLEVILLE, MI 48111	ANTHONY IGNASIAK (734) 397-4447
CABLE	COMCAST 27800 FRANKLIN ROAD SOUTHFIELD, MI 48034	RON SOUTHERLAND (313) 999-8300
PHONE	AT&T 550 S. MAPLE ROAD ANN ARBOR, MI 48103	STEVEN ALLSHOUSE (734) 996-5381
FIBER OPTIC	MCI 2800 N. GLENFILLE ROAD RICHARDSON, TX 75082	DEAN BOYERS (972) 729-6016
FIBER OPTIC	WINDSTREAM 1295 S LINDEN ROAD, SUITE B FLINT, MI 48532	GREG SERICH (810) 244-3500
STREET LIGHTING	DTE ENERGY 8001 HAGGERTY ROAD BELLEVILLE, MI 48111	LANCE ALLEY (734) 397-4188

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

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

CRESCENTS WATER MAIN REPLACEMENT PROJECT

STANDARD NOTES

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
ANN ARBOR, MI 48107-0647
www.a2gov.org

CITY OF ANN ARBOR
MICHIGAN

SCALE: NTS

DRAWING No. 2022012-2

SHEET No. 2 OF 77

EXISTING LEGEND

EX = EXISTING		WATER MAIN
		WATER MAIN ABANDONED
		STORM SEWER
		STORM SEWER ABANDONED
		SANITARY SEWER
		SANITARY SEWER ABANDONED
		GAS MAIN
		GAS MAIN (DEAD)
		ELECTRICAL OVER HEAD
		ELECTRICAL UNDER GROUND
		ELECTRICAL DUCT BANK
		TELEPHONE OVER HEAD
		TELEPHONE UNDER GROUND
		TELEPHONE DUCT BANK
		CABLE TV OVER HEAD
		CABLE TV UNDER GROUND
		FIBER OPTIC
		FIBER OPTIC DUCT BANK
		BOUNDARY
		BUILDING
		CENTERLINE OF DITCH
		CENTERLINE/CROWN OF ROAD
		CONTOUR MAJOR
		CONTOUR MINOR
		EDGE OF WATER
		FLOODPLAIN
		FENCE
		GRAVEL
		GUARDRAIL
		STONE WALL
		R.O.W.
		TREELINE
		WETLAND
		EDGE OF BRUSH
		HEDGE
		TREE (DECIDUOUS)
		TREE (CONIFEROUS)
		SHRUB (DECIDUOUS)
		STUMP

TREE TO REMAIN & PROTECT (DECIDUOUS)
CRITICAL ROOT ZONE (C.R.Z.) = DIAMETER BREST HEIGHT (INCHES) X 10

TREE TO REMAIN & PROTECT (CONIFEROUS)
CRITICAL ROOT ZONE (C.R.Z.) = DIAMETER BREST HEIGHT (INCHES) X 10

PROPOSED LEGEND

PROP = PROPOSED		HYDRANT (PLAN)
		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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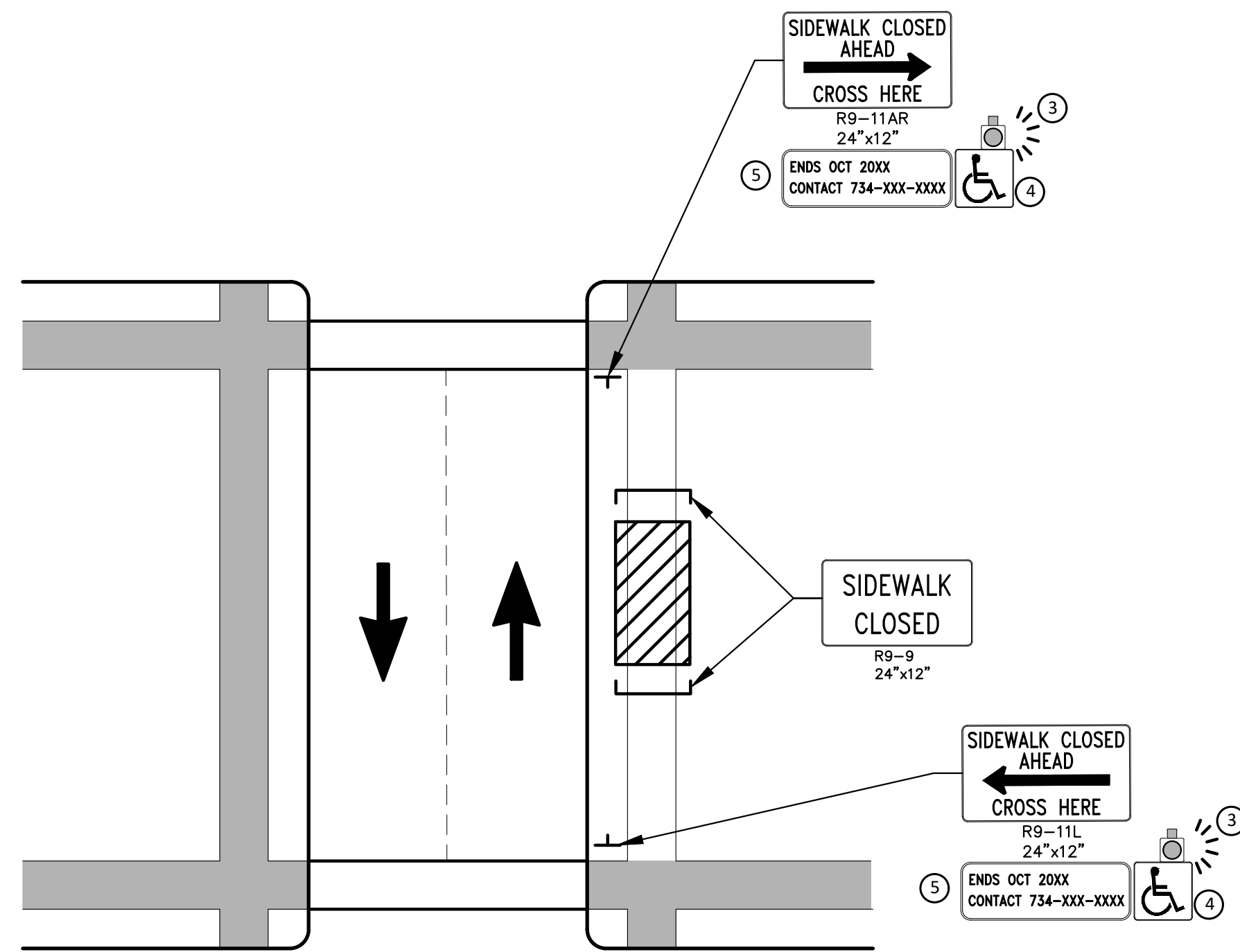
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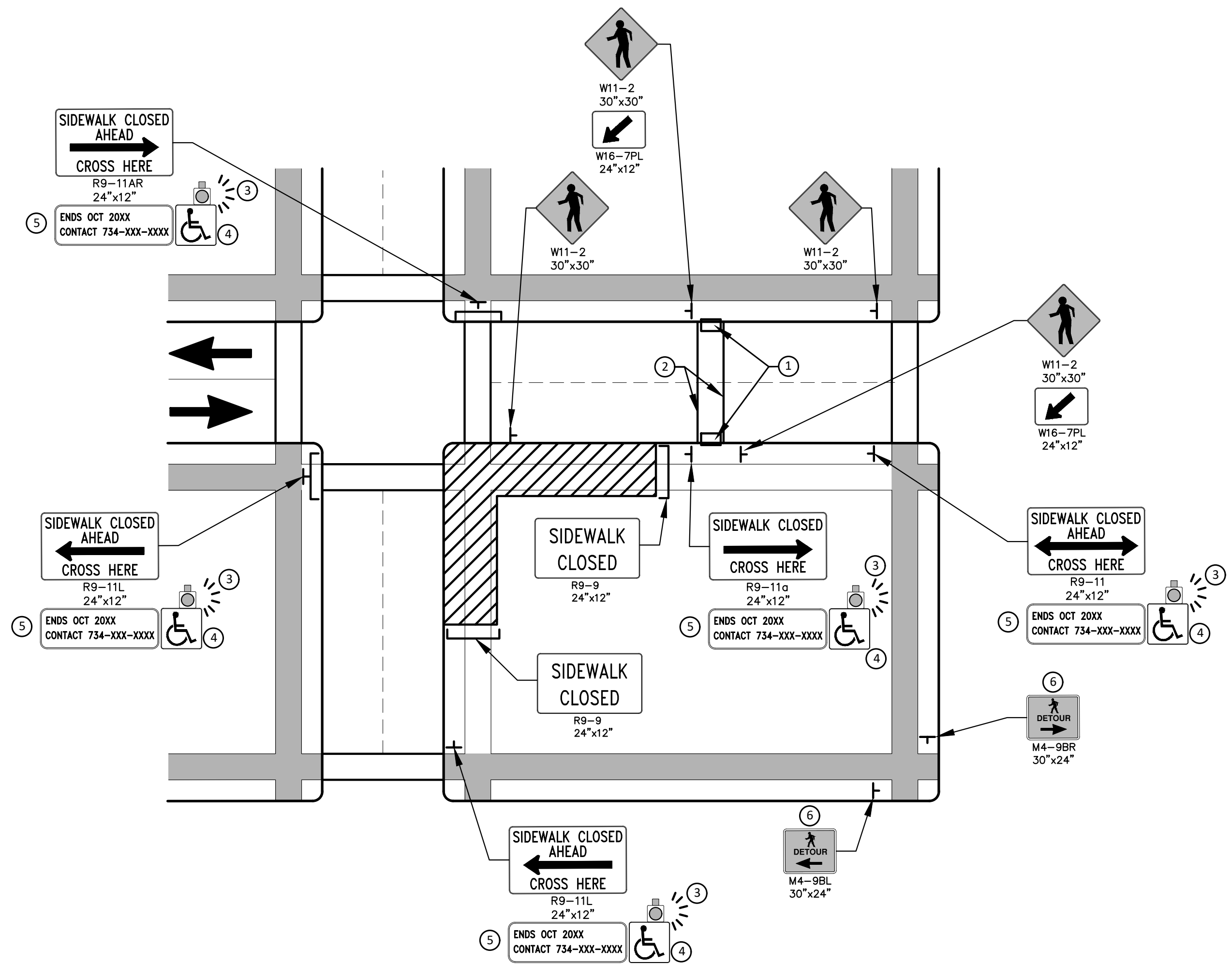
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
CRESCENTS WATER MAIN REPLACEMENT PROJECT
LEGEND

SCALE: NTS
DRAWING No. 2022012-3

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PEDESTRIAN DETOUR USING OPPOSITE SIDE OF STREET



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

GENERAL NOTES

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

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

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

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

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

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

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

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

SPECIFIC NOTES

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

PEDESTRIAN TEMPORARY TRAFFIC CONTROL NOTES

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

LEGEND

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



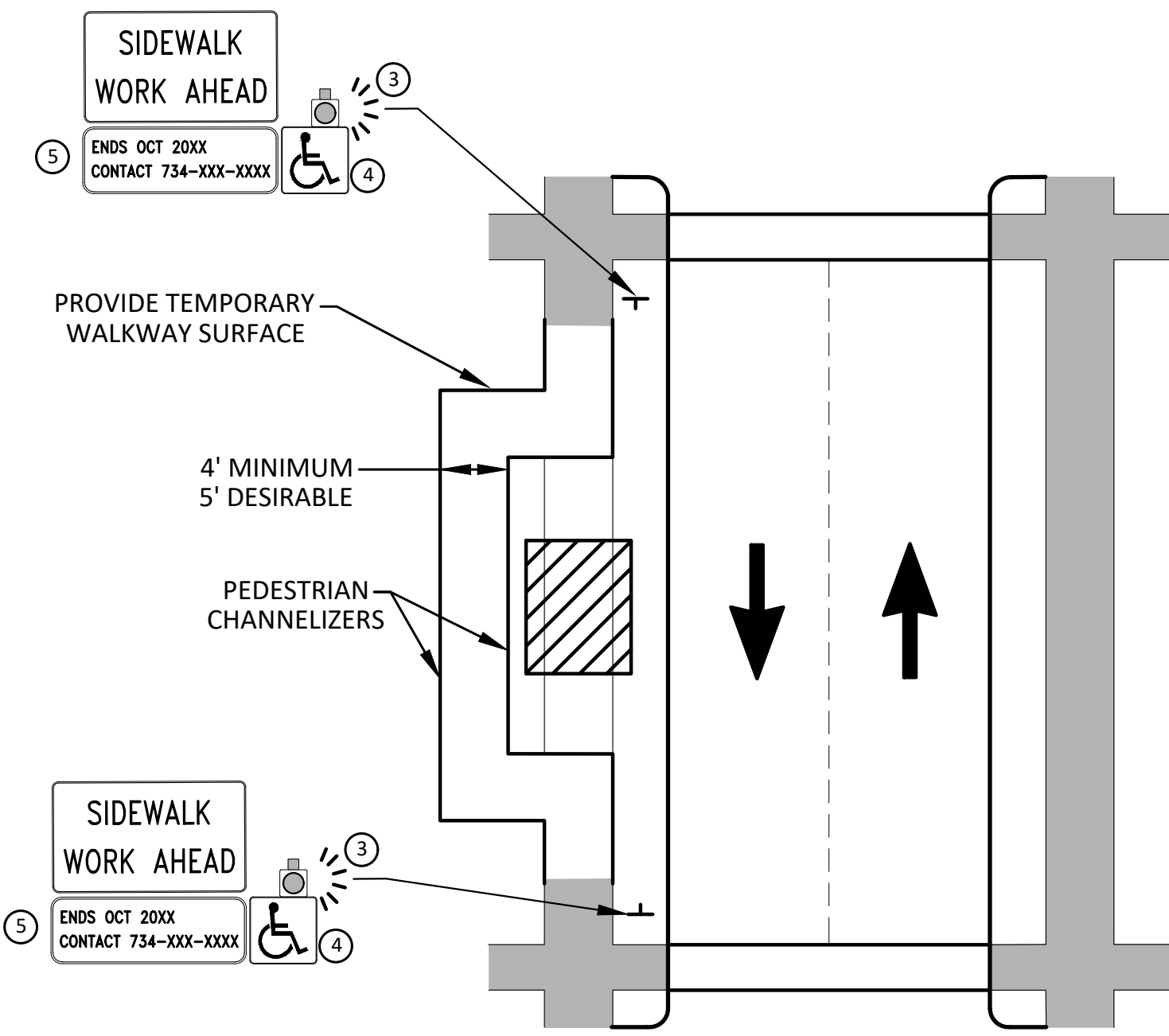
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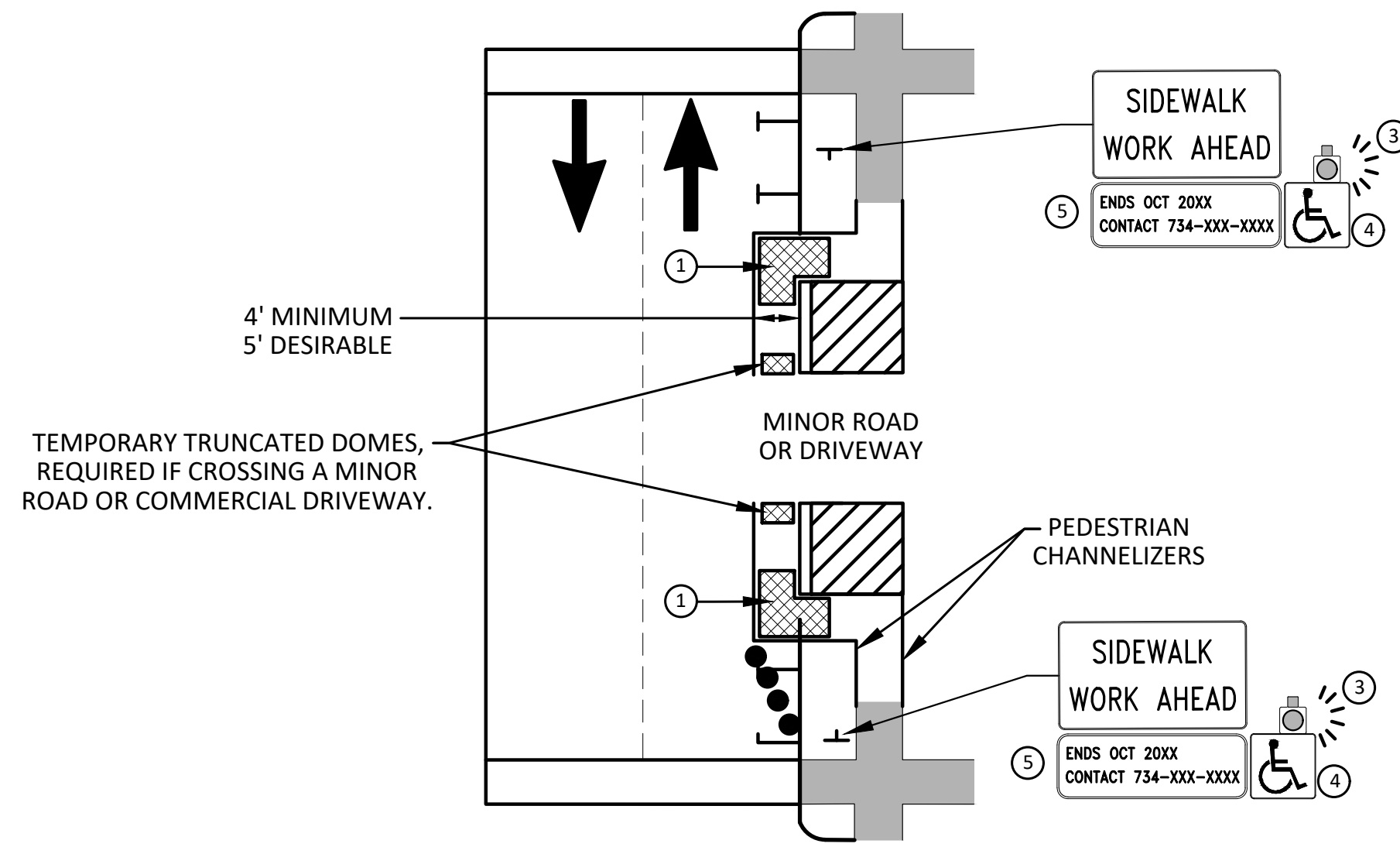
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
CRESCENTS WATER MAIN REPLACEMENT PROJECT
ALTERNATE PEDESTRIAN ROUTE (APR) DETOUR
SCALE: N.T.S.
DRAWING No. 2022012-4
SHEET No. 4 OF 77

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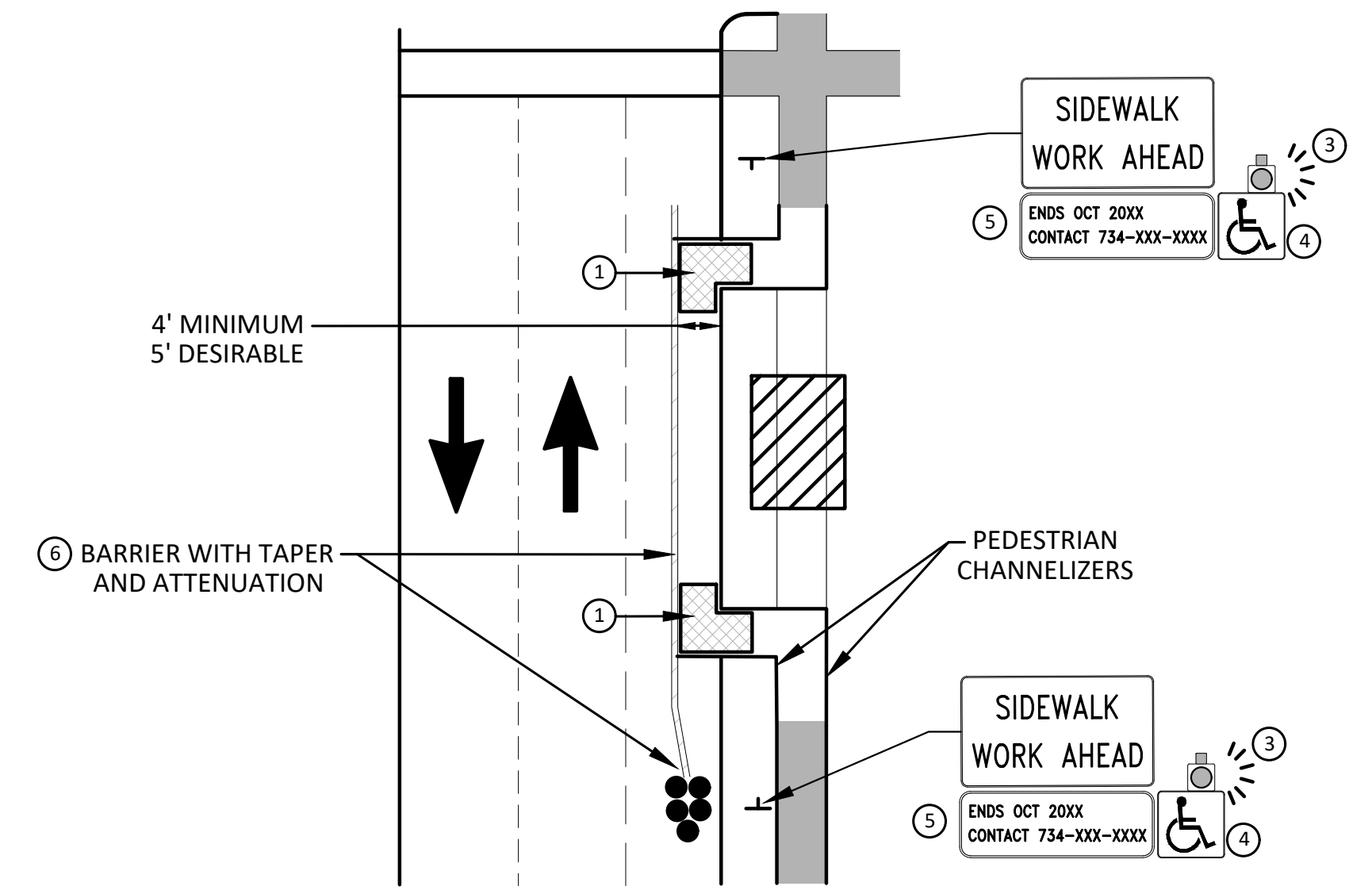


**BYPASS ON ADJACENT AVAILABLE
RIGHT OF WAY**
BYPASS TYPE A

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.

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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 RAMPS 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.

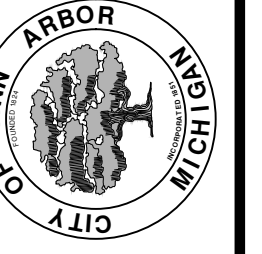
LEGEND

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



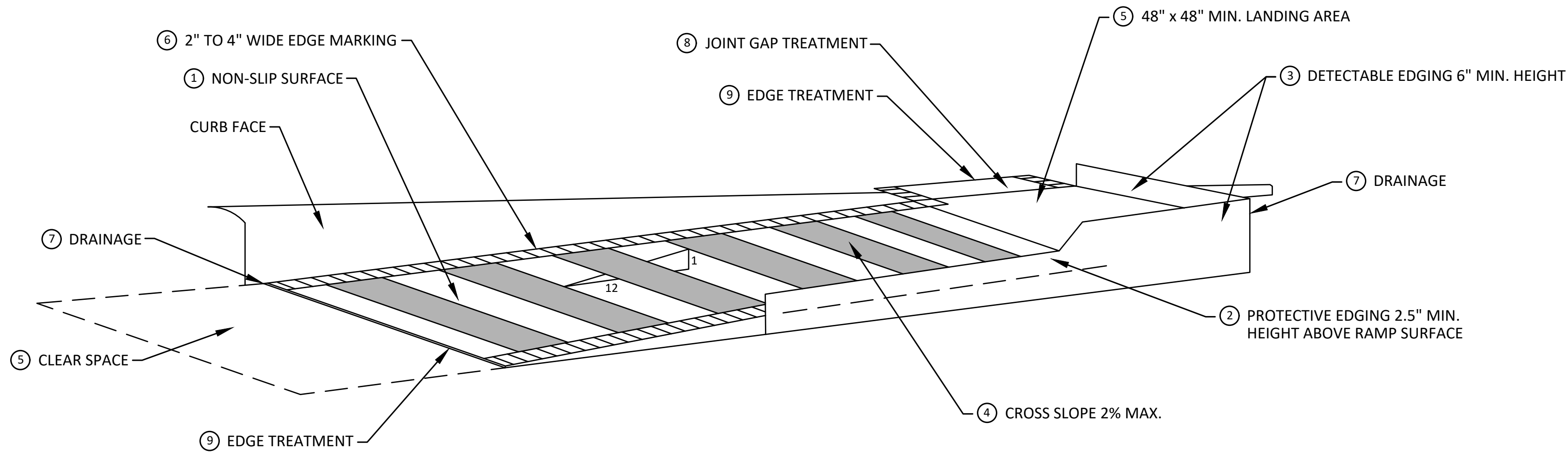
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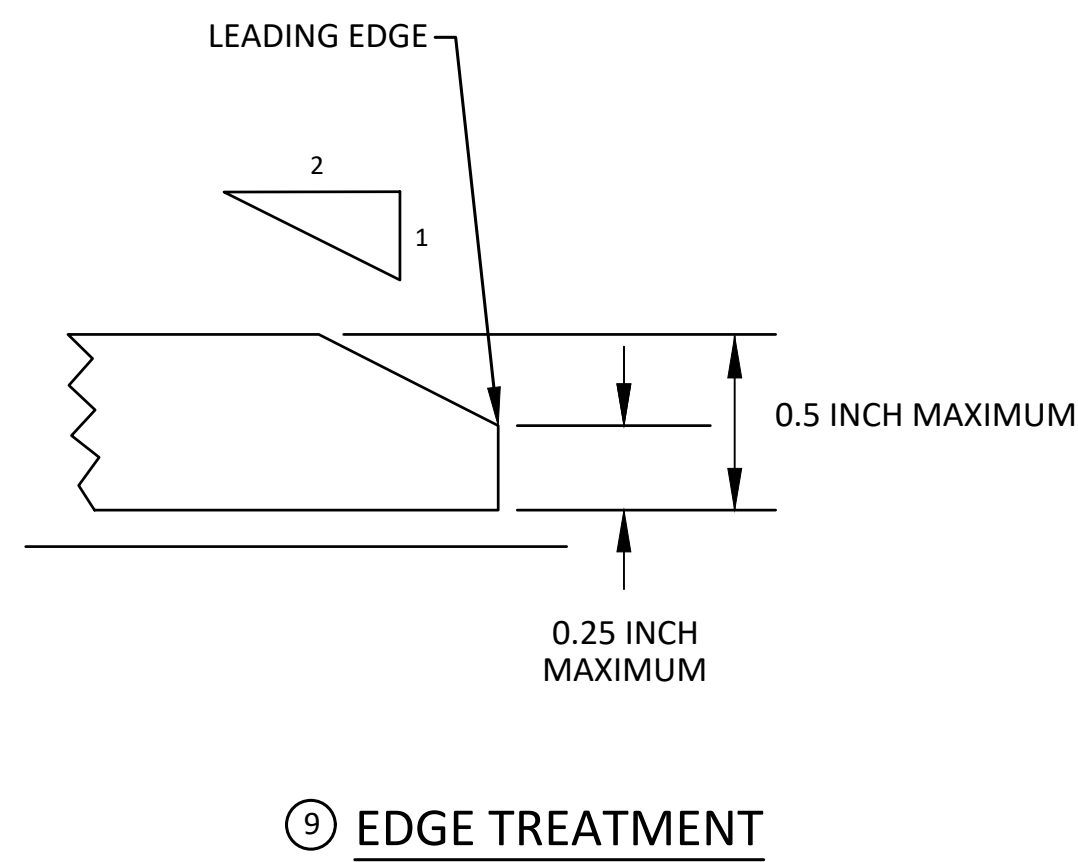


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CRESCENTS WATER MAIN REPLACEMENT PROJECT
ALTERNATE PEDESTRIAN ROUTE (APR) BYPASS
SCALE: N.T.S.
DRAWING No. 2022012-5
SHEET No. 5 OF 77

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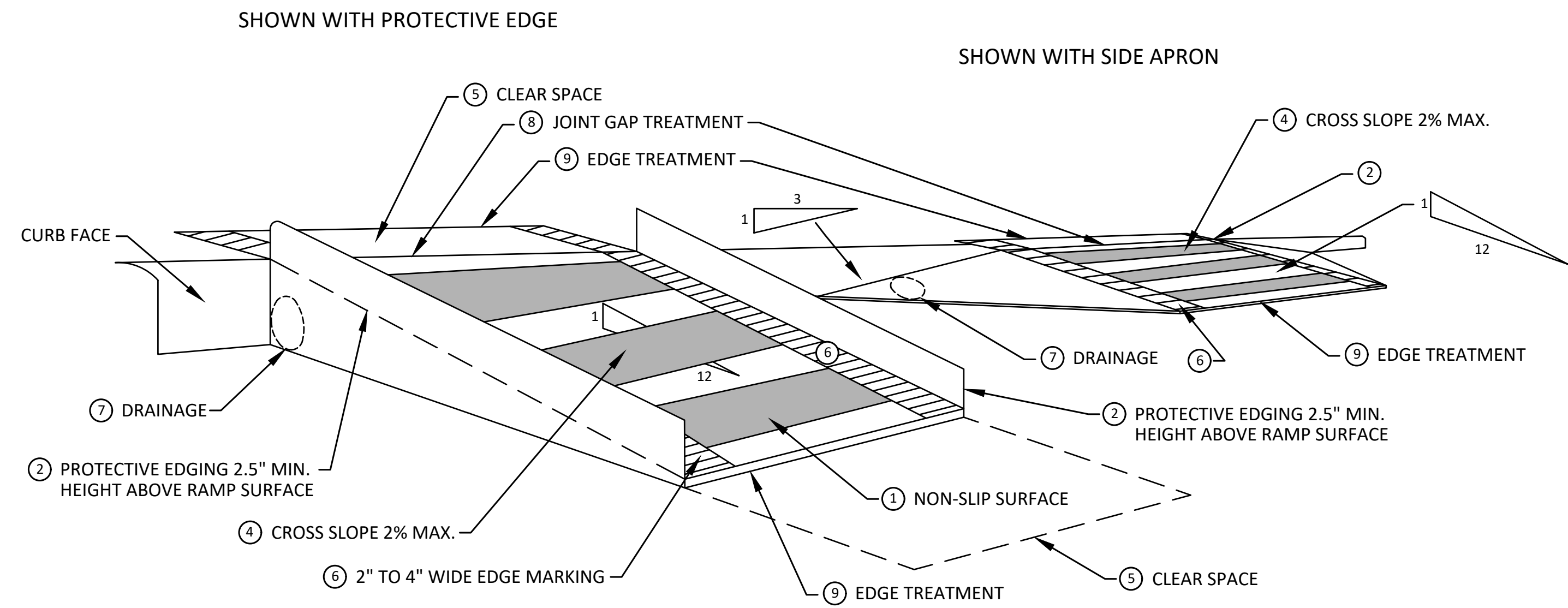
**TEMPORARY CURB RAMP
PARALLEL TO CURB**



EDGE TREATMENT

SPECIFIC NOTES

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



**TEMPORARY CURB RAMP
PERPENDICULAR TO CURB**



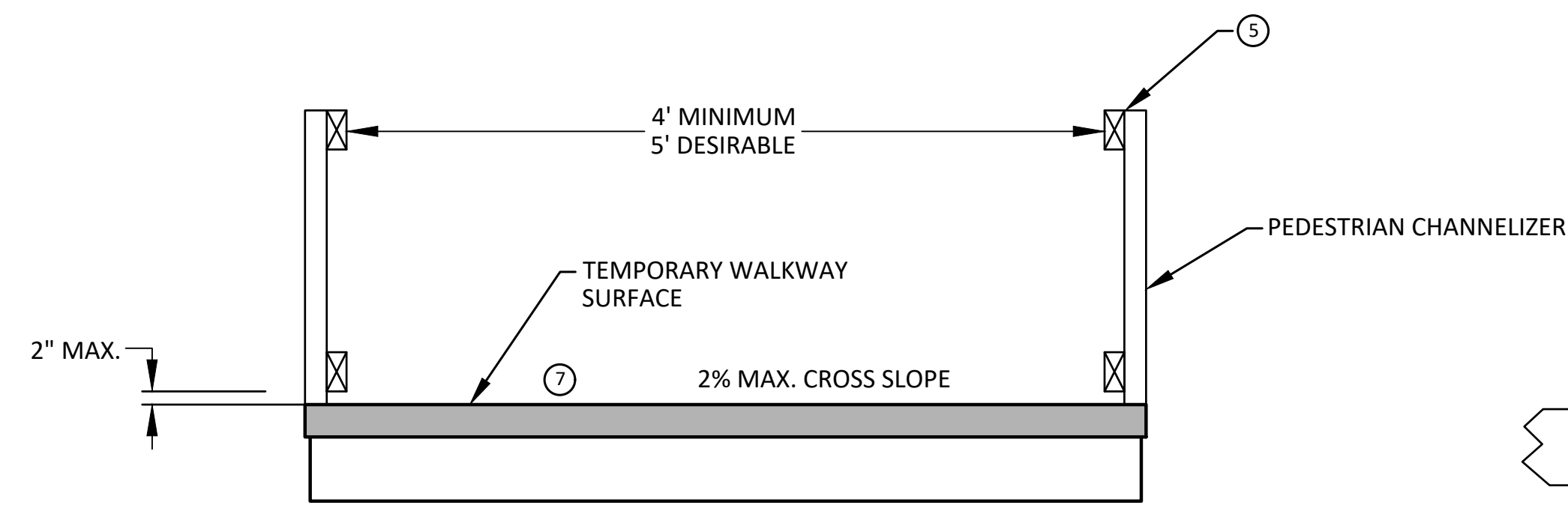
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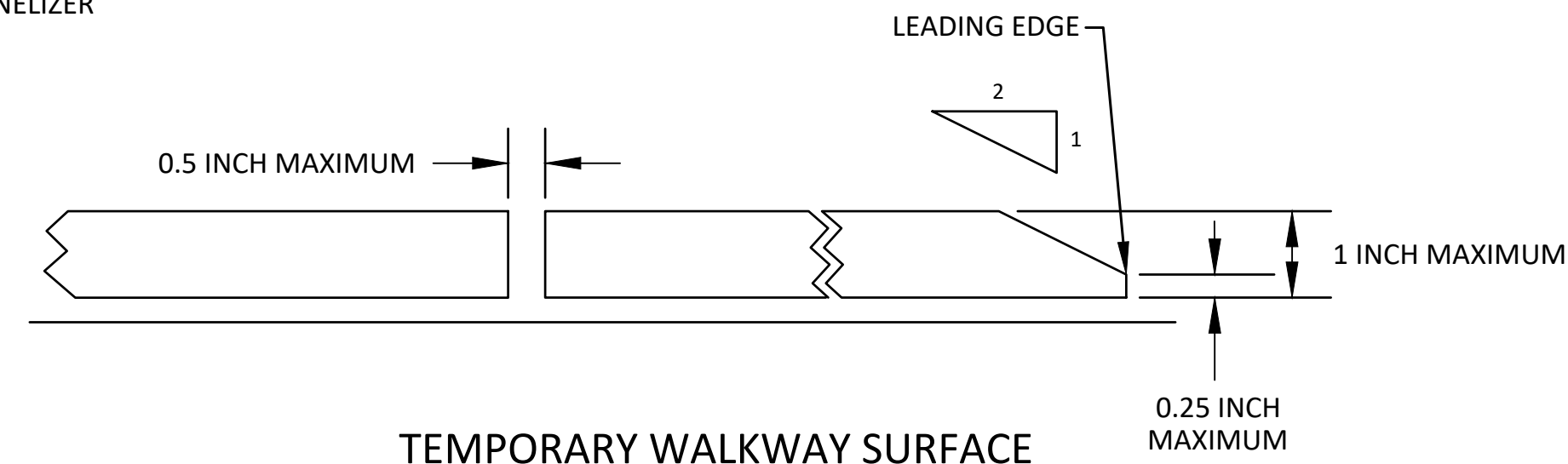


CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
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TPAR RAMPS
SCALE: N.T.S.
DRAWING No. 2022012-6

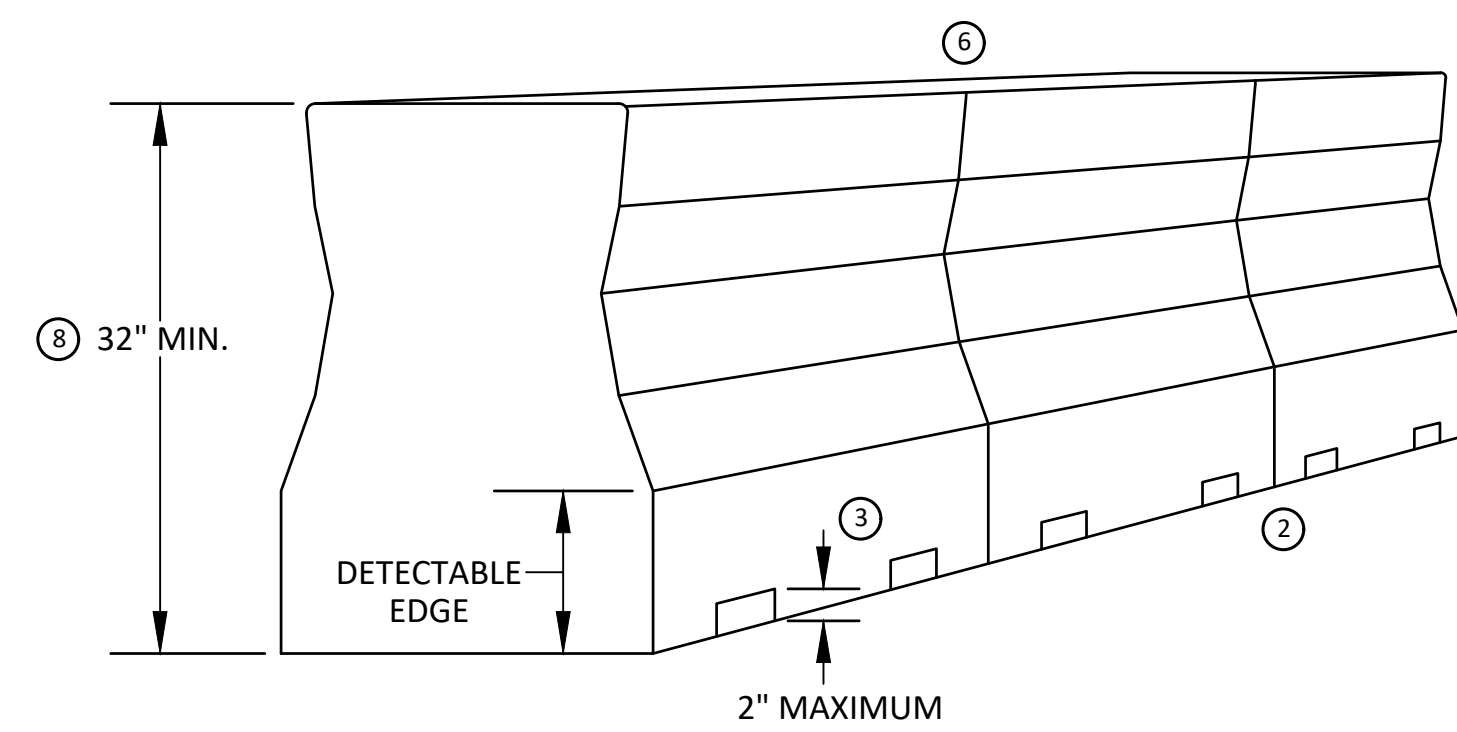
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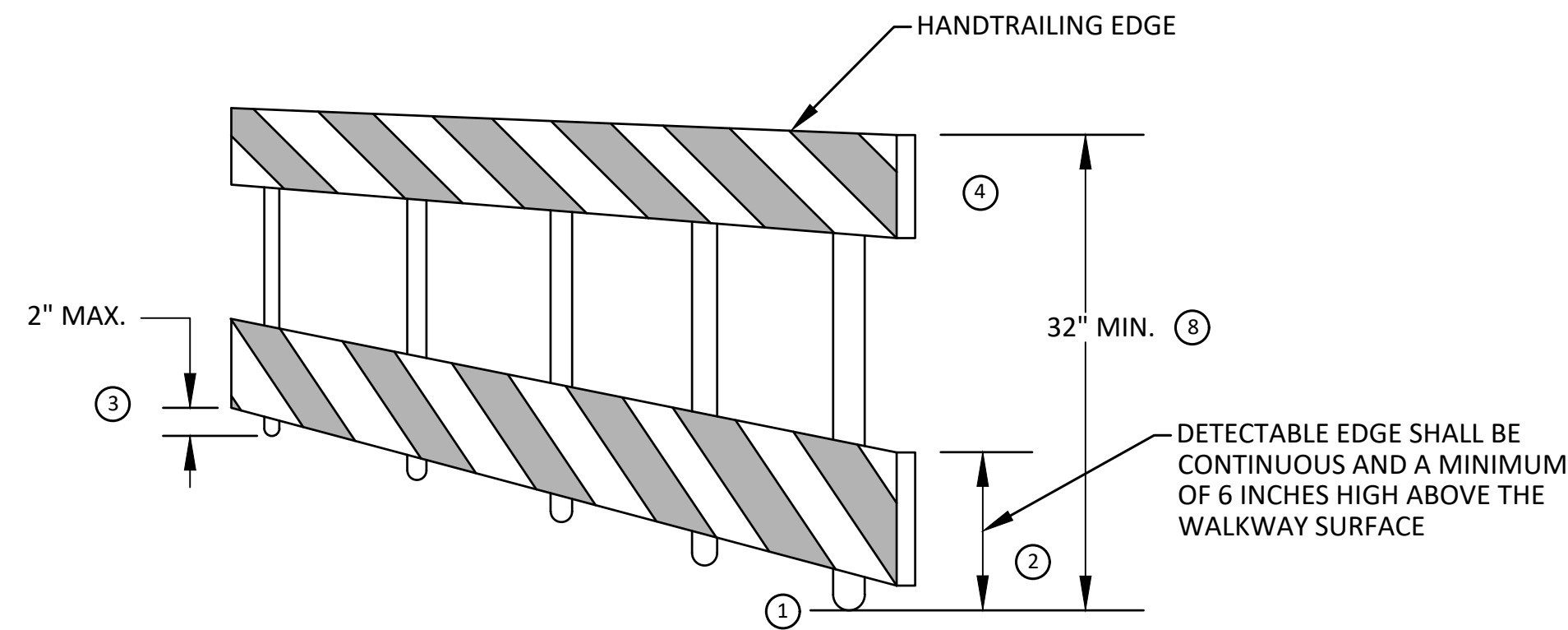
TEMPORARY PEDESTRIAN ACCESS



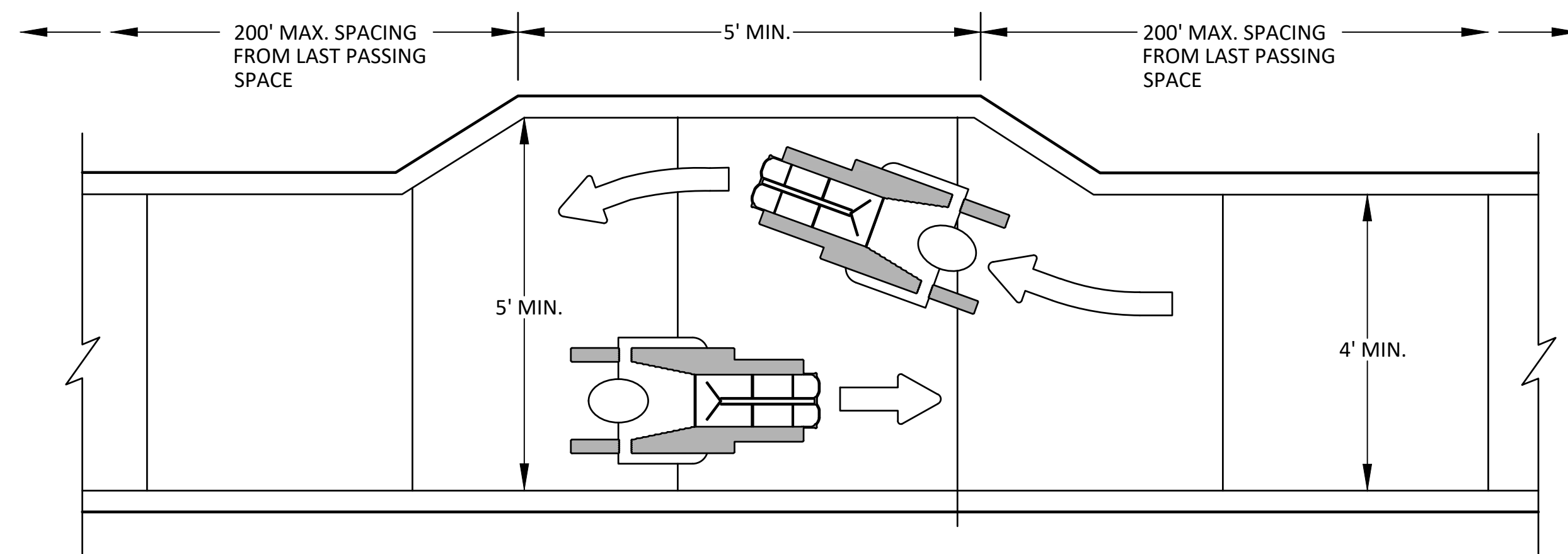
TEMPORARY WALKWAY SURFACE



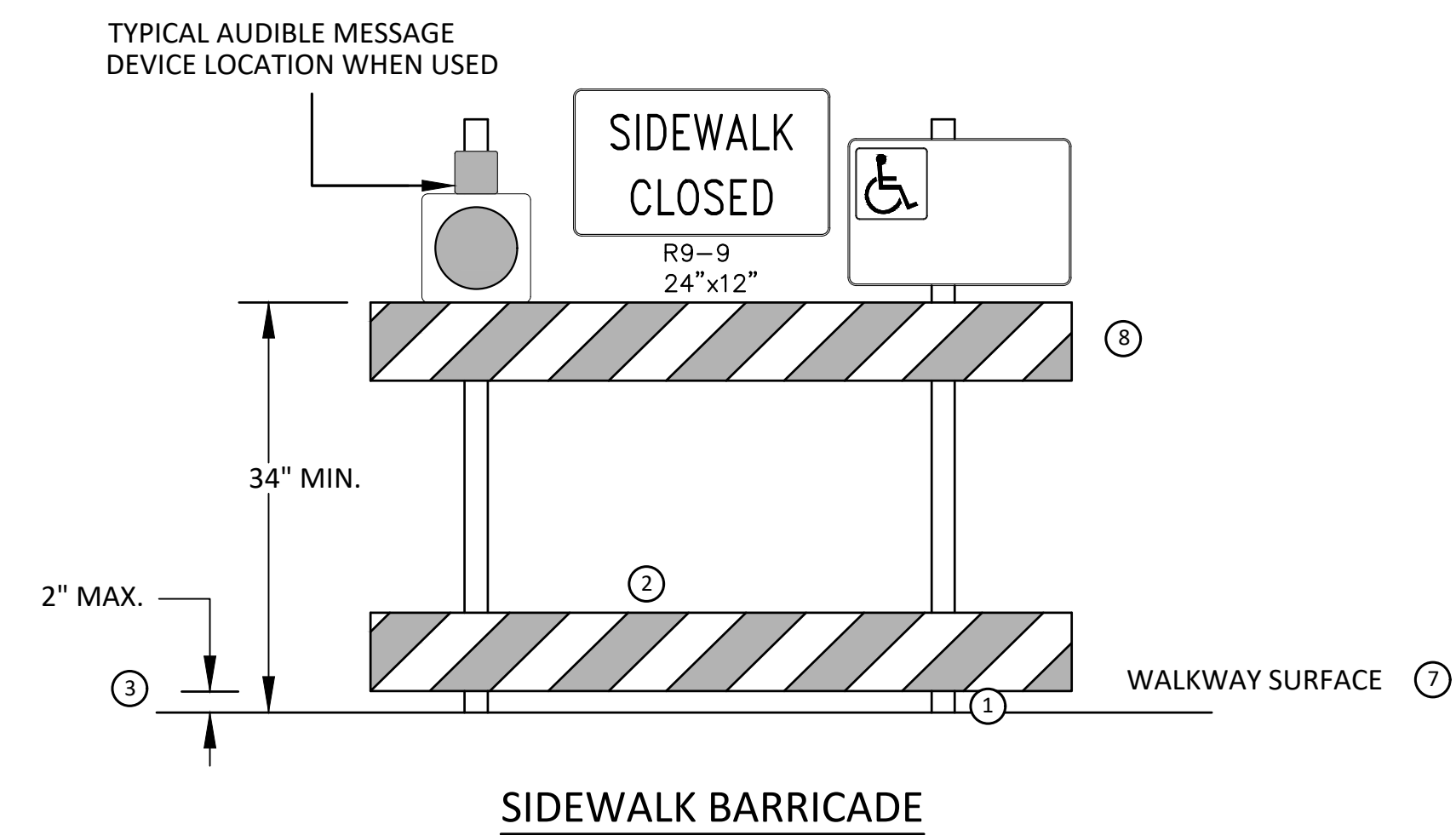
PEDESTRIAN CHANNELIZER USING A BARRIER (MINIMUM REQUIREMENTS)



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.



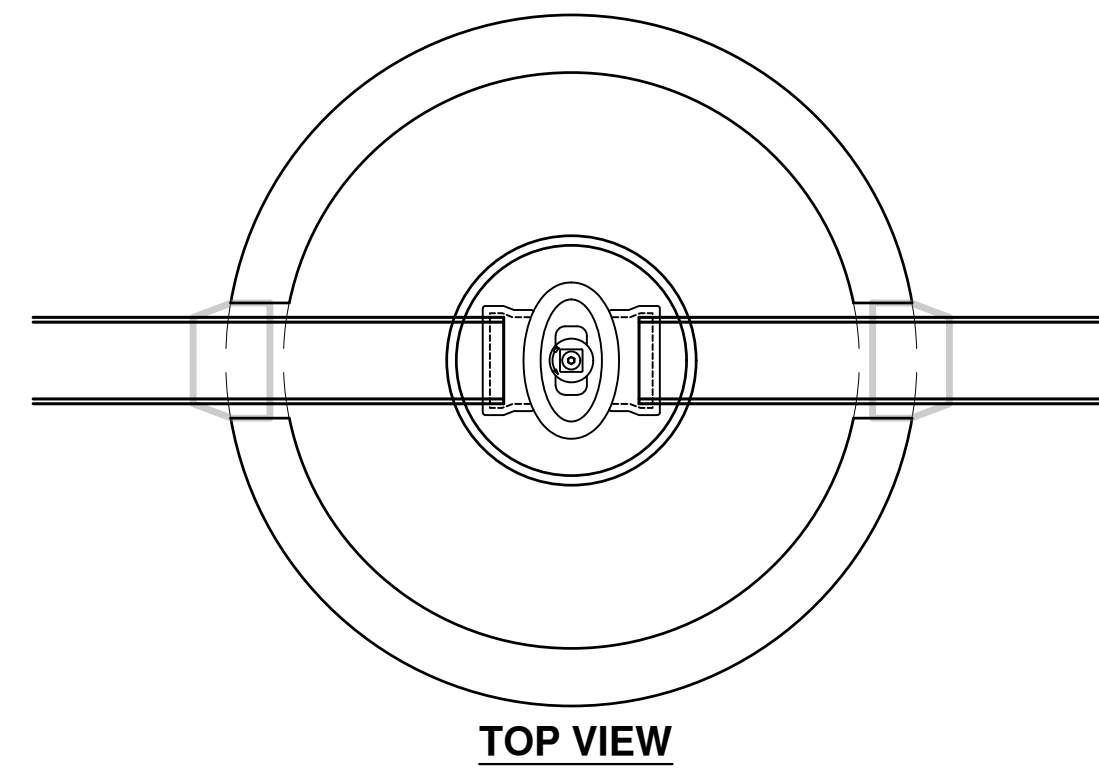
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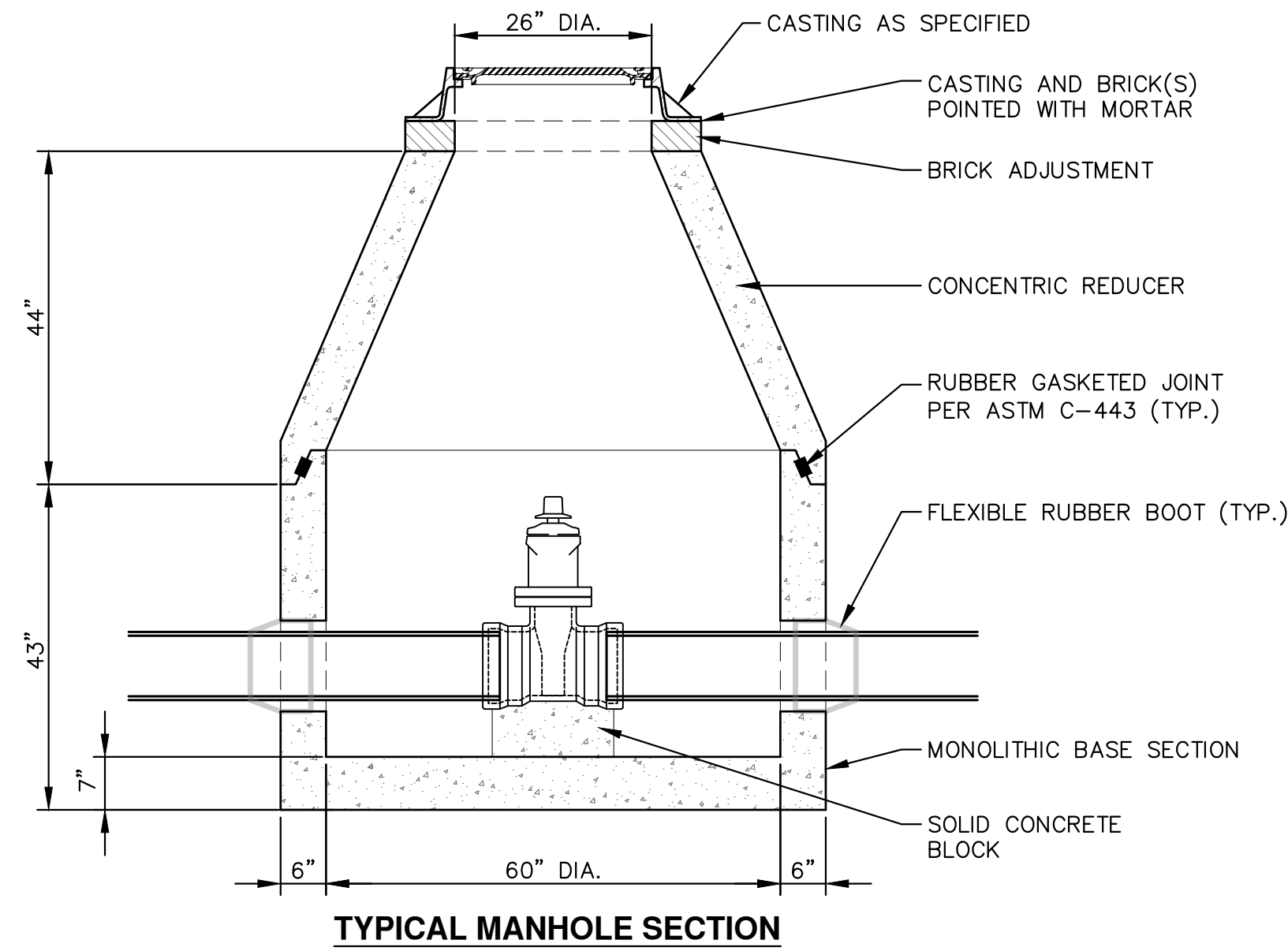


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TPAR WALKWAY DEVICES

SCALE: N.T.S.
DRAWING No. 2022012-7



TOP VIEW

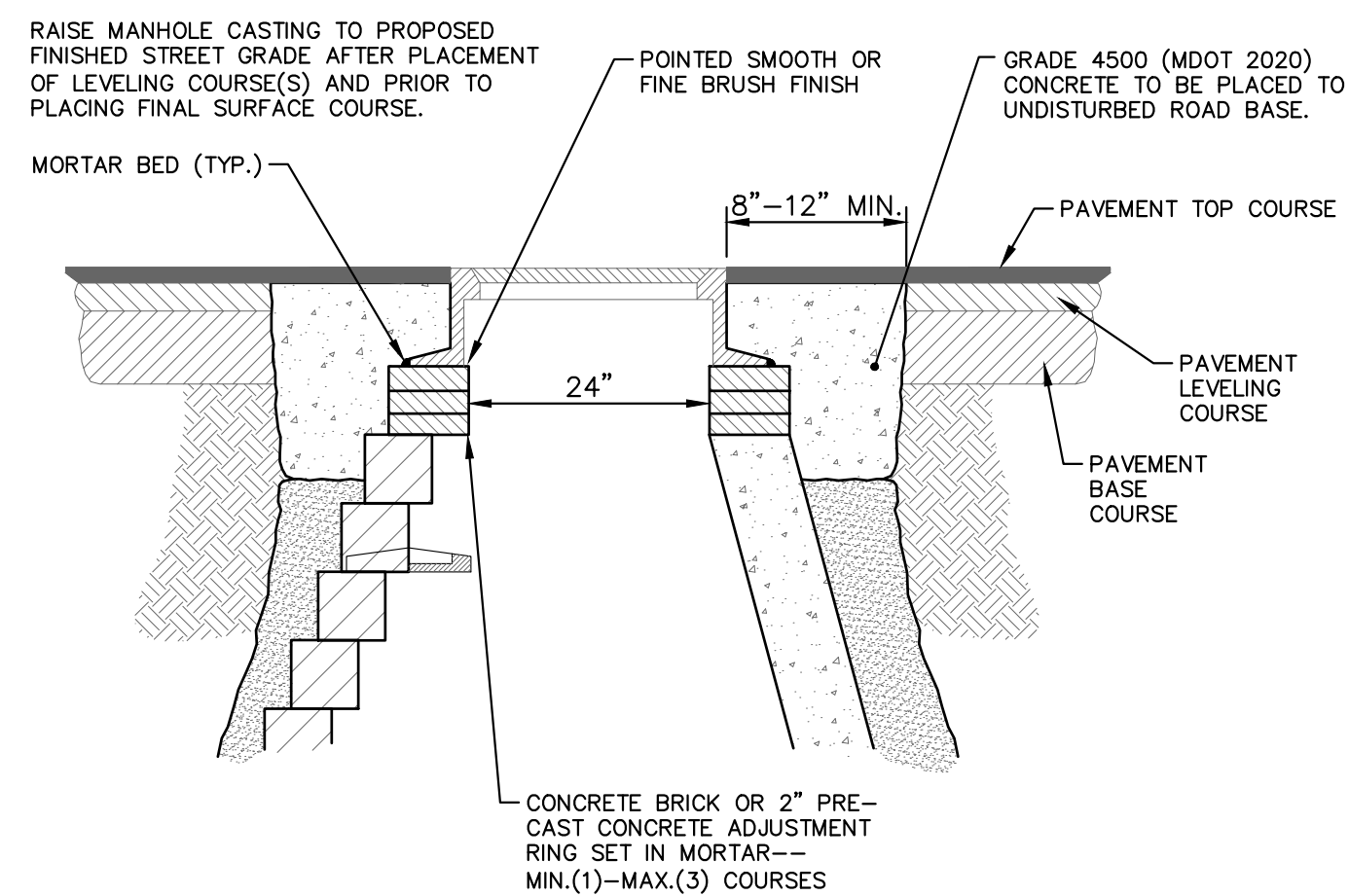


TYPICAL MANHOLE SECTION

NOTES:

1. PRECAST MANHOLE PER ASTM C-478.
2. REINFORCING IN WALLS TO BE ONE LAYER OF 2" X 8" W3/W2.9 WELDED WIRE MESH. CIRCUMFERENTIAL REINFORCEMENT = 0.18 SQ. IN./VERT. FT.
3. BASE SLAB TO BE REINFORCED WITH ONE LAYER OF #4 REBAR AT 12" C-C, E.W. AREA/STEEL = .20 SQ. IN./FT E.W.

PRECAST GATE WELL (WATERMANS 16 INCH AND SMALLER) SD-W-3



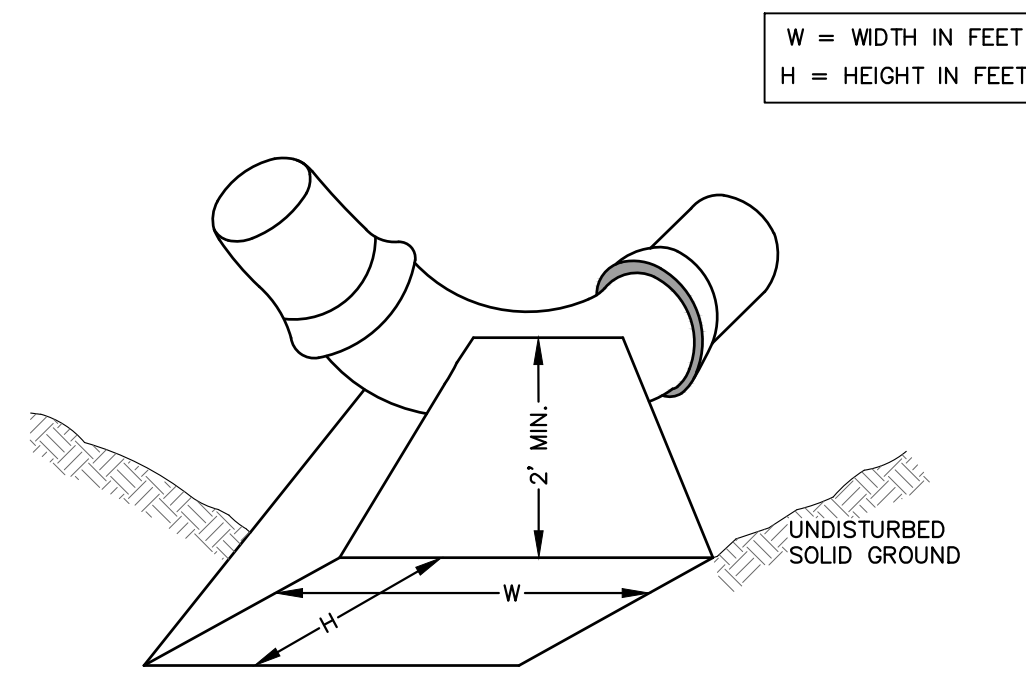
- NOTE:
1. IF MANHOLE WILL BE PLACED IN GRAVEL ROAD, CASTING TO BE SET 6" TO 8" BELOW ROADWAY GRADE. ALL CONSTRUCTION METHODS SHALL REMAIN AS SHOWN ABOVE.

MANHOLE CASTING ADJUSTMENT SD-GU-5

MINIMUM STANDARDS
 THE MDT GRADE 3500 OR P-NC CONCRETE AT THE FITTING FACE SHALL EXTEND TO WITHIN 2" OF THE BELL AND SHALL EXTEND FROM THE FITTING FACE A MINIMUM OF 2' 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	
		90°		45°		22½°		11¼°		W	H
4	1.0 1.0	1.0 1.0	1.0 1.0	1.0 1.0	1.0 1.0	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 2.0	2.0 2.0	2.0 2.0	2.0 2.0	2.0 2.0	2.0 2.0	2.5	2.0	
8	2.5 2.0	3.5 2.0	2.0 2.0	2.0 2.0	2.0 2.0	2.0 2.0	2.0 2.0	2.0 2.0	2.5	2.0	
12	3.5 3.0	5.5 3.0	3.0 3.5	2.5 2.0	2.0 2.0	2.0 2.0	2.0 2.0	2.0 2.0	2.0	1.0	
16	6.0 3.5	6.0 4.0	5.0 3.0	3.5 2.5	2.0 2.0	2.0 2.0	2.0 2.0	2.0 2.0			

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

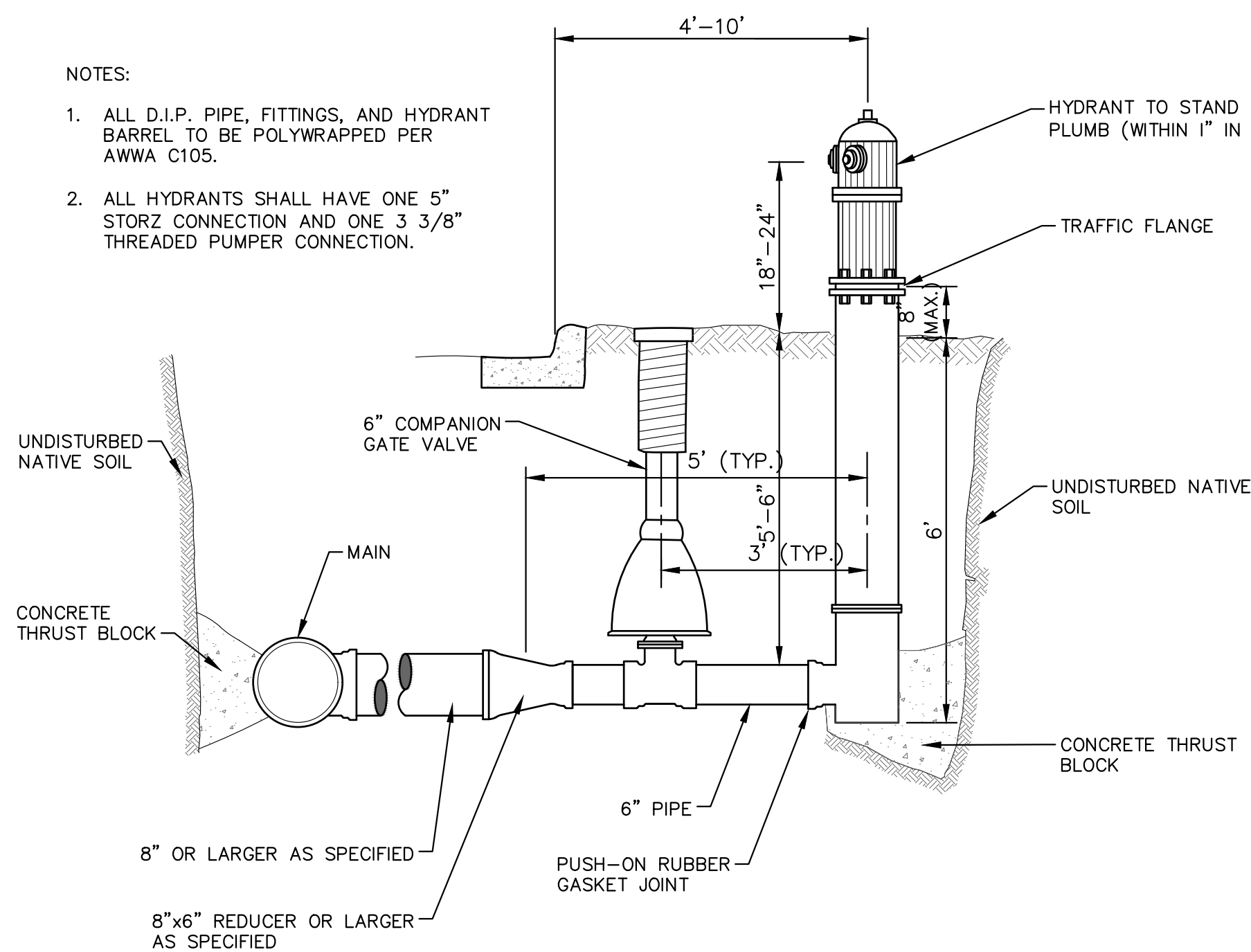


THRUST BLOCK SD-W-2

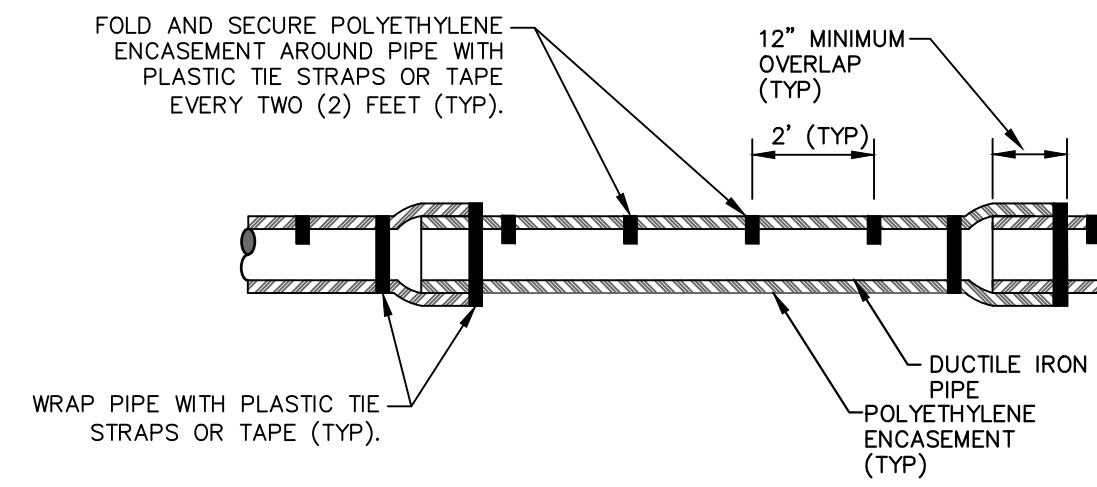
NOTE:
 THESE ARE MINIMUM STANDARDS. WHERE SOIL CONDITIONS DICTATE, ADJUSTMENTS IN SIZE SHALL BE MADE AS DIRECTED BY THE PUBLIC SERVICES AREA ADMINISTRATOR.

NOTES:

1. ALL D.I.P. PIPE, FITTINGS, AND HYDRANT BARREL TO BE POLYWRAPPED PER AWWA C105.
2. ALL HYDRANTS SHALL HAVE ONE 5" STORZ CONNECTION AND ONE 3 3/8" THREADED PUMPER CONNECTION.



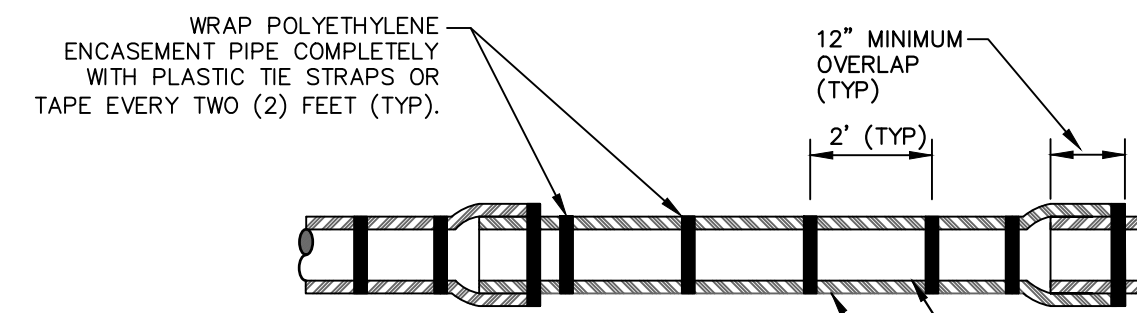
FIRE HYDRANT ASSEMBLY SD-W-1



NOTE: FOLLOW ANSI/AWWA C105/A21.5-05 REVISION OF ANSI/AWWA C105/A21.5-99 FOR CONSTRUCTION AND INSTALLATION METHODS. USE MODIFIED METHOD A

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

(DRY INSTALLATION)

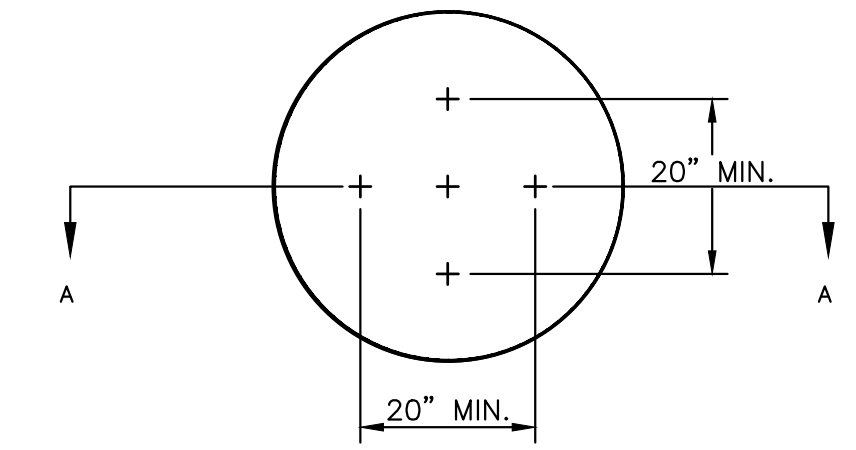


NOTE: FOLLOW ANSI/AWWA C105/A21.5-05 REVISION OF ANSI/AWWA C105/A21.5-99 FOR CONSTRUCTION AND INSTALLATION METHODS. USE MODIFIED METHOD A

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

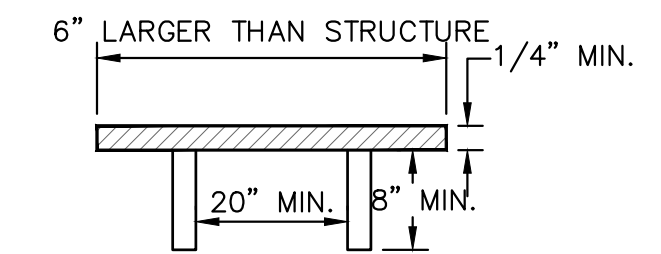
(WET INSTALLATION)

POLYETHYLENE ENCASUREMENT SD-W-7

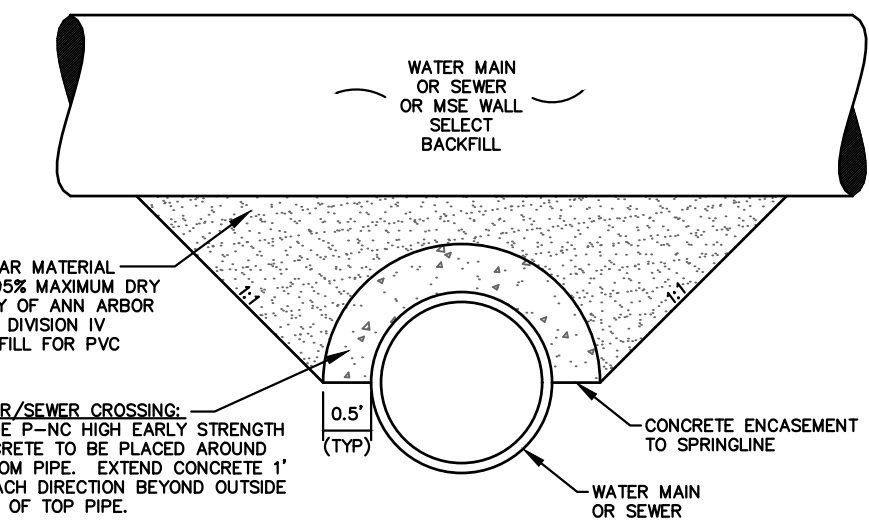


NOTE: PLATE MAY BE CIRCULAR, SQUARE OR RECTANGULAR

SECTION A - A



STRUCTURE PLATE SD-GU-8

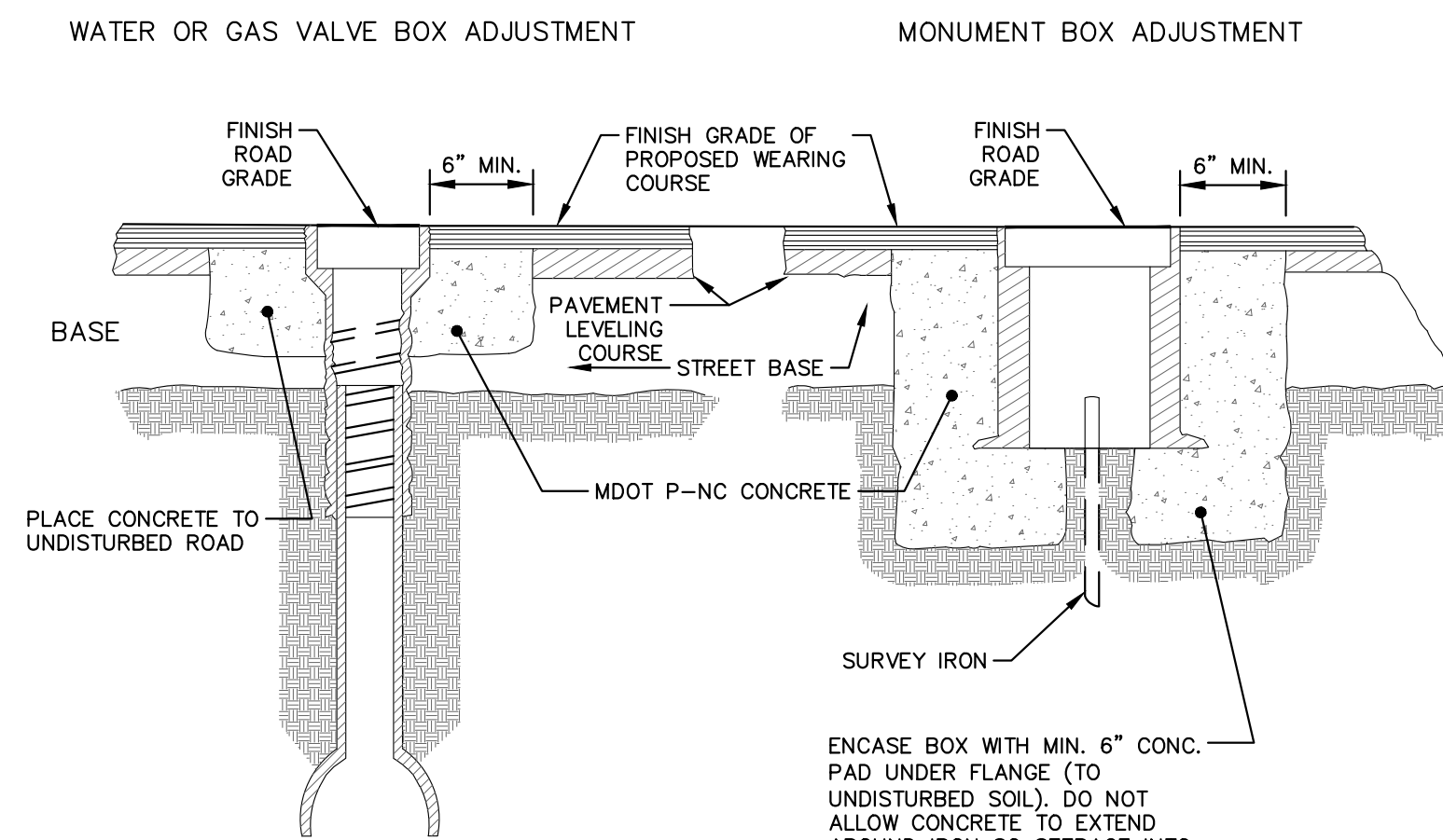


CLASS II GRANULAR MATERIAL COMPACTED TO 95% MAXIMUM DRY DENSITY PER CITY OF ANN ARBOR STANDARDS (SEE DIVISION IV REGARDING BACKFILL FOR PWC SEWERS).

WATER/SEWER CROSSING: GRADE P-NC HIGH EARLY STRENGTH CONCRETE TO BE PLACED AROUND BOTTOM PIPE. EXTEND CONCRETE 1' IN EACH DIRECTION BEYOND OUTSIDE EDGE OF TOP PIPE.

APPLIES TO: WATER AND/OR SEWER CROSSINGS WITH LESS THAN 1.5' OF VERTICAL CLEARANCE

CONCRETE UTILITY SADDLE



- NOTES:
1. GAS VALVE BOXES TO BE ADJUSTED BY THE GAS COMPANY.
 2. PLACE CENTER OF [MONUMENT] BOX OVER SURVEY IRON.
 3. RAISE CASTING TO PROPOSED FINISH STREET GRADE AFTER PLACEMENT OF LEVELING COURSE(S) AND PRIOR TO PLACING FINAL SURFACE COURSE.

VALVE AND MONUMENT BOX ADJUSTMENT SD-GU-6



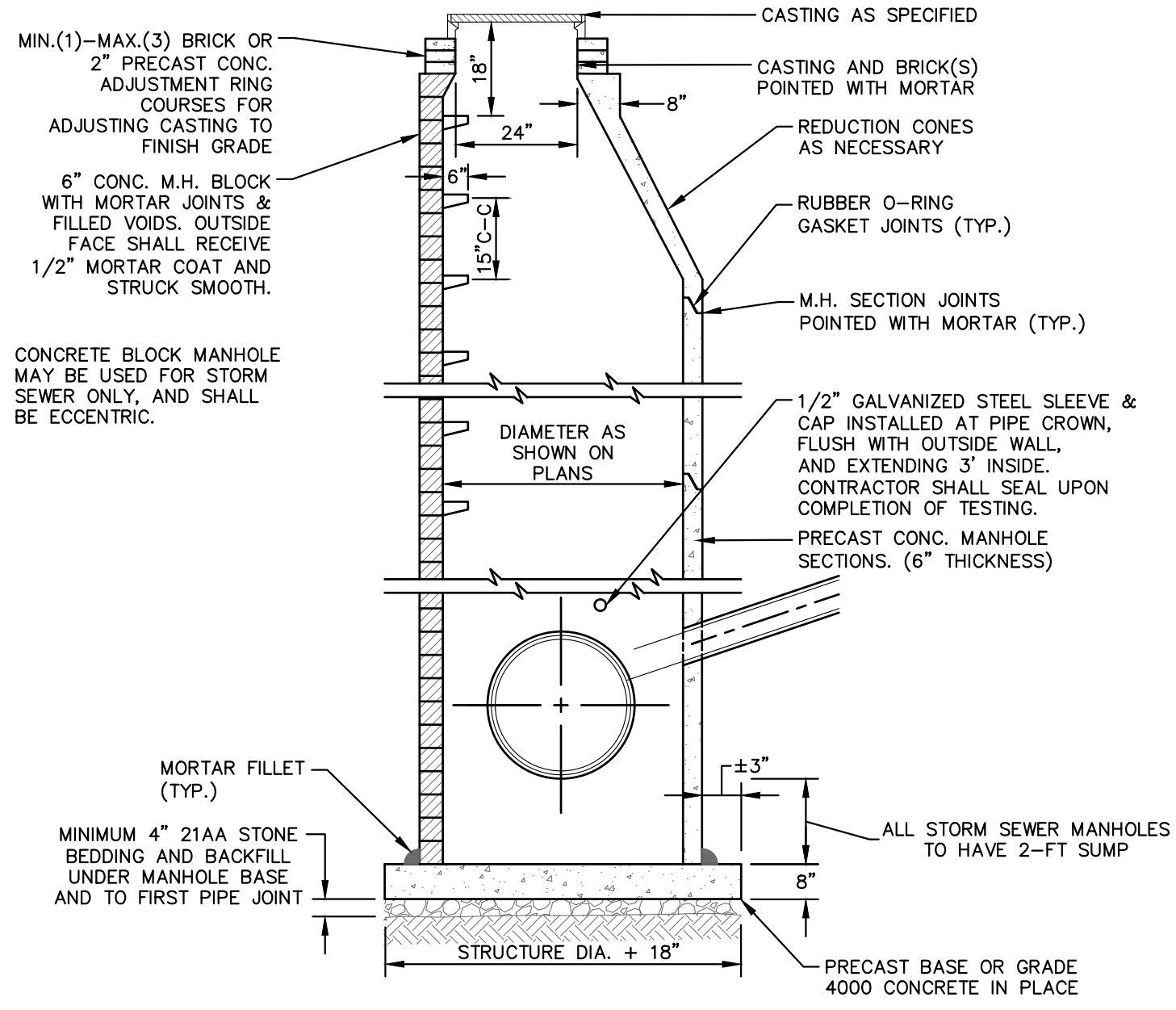
11-14-2023	DATE	11-14-2023	DATE
DF/OC/RB	DRAWN	DF/OC/RB	CHECKED
NO	REV.	NO	REV.
00	REV.	00	REV.

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 ANN ARBOR, MI 48106-1647
 ANN ARBOR: 734.794.6410
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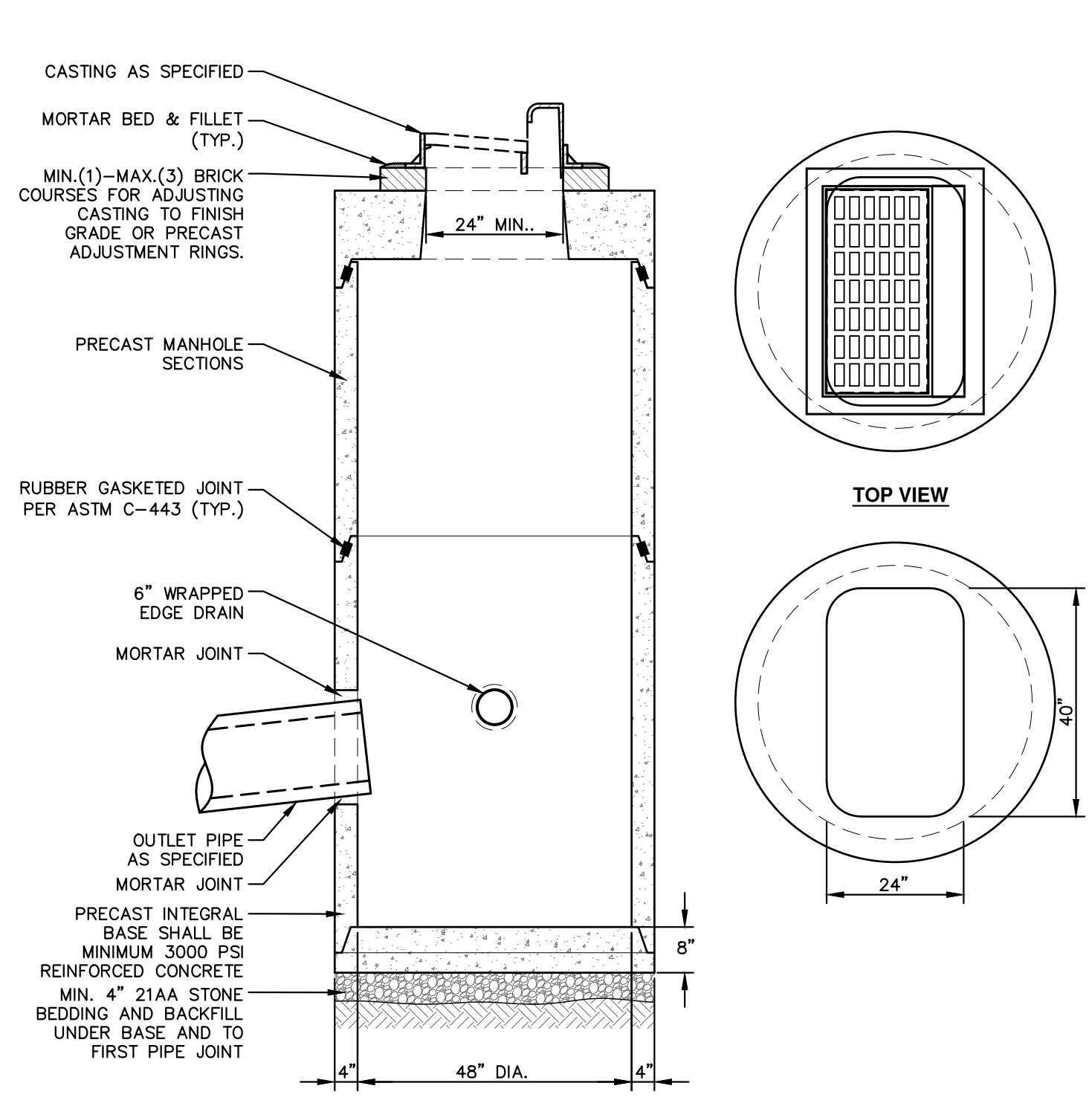
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
 CRESCENTS WATER MAIN REPLACEMENT PROJECT
 WATER MAIN DETAILS
 SHEET No. 8 OF 77
 SCALE: NTS
 DRAWING No. 2022012-8

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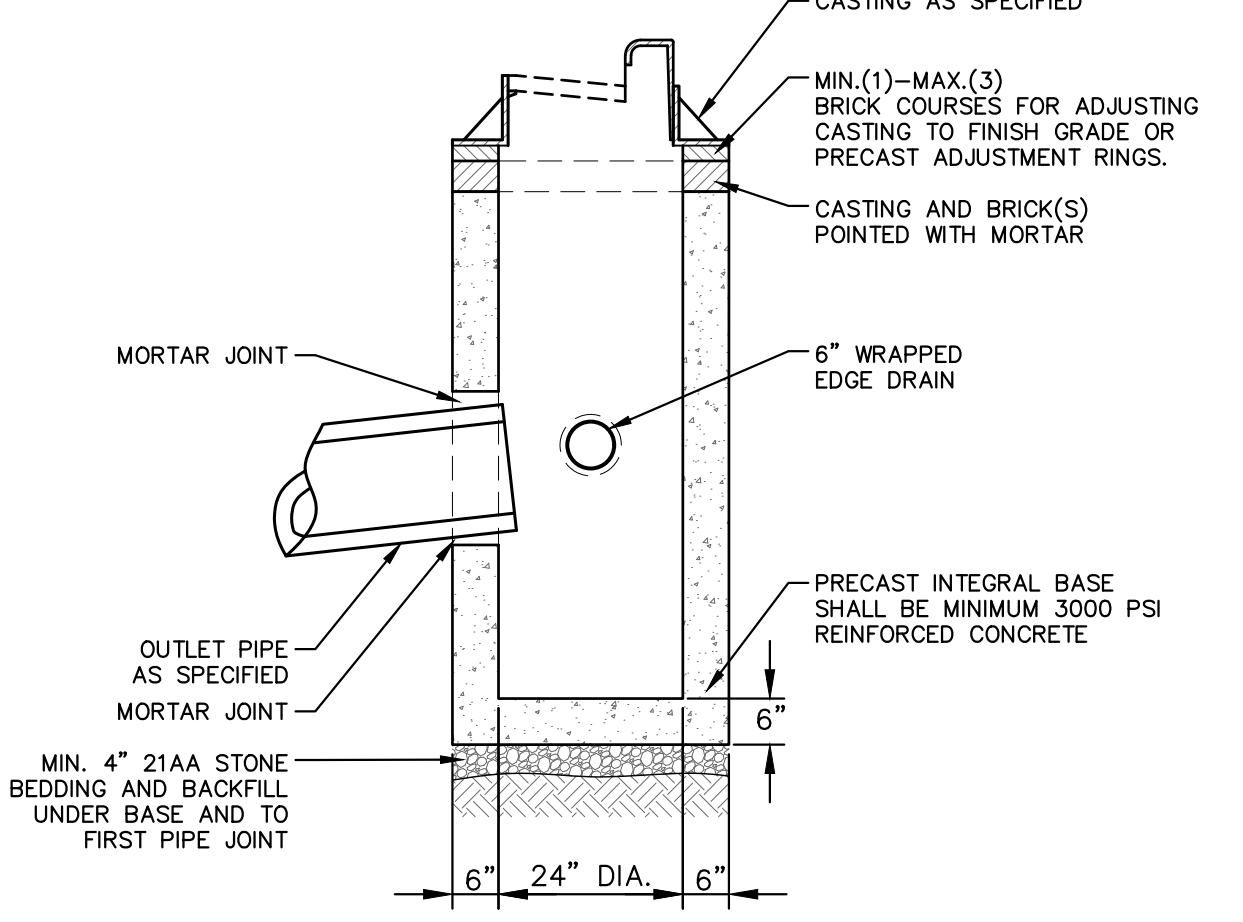
- NOTES:**
1. ALL STORM MANHOLES MAY BE PRECAST CONCRETE OR MANHOLE BLOCK.
 2. ALL MANHOLES MUST HAVE ECCENTRIC CONES.
 3. ALL MANHOLE SECTIONS SHALL BE REINFORCED PER ASTM-185.
 4. ALL STORM SEWER OPENINGS SHALL BE PRECAST WITH RUBBER BOOT CONNECTIONS PER ASTM C-923.
 5. 2' SUMP REQUIRED ON ALL DRAINAGE STRUCTURES.
 6. IF A FLAT TOP IS REQUIRED, THEN IT SHALL BE REINFORCED IN BOTH DIRECTIONS TO MEET ASTM C-615.

STANDARD STORM MANHOLE (SEPARATE BASE) SD-ST-1A



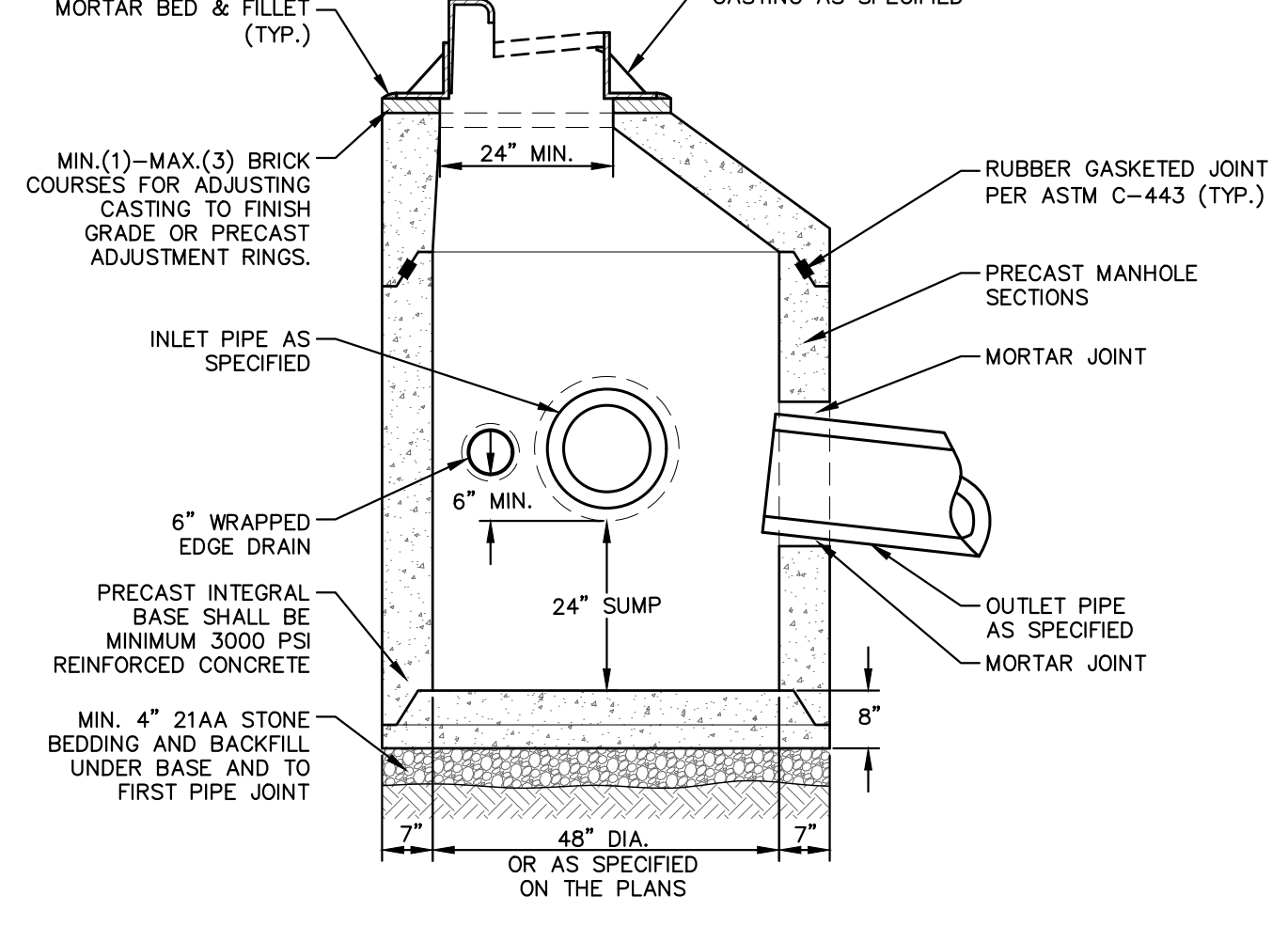
- NOTES:**
1. FRONT EDGE OF INLET CASTING SHALL BE FLUSH WITH FRONT EDGE OF GUTTER (EDGE-OF-METAL)

PRECAST LOW POINT INLET SD-ST-4



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

PRECAST SINGLE INLET SD-ST-3



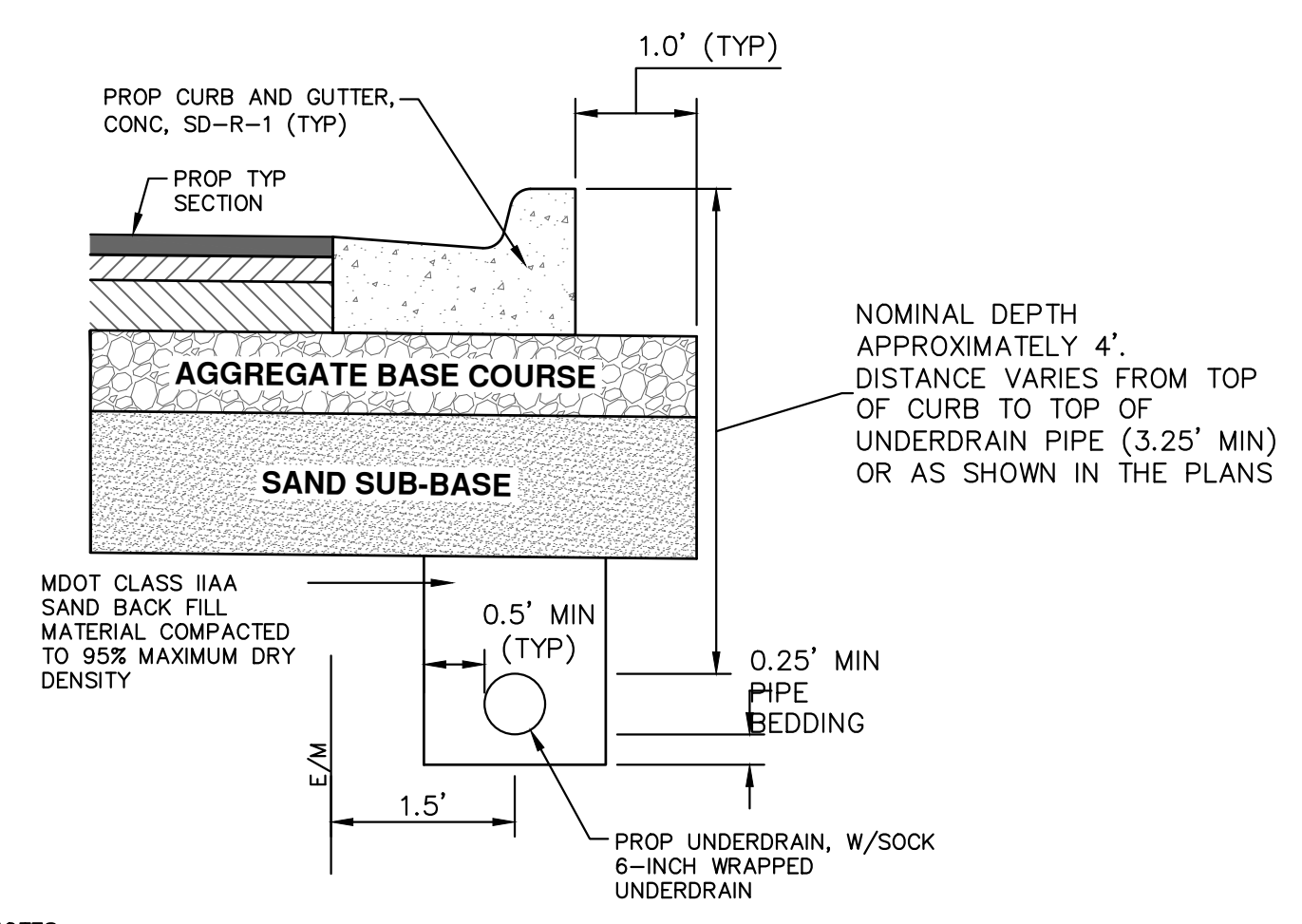
- NOTES:**
1. FRONT EDGE OF INLET CASTING SHALL BE FLUSH WITH FRONT EDGE OF GUTTER (EDGE-OF-METAL)

PRECAST JUNCTION INLET SD-ST-2

TYPE OF CASTING	MDOT DESIGNATION	EJ CASTING NO.	NEENAH CASTING NO.
MANHOLE AND GATE WELL FRAME AND COVER	Q/B	1040Z W/ TYPE A COVER*	R-1642 W/ TYPE C COVER*
BARRIER CURB INLET FRAME AND COVER	K	7045Z W/ TYPE M1 GRATE	R-3031-B W/ TYPE S GRATE
BARRIER CURB LOW POINT INLET FRAME AND COVER	K	7035Z W/ TYPE M2 GRATE	N/A
GUTTER INLET FRAME AND COVER	R	5080Z W/ TYPE 5000M2 GRATE	R-3448C, W/ TYPE S GRATE
GUTTER LOW POINT INLET FRAME AND COVER	R	7034Z W/ TYPE M GRATE	N/A
MOUNTABLE CURB INLET ASSEMBLY		7065	N/A
YARD DRAIN (BEE HIVE) FRAME AND COVER	G	1040Z, TYPE O2 GRATE	R-2560-E1
WATER VALVE BOX ASSEMBLY IN PAVEMENT		8560	N/A
MONUMENT BOX ASSEMBLY		8360	N/A

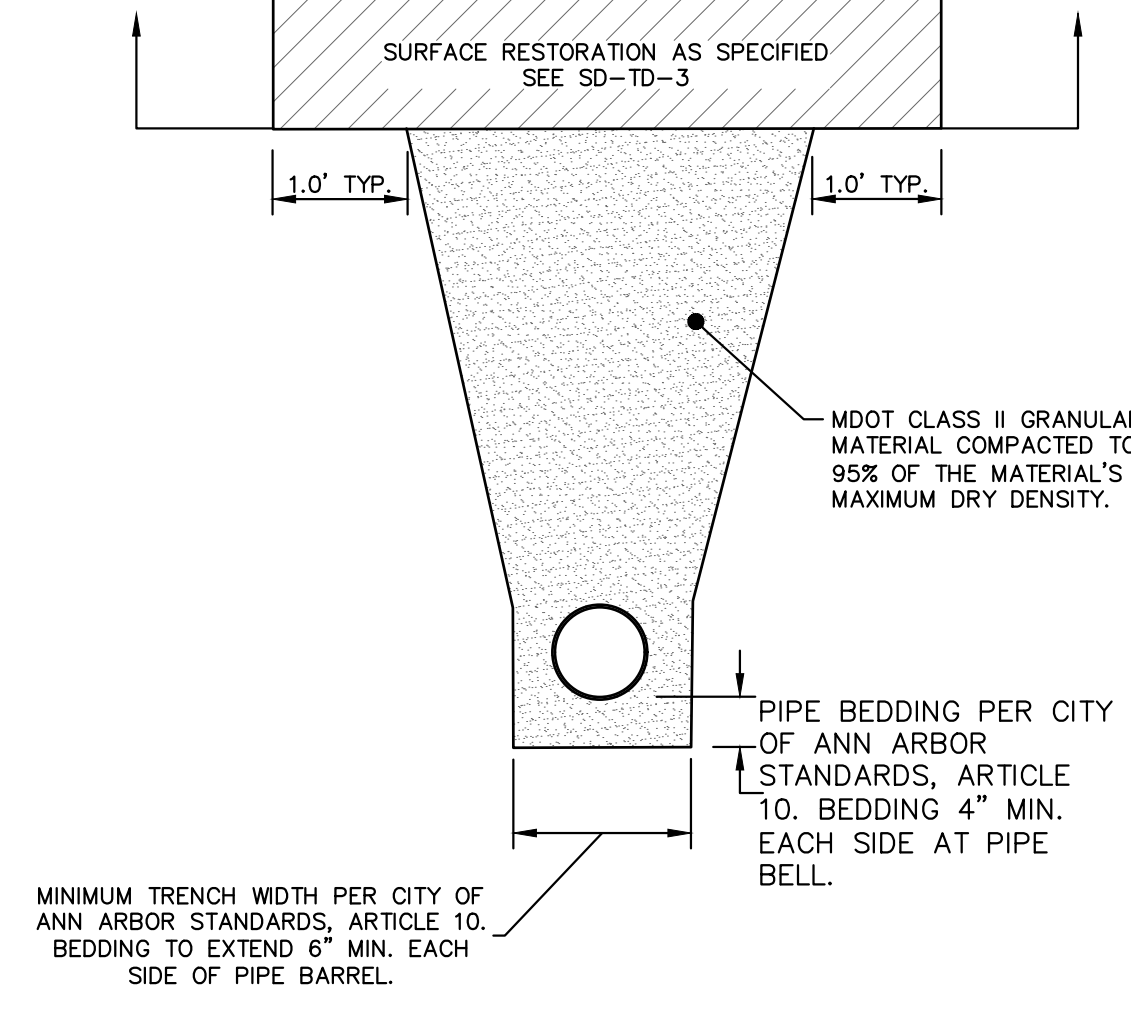
NOTES:
 *EACH COVER SHALL HAVE "SANITARY", "STORM", OR "WATER" CAST IN THE SURFACE, WHICHEVER IS APPLICABLE. SANITARY SEWER COVERS SHALL BE GASKETED IN FLOOD PRONE AREAS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE PSAA. FRAMES AND COVERS MUST HAVE MACHINED BEARING SURFACES.

STANDARD CASTING SCHEDULE SD-GU-1



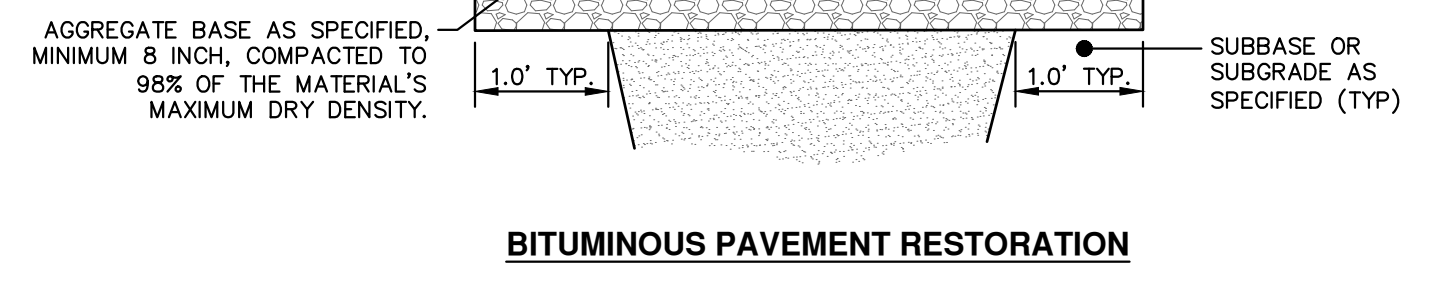
- NOTES:**
1. IN AREAS WHERE EDGE DRAIN CANNOT BE INSTALLED IN ACCORDANCE WITH THE DETAIL, THE EDGE DRAIN SHALL BE INSTALLED AT THE DEPTH AS INDICATED ON THE PLANS, OR AS DIRECTED BY ENGINEER. IN NO CASE SHALL THE EDGE DRAIN BE INSTALLED AT A GRADE LESS THAN 0.50% OR AT A DEPTH OF LESS THAN 2' BELOW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

TYPICAL EDGE DRAIN TRENCH SD-TD-4



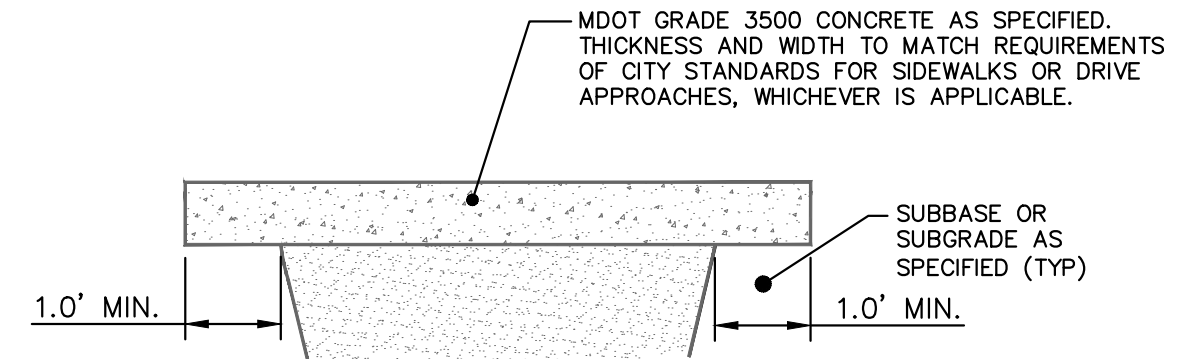
- NOTES:**
1. ALL TRENCH EXCAVATION, BEDDING, BACKFILLING, AND SURFACE RESTORATION SHALL COMPLY WITH CITY OF ANN ARBOR STANDARDS, ARTICLE 10.
 2. TRENCH DETAILS SHOW TYPE OF BACKFILL AND TRENCHING REQUIREMENTS ONLY.
 3. ALL TRENCHING TO CONFORM TO ALL APPLICABLE M.I.O.S.H.A. AND CITY STANDARDS.
 4. PIPE BEDDING THICKNESS UNDER CONCRETE PIPE 66" OR LARGER SHALL BE INCREASED TO 6".
 5. SEE SD-TD-1B FOR SANITARY BEDDING AREA DETAIL. SEE SD-TD-4 FOR EDGE DRAIN BEDDING AND BACKFILL.
 6. SURFACE RESTORATION SHALL NOT BE INCLUDED IN THE UNIT PRICE FOR PIPE AND WILL BE PAID FOR SEPARATELY.

UTILITY TRENCH - TYPE IA EXCLUDING SANITARY SEWER AND EDGE DRAIN

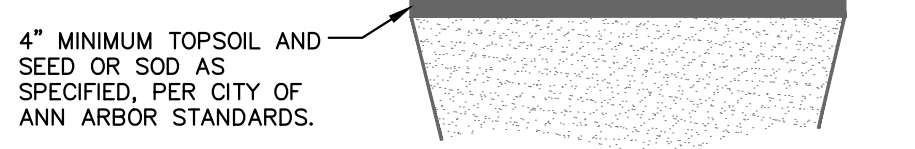


BITUMINOUS PAVEMENT RESTORATION

UTILITY TRENCH SURFACE RESTORATION SD-TD-3A

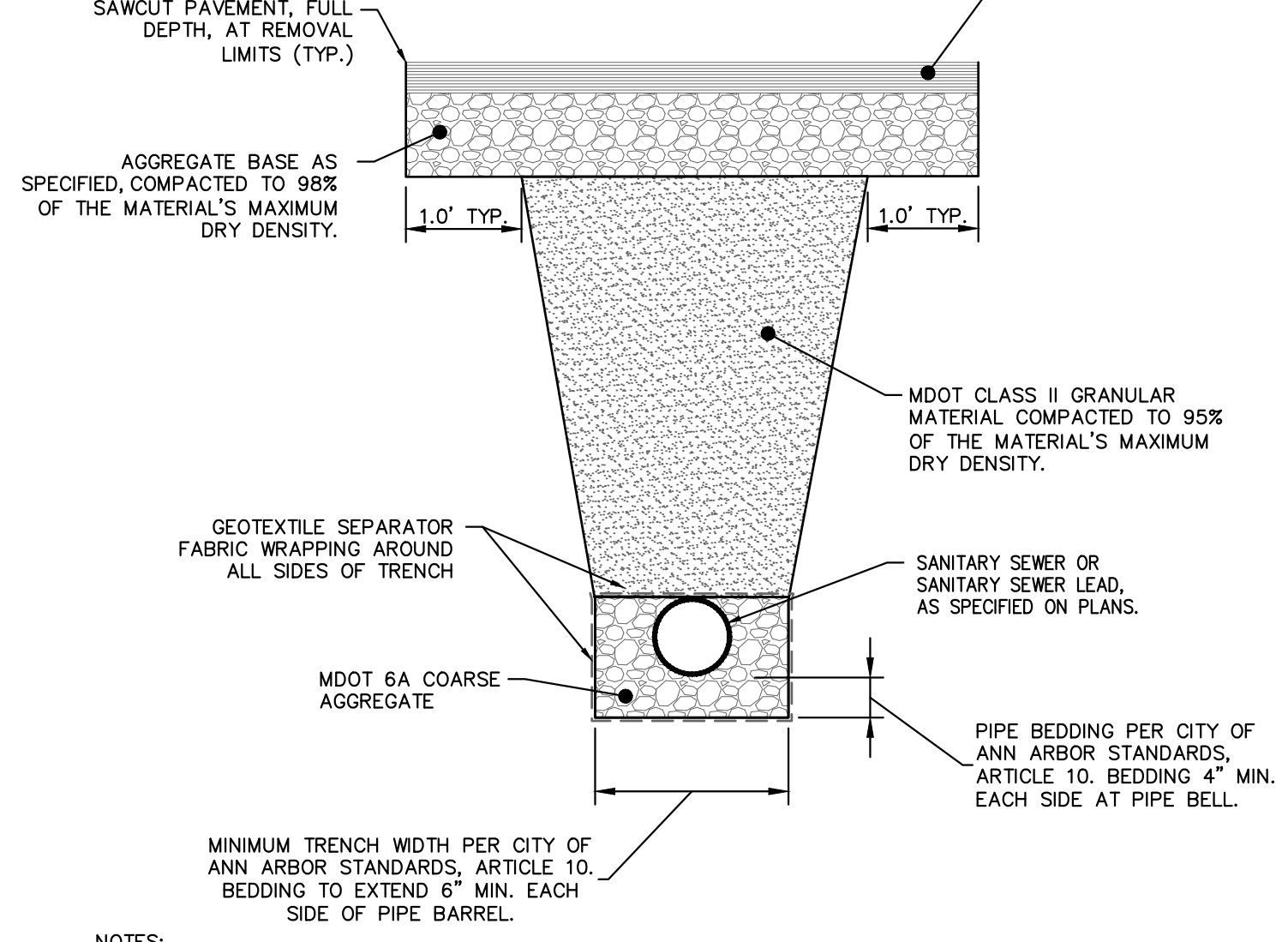


SIDEWALK OR DRIVE APPROACH



TURF

UTILITY TRENCH SURFACE RESTORATION SD-TD-3B



- NOTES:**
1. ALL TRENCH EXCAVATION, BEDDING, BACKFILLING, AND SURFACE RESTORATION SHALL COMPLY WITH CITY OF ANN ARBOR STANDARDS, ARTICLE 10.
 2. TRENCH DETAILS SHOW TYPE OF BACKFILL AND TRENCHING REQUIREMENTS 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-4 FOR EDGE DRAIN BEDDING AND BACKFILL DETAILS.
 6. SURFACE RESTORATION SHALL NOT BE INCLUDED IN THE UNIT PRICE FOR PIPE AND WILL BE PAID FOR SEPARATELY.

UTILITY TRENCH - TYPE IB SANITARY SEWER

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

CRESCENTS WATER MAIN REPLACEMENT PROJECT

STORM SEWER AND TRENCH DETAILS

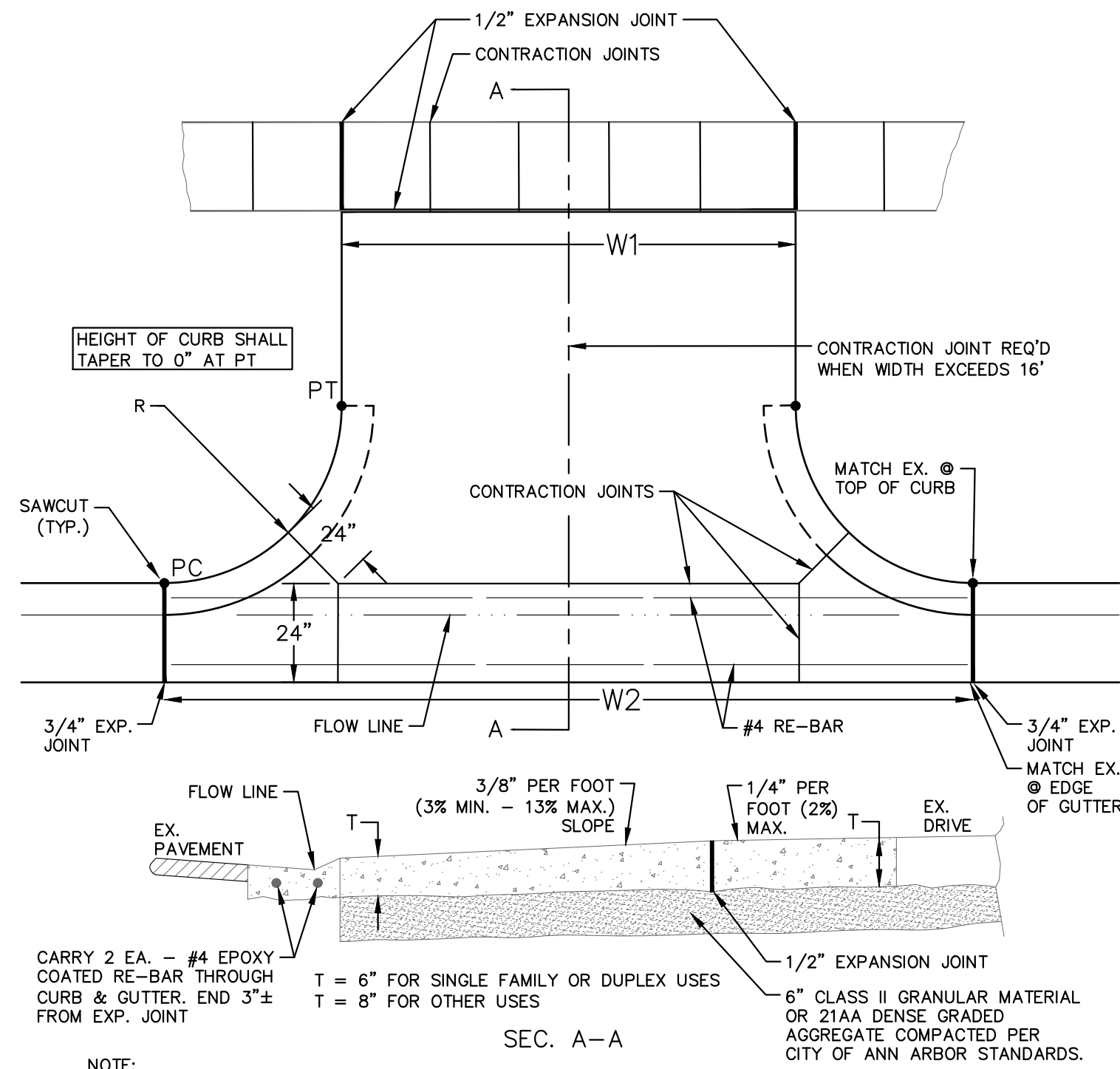
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DRAWING NO. 2022012-9

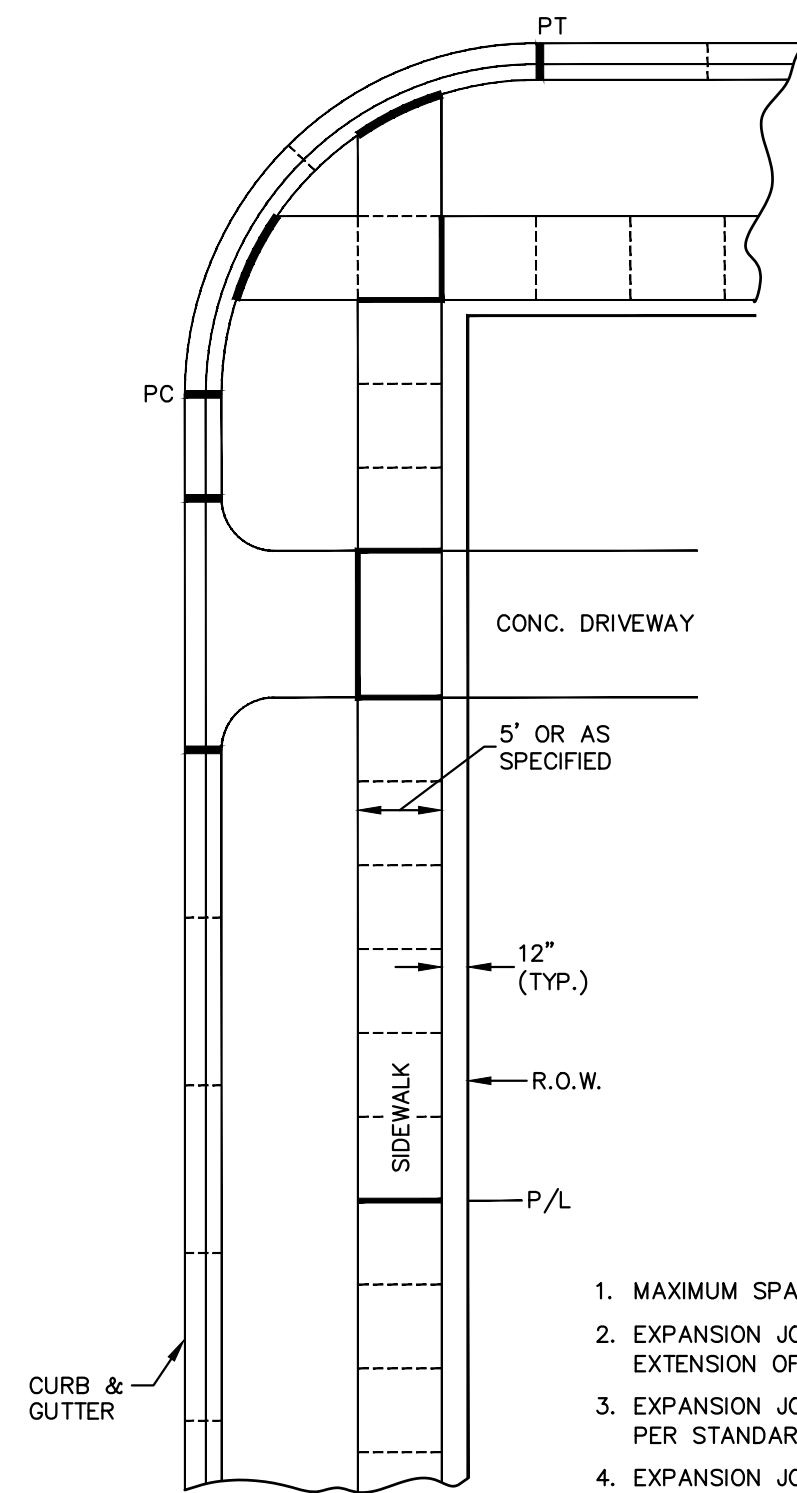
SHEET No. 9 OF 77

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		DATE	DRAWN
		DATE	REV.

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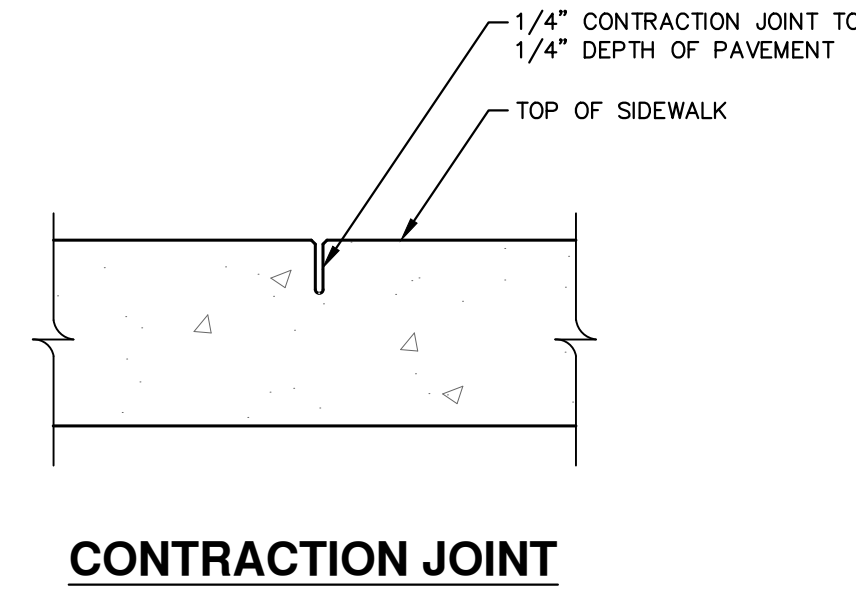
TYPE M DRIVE APPROACH FOR ASPHALT STREETS WITH BARRIER CURB



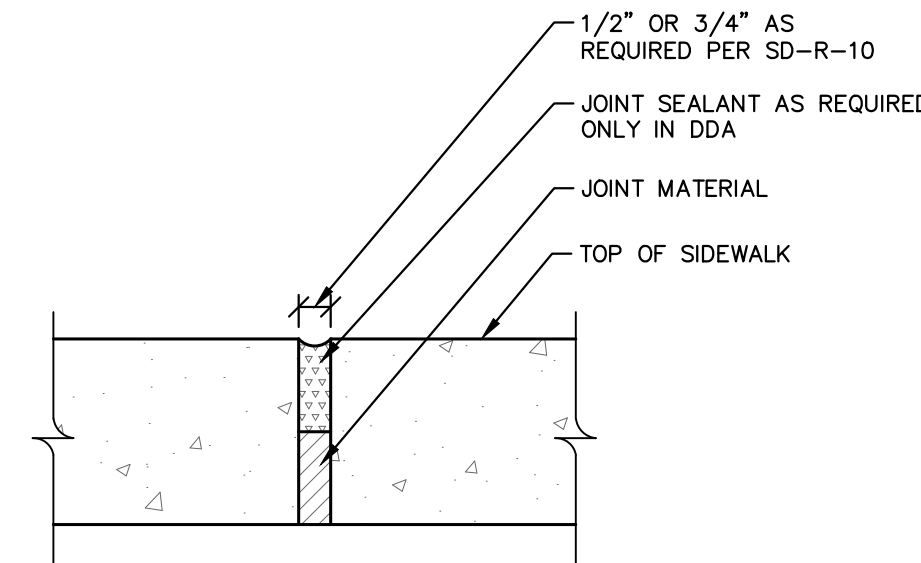
SIDEWALK AND CURB & GUTTER JOINT SPACING

GENERAL NOTES:

- DESIGN MAY UTILIZE TOOLED OR SAW-CUT CONTRACTION JOINT. PLANS MUST INDICATE SELECTION OF JOINT TYPE. PROJECT MUST HAVE EITHER JOINT TYPE, BUT NOT BOTH.



CONTRACTION JOINT

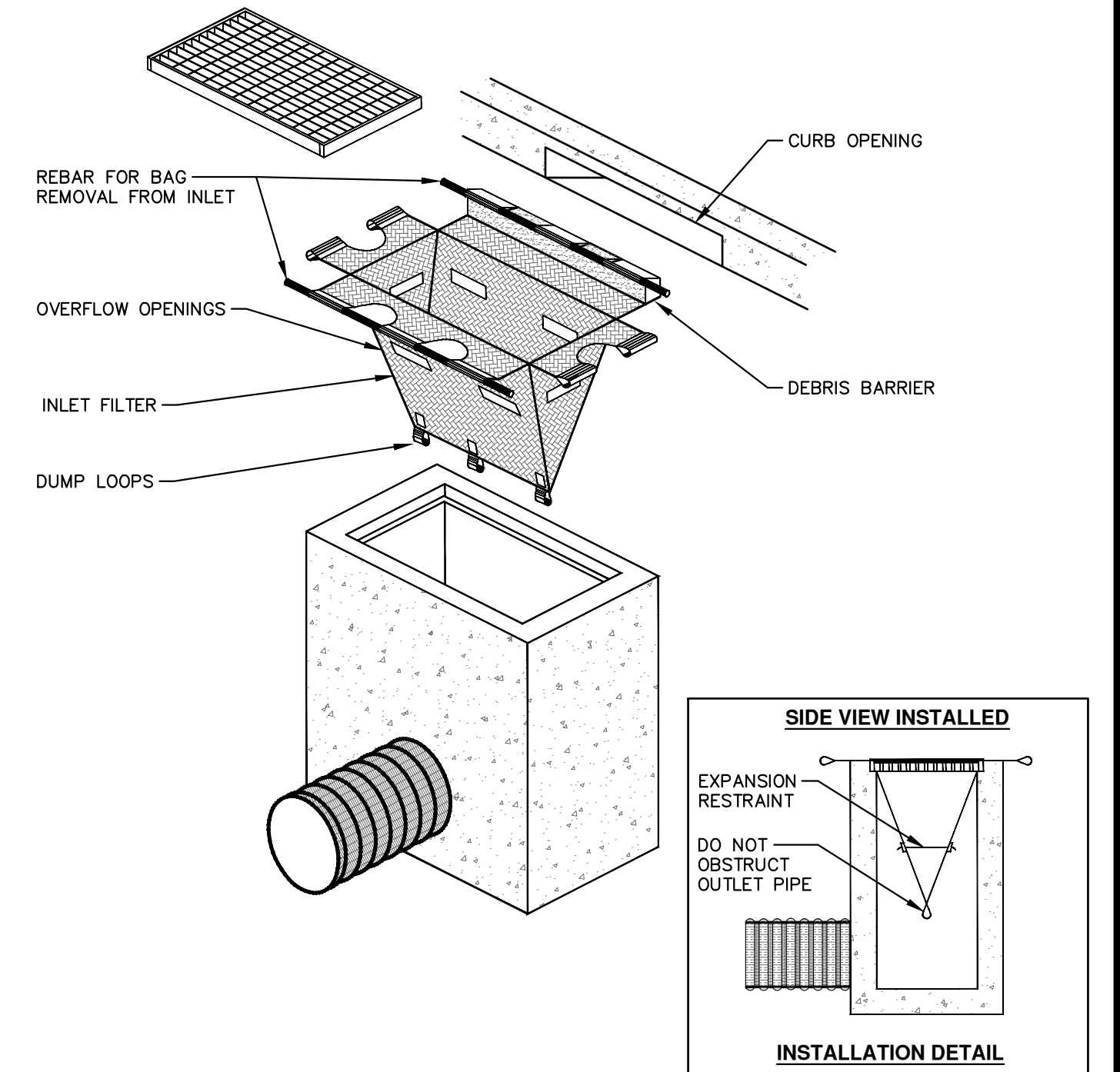


EXPANSION JOINT

- MAXIMUM SPACING BETWEEN ALL EXPANSION JOINTS SHALL BE 300'.
- EXPANSION JOINTS SHALL BE PLACED IN SIDEWALKS AT THE EXTENSION OF ALL PROPERTY LINES.
- EXPANSION JOINTS SHALL BE PLACED AT DRIVE APPROACH EDGES PER STANDARD DRIVE APPROACH DETAILS SD-R-6 THROUGH SD-R-8.
- EXPANSION JOINTS SHALL BE PLACED AT SIDEWALK INTERSECTIONS AS SHOWN.
- EXPANSION JOINTS SHALL BE PLACED IN CURB AND GUTTER AT PC AND PT OF INTERSECTION RADII.
- CONTRACTION JOINT SPACING FOR CURB AND CURB SHALL BE 10' STANDARD AND 8' MINIMUM.
- CONTRACTION JOINTS FOR SIDEWALKS SHALL BE PLACED AT ALL SLAB ENDS (5' TYPICAL, 3' MINIMUM TO 7' MAXIMUM).

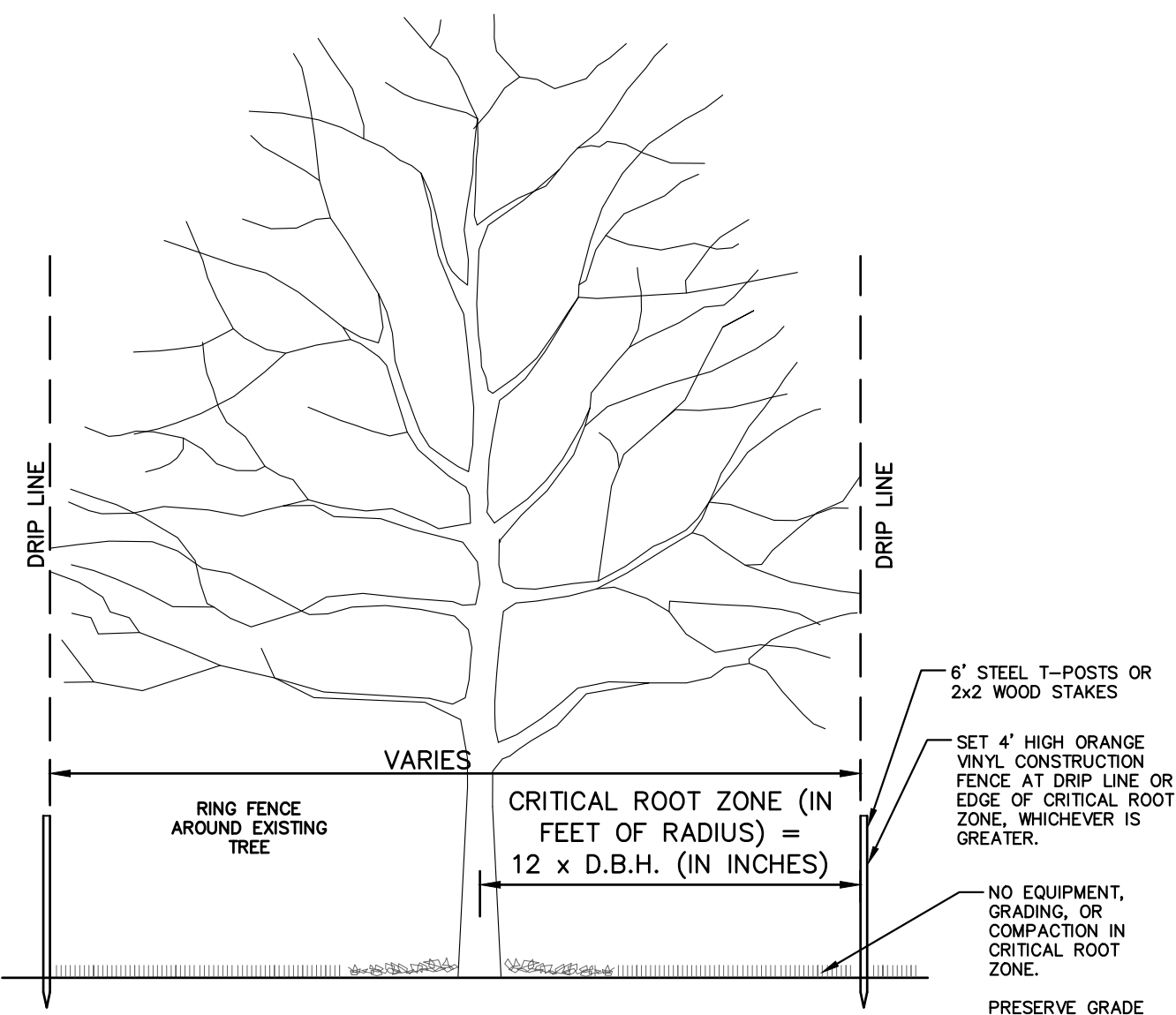
LEGEND:

- CONTRACTION JOINTS
- 1/2" EXPANSION JOINTS
- 3/4" EXPANSION JOINTS

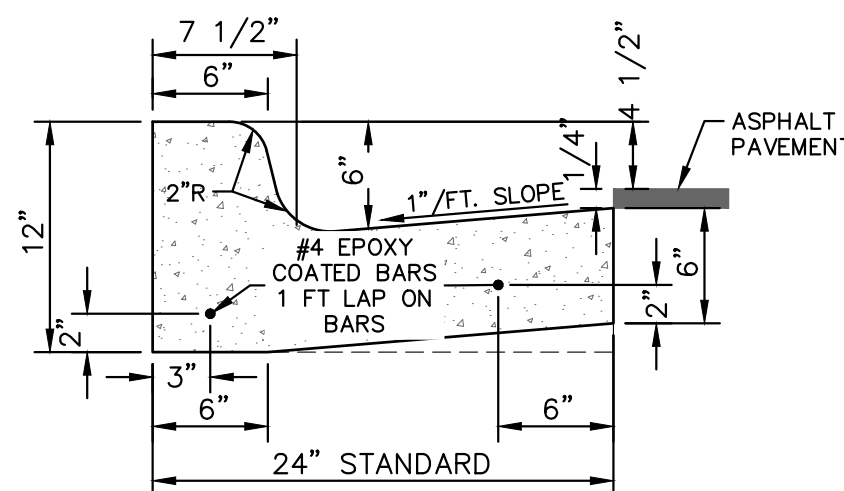


- SIZE AND SHAPE OF INLET FILTER SHALL MATCH THE STRUCTURE.
- WHERE CONDITIONS WARRANT, THE FILTER SHALL BE MADE WITH AN OIL-ABSORBENT FILTER WITH A WOVEN PILLLOW INSERT.

INLET PROTECTION



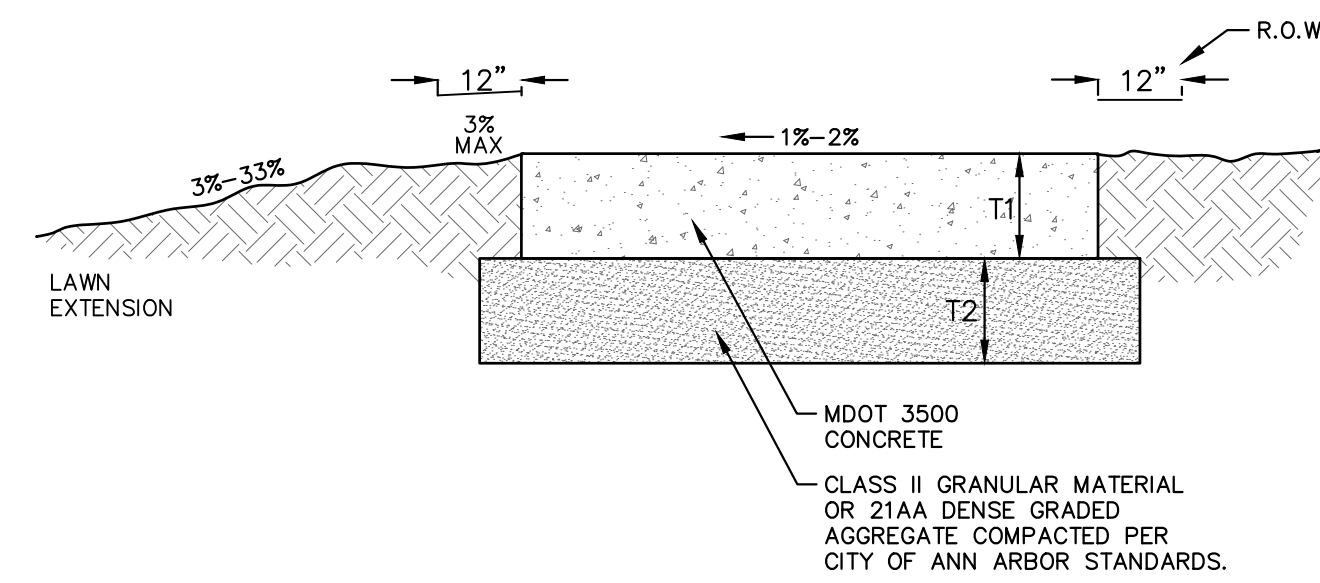
TREE PROTECTION



BARRIER CURB AND GUTTER

NOTES:

- BARRIER CURB AND GUTTER ON ASPHALT STREETS SHALL CONFORM TO THIS DETAIL.
- BARRIER CURB AND GUTTER ON CONCRETE STREETS SHALL CONFORM TO MDOT CURB AND GUTTER DETAIL F3.



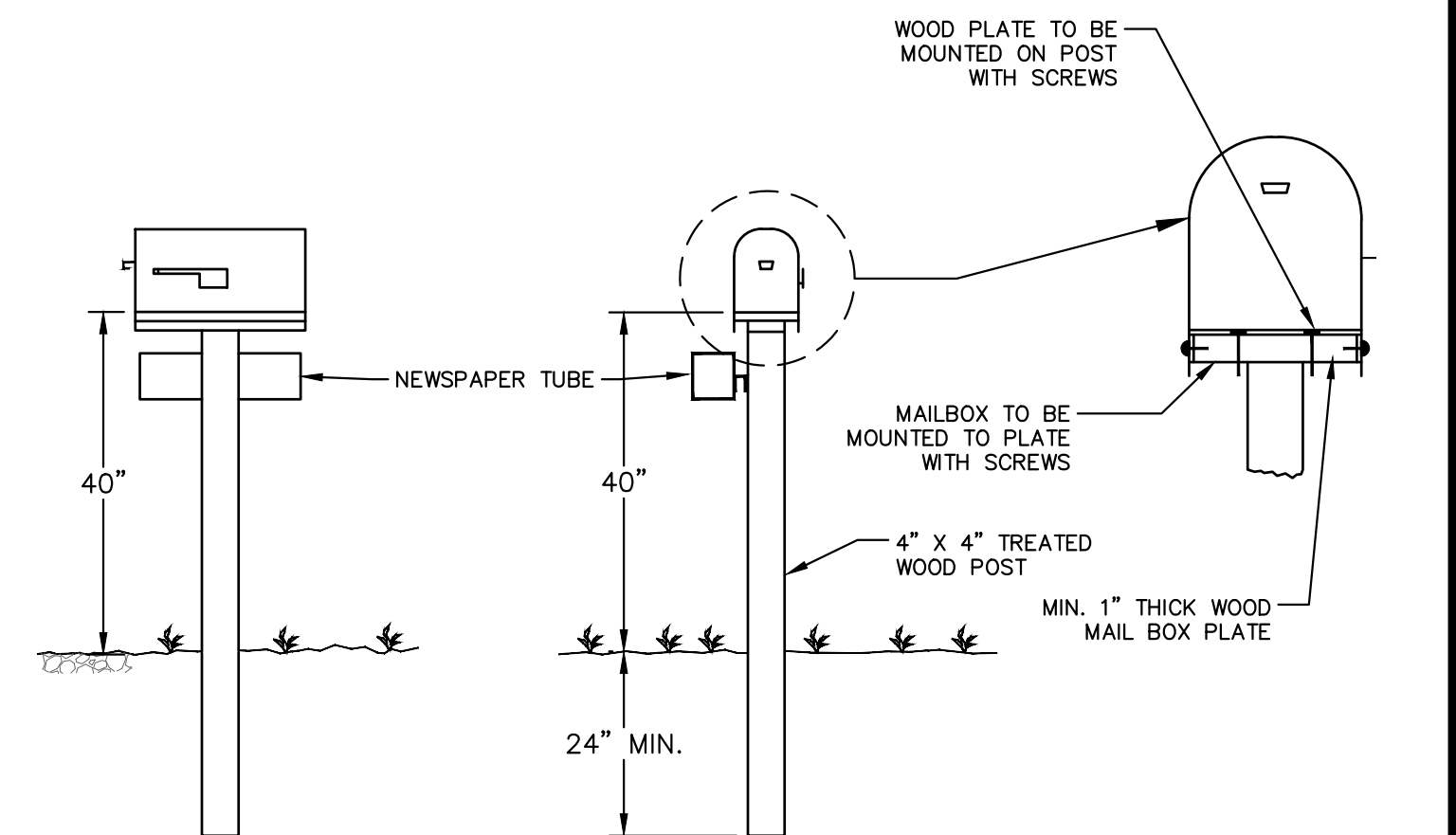
SIDEWALK CROSS SECTION

GENERAL NOTE:

SIDEWALKS IN THE DDA SHALL BE CONSTRUCTED PER DETAILS SD-DDA-1 THROUGH SD-DDA-7.

NOTES:

- STANDARD SIDEWALK WIDTH SHALL BE 5'.
- STANDARD SLAB LENGTH SHALL BE 5'.
- MINIMUM SLAB LENGTH SHALL BE 3' AND MAXIMUM 7'.
- MINIMUM SIDEWALK THICKNESS (T1) SHALL BE 4'.
- SIDEWALK THICKNESS (T1) SHALL BE INCREASED AT DRIVE APPROACHES TO 6" FOR SINGLE OR DUPLEX USES AND TO 8" FOR ALL OTHER USES.
- MINIMUM BASE THICKNESS (T2) SHALL BE 4'.
- MINIMUM BASE THICKNESS (T2) SHALL BE INCREASED TO 6" AT DRIVE APPROACHES.
- NATIVE MATERIAL IS ACCEPTABLE FOR SIDEWALK REPLACEMENT IF BASE IS STABLE AND FREE OF ORGANIC OR DELETERIOUS MATERIALS.
- SIDEWALK RAMPS SHALL BE CONSTRUCTED AT STREET INTERSECTIONS AS DIRECTED AND SHALL COMPLY WITH THE REQUIREMENTS OF MDOT DETAIL R-28 (LATEST VERSION).
- IF SIDEWALKS ARE APPROVED TO MEANDER WITHIN THE RIGHT-OF-WAY TO PROTECT AND SAVE TREES, SLOPES, ETC., CURVES IN THE SIDEWALK SHALL HAVE A MINIMUM 5' RADIUS, WITH A MINIMUM 3' LAWN EXTENSION.
- EXPANSION AND CONTRACTION JOINTS SHALL BE PROVIDED PER SIDEWALK AND CURB & GUTTER JOINT SPACING DETAIL SD-R-10.



NOTES:

- ALL WORK TO BE DONE UNDER CURRENT FEDERAL POSTAL SERVICE SPECIFICATIONS.
- FOR PERMANENT MAILBOX RELOCATION, POST TO BE NEW 4" X 4" POST, OR RESTORE ORIGINAL POST TO AS GOOD OR BETTER THAN ORIGINAL CONDITION.
- FOR TEMPORARY MAILBOX RELOCATION, THE USE OF EXISTING POST WILL BE PERMITTED.
- FOR NEWS PAPER TUBE RELOCATION THE USE OF EXISTING POST WILL BE PERMITTED.

MAILBOX NEWSPAPER TUBE INSTALLATION AND RELOCATION



NO.	DATE	BY/CHK	DESCRIPTION
00	11-14-2023	DF/OC/RB	PERMIT
			REV.

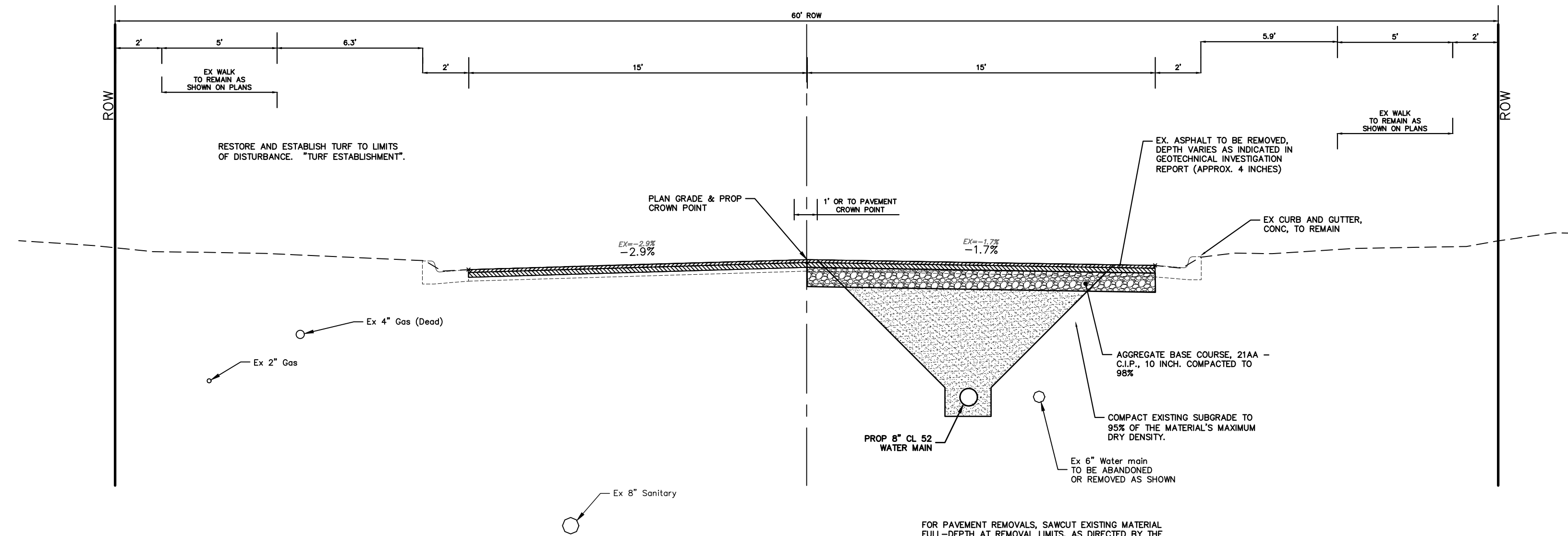
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ANN ARBOR, MI 48107-8647
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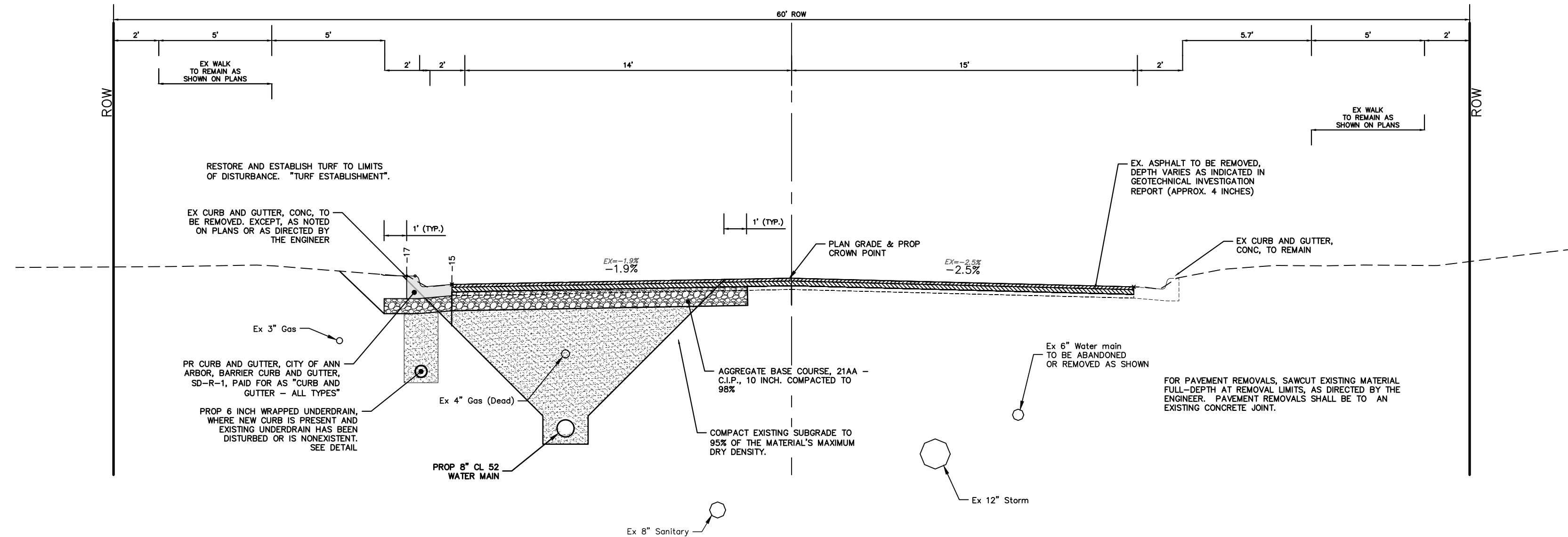
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SCALE: NTS
DRAWING No. 2022012-10
SHEET No. 10 OF 77

MISC. DETAILS

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**ARGYLE CRESCENT
TYPICAL SECTION**
0+00 TO 9+64



**ARGYLE CRESCENT
TYPICAL SECTION**
9+88 TO 15+98

HMA APPLICATION ESTIMATE						
HMA PAVEMENT	HMA MIX	RATE OF APPLICATION	THICKNESS (INCHES)	AWI (MIN.)	BINDER	LOCATION/NOTES
HMA PAVEMENT TOP	4EL	220 LB/SYD	2.0	220 (TOP)	PG 58-28	TOP COURSE
HMA PAVEMENT LEVELING	4EL	220 LB/SYD	2.0	-	PG 58-28	LEVELING COURSE
HMA APPROACH TOP	4EL	220 LB/SYD	2	220 (TOP)	PG 58-28	TOP COURSE
HMA APPROACH LEVELING	4EL	220 LB/SYD	2	-	PG 58-28	LEVELING COURSE
HAND PATCHING	4EL	0 - 440 LB/SYD			PG 58-28	HAND PATCHING
ASPHALT EMULSION	SS-1h	0.05 - 0.15 GAL/SYD	-	-	-	INCLUDE IN COST OF HMA ITEM



NO.	DATE	DESCRIPTION	BY/CC/KB	CHKD
00	11-14-2023	EGLC PERMIT	DF/CC/KB	NB
		REV.		

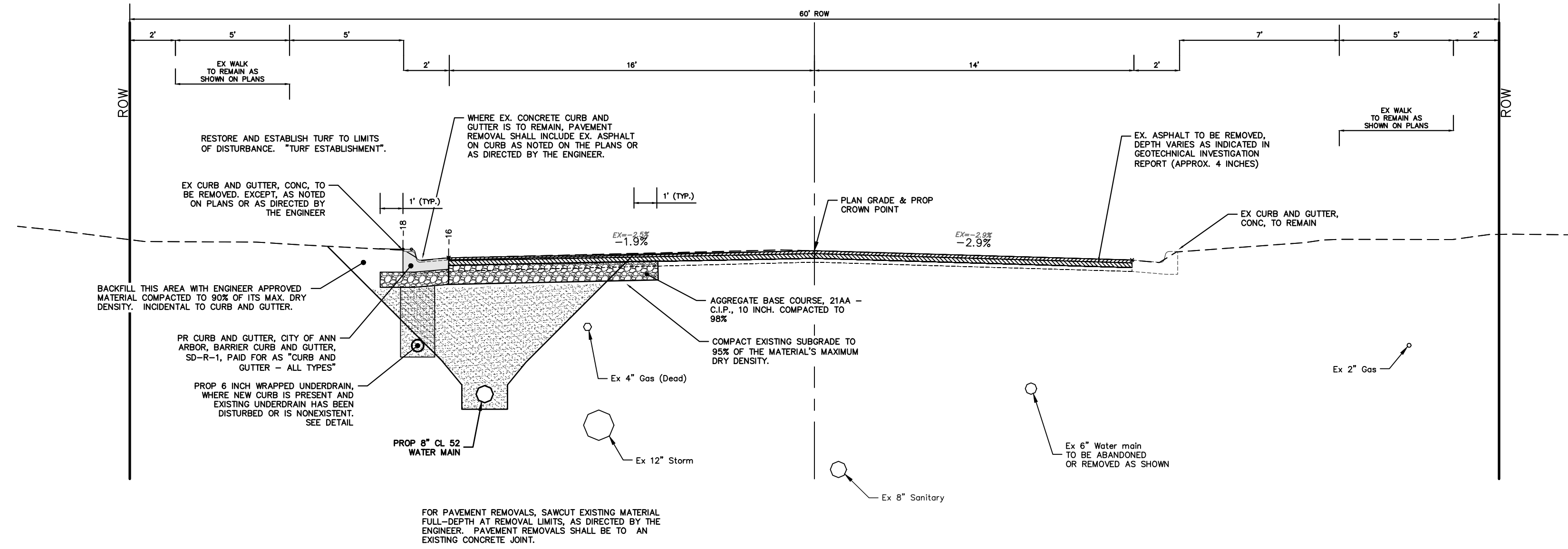
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ANN ARBOR, MI 48106-1667
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
CRESCENTS WATER MAIN REPLACEMENT PROJECT
TYPICAL SECTIONS
ARGYLE CRESCENT

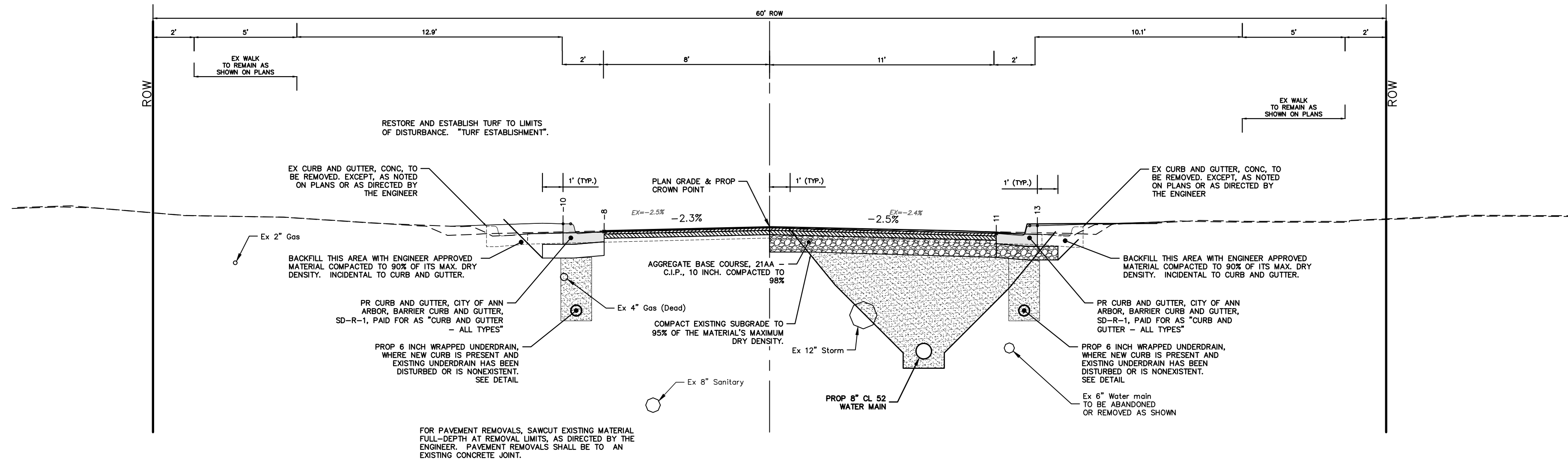
SCALE PLAN: 1" = 4'
DRAWING No. 2022012-11

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**CREAL CRESCENT
TYPICAL SECTION**

WATERMAIN TRENCH LEFT



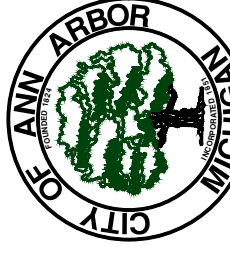
**CREAL CRESCENT
TYPICAL SECTION**

STA.: 40+05 TO 41+00



NO.	DATE	DESCRIPTION	BY	CHECKED
00	11-14-2023	PERMIT	DF/CC/AB	NB
				DRAWN
				CHECKED

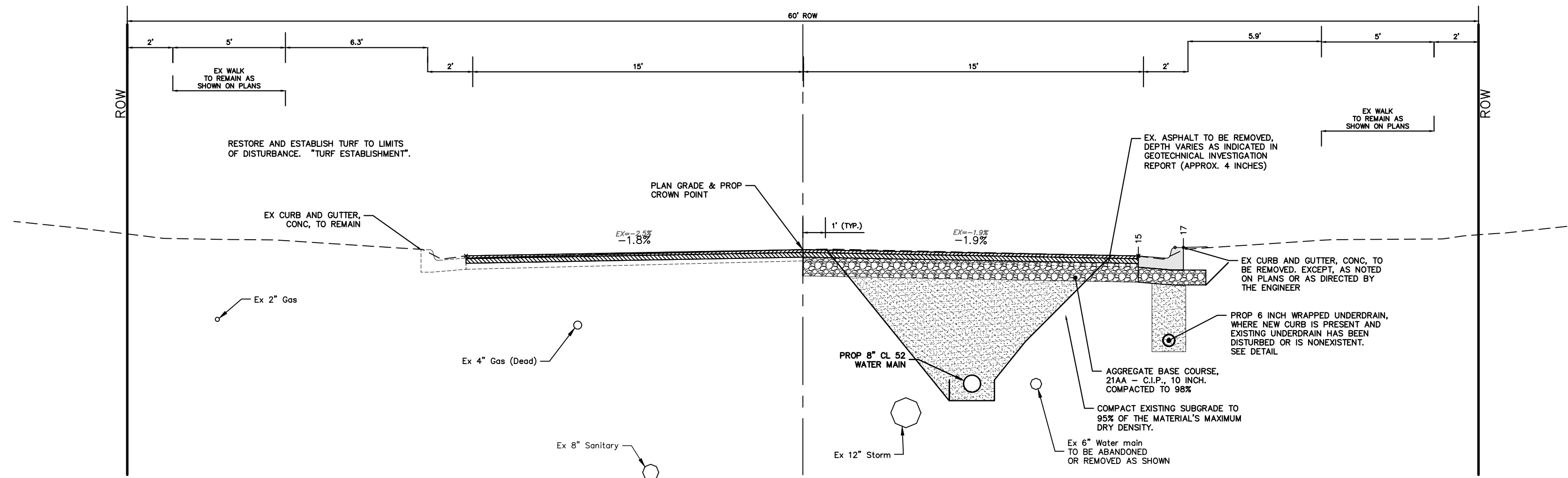
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PUBLIC SERVICES
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ANN ARBOR, MI 48106-1667
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
CRESCENTS WATER MAIN REPLACEMENT PROJECT
TYPICAL SECTIONS
CREAL CRESCENT

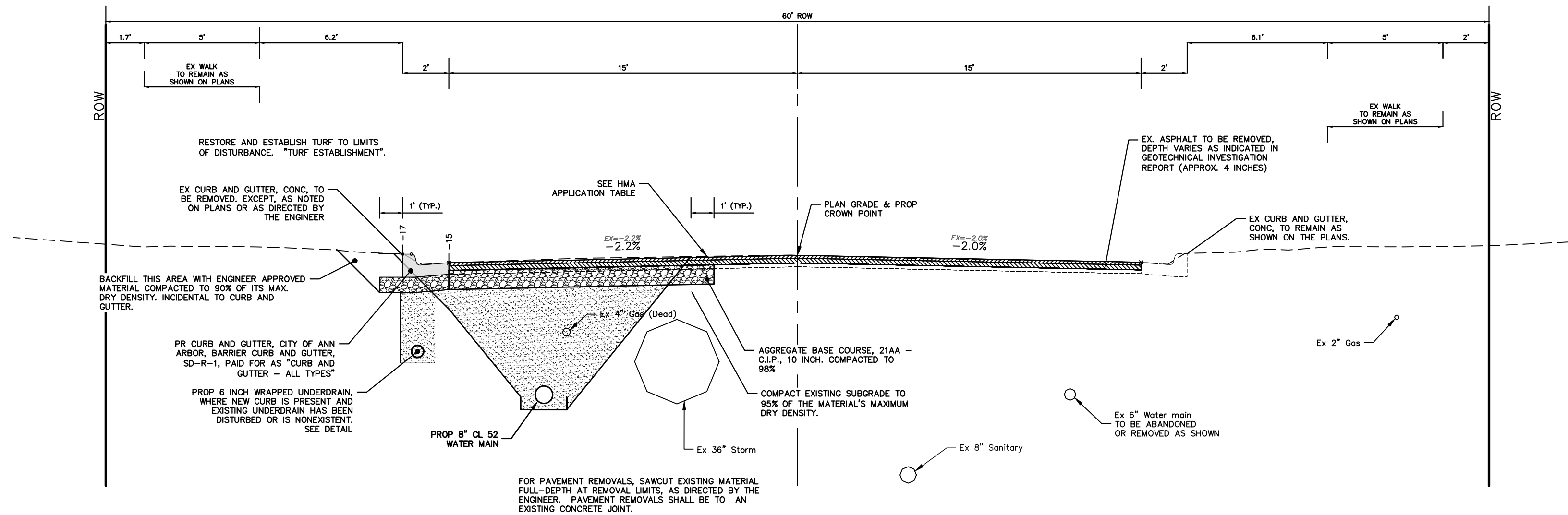
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DRAWING No. 2022012-12

R:\2022012 Crescents WM Replacement\Plan Production\2022012Sctn.dwg Dwg Created: 21-Apr-23 --_a2 standard bw.stb -- Plot Date: 14-Nov-23



**CREAL CRESCENT
TYPICAL SECTION**

WATERMAIN TRENCH RIGHT



**HELEN STREET
TYPICAL SECTION**



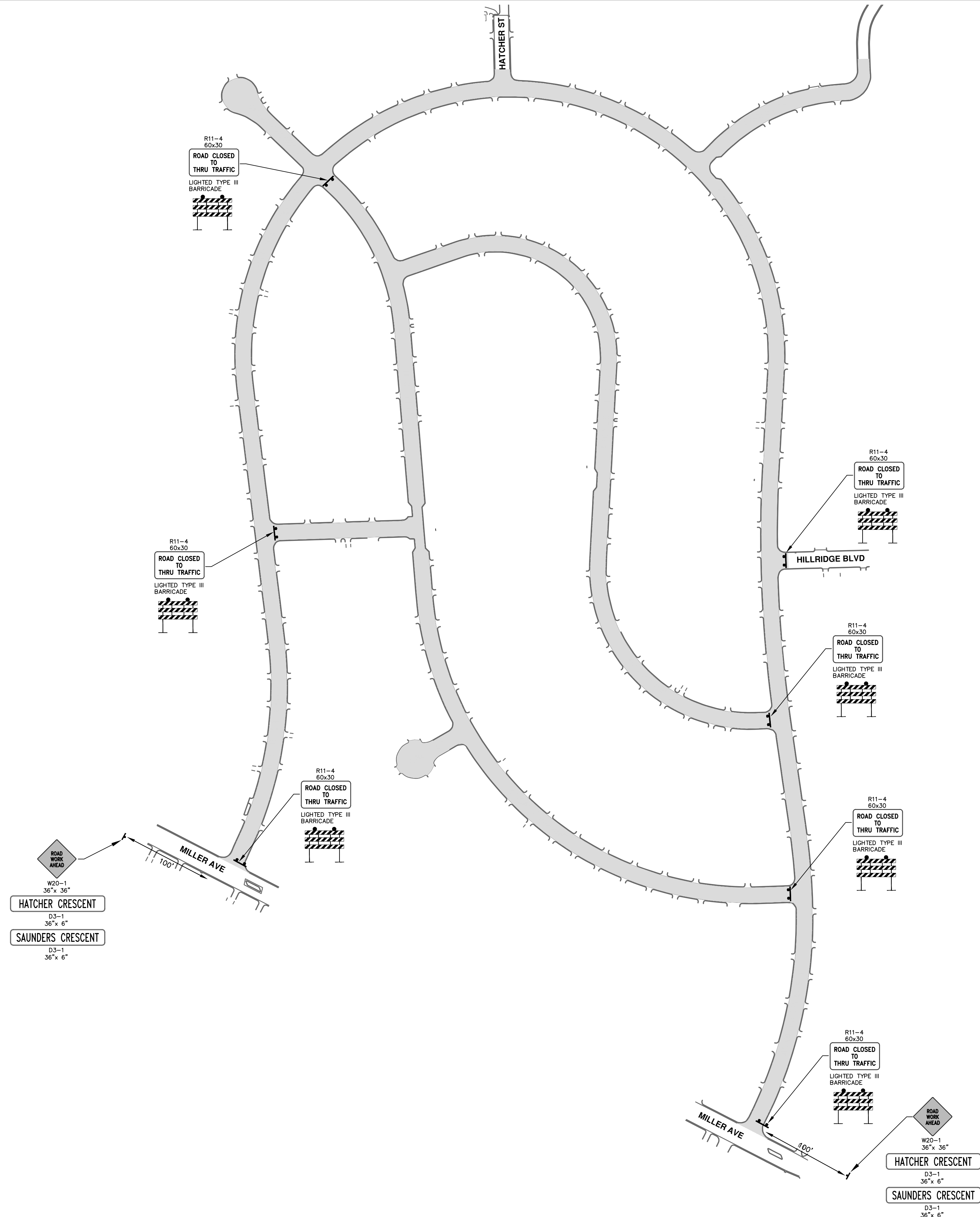
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TYPICAL SECTIONS
CREAL CRESCENT & HELEN STREET

SCALE PLAN: 1" = 4'
DRAWING No. 2022012-13



SIGNAGE QUANTITIES FOR WATER MAIN TIE-INS AT STREET INTERSECTIONS

BARRICADE, TYPE III, HIGH INTENSITY, LIGHTED - 7 EACH
TEMPORARY SIGN-TYPE B, FURNISH AND OPERATE - 106 SFT
TEMPORARY SIGN-TYPE B, FURNISH AND OPERATE, SPECIAL - 6 SFT

ADDITIONAL SIGNAGE FOR WATER MAIN TIE-INS AT STREET INTERSECTIONS

SIGN	NUMBER	QUANTITY
ROAD CLOSED	R11-2 48"x30"	8
BARRICADE, TYPE III, HIGH INTENSITY, LIGHTED - 16 EACH		
PEDESTRIAN TYPE II BARRICADE, TEMP - 12 EACH		

NOTES:

1. FINAL LIMITS OF PAVEMENT REMOVAL FOR UTILITY INSTALLATION WILL BE AS DIRECTED BY ENGINEER.
2. UTILIZE PLASTIC DRUMS AND PROTECTIVE FENCING WITHIN WORK ZONE TO DELINEATE OPEN TRENCHES AS DIRECTED BY ENGINEER.
3. MAINTAIN PEDESTRIAN ACCESS DURING CONSTRUCTION.
4. COVER CONFLICTING SIGNS AS NEEDED OR AS DIRECTED BY ENGINEER.
5. REMOVE CONFLICTING PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER.
6. CONTRACTOR SHALL PLACE PORTABLE, CHANGEABLE MESSAGE SIGNS A MINIMUM OF ONE (1) WEEK PRIOR TO THE START OF CONSTRUCTION IN LOCATIONS INDICATED BY ENGINEER. MESSAGE TO BE PROVIDED BY THE ENGINEER.

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CRESCENTS WATER MAIN REPLACEMENT PROJECT

TRAFFIC CONTROL

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DATE: 11-14-2023
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CHECKED: NB

REV. 00
DESCRIPTION: EGLE PERMIT

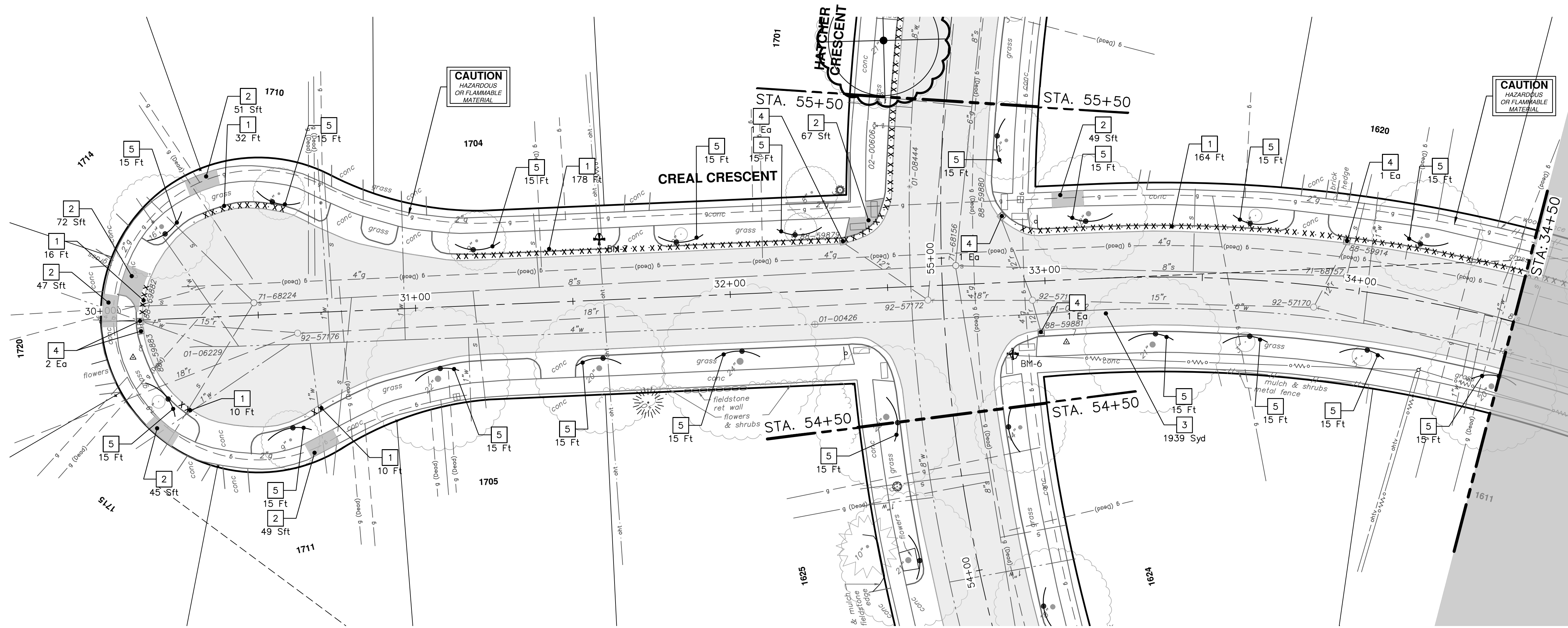
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SCALE: NTS

DRAWING No. 2022012-14

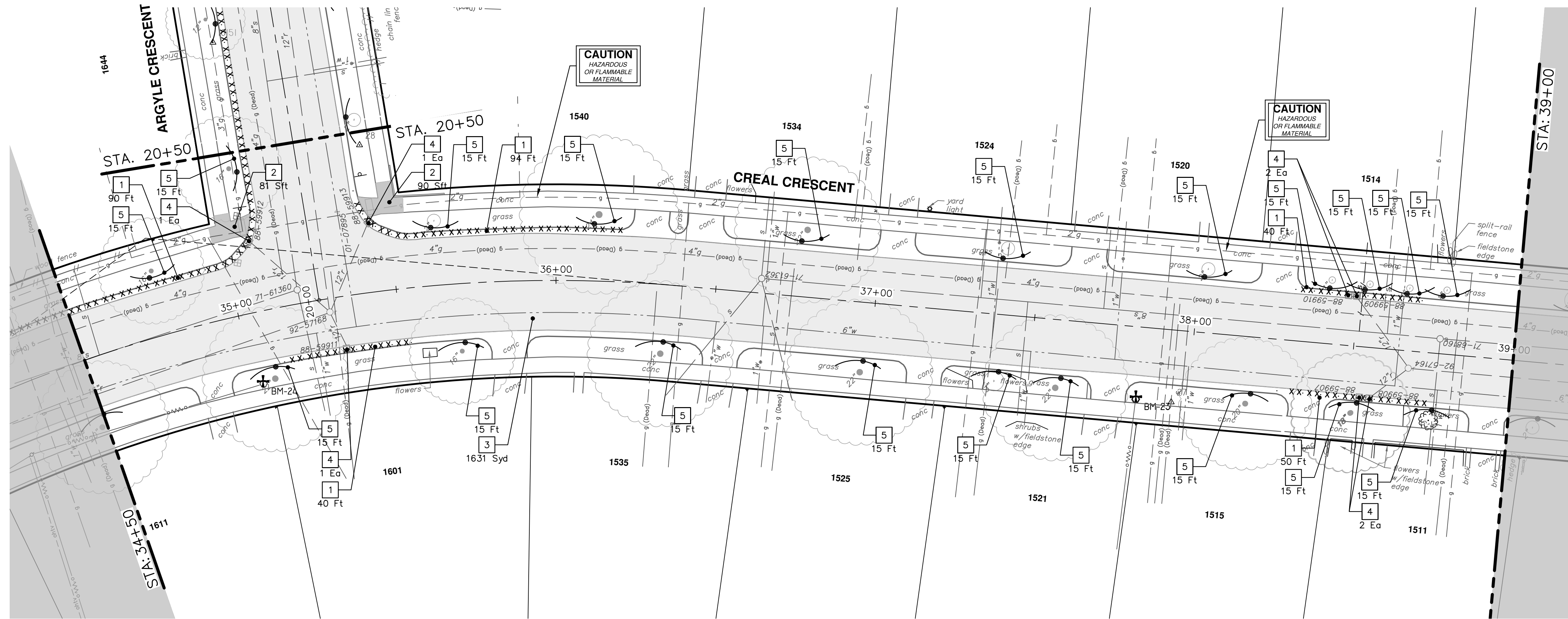
SHEET No. 14 OF 77

TRAFFIC CONTROL



REMOVAL KEY	
KEY	DESCRIPTION
1	REMOVE CONCRETE CURB OR CURB & GUTTER, ANY TYPE
2	REMOVE CONCRETE SIDEWALK, RAMP AND DRIVES, ANY THICKNESS
3	HMA PAVEMENT REMOVAL, ANY DEPTH*
4	INLET FILTER
5	PROTECTIVE FENCING
6	SILT FENCE
7	TREE REMOVAL, 8" AND LARGER

*SAWCUT FULL DEPTH AT REMOVAL LIMITS



REV.	DESCRIPTION	DATE	DRAWN	CHECKED
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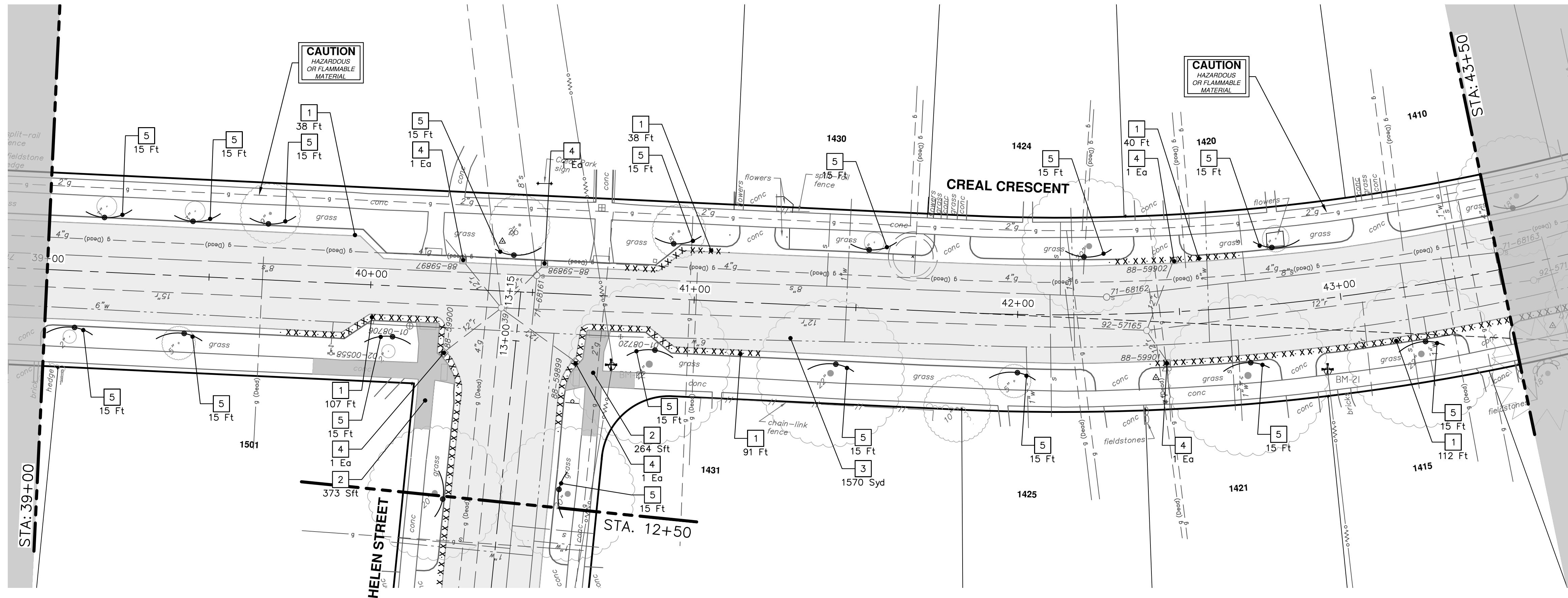
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
CRESCENTS WATER MAIN REPLACEMENT PROJECT
CREAL CRESCENT REMOVALS
STA. 30+00 - STA. 39+00

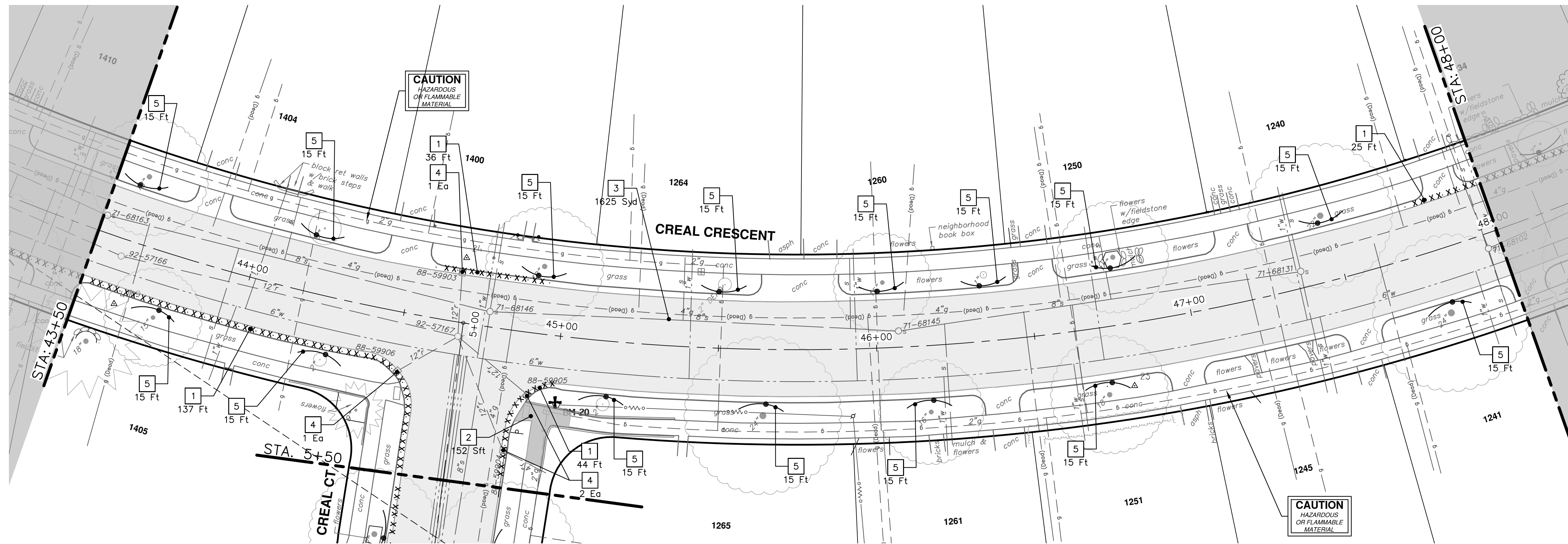
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REMOVAL KEY	
KEY	DESCRIPTION
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2	REMOVE CONCRETE SIDEWALK, RAMP AND DRIVES, ANY THICKNESS
3	HMA PAVEMENT REMOVAL, ANY DEPTH*
4	INLET FILTER
5	PROTECTIVE FENCING
6	SILT FENCE
7	TREE REMOVAL, 8" AND LARGER

*SAWCUT FULL DEPTH AT REMOVAL LIMITS



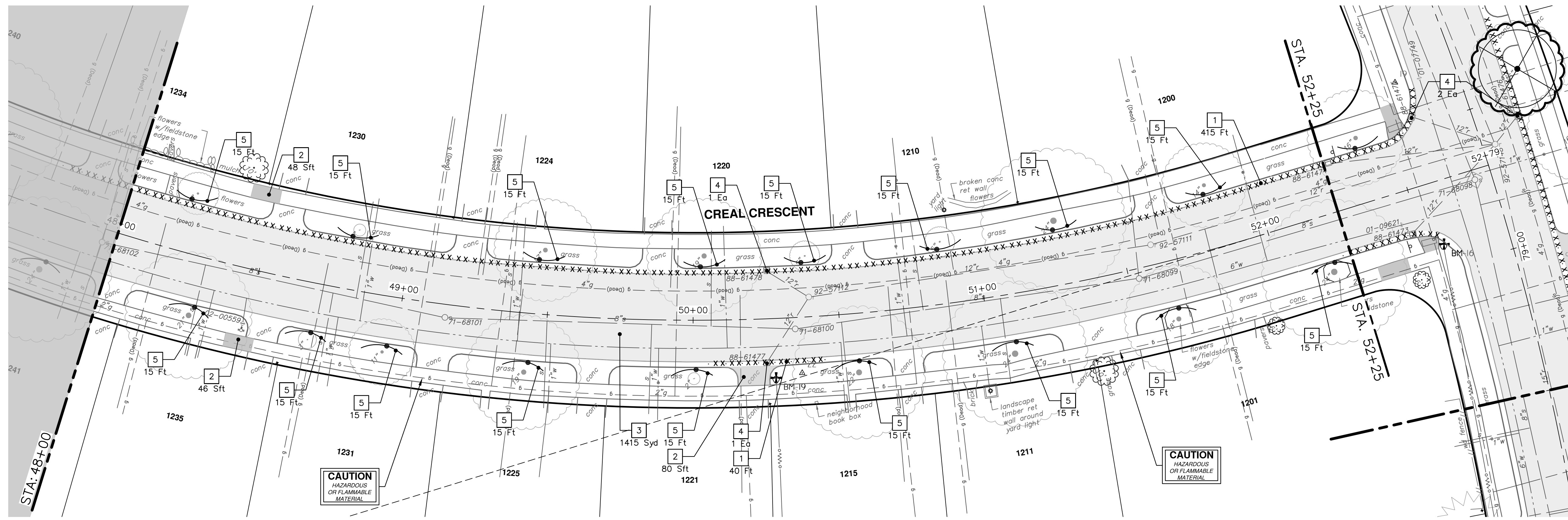
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CRESCENTS WATER MAIN REPLACEMENT PROJECT
CREAL CRESCENT REMOVALS
STA. 39+00 - STA. 48+00

SCALE: 1" = 20'
DRAWING No. 2022012-16

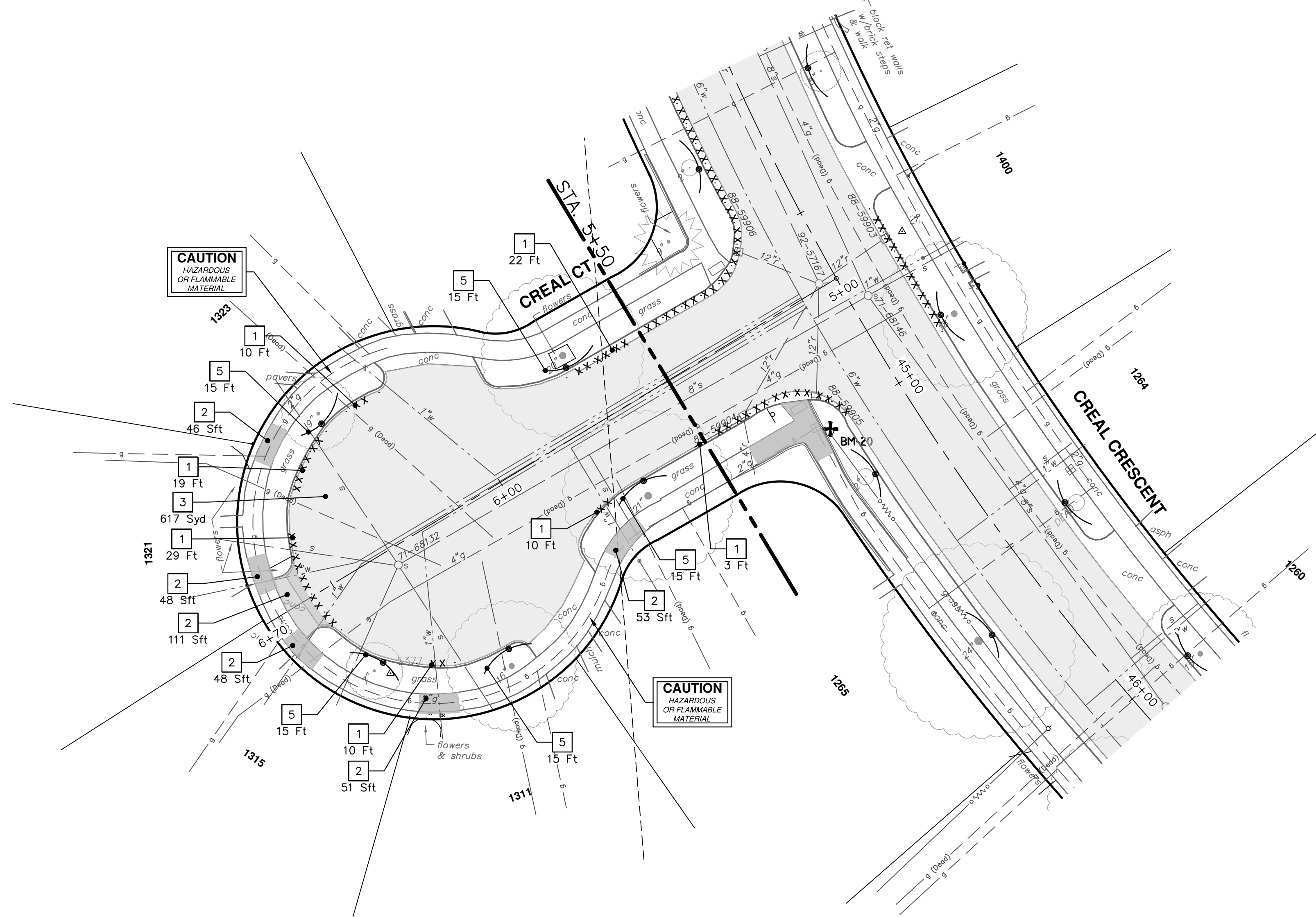
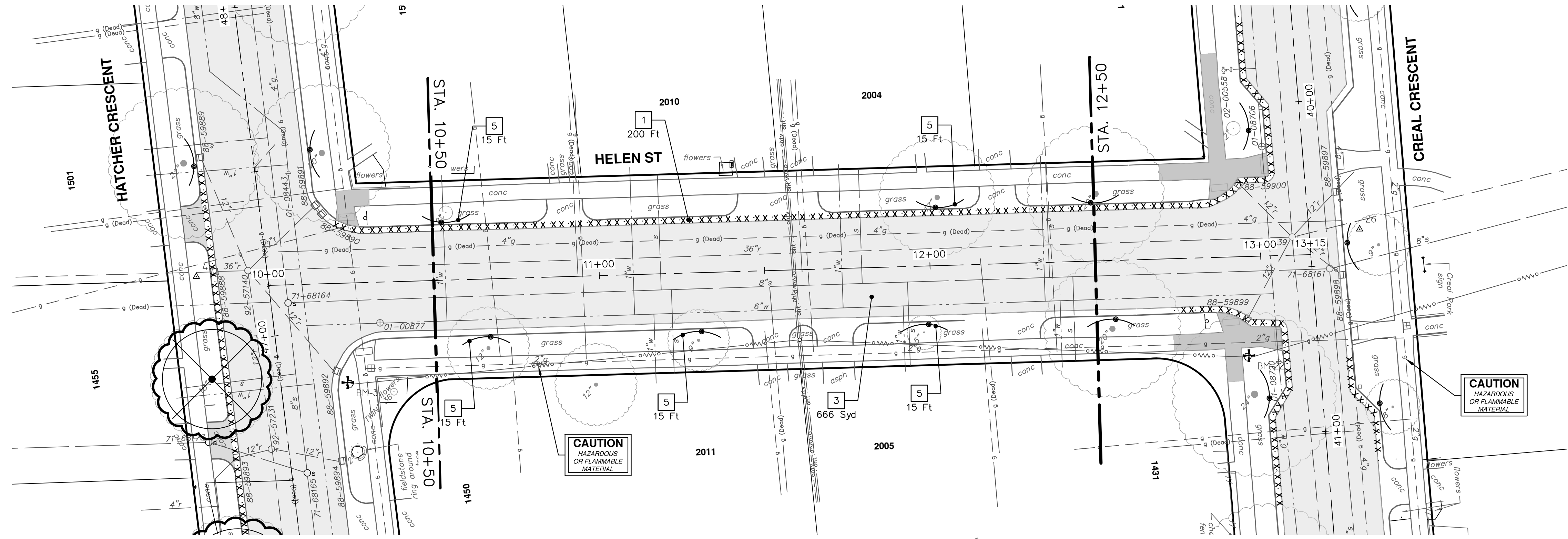


REMOVAL KEY	
KEY	DESCRIPTION
1	REMOVE CONCRETE CURB OR CURB & GUTTER, ANY TYPE
2	REMOVE CONCRETE SIDEWALK, RAMP AND DRIVES, ANY THICKNESS
3	HMA PAVEMENT REMOVAL, ANY DEPTH*
4	INLET FILTER
5	PROTECTIVE FENCING
6	SILT FENCE
7	TREE REMOVAL, 8" AND LARGER

*SAWCUT FULL DEPTH AT REMOVAL LIMITS

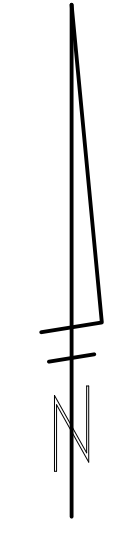


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REMOVAL KEY	
KEY	DESCRIPTION
1	REMOVE CONCRETE CURB OR CURB & GUTTER, ANY TYPE
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5	PROTECTIVE FENCING
6	SILT FENCE
7	TREE REMOVAL, 8" AND LARGER

*SAWCUT FULL DEPTH AT REMOVAL LIMITS



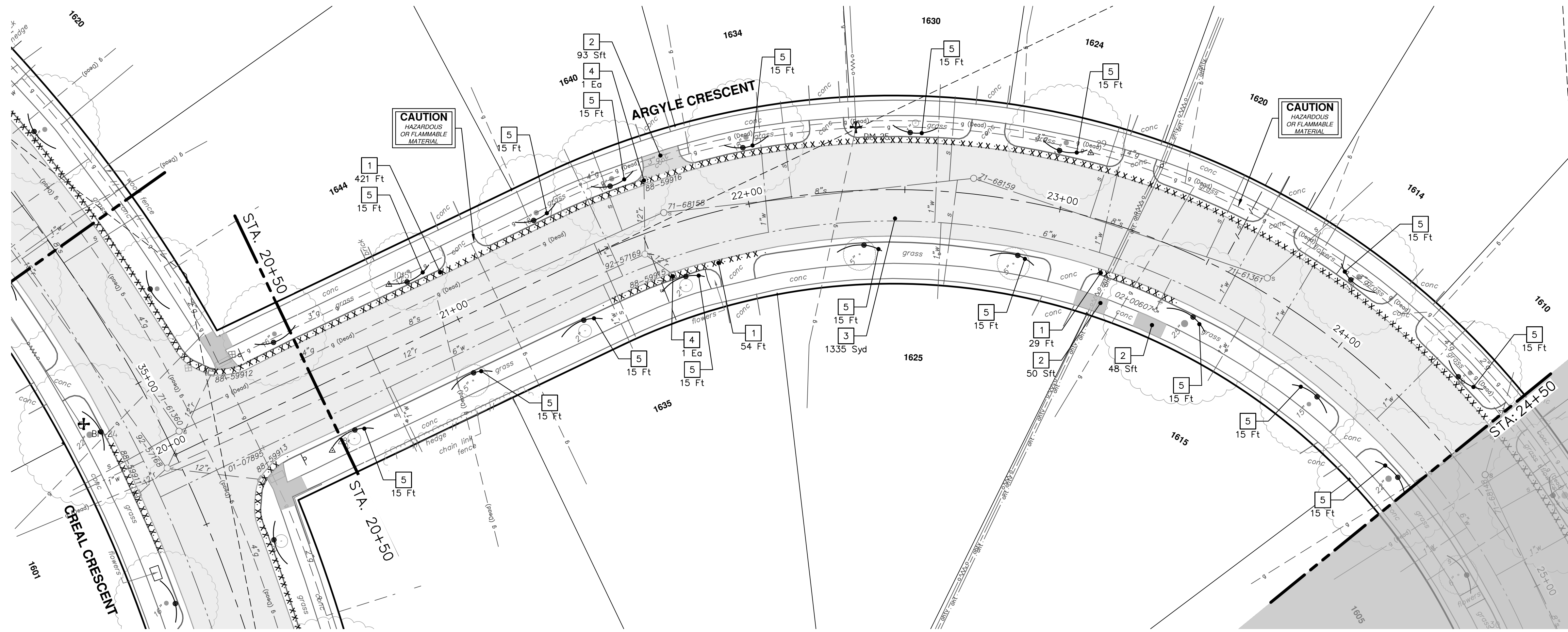
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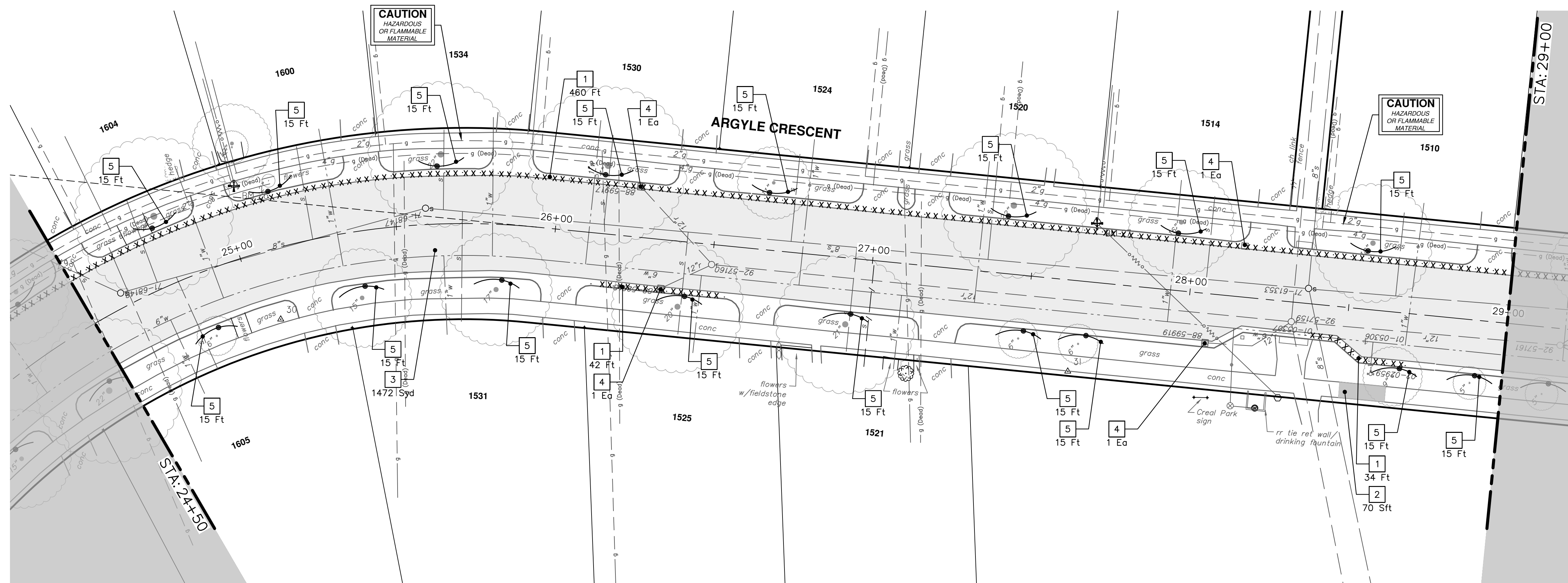
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CRESCENTS WATER MAIN REPLACEMENT PROJECT
HELEN STREET & CREAL COURT
REMOVALS

SCALE: 1" = 20'
DRAWING No. 2022012-18
SHEET No.



REMOVAL KEY	
KEY	DESCRIPTION
1	REMOVE CONCRETE CURB OR CURB & GUTTER, ANY TYPE
2	REMOVE CONCRETE SIDEWALK, RAMP AND DRIVES, ANY THICKNESS
3	HMA PAVEMENT REMOVAL, ANY DEPTH*
4	INLET FILTER
5	PROTECTIVE FENCING
6	SILT FENCE
7	TREE REMOVAL, 8" AND LARGER

*SAWCUT FULL DEPTH AT REMOVAL LIMITS



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00	11-14-2023	DATE	
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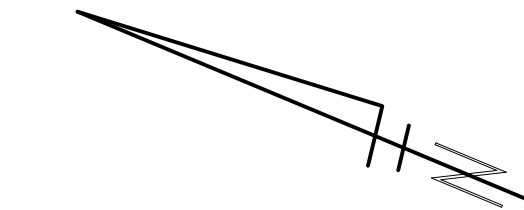
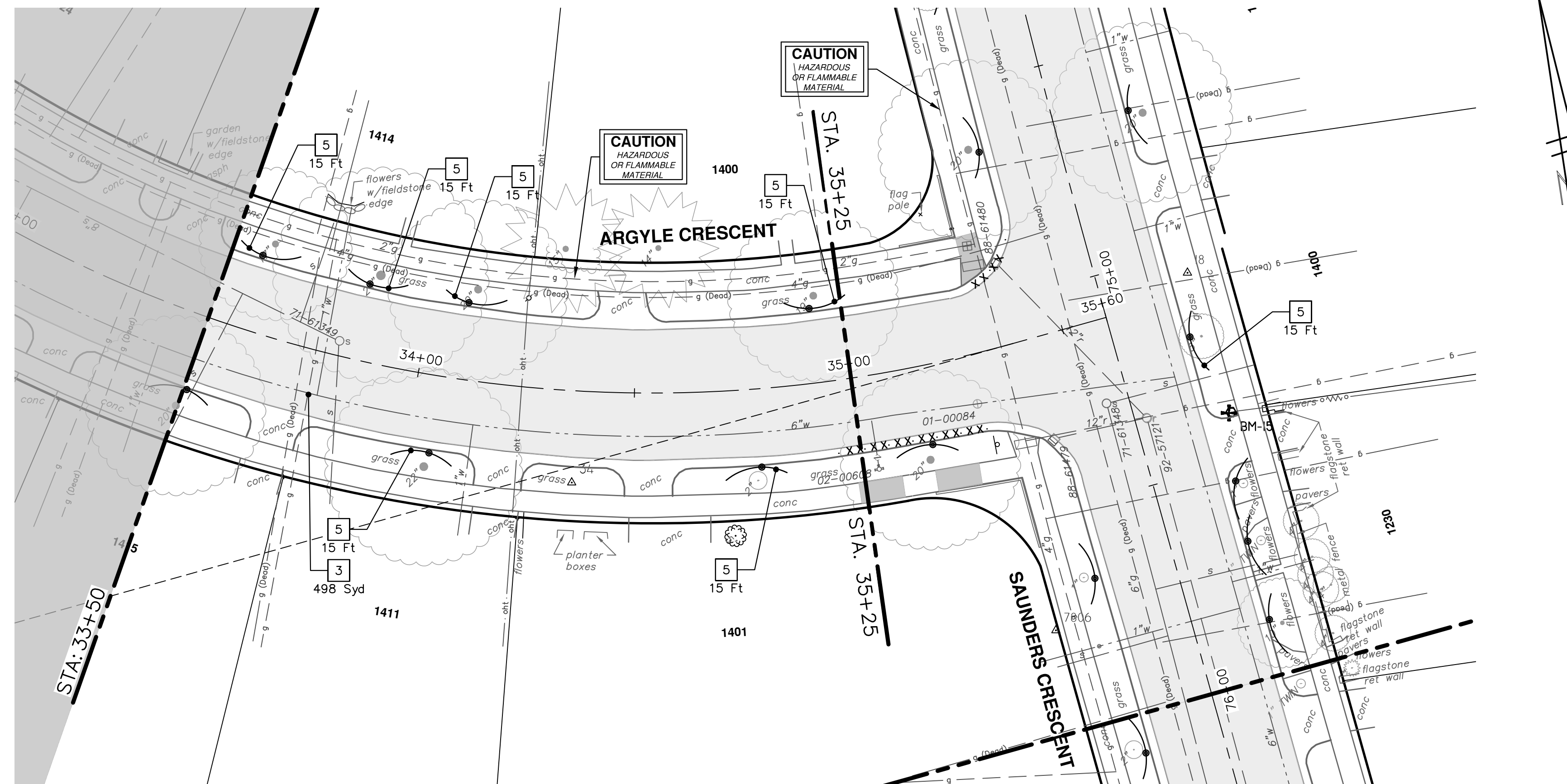
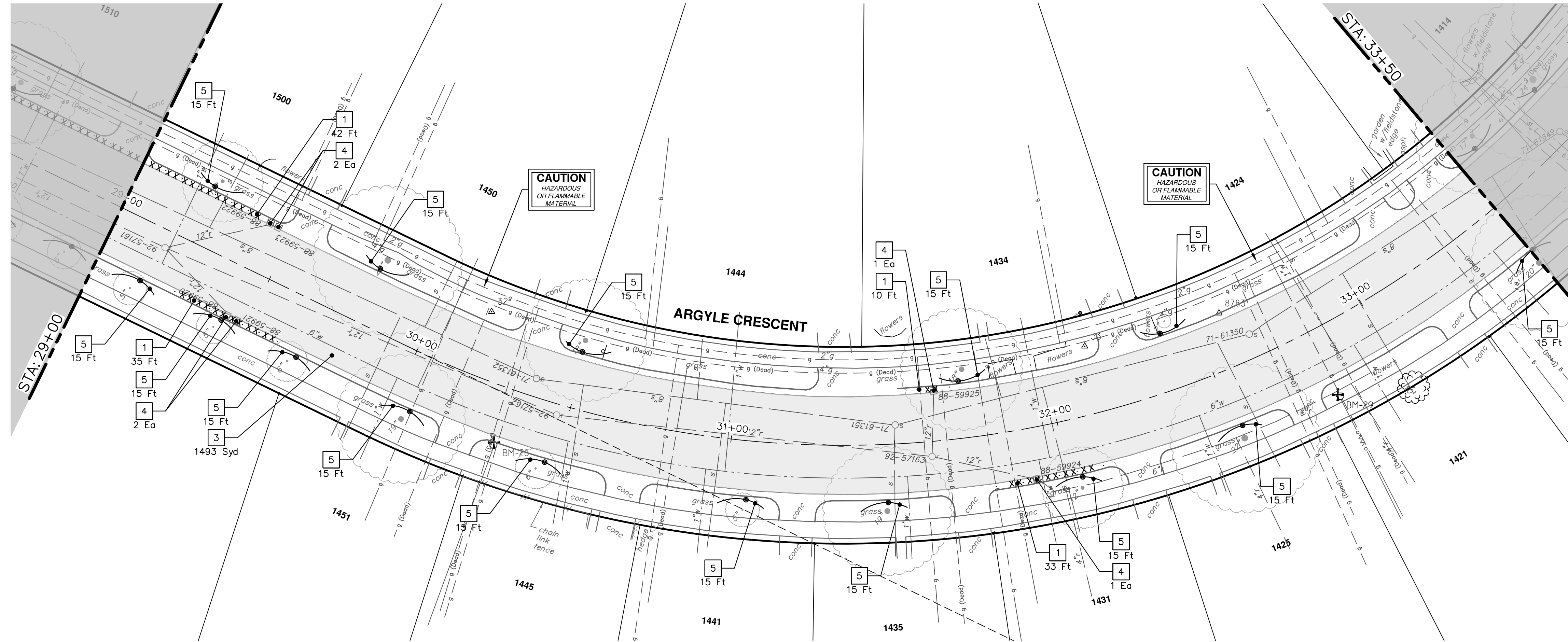
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CRESCENTS WATER MAIN REPLACEMENT PROJECT
ARGYLE CRESCENT REMOVALS
STA. 20+00 - STA. 29+00

SCALE: 1" = 20'
DRAWING No. 2022012-19
SHEET No.

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REMOVAL KEY	
KEY	DESCRIPTION
1	REMOVE CONCRETE CURB OR CURB & GUTTER, ANY TYPE
2	REMOVE CONCRETE SIDEWALK, RAMP AND DRIVES, ANY THICKNESS
3	HMA PAVEMENT REMOVAL, ANY DEPTH*
4	INLET FILTER
5	PROTECTIVE FENCING
6	SILT FENCE
7	TREE REMOVAL, 8" AND LARGER

*SAWCUT FULL DEPTH AT REMOVAL LIMITS



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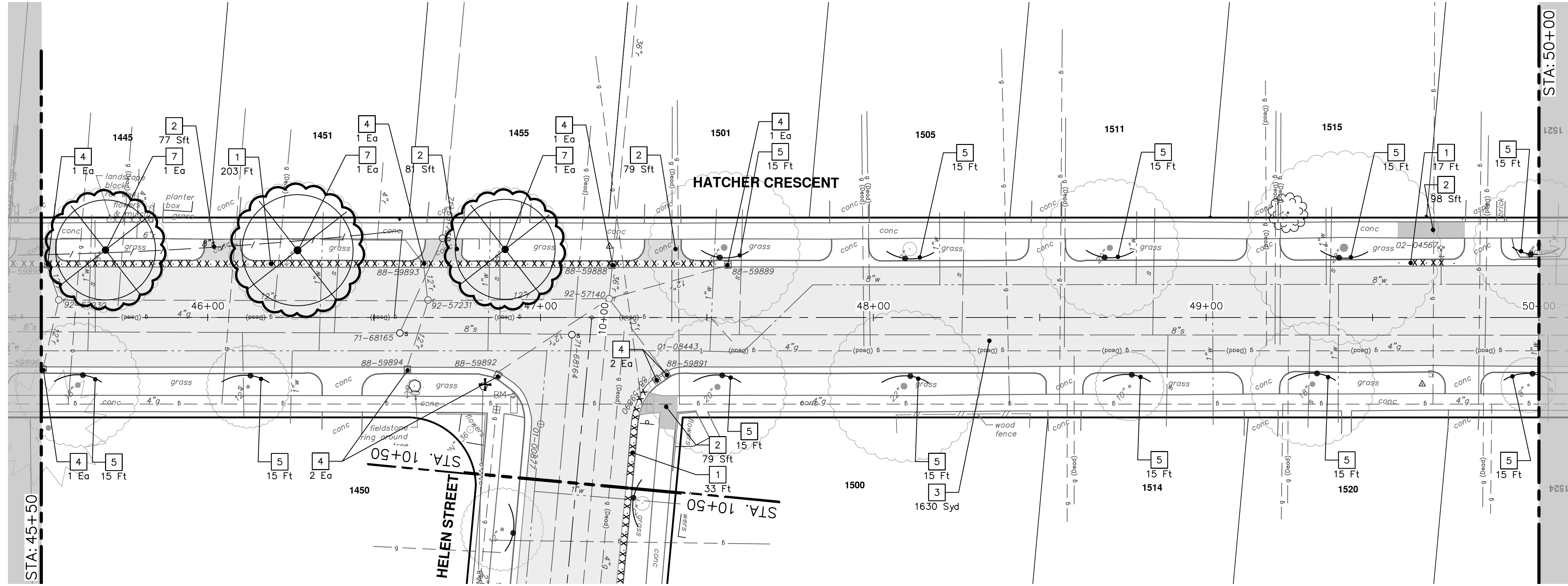
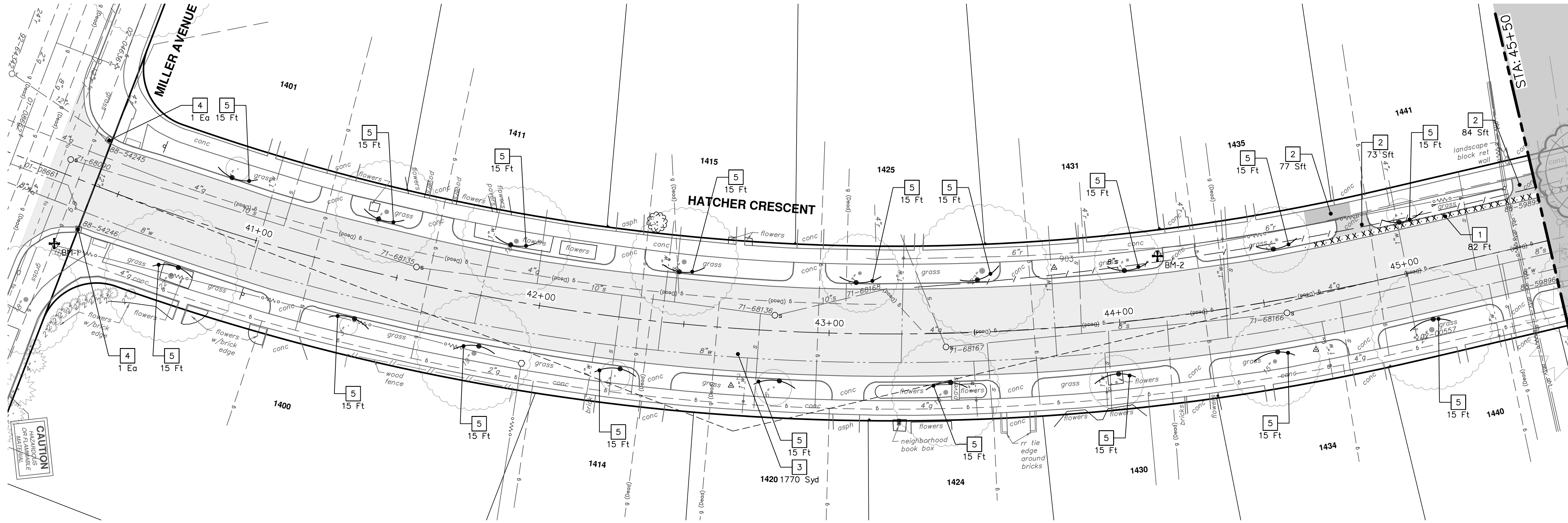
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ARGYLE CRESCENT REMOVALS
STA. 29+00 - STA. 35+60

SCALE: 1" = 20'
DRAWING No. 2022012-20

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SCALE: 1" = 20'

SHEET No. **21 OF 77**

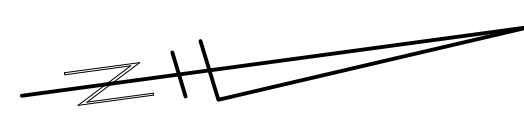
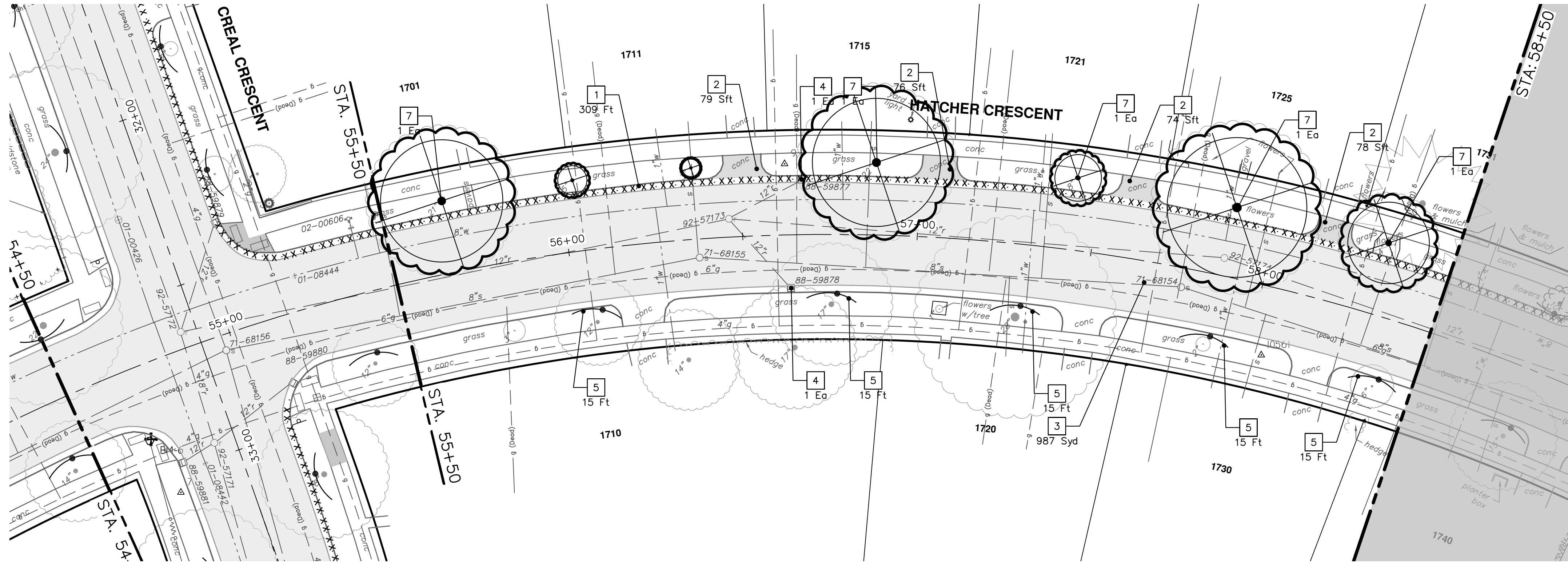
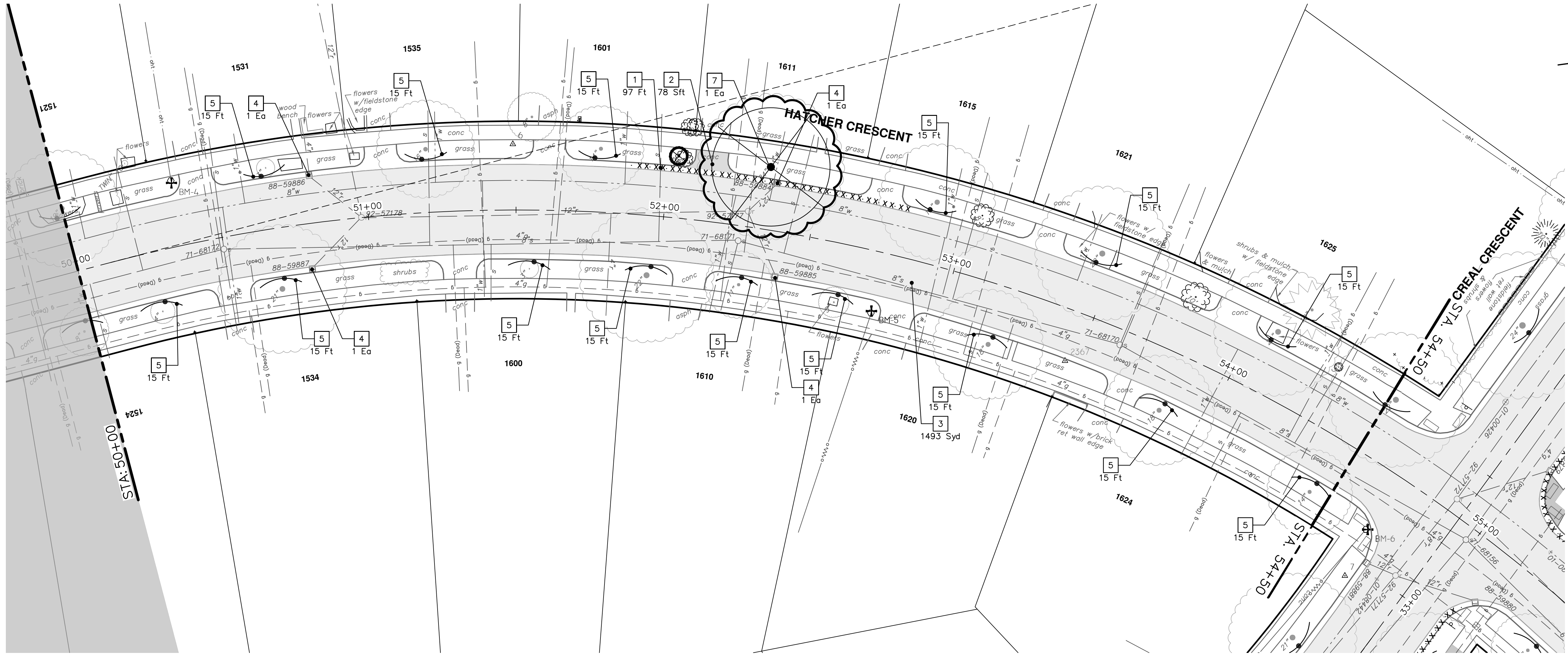
CRESCENTS WATER MAIN REPLACEMENT PROJECT

HATCHER CRESCENT REMOVALS
STA. 40+00 - STA. 50+00

DRAWING No. **2022012-21**

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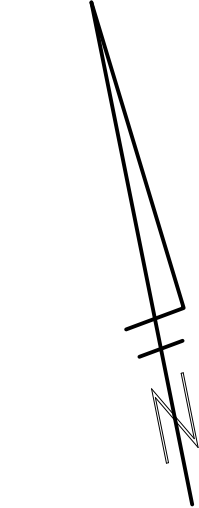
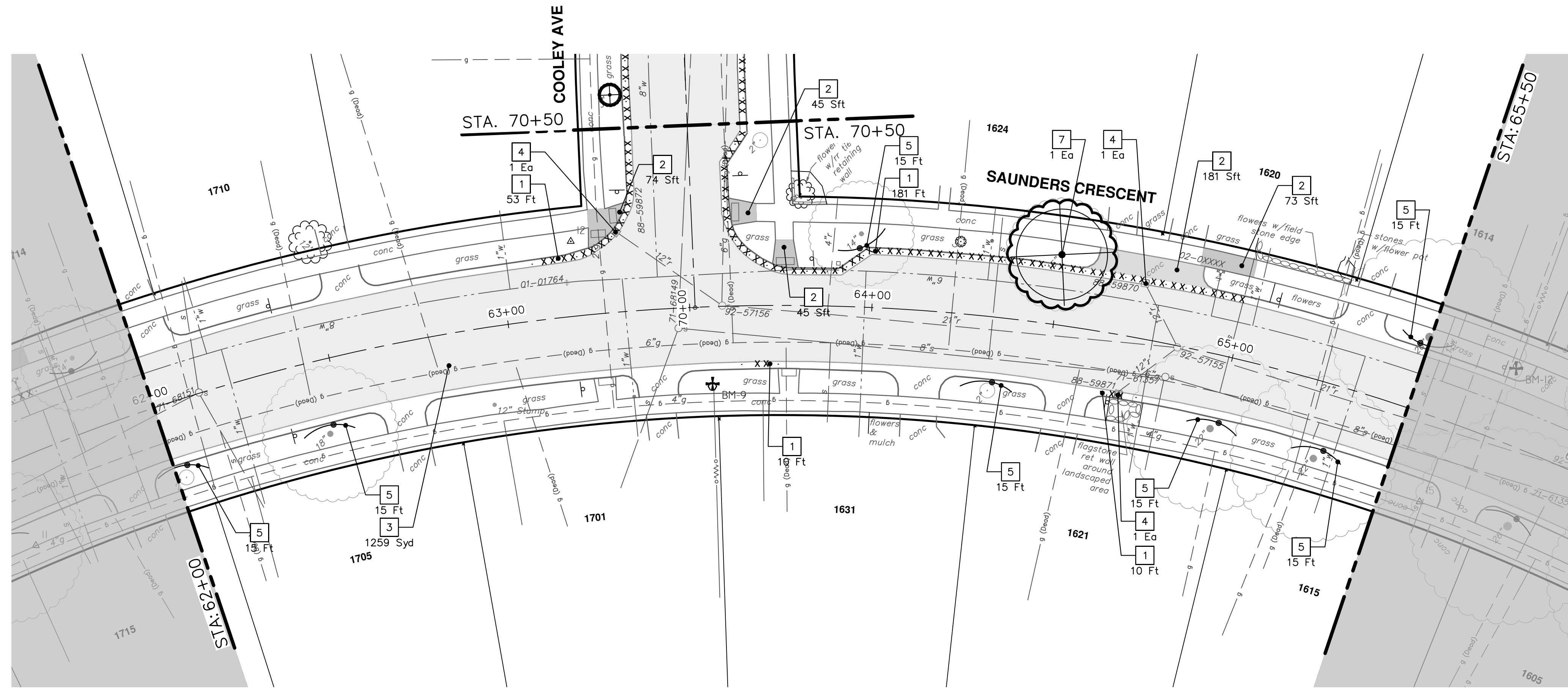
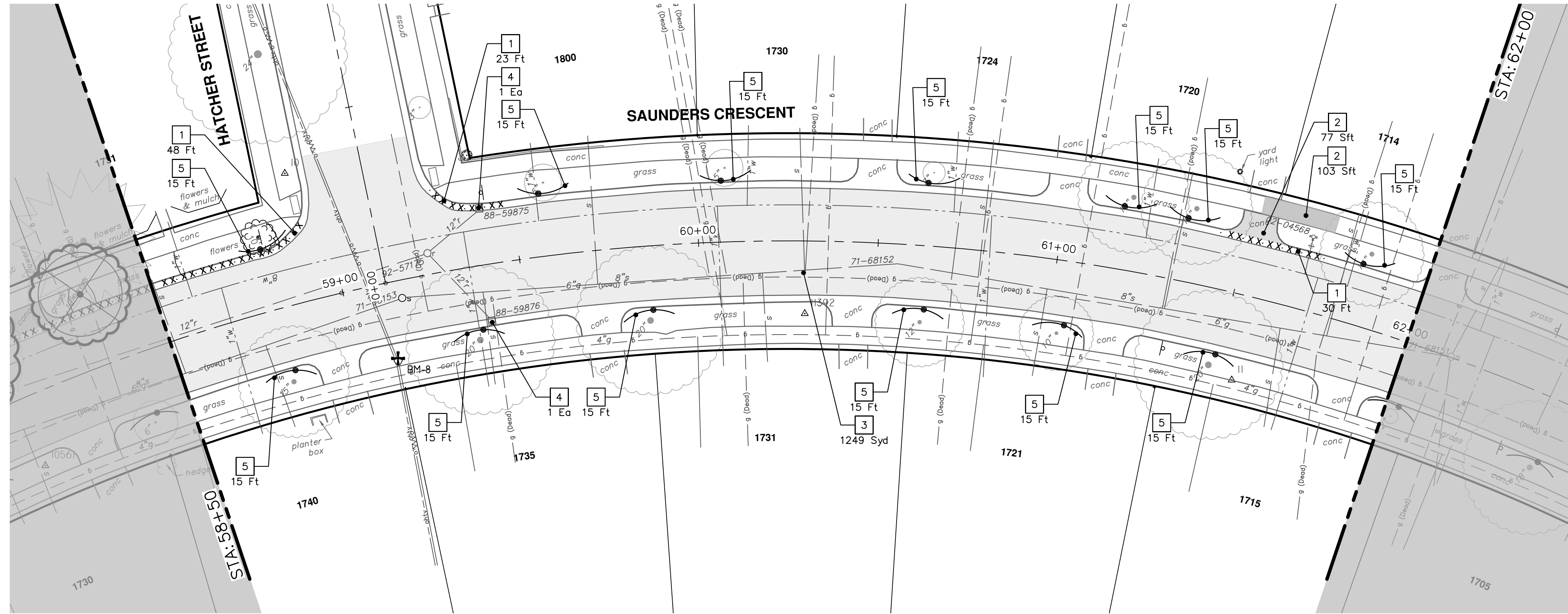
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HATCHER CRESCENT REMOVALS
 STA. 50+00 - STA. 58+50



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REMOVAL KEY	
KEY	DESCRIPTION
1	REMOVE CONCRETE CURB OR CURB & GUTTER, ANY TYPE
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4	INLET FILTER
5	PROTECTIVE FENCING
6	SILT FENCE
7	TREE REMOVAL, 8" AND LARGER

*SAWCUT FULL DEPTH AT REMOVAL LIMITS



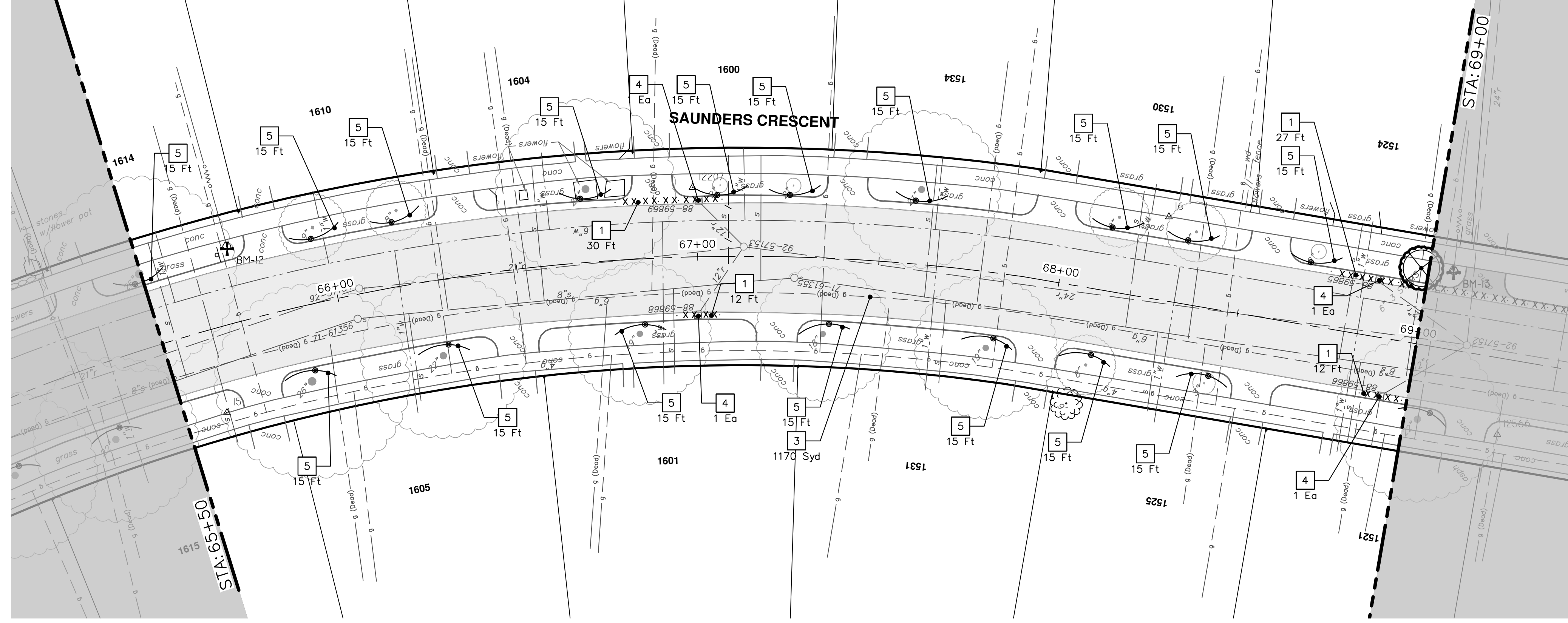
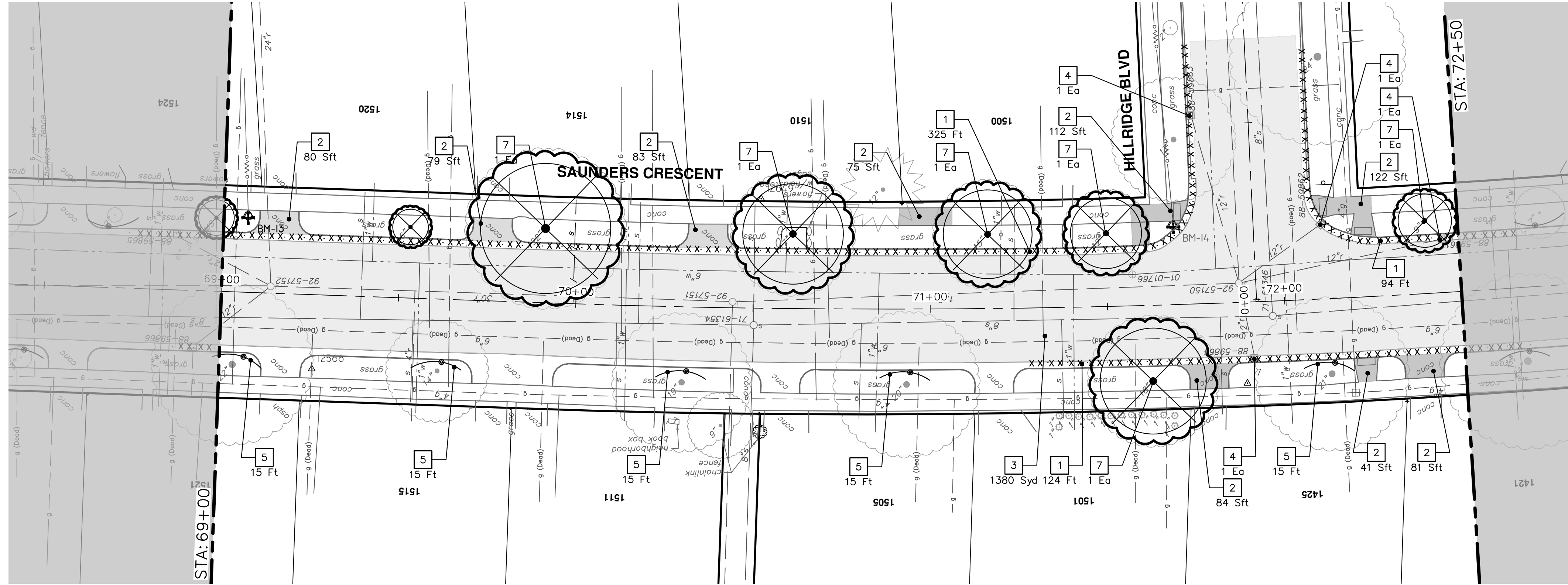
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SAUNDERS CRESCENT REMOVALS
STA. 58+50 - STA. 65+50

SCALE: 1" = 20'
DRAWING No. 2022012-23



REMOVAL KEY	
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4	INLET FILTER
5	PROTECTIVE FENCING
6	SILT FENCE
7	TREE REMOVAL, 8" AND LARGER

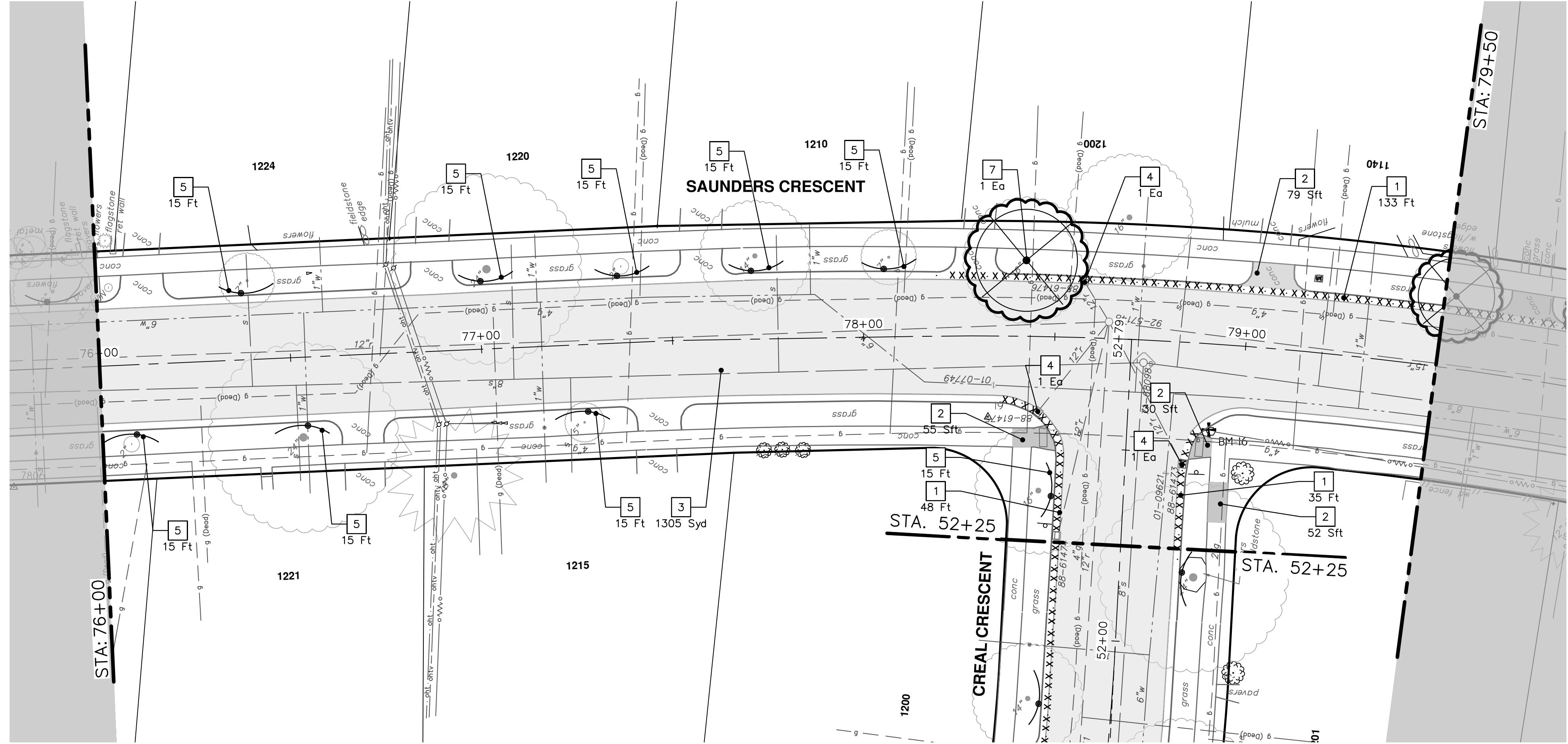
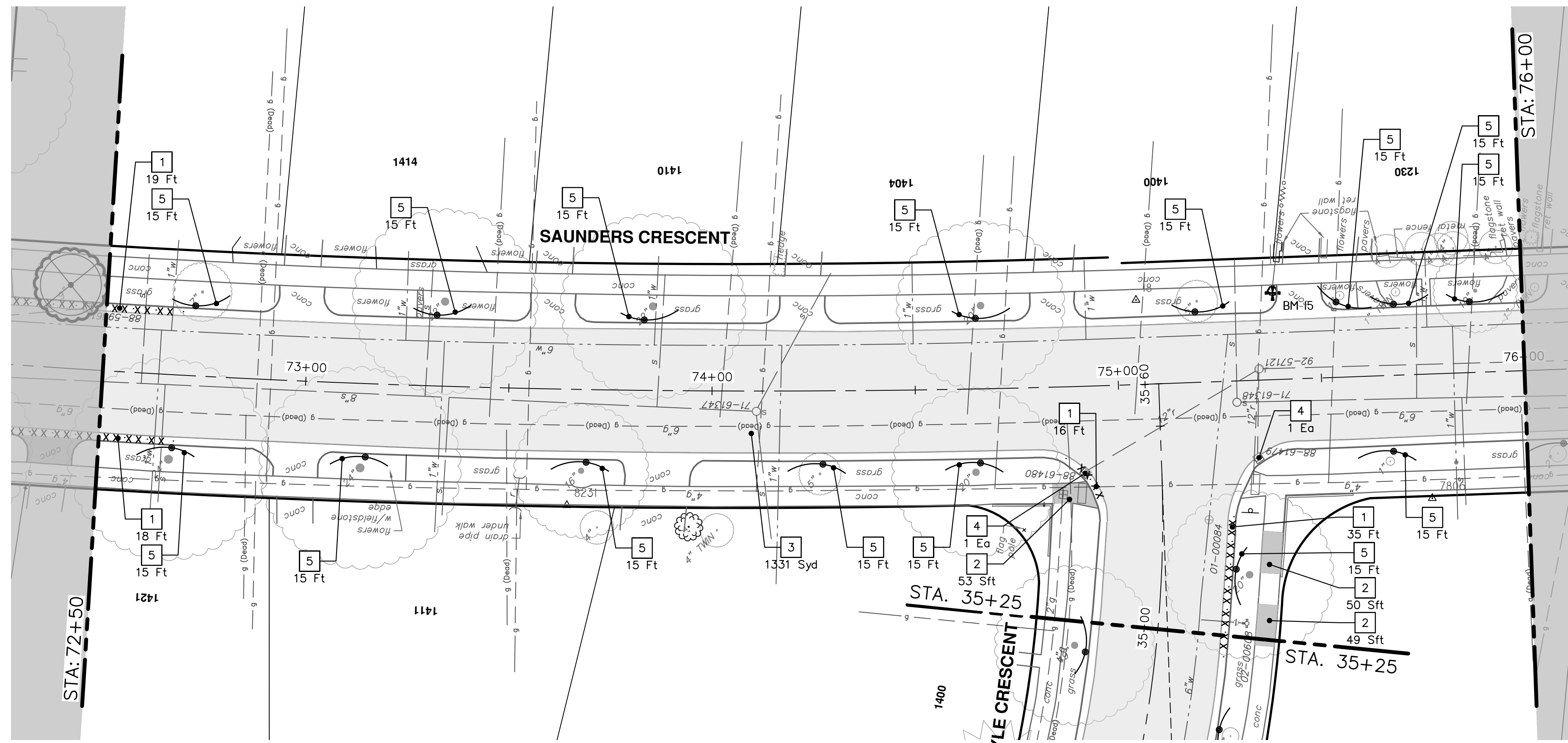
*SAWCUT FULL DEPTH AT REMOVAL LIMITS



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4	INLET FILTER
5	PROTECTIVE FENCING
6	SILT FENCE
7	TREE REMOVAL, 8" AND LARGER

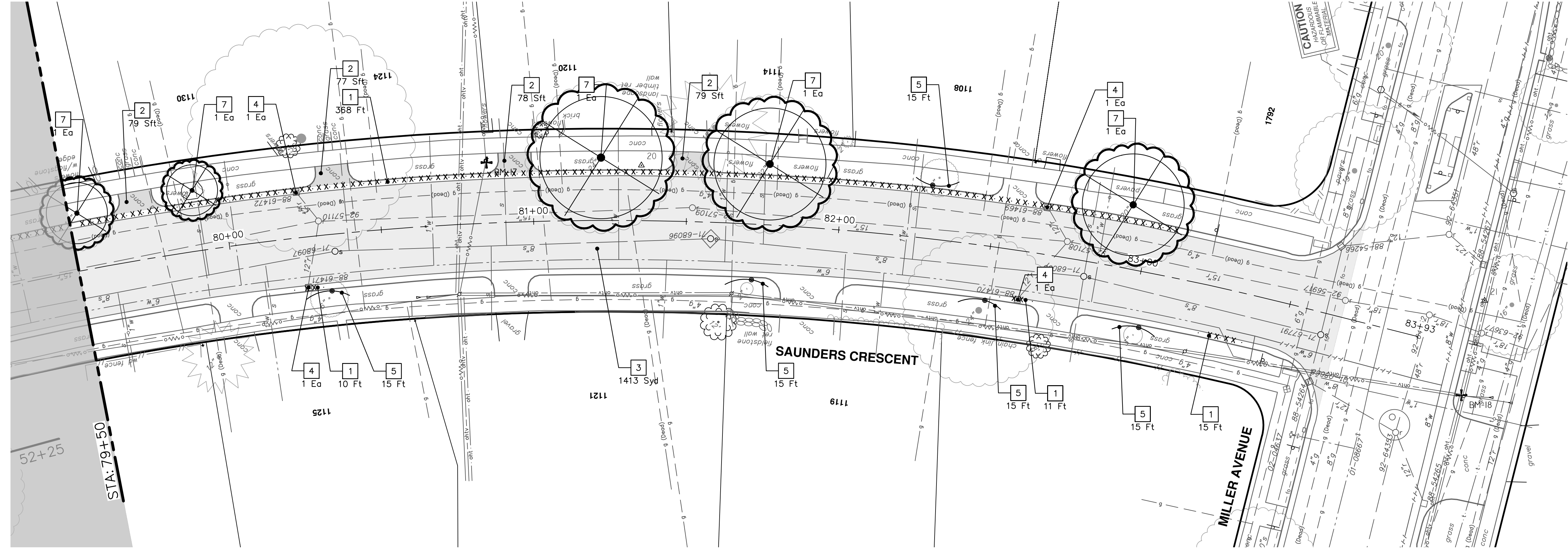
*SAWCUT FULL DEPTH AT REMOVAL LIMITS



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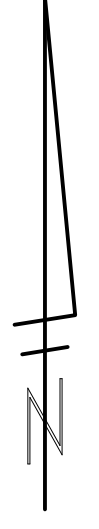
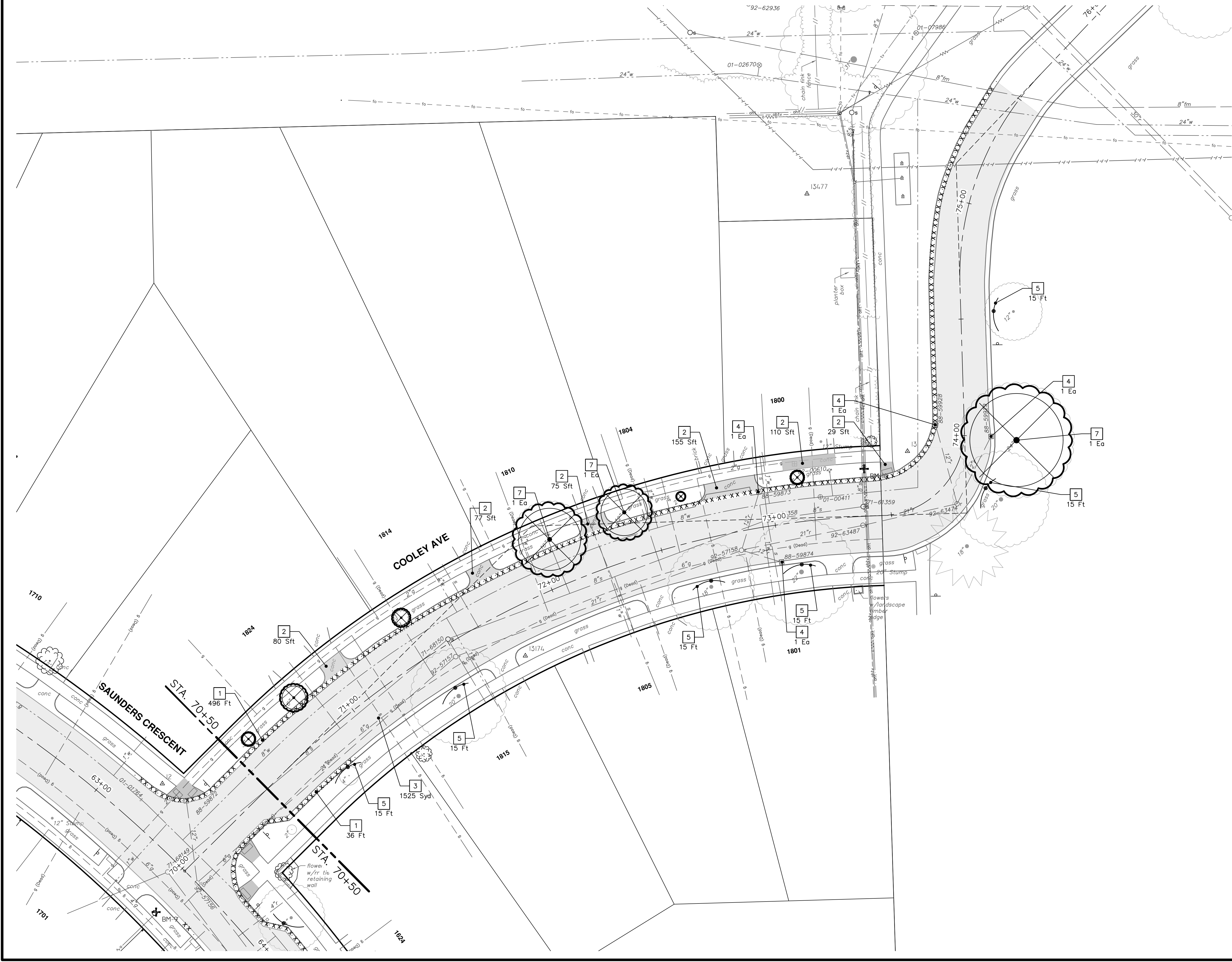


REMOVAL KEY	
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REV.	DESCRIPTION	DATE	DRAWN	CHECKED
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CRESCENTS WATER MAIN REPLACEMENT PROJECT

COOLEY AVE REMOVALS
STA. 70+50 - STA. 76+00

SCALE: 1" = 20'

DRAWING No.
2022012-27

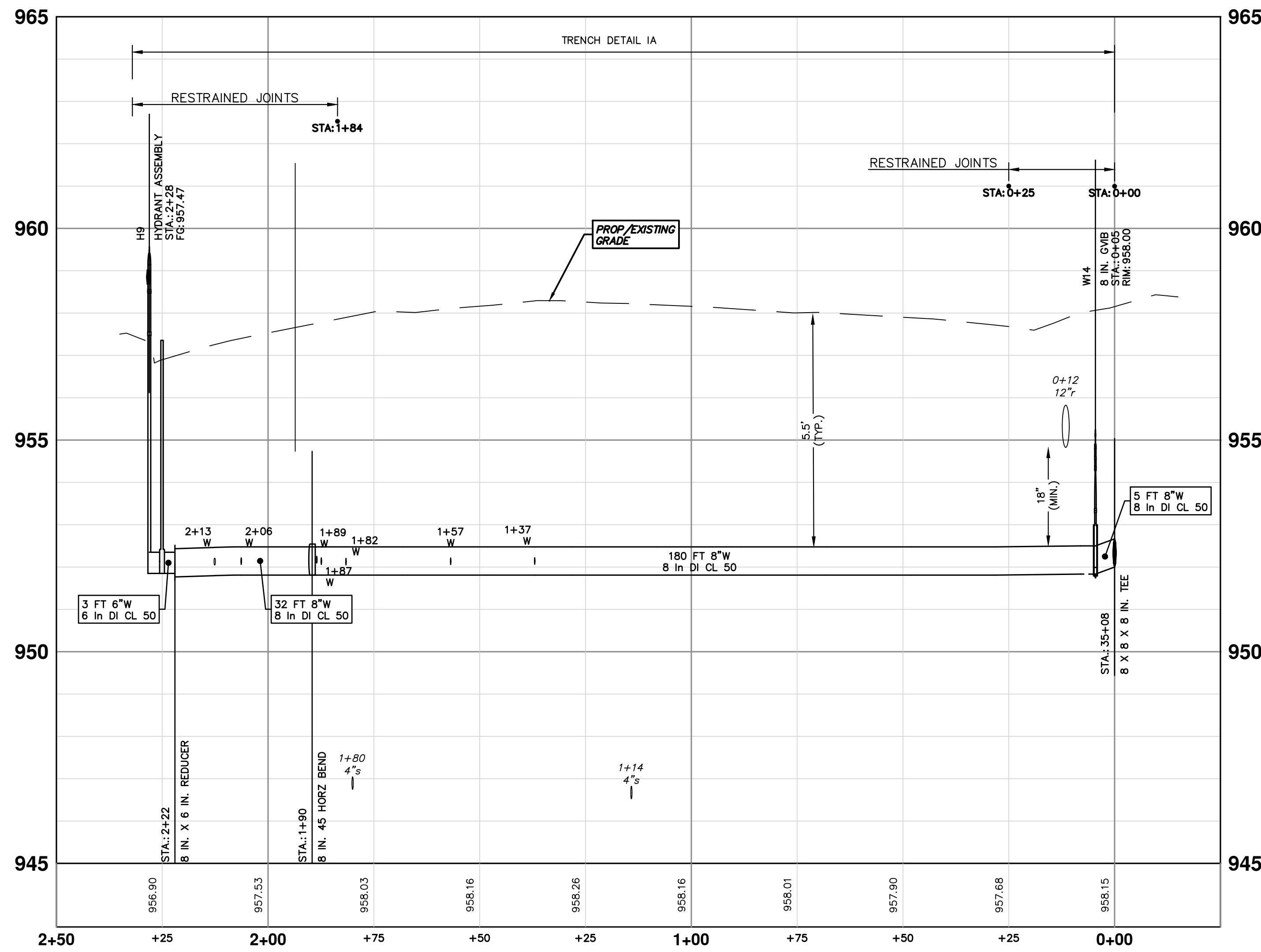
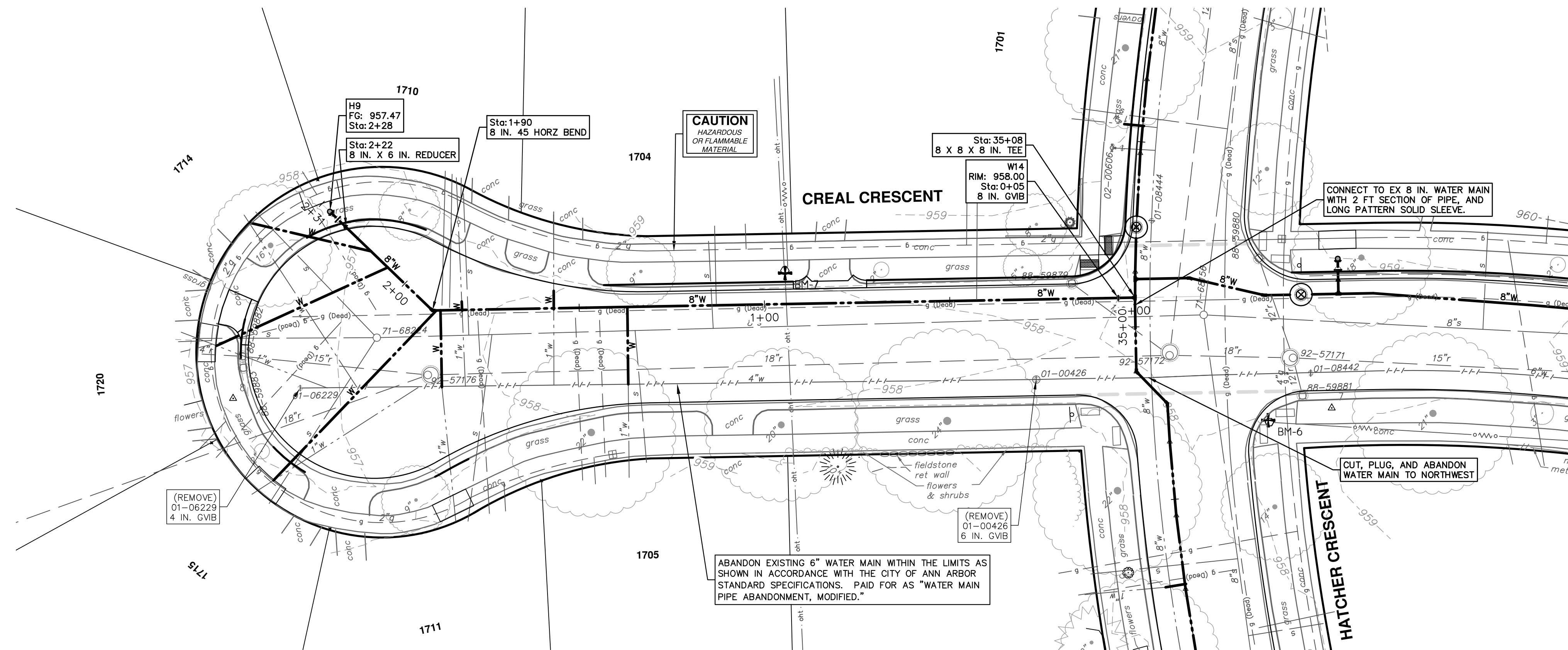
SHEET No.
27 OF 77



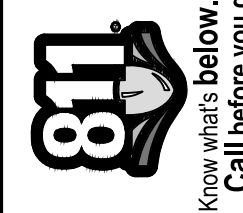
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REV.	DESCRIPTION	DATE	DRAWN	CHECKED
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STRUCTURE	TYPE	STATION	RIM	DEPTH
W14	8 in. GVB	0+05	958.00	6.16
H9	HYDRANT ASSEMBLY	2+28	957.47	5.62



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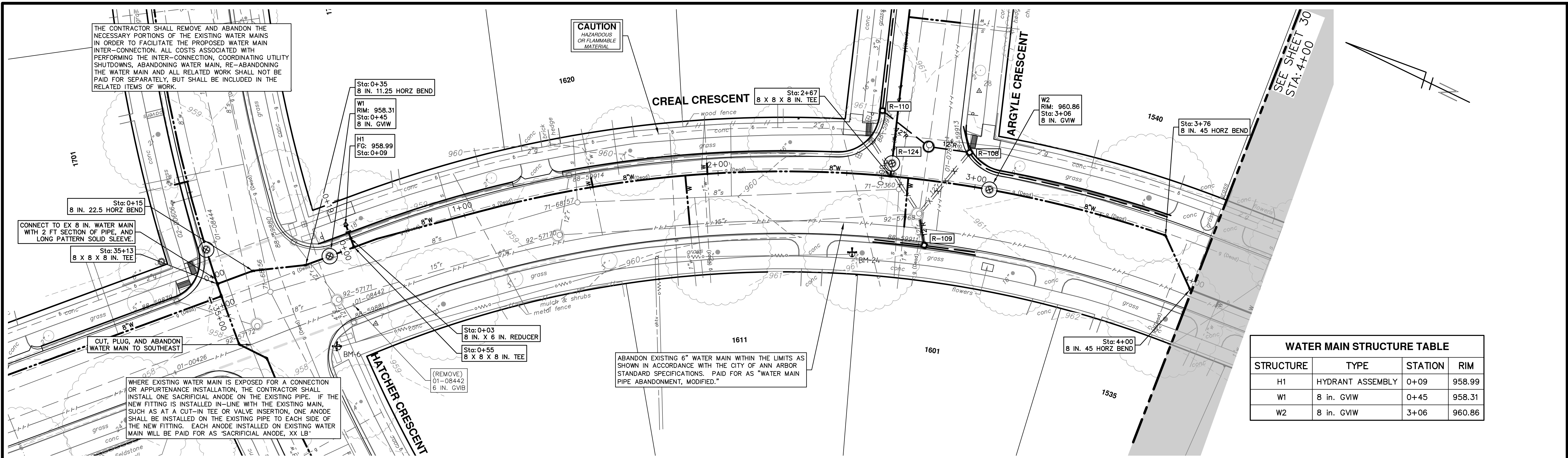
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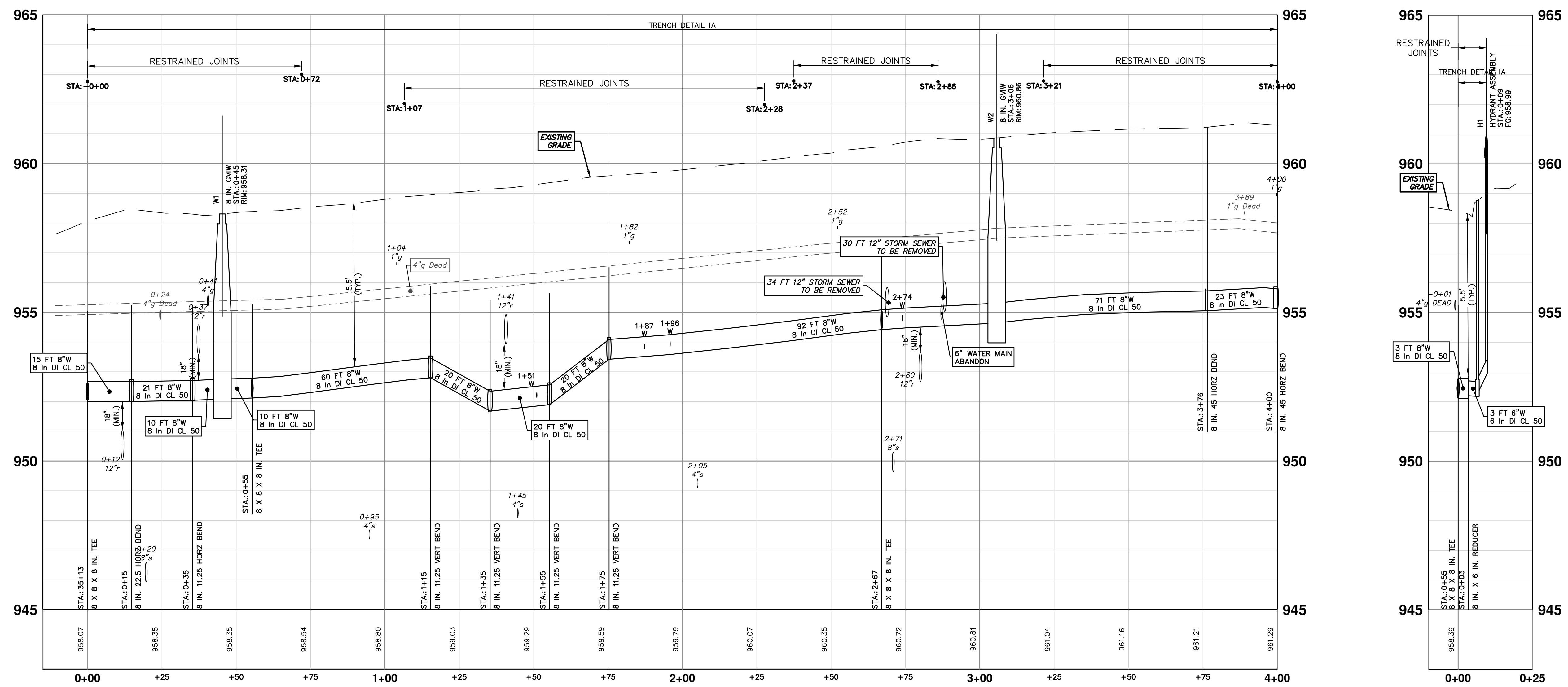
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CRESCENTS WATER MAIN REPLACEMENT PROJECT
CREAL CRESCENT NORTH WATER MAIN
STA. 0+00 - STA. 2+32

SCALE PLAN: 1" = 20'
PROFILE: 1" = 2'
DRAWING No. 2022012-28

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
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WATER MAIN STRUCTURE TABLE			
STRUCTURE	TYPE	STATION	RIM
H1	HYDRANT ASSEMBLY	0+09	958.99
W1	8 in. GVIW	0+45	958.31
W2	8 in. GVIW	3+06	960.86



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CRESCENTS WATER MAIN REPLACEMENT PROJECT

CREAL CRESCENT WATER MAIN
STA. 0+00 - STA. 4+00

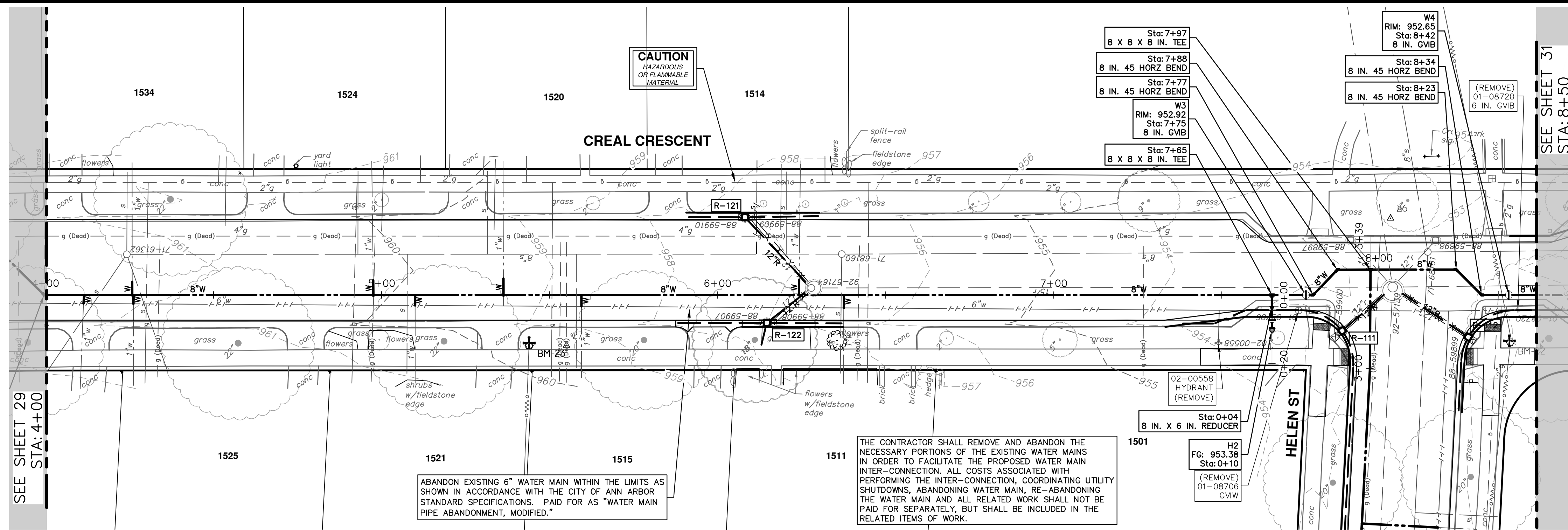
SCALE PLAN: 1" = 20'
PROFILE: 1" = 2'

DRAWING No.
2022012-29

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29 OF 77

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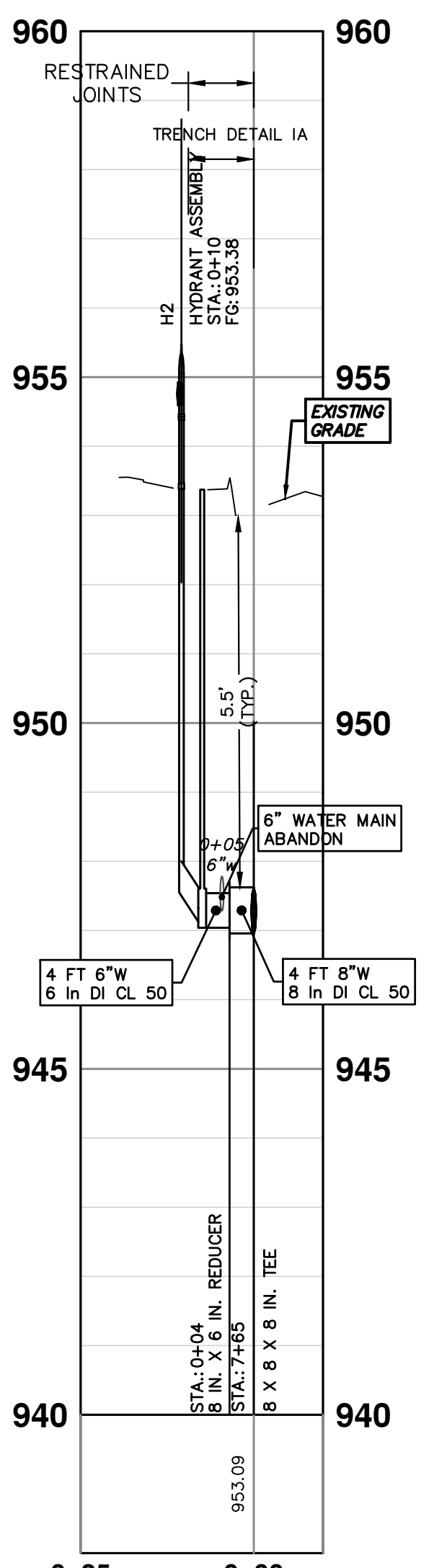
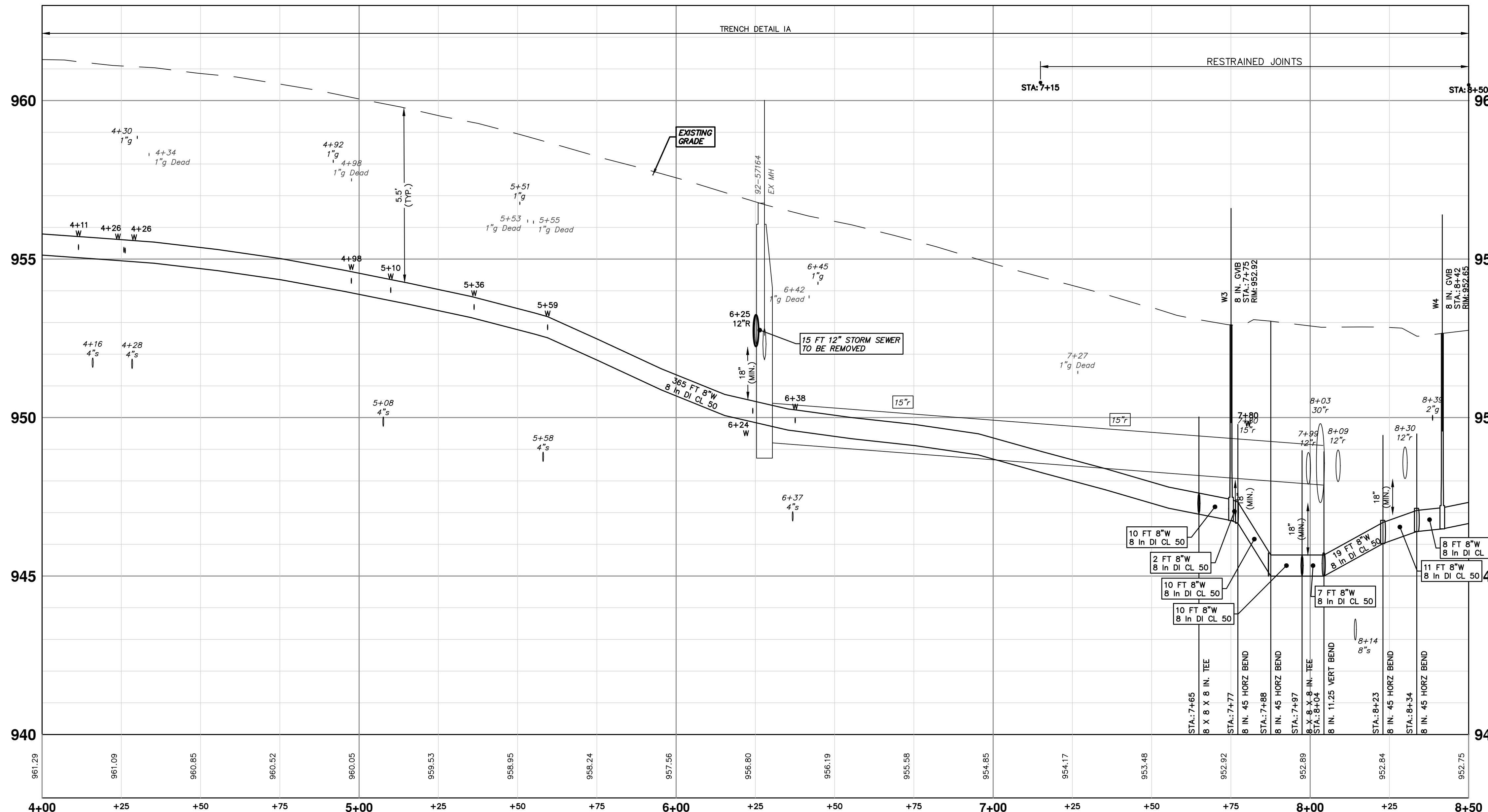

R:\2022012 Crescents WM Replacement\Plan Production\2022012Wri1.dwg Dwg Created: 13-Nov-23 --_a2 standard bw.stb -- Plot Date: 14-Nov-23



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

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

WATER MAIN STRUCTURE TABLE			
STRUCTURE	TYPE	STATION	RIM
H2	HYDRANT ASSEMBLY	0+10	953.38
W3	8 in. G.V.I.B.	7+75	952.92
W4	8 in. G.V.I.B.	8+42	952.65

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

CRESCENTS WATER MAIN REPLACEMENT PROJECT

CREAL CRESCENT WATER MAIN
STA. 4+00 - STA. 8+50

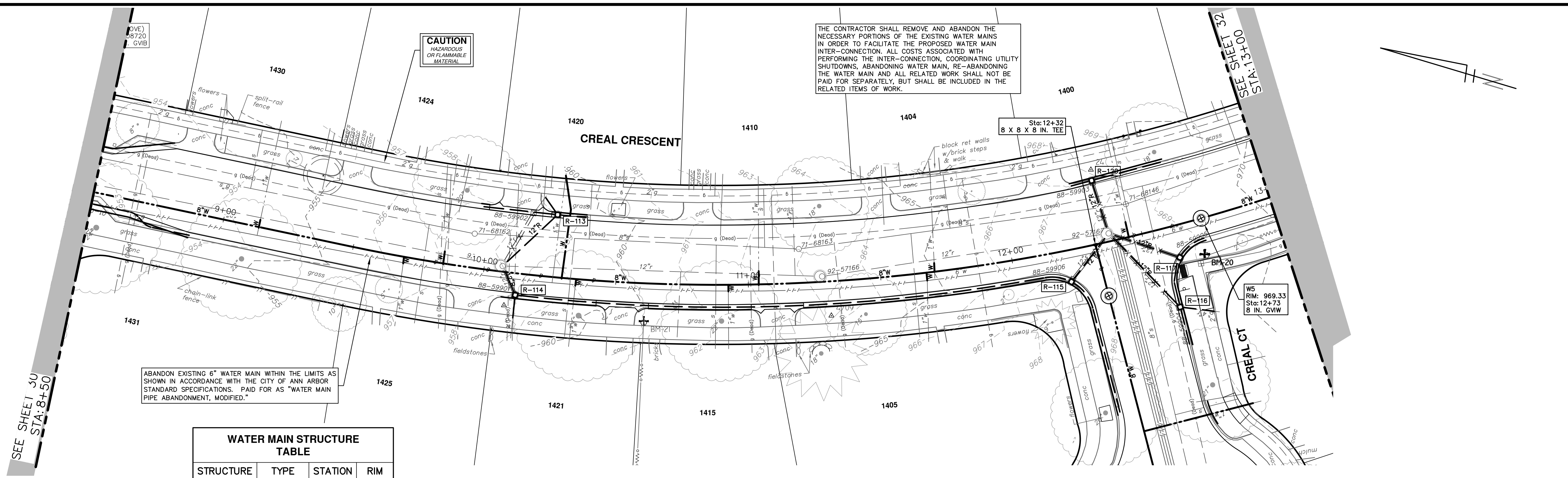
NO.	REV.	DATE	DESCRIPTION
01	11-14-2023	DF/OC/KB	PERMIT
02			CHECKED

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PUBLIC SERVICES
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ANN ARBOR, MI 48106-1667
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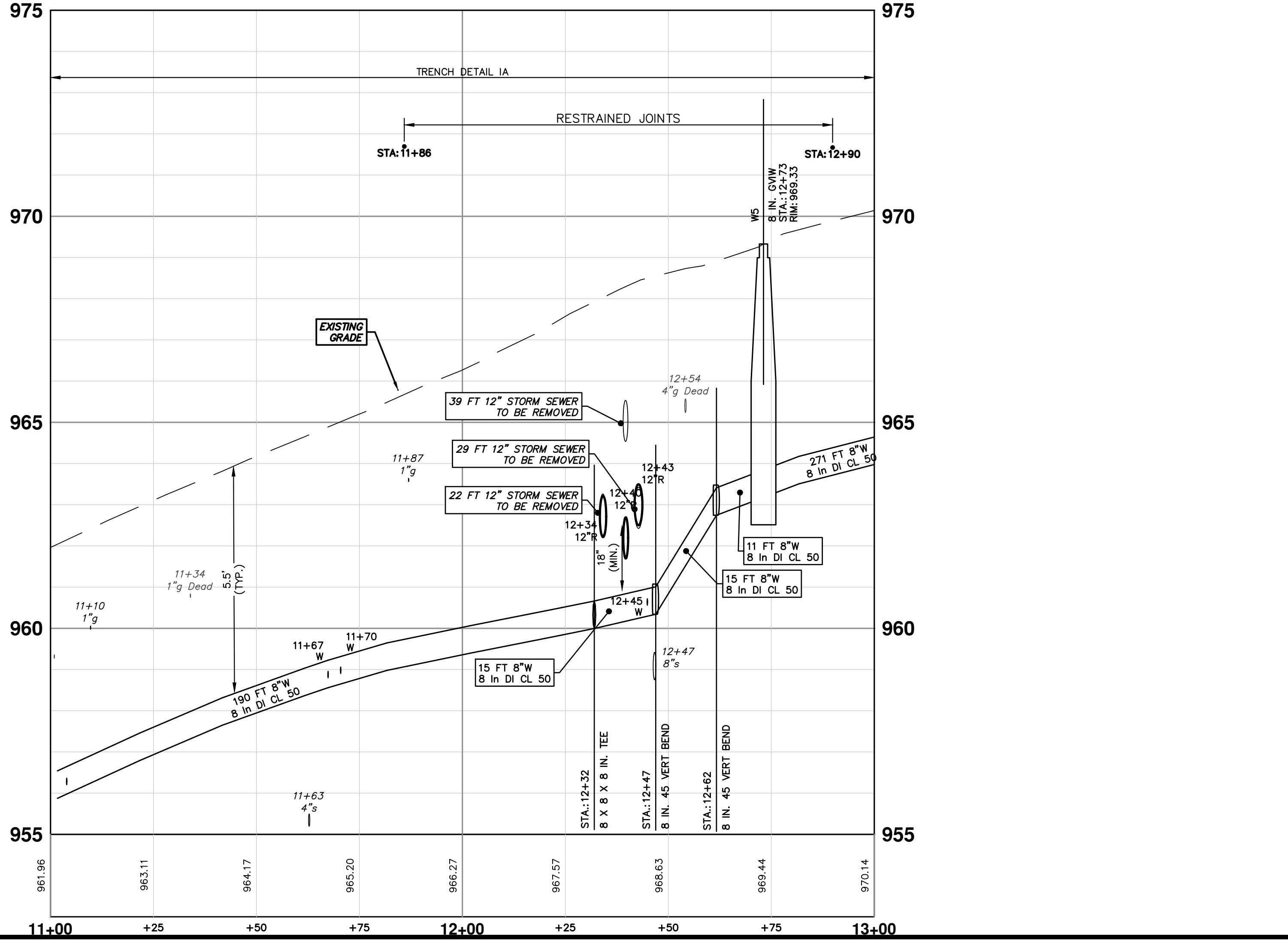
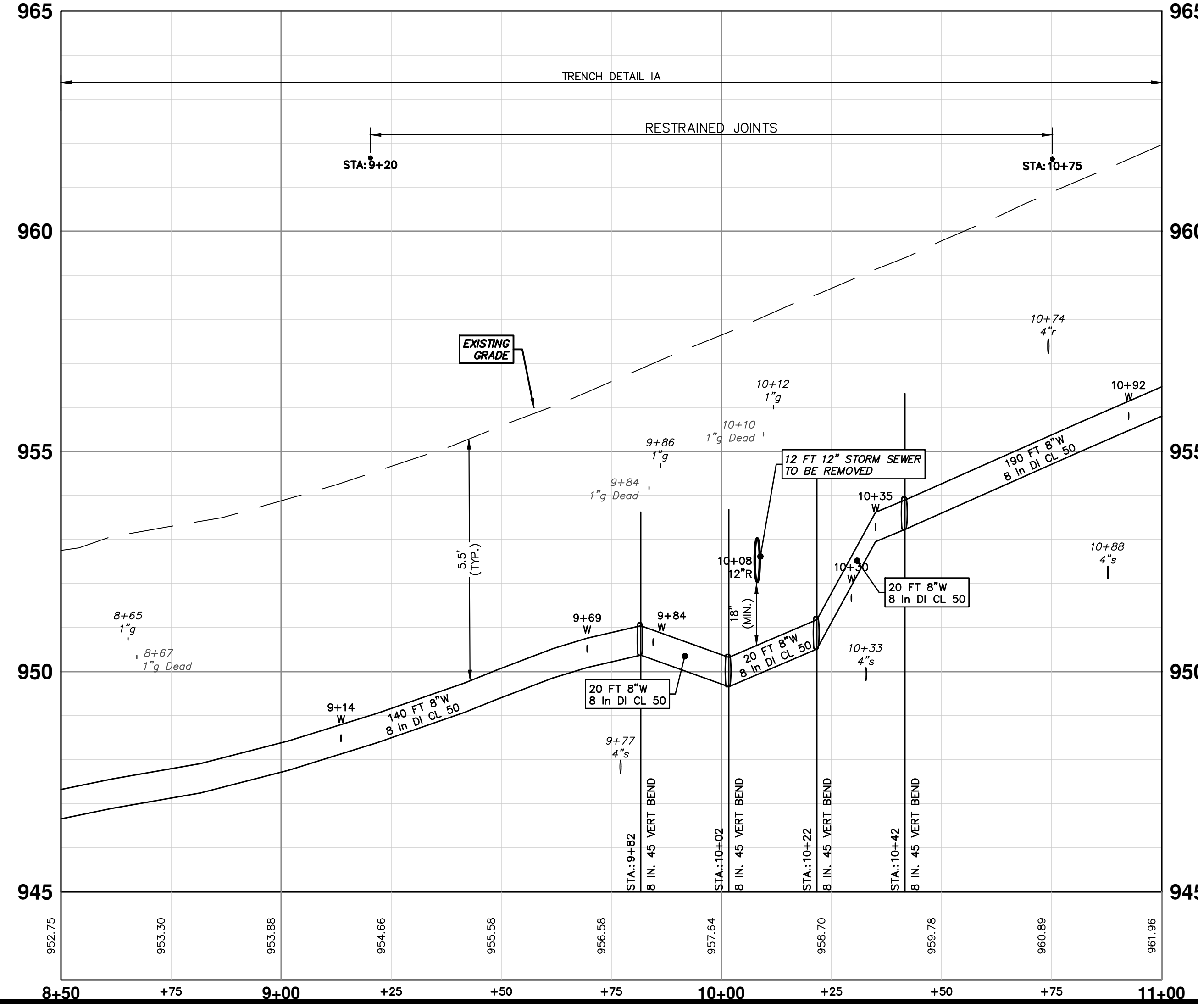
SCALE PLAN: 1" = 20'
PROFILE: 1" = 2'


DRAWING NO. 2022012-30

SHEET NO. 30 OF 77




STRUCTURE	TYPE	STATION	RIM
W5	8 in. GVIW	12+73	969.33





Know what's below.
Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	EGLC PERMIT	11-14-2023	DF/OC/RB	NB



CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

CRESCENTS WATER MAIN REPLACEMENT PROJECT

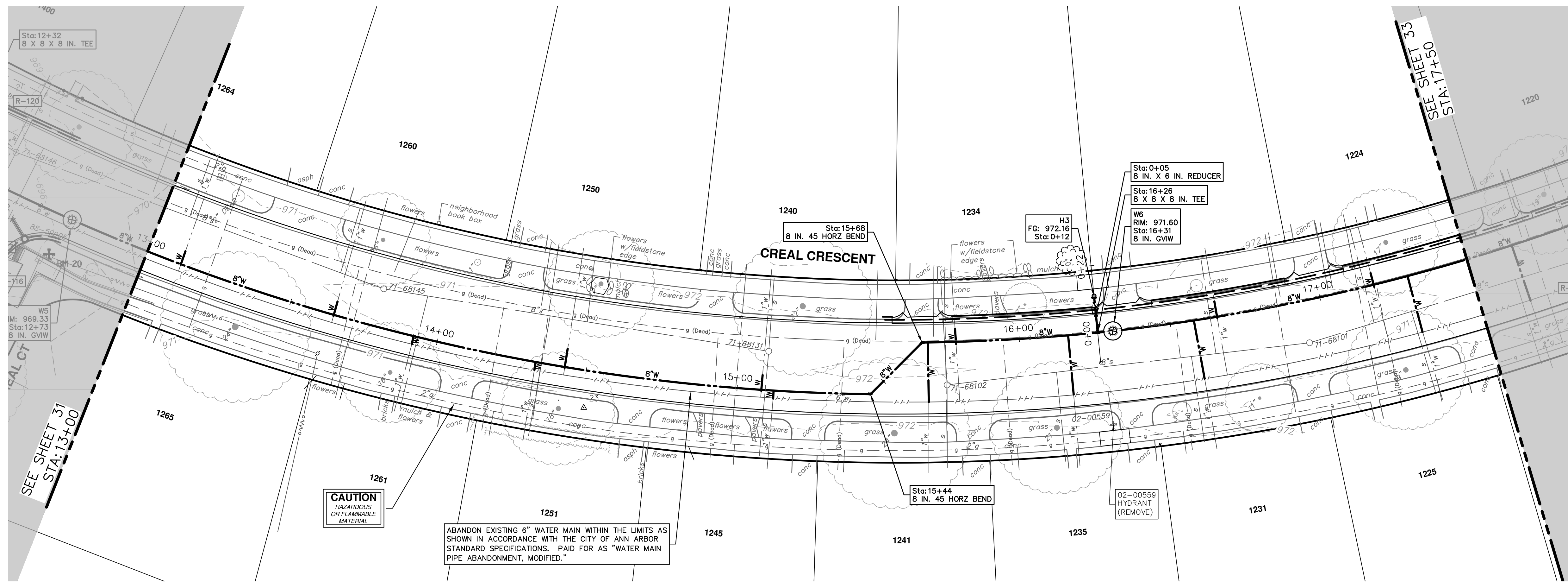
CREAL CRESCENT WATER MAIN
STA. 8+50 - STA. 13+00

SCALE PLAN: 1" = 20'

PROFILE: 1" = 2'

DRAWING NO. 2022012-31

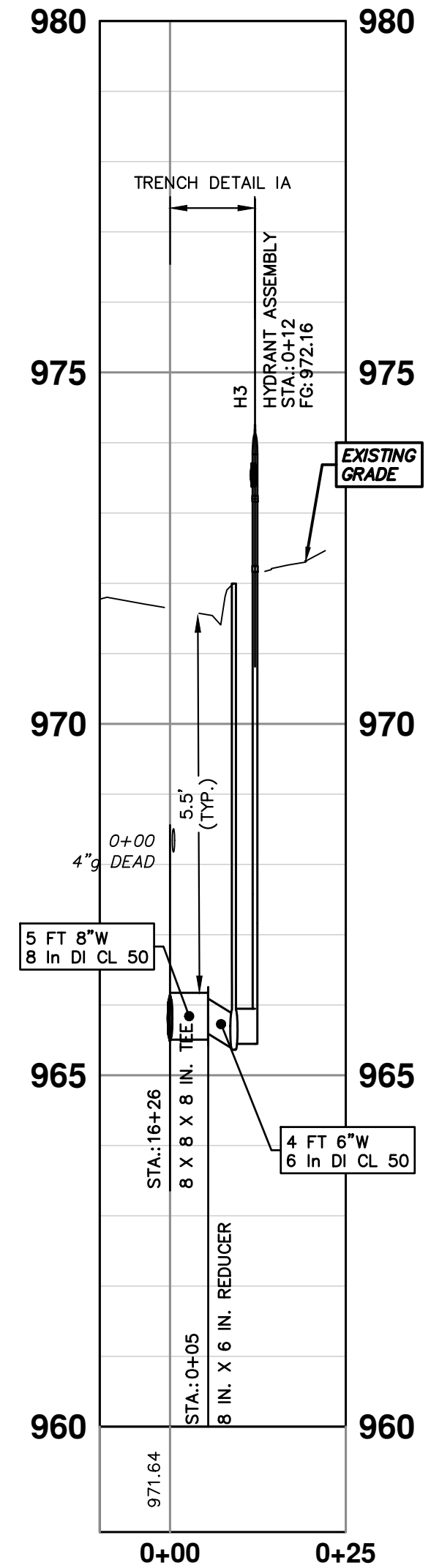
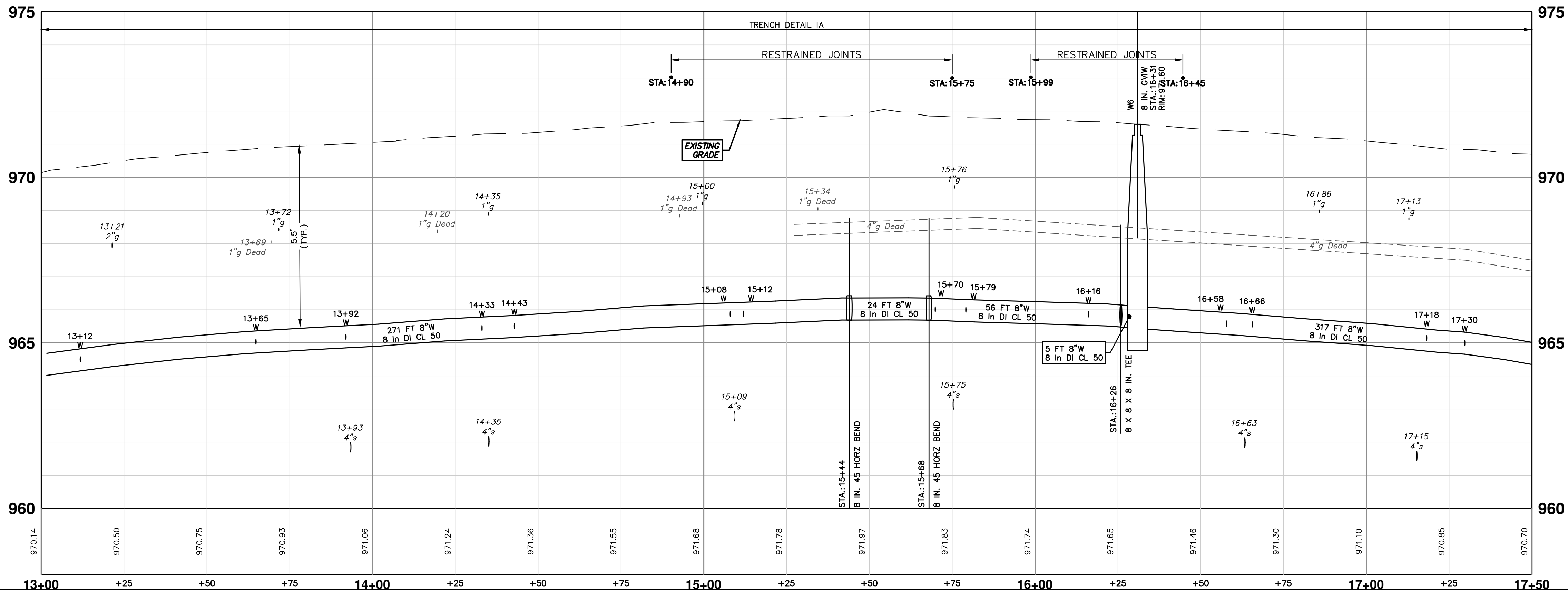
SHEET No. 31 OF 77



CAUTION
HAZARDOUS
OR FLAMMABLE
MATERIAL

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

WATER MAIN STRUCTURE TABLE			
STRUCTURE	TYPE	STATION	RIM
H3	HYDRANT ASSEMBLY	0+12	972.16
W6	8 in. GVIW	16+31	971.60



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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	EFILE PERMIT	11-14-2023	DF/OC/RB	NB

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

CRESCENTS WATER MAIN REPLACEMENT PROJECT

CREAL CRESCENT WATER MAIN
STA. 13+00 - STA. 17+50

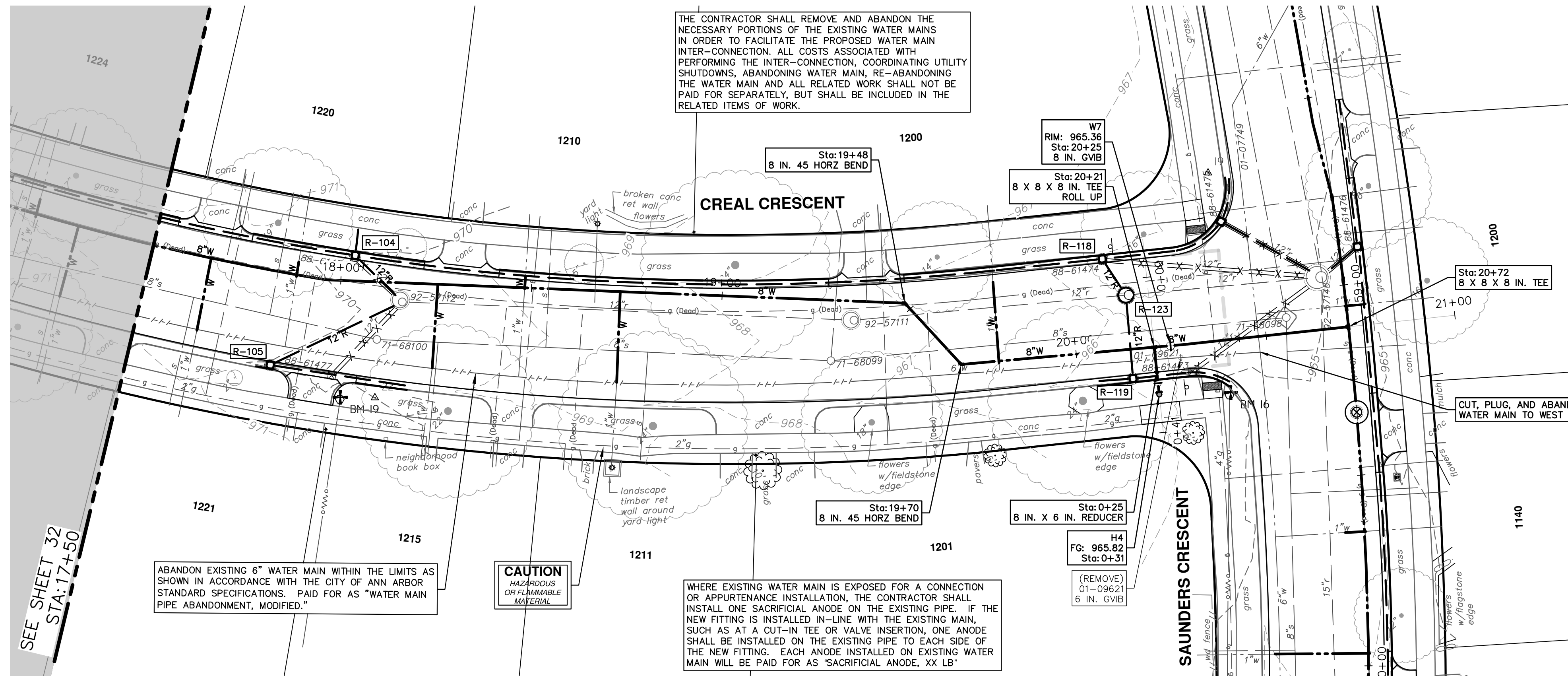
SCALE PLAN: 1" = 20'

PROFILE: 1" = 2'

DRAWING NO. 2022012-32

SHEET NO. 32 OF 77

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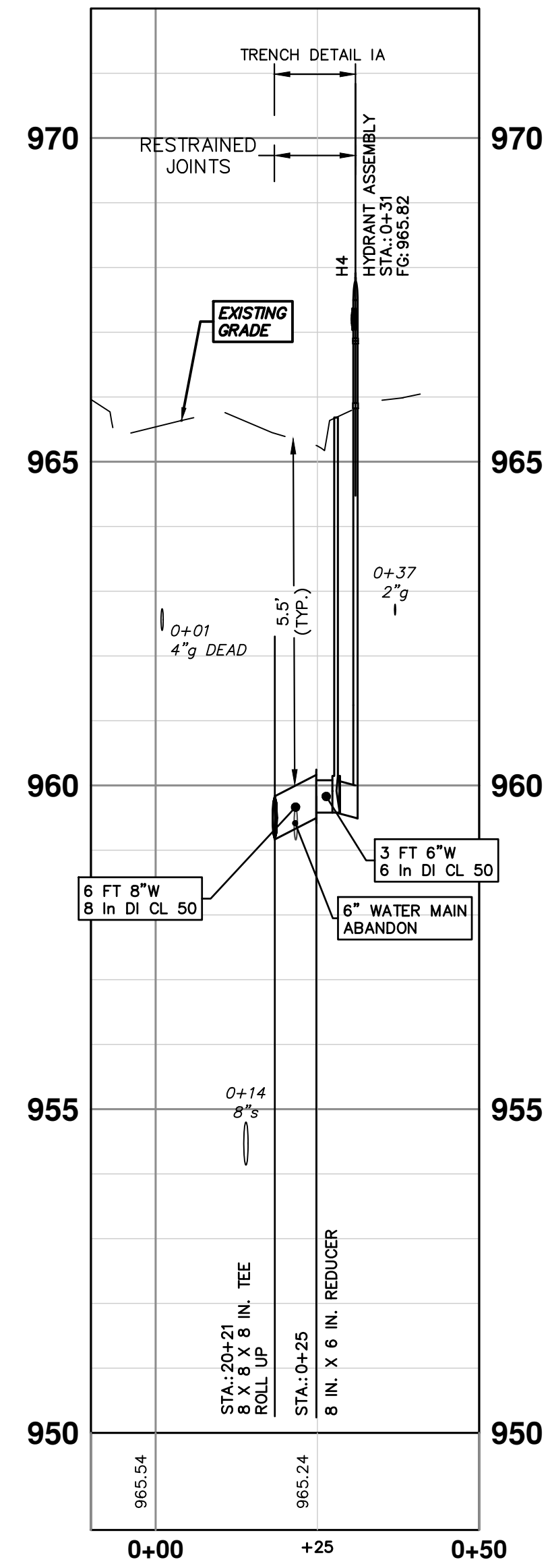
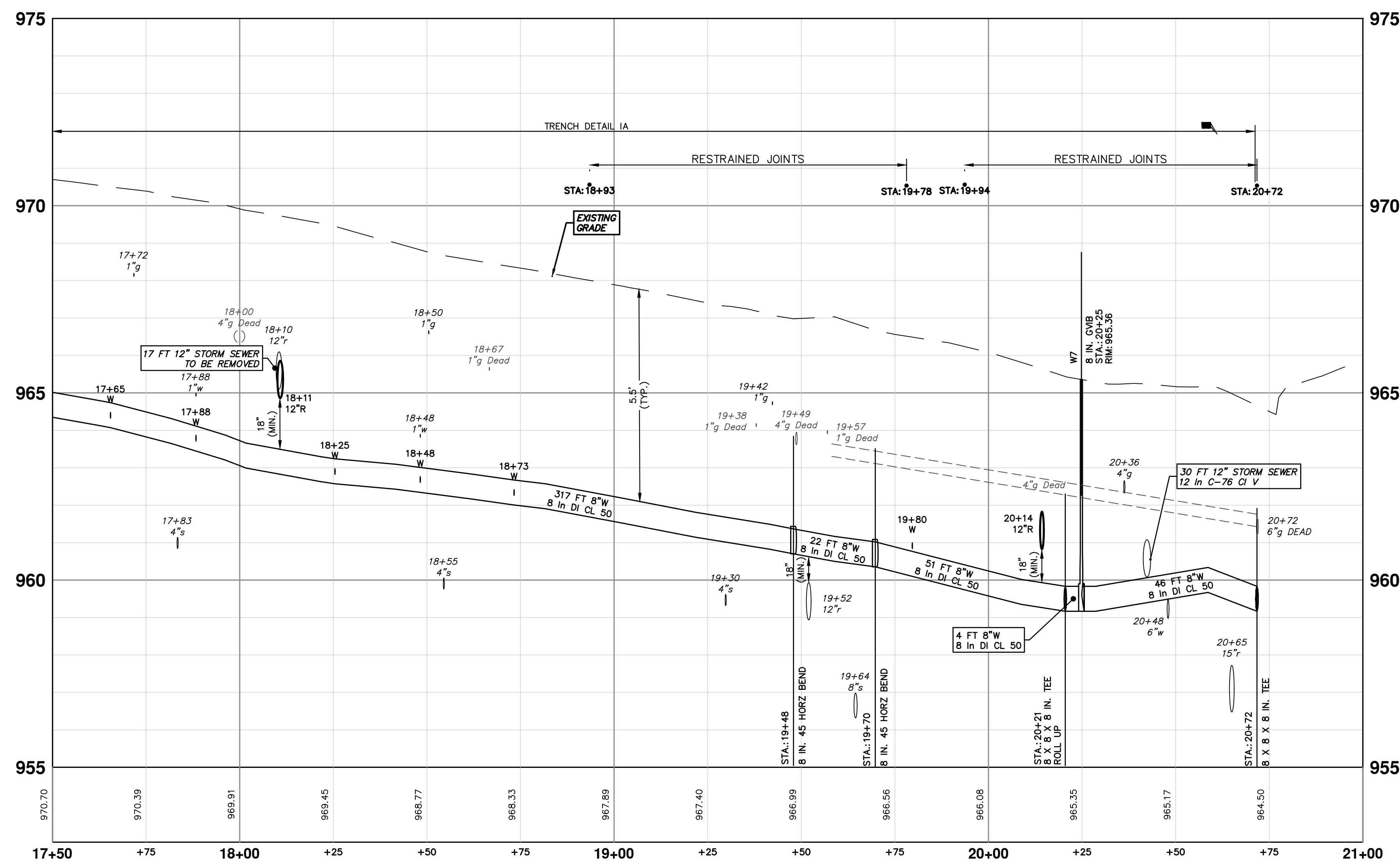
THE CONTRACTOR SHALL REMOVE AND ABANDON THE NECESSARY PORTIONS OF THE EXISTING WATER MAINS IN ORDER TO FACILITATE THE PROPOSED WATER MAIN INTER-CONNECTION. ALL COSTS ASSOCIATED WITH PERFORMING THE INTER-CONNECTION, COORDINATING UTILITY SHUTDOWNS, ABANDONING WATER MAIN, RE-ABANDONING THE WATER MAIN AND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

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

CAUTION
HAZARDOUS OR FLAMMABLE MATERIAL

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

WATER MAIN STRUCTURE TABLE			
STRUCTURE	TYPE	STATION	RIM
H4	HYDRANT ASSEMBLY	0+31	965.82
W7	8 in. GVB	20+25	965.36



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

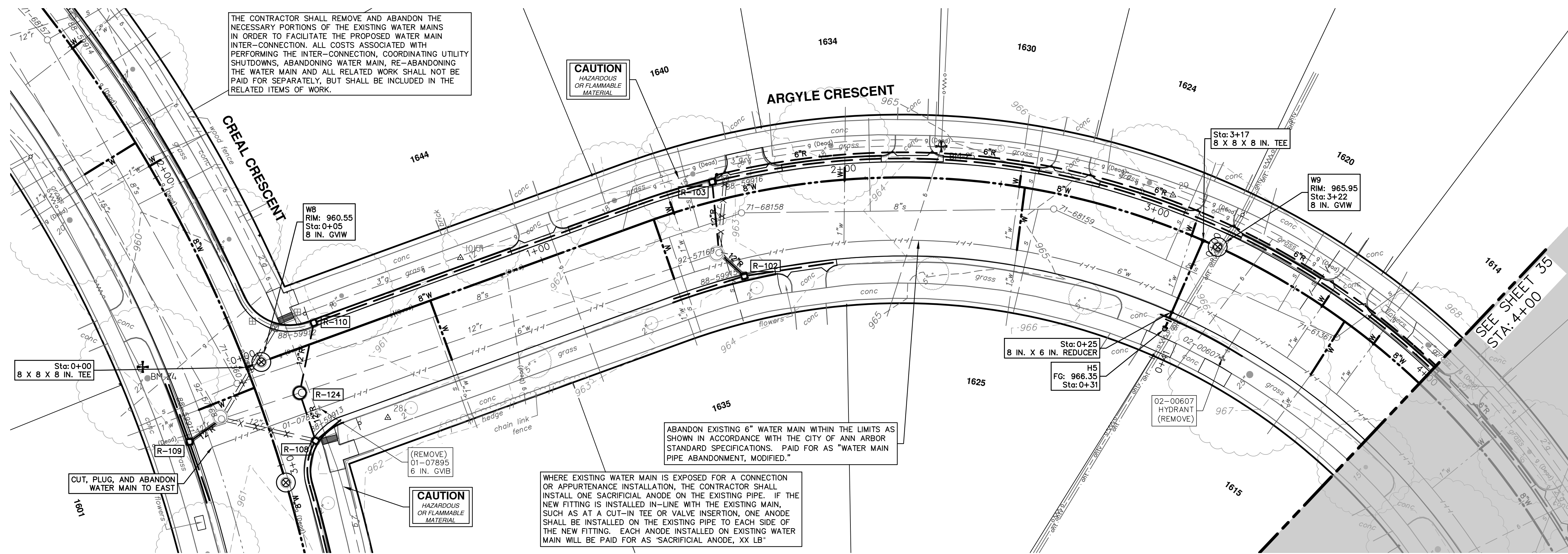
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
CRESCENTS WATER MAIN REPLACEMENT PROJECT
CREAL CRESCENT WATER MAIN
STA. 17+50 - STA. 20+72

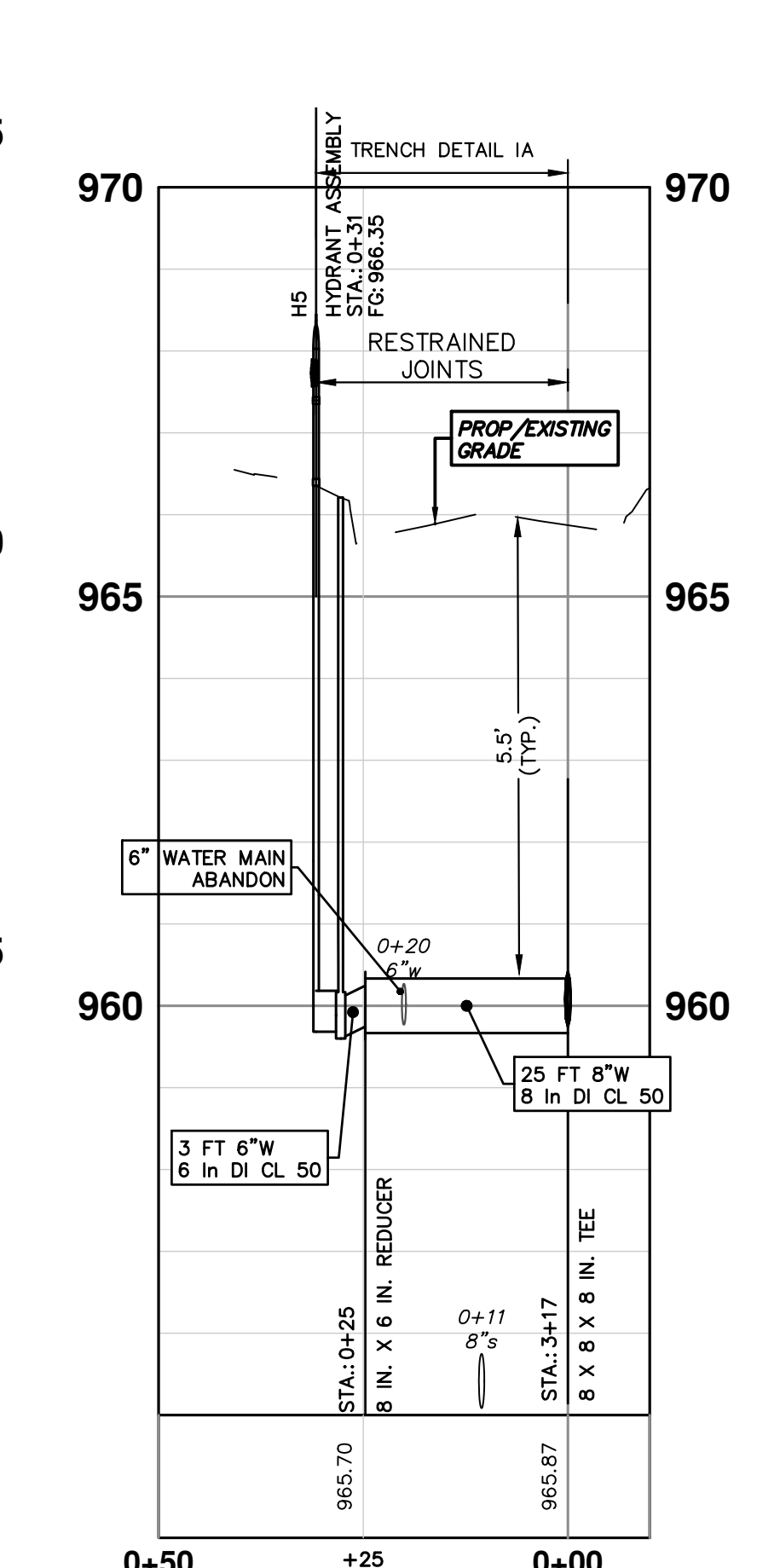
ANN ARBOR MICHIGAN

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
CRESCENTS WATER MAIN REPLACEMENT PROJECT
CREAL CRESCENT WATER MAIN
STA. 17+50 - STA. 20+72

SCALE PLAN: 1" = 20'
PROFILE: 1" = 2'
DRAWING NO.: 2022012-33
SHEET NO.: 33 OF 77



WATER MAIN STRUCTURE TABLE			
STRUCTURE	TYPE	STATION	RIM
WB	8 in. GVW	0+05	960.55
H5	HYDRANT ASSEMBLY	0+31	966.35
W9	8 in. GVW	3+22	965.95




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

CAUTION
HAZARDOUS
OR FLAMMABLE
MATERIAL


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

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



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REV.	DATE	DESCRIPTION
00	11-14-2023	DF/OC/KB
		DRAWN
		CHECKED



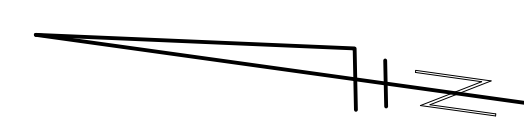
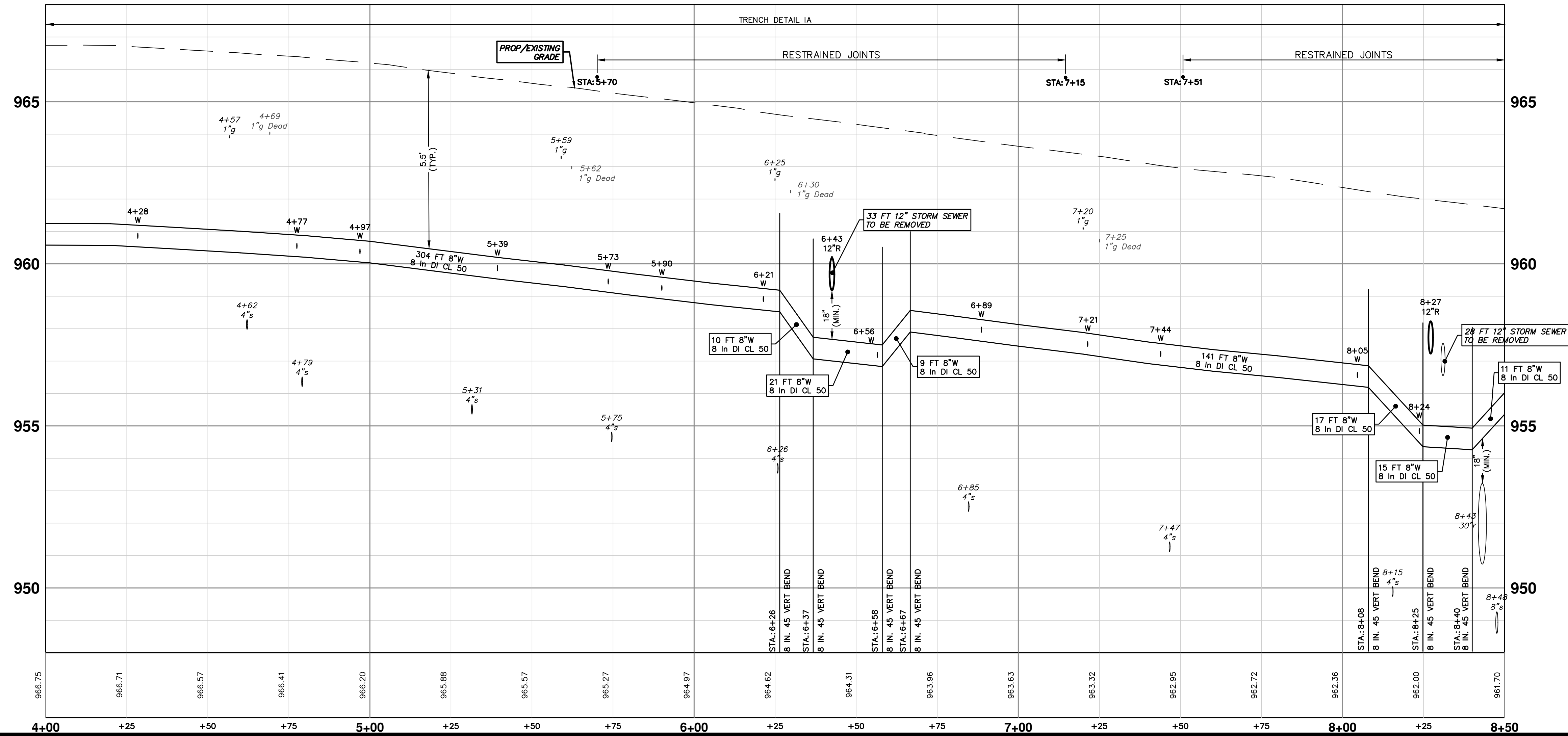
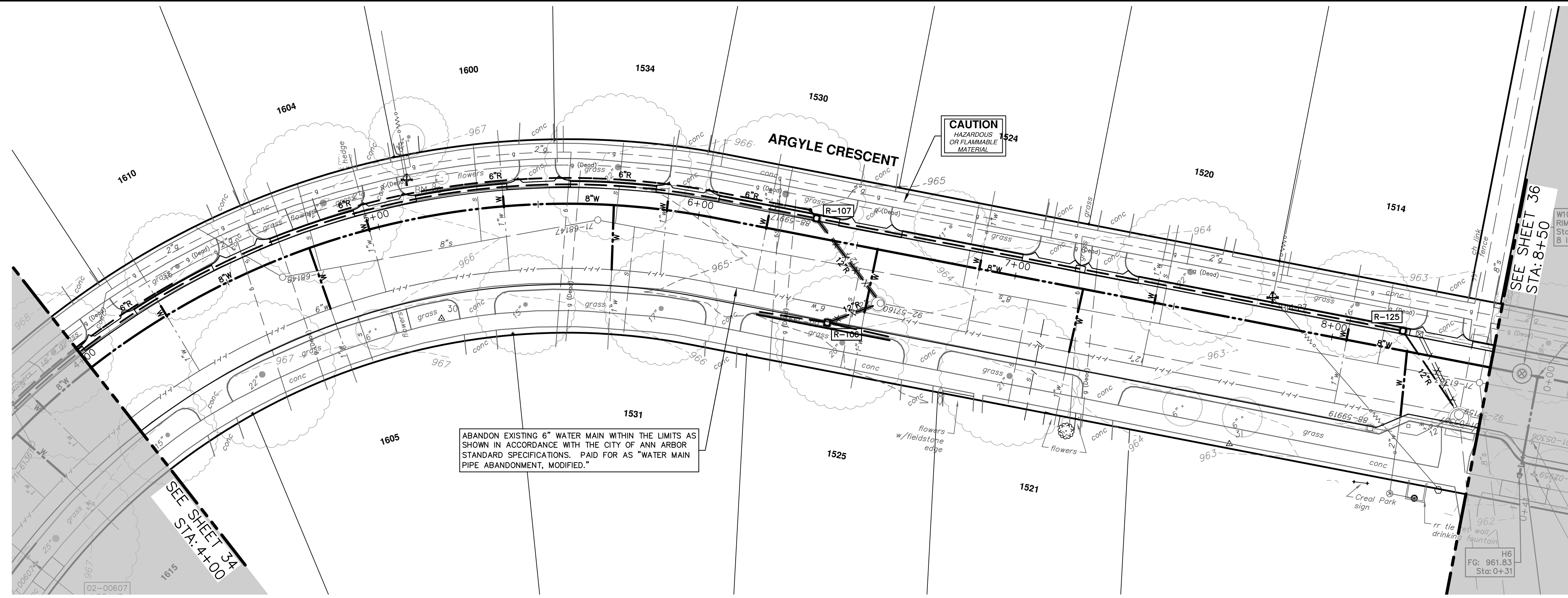
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CRESCENTS WATER MAIN REPLACEMENT PROJECT
ARGYLE CRESCENT WATER MAIN
STA. 0+00 - STA. 4+00

SHEET No. **34 OF 77**

DRAWING No. **2022012-34**

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

R:\2022012 Crescents WM Replacement\Plan Production\2022012Wtr2.dwg Dwg Created: 8-Nov-23 --_a2 standard bw.sib -- Plot Date: 14-Nov-23



REV.	DESCRIPTION	DATE	DRAWN	CHECKED
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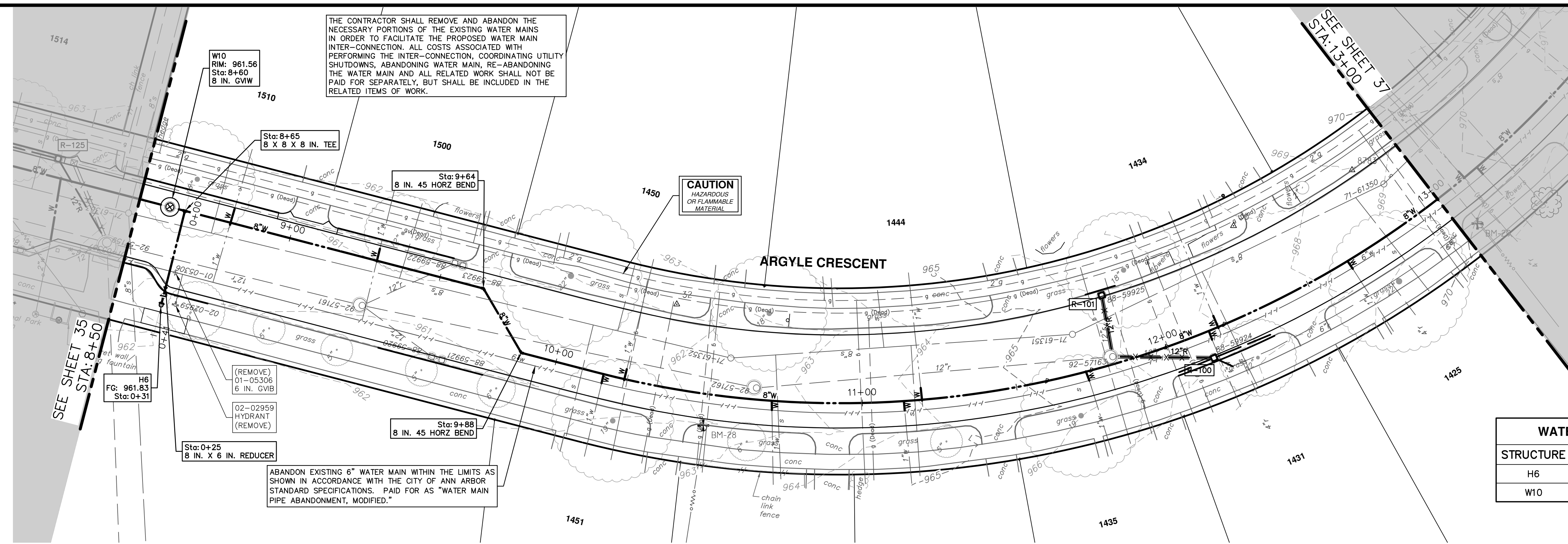
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CRESCENTS WATER MAIN REPLACEMENT PROJECT
ARGYLE CRESCENT WATER MAIN
STA. 4+00 - STA. 8+50

SCALE PLAN: 1" = 20'
PROFILE: 1" = 2'
DRAWING No. 2022012-35

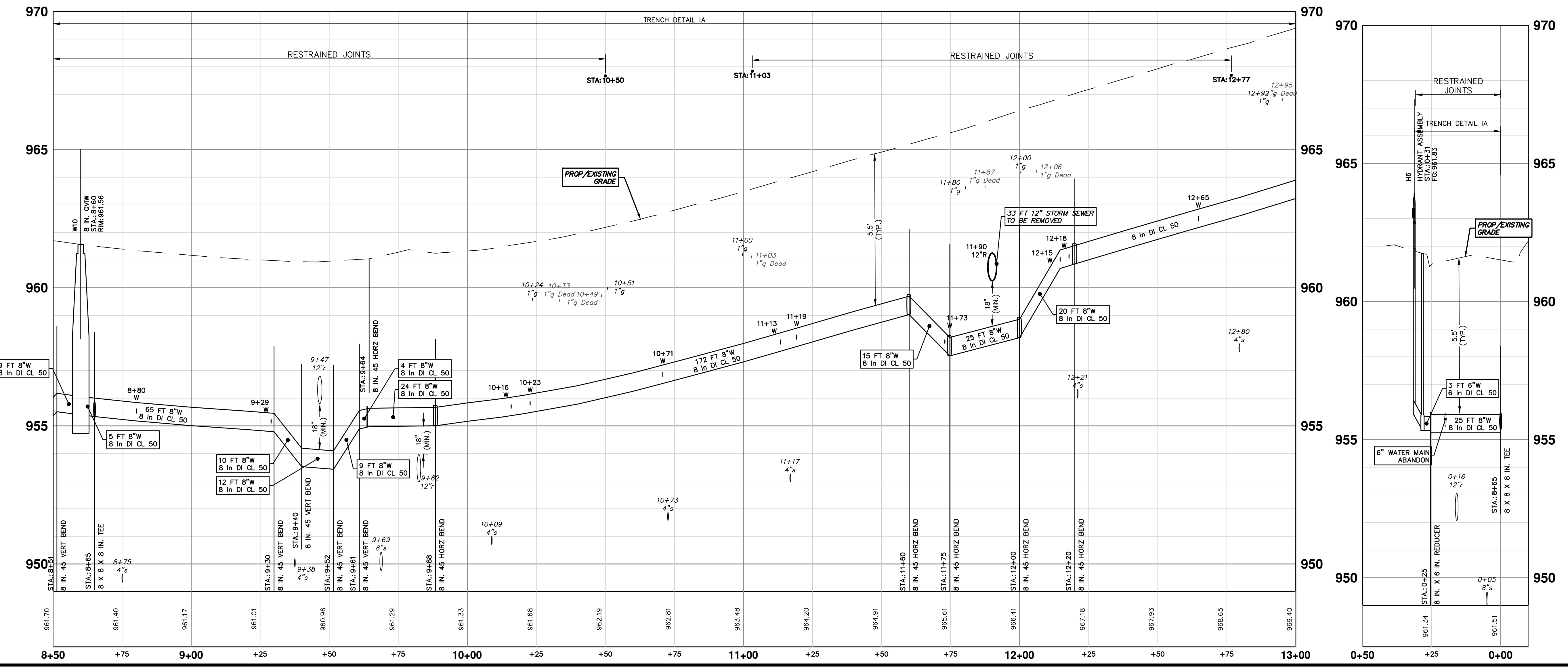
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THE CONTRACTOR SHALL REMOVE AND ABANDON THE NECESSARY PORTIONS OF THE EXISTING WATER MAINS IN ORDER TO FACILITATE THE PROPOSED WATER MAIN INTER-CONNECTION. ALL COSTS ASSOCIATED WITH PERFORMING THE INTER-CONNECTION, COORDINATING UTILITY SHUTDOWNS, ABANDONING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

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

STRUCTURE	TYPE	STATION	RIM
H6	HYDRANT ASSEMBLY	0+31	961.83
W10	8 in. GVIW	8+60	961.56



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

REV.	DATE	DESCRIPTION
00	11-14-2023	DF/CC/KB
		DRAWN
		CHECKED

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CRESCENTS WATER MAIN REPLACEMENT PROJECT

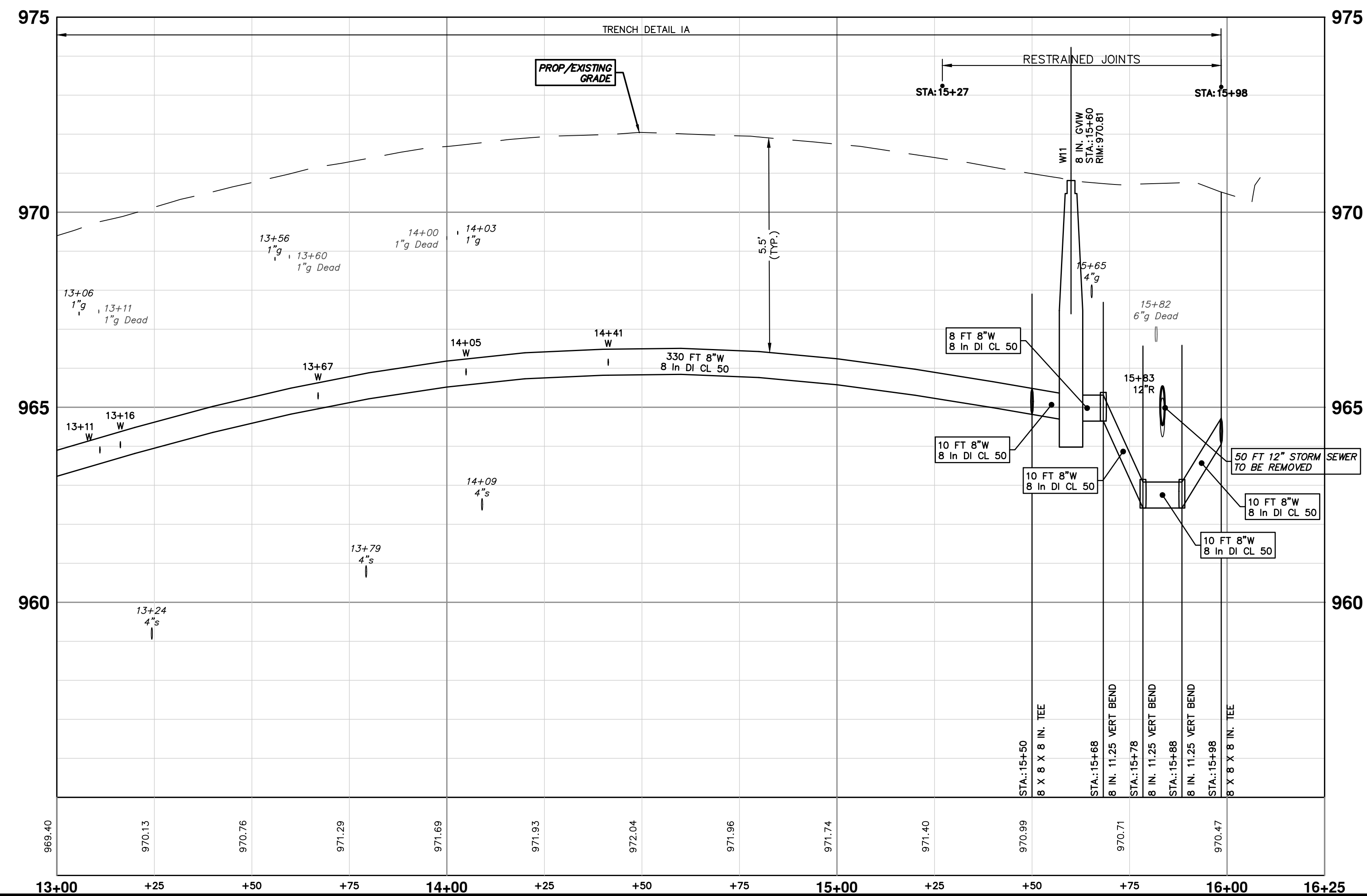
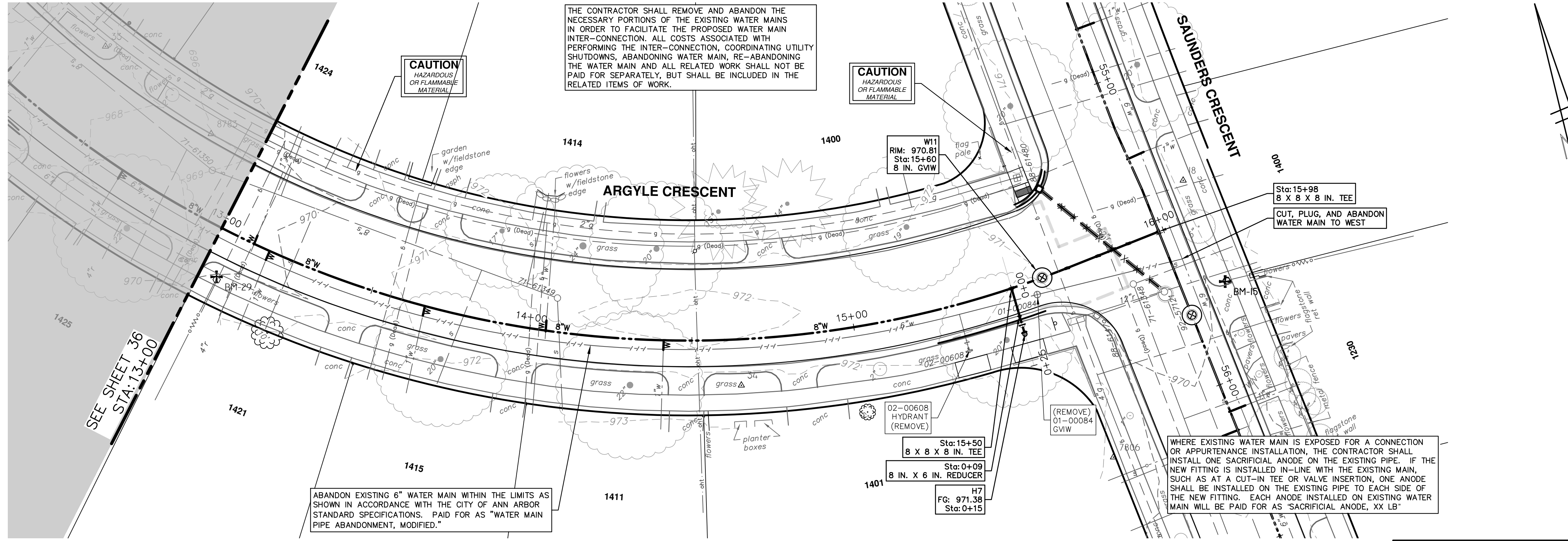
ARGYLE CRESCENT WATER MAIN
STA. 8+50 - STA. 13+00

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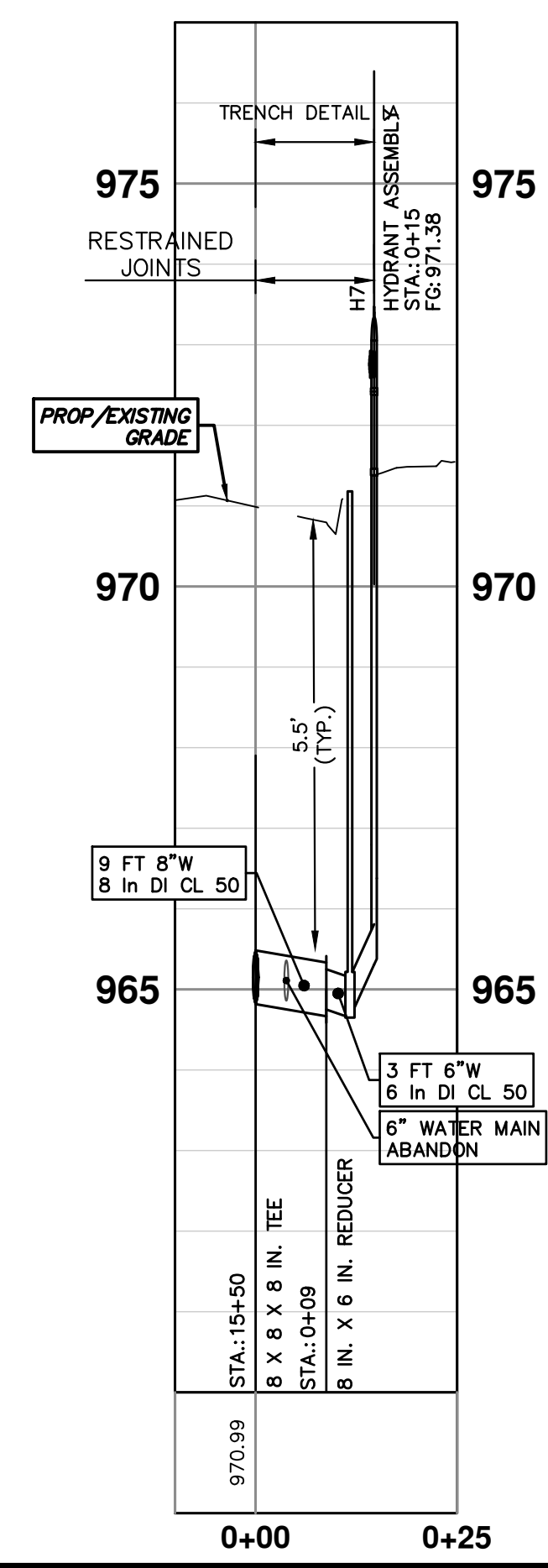
SCALE PLAN: 1" = 20'
PROFILE: 1" = 2'

DRAWING NO.
2022012-36

SHEET NO.
36 OF 77



STRUCTURE	TYPE	STATION	RIM
H7	HYDRANT ASSEMBLY	0+15	971.38
W1	8 in. G.V.W.	15+60	970.81



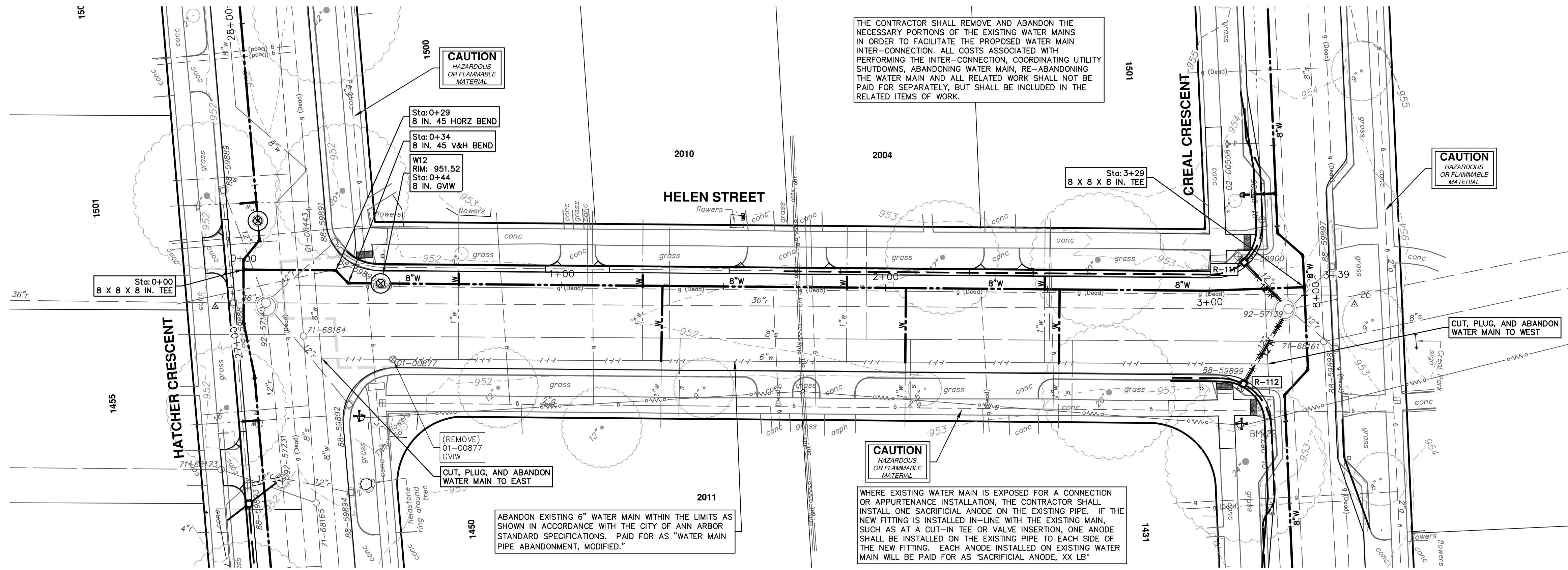
811
Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	BY/CC/AB	NO
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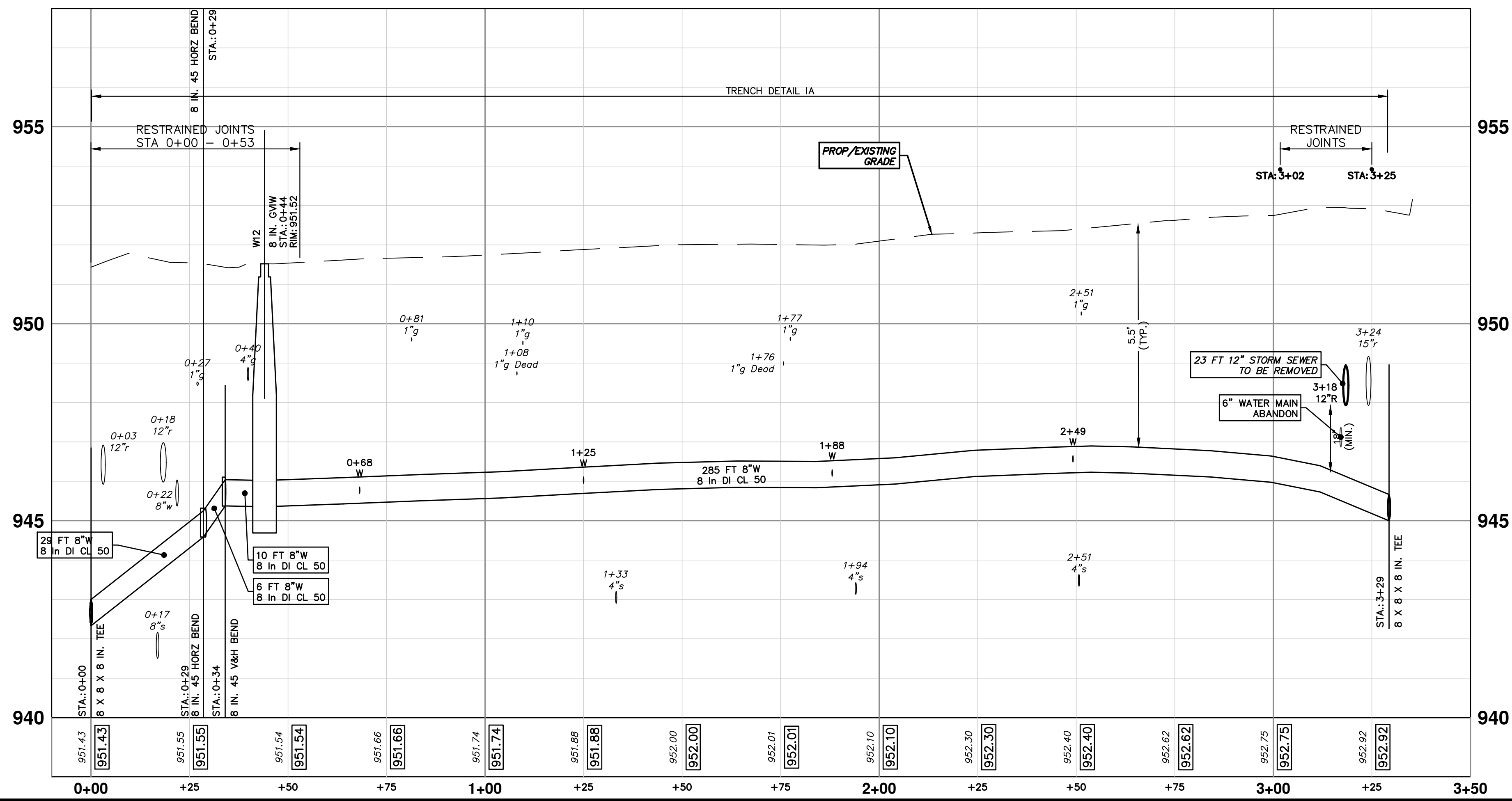
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
CRESCENTS WATER MAIN REPLACEMENT PROJECT
 ARGYLE CRESCENT WATER MAIN
 STA. 13+00 - STA. 15+98

SHEET No. **37 OF 77**

SCALE PLAN: 1" = 20'
 PROFILE: 1" = 2'
 DRAWING No. **2022012-37**



WATER MAIN STRUCTURE TABLE				
STRUCTURE	TYPE	STATION	RIM	DEPTH
W12	8 in. GVW	0+44	951.52	6.17



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www.a2gov.org

CITY OF ANN ARBOR MICHIGAN

CRESCENTS WATER MAIN REPLACEMENT PROJECT

HELEN STREET WATER MAIN
STA. 0+00 - STA. 3+29

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

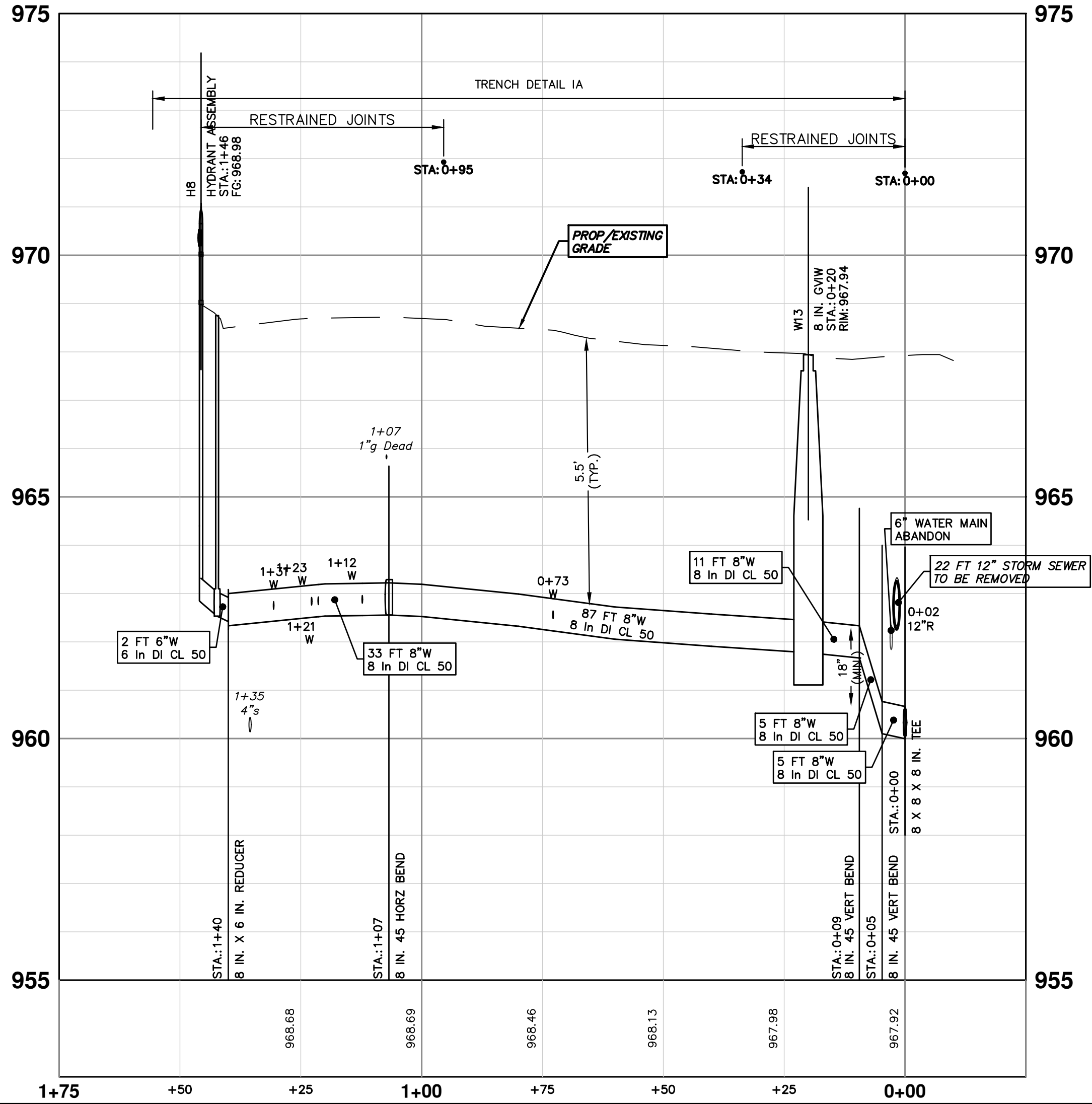
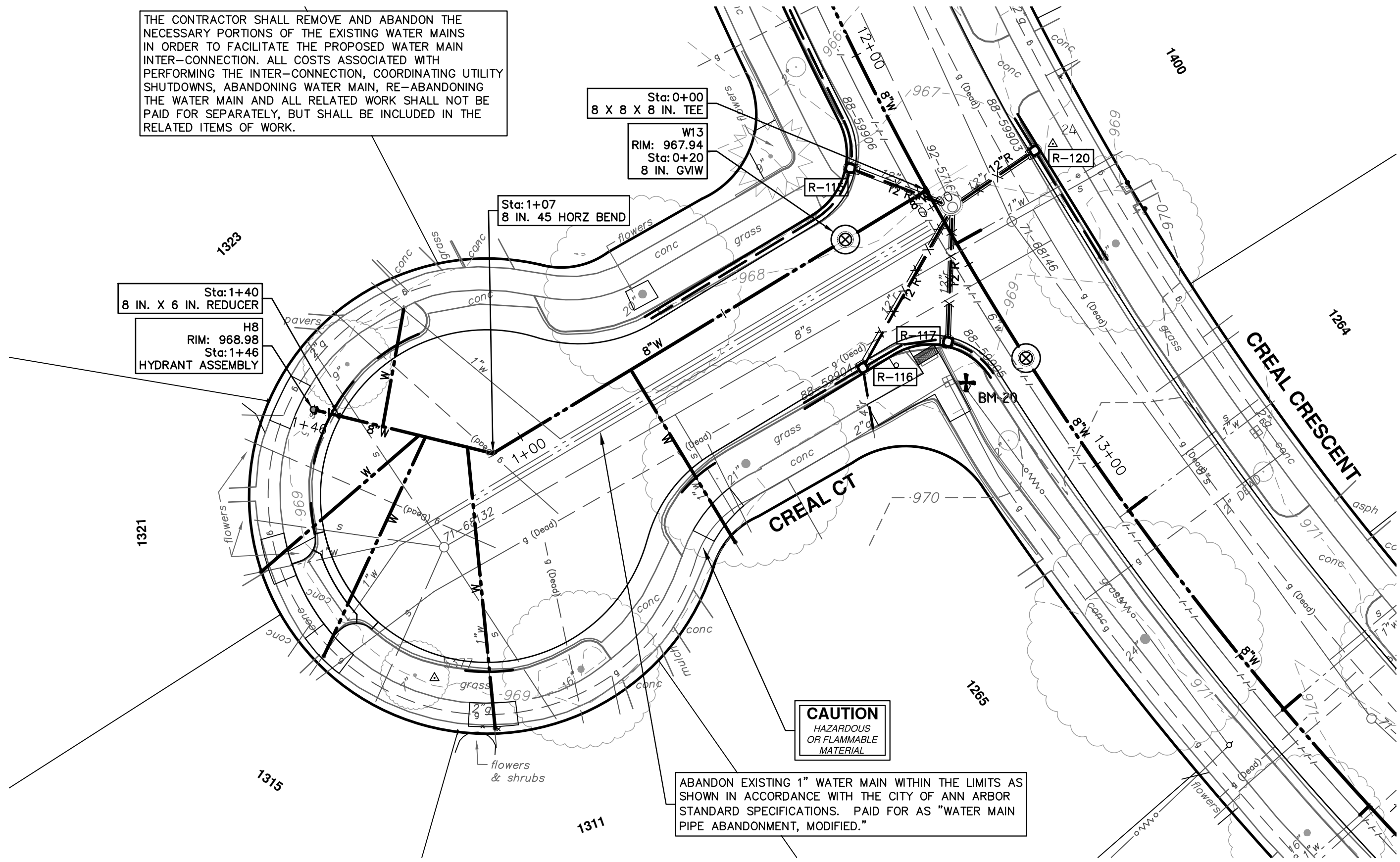
SCALE PLAN: 1" = 20'
PROFILE: 1" = 2'

DRAWING No. 2022012-38

SHEET No. 38 OF 77

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	EGLD PERMIT	11-14-2023	DF/OC/RB	NB

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



WATER MAIN STRUCTURE TABLE				
STRUCTURE	TYPE	STATION	RIM	DEPTH
W13	8 in. GVIW	0+20	967.94	6.17
H8	HYDRANT ASSEMBLY	1+46	968.98	6.17



REV	DESCRIPTION	DATE	DRAWN	CHECKED
00	EGLS PERMIT	11-14-2023	DF/OC/KB	NB

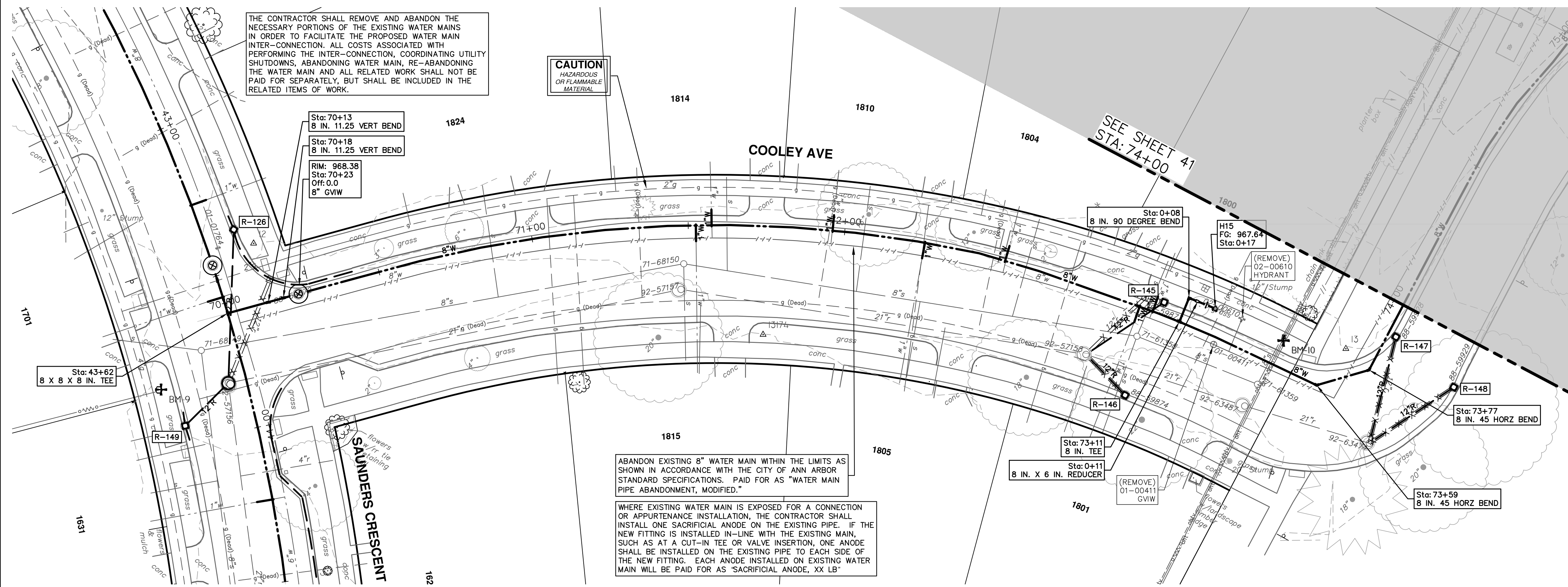
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
CRESCENTS WATER MAIN REPLACEMENT PROJECT
 CREAL COURT WATER MAIN
 STA. 0+00 - STA. 1+46

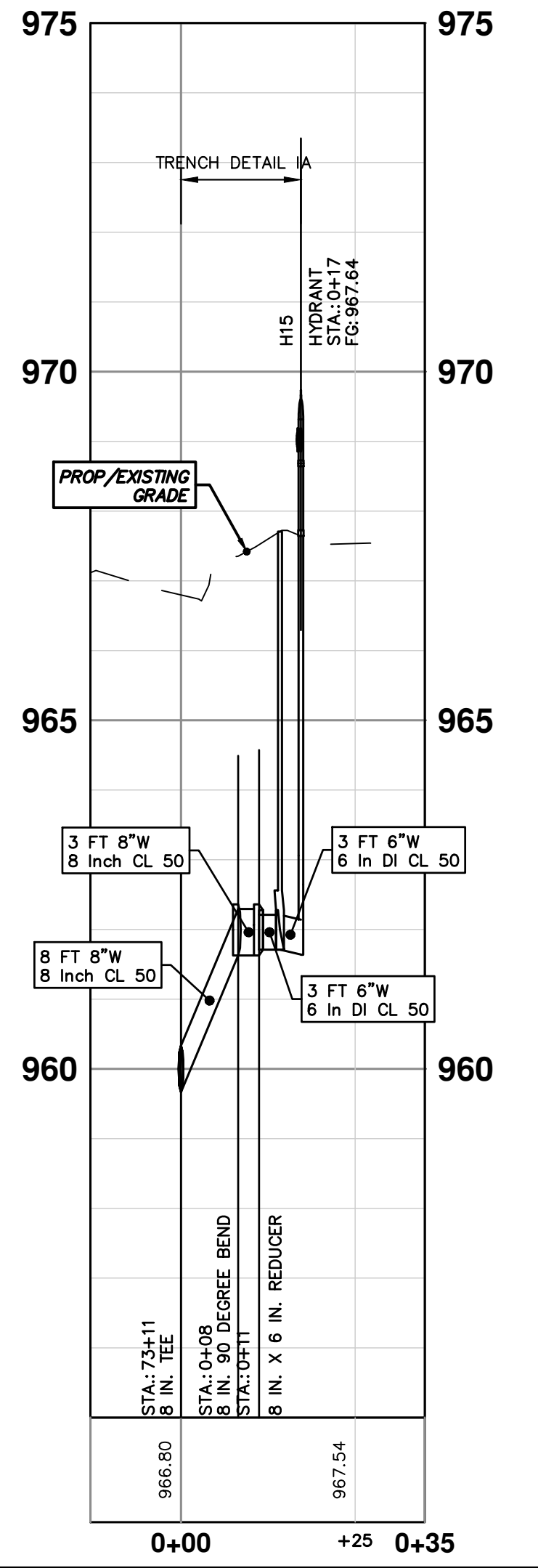
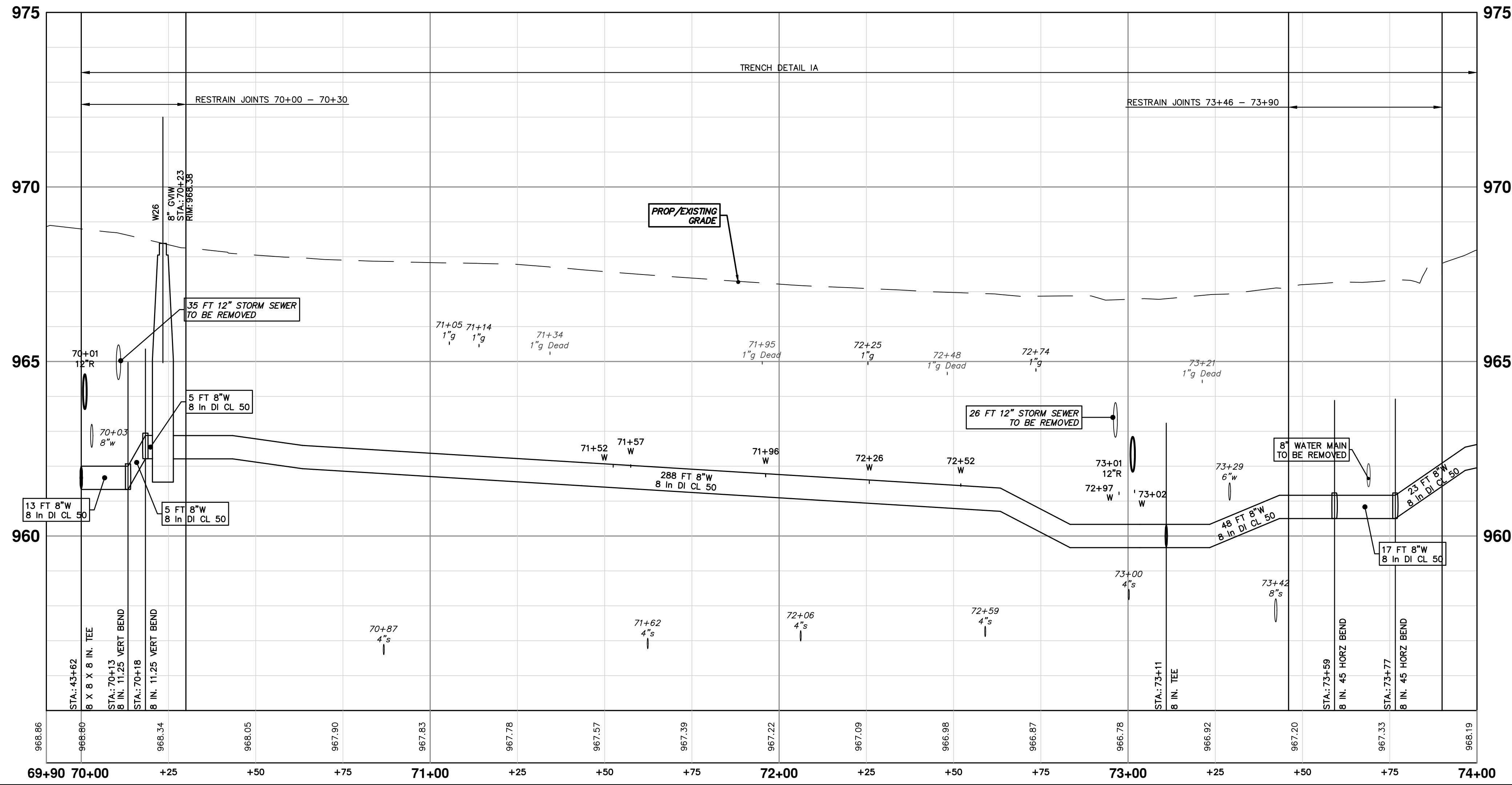
SCALE PLAN: 1" = 20'
 PROFILE: 1" = 2'
 DRAWING No. 2022012-39

R:\2022\2012 Crescents WM Replacement\Plan Production\2022012Wtr-5.dwg Dwg Created: 8-Nov-23 - _a2 standard bw.snb - Plot Date: 14-Nov-23



WATER MAIN STRUCTURE TABLE

STRUCTURE	TYPE	STATION	RIM
H15	HYDRANT	0+17	967.64
W26	8" GWI	70+23	968.38



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

00	EGLE PERMIT	DESCRIPTION
11-14-2023	DATE	DRAWN
11-14-2023	DATE	CHECKED

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

CRESCENTS WATER MAIN REPLACEMENT PROJECT

COOLEY AVE WATER MAIN

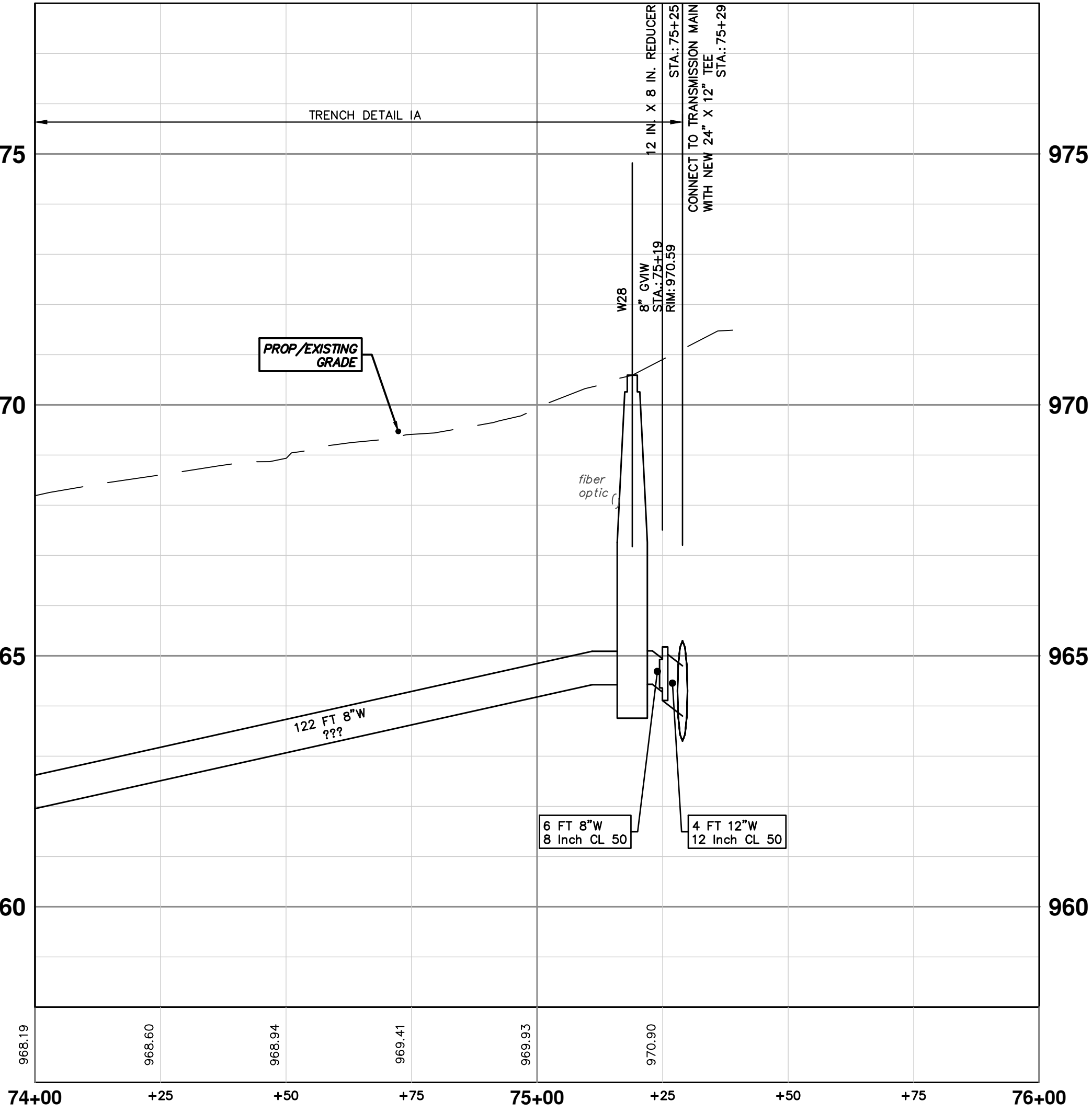
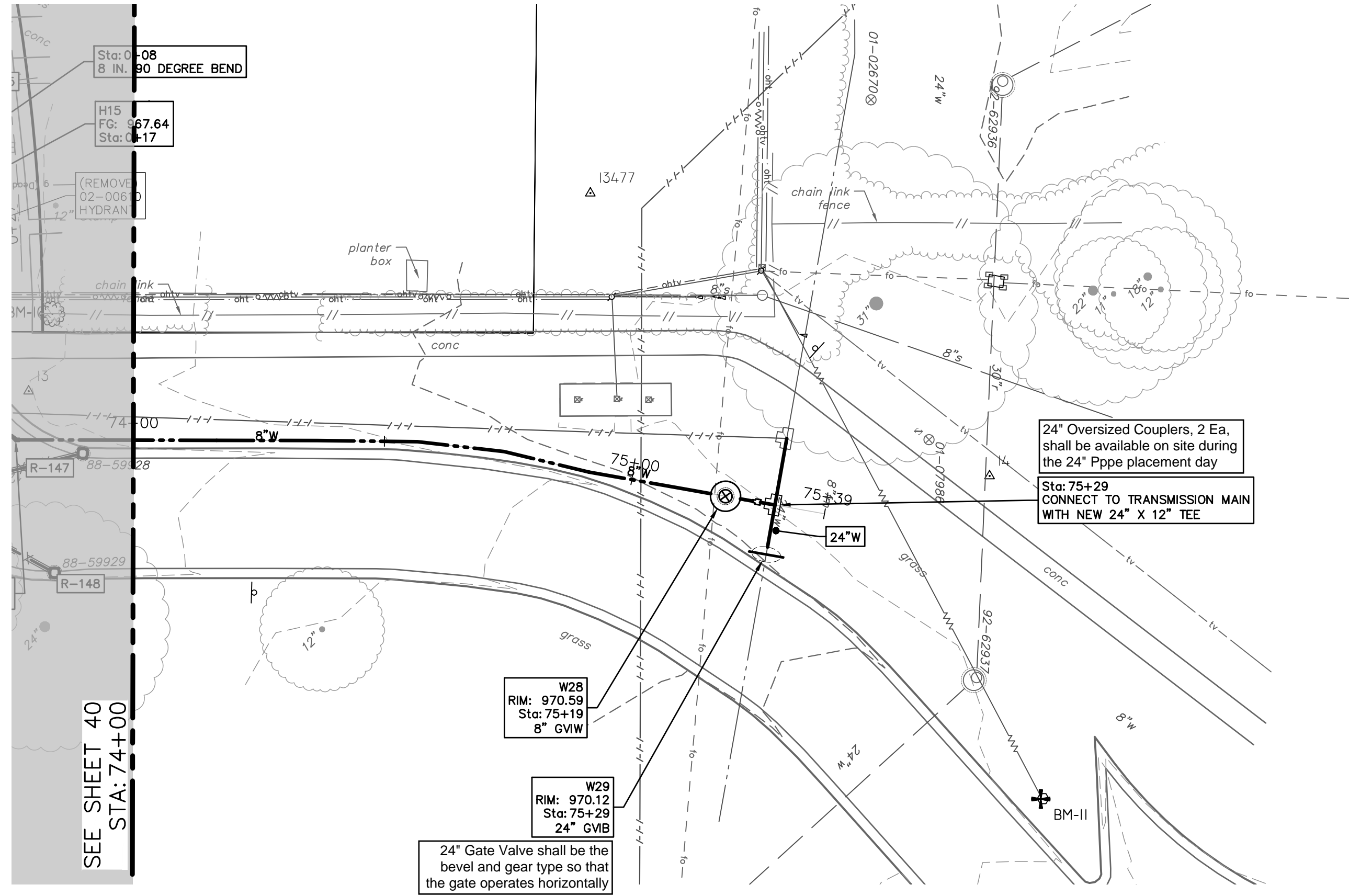
STA. 70+00 - STA. 74+00

SCALE PLAN: 1" = 20'

PROFILE: 1" = 2'

DRAWING NO. 2022012-40

SHEET NO. 40 OF 77



WATER MAIN STRUCTURE TABLE			
STRUCTURE	TYPE	STATION	RIM
W28	8" GVIW	75+19	970.59
W29	24" GVIB	75+29	970.12



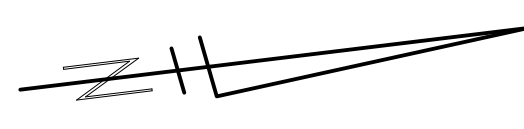
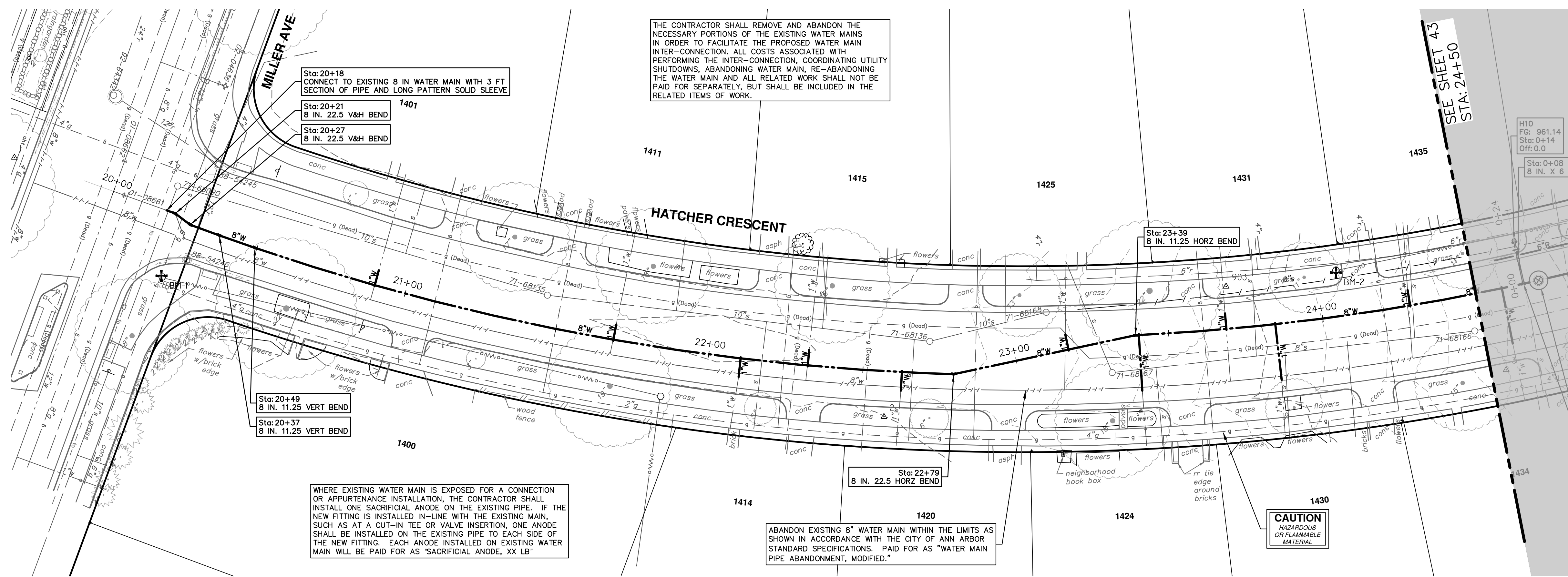
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ANN ARBOR, MI 48106-6647
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
CRESCENTS WATER MAIN REPLACEMENT PROJECT
COOLEY AVE WATER MAIN
STA. 74+00 - STA. 75+31

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	EGLS PERMIT	11-14-2023	DF/OC/RB	NB

R:\2022012 Crescents WM Replacement\Plan Production\2022012Wtr4.dwg Dwg Created: 13-Nov-23 - _a2 standard bw.stb - Plot Date: 14-Nov-23



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

Sta: 20+18
CONNECT TO EXISTING 8 IN WATER MAIN WITH 3 FT SECTION OF PIPE AND LONG PATTERN SOLID SLEEVE

Sta: 20+21
8 IN. 22.5 V&H BEND

Sta: 20+27
8 IN. 22.5 V&H BEND

Sta: 20+49
8 IN. 11.25 VERT BEND

Sta: 20+37
8 IN. 11.25 VERT BEND

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

ABANDON EXISTING 8\"/>

CAUTION
HAZARDOUS
OR FLAMMABLE
MATERIAL

H10
FS: 961.14
Sta: 0+14
Off: 0.0

SEE SHEET 43
STA: 24+50



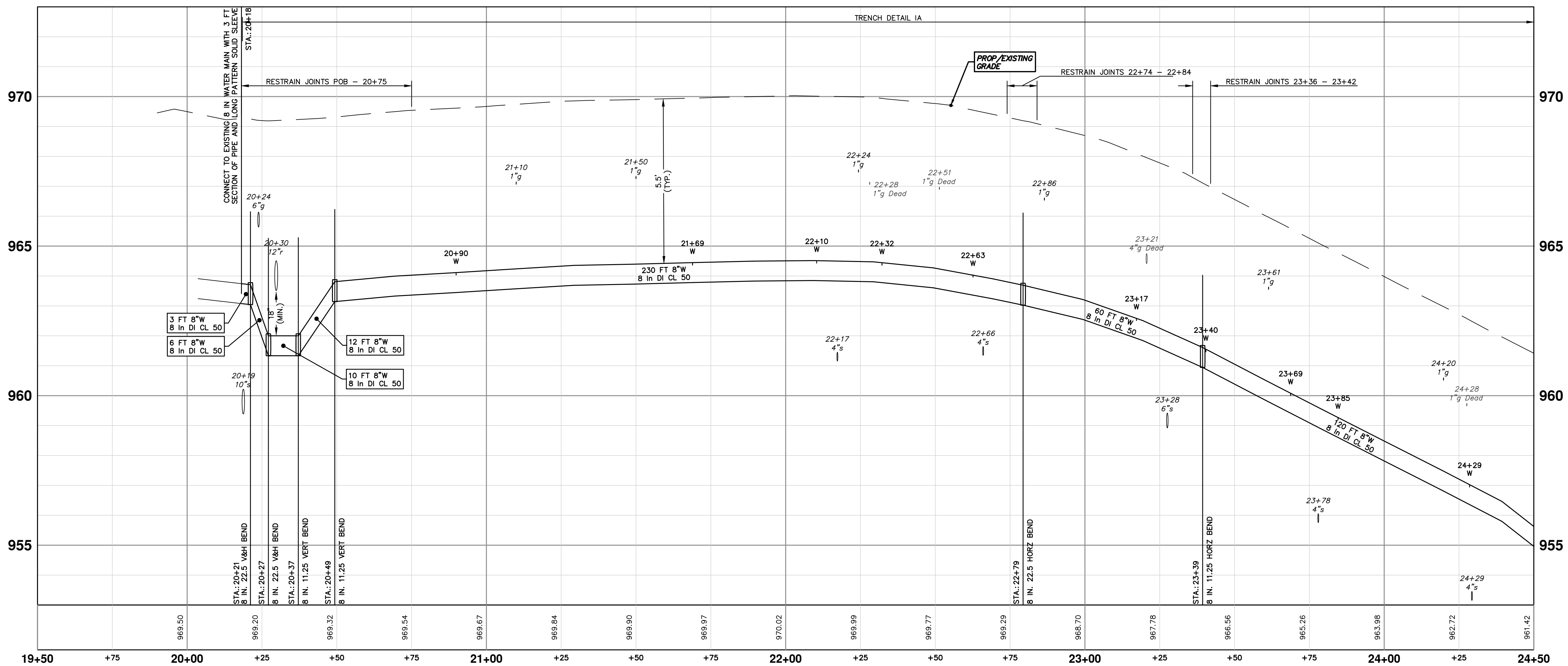
REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	EFILE PERMIT	11-14-2023	DF/OC/RB	NB

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
CRESCENTS WATER MAIN REPLACEMENT PROJECT
HATCHER SAUNDERS CRESCENT WATER MAIN

SCALE PLAN: 1" = 20'
PROFILE: 1" = 2'
DRAWING NO.
2022012-42



TRENCH DETAIL 1A

PROP./EXISTING GRADE

RESTRAIN JOINTS POB - 20+75

RESTRAIN JOINTS 22+74 - 22+84

RESTRAIN JOINTS 23+36 - 23+42

3 FT 8\"/>

6 FT 8\"/>

12 FT 8\"/>

10 FT 8\"/>

Sta: 20+21
8 IN. 22.5 V&H BEND

Sta: 20+27
8 IN. 22.5 V&H BEND

Sta: 20+37
8 IN. 11.25 VERT BEND

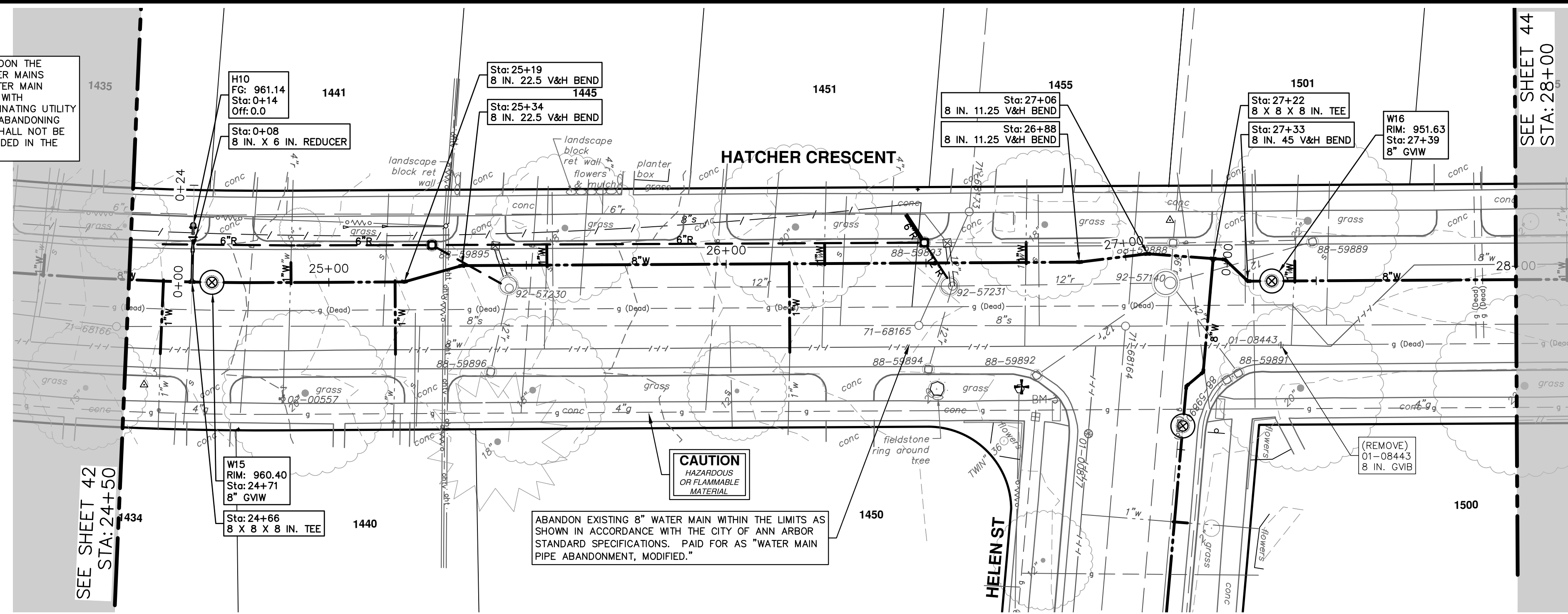
Sta: 20+49
8 IN. 11.25 VERT BEND

Sta: 22+79
8 IN. 22.5 HORZ BEND

Sta: 23+39
8 IN. 11.25 HORZ BEND

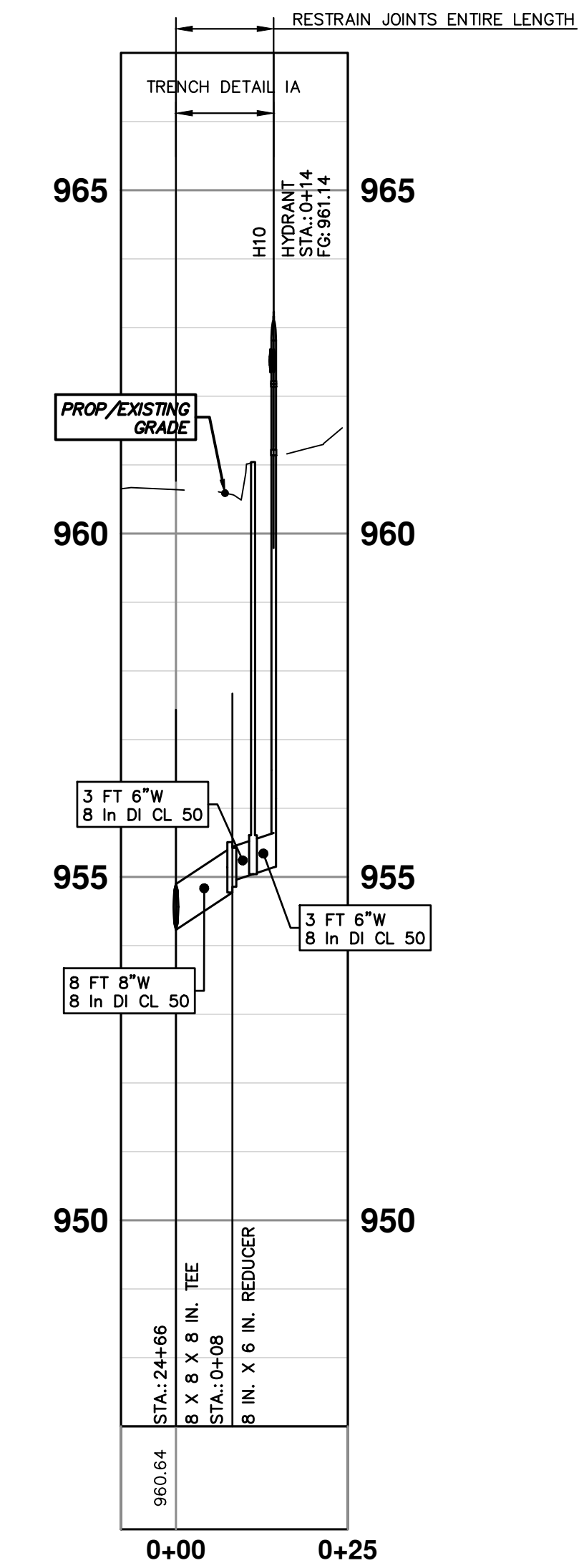
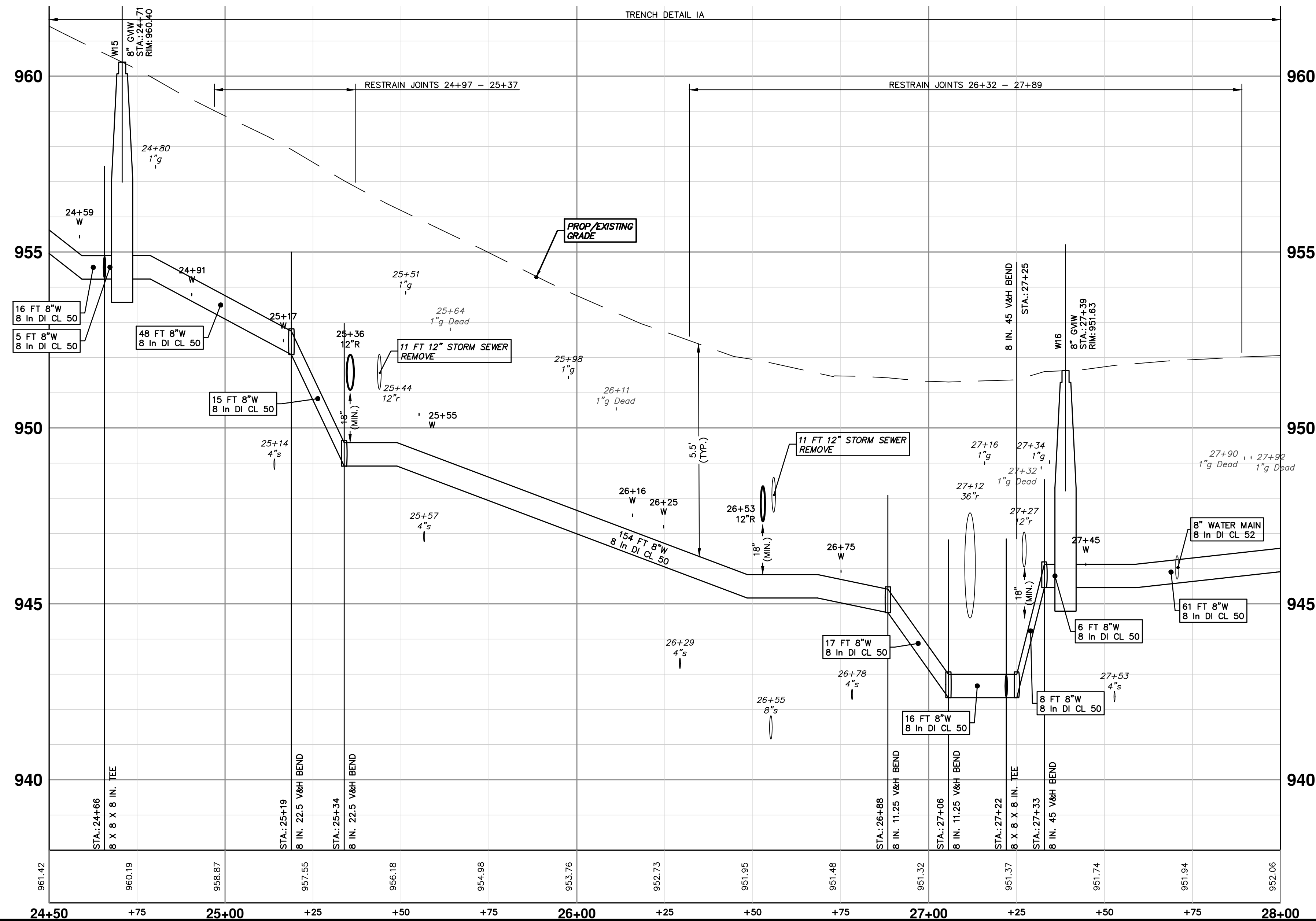
19+50 +75 20+00 +25 +50 +75 21+00 +25 +50 +75 22+00 +25 +50 +75 23+00 +25 +50 +75 24+00 +25 24+50

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



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

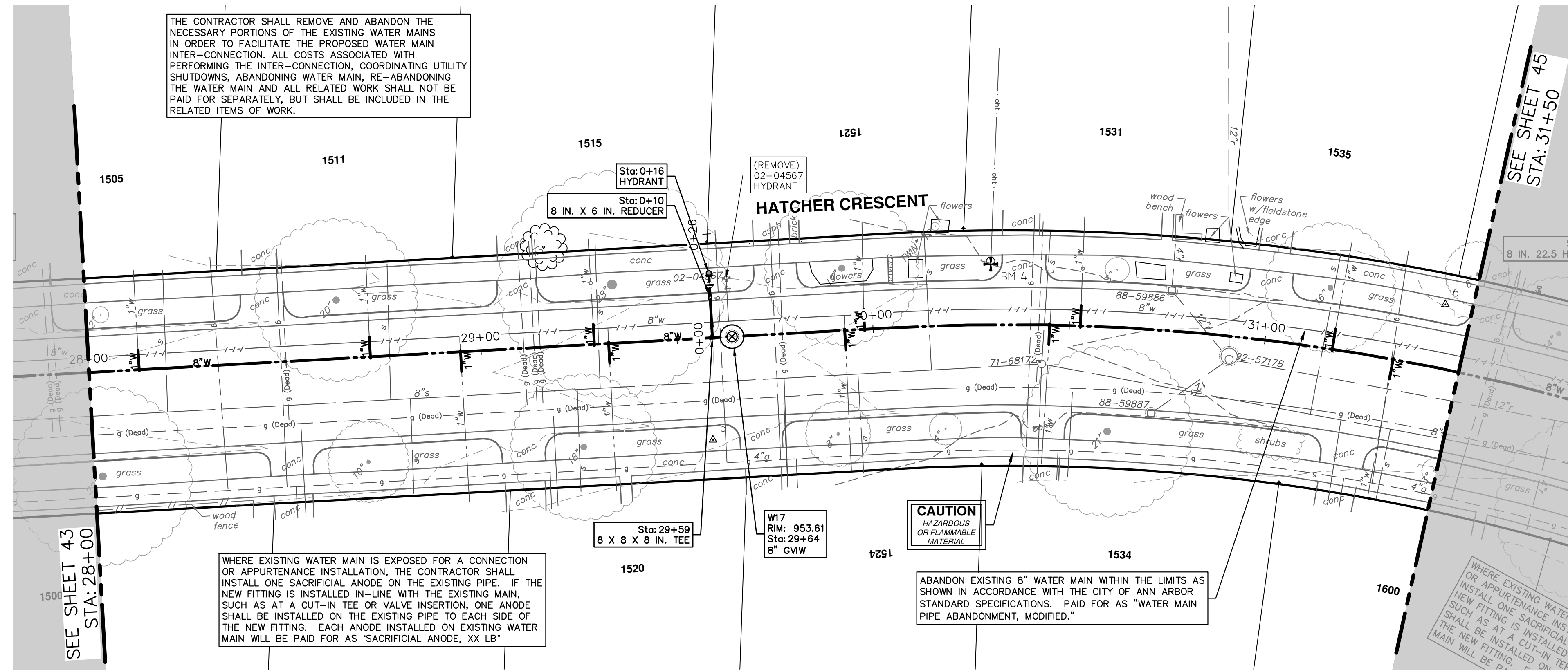
WATER MAIN STRUCTURE TABLE			
STRUCTURE	TYPE	STATION	RIM
H10	HYDRANT	0+14	961.14
W15	8" GVW	24+71	960.40
W16	8" GVW	27+39	951.63



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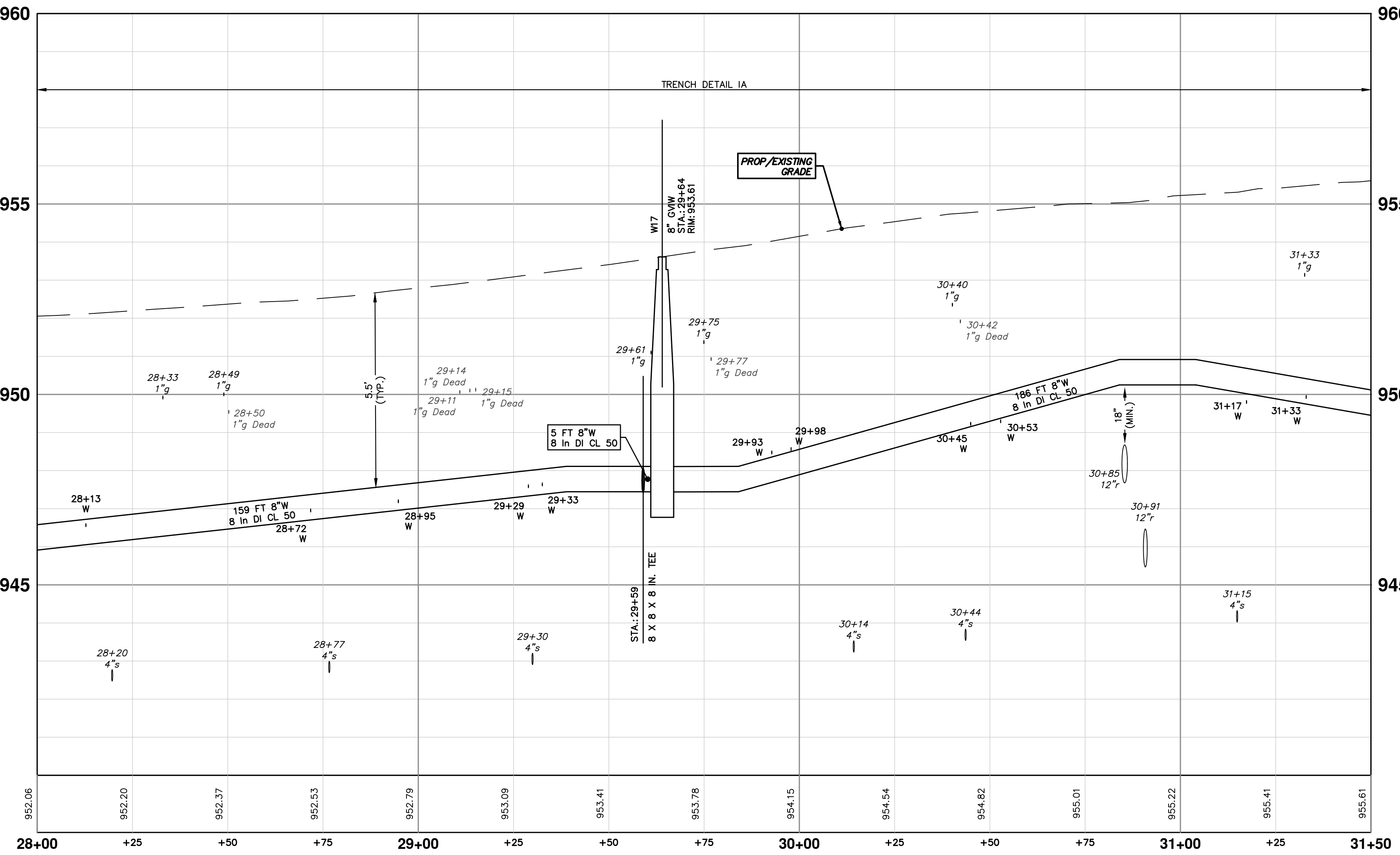


THE CONTRACTOR SHALL REMOVE AND ABANDON THE NECESSARY PORTIONS OF THE EXISTING WATER MAIN IN ORDER TO FACILITATE THE PROPOSED WATER MAIN INTER-CONNECTION. ALL COSTS ASSOCIATED WITH PERFORMING THE INTER-CONNECTION, COORDINATING UTILITY SHUTDOWNS, ABANDONING WATER MAIN, RE-ABANDONING THE WATER MAIN AND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

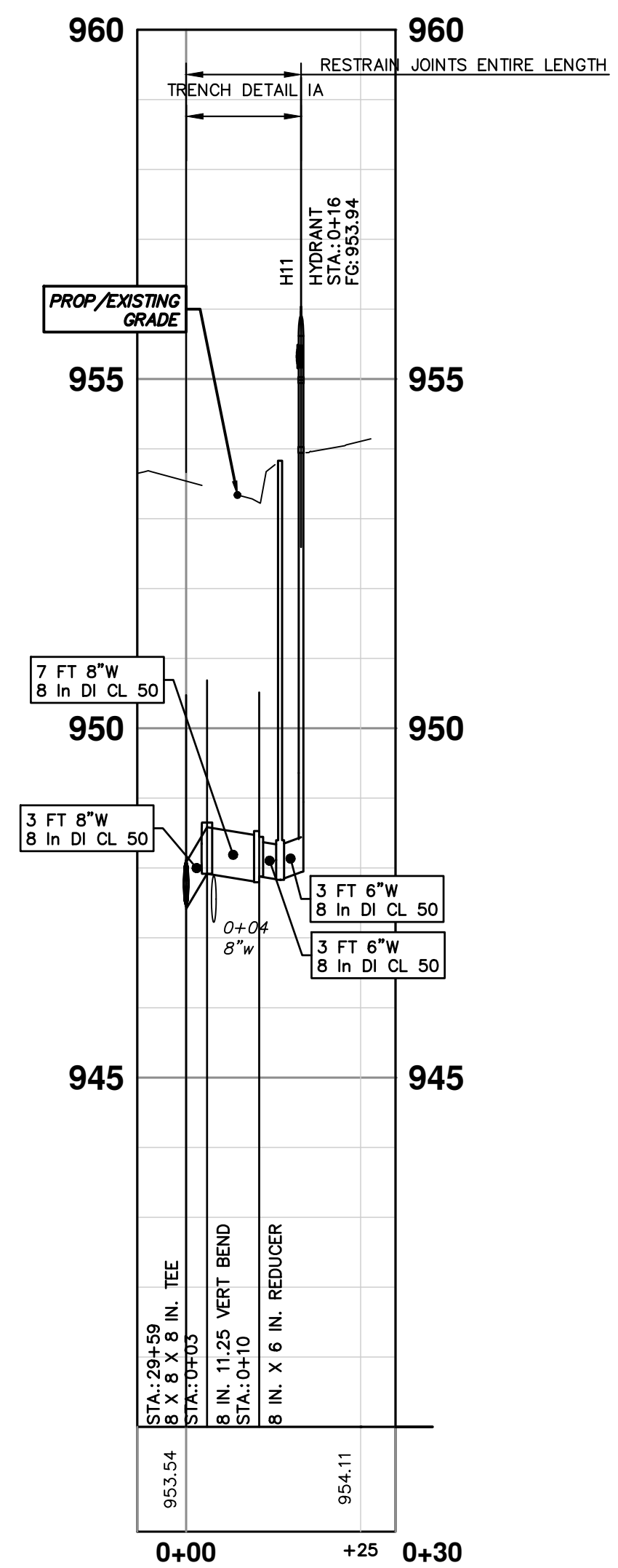
WHERE EXISTING WATER MAIN IS EXPOSED FOR A CONNECTION OR APPURTENANCE INSTALLATION, THE CONTRACTOR SHALL INSTALL ONE SACRIFICIAL ANODE ON THE EXISTING PIPE. IF THE NEW FITTING IS INSTALLED IN-LINE WITH THE EXISTING MAIN, SUCH AS AT A CUT-IN TEE OR VALVE INSERTION, ONE ANODE SHALL BE INSTALLED ON THE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

CAUTION
HAZARDOUS OR FLAMMABLE MATERIAL
ABANDON EXISTING 8" WATER MAIN WITHIN THE LIMITS AS SHOWN IN ACCORDANCE WITH THE CITY OF ANN ARBOR STANDARD SPECIFICATIONS. PAID FOR AS "WATER MAIN PIPE ABANDONMENT, MODIFIED."

SEE SHEET 45
STA: 31+50



STRUCTURE	TYPE	STATION	RIM
H11	HYDRANT	0+16	953.94
W17	8" GWI	29+64	953.61



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DATE
11-14-2023
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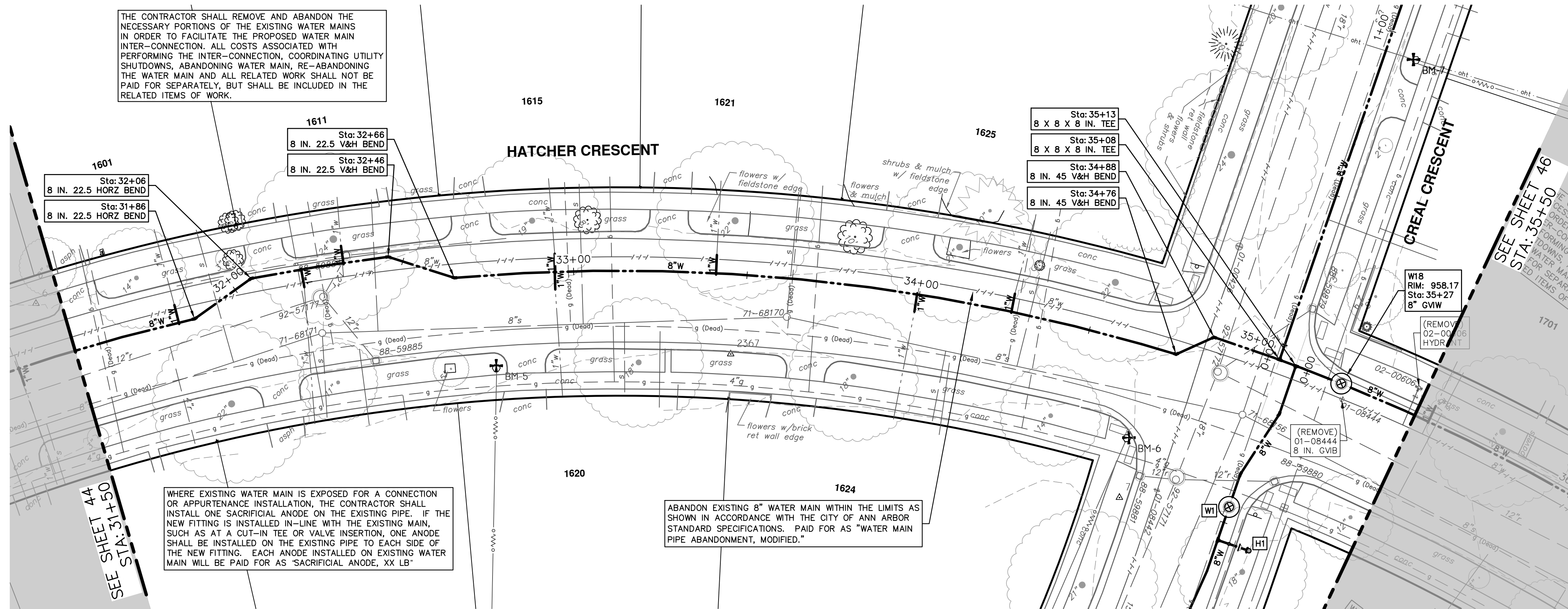
HATCHER SAUNDERS CRESCENT WATER MAIN

STA. 28+00 - STA. 31+50

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

DRAWING NO. 2022012-44

SHEET NO. 44 OF 77



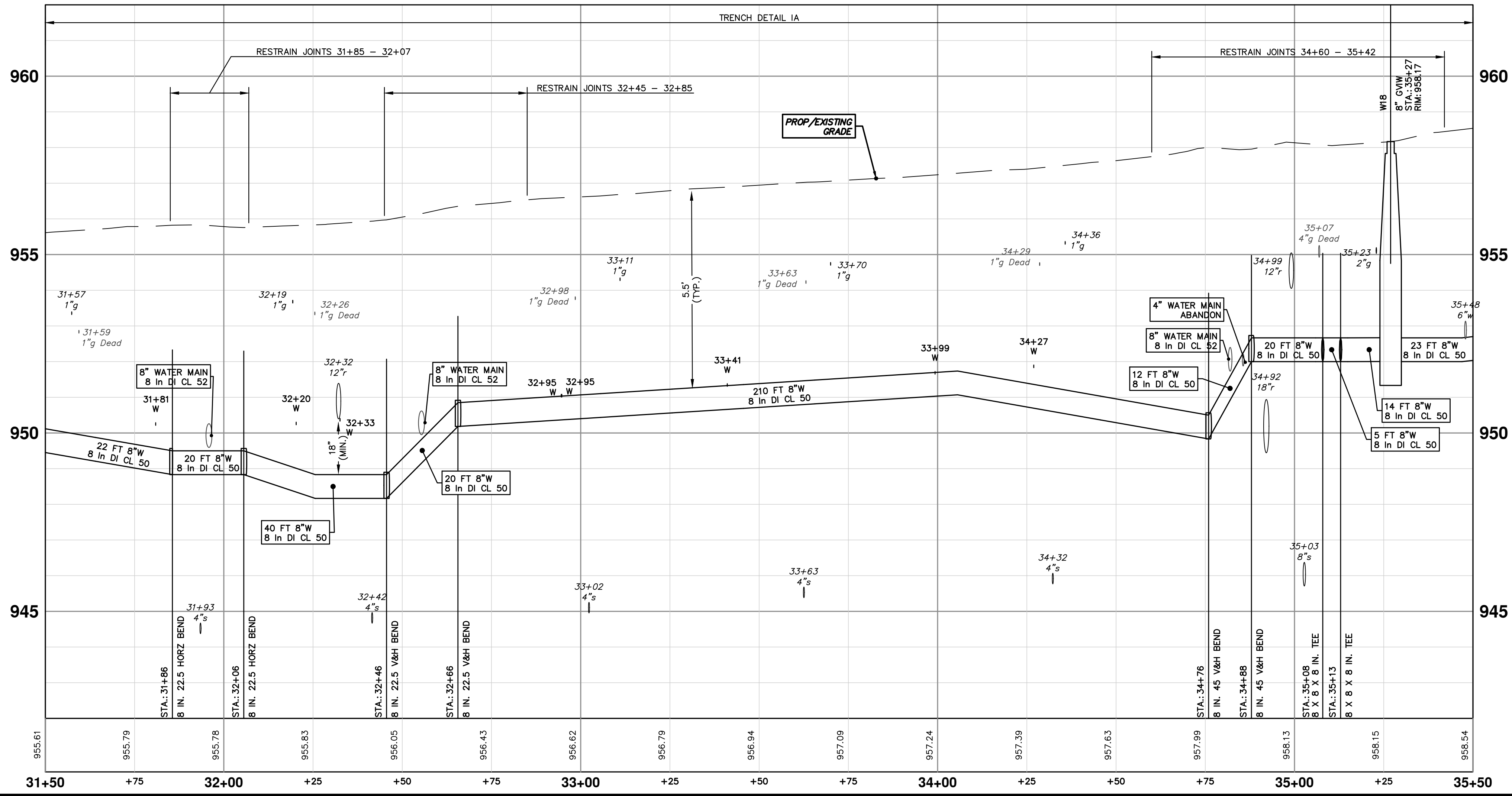
THE CONTRACTOR SHALL REMOVE AND ABANDON THE NECESSARY PORTIONS OF THE EXISTING WATER MAINS IN ORDER TO FACILITATE THE PROPOSED WATER MAIN INTER-CONNECTION. ALL COSTS ASSOCIATED WITH PERFORMING THE INTER-CONNECTION, COORDINATING UTILITY SHUTDOWNS, ABANDONING WATER MAIN, RE-ABANDONING THE WATER MAIN AND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

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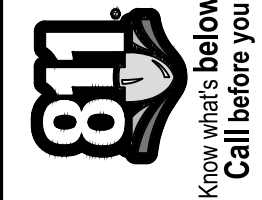
ABANDON EXISTING 8" WATER MAIN WITHIN THE LIMITS AS SHOWN IN ACCORDANCE WITH THE CITY OF ANN ARBOR STANDARD SPECIFICATIONS. PAID FOR AS "WATER MAIN PIPE ABANDONMENT, MODIFIED."

SEE SHEET 46
STA: 35+50

SEE SHEET 44
STA: 31+50



STRUCTURE	TYPE	STATION	RIM
W18	8" GVW	35+27	958.17

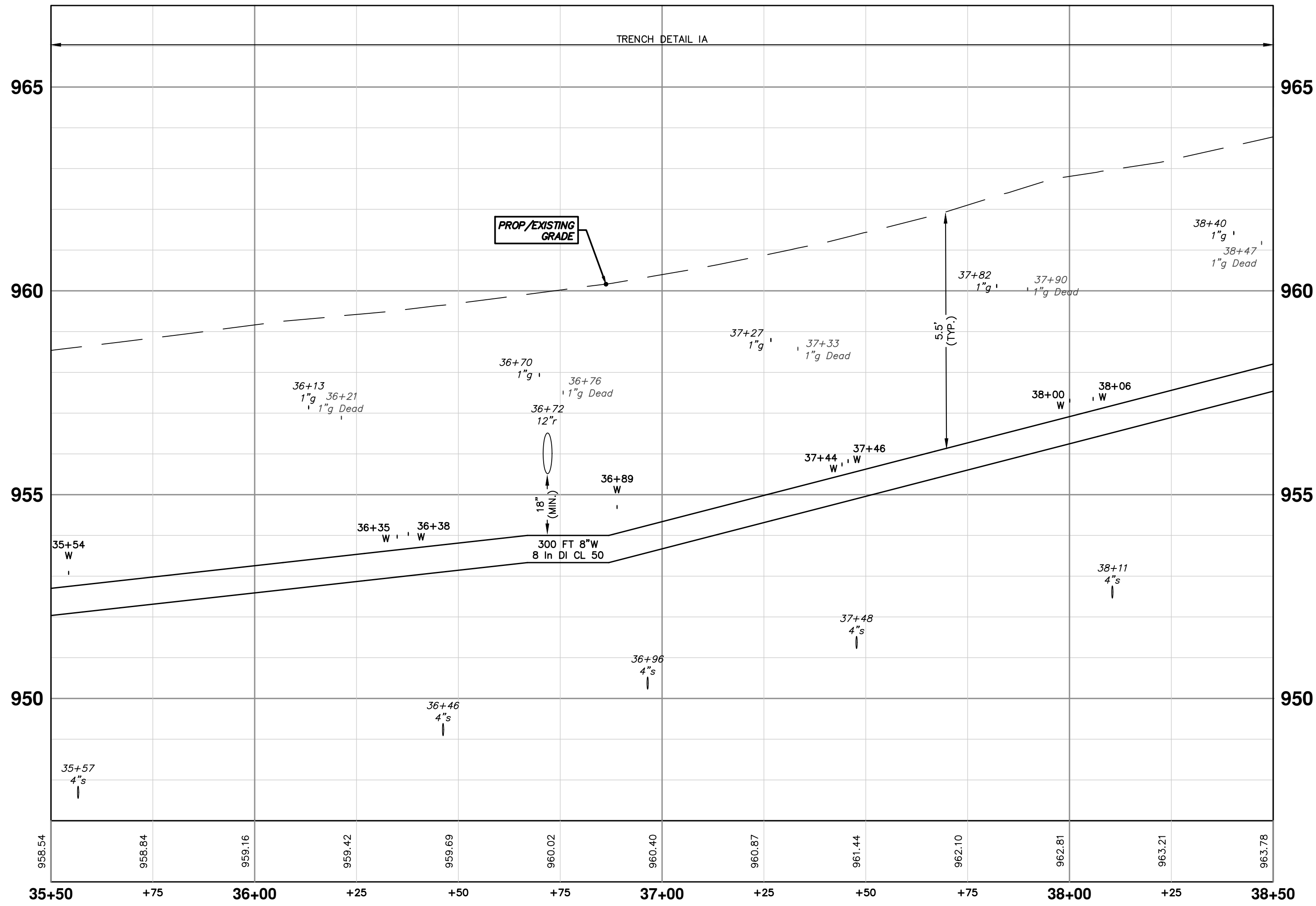
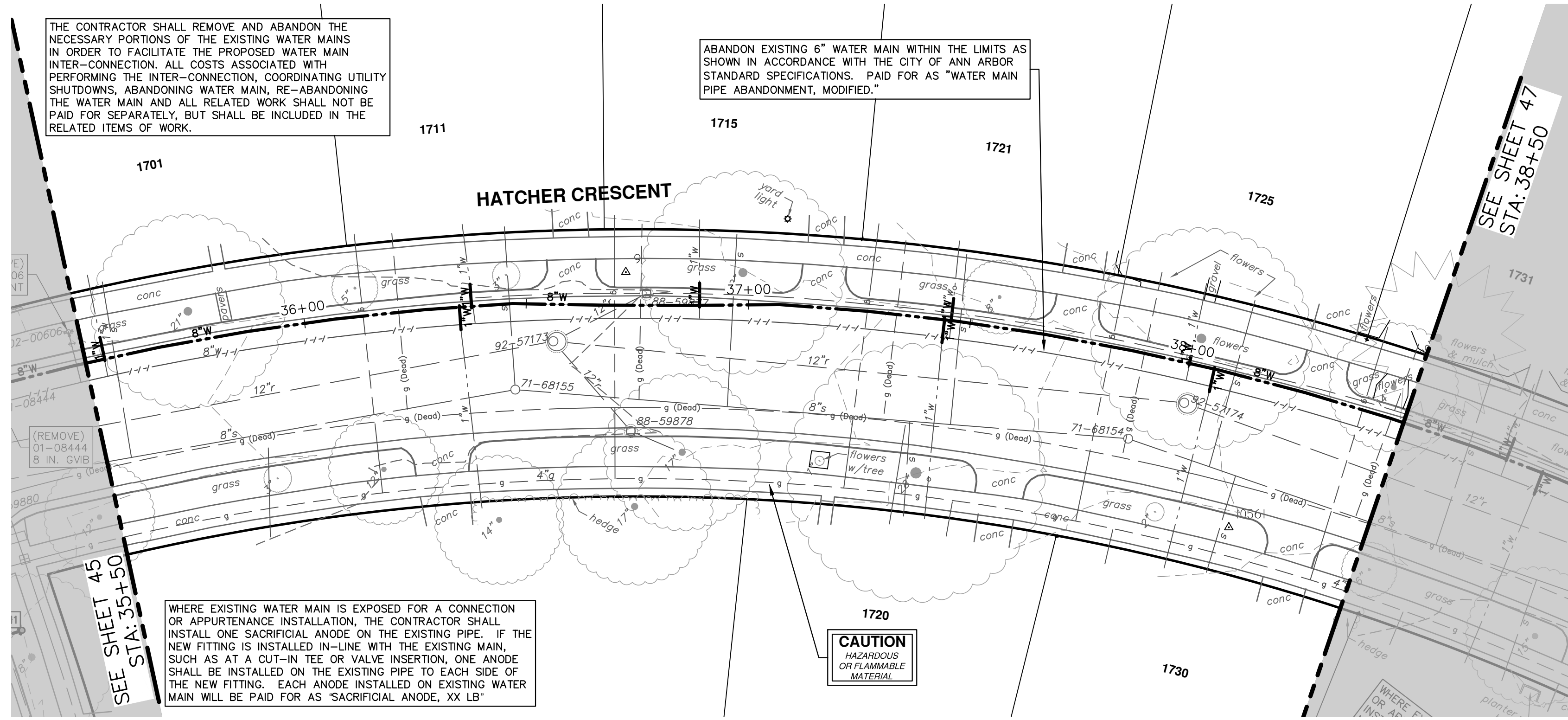


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STA. 31+50 - STA. 33+50
SCALE PLAN: 1" = 20'
PROFILE: 1" = 2'
DRAWING No. 2022012-45

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	EGLC PERMIT	11-14-2023	DF/OC/KB	NB



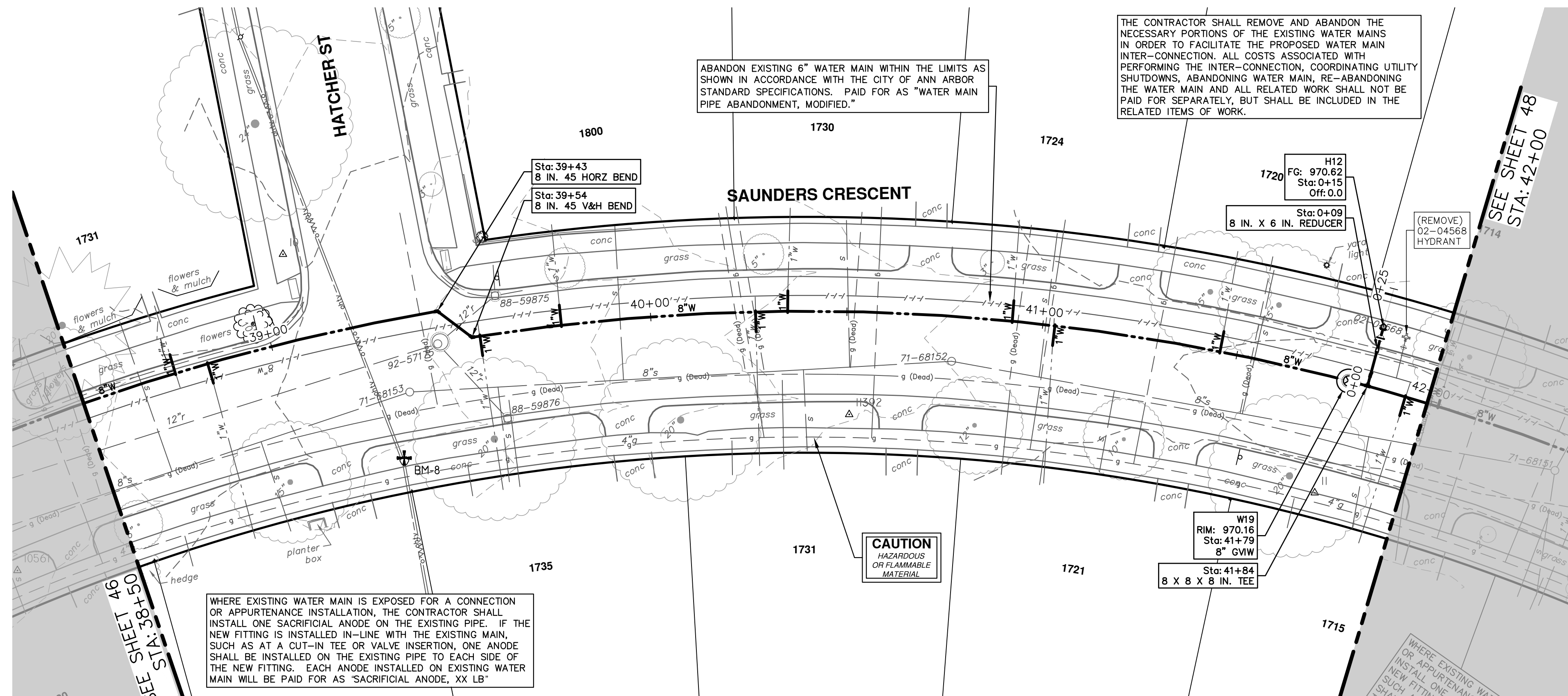
REV.	DESCRIPTION	DATE	BY/CC/KB	CHKD
00	EGLC PERMIT	11-14-2023		MB

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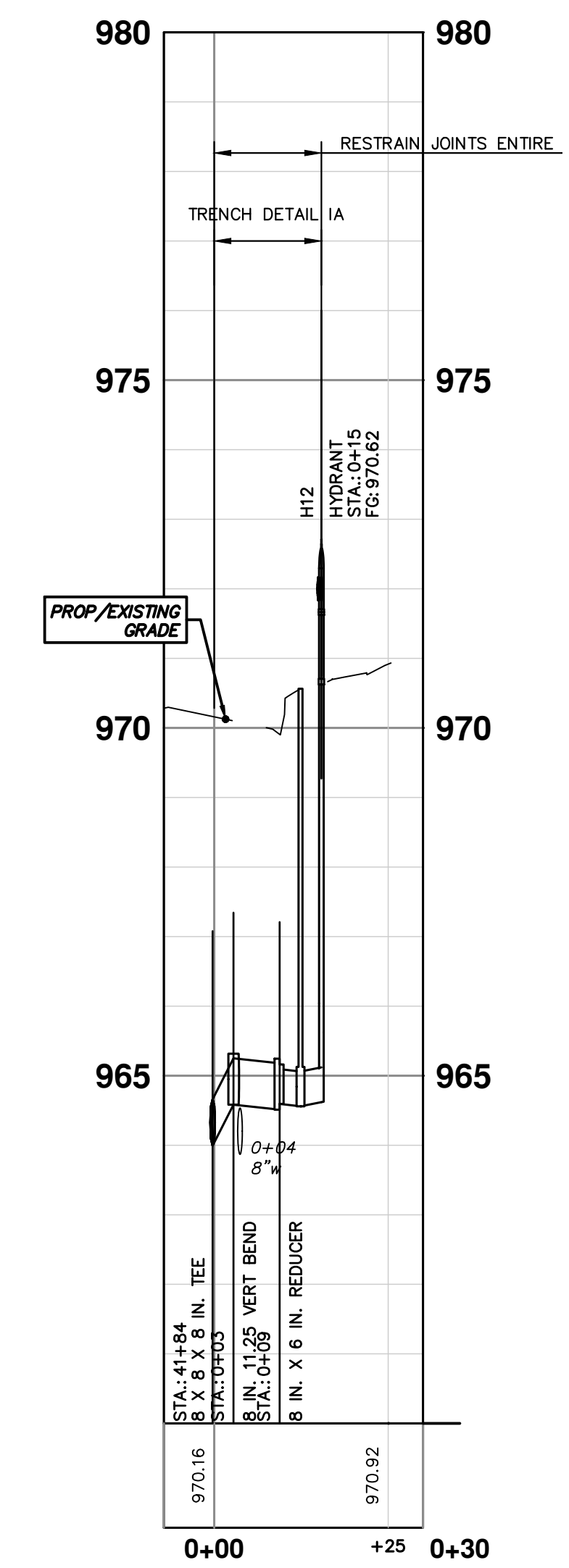
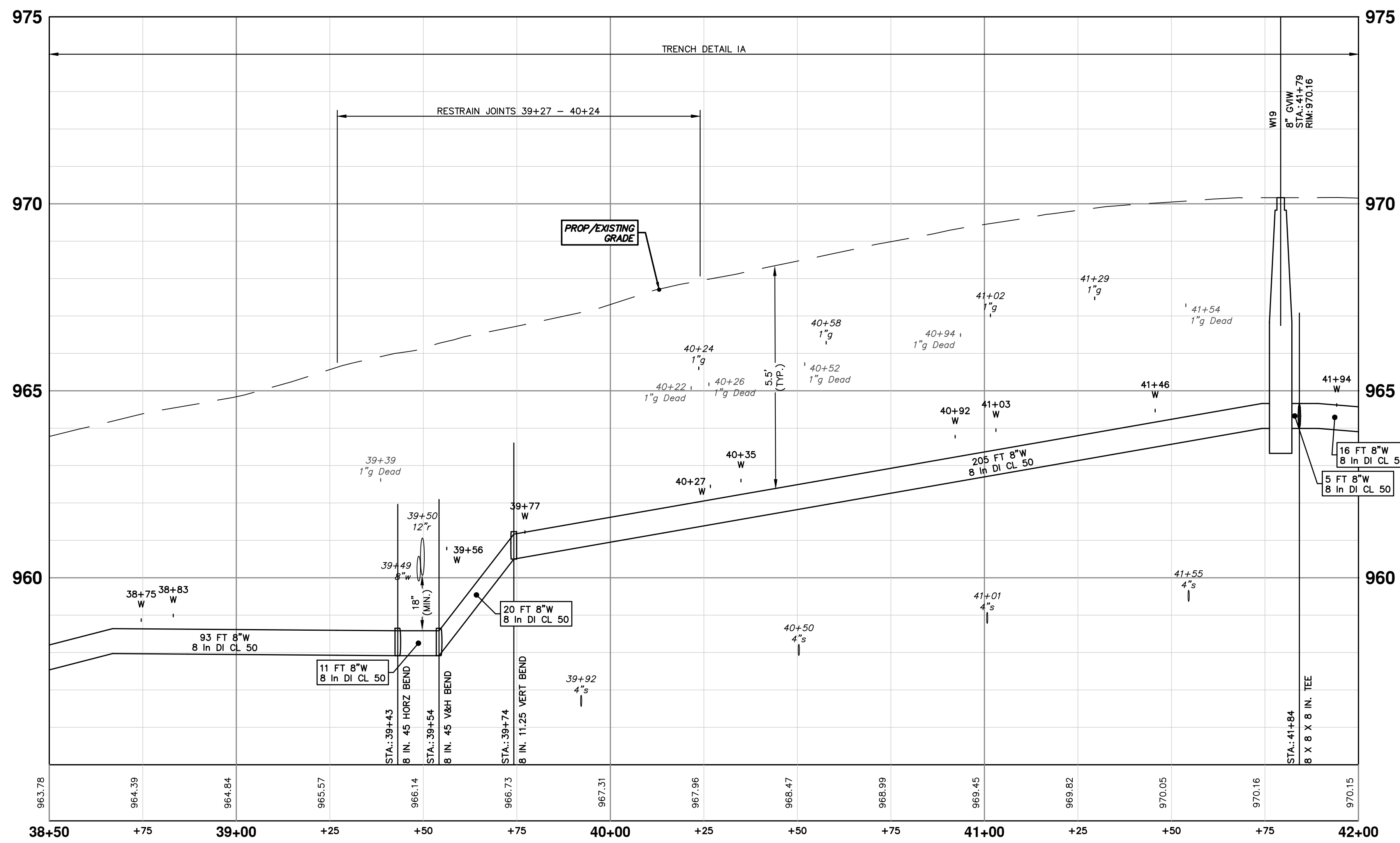
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SCALE PLAN: 1" = 20'
PROFILE: 1" = 2'
DRAWING No. 2022012-46



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

STRUCTURE	TYPE	STATION	RIM
H12	HYDRANT	0+15	970.62
W19	8" GVW	41+79	970.16



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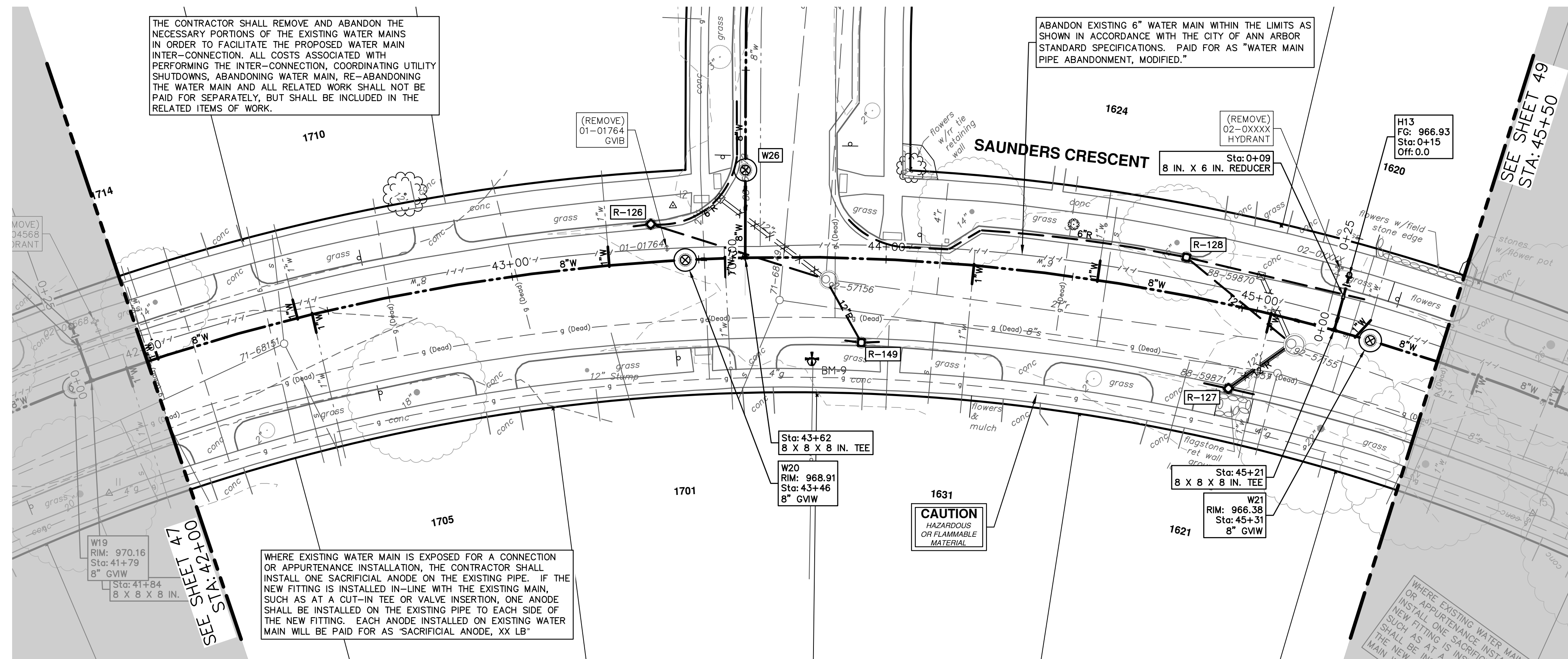
SCALE PLAN: 1" = 20' PROFILE: 1" = 2'
 DRAWING NO. 2022012-47
 SHEET NO. 47 OF 77

DATE: 11-14-2023
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 CHECKED: [Name]

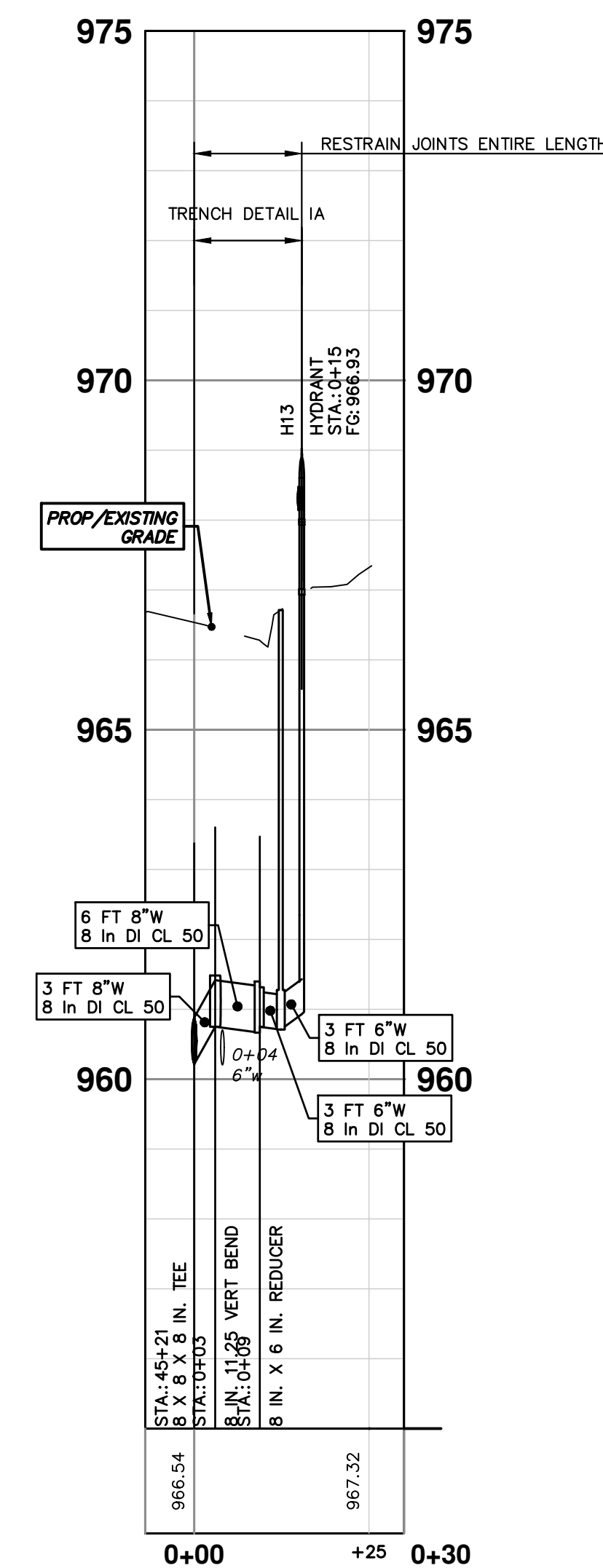
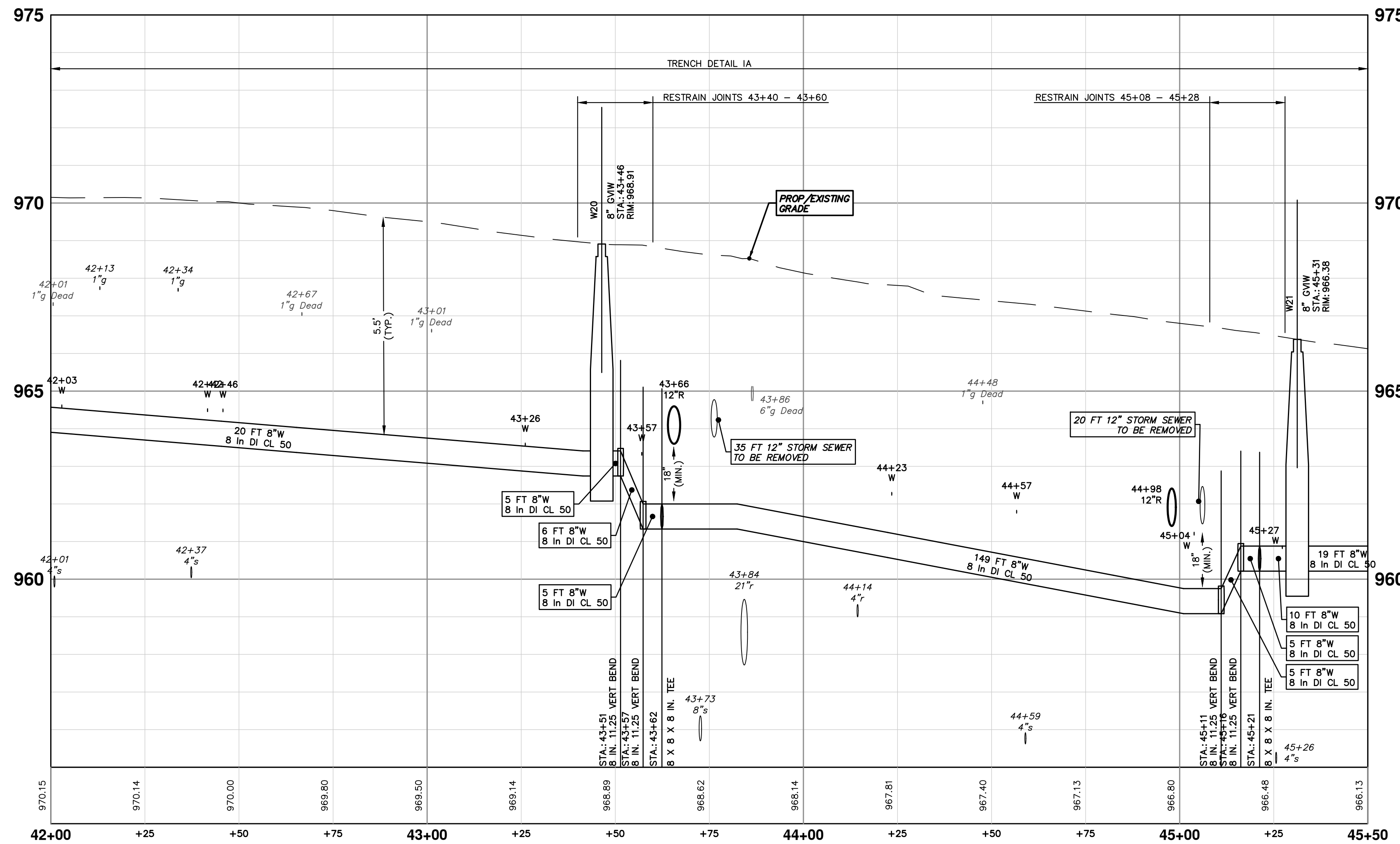
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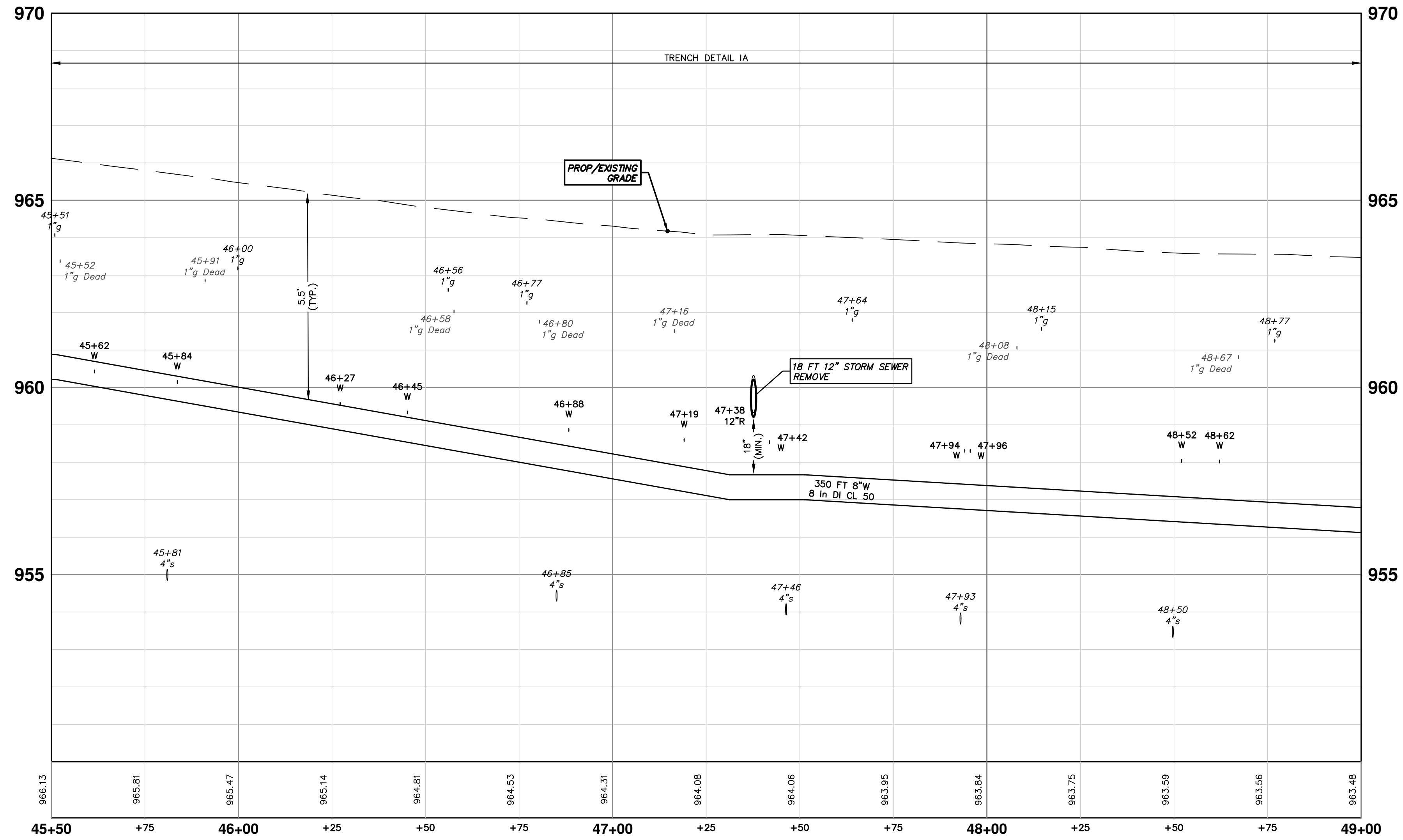
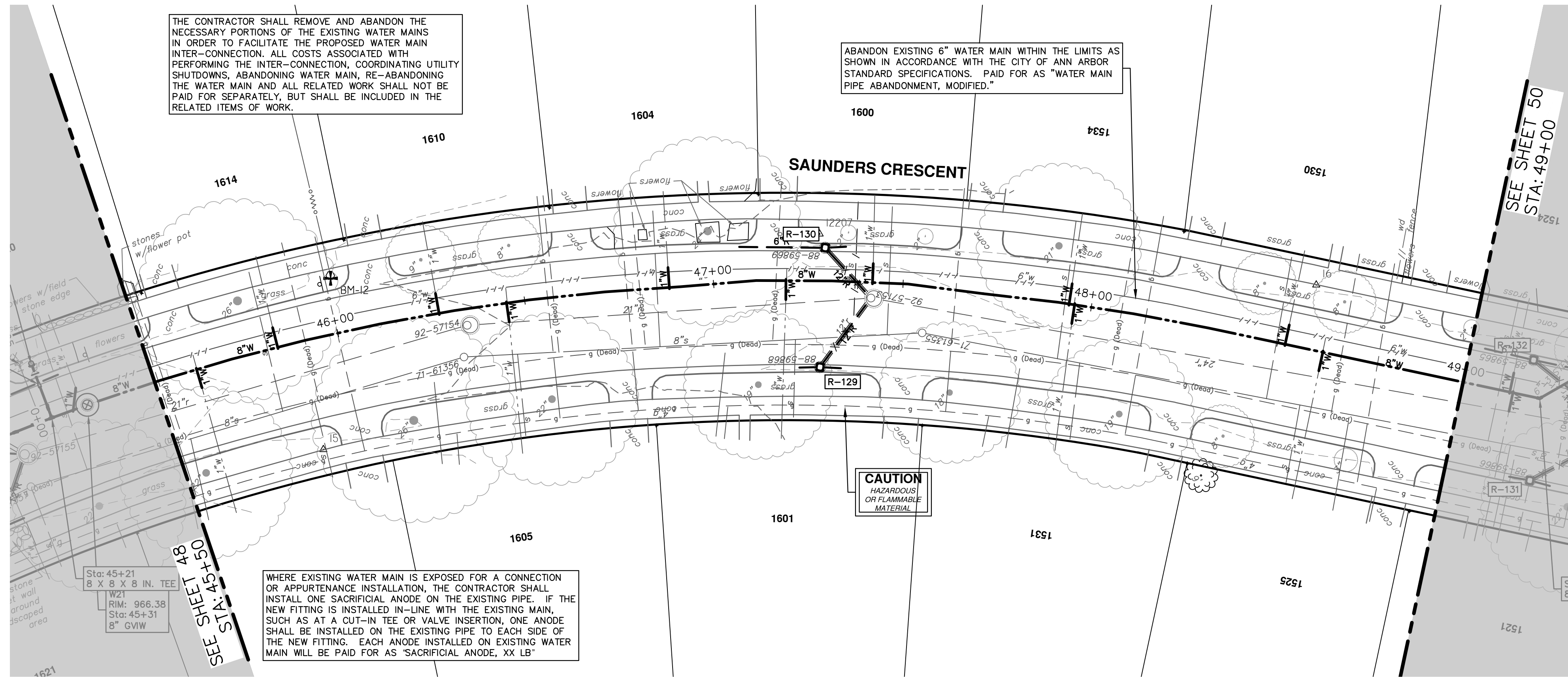
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STRUCTURE	TYPE	STATION	RIM
H13	HYDRANT	0+15	966.93
W20	8" GVW	43+46	968.91
W21	8" GVW	45+31	966.38



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CRESCENTS WATER MAIN REPLACEMENT PROJECT

HATCHER SAUNDERS CRESCENT WATER MAIN

STA. 45+50 - STA. 49+00

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

DRAWING No. 2022012-49

SHEET No. 49 OF 77

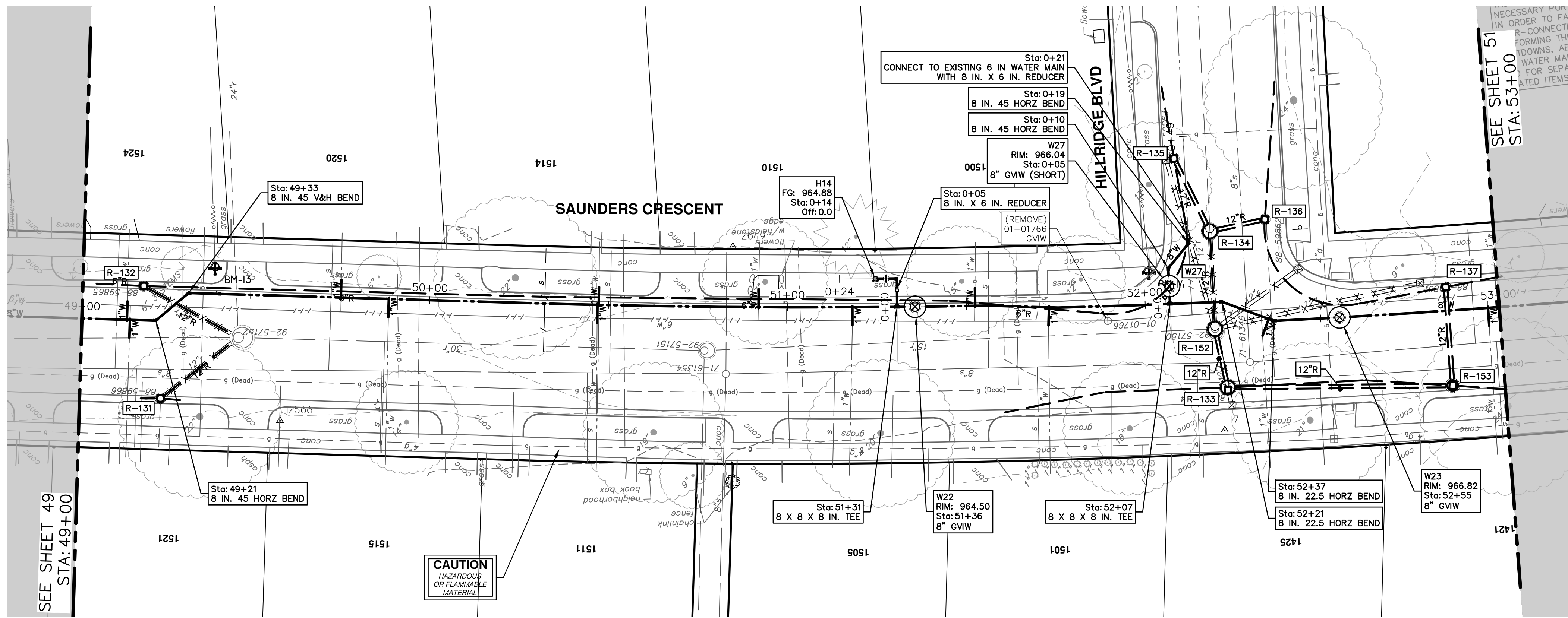
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00	EGLS PERMIT	11-14-2023	DF/CC/KB	NB

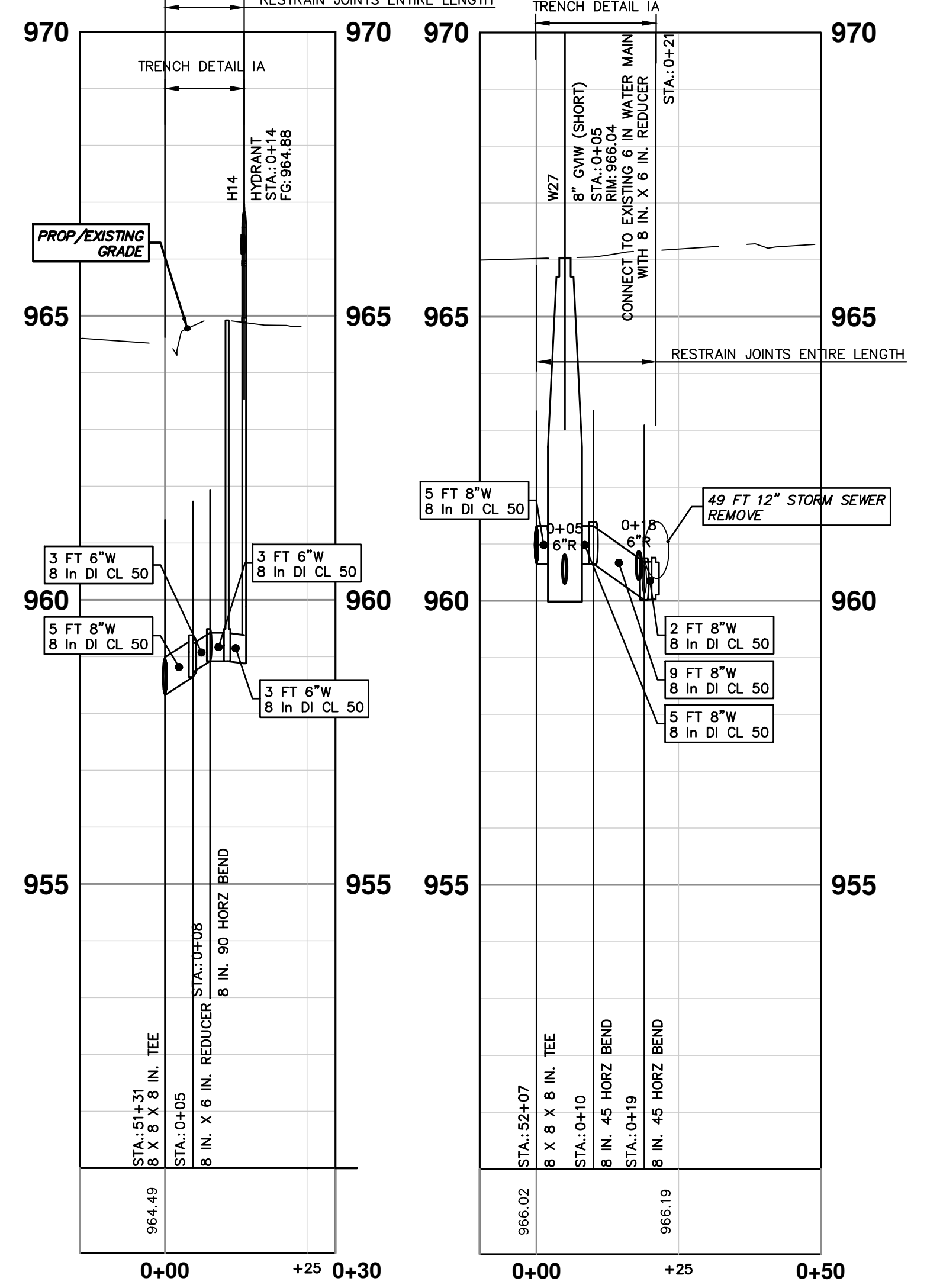
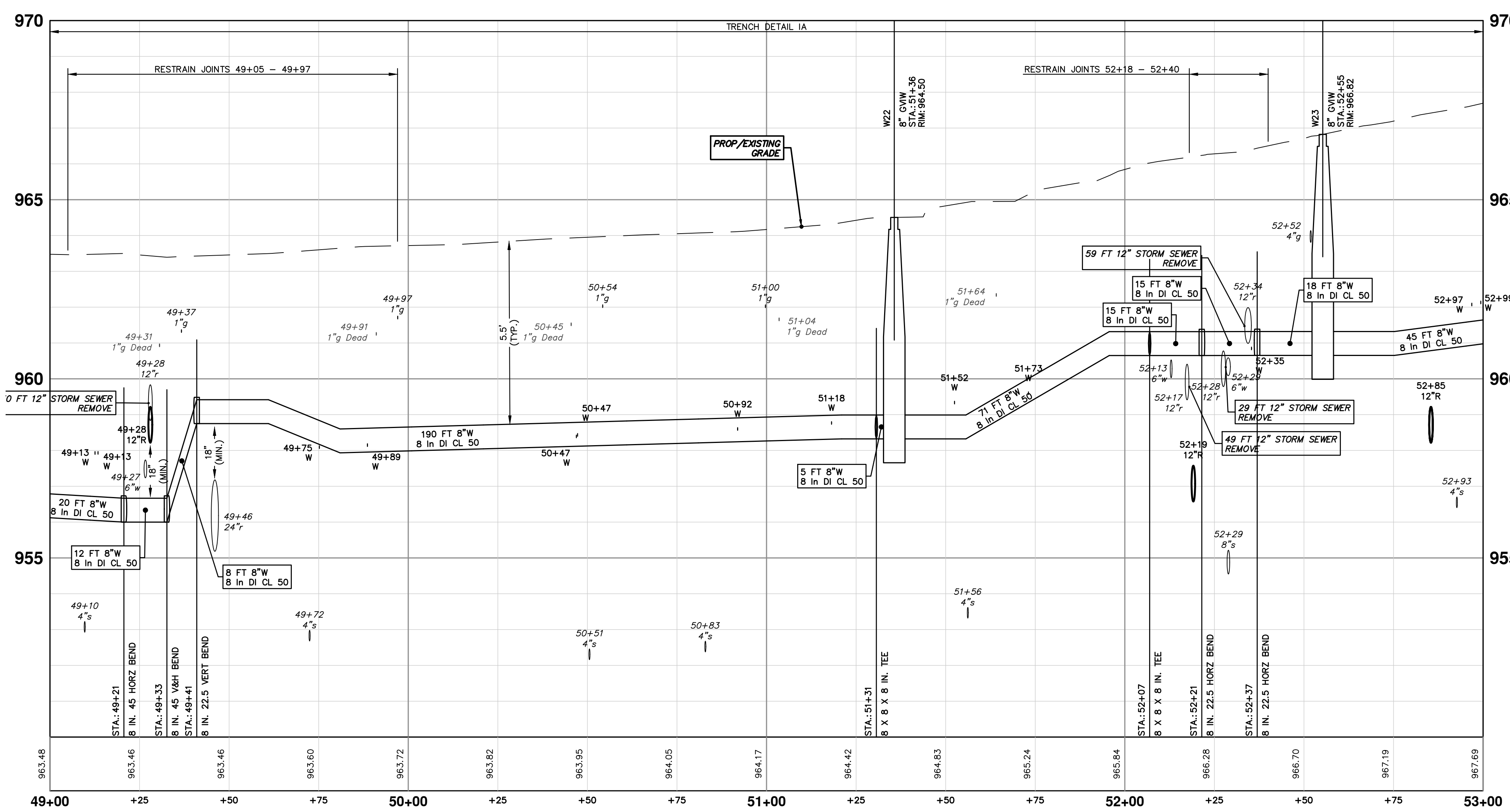
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WATER MAIN STRUCTURE TABLE			
STRUCTURE	TYPE	STATION	RIM
W27	8" GVIW (SHORT)	0+05	966.04
H14	HYDRANT	0+14	964.88
W22	8" GVIW	51+36	964.50
W23	8" GVIW	52+55	966.82



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STA. 49+00 - STA. 53+00

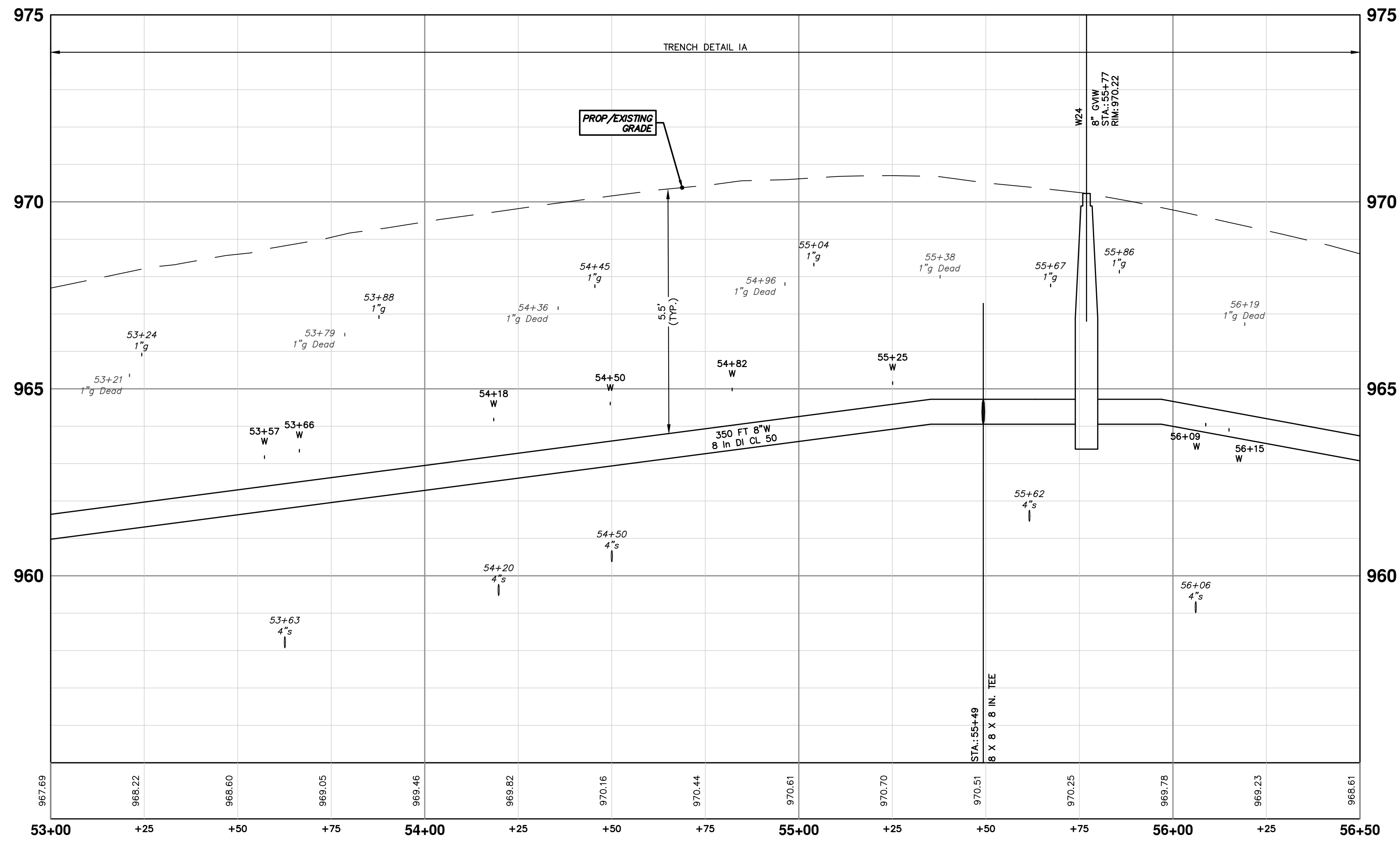
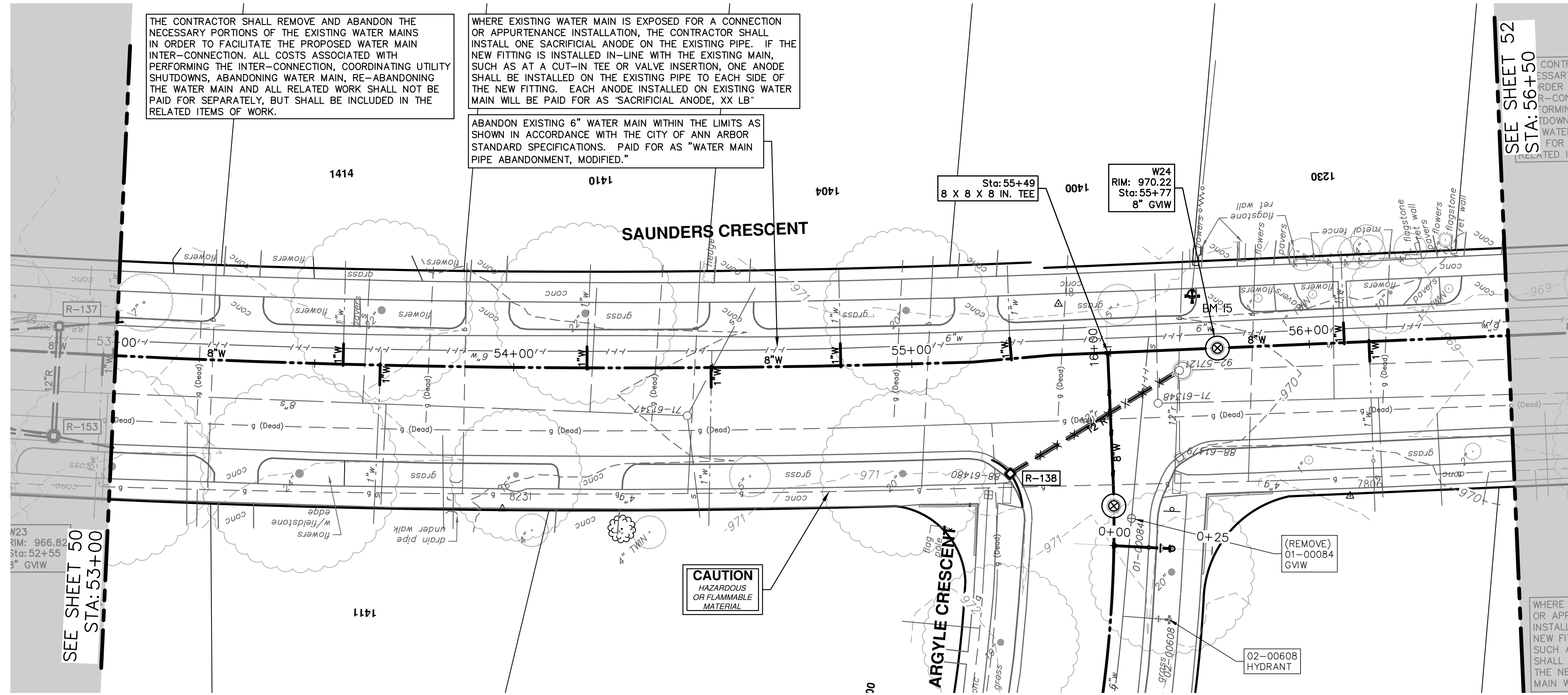
SCALE PLAN: 1" = 20'
PROFILE: 1" = 2'

DRAWING NO.
2022012-50

SHEET NO.

50 OF 77

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STRUCTURE	TYPE	STATION	RIM
W24	8" GVW	55+77	970.22

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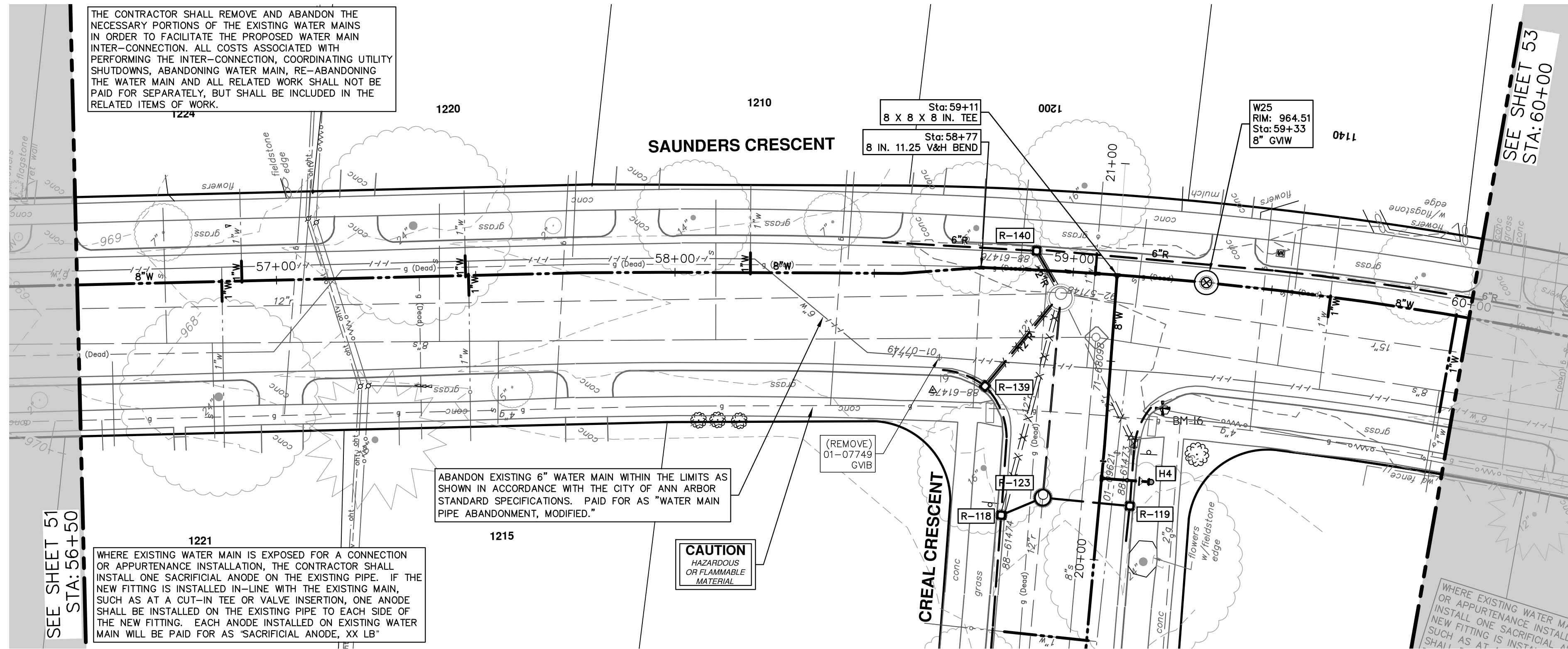
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STA. 53+00 - STA. 56+50

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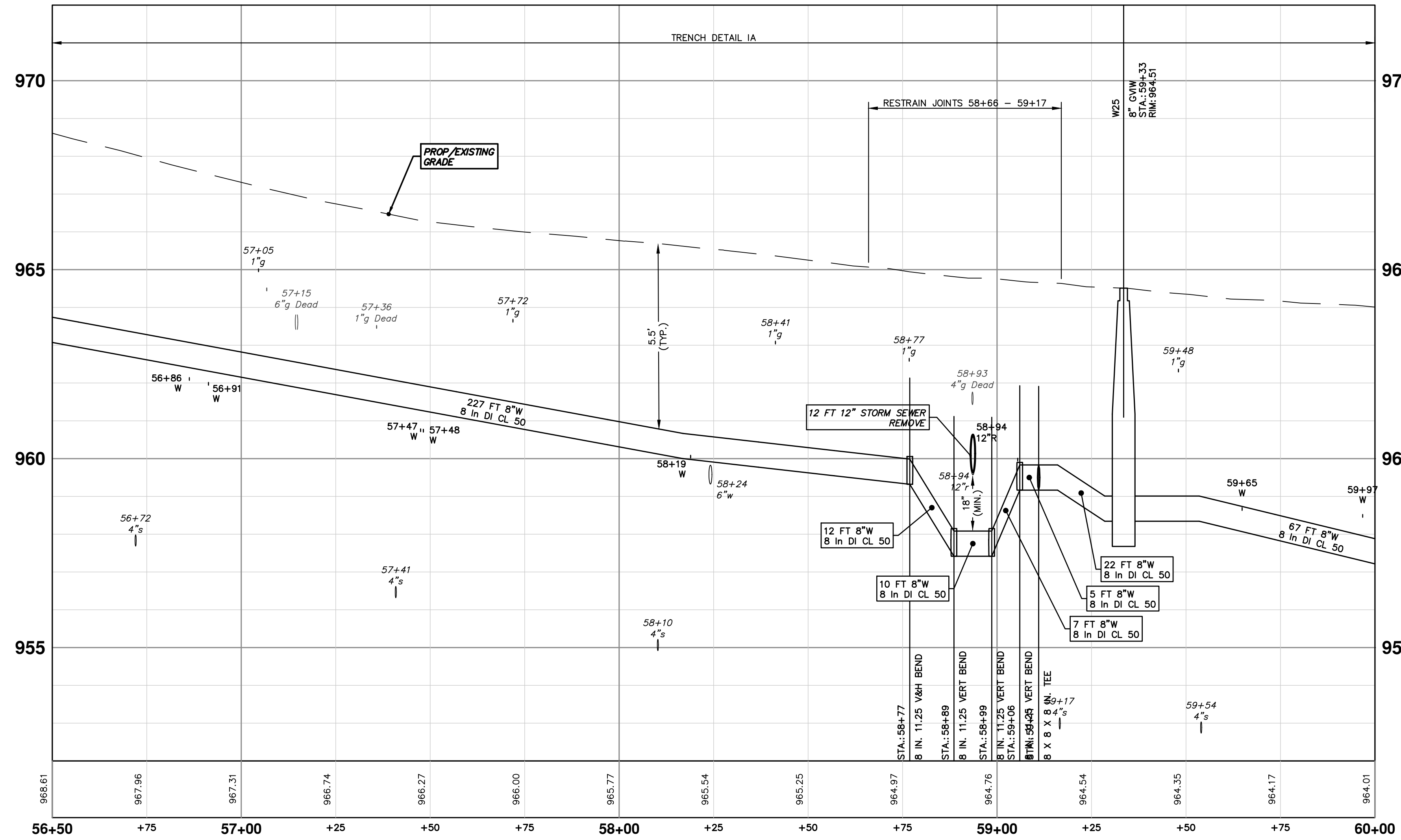
CITY OF ANN ARBOR
SCALE PLAN: 1" = 20'
PROFILE: 1" = 2'
DRAWING No. 2022012-51

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	EGLS PERMIT	11-14-2023	DF/CC/RB	NB

SHEET No. 51 OF 77



WATER MAIN STRUCTURE TABLE			
STRUCTURE	TYPE	STATION	RIM
W25	8" GWIW	59+33	964.51

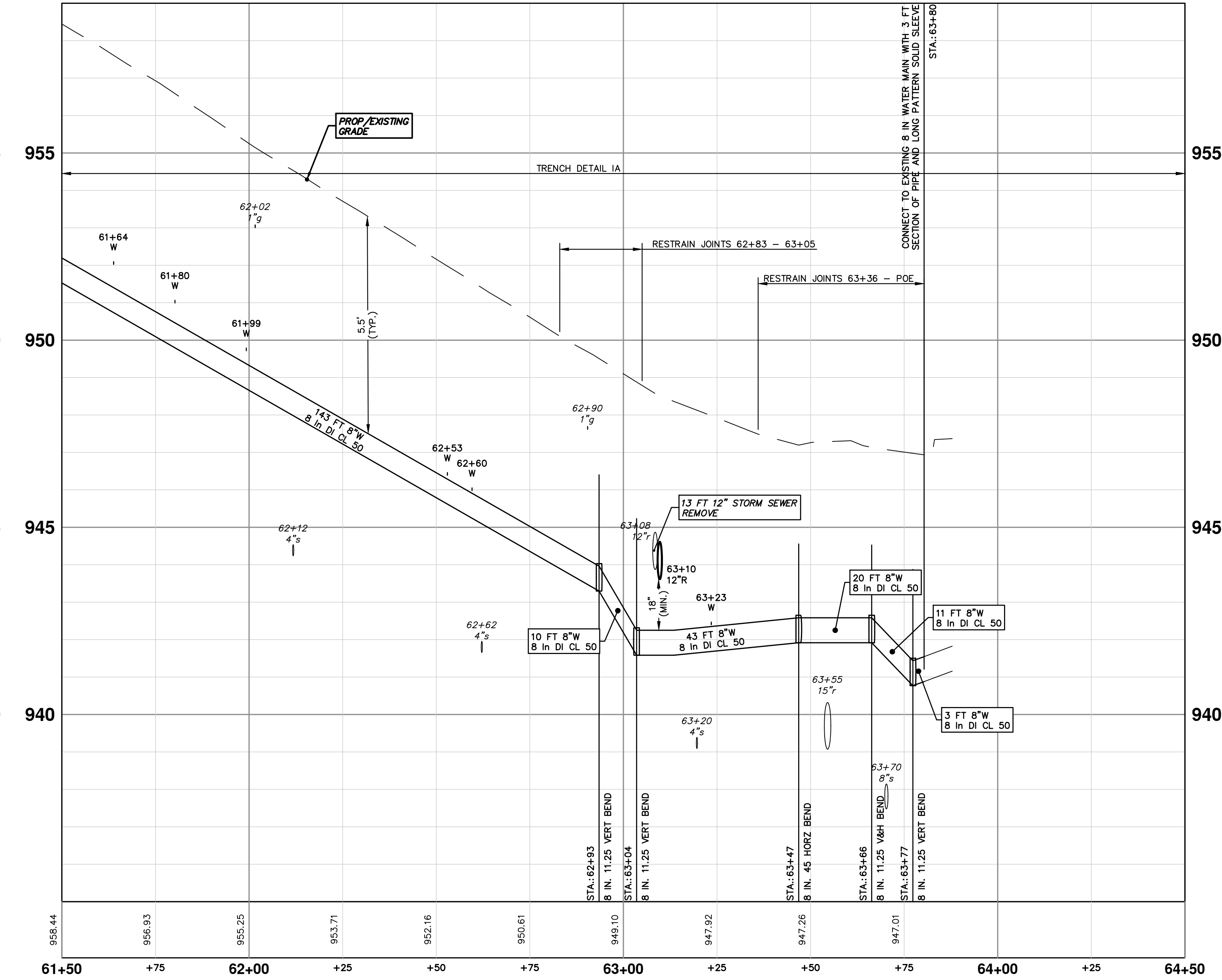
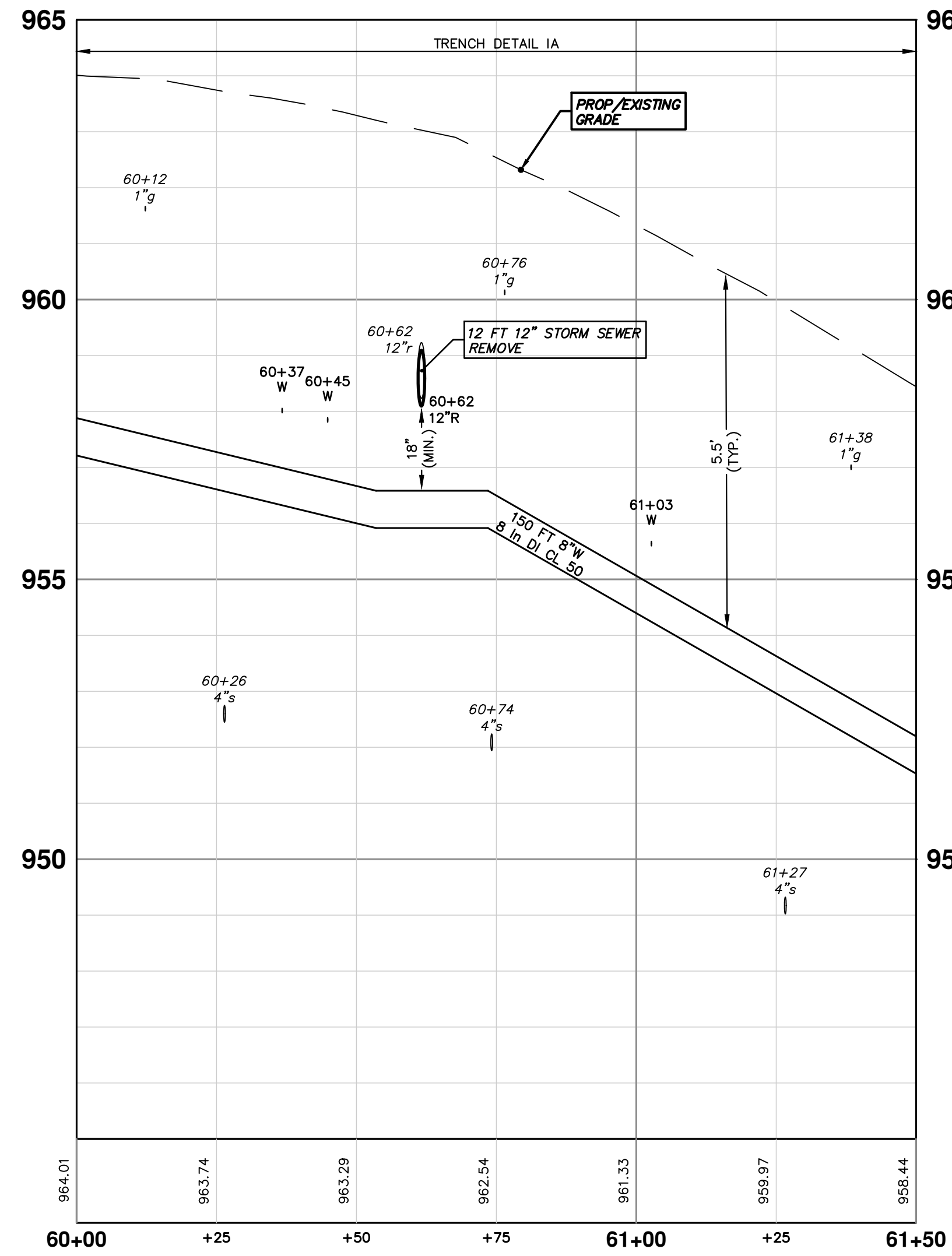
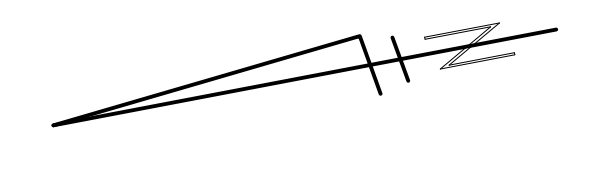
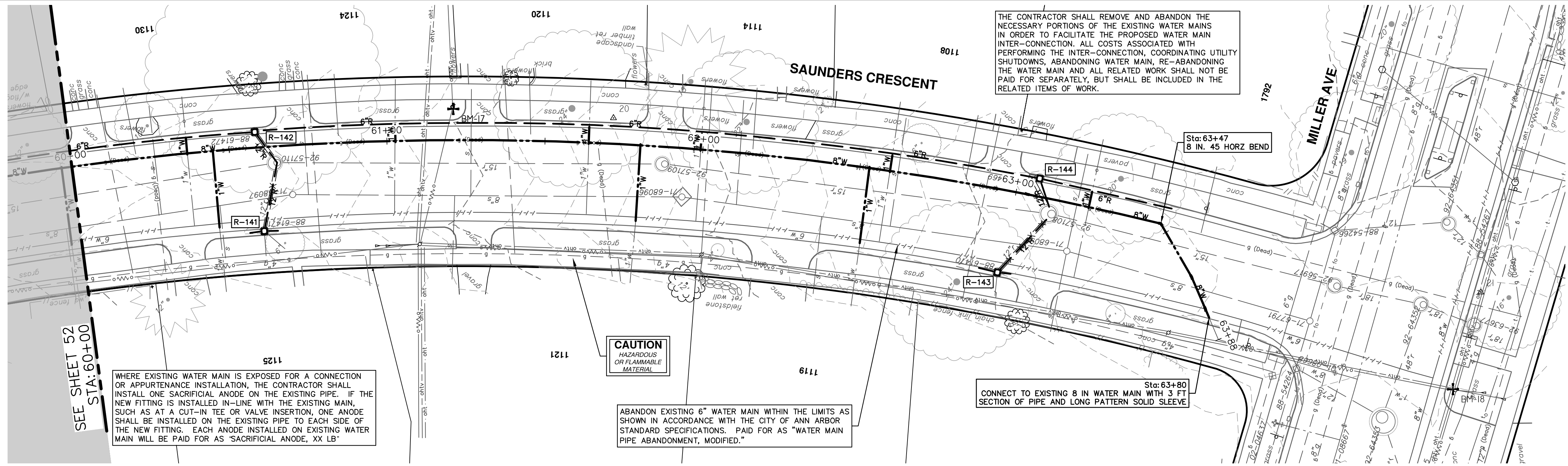


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STA. 56+50 - STA. 60+00

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CRESCENTS WATER MAIN REPLACEMENT PROJECT

HATCHER SAUNDERS CRESCENT WATER MAIN

STA. 60+00 - STA. 63+88

SHEET No. 53 OF 77

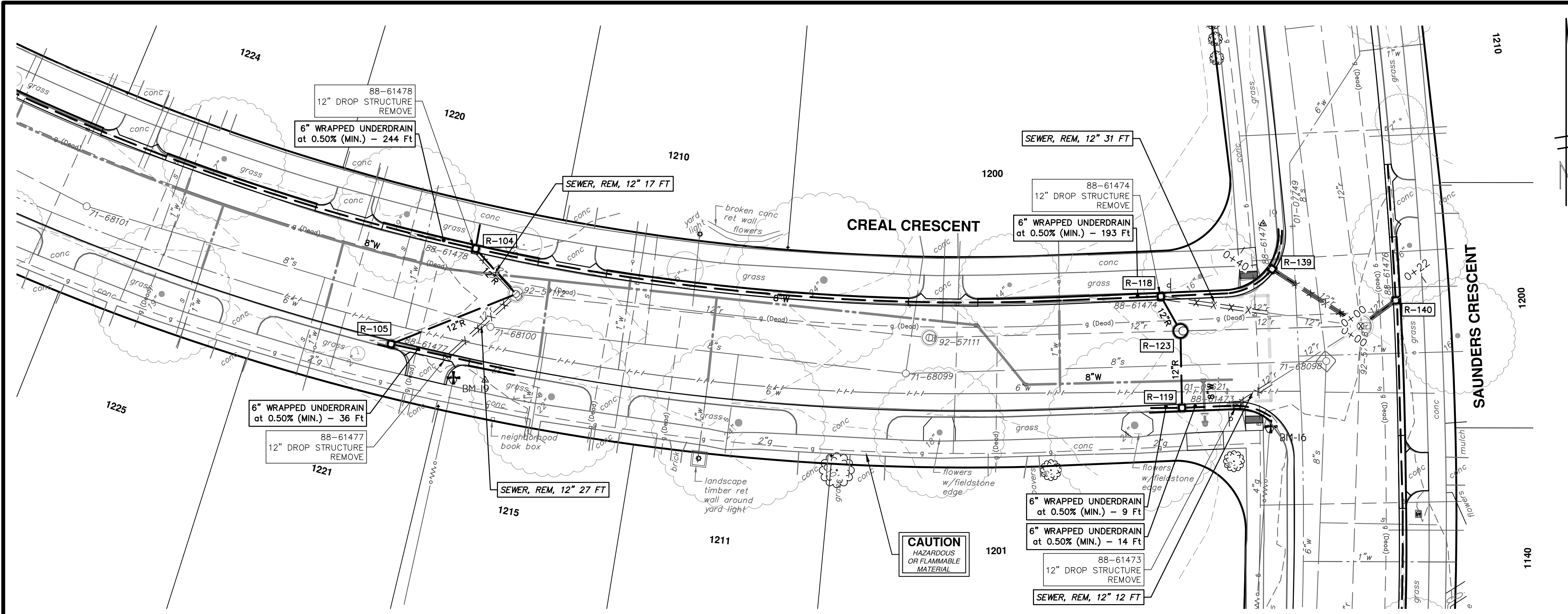
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PROFILE: 1" = 2'

DRAWING No. 2022012-53

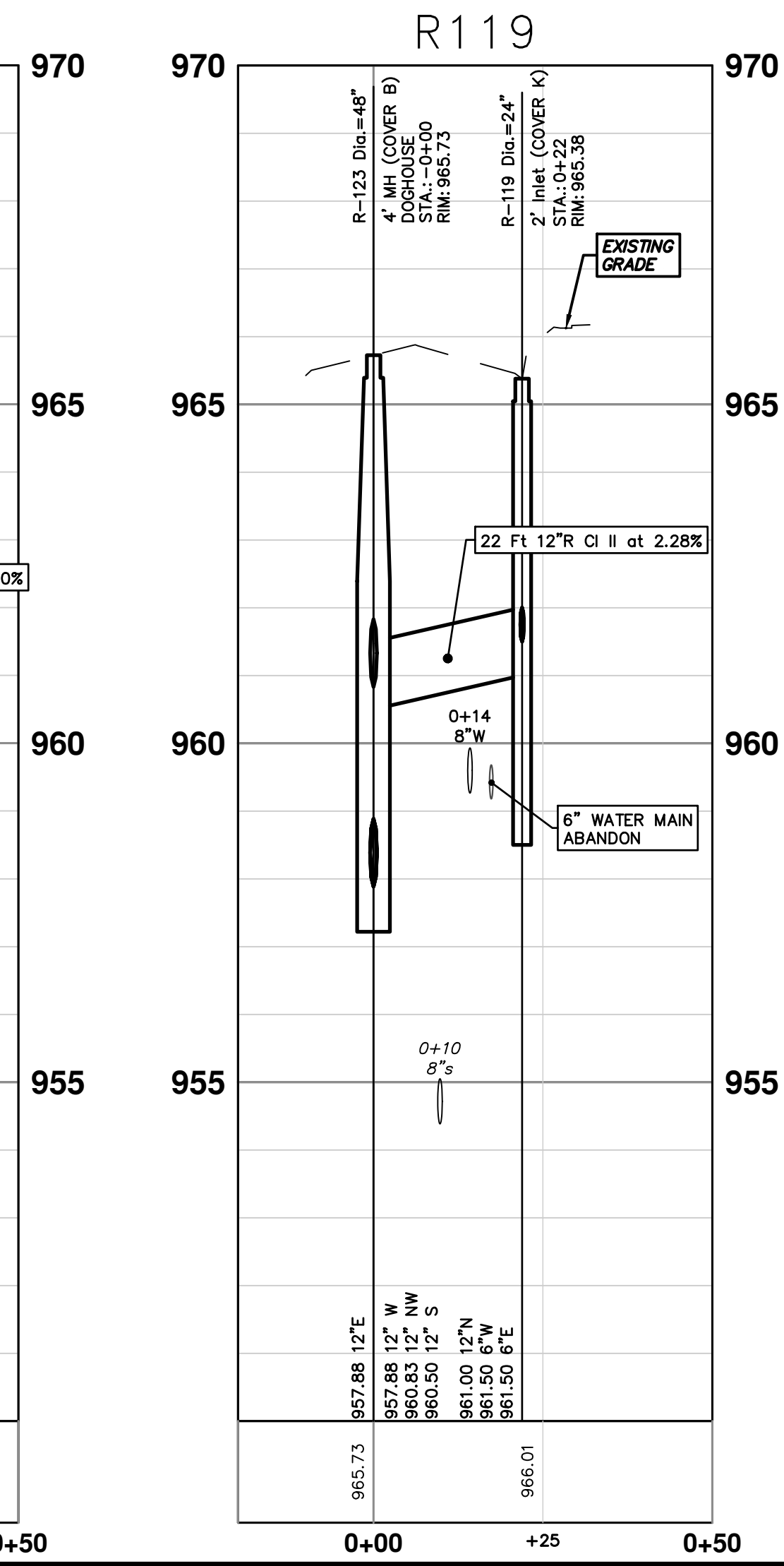
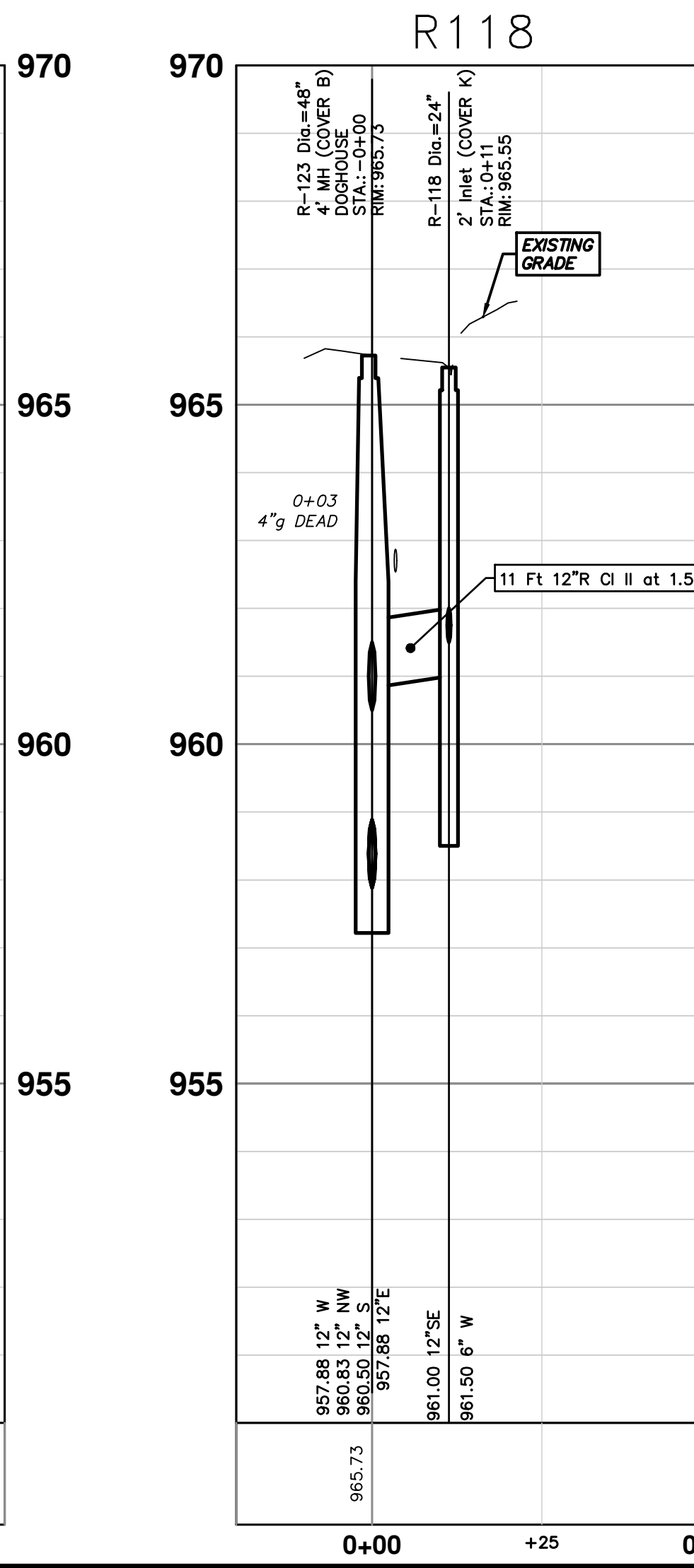
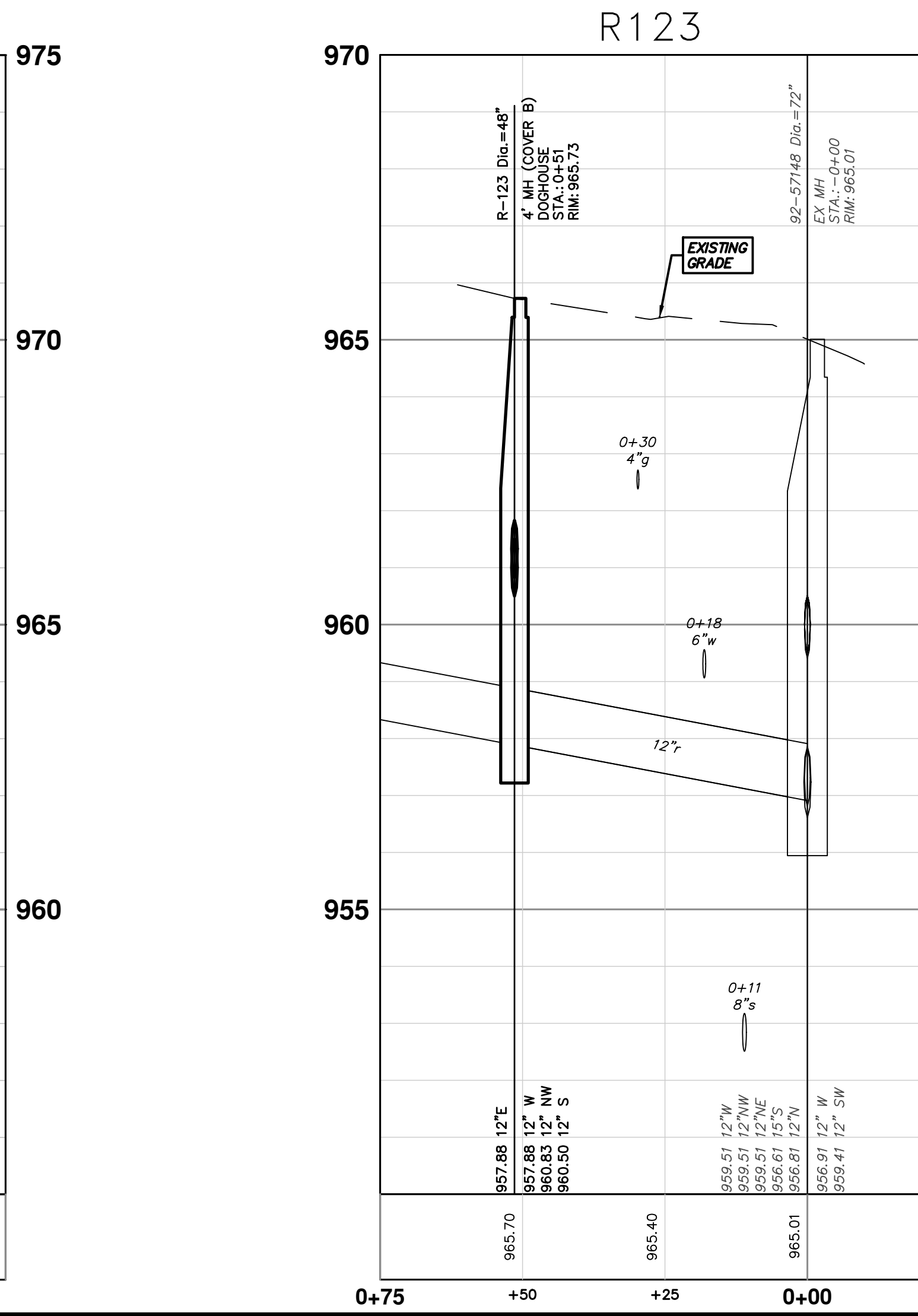
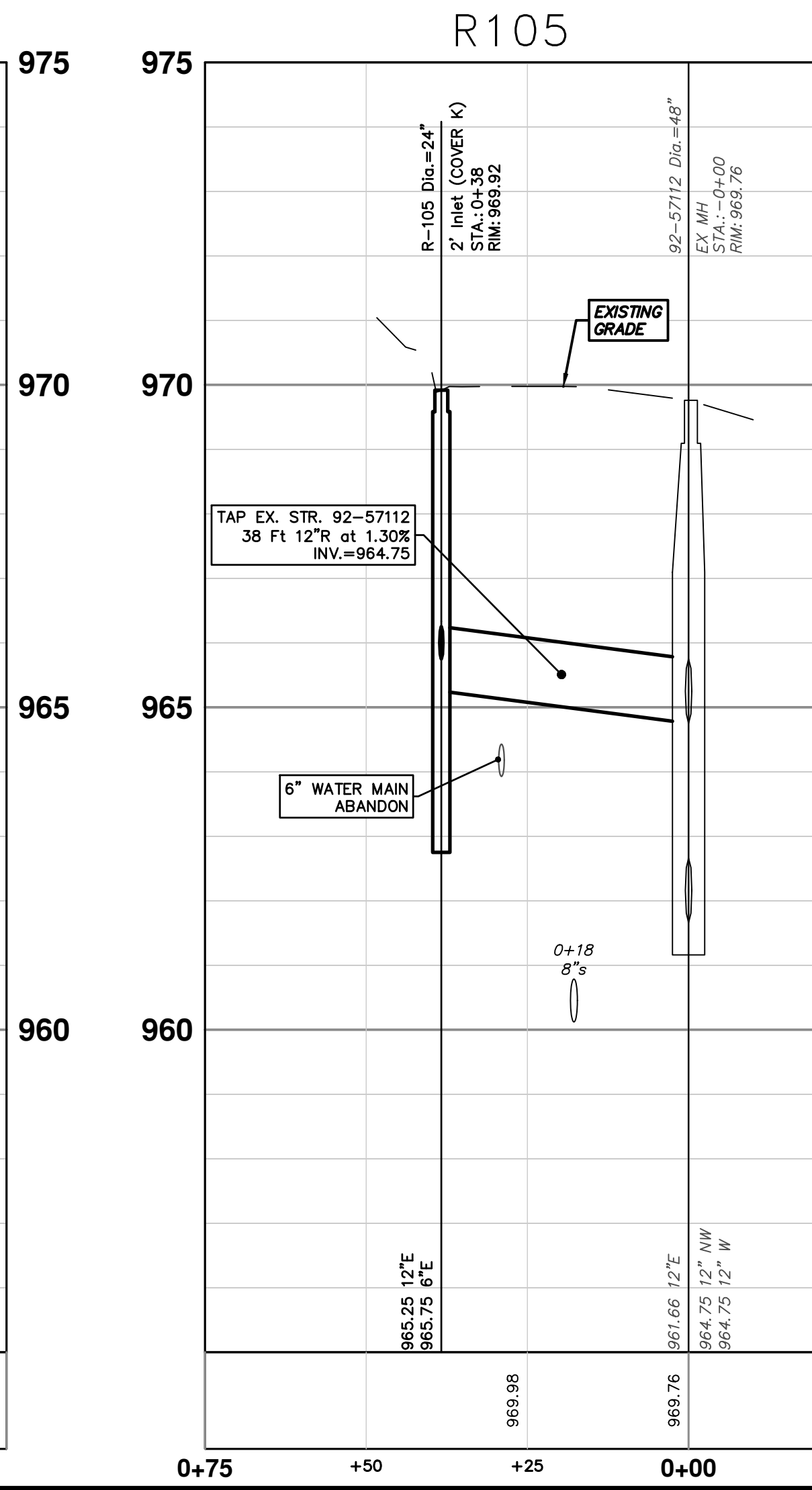
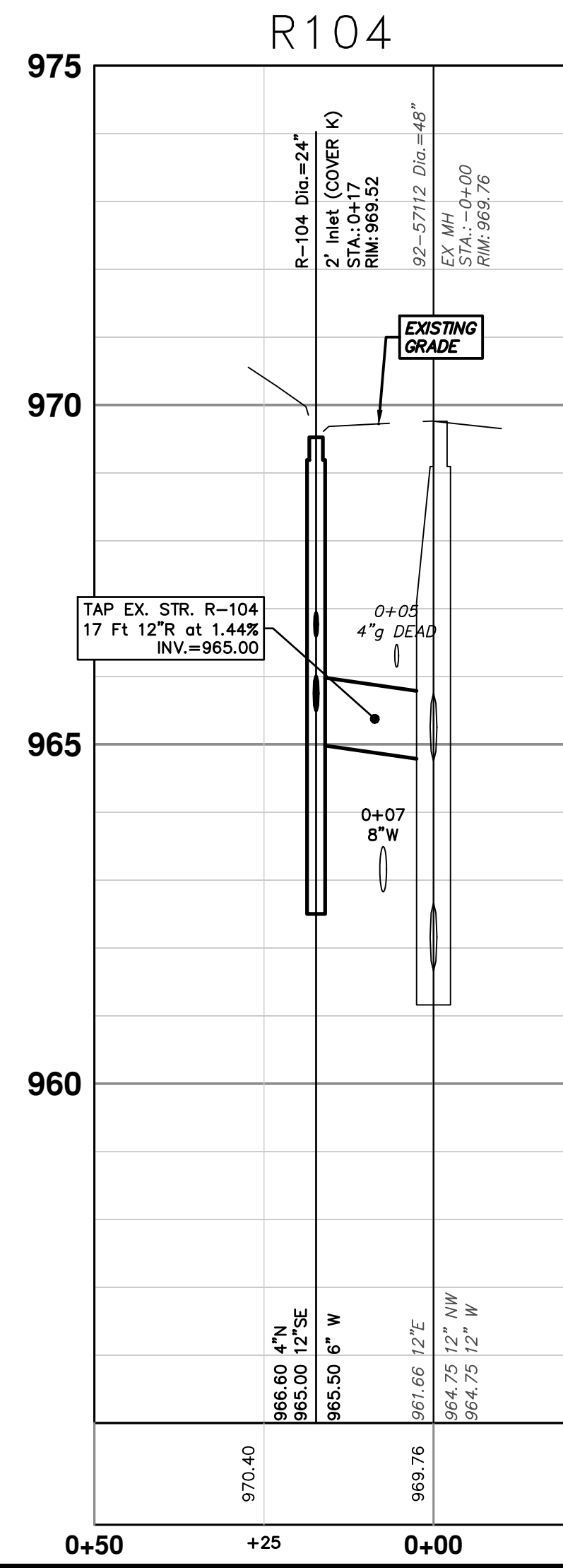
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STORM SEWER STRUCTURE TABLE						
STRUCTURE	UTILITY STATION	TYPE	RIM	INVERTS	DEPTH (Feet)	SUMP
92-57112	0+00	EX MH	969.76	12" NW 964.75 12" W 964.75 12" E 961.66	8.10	0'
92-57148	0+00	EX MH	965.01	12" W 956.91 12" SW 959.41 12" W 959.51 12" NW 959.51 15" S 956.61 12" N 956.81	8.40	0'
R-104	0+17	2' Inlet (COVER K)	969.52	6" W 965.50 4" N 966.60 12" SE 965.00	6.52	2'
R-105	0+38	2' Inlet (COVER K)	969.92	12" E 965.25 6" E 965.75	6.67	2'
R-118	0+11	2' Inlet (COVER K)	965.55	6" W 961.50 12" SE 961.00	6.55	2'
R-119	0+22	2' Inlet (COVER K)	965.38	12" N 961.00 6" W 961.50 6" E 961.50	6.38	2'
R-123	0+51	4' MH (COVER B) DOGHOUSE	965.73	12" W 957.88 12" NW 960.83 12" S 960.50 12" E 957.88	7.84	0'



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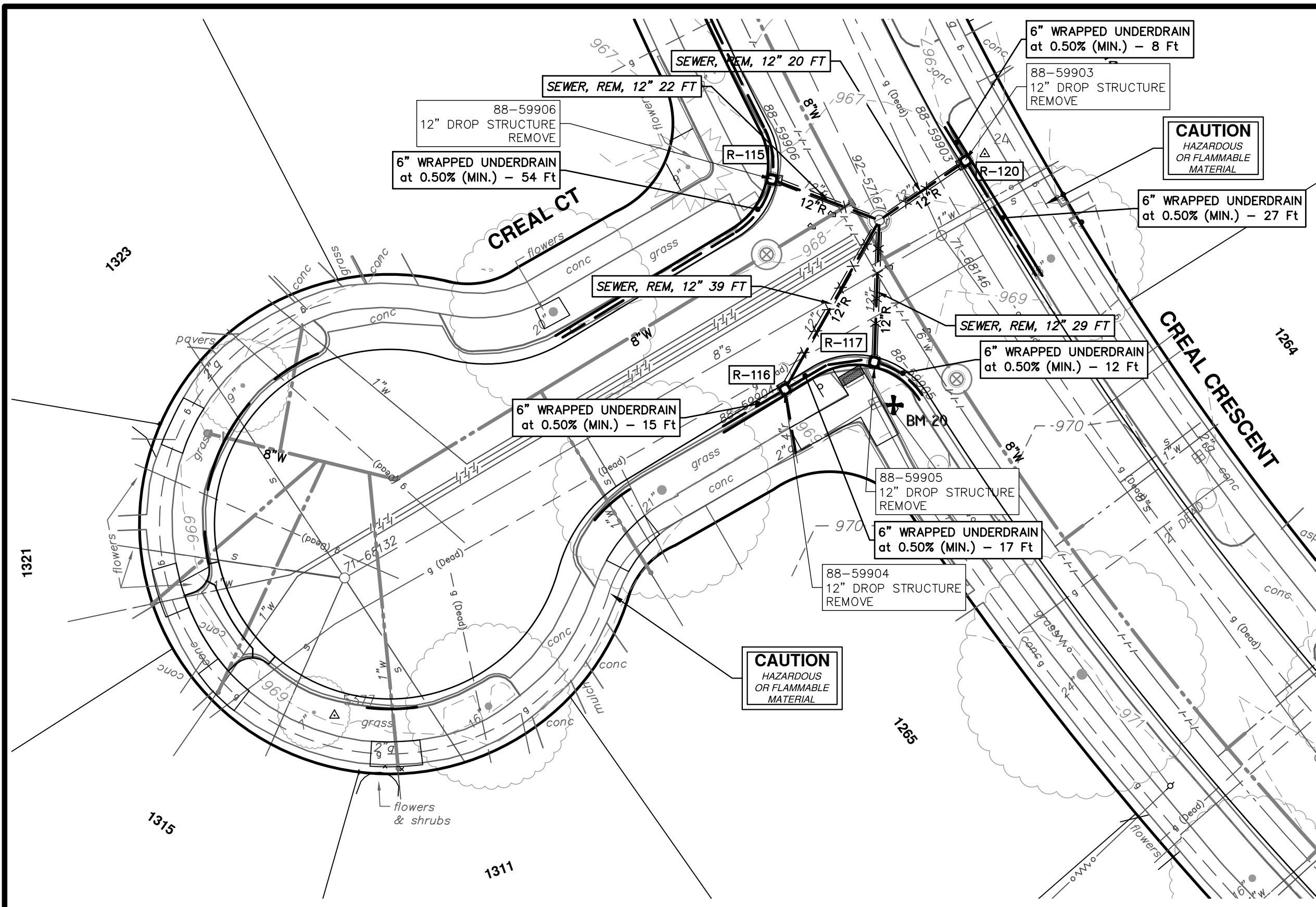
REV	DESCRIPTION	DATE	DRAWN	CHECKED
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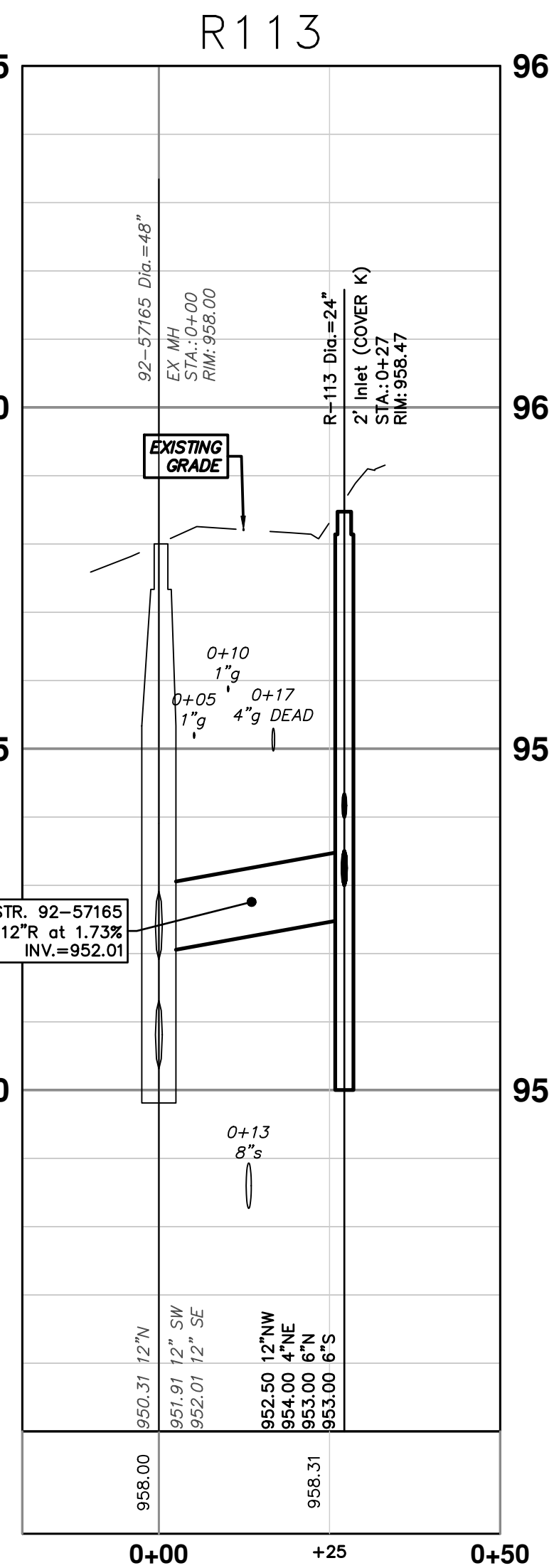
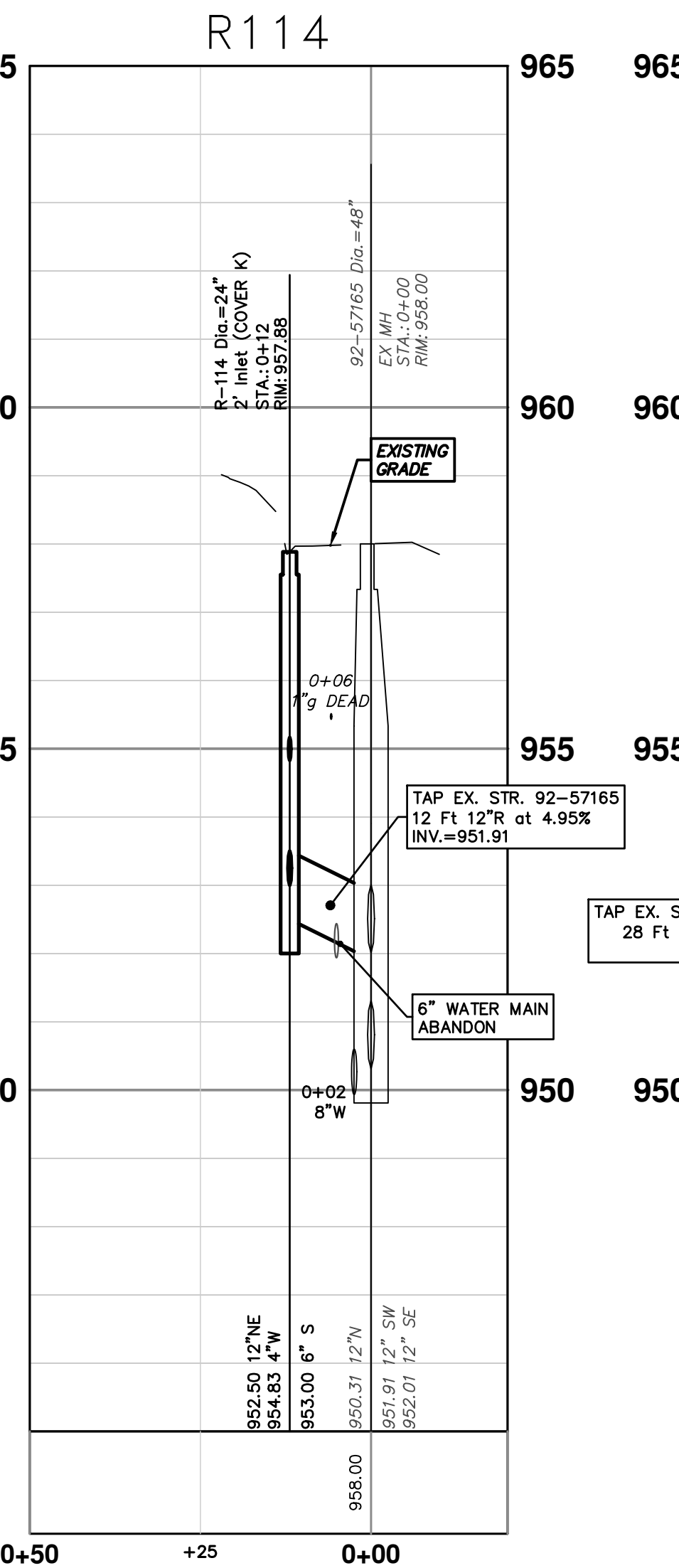
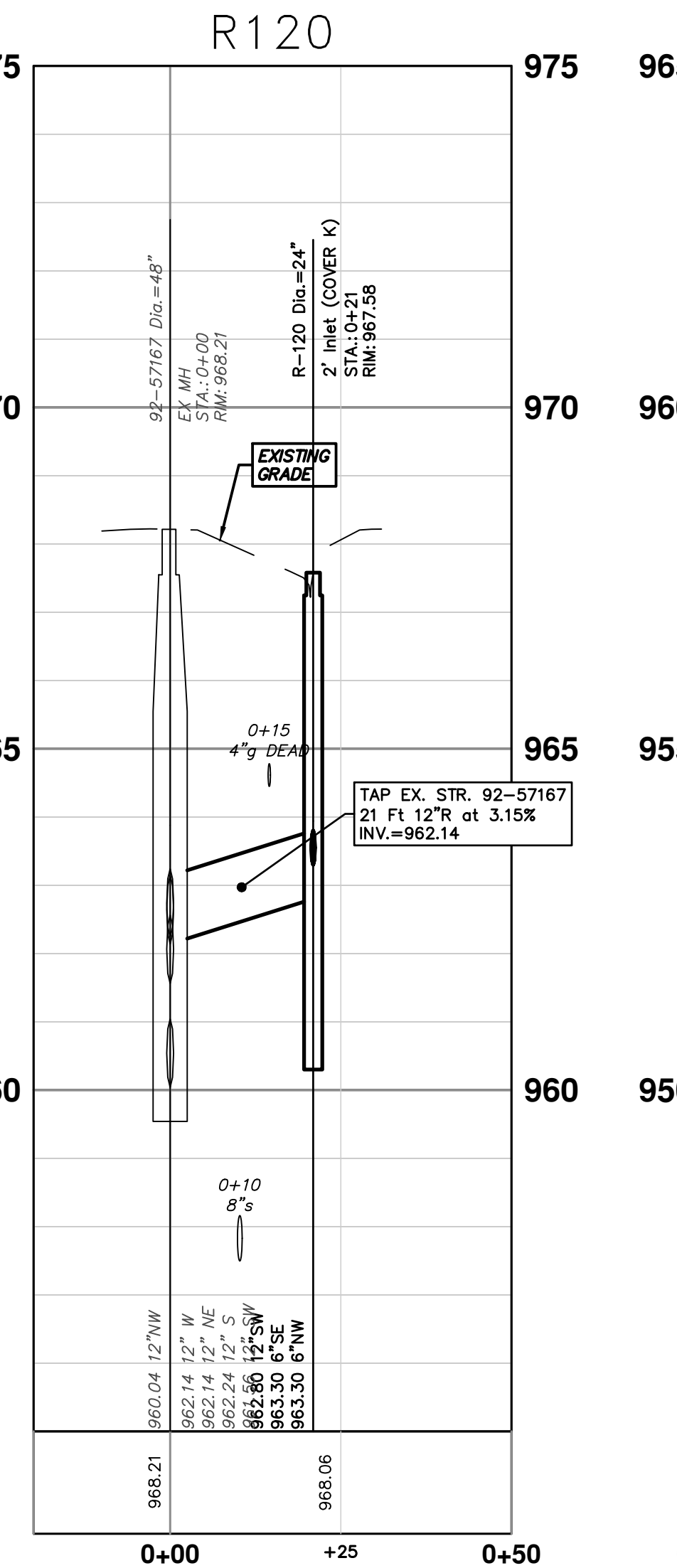
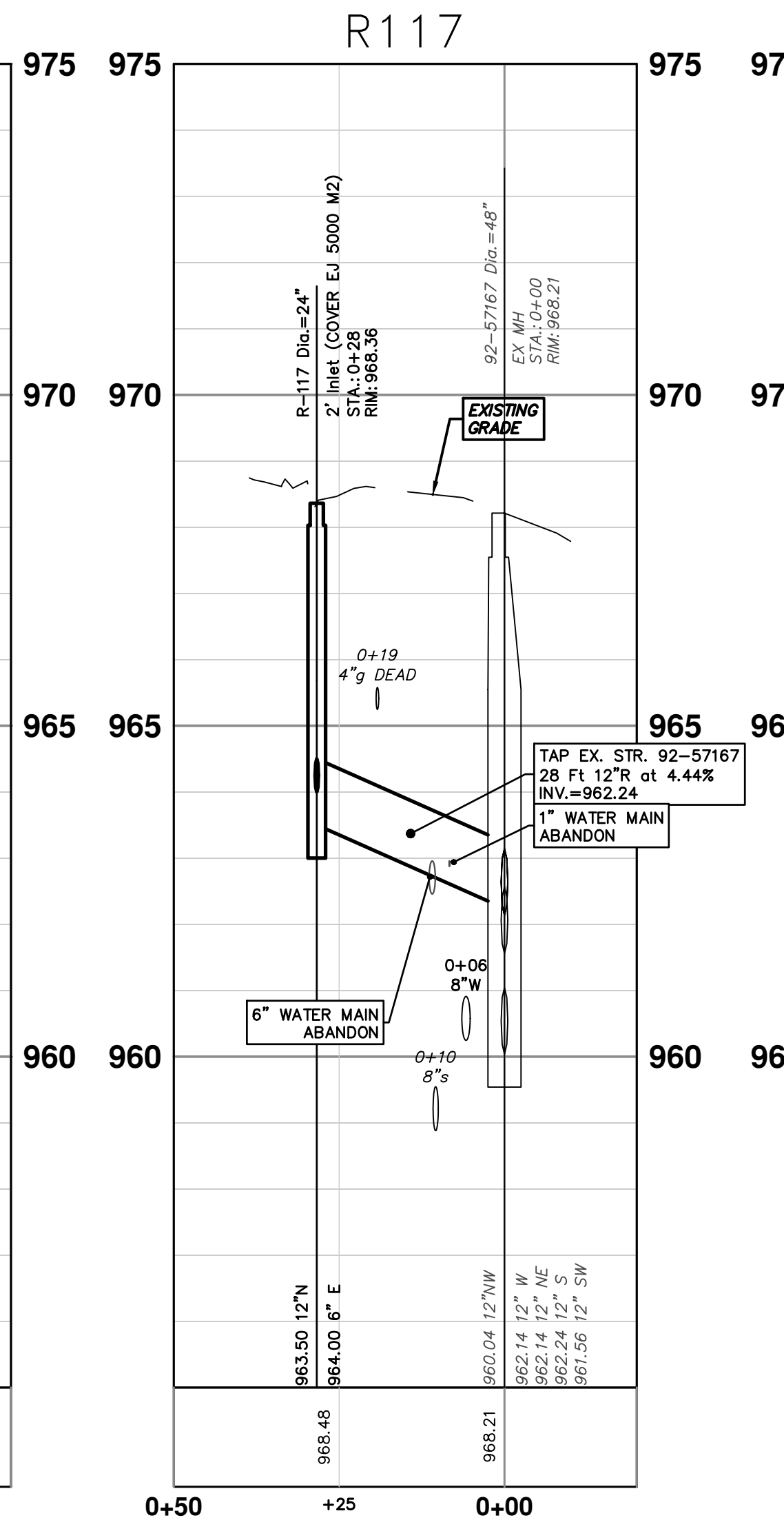
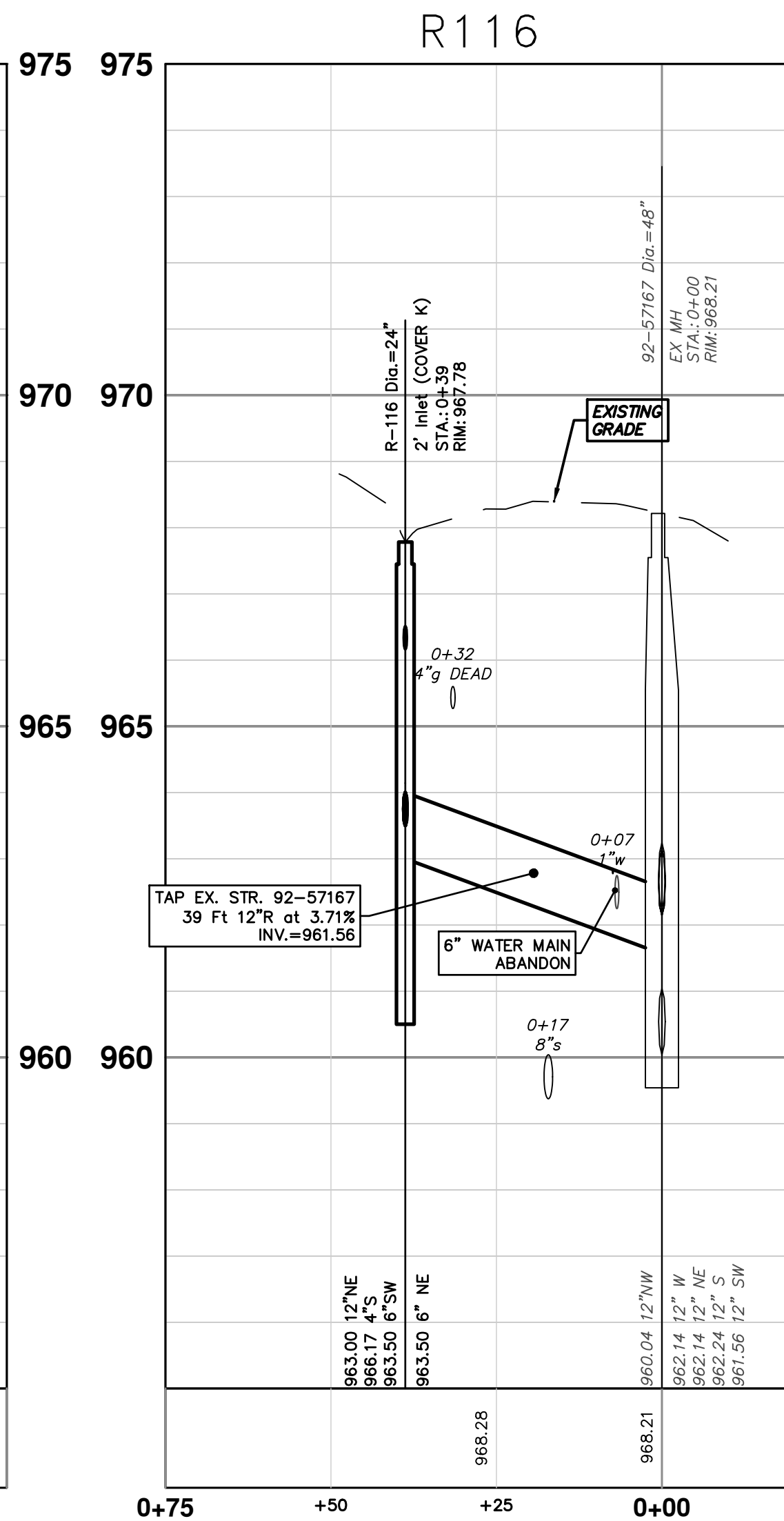
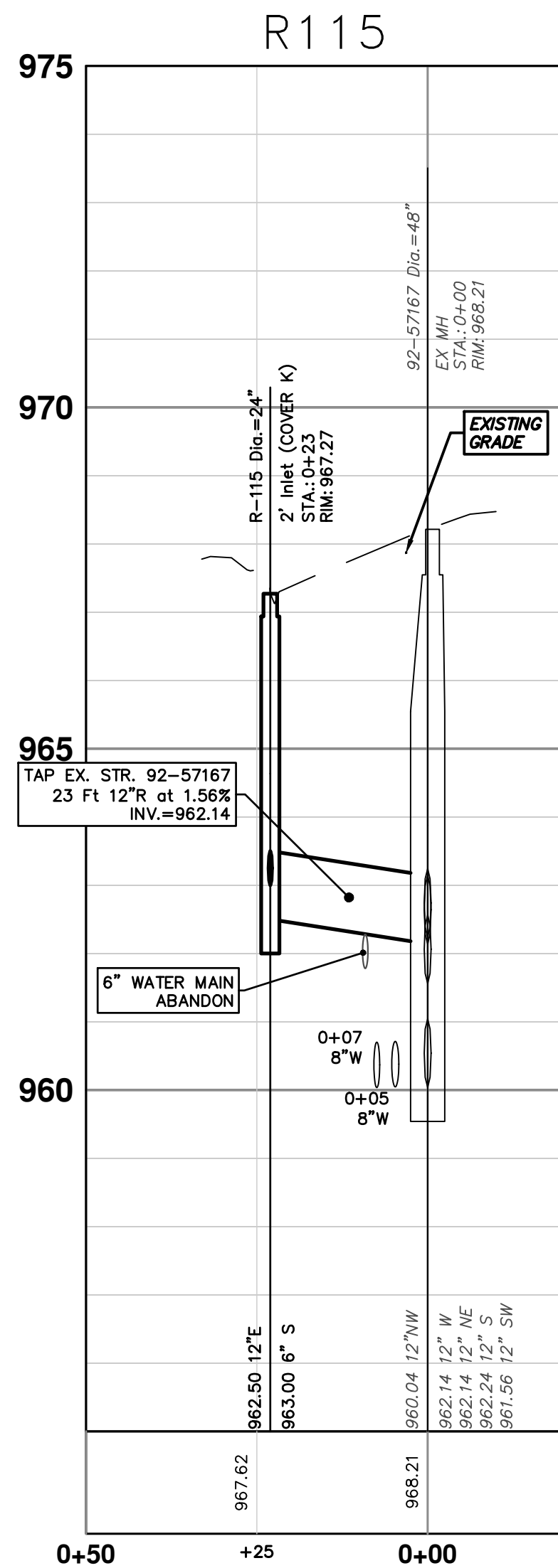
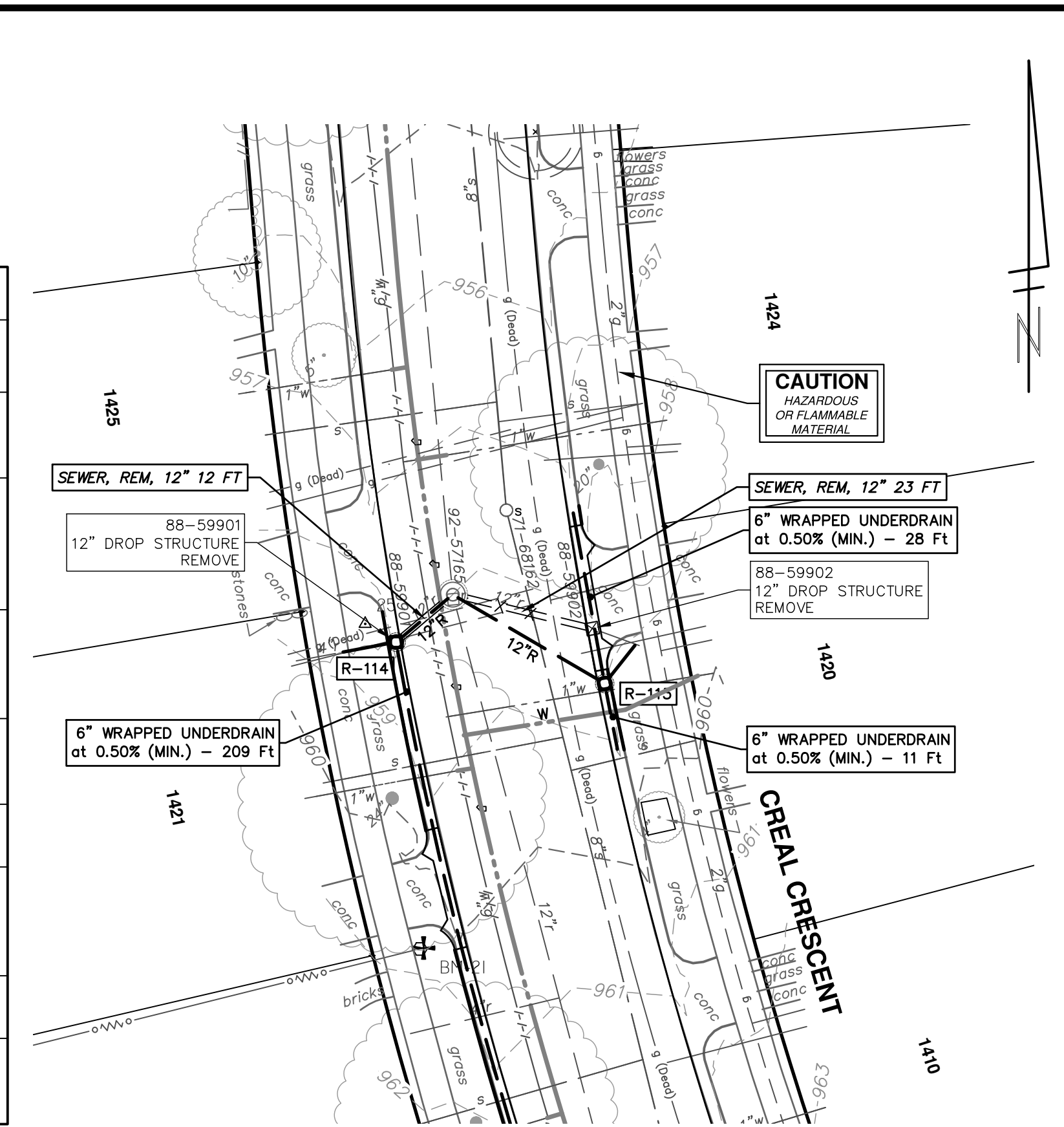


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STORM SEWER
R104, R105, R123, R118, R119

R:\2022\2012 Crescents WM Replacement\Plan Production\20220125trm1.dwg Dwg Created: 9-Nov-23 - _c2 standard bw.stb - Plot Date: 14-Nov-23



STORM SEWER STRUCTURE TABLE						
STRUCTURE	UTILITY STATION	TYPE	RIM	INVERTS	DEPTH (Feet)	SUMP
92-57165	0+00	EX MH	958.00	12" SW 951.91 12" SE 952.01 12" N 950.31	7.69	0'
92-57167	0+00	EX MH	968.21	12" W 962.14 12" NE 962.14 12" S 962.24 12" SW 961.56 12" NW 960.04	8.17	0'
R-113	0+27	2' Inlet (COVER K)	958.47	12" NW 952.50 4" NE 954.00 6" N 953.00 6" S 953.00	7.97	2'
R-114	0+12	2' Inlet (COVER K)	957.88	6" S 953.00 12" NE 952.50 4" W 954.83	5.38	0'
R-115	0+23	2' Inlet (COVER K)	967.27	6" S 963.00 12" E 962.50	4.77	0'
R-116	0+39	2' Inlet (COVER K)	967.78	6" NE 963.50 12" NE 963.00 4" S 966.17 6" SW 963.50	6.78	2'
R-117	0+28	2' Inlet (COVER EJ 5000 M2)	968.36	6" E 964.00 12" N 963.50	4.86	0'
R-120	0+21	2' Inlet (COVER K)	967.58	12" SW 962.80 6" SE 963.30 6" NW 963.30	6.78	2'



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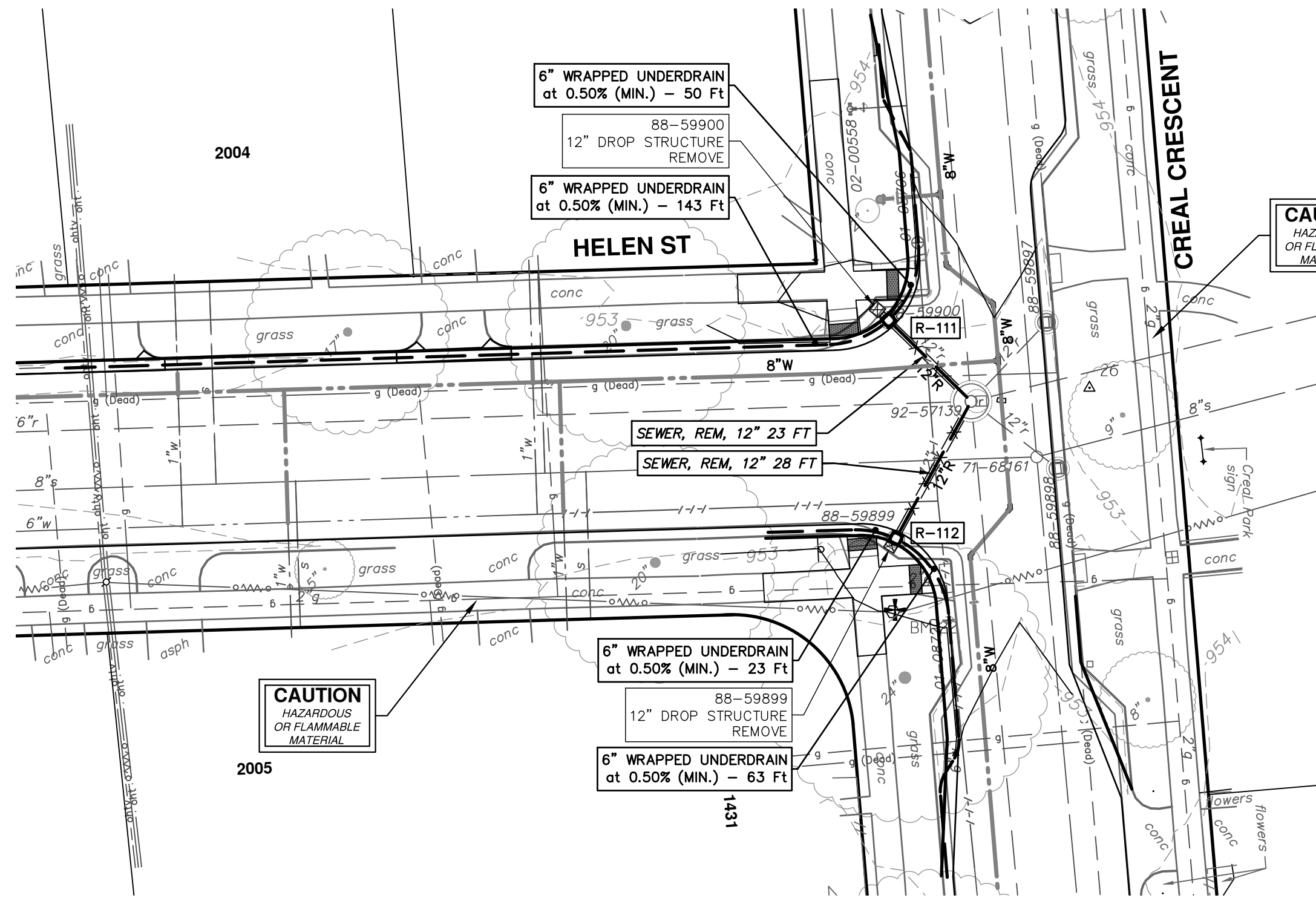
NO.	DATE	DESCRIPTION	BY	CHECKED
00	11-14-2023	DATE	DF/OC/KB	NB

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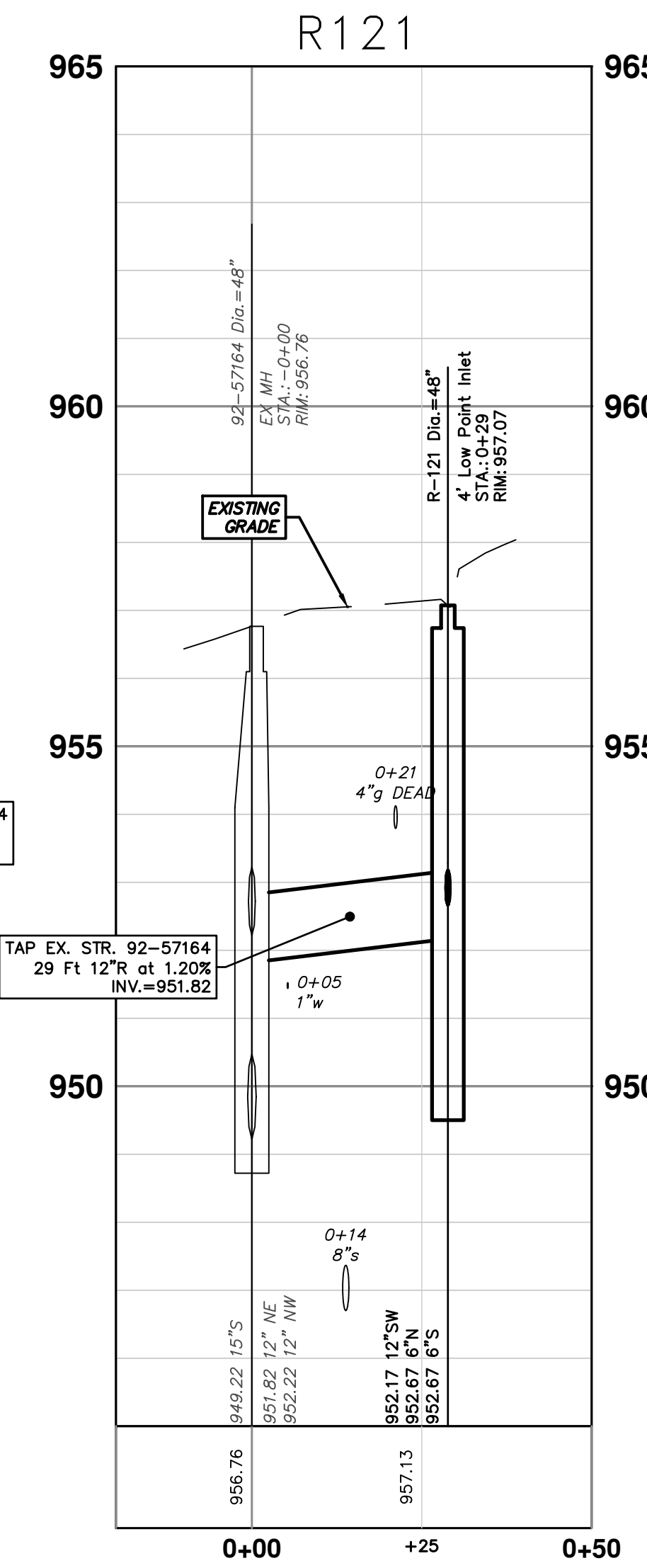
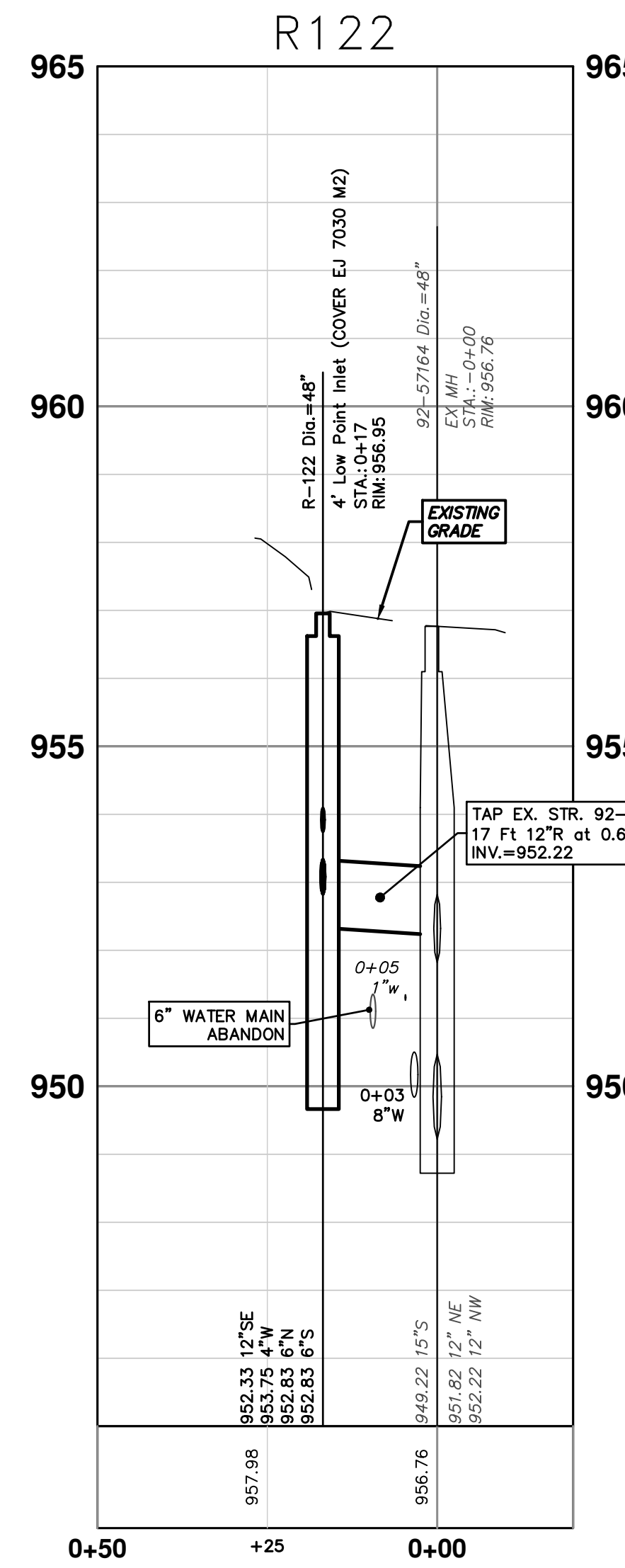
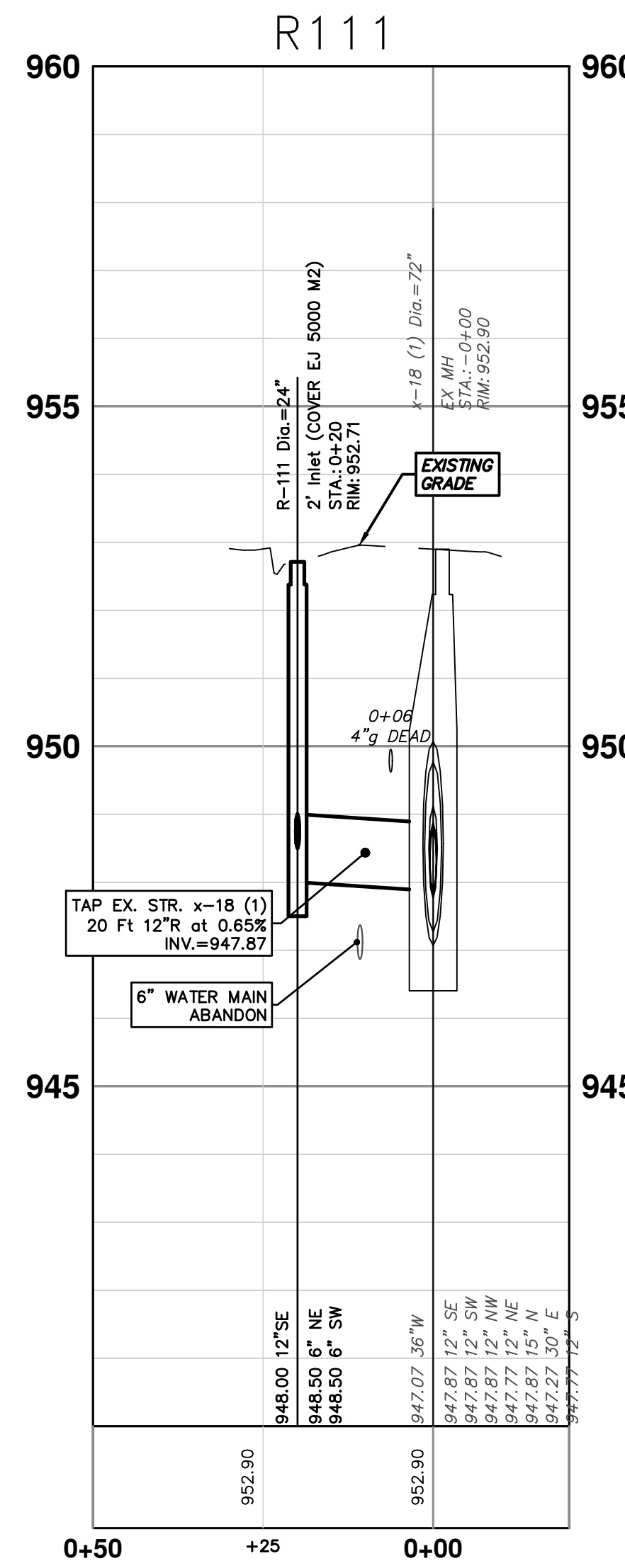
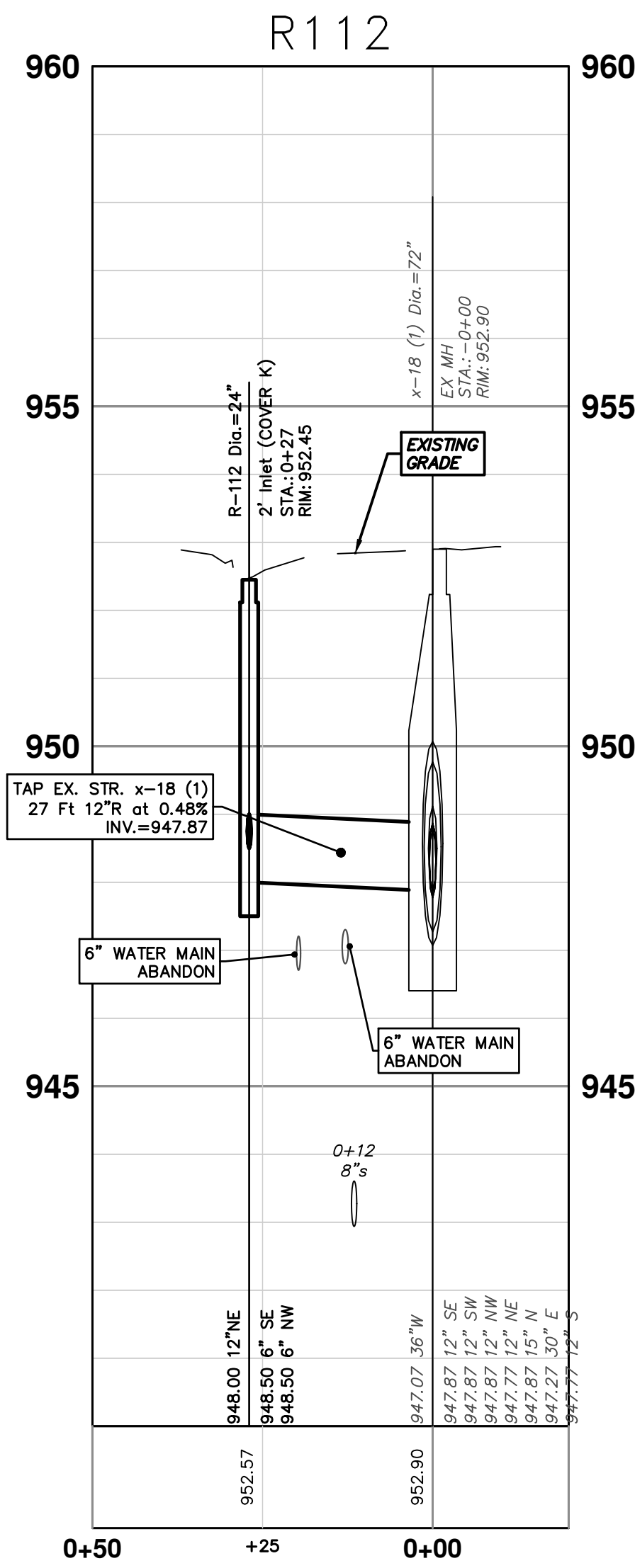
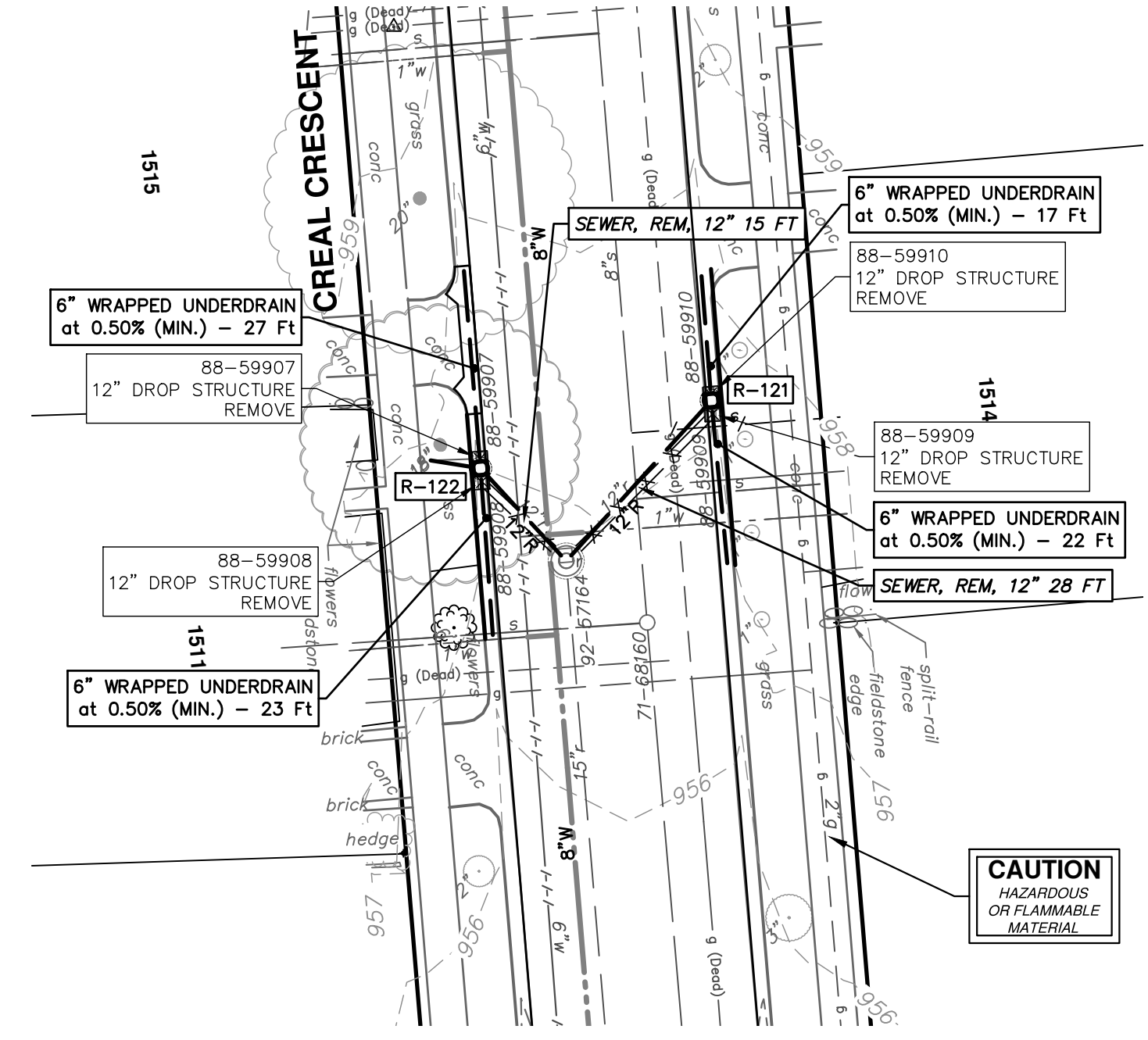


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CRESCENTS WATER MAIN REPLACEMENT PROJECT
STORM SEWER
R115, R116, R117, R120, R114, R113

SCALE PLAN: 1" = 20'
PROFILE: 1" = 2'
DRAWING NO. 2022012-55
SHEET NO. 55 OF 77



STORM SEWER STRUCTURE TABLE						
STRUCTURE	UTILITY STATION	TYPE	RIM	INVERTS	DEPTH (Feet)	SUMP
92-57164	0+00	EX MH	956.76	12" NE 951.82 12" NW 952.22 15" S 949.22	7.54	0'
R-111	0+20	2' Inlet (COVER EJ 5000 M2)	952.71	6" NE 948.50 6" SW 948.50 12" SE 948.00	4.71	0'
R-112	0+27	2' Inlet (COVER K)	952.45	6" SE 948.50 6" NW 948.50 12" NE 948.00	4.45	0'
R-121	0+29	4' Low Point Inlet	957.07	12" SW 952.17 6" N 952.67 6" S 952.67	6.90	2'
R-122	0+17	4' Low Point Inlet (COVER EJ 7030 M2)	956.95	12" SE 952.33 4" W 953.75 6" N 952.83 6" S 952.83	6.62	2'
x-18 (1)	0+00	EX MH	952.90	12" SE 947.87 12" SW 947.87 12" NW 947.87 12" NE 947.77 15" N 947.87 30" E 947.27 12" S 947.77 36" W 947.07	5.83	0'



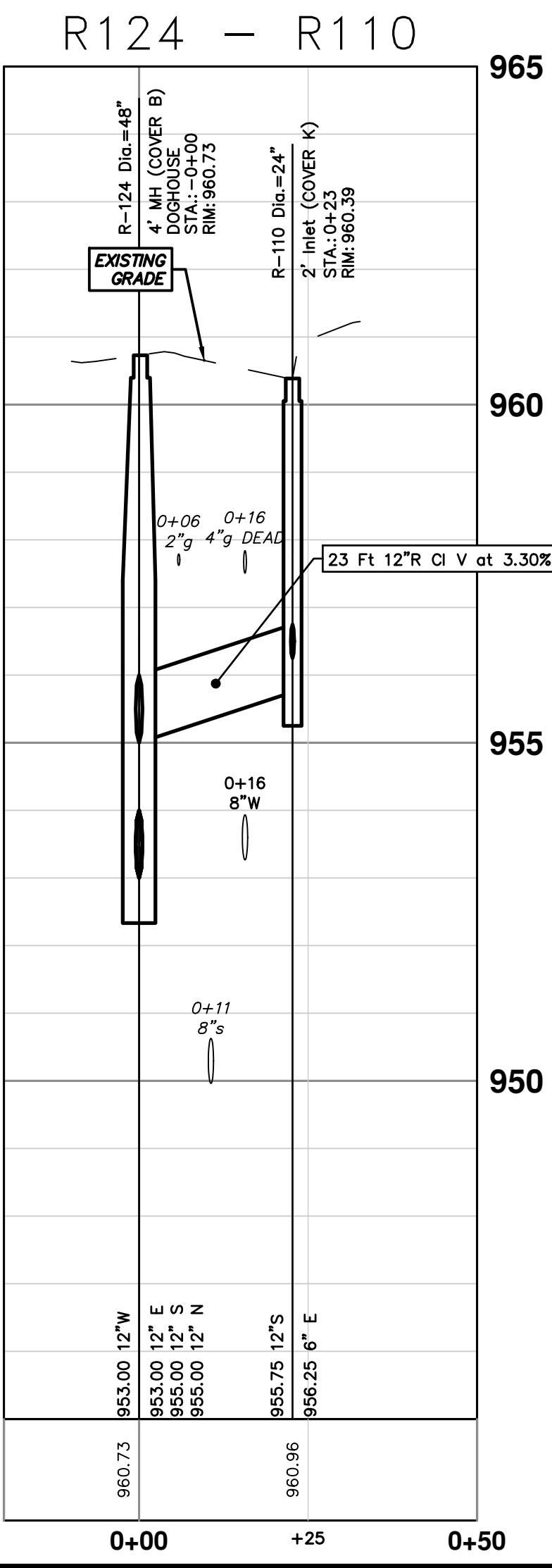
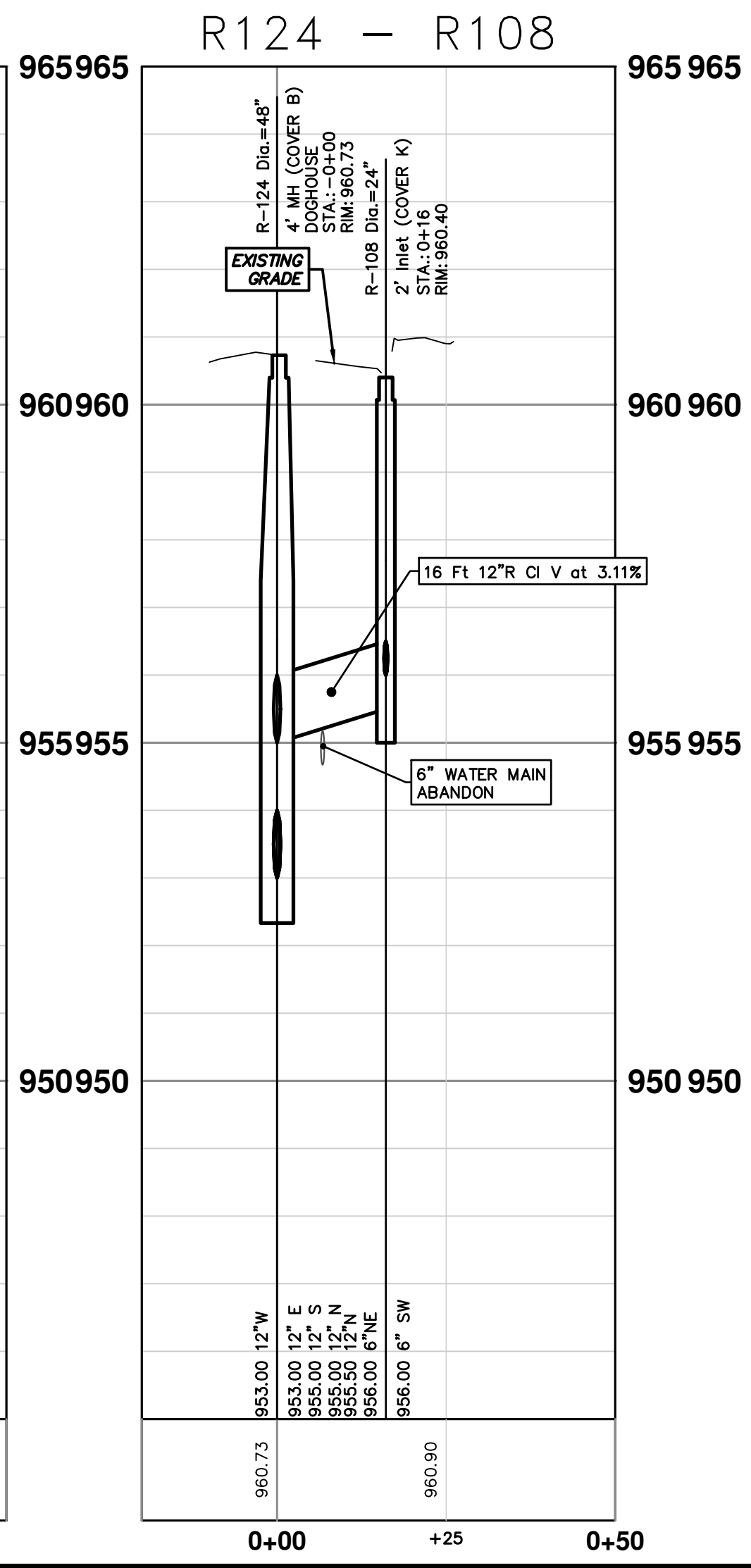
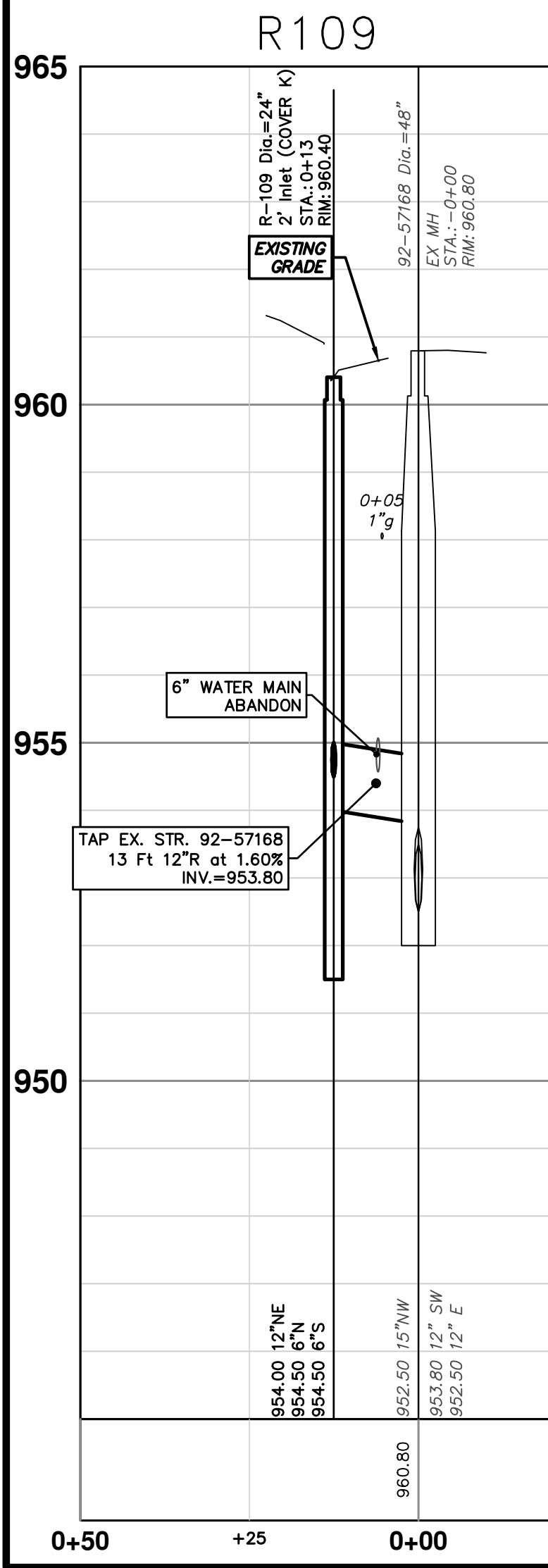
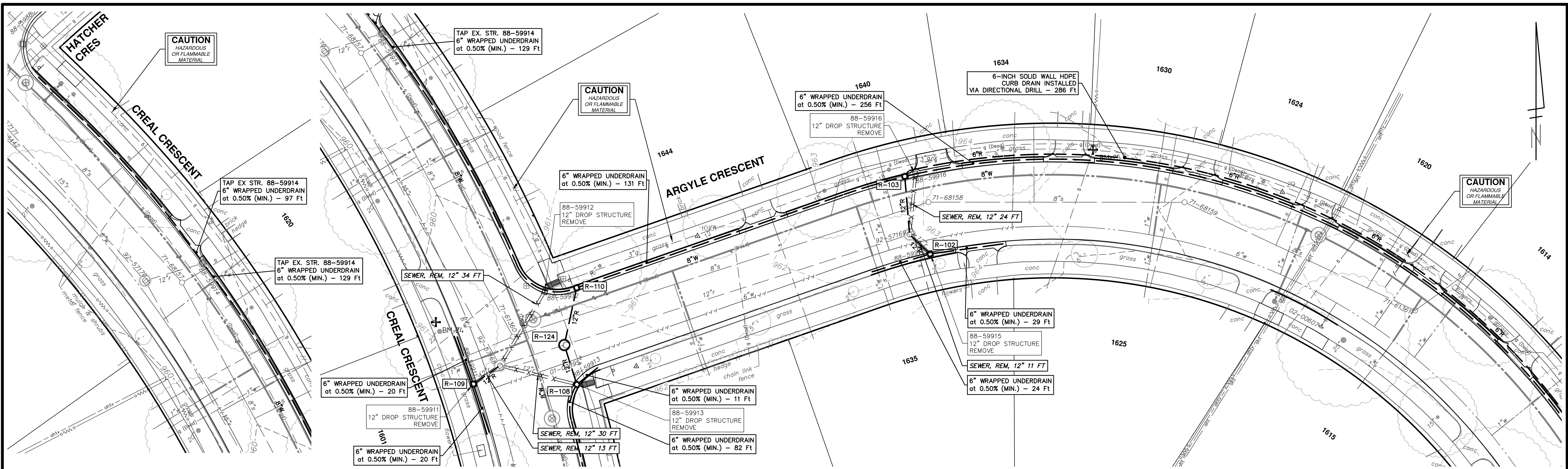
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00	EFILE PERMIT	11-14-2023	DF/OC/RB	NB

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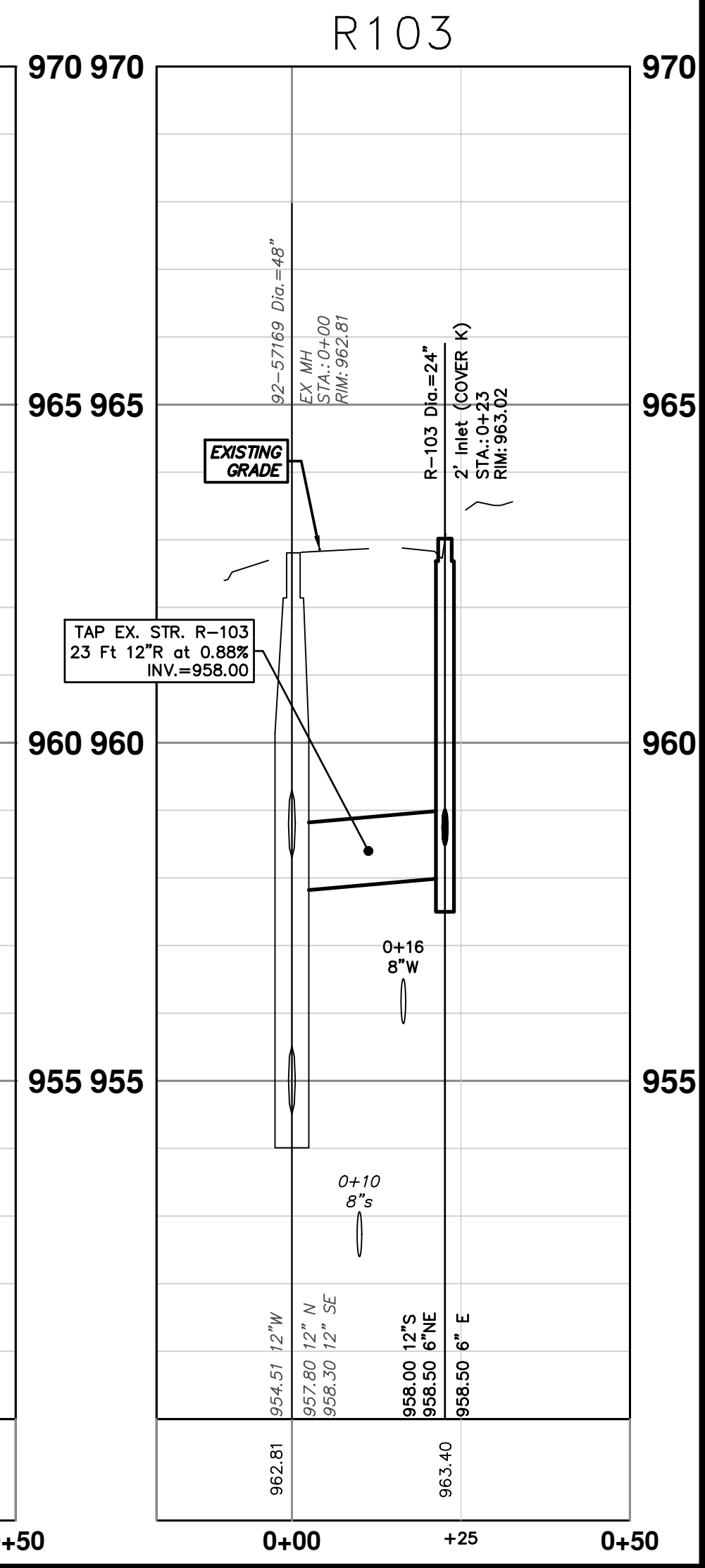
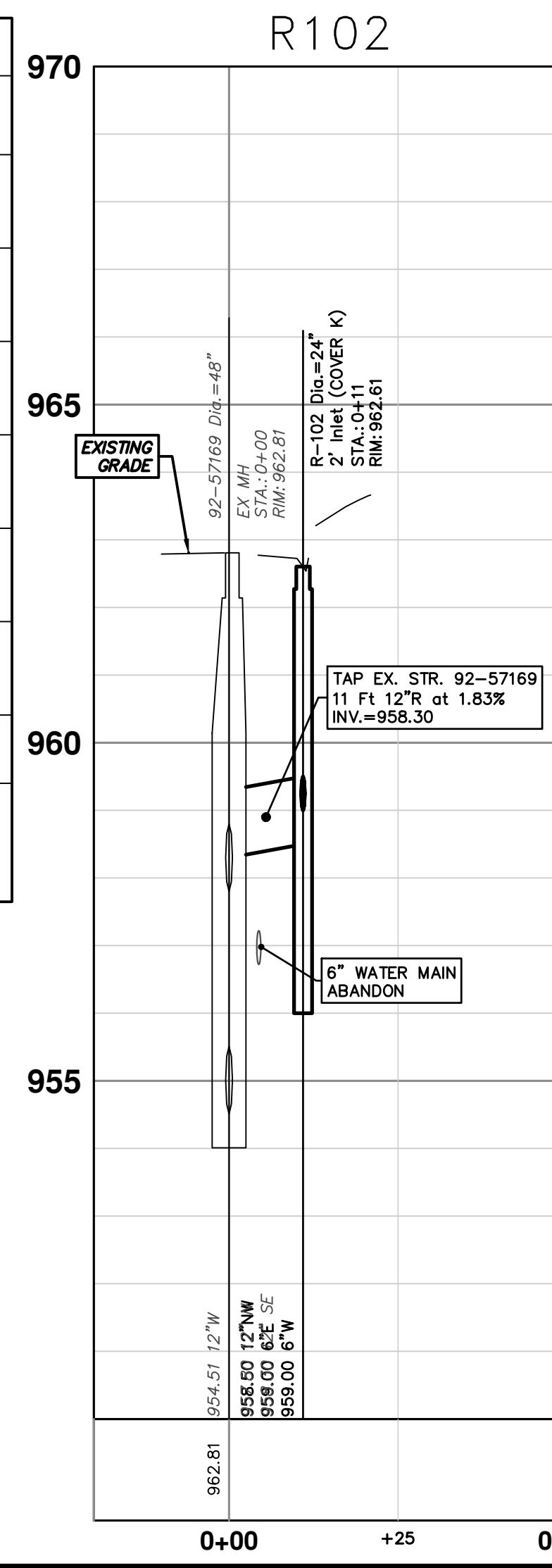
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CRESCENTS WATER MAIN REPLACEMENT PROJECT
STORM SEWER
R112, R111, R122, R121

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STORM SEWER STRUCTURE TABLE

STRUCTURE	UTILITY STATION	TYPE	RIM	INVERTS	DEPTH (Feet)	SUMP
92-57168	0+00	EX MH	960.80	12" SW 953.80 12" E 952.50 15" NW 952.50	8.30	0'
92-57169	0+00	EX MH	962.81	12" N 957.80 12" SE 958.30 12" W 954.51	8.30	0'
R-102	0+11	2' Inlet (COVER K)	962.61	12" NW 958.50 6" E 959.00 6" W 959.00	6.11	2'
R-103	0+23	2' Inlet (COVER K)	963.02	12" NE 958.50 6" S 958.00 6" NE 958.50	5.02	0'
R-108	0+16	2' Inlet (COVER K)	960.40	6" SW 956.00 12" N 955.50 6" NE 956.00	4.90	0'
R-109	0+13	2' Inlet (COVER K)	960.40	12" NE 954.00 6" N 954.50 6" S 954.50	8.40	2'
R-110	0+23	2' Inlet (COVER K)	960.39	6" E 956.25 12" S 955.75	4.64	0'
R-124	0+00	4' MH (COVER B) DOGHOUSE	960.73	12" E 953.00 12" S 955.00 12" N 955.00 12" W 953.00	7.73	0'



CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

CRESCENTS WATER MAIN REPLACEMENT PROJECT

STORM SEWER
R109, R108, R124, R110, R102, R103

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

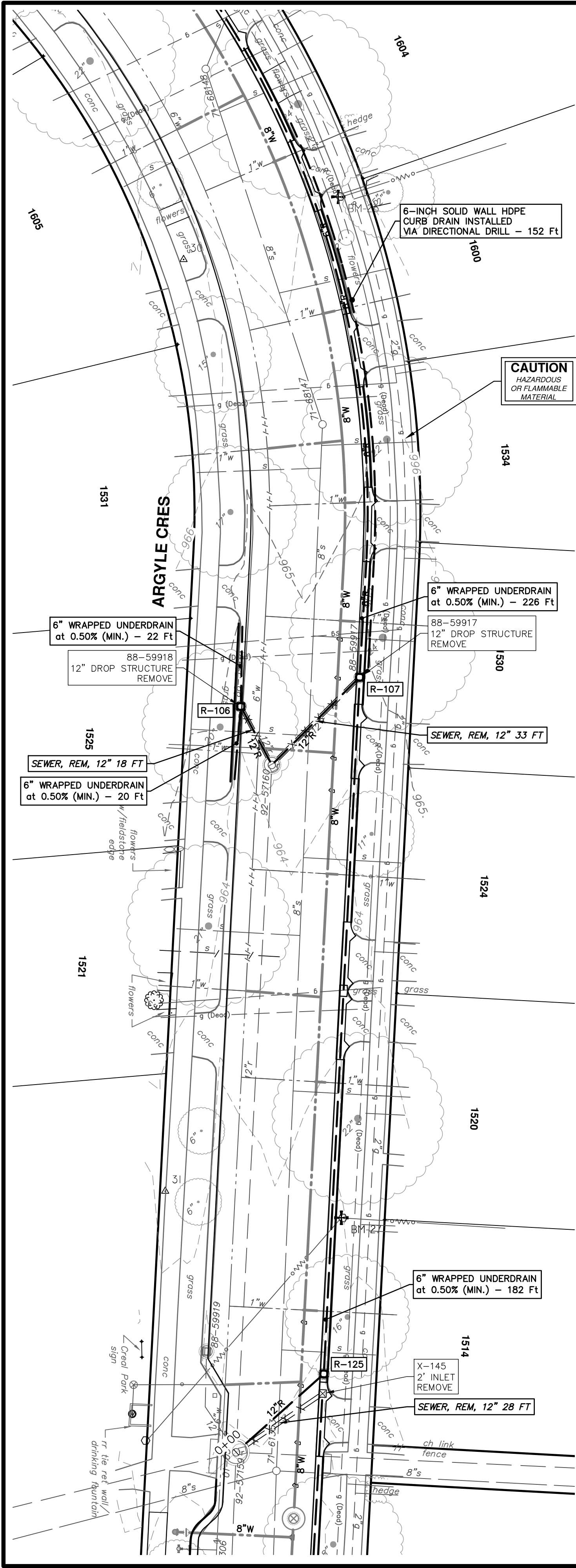
DRAWING No. 2022012-57

SHEET No. 57 OF 77

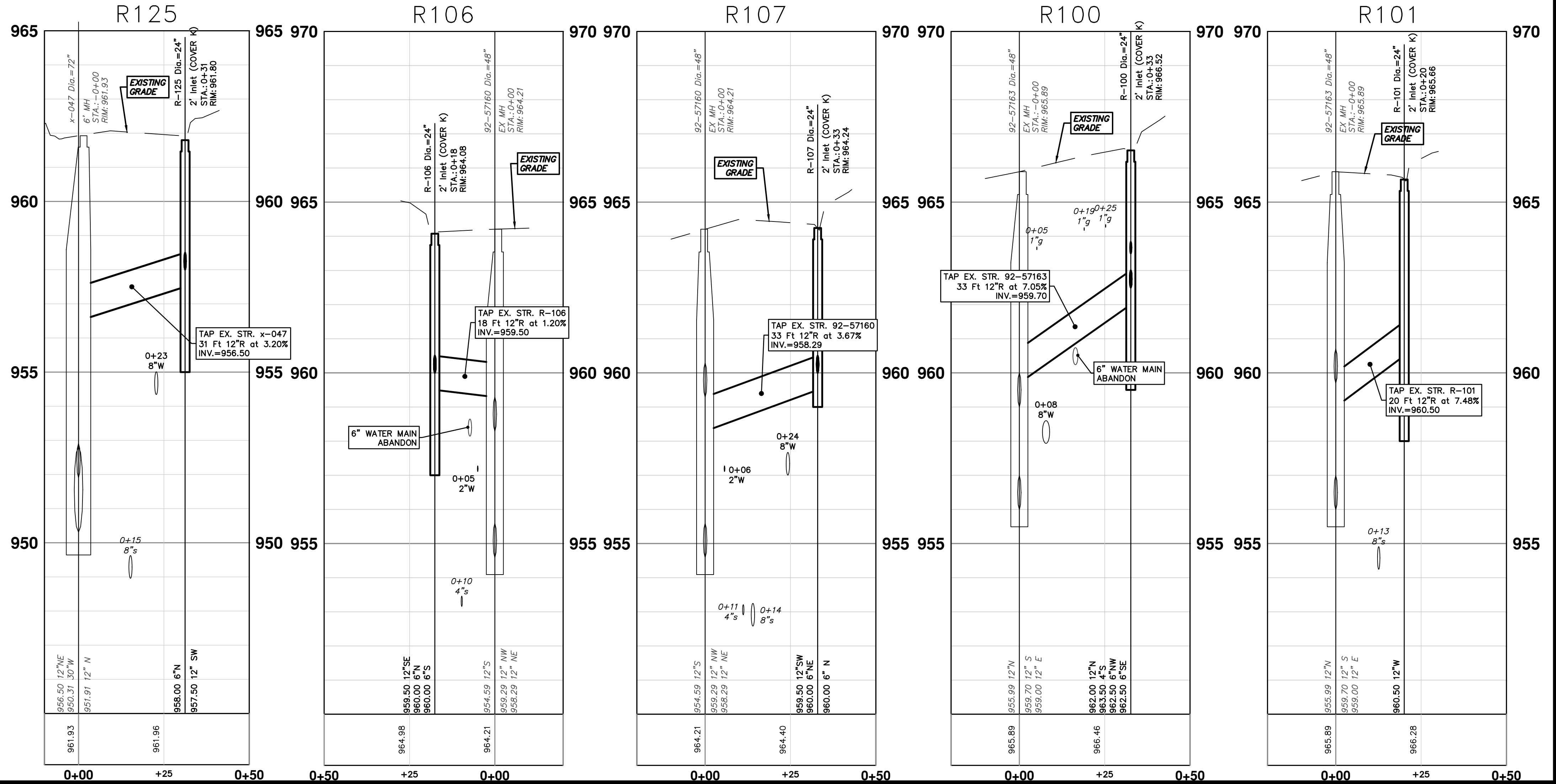
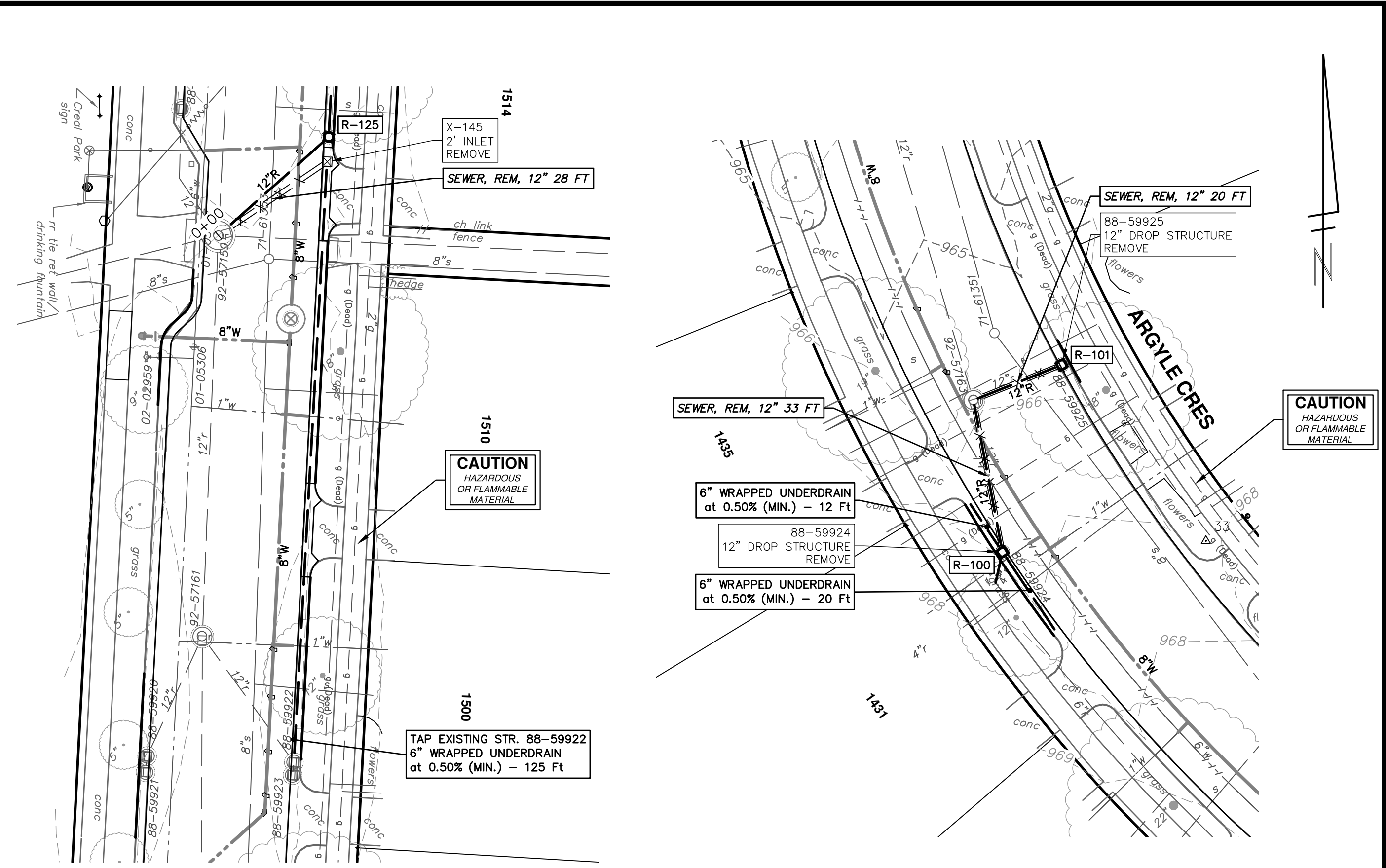
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04		CHECKED



STORM SEWER STRUCTURE TABLE						
STRUCTURE	UTILITY STATION	TYPE	RIM	INVERTS	DEPTH (Feet)	SUMP
92-57160	0+00	EX MH	964.21	12" NW 959.29 12" NE 958.29 12" S 954.59	9.62	0'
92-57163	0+00	EX MH	965.89	12" S 959.70 12" E 959.00 12" N 955.99	9.90	0'
R-100	0+33	2' Inlet (COVER K)	966.52	12" N 962.00 4" S 963.50 6" NW 962.50 6" SE 962.50	6.52	2'
R-101	0+20	2' Inlet (COVER K)	965.66	12" W 960.50	7.16	2'
R-106	0+18	2' Inlet (COVER K)	964.08	12" SE 959.50 6" N 960.00 6" S 960.00	6.58	2'
R-107	0+33	2' Inlet (COVER K)	964.24	6" N 960.00 12" SW 959.50 6" NE 960.00	4.74	0'
R-125	0+31	2' Inlet (COVER K)	961.80	12" SW 957.50 6" N 958.00	6.30	2'



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CRESCENTS WATER MAIN REPLACEMENT PROJECT

STORM SEWER
R125, R106, R107, R100, R101

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

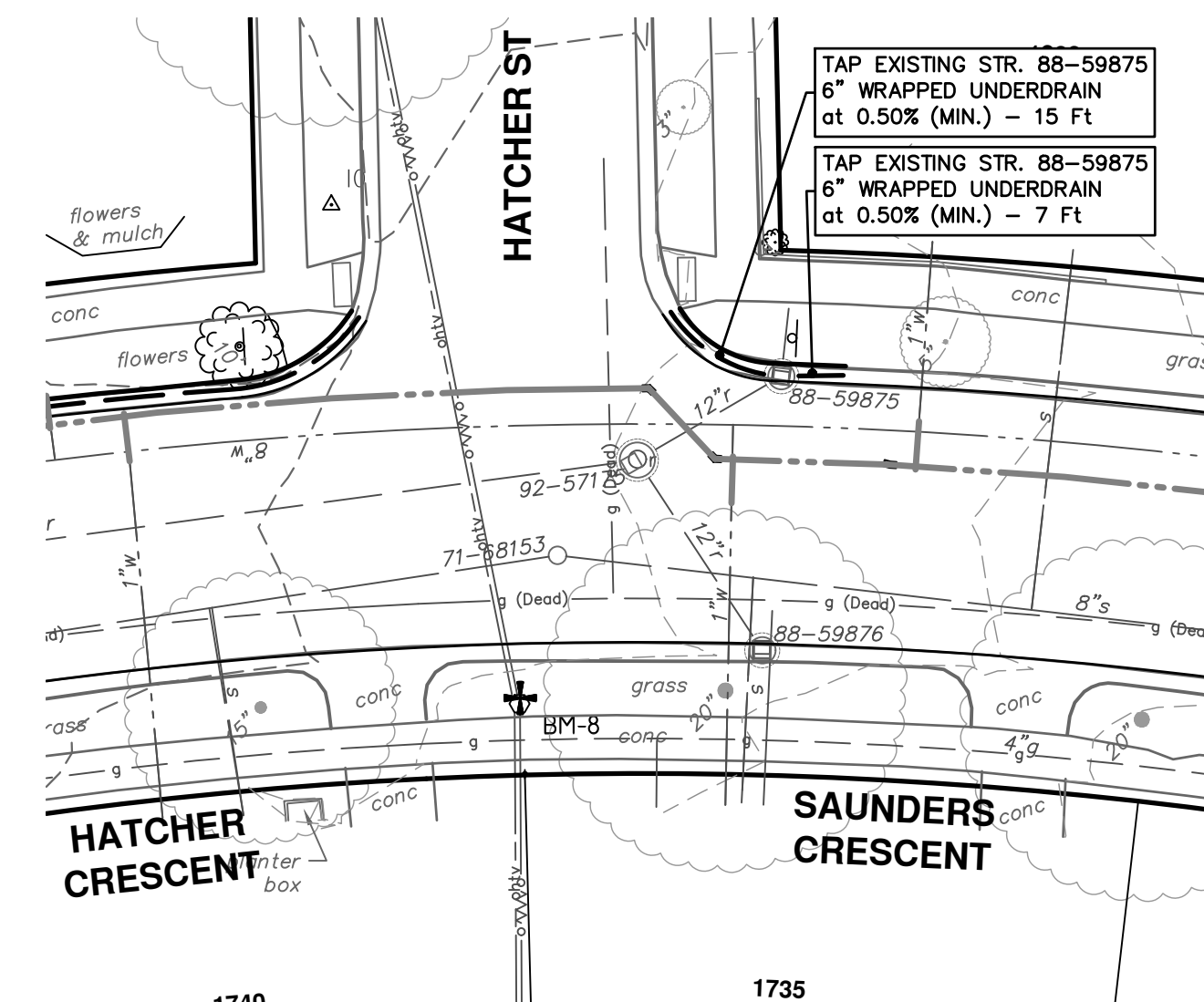
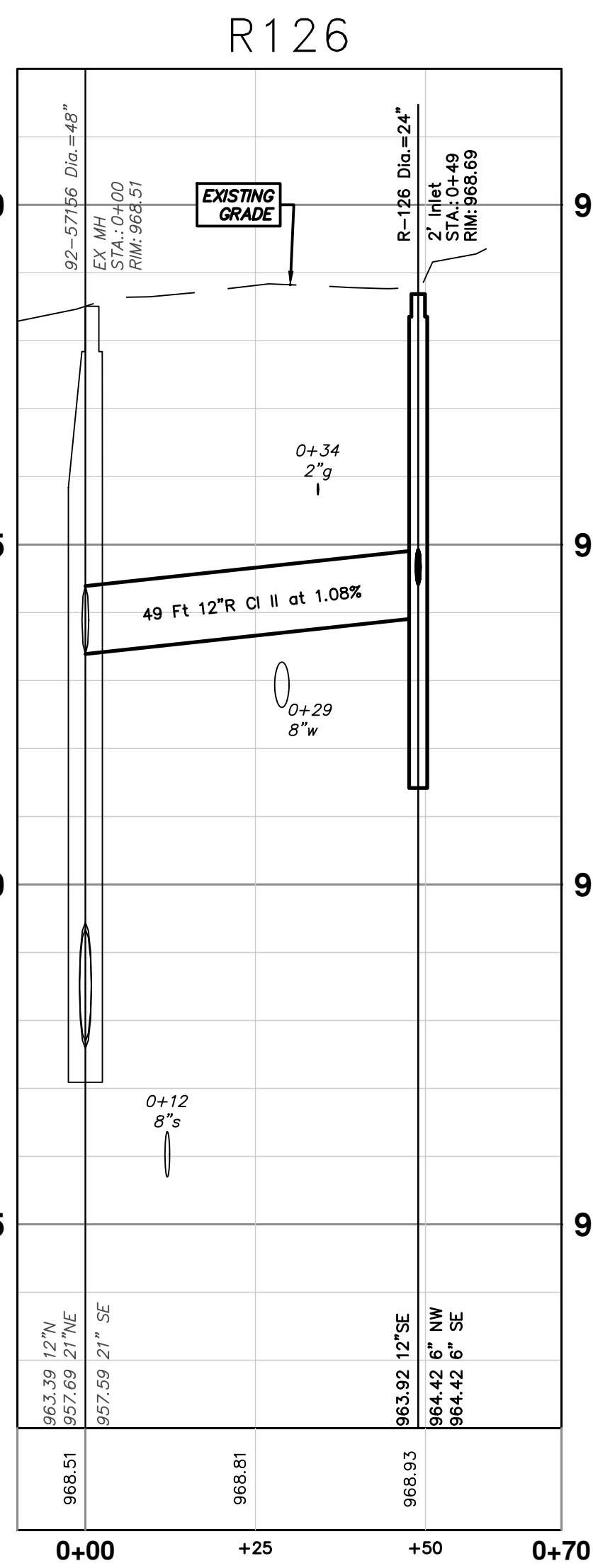
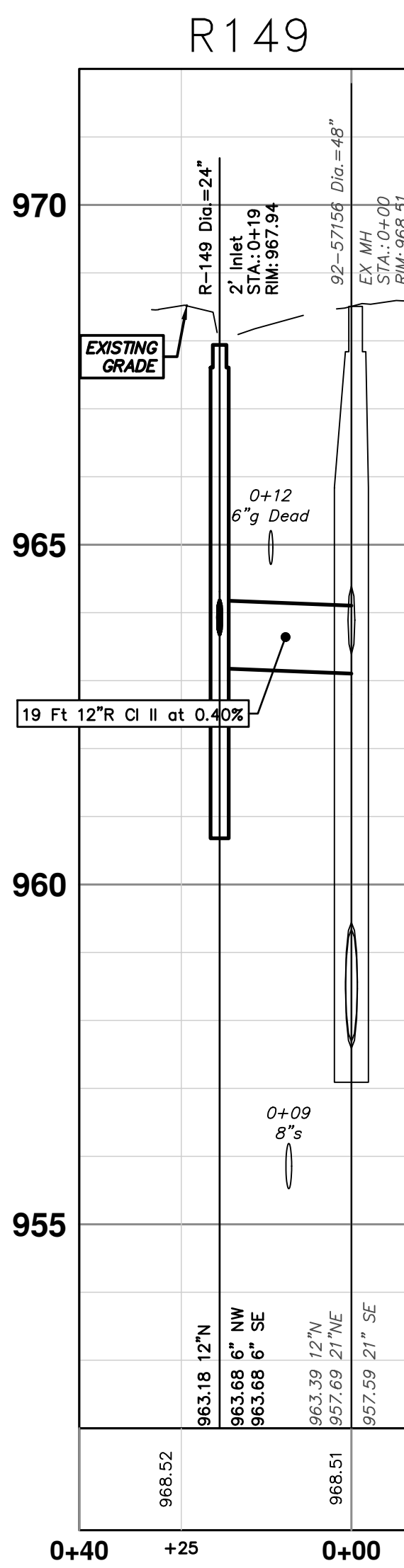
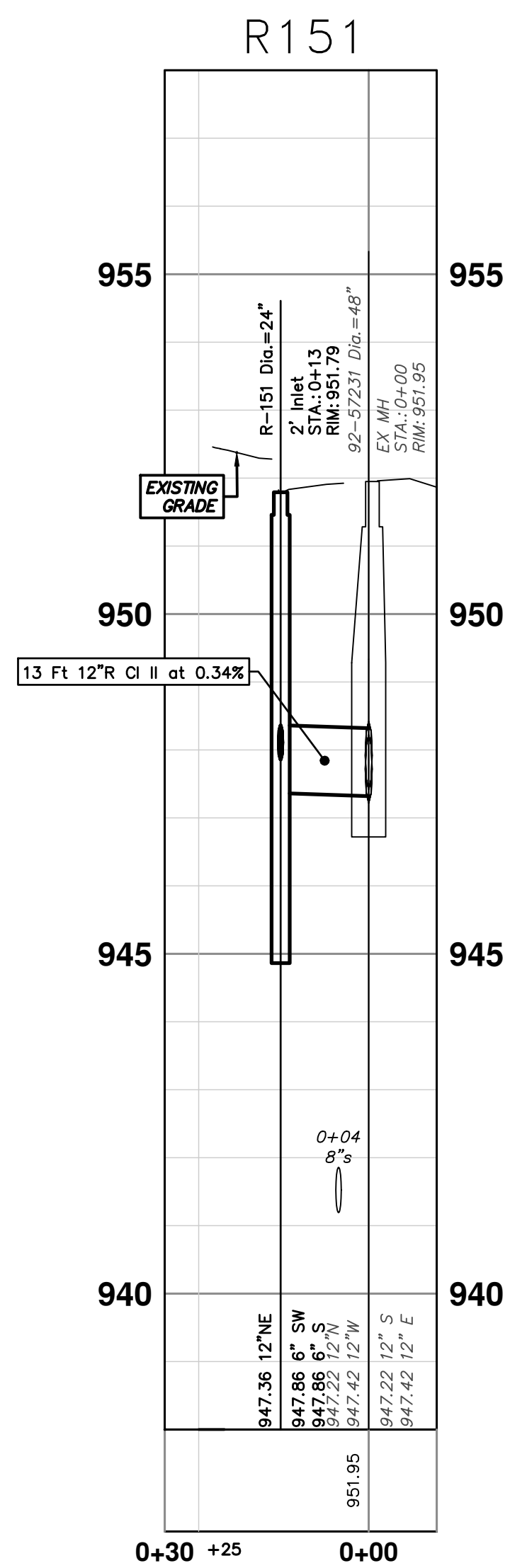
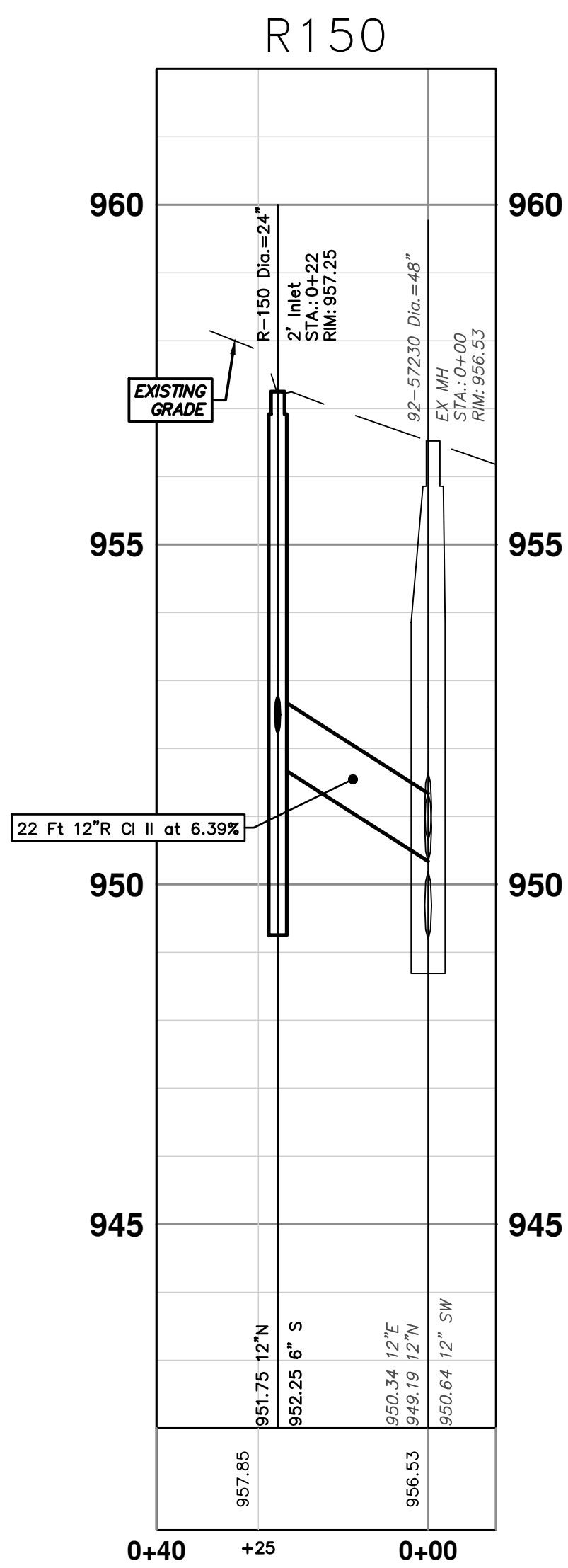
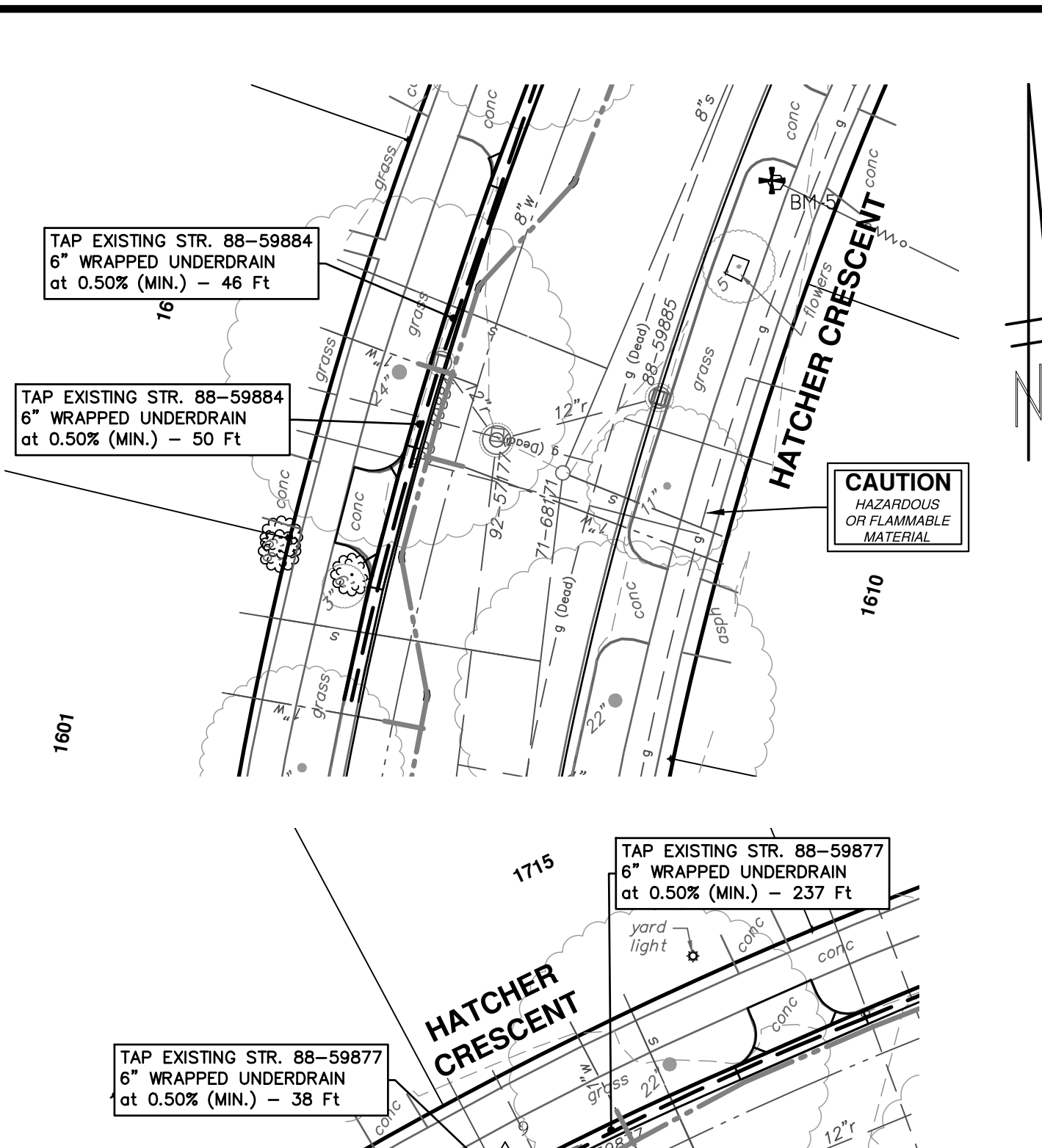
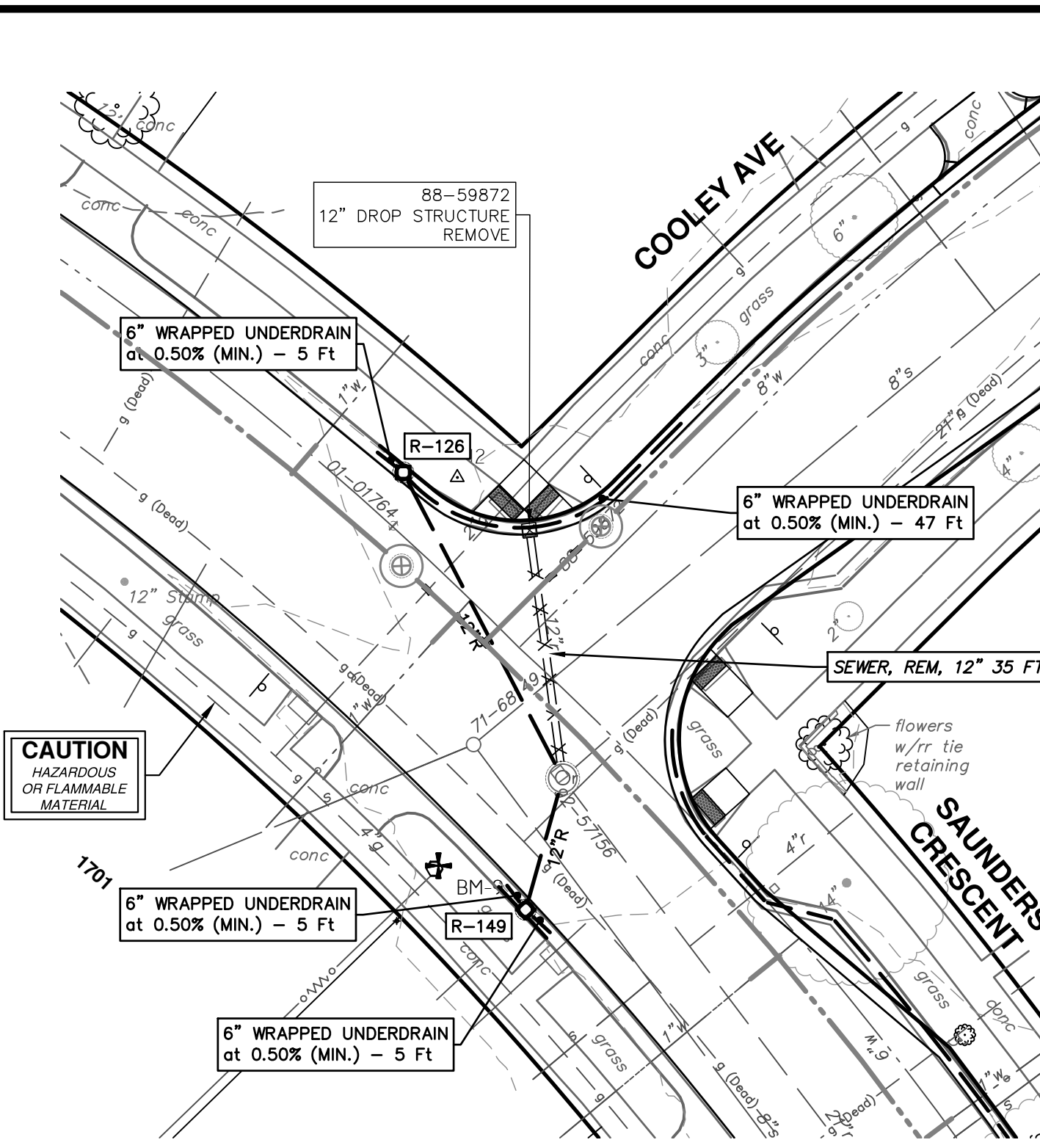
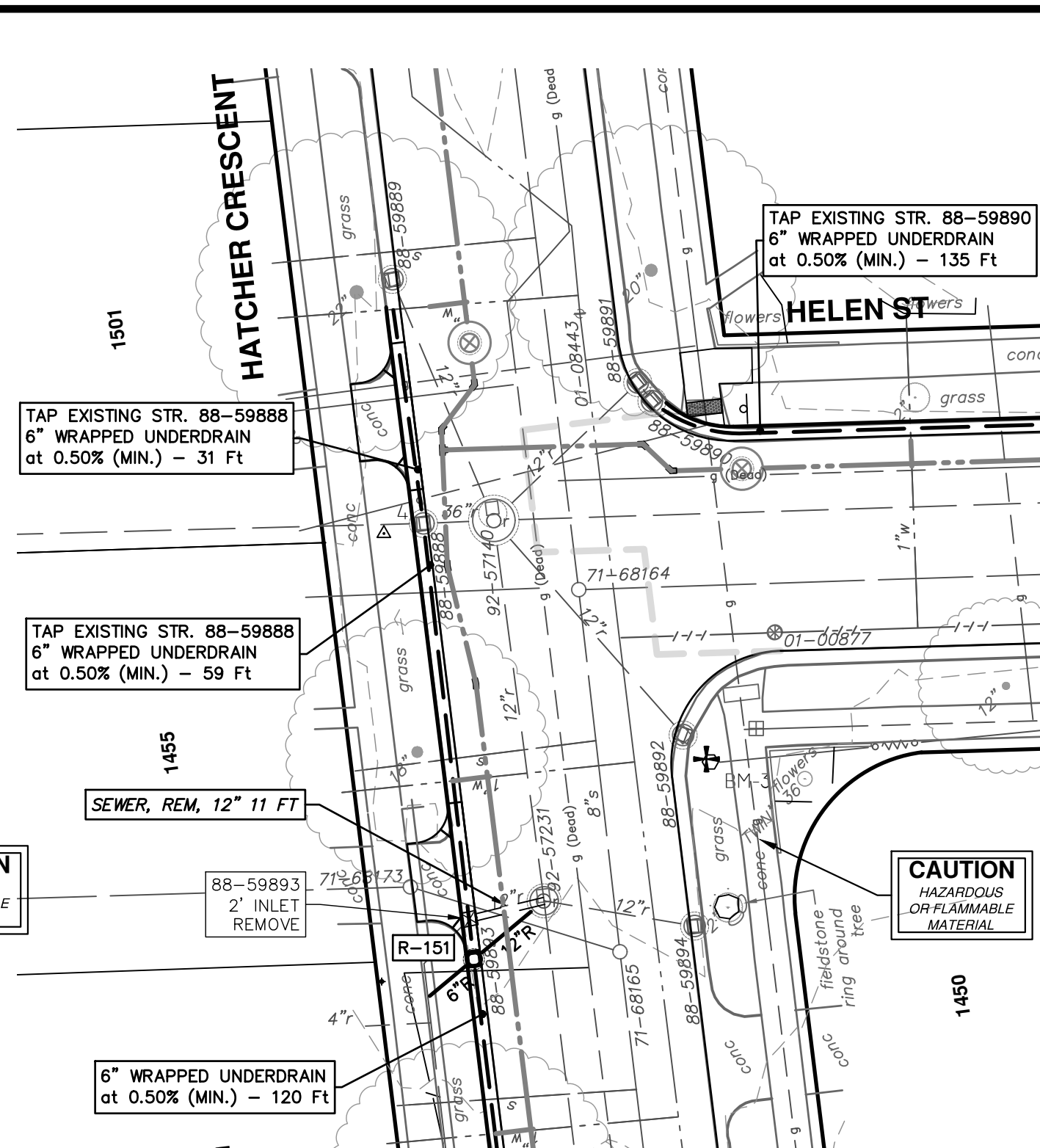
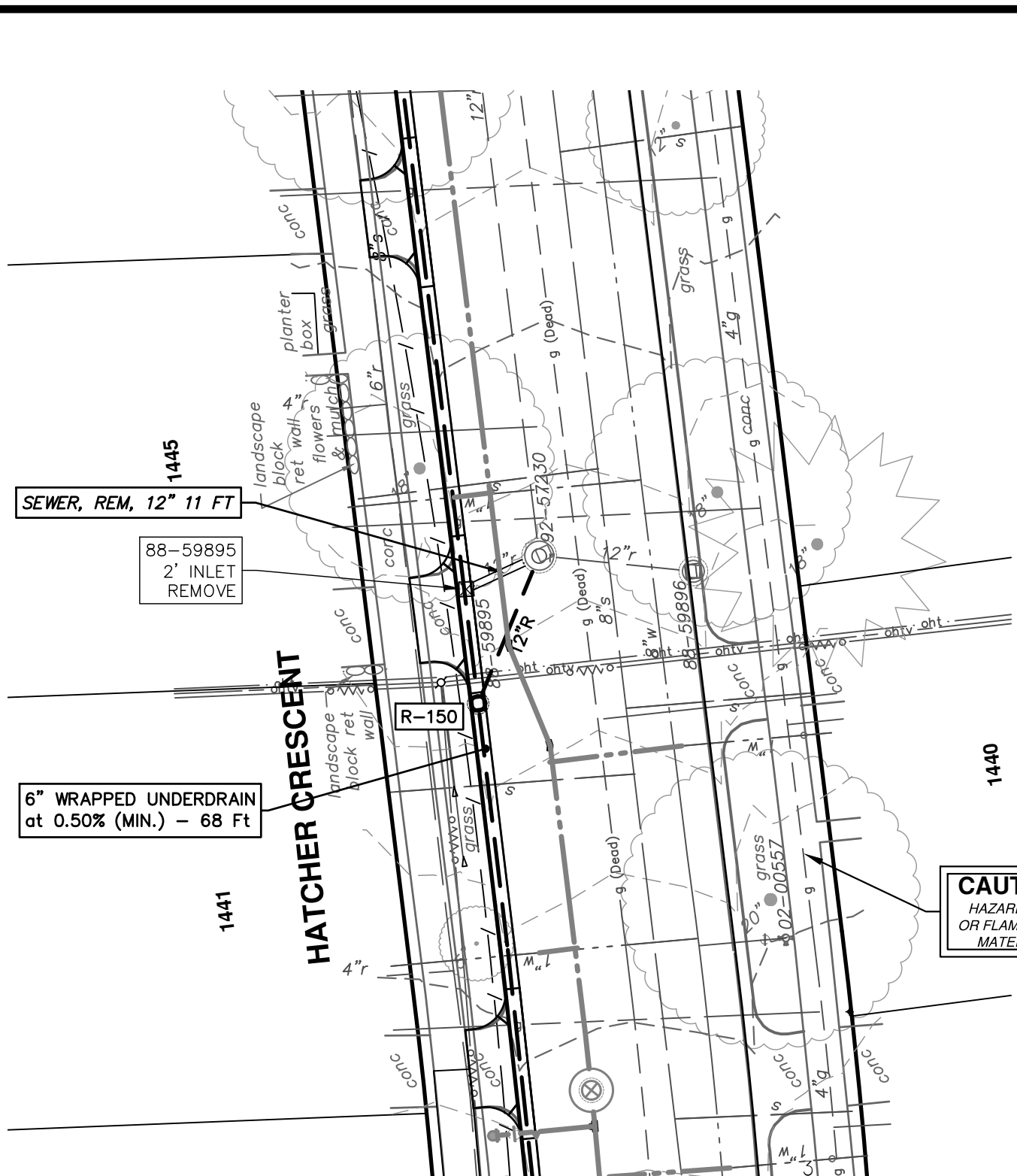
DRAWING NO. 2022012-58

SHEET NO. 58 OF 77

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STORM SEWER STRUCTURE TABLE						
STRUCTURE	UTILITY STATION	TYPE	RIM	INVERTS	DEPTH (Feet)	SUMP
R-126	0+49	2' Inlet	968.69	6" NW 964.42 6" SE 964.42 12" SE 963.92	6.77	2'
R-149	0+19	2' Inlet	967.94	6" NW 963.68 6" SE 963.68 12" N 963.18	6.76	2'
R-150	0+22	2' Inlet	957.25	6" S 952.25 12" N 951.75	7.50	2'
R-151	0+13	2' Inlet	951.79	6" SW 947.86 6" S 947.86 12" NE 947.36	6.43	2'

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

CRESCENTS WATER MAIN REPLACEMENT PROJECT

STORM SEWER
R150 R151 R149 R126

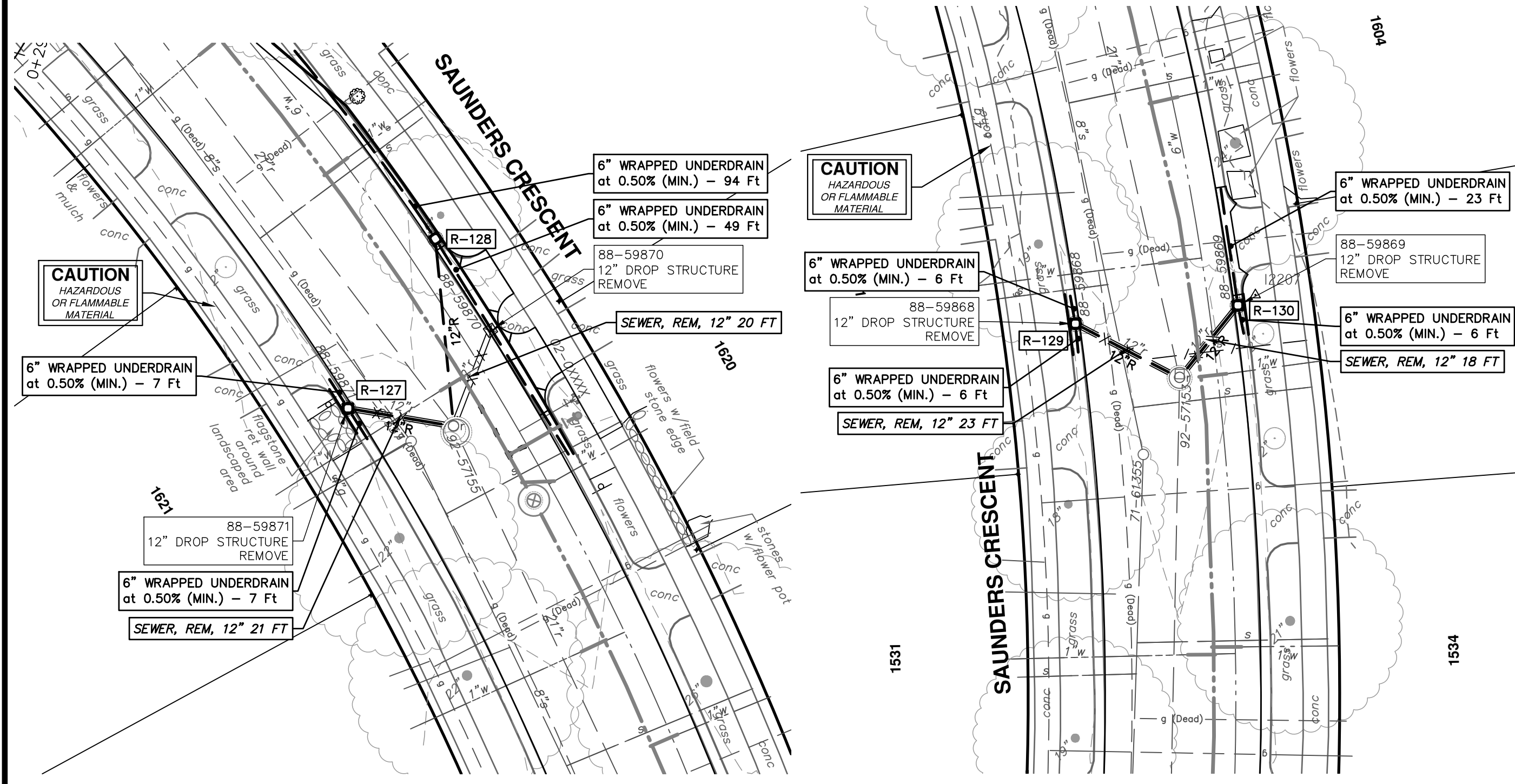
SHEET NO. 59 OF 77

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

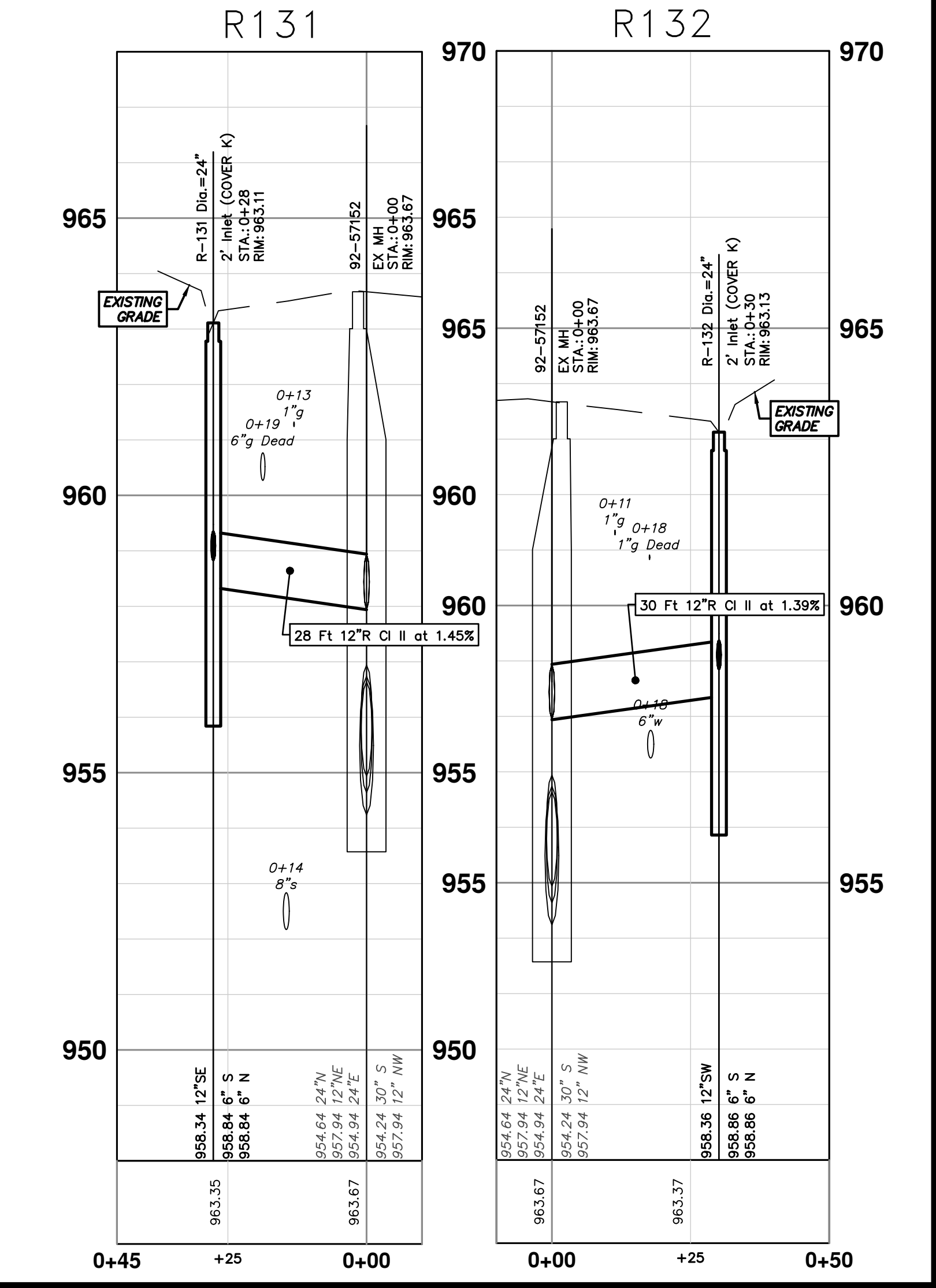
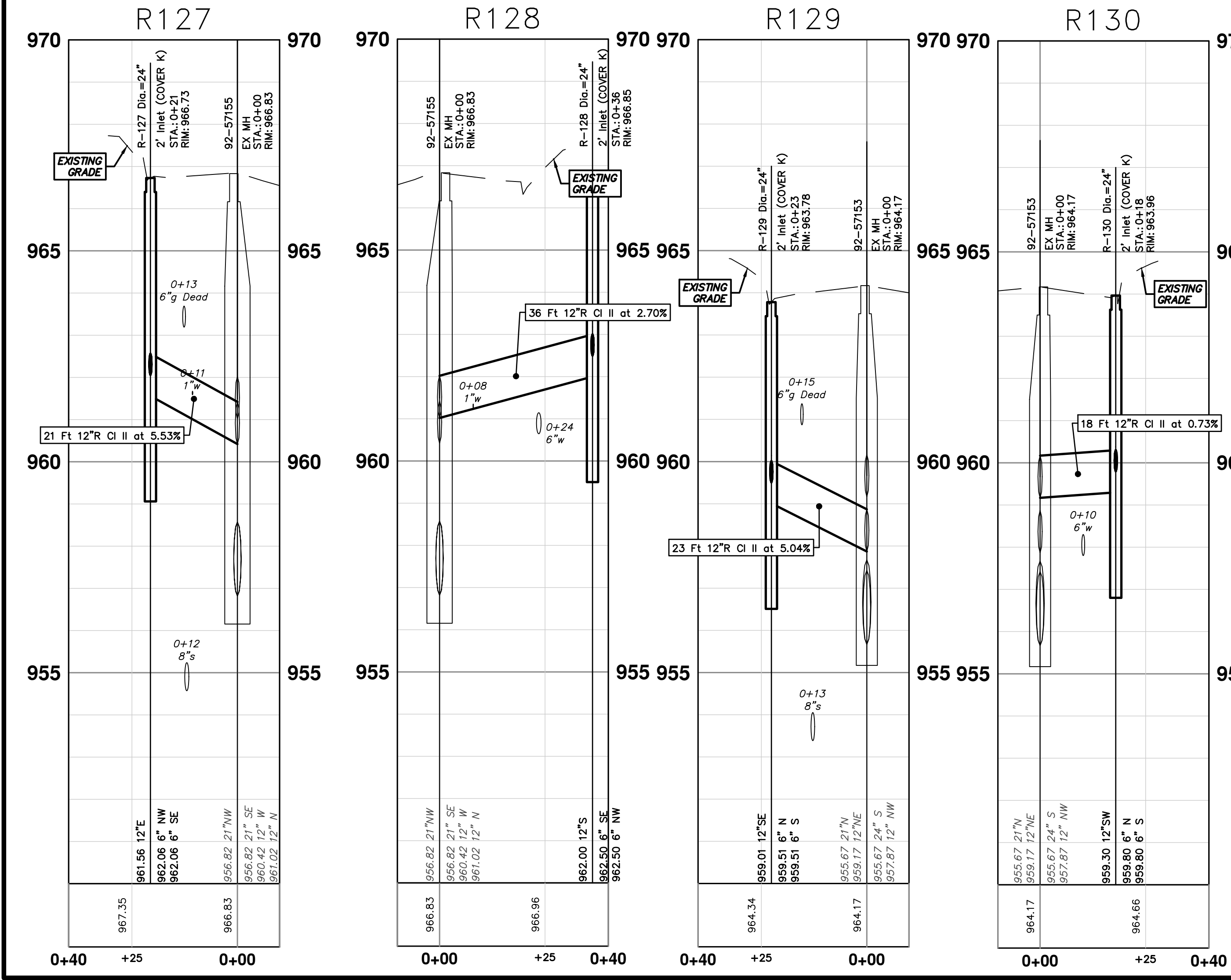
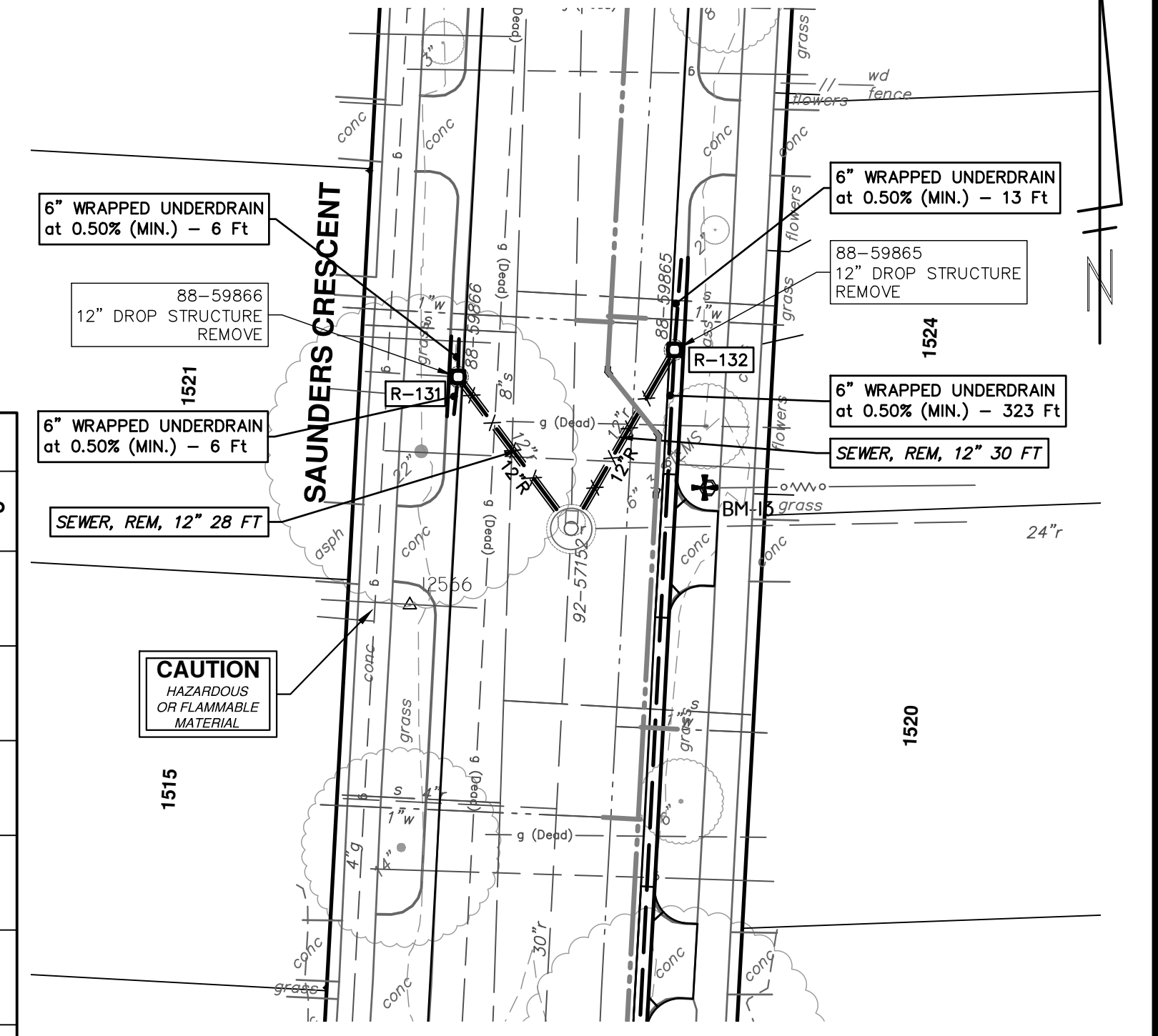
DRAWING NO. 2022012-59


REV.	DESCRIPTION	DATE	DRAWN	CHECKED
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STRUCTURE	UTILITY STATION	TYPE	RIM	INVERTS	DEPTH (Feet)	SUMP
R-127	0+21	2' Inlet (COVER K)	966.73	6" NW 962.06 6" SE 962.06 12" E 961.56	7.17	2'
R-128	0+36	2' Inlet (COVER K)	966.85	6" SE 962.50 6" NW 962.50 12" S 962.00	6.85	2'
R-129	0+23	2' Inlet (COVER K)	963.78	6" N 959.51 6" S 959.51 12" SE 959.01	6.77	2'
R-130	0+18	2' Inlet (COVER K)	963.96	6" N 959.80 6" S 959.80 12" SW 959.30	6.66	2'
R-131	0+28	2' Inlet (COVER K)	963.11	6" S 958.84 6" N 958.84 12" SE 958.34	6.77	2'
R-132	0+30	2' Inlet (COVER K)	963.13	6" S 958.86 6" N 958.86 12" SW 958.36	6.77	2'





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	DESCRIPTION			DRAWN	CHECKED



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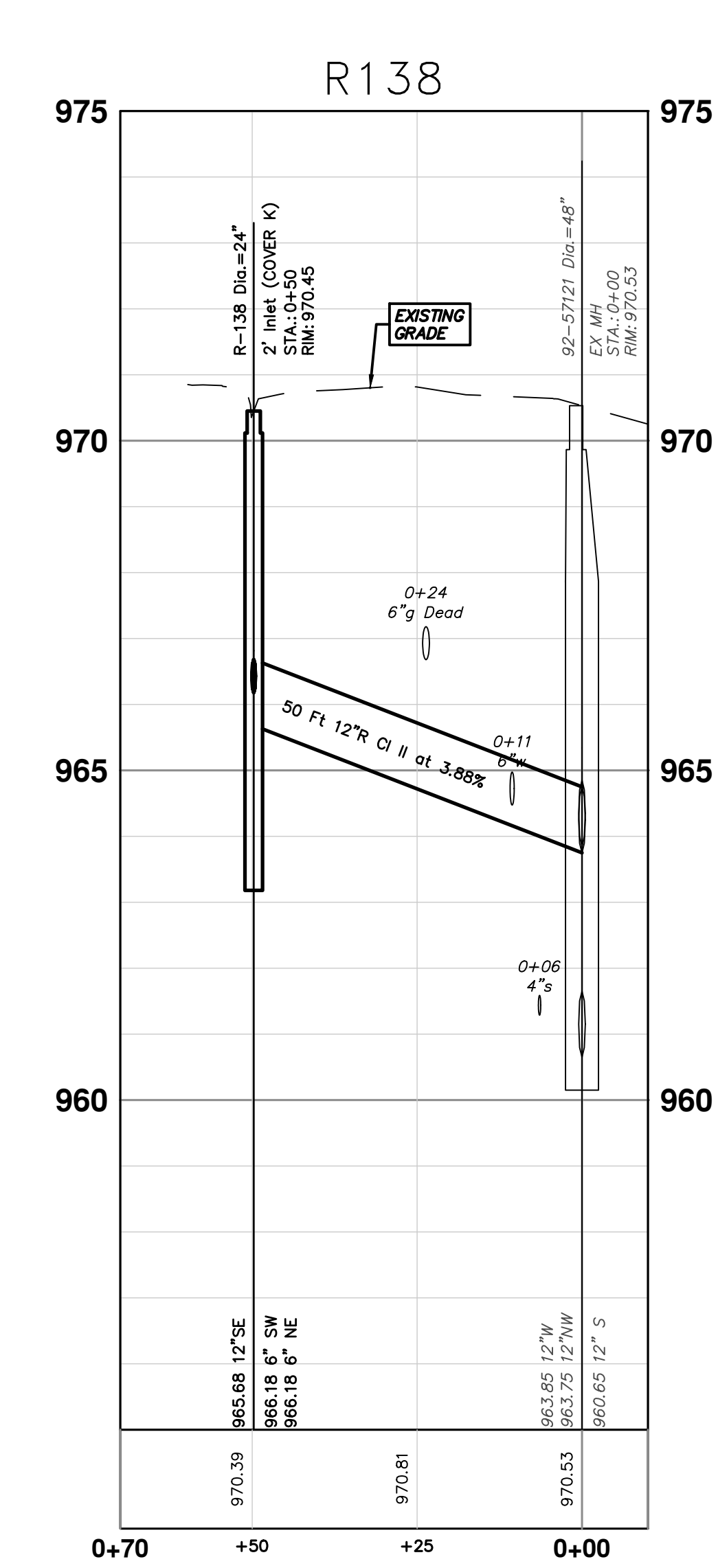
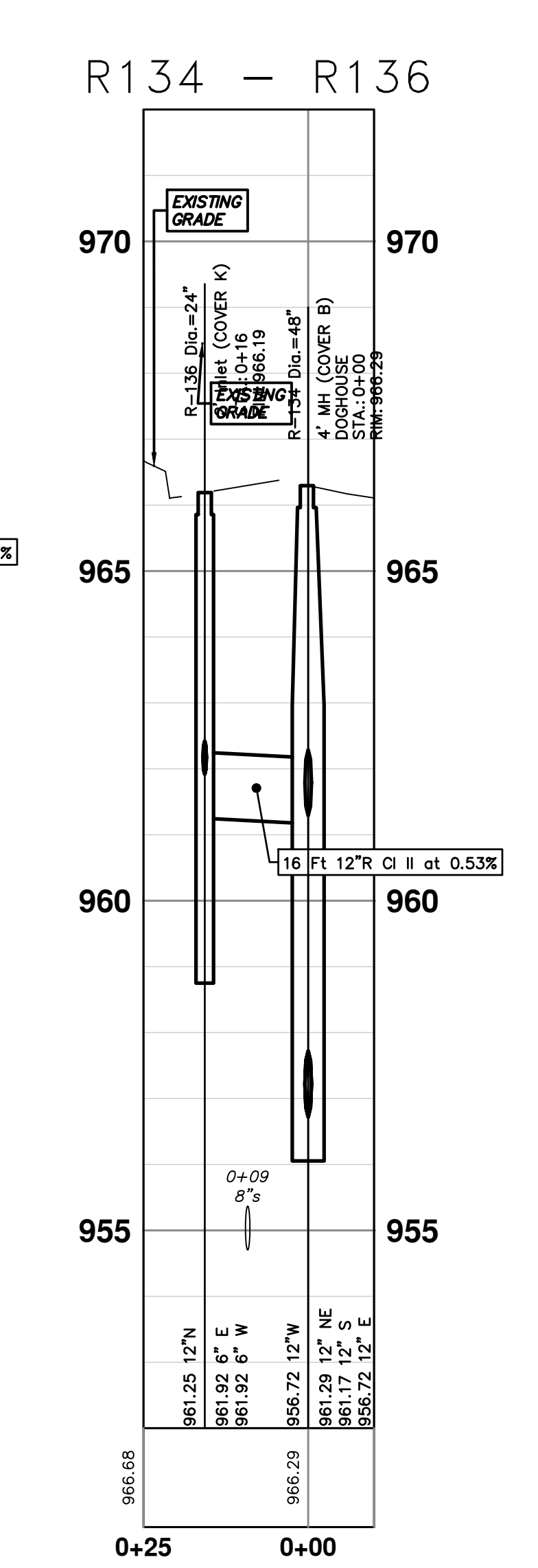
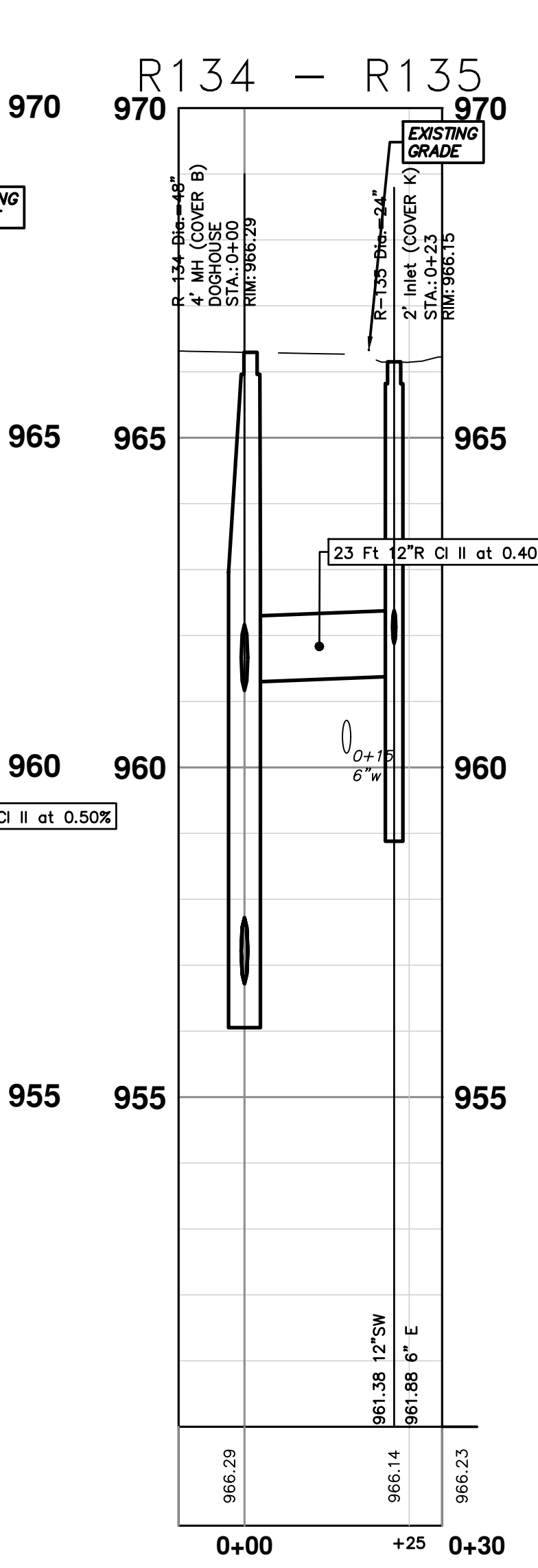
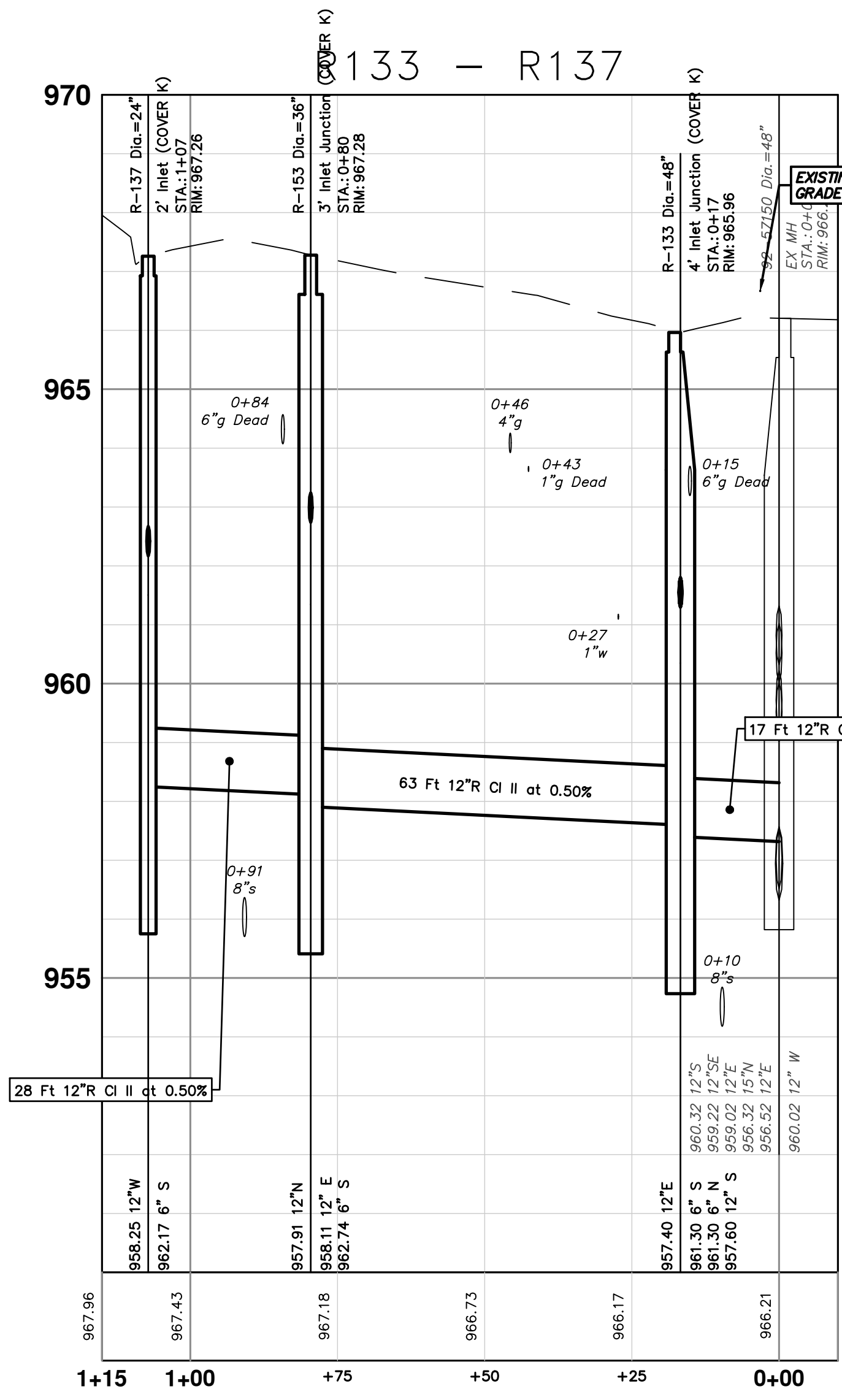
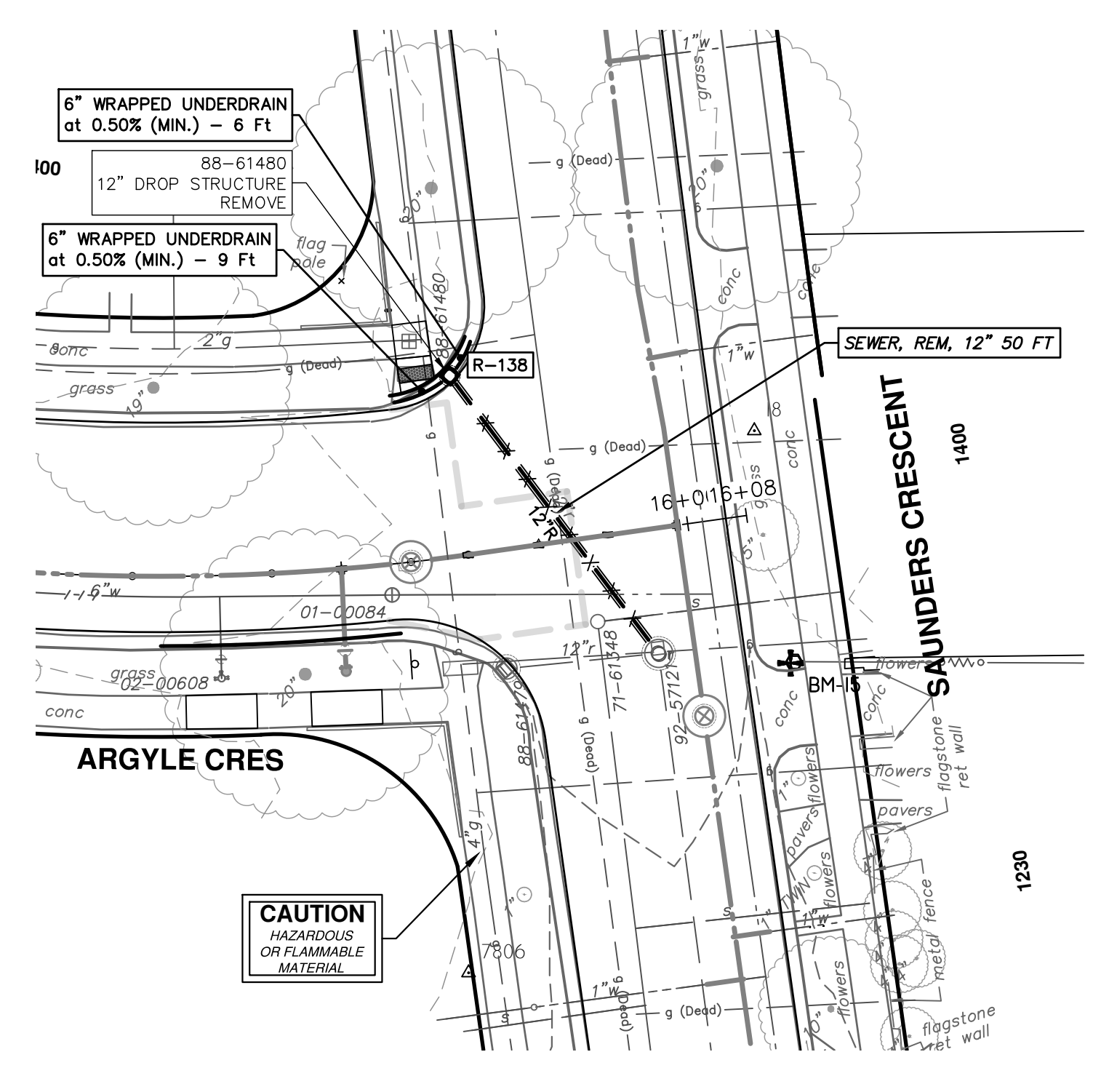
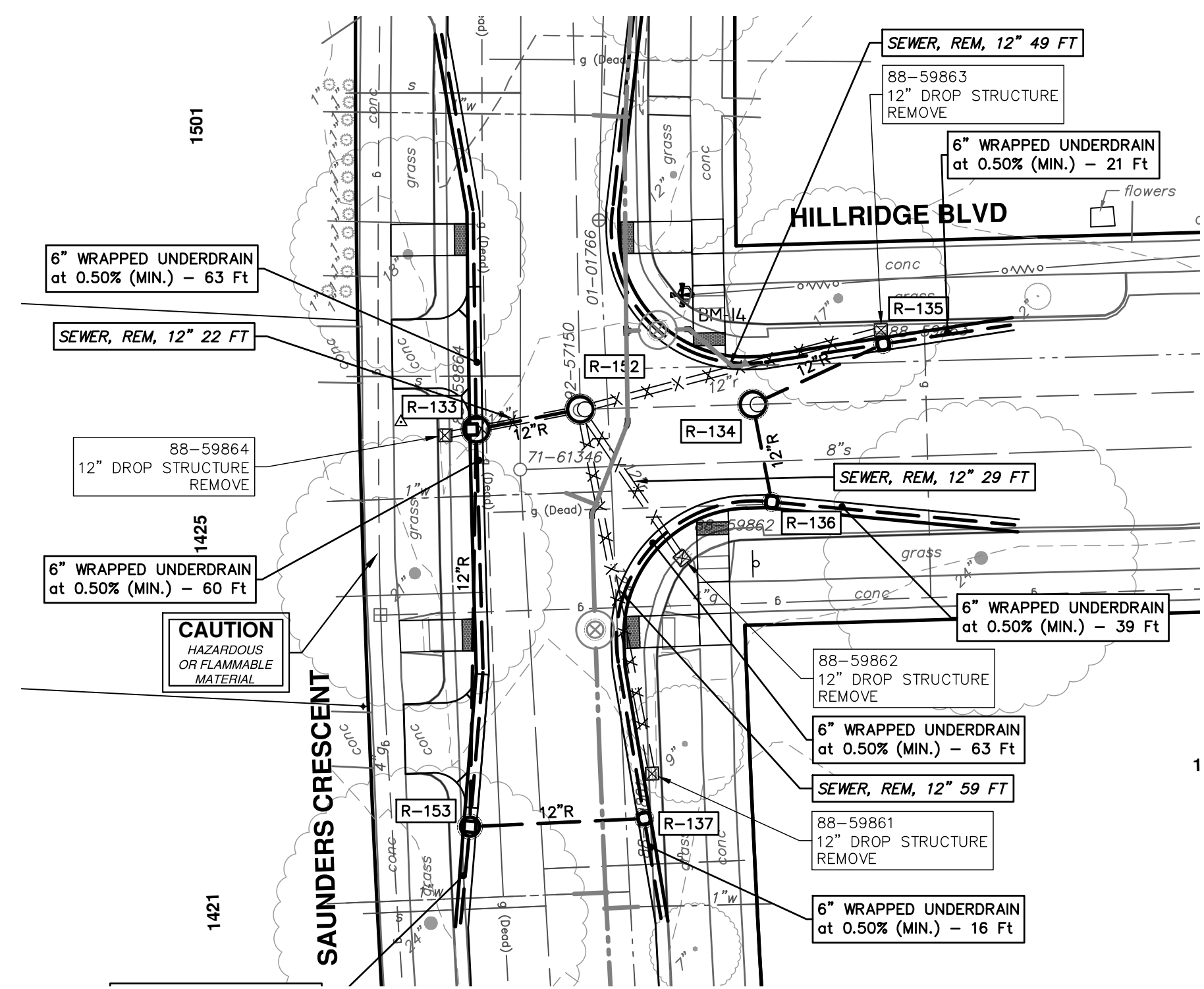
CRESCENTS WATER MAIN REPLACEMENT PROJECT

STORM SEWER
R127 R128 R129 R130 R131 R132

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

DRAWING NO. 2022012-60

SHEET NO. 60 OF 77



STORM SEWER STRUCTURE TABLE						
STRUCTURE	UTILITY STATION	TYPE	RIM	INVERTS	DEPTH (Feet)	SUMP
R-133	0+17	4' Inlet Junction (COVER K)	965.96	6" S 961.30 6" N 961.30 12" S 957.60	10.56	2'
R-134	0+27	4' MH (COVER B) DOGHOUSE	966.29	12" NE 961.29 12" S 961.17 12" E 956.72 12" W 956.72	9.58	0'
R-135	0+23	2' Inlet (COVER K)	966.15	6" E 961.88 12" SW 961.38	6.77	2'
R-136	0+16	2' Inlet (COVER K)	966.19	6" E 961.92 6" W 961.92 12" N 961.25	6.94	2'
R-137	1+07	2' Inlet (COVER K)	967.26	6" S 962.17 12" W 958.25	11.01	2'
R-138	0+50	2' Inlet (COVER K)	970.45	6" SW 966.18 6" NE 966.18 12" SE 965.68	6.77	2'
R-152	0+00	4' MH (COVER B)	966.21	12" W 957.32 12" E 956.52 15" N 956.32	11.89	2'
R-153	0+80	3' Inlet Junction (COVER K)	967.28	12" E 958.11 6" S 962.74 12" N 957.91	11.37	2'

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

DRAWING No. 2022012-61

SHEET No. 61 OF 77

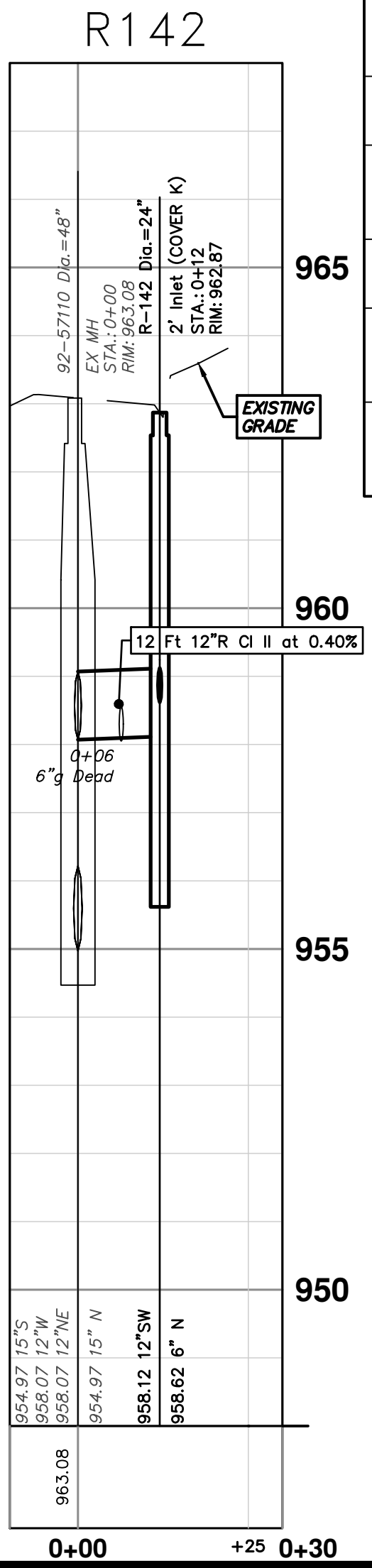
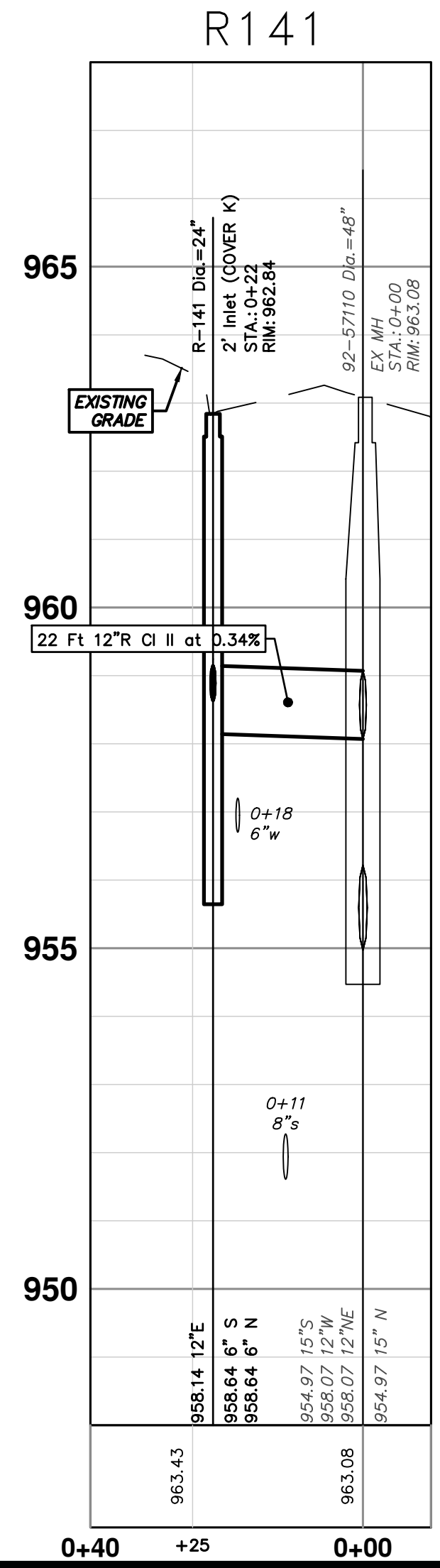
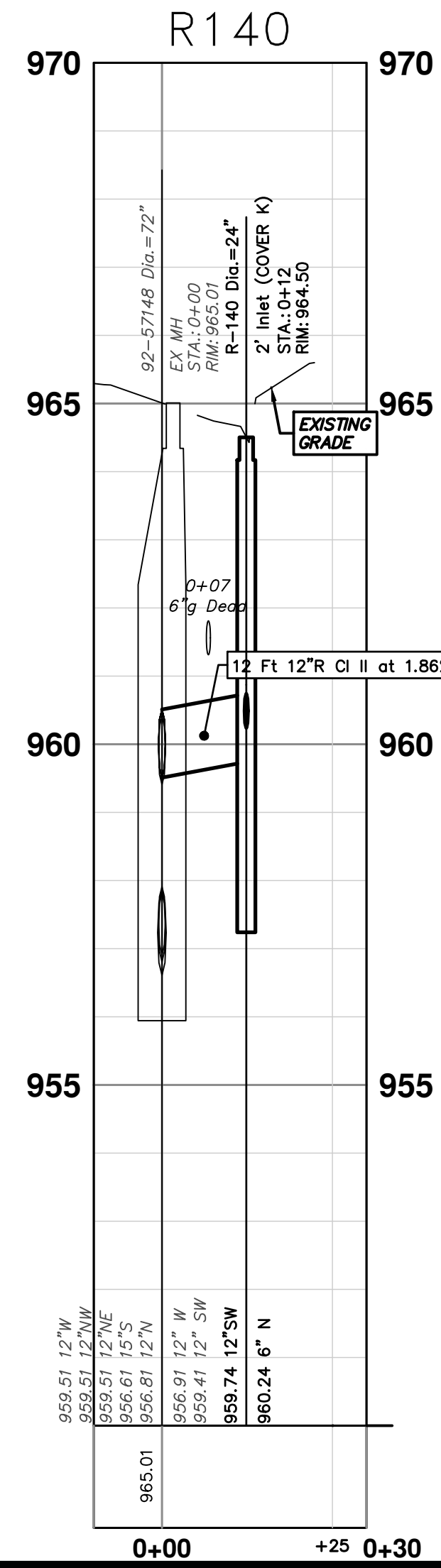
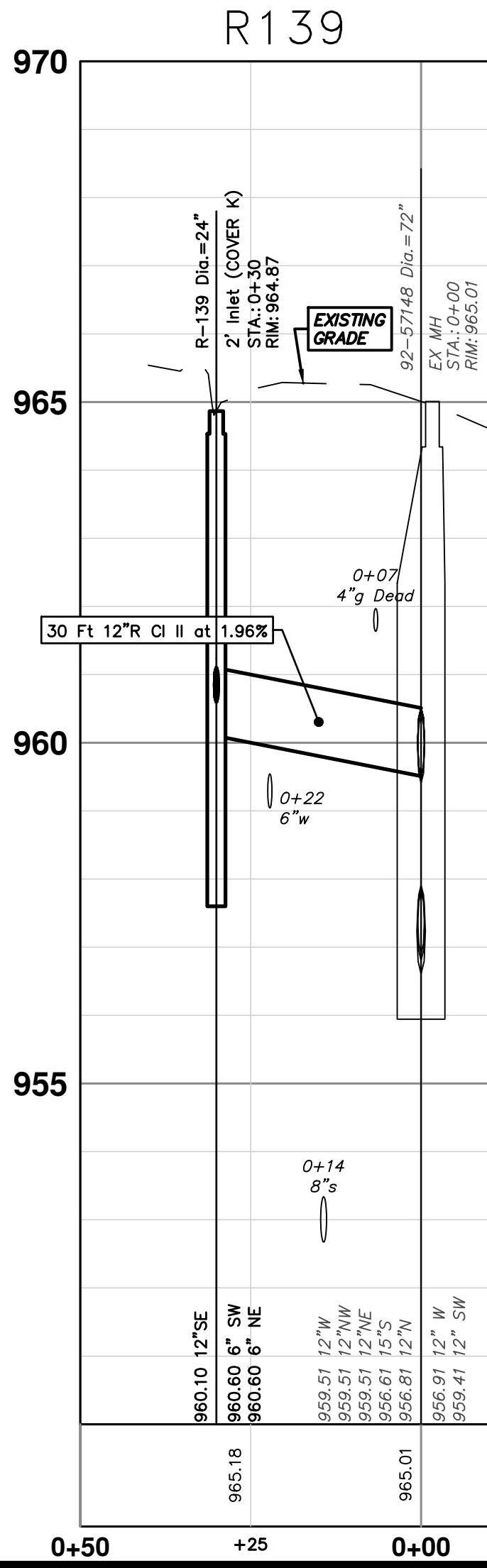
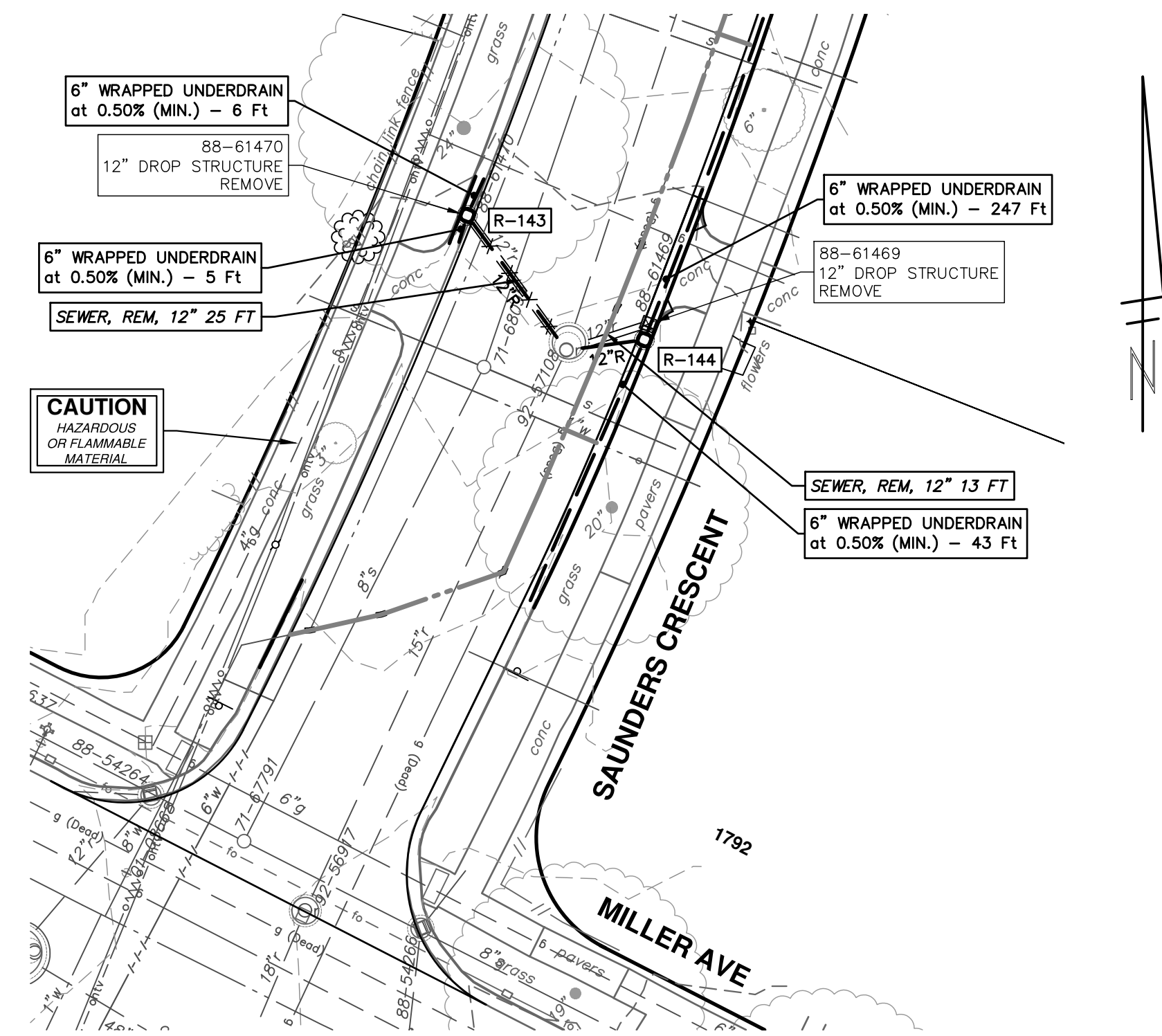
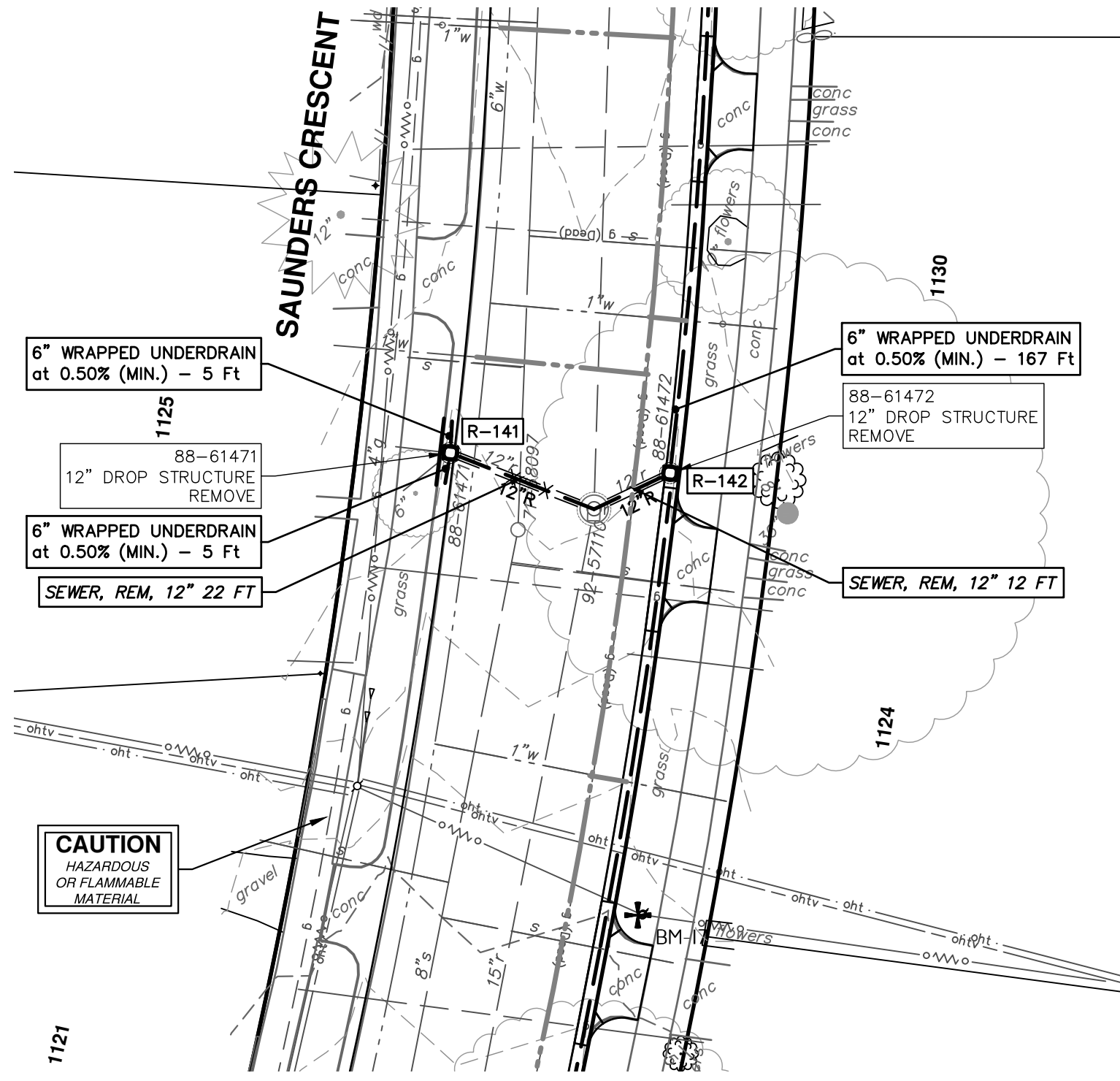
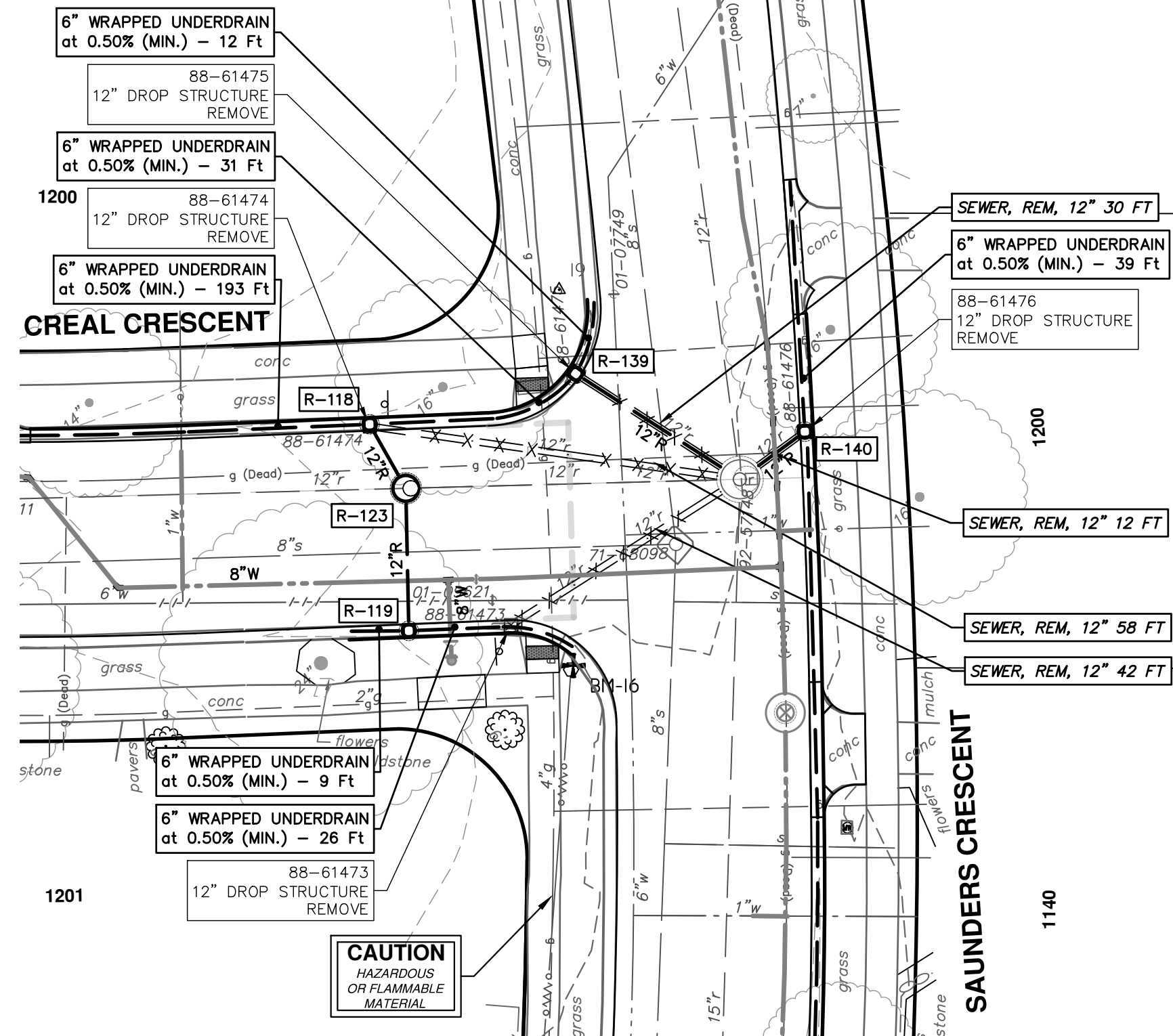
CRESCENTS WATER MAIN REPLACEMENT PROJECT

STORM SEWER
R133 R134-R135 R134-R137 R138

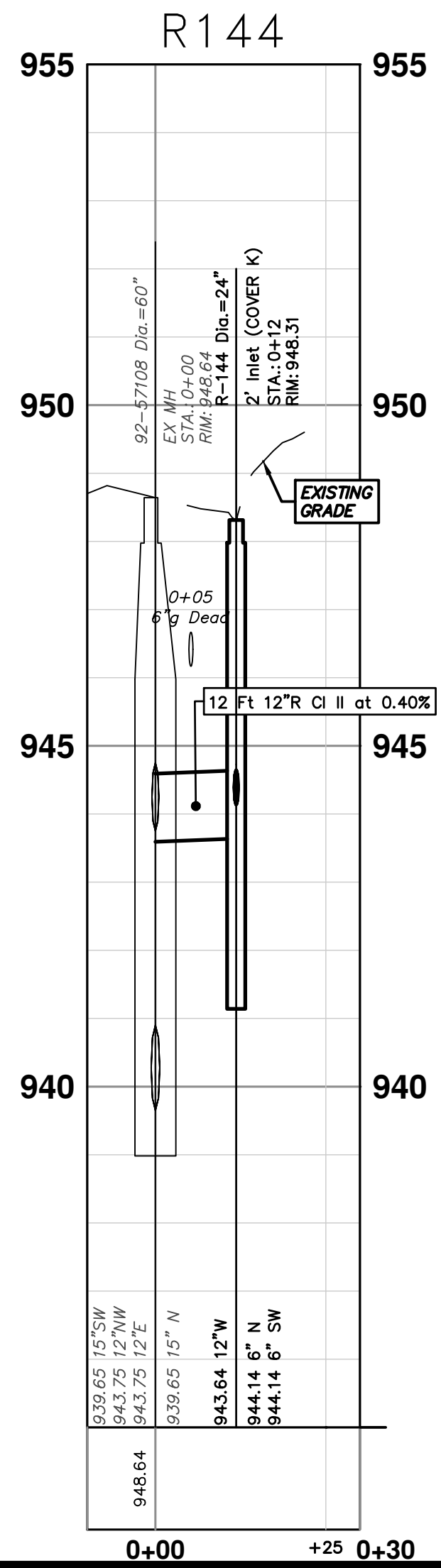
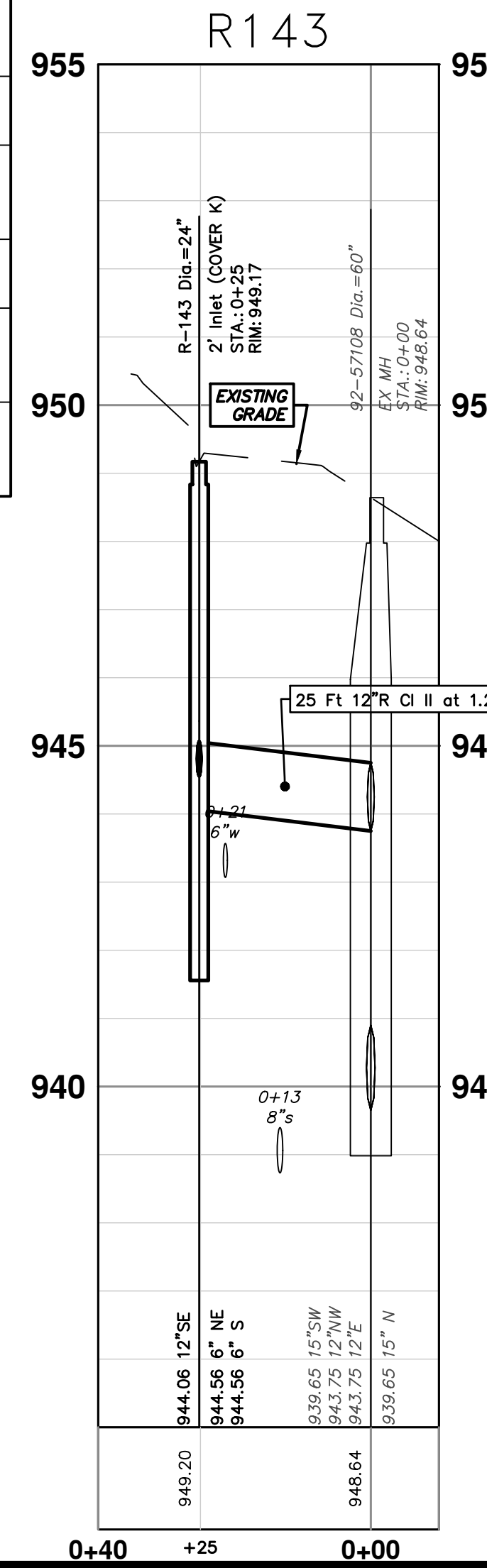
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STORM SEWER STRUCTURE TABLE						
STRUCTURE	UTILITY STATION	TYPE	RIM	INVERTS	DEPTH (Feet)	SUMP
R-139	0+30	2' Inlet (COVER K)	964.87	6" SW 960.60 6" NE 960.60 12" SE 960.10	6.77	2'
R-140	0+12	2' Inlet (COVER K)	964.50	6" N 960.24 12" SW 959.74	6.76	2'
R-141	0+22	2' Inlet (COVER K)	962.84	6" S 958.64 6" N 958.64 12" E 958.14	6.70	2'
R-142	0+12	2' Inlet (COVER K)	962.87	6" N 958.62 12" SW 958.12	6.75	2'
R-143	0+25	2' Inlet (COVER K)	949.17	6" NE 944.56 6" S 944.56 12" SE 944.06	7.11	2'
R-144	0+12	2' Inlet (COVER K)	948.31	6" N 944.14 6" SW 944.14 12" W 943.64	6.67	2'



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

DRAWING NO. 2022012-62

SHEET NO. 62 OF 77

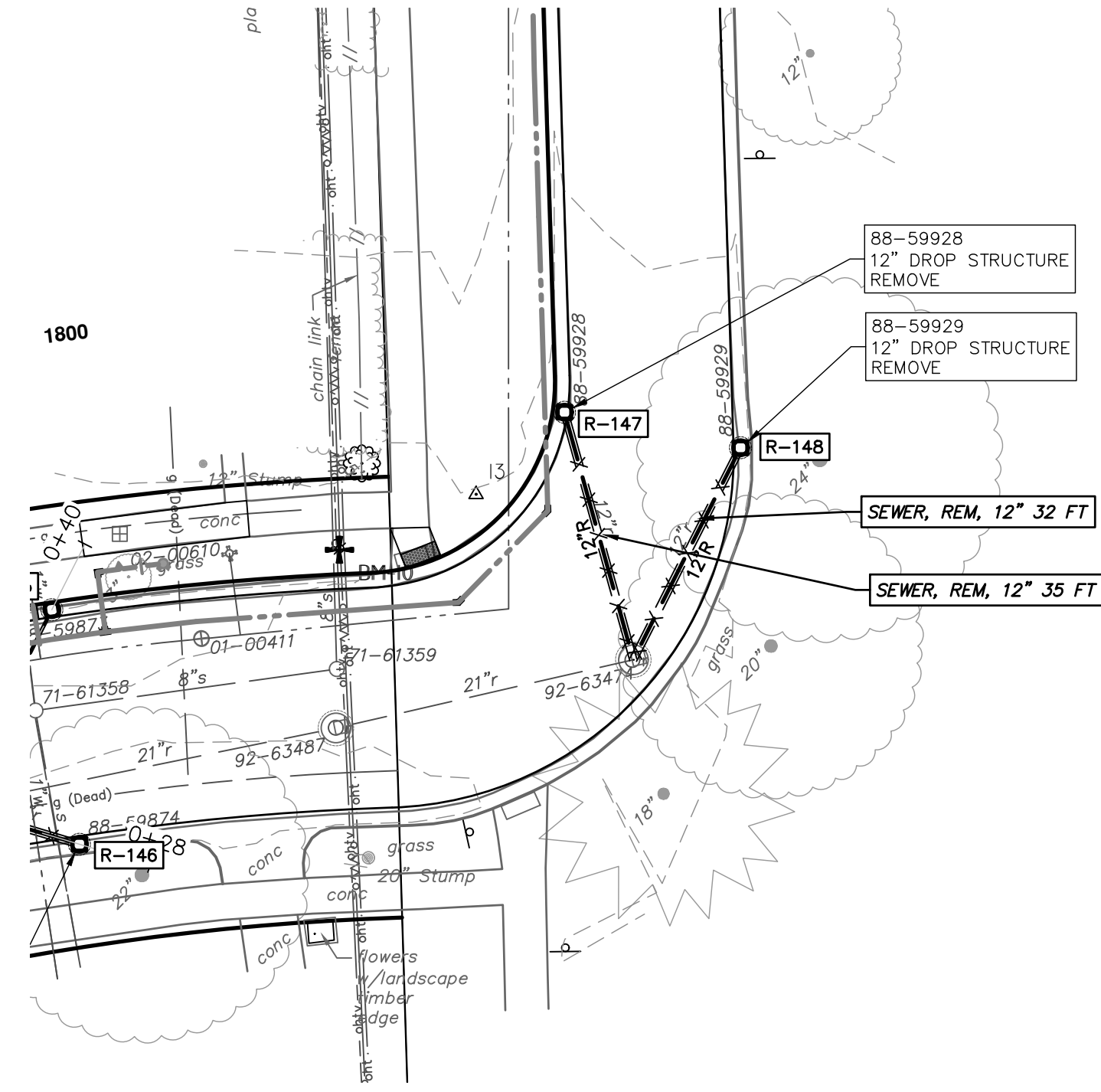
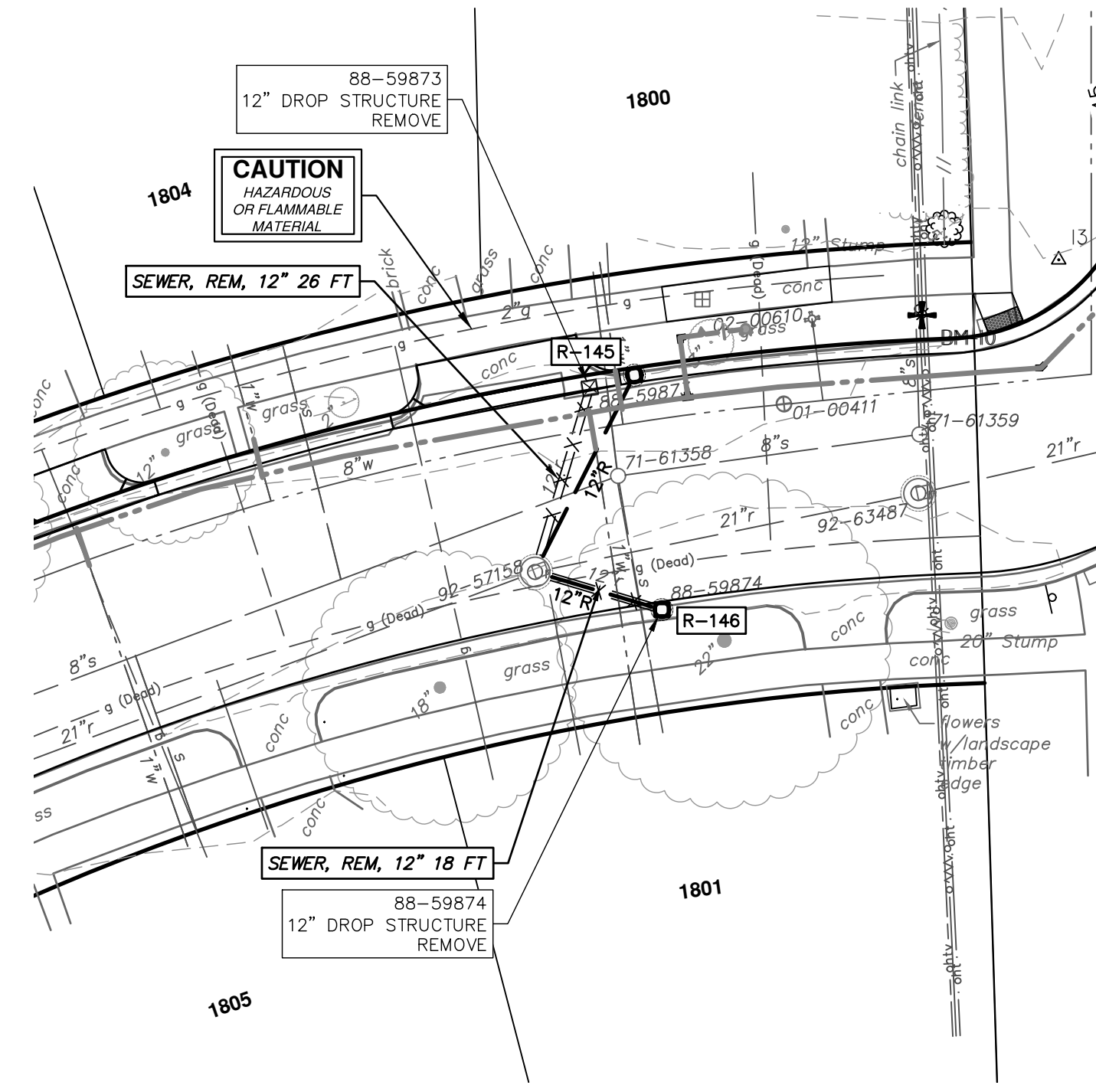
CRESCENTS WATER MAIN REPLACEMENT PROJECT

STORM SEWER
R139 R140 R141 R142 R143 R144

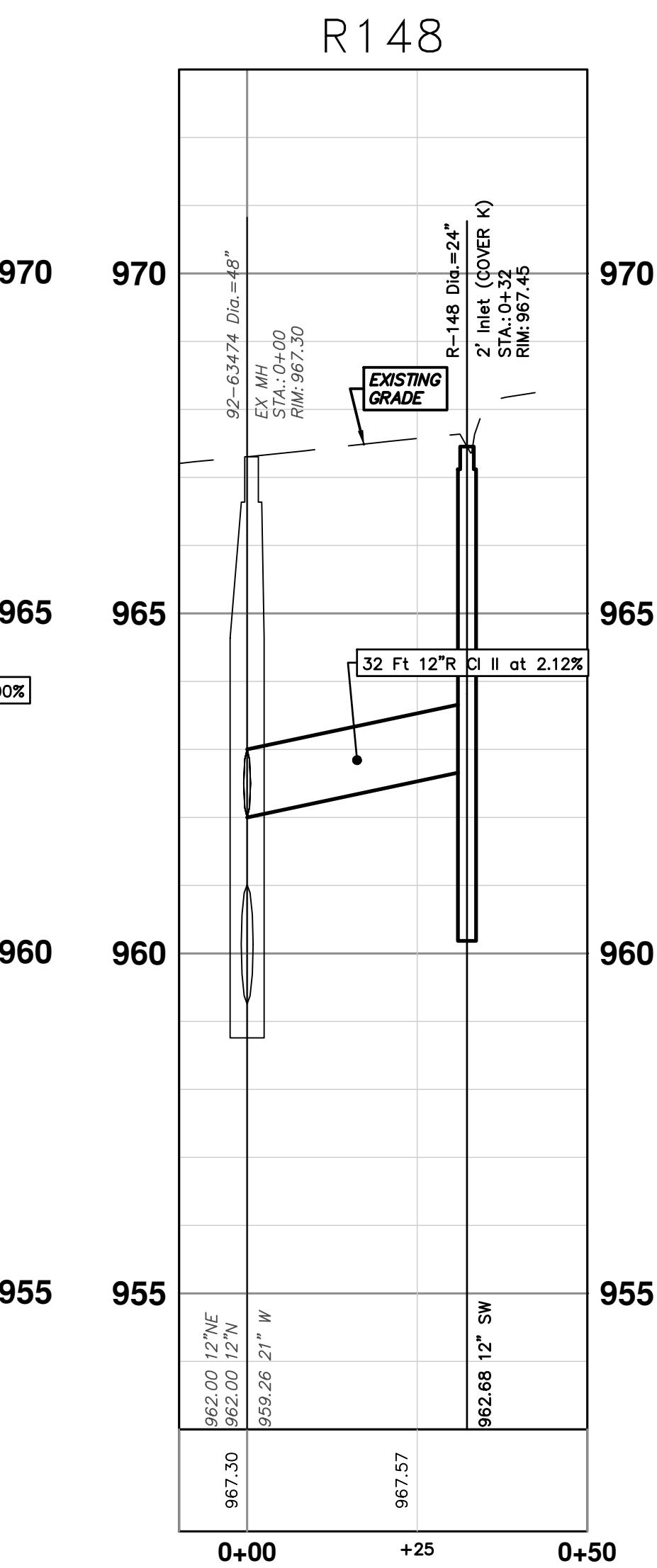
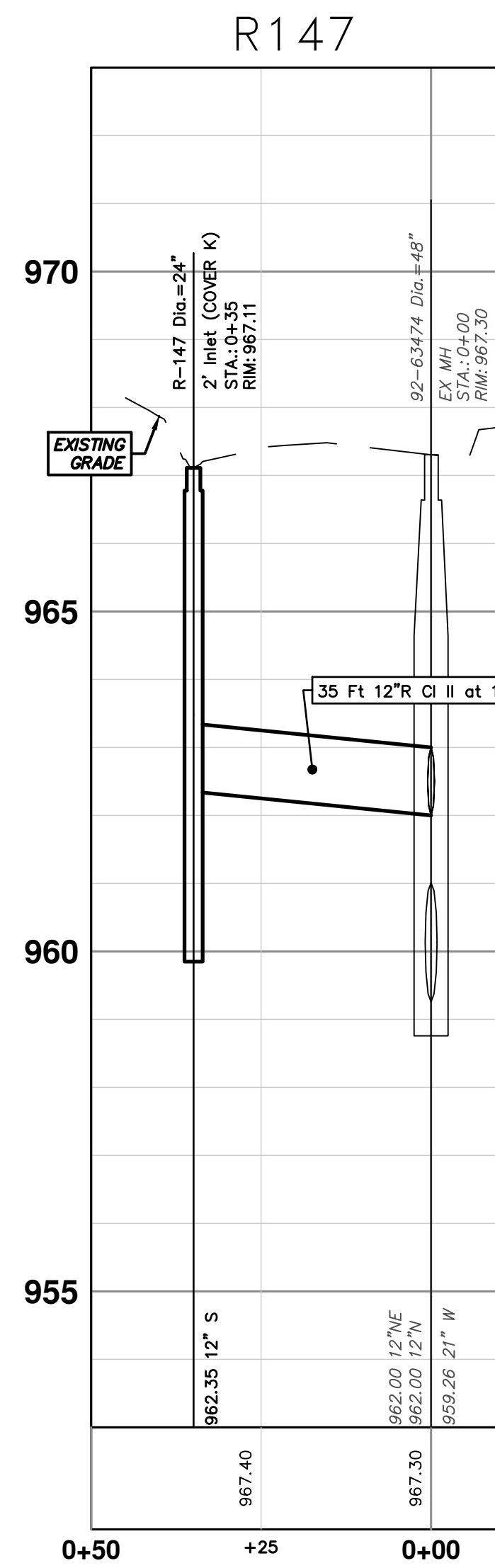
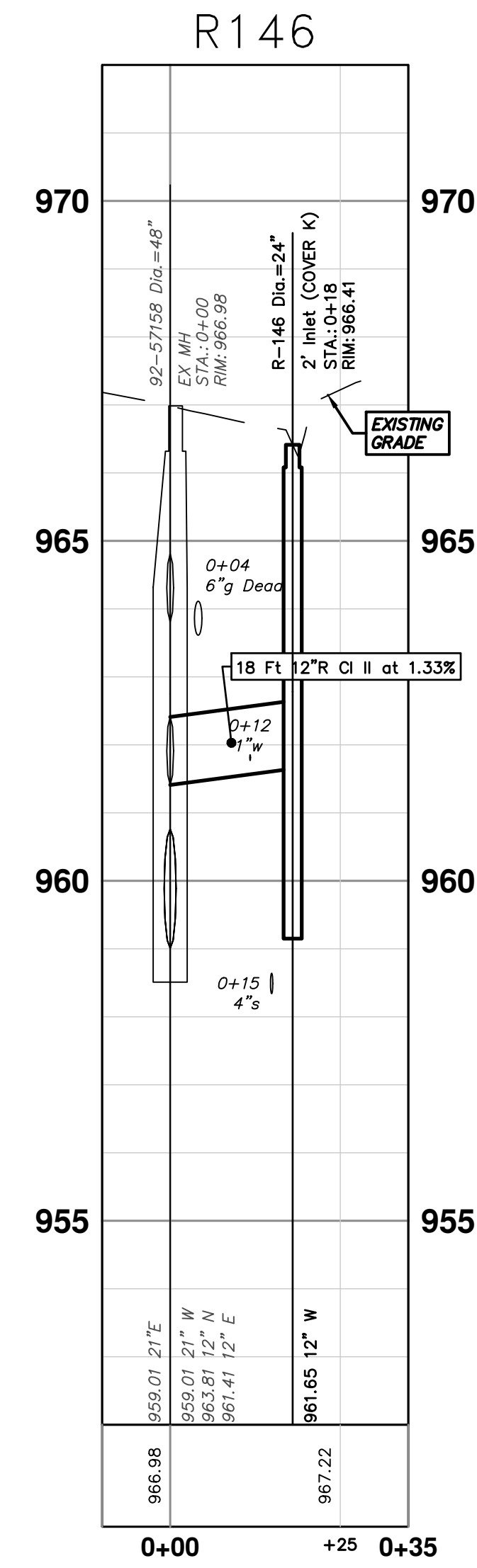
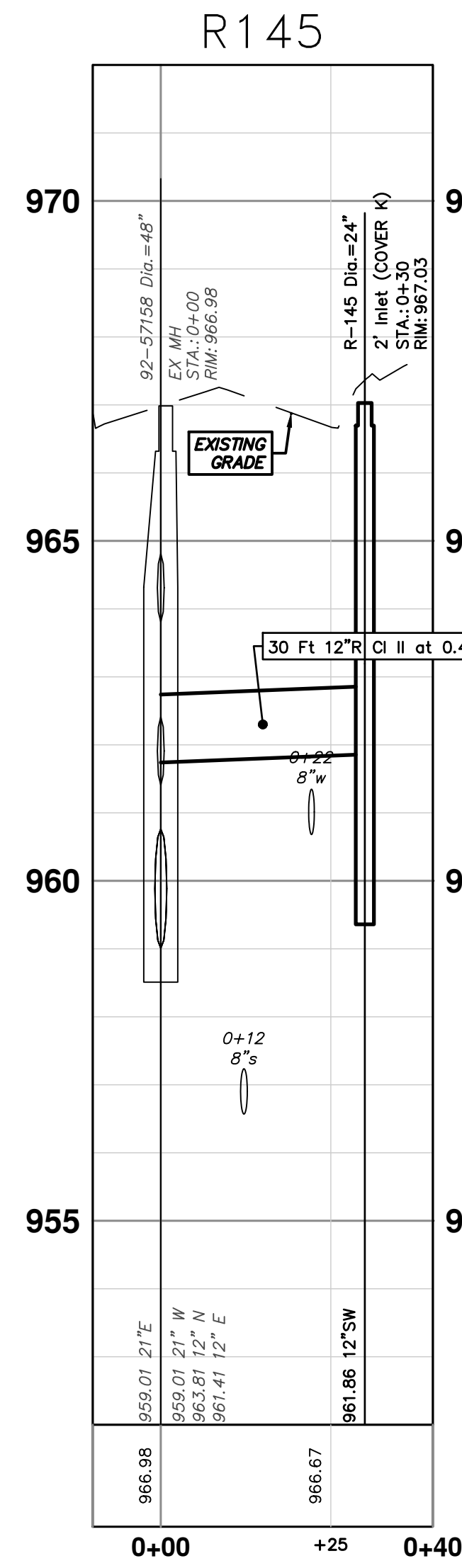
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STORM SEWER STRUCTURE TABLE						
STRUCTURE	UTILITY STATION	TYPE	RIM	INVERTS	DEPTH (Feet)	SUMP
R-145	0+30	2' Inlet (COVER K)	967.03	12" SW 961.86	7.17	2'
R-146	0+18	2' Inlet (COVER K)	966.41	12" W 961.65	6.76	2'
R-147	0+35	2' Inlet (COVER K)	967.11	12" S 962.35	6.76	2'
R-148	0+32	2' Inlet (COVER K)	967.45	12" SW 962.68	6.77	2'



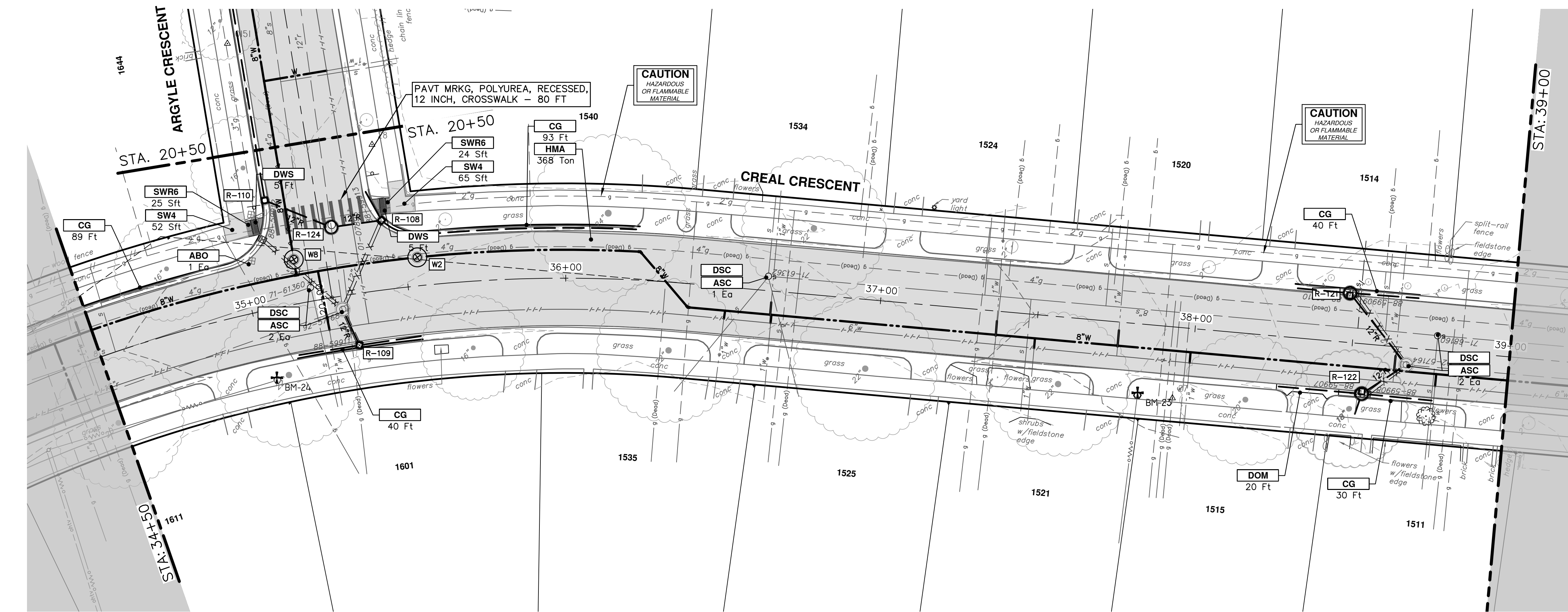
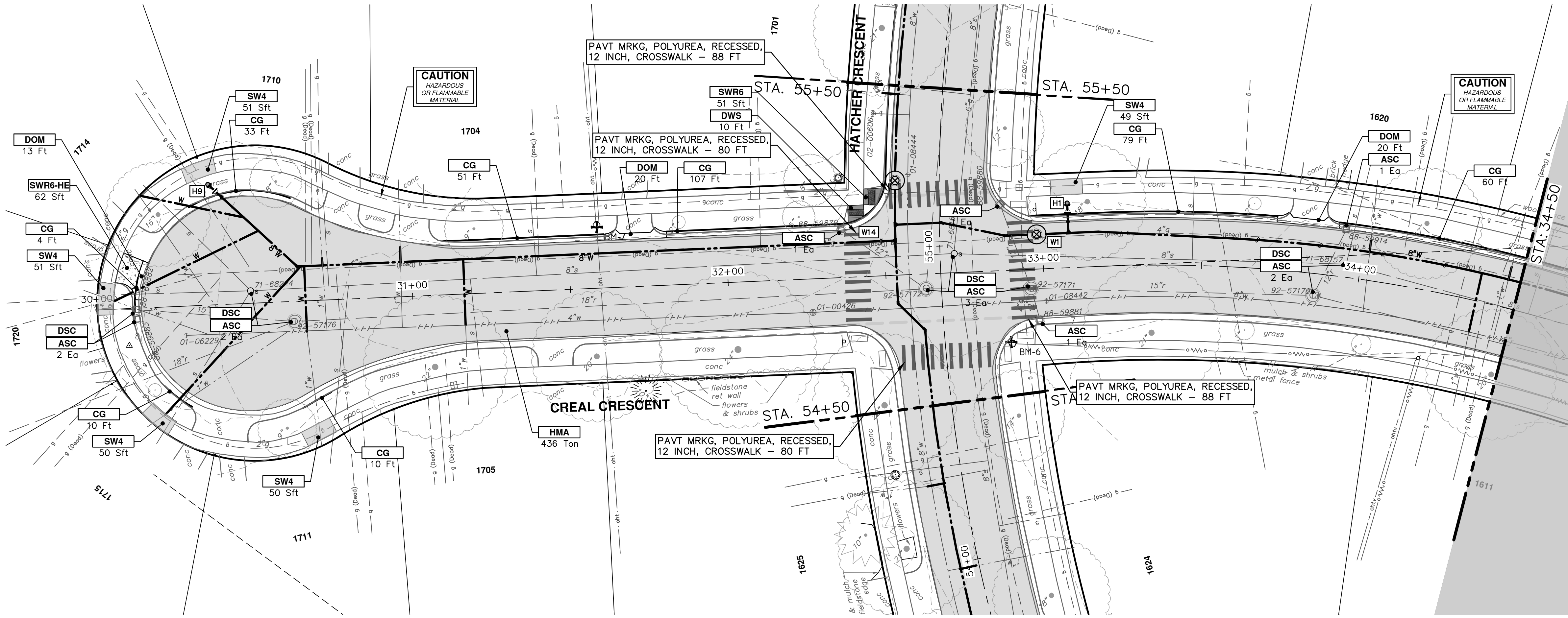
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CRESCENTS WATER MAIN REPLACEMENT PROJECT
STORM SEWER
R145 R146 R147 R148

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CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CONCRETE CURB OR CURB & GUTTER, ANY TYPE
SW4	4" CONCRETE SIDEWALK
SW6	6" CONCRETE SIDEWALK
SW6-HE	6" CONCRETE SIDEWALK - HIGH EARLY
SWR6	6" CONCRETE RAMP
SWR6-HE	6" CONCRETE RAMP, DRIVE APPROACH- HIGH EARLY
SW-RW1	INTEGRAL SIDEWALK RETAINING WALL, 6" TO 18"
DOM	CONCRETE TYPE M DRIVE OPENING- HIGH EARLY
DOL	CONCRETE TYPE L DRIVE OPENING- HIGH EARLY
DWS	DETECTABLE WARNING, CAST IN PLACE
ASC	ADJUST STRUCTURE COVER
ABM	ADJUST MONUMENT BOX OR GATE VALVE BOX
ABO	ADJUST BY OTHERS
DSC	STRUCTURE COVER



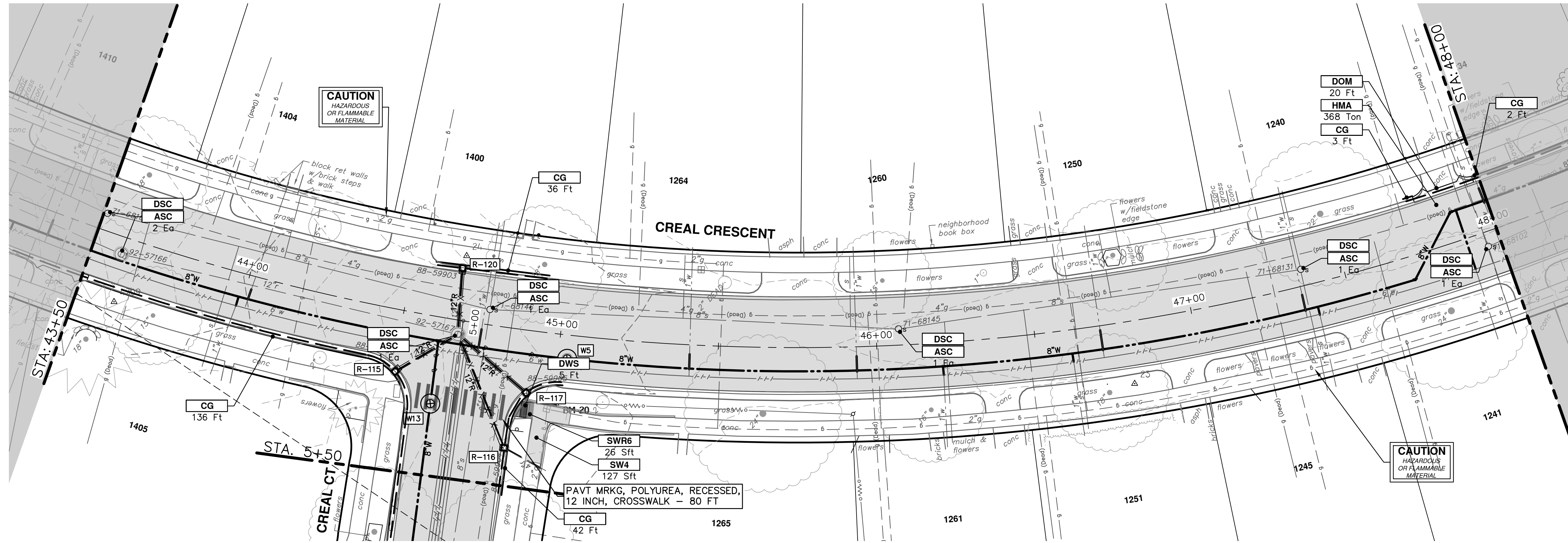
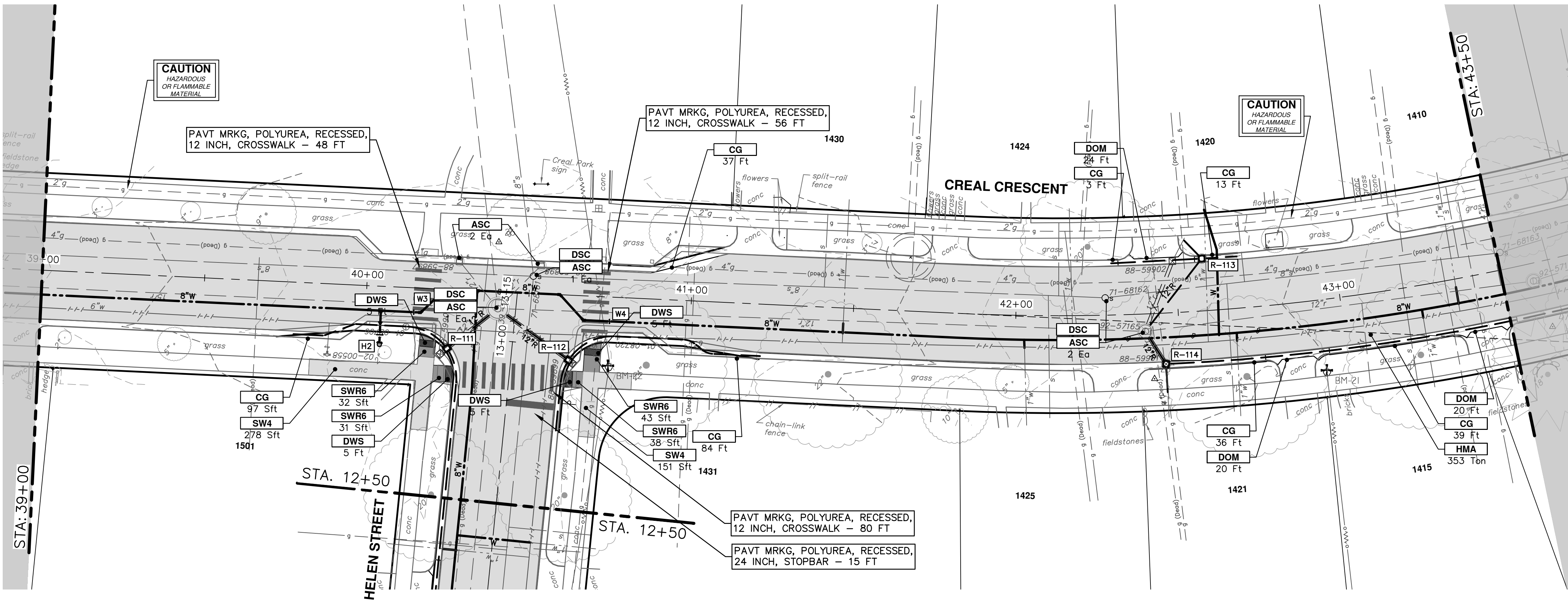
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CRESCENTS WATER MAIN REPLACEMENT PROJECT
CREAL CRESCENT ROAD PLANS
STA. 30+00 - STA. 39+00

SCALE: 1" = 20'
DRAWING NO. 2022012-64
SHEET NO. 64 OF 77



CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CONCRETE CURB OR CURB & GUTTER, ANY TYPE
SW4	4" CONCRETE SIDEWALK
SW6	6" CONCRETE SIDEWALK
SW6-HE	6" CONCRETE SIDEWALK - HIGH EARLY
SWR6	6" CONCRETE RAMP
SWR6-HE	6" CONCRETE RAMP, DRIVE APPROACH - HIGH EARLY
SW-RW1	INTEGRAL SIDEWALK RETAINING WALL, 6" TO 18"
DOM	CONCRETE TYPE M DRIVE OPENING- HIGH EARLY
DOL	CONCRETE TYPE L DRIVE OPENING- HIGH EARLY
DWS	DETECTABLE WARNING, CAST IN PLACE
ASC	ADJUST STRUCTURE COVER
ABM	ADJUST MONUMENT BOX OR GATE VALVE BOX
ABO	ADJUST BY OTHERS
DSC	STRUCTURE COVER



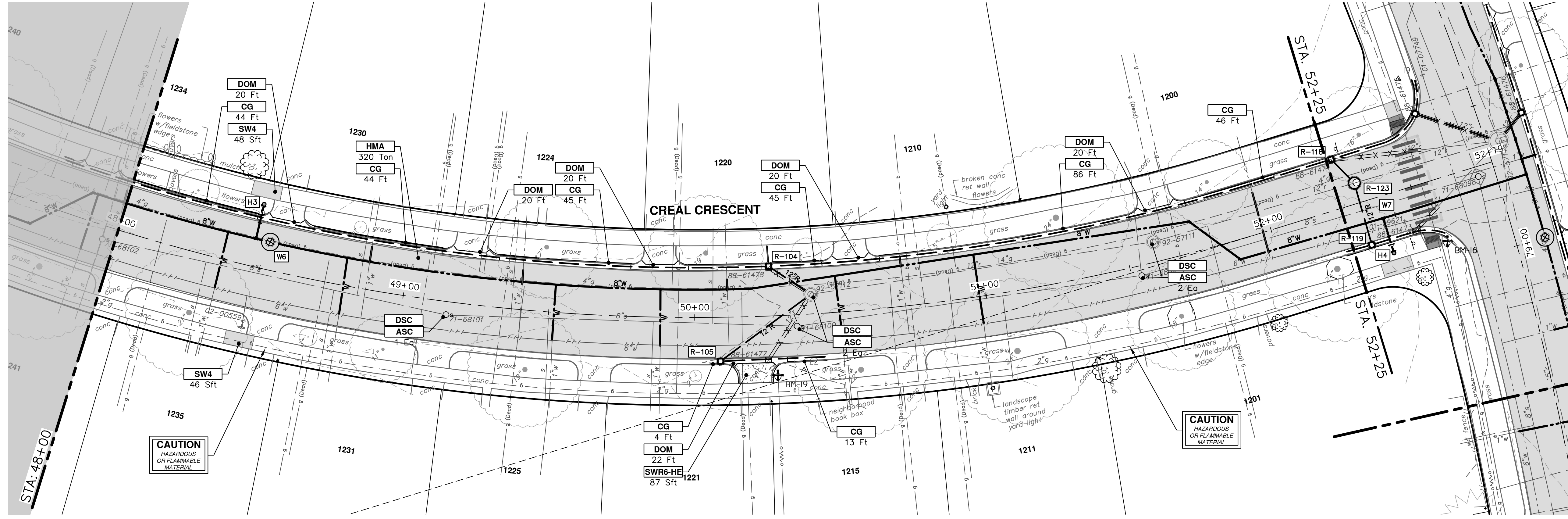
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CREAL CRESCENT ROAD PLANS
STA. 39+00 - STA. 48+00

SCALE: 1" = 20'
DRAWING No. 2022012-65
SHEET No. 65 OF 77



CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CONCRETE CURB OR CURB & GUTTER, ANY TYPE
SW4	4" CONCRETE SIDEWALK
SW6	6" CONCRETE SIDEWALK
SW6-HE	6" CONCRETE SIDEWALK - HIGH EARLY
SWR6	6" CONCRETE RAMP
SWR6-HE	6" CONCRETE RAMP, DRIVE APPROACH- HIGH EARLY
SW-RW1	INTEGRAL SIDEWALK RETAINING WALL, 6" TO 18"
DOM	CONCRETE TYPE M DRIVE OPENING- HIGH EARLY
DOL	CONCRETE TYPE L DRIVE OPENING- HIGH EARLY
DWS	DETECTABLE WARNING, CAST IN PLACE
ASC	ADJUST STRUCTURE COVER
ABM	ADJUST MONUMENT BOX OR GATE VALVE BOX
ABO	ADJUST BY OTHERS
DSC	STRUCTURE COVER



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CRESCENTS WATER MAIN REPLACEMENT PROJECT

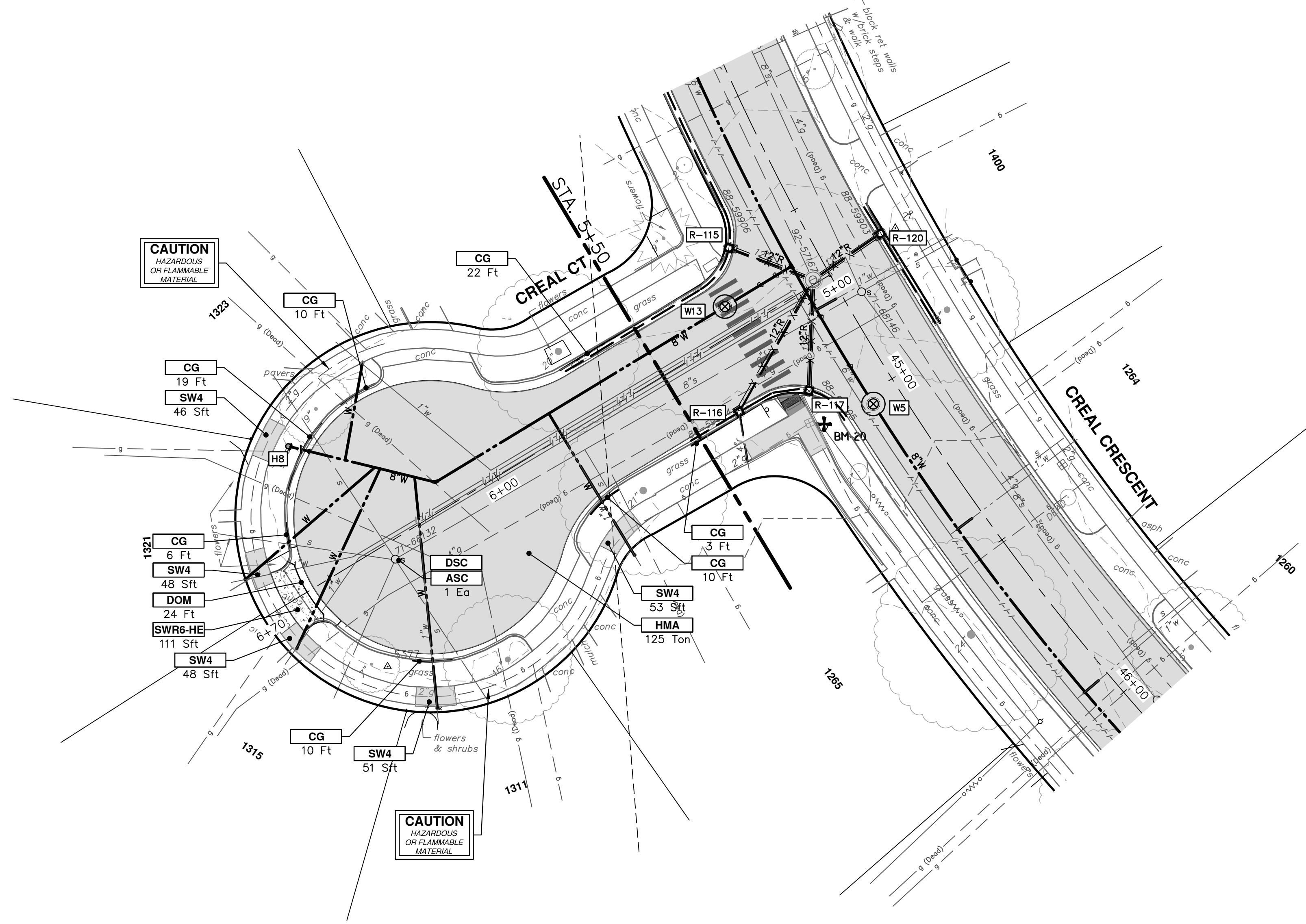
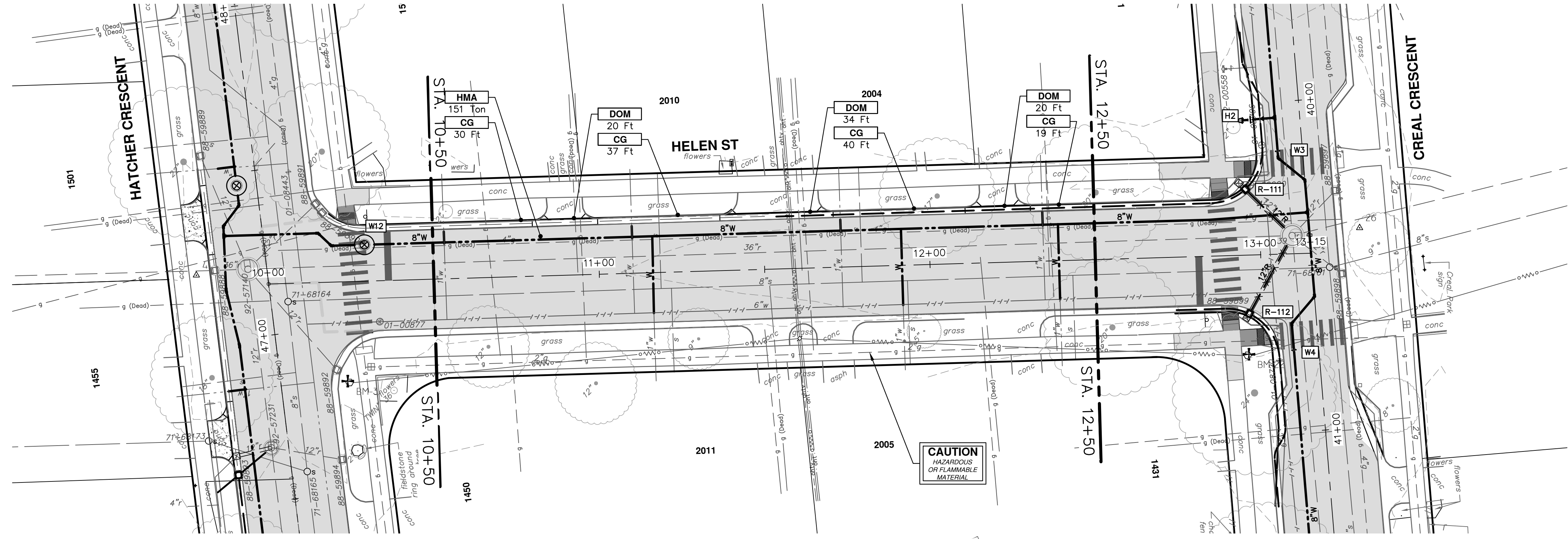
CREAL CRESCENT ROAD PLANS
STA. 48+00 - STA. 52+75

SCALE: 1" = 20'

DRAWING No.
2022012-66

SHEET No.

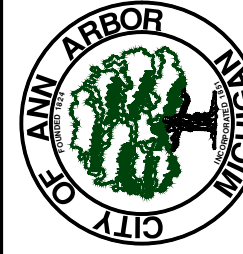
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CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CONCRETE CURB OR CURB & GUTTER, ANY TYPE
SW4	4" CONCRETE SIDEWALK
SW6	6" CONCRETE SIDEWALK
SW6-HE	6" CONCRETE SIDEWALK - HIGH EARLY
SWR6	6" CONCRETE RAMP
SWR6-HE	6" CONCRETE RAMP, DRIVE APPROACH - HIGH EARLY
SW-RW1	INTEGRAL SIDEWALK RETAINING WALL, 6" TO 18"
DOM	CONCRETE TYPE M DRIVE OPENING - HIGH EARLY
DOL	CONCRETE TYPE L DRIVE OPENING - HIGH EARLY
DWS	DETECTABLE WARNING, CAST IN PLACE
ASC	ADJUST STRUCTURE COVER
ABM	ADJUST MONUMENT BOX OR GATE VALVE BOX
ABO	ADJUST BY OTHERS
DSC	STRUCTURE COVER



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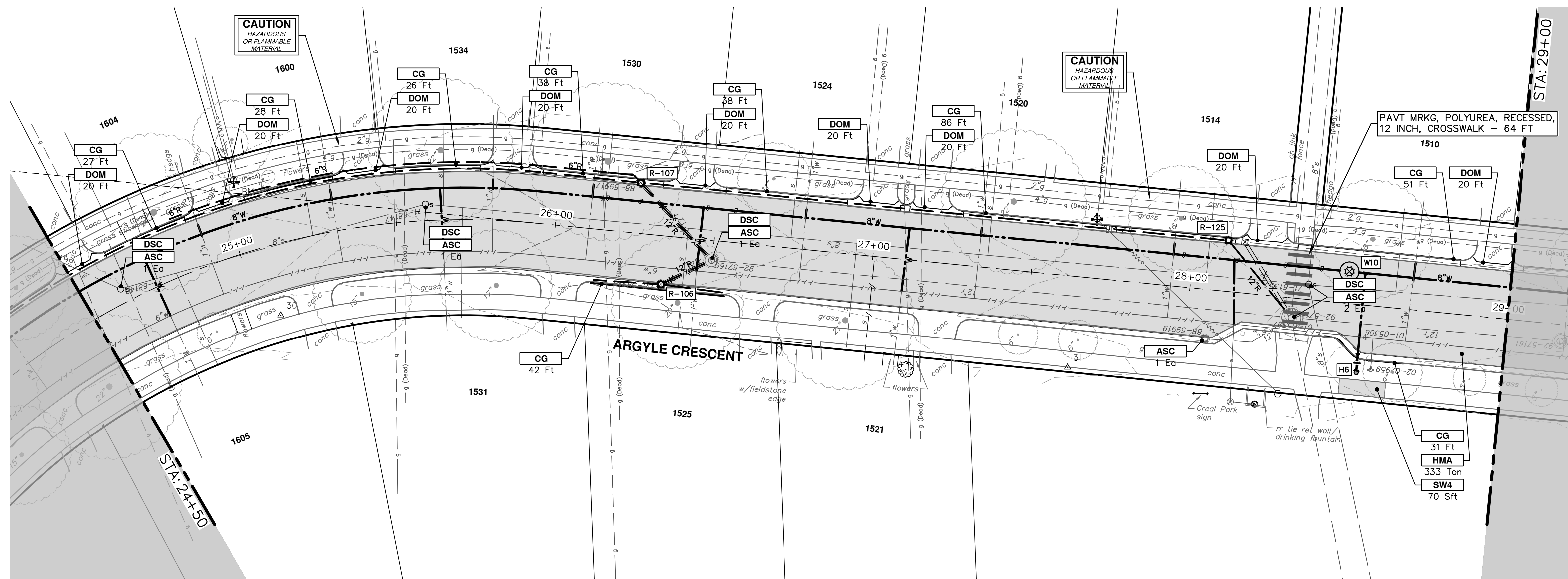
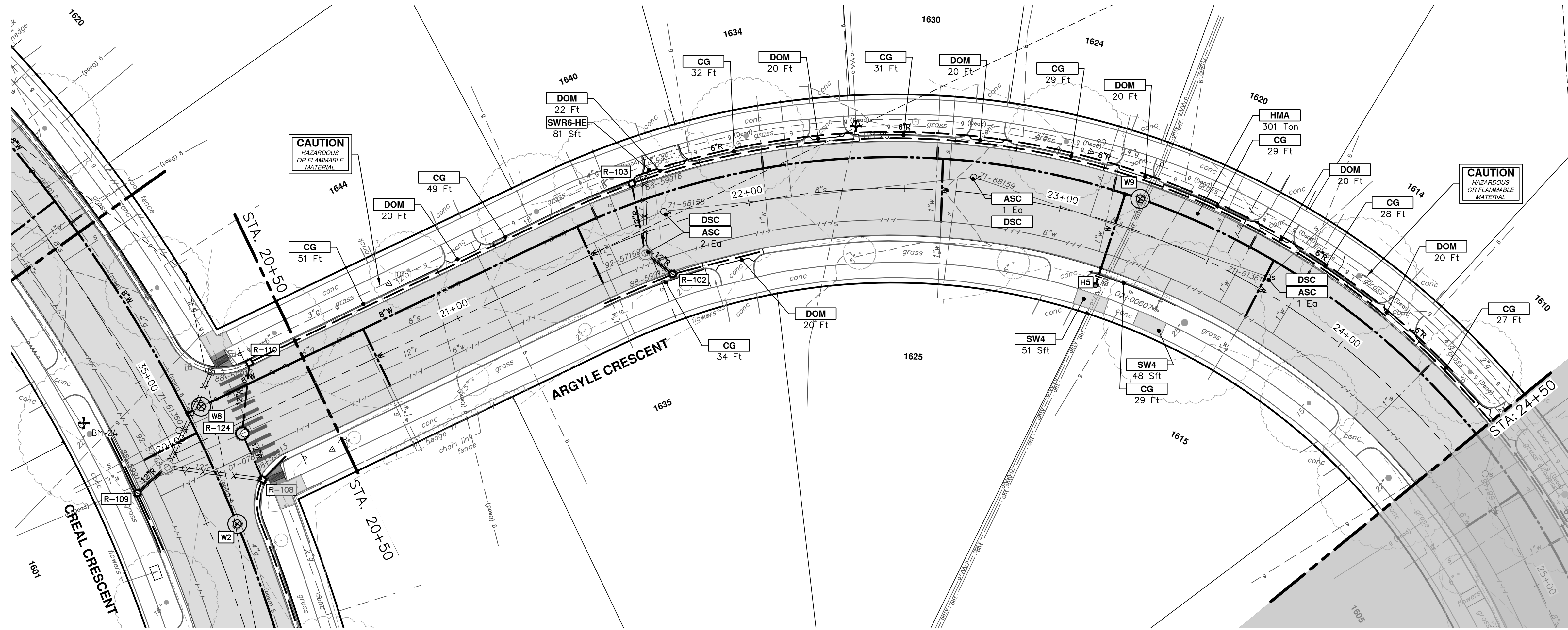


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CRESCENTS WATER MAIN REPLACEMENT PROJECT
HELEN STREET & CREAL COURT ROAD PLANS

SCALE: 1" = 20'
DRAWING No. 2022012-67

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CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CONCRETE CURB OR CURB & GUTTER, ANY TYPE
SW4	4" CONCRETE SIDEWALK
SW6	6" CONCRETE SIDEWALK
SW6-HE	6" CONCRETE SIDEWALK - HIGH EARLY
SWR6	6" CONCRETE RAMP
SWR6-HE	6" CONCRETE RAMP, DRIVE APPROACH- HIGH EARLY
SW-RW1	INTEGRAL SIDEWALK RETAINING WALL, 6" TO 18"
DOM	CONCRETE TYPE M DRIVE OPENING- HIGH EARLY
DOL	CONCRETE TYPE L DRIVE OPENING- HIGH EARLY
DWS	DETECTABLE WARNING, CAST IN PLACE
ASC	ADJUST STRUCTURE COVER
ABM	ADJUST MONUMENT BOX OR GATE VALVE BOX
ABO	ADJUST BY OTHERS
DSC	STRUCTURE COVER



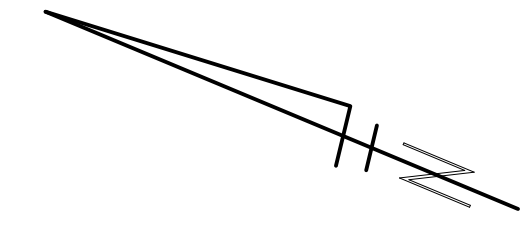
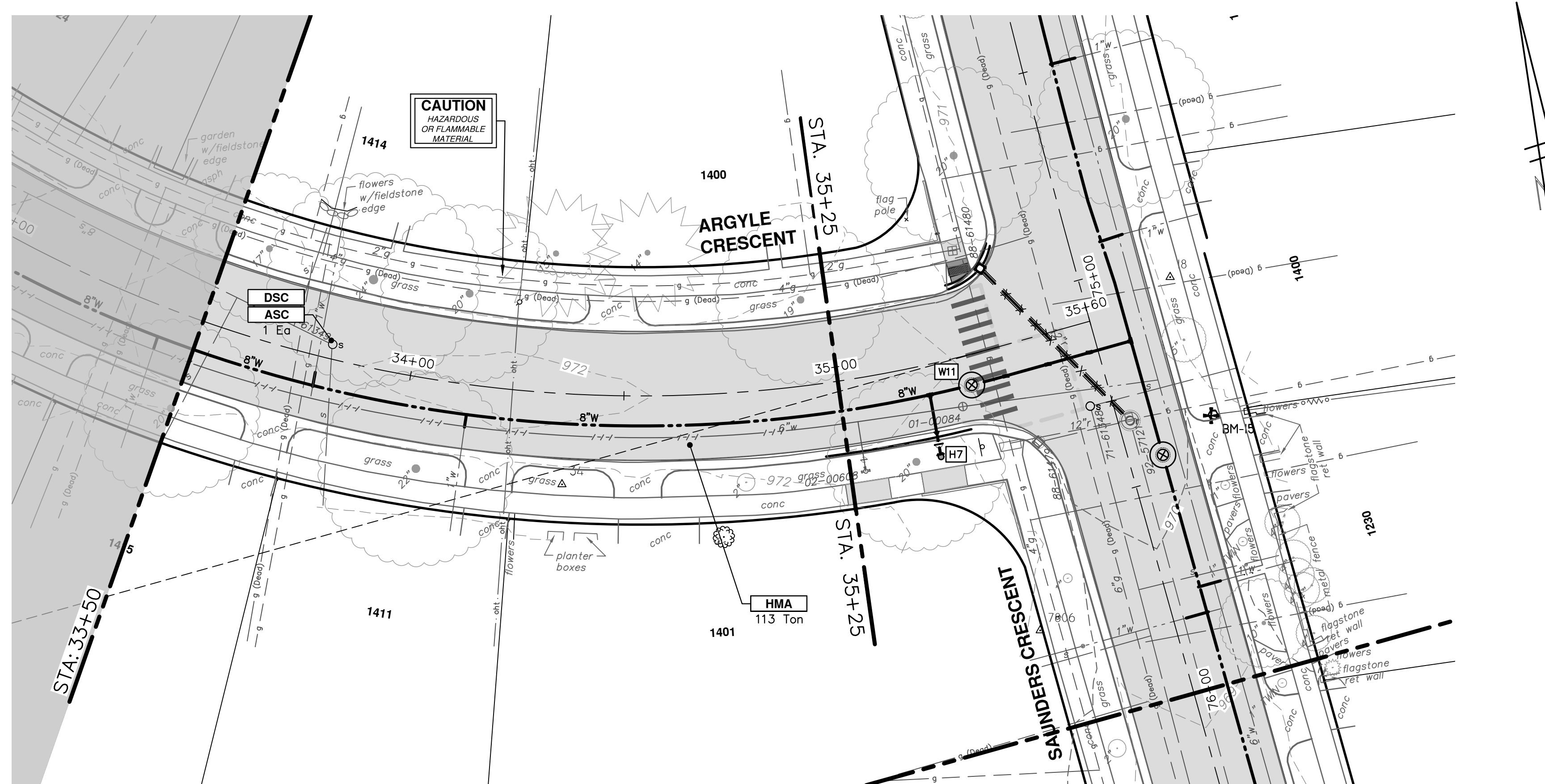
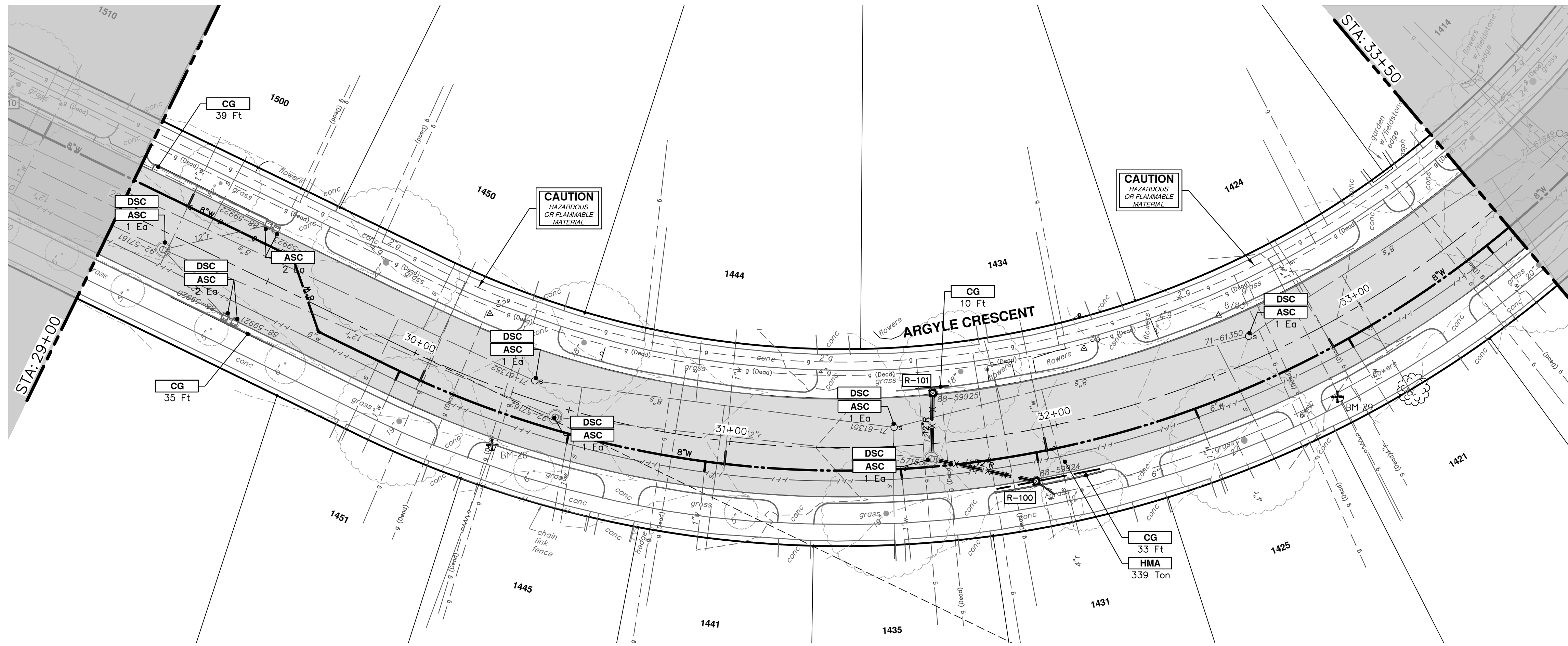
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CRESCENTS WATER MAIN REPLACEMENT PROJECT
ARGYLE CRESCENT ROAD PLANS
STA. 20+00 - STA. 29+00

SCALE: 1" = 20'
DRAWING No. 2022012-68
SHEET No. 68 OF 77



CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CONCRETE CURB OR CURB & GUTTER, ANY TYPE
SW4	4" CONCRETE SIDEWALK
SW6	6" CONCRETE SIDEWALK
SW6-HE	6" CONCRETE SIDEWALK - HIGH EARLY
SWR6	6" CONCRETE RAMP
SWR6-HE	6" CONCRETE RAMP, DRIVE APPROACH- HIGH EARLY
SW-RW1	INTEGRAL SIDEWALK RETAINING WALL, 6" TO 18"
DOM	CONCRETE TYPE M DRIVE OPENING- HIGH EARLY
DOL	CONCRETE TYPE L DRIVE OPENING- HIGH EARLY
DWS	DETECTABLE WARNING, CAST IN PLACE
ASC	ADJUST STRUCTURE COVER
ABM	ADJUST MONUMENT BOX OR GATE VALVE BOX
ABO	ADJUST BY OTHERS
DSC	STRUCTURE COVER

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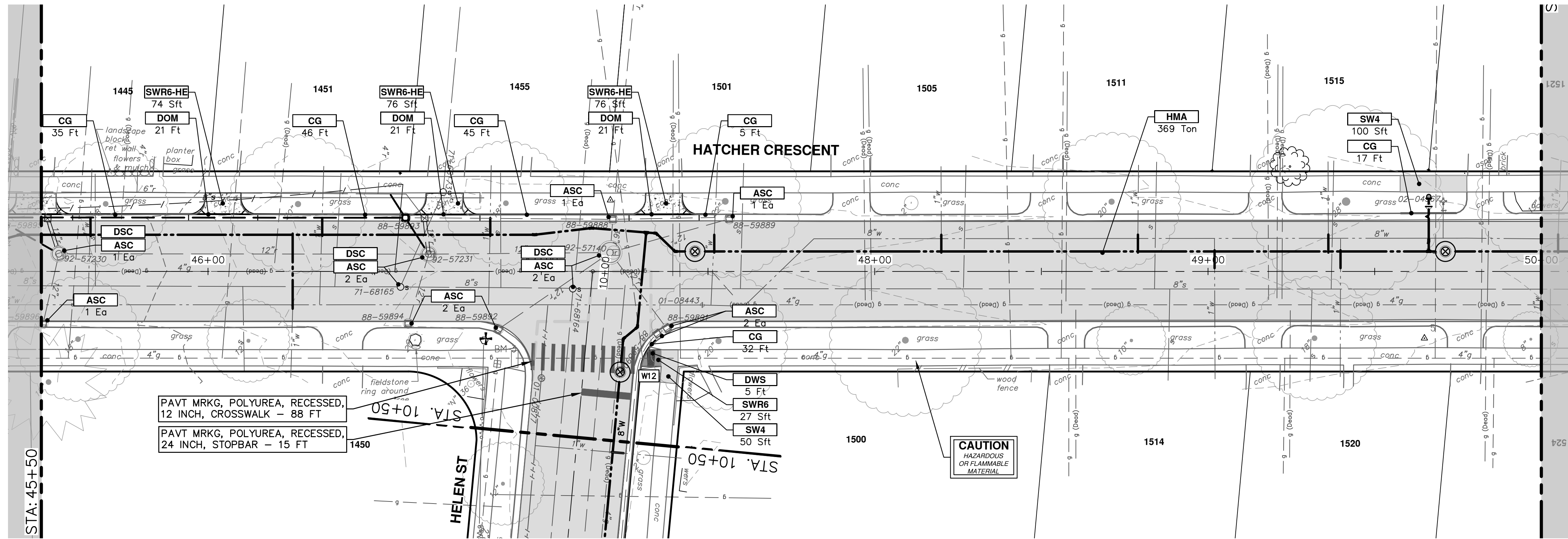
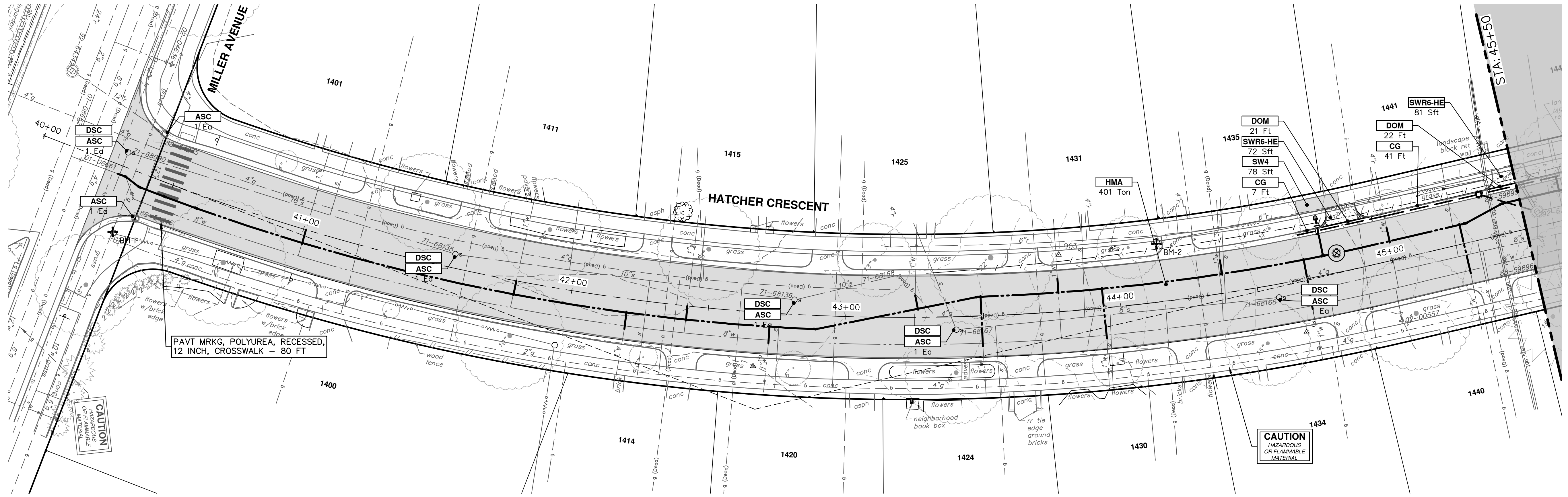
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ARGYLE CRESCENT ROAD PLANS
STA. 29+00 - STA. 35+60

SHEET No. 69 OF 77

DRAWING No. 2022012-69

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CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CONCRETE CURB OR CURB & GUTTER, ANY TYPE
SW4	4" CONCRETE SIDEWALK
SW6	6" CONCRETE SIDEWALK
SW6-HE	6" CONCRETE SIDEWALK - HIGH EARLY
SWR6	6" CONCRETE RAMP
SWR6-HE	6" CONCRETE RAMP, DRIVE APPROACH- HIGH EARLY
SW-RW1	INTEGRAL SIDEWALK RETAINING WALL, 6" TO 18"
DOM	CONCRETE TYPE M DRIVE OPENING- HIGH EARLY
DOL	CONCRETE TYPE L DRIVE OPENING- HIGH EARLY
DWS	DETECTABLE WARNING, CAST IN PLACE
ASC	ADJUST STRUCTURE COVER
ABM	ADJUST MONUMENT BOX OR GATE VALVE BOX
ABO	ADJUST BY OTHERS
DSC	STRUCTURE COVER

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CRESCENTS WATER MAIN REPLACEMENT PROJECT

HATCHER CRESCENT ROAD PLANS

STA. 40+00 - STA. 50+00

SCALE: 1" = 20'

DRAWING No. 2022012-70

SHEET No. 70 OF 77

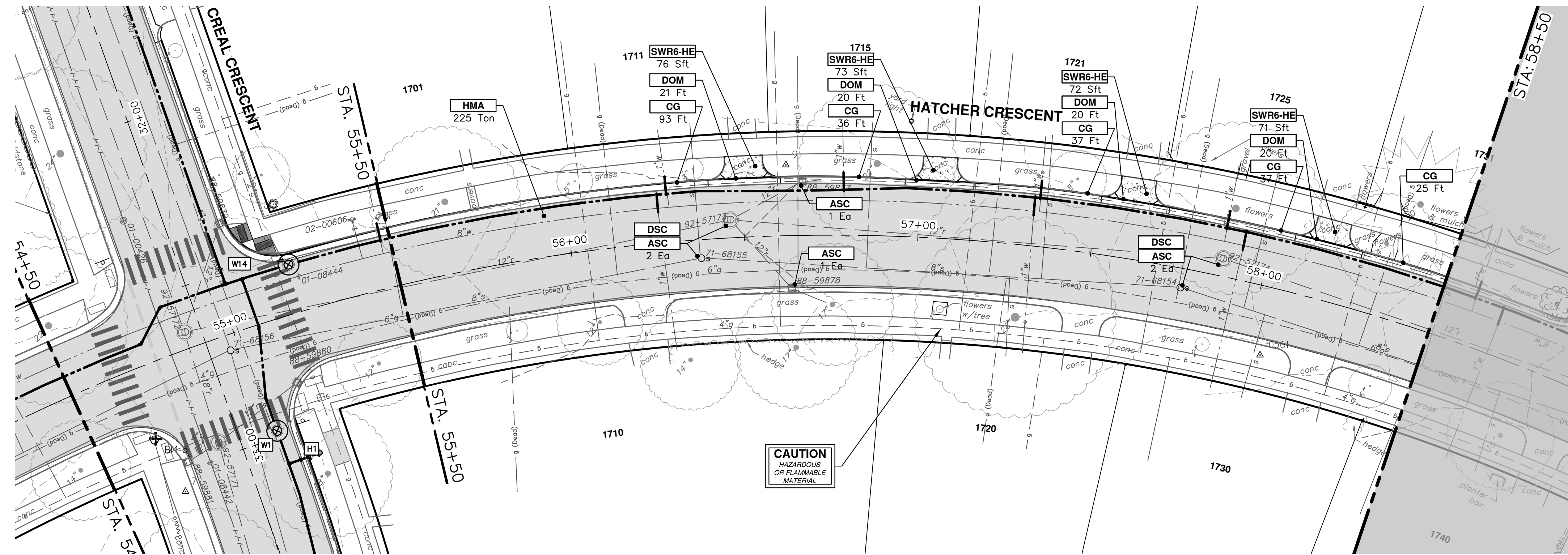
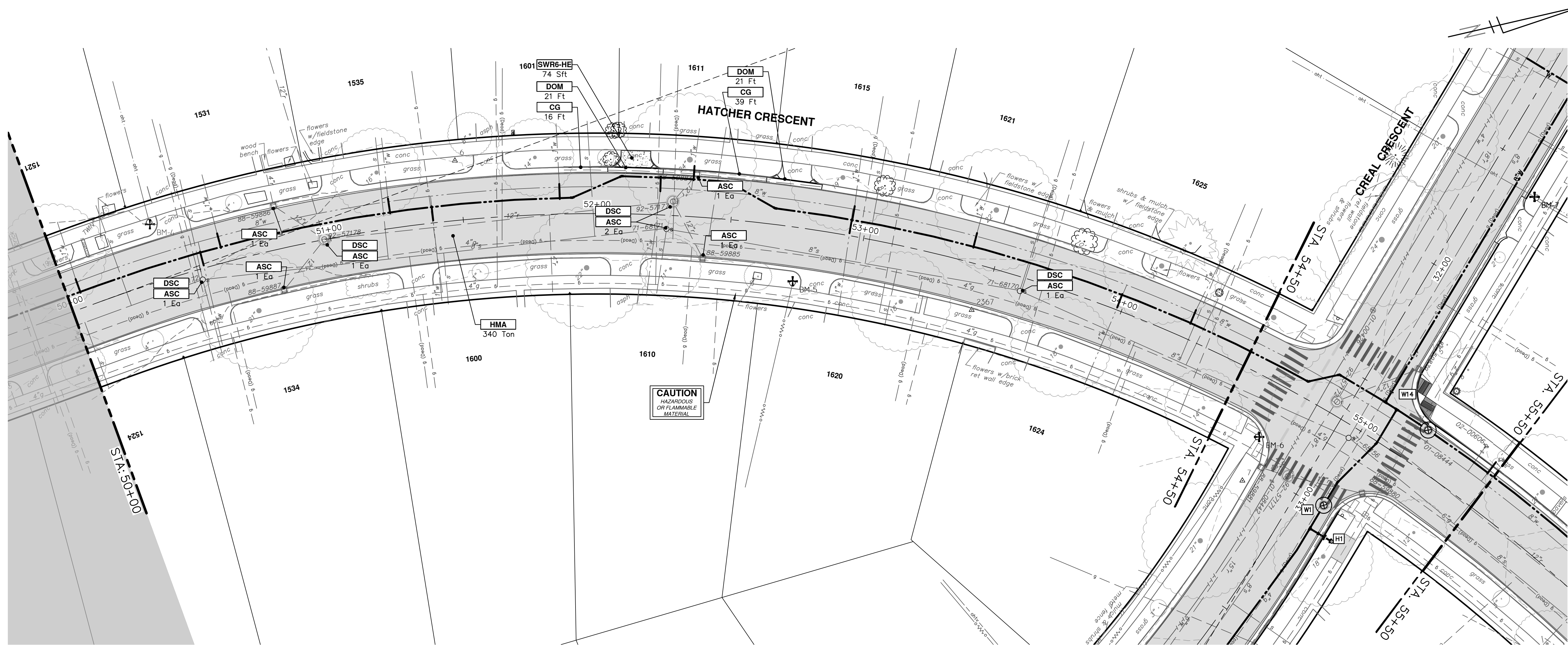
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CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CONCRETE CURB OR CURB & GUTTER, ANY TYPE
SW4	4" CONCRETE SIDEWALK
SW6	6" CONCRETE SIDEWALK
SW6-HE	6" CONCRETE SIDEWALK - HIGH EARLY
SWR6	6" CONCRETE RAMP
SWR6-HE	6" CONCRETE RAMP, DRIVE APPROACH- HIGH EARLY
SW-RW1	INTEGRAL SIDEWALK RETAINING WALL, 6" TO 18"
DOM	CONCRETE TYPE M DRIVE OPENING- HIGH EARLY
DOL	CONCRETE TYPE L DRIVE OPENING- HIGH EARLY
DWS	DETECTABLE WARNING, CAST IN PLACE
ASC	ADJUST STRUCTURE COVER
ABM	ADJUST MONUMENT BOX OR GATE VALVE BOX
ABO	ADJUST BY OTHERS
DSC	STRUCTURE COVER



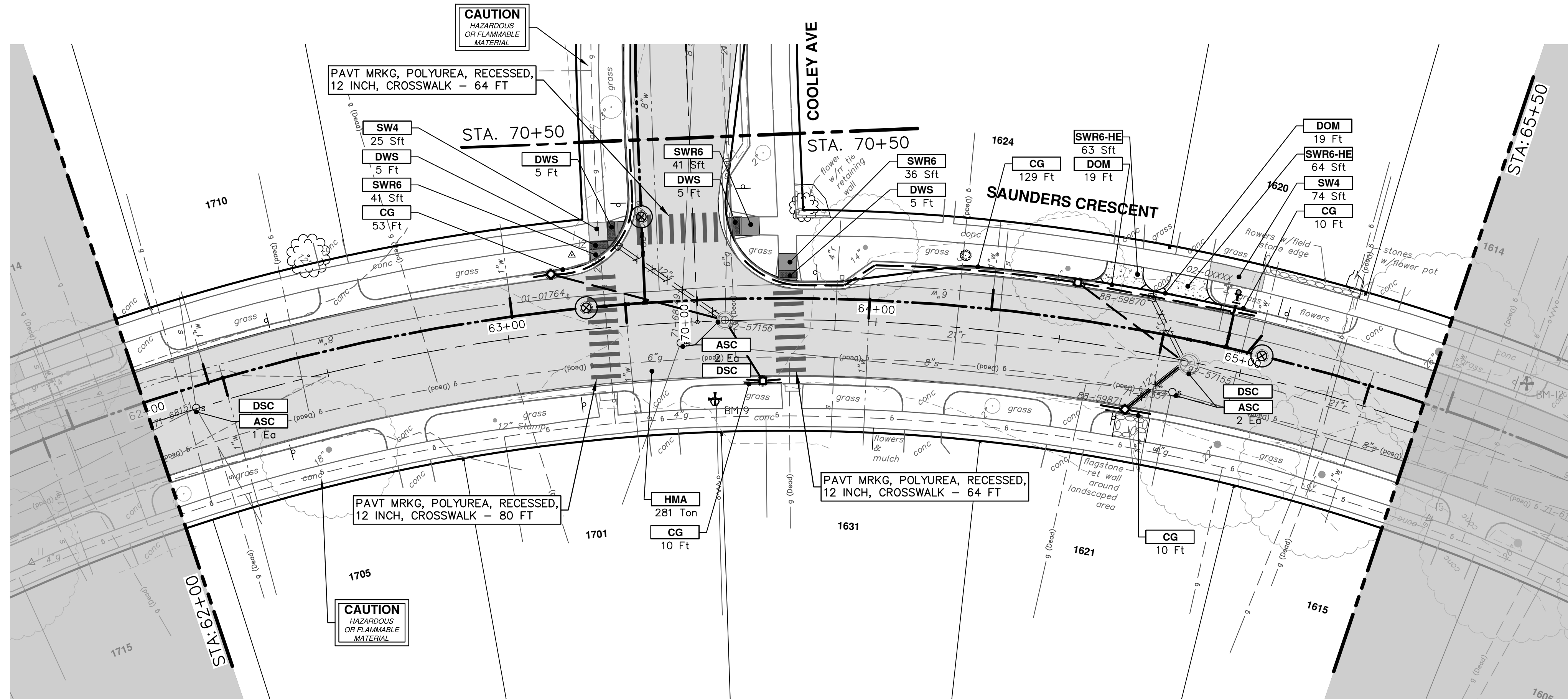
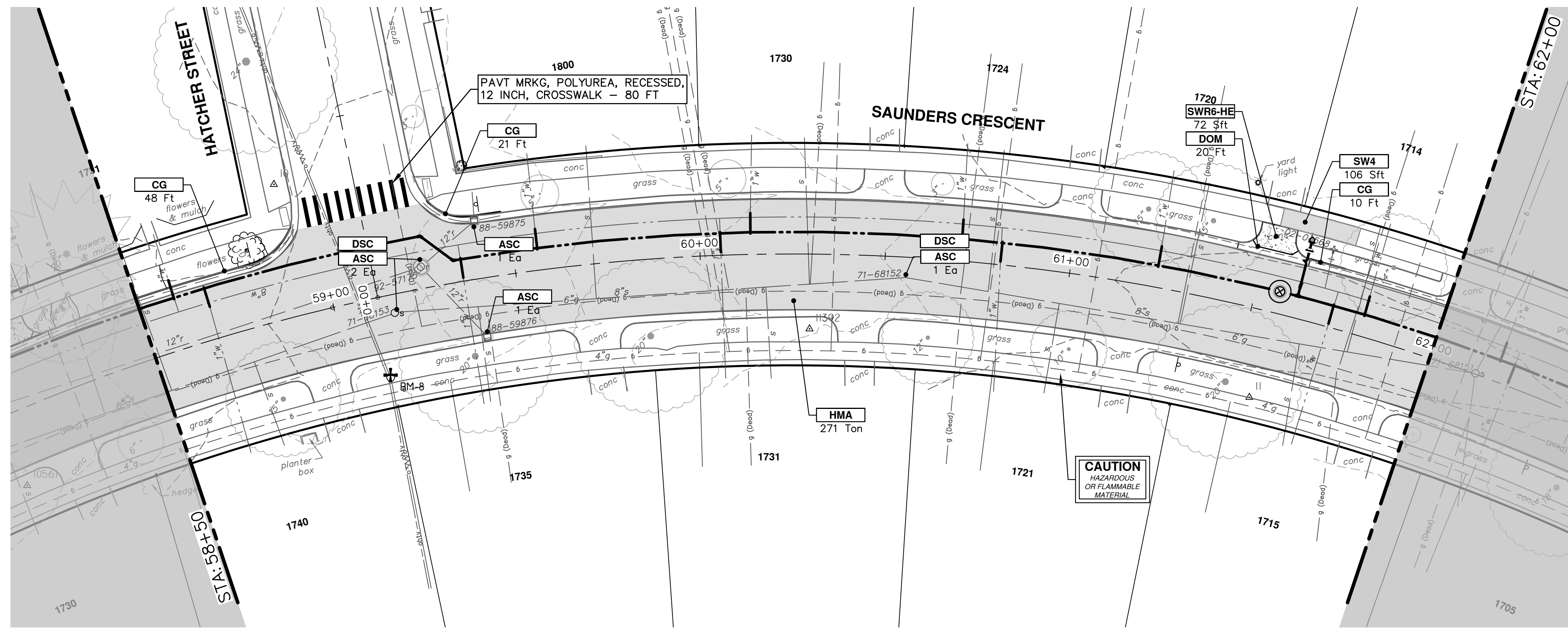
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CRESCENTS WATER MAIN REPLACEMENT PROJECT
HATCHER CRESCENT ROAD PLANS
STA. 50+00 - STA. 58+50
SCALE: 1" = 20'
DRAWING No. 2022012-71

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CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CONCRETE CURB OR CURB & GUTTER, ANY TYPE
SW4	4" CONCRETE SIDEWALK
SW6	6" CONCRETE SIDEWALK
SW6-HE	6" CONCRETE SIDEWALK - HIGH EARLY
SWR6	6" CONCRETE RAMP
SWR6-HE	6" CONCRETE RAMP, DRIVE APPROACH- HIGH EARLY
SW-RW1	INTEGRAL SIDEWALK RETAINING WALL, 6" TO 18"
DOM	CONCRETE TYPE M DRIVE OPENING- HIGH EARLY
DOL	CONCRETE TYPE L DRIVE OPENING- HIGH EARLY
DWS	DETECTABLE WARNING, CAST IN PLACE
ASC	ADJUST STRUCTURE COVER
ABM	ADJUST MONUMENT BOX OR GATE VALVE BOX
ABO	ADJUST BY OTHERS
DSC	STRUCTURE COVER



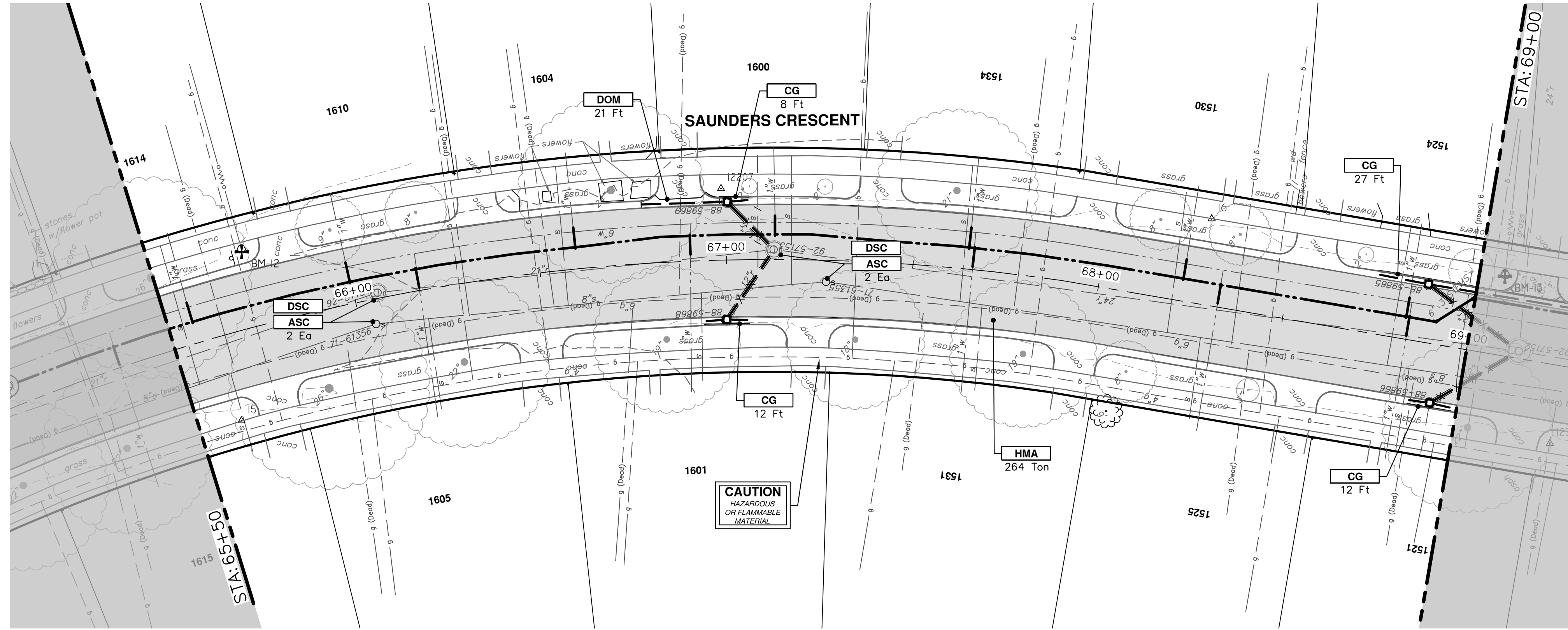
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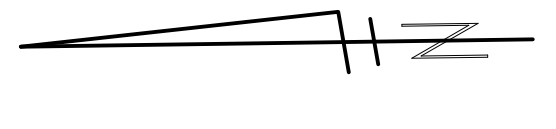
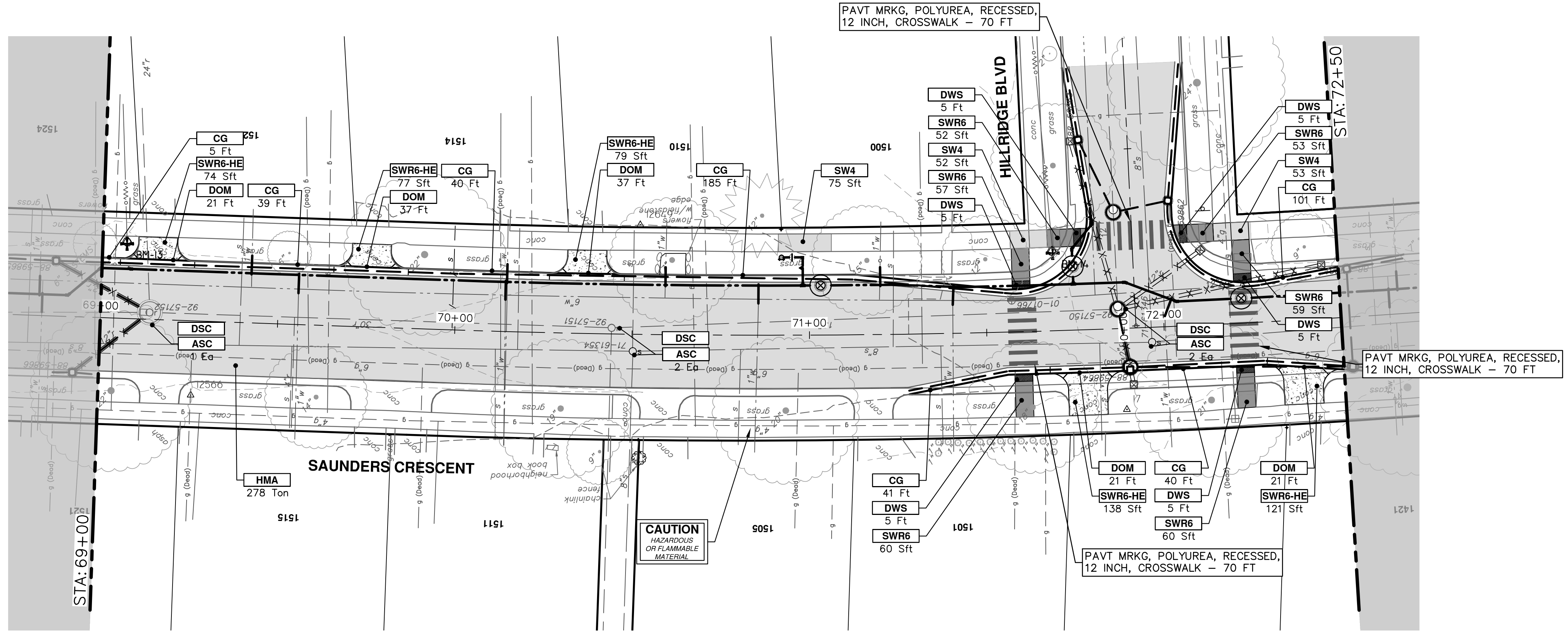


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CRESCENTS WATER MAIN REPLACEMENT PROJECT
SAUNDERS CRESCENT ROAD PLANS
STA. 58+50 - STA. 65+50

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CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CONCRETE CURB OR CURB & GUTTER, ANY TYPE
SW4	4" CONCRETE SIDEWALK
SW6	6" CONCRETE SIDEWALK
SW6-HE	6" CONCRETE SIDEWALK - HIGH EARLY
SWR6	6" CONCRETE RAMP
SWR6-HE	6" CONCRETE RAMP, DRIVE APPROACH - HIGH EARLY
SW-RW1	INTEGRAL SIDEWALK RETAINING WALL, 6" TO 18"
DOM	CONCRETE TYPE M DRIVE OPENING - HIGH EARLY
DOL	CONCRETE TYPE L DRIVE OPENING - HIGH EARLY
DWS	DETECTABLE WARNING, CAST IN PLACE
ASC	ADJUST STRUCTURE COVER
ABM	ADJUST MONUMENT BOX OR GATE VALVE BOX
ABO	ADJUST BY OTHERS
DSC	STRUCTURE COVER

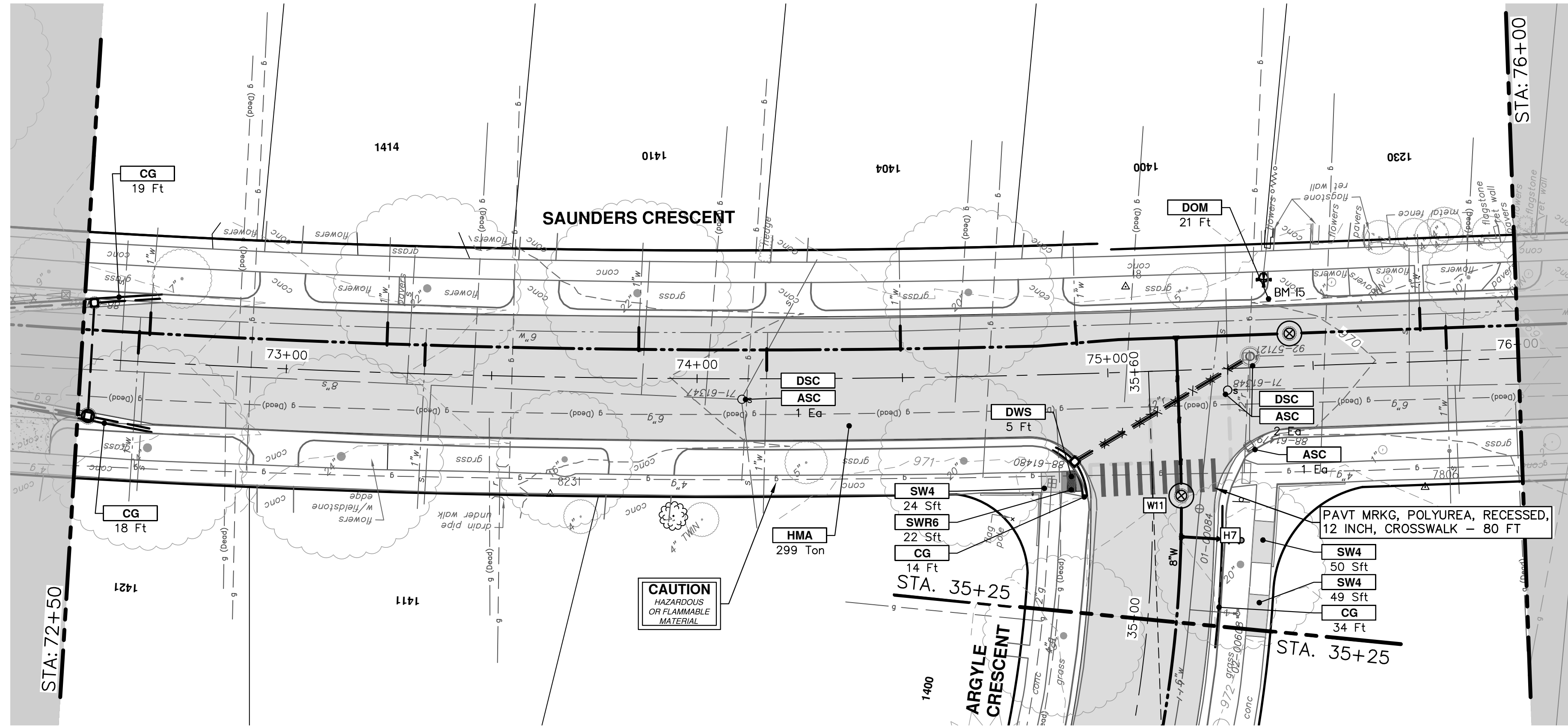
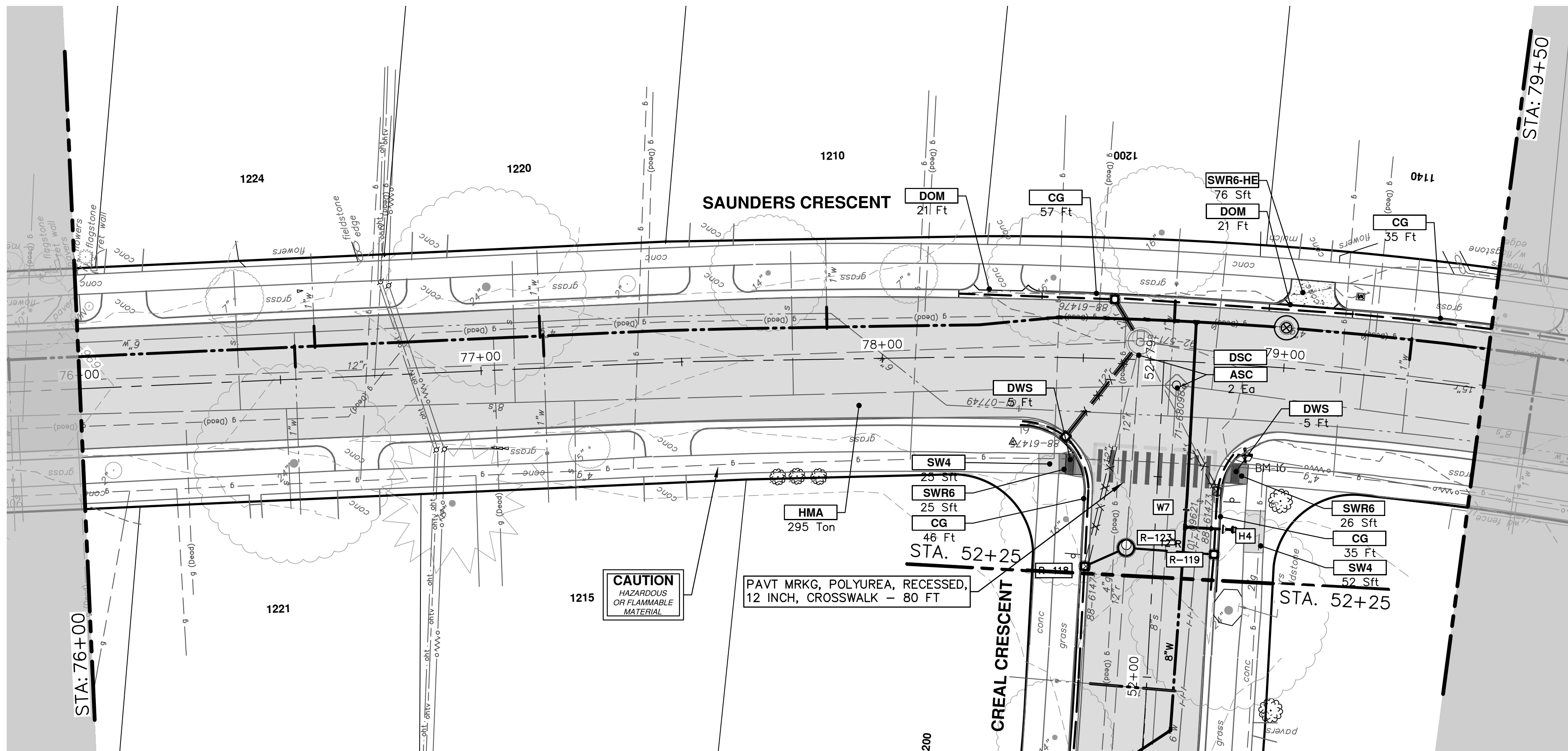


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CRESCENTS WATER MAIN REPLACEMENT PROJECT
SAUNDERS CRESCENT ROAD PLANS
STA. 65+50 - STA. 72+50
DRAWING No. 2022012-73



CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CONCRETE CURB OR CURB & GUTTER, ANY TYPE
SW4	4" CONCRETE SIDEWALK
SW6	6" CONCRETE SIDEWALK
SW6-HE	6" CONCRETE SIDEWALK - HIGH EARLY
SWR6	6" CONCRETE RAMP
SWR6-HE	6" CONCRETE RAMP, DRIVE APPROACH- HIGH EARLY
SW-RW1	INTEGRAL SIDEWALK RETAINING WALL, 6" TO 18"
DOM	CONCRETE TYPE M DRIVE OPENING- HIGH EARLY
DOL	CONCRETE TYPE L DRIVE OPENING- HIGH EARLY
DWS	DETECTABLE WARNING, CAST IN PLACE
ASC	ADJUST STRUCTURE COVER
ABM	ADJUST MONUMENT BOX OR GATE VALVE BOX
ABO	ADJUST BY OTHERS
DSC	STRUCTURE COVER

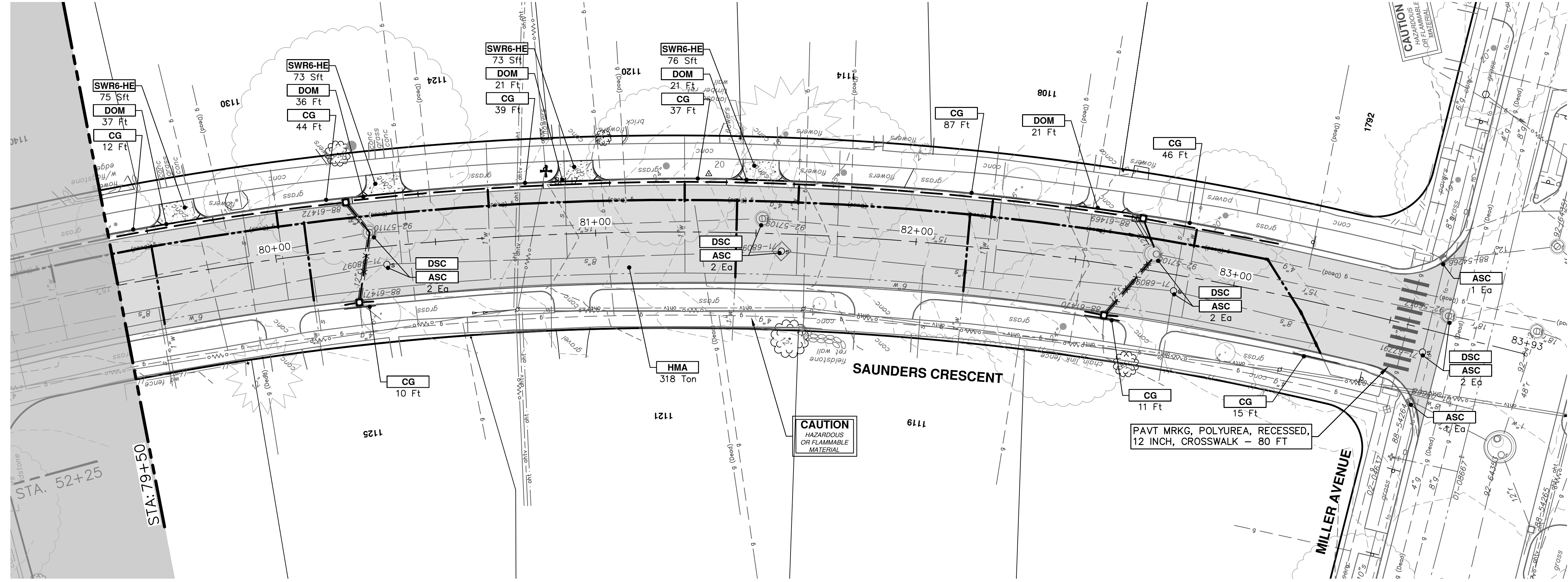


CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
 CRESCENTS WATER MAIN REPLACEMENT PROJECT
 SAUNDERS CRESCENT ROAD PLANS
 STA. 72+50 - STA. 79+50

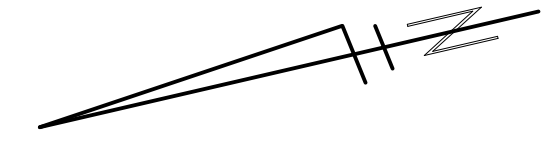
SCALE: 1" = 20'
 DRAWING No. 2022012-74
 SHEET No. 74 OF 77

DATE	DESCRIPTION	REV.
11-14-2023	DF/CC/AB	NB
	DRAWN	CHECKED





CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CONCRETE CURB OR CURB & GUTTER, ANY TYPE
SW4	4" CONCRETE SIDEWALK
SW6	6" CONCRETE SIDEWALK
SW-HE	6" CONCRETE SIDEWALK - HIGH EARLY
SWR6	6" CONCRETE RAMP
SWR6-HE	6" CONCRETE RAMP, DRIVE APPROACH- HIGH EARLY
SW-RW1	INTEGRAL SIDEWALK RETAINING WALL, 6" TO 18"
DOM	CONCRETE TYPE M DRIVE OPENING- HIGH EARLY
DOL	CONCRETE TYPE L DRIVE OPENING- HIGH EARLY
DWS	DETECTABLE WARNING, CAST IN PLACE
ASC	ADJUST STRUCTURE COVER
ABM	ADJUST MONUMENT BOX OR GATE VALVE BOX
ABO	ADJUST BY OTHERS
DSC	STRUCTURE COVER



CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

CRESCENTS WATER MAIN REPLACEMENT PROJECT

SAUNDERS CRESCENT ROAD PLANS

STA. 79+50 - STA. 83+93

SCALE: 1" = 20'

DRAWING No. 2022012-75

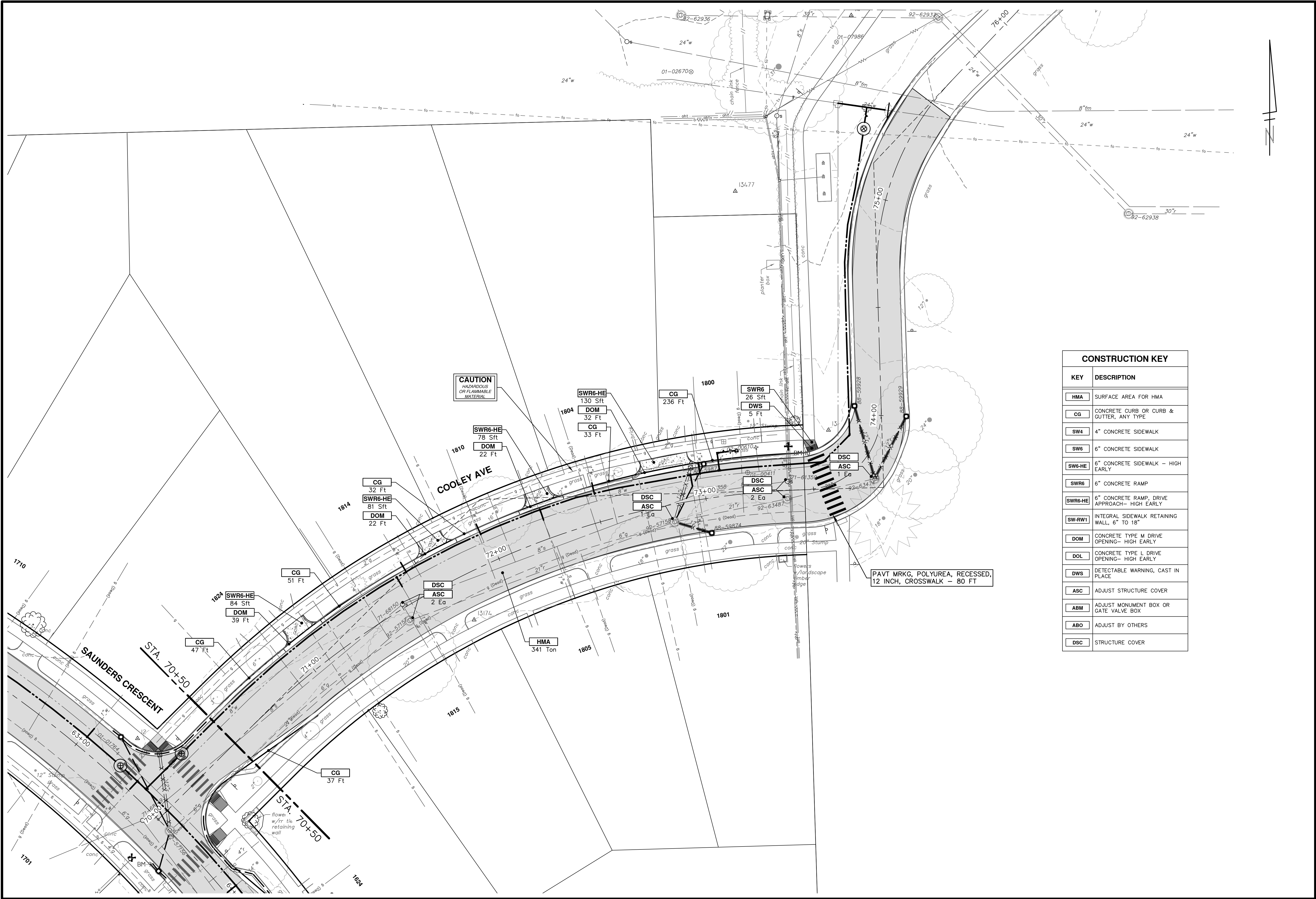
SHEET No. 75 OF 77

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
ANN ARBOR, MI 48106-1667
ANN ARBOR: 734.794.4410
WWW.ANARBOR.MI.GOV

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	EGLF PERMIT	11-14-2023	DF/CC/KB	NB

Know what's below.
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R:\2022\2012 Crescents WM Replacement\Plan Production\2022012Prd1.dwg Dwg Created: 14-Nov-23 - _o2 standard bw.stb - Plot Date: 14-Nov-23



CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CONCRETE CURB OR CURB & GUTTER, ANY TYPE
SW4	4" CONCRETE SIDEWALK
SW6	6" CONCRETE SIDEWALK
SW6-HE	6" CONCRETE SIDEWALK - HIGH EARLY
SWR6	6" CONCRETE RAMP
SWR6-HE	6" CONCRETE RAMP, DRIVE APPROACH- HIGH EARLY
SW-RW1	INTEGRAL SIDEWALK RETAINING WALL, 6" TO 18"
DOM	CONCRETE TYPE M DRIVE OPENING- HIGH EARLY
DOL	CONCRETE TYPE L DRIVE OPENING- HIGH EARLY
DWS	DETECTABLE WARNING, CAST IN PLACE
ASC	ADJUST STRUCTURE COVER
ABM	ADJUST MONUMENT BOX OR GATE VALVE BOX
ABO	ADJUST BY OTHERS
DSC	STRUCTURE COVER

PAVT MRKG, POLYUREA, RECESSED, 12 INCH, CROSSWALK - 80 FT

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

CRESCENTS WATER MAIN REPLACEMENT PROJECT

COOLEY AVE ROAD PLANS

STA. 70+00 - STA. 76+00

SCALE: 1" = 20'

DRAWING No. 2022012-76

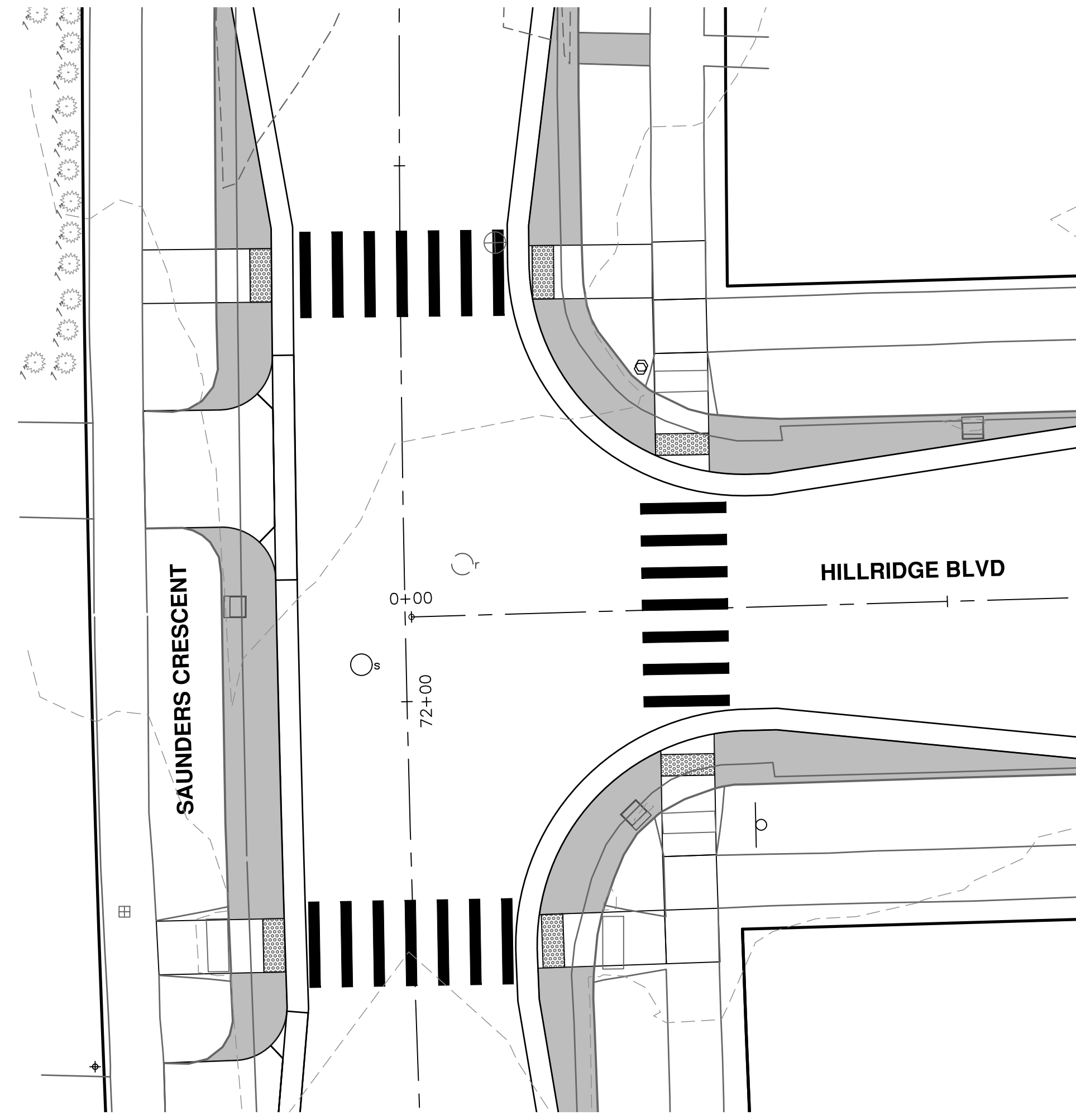
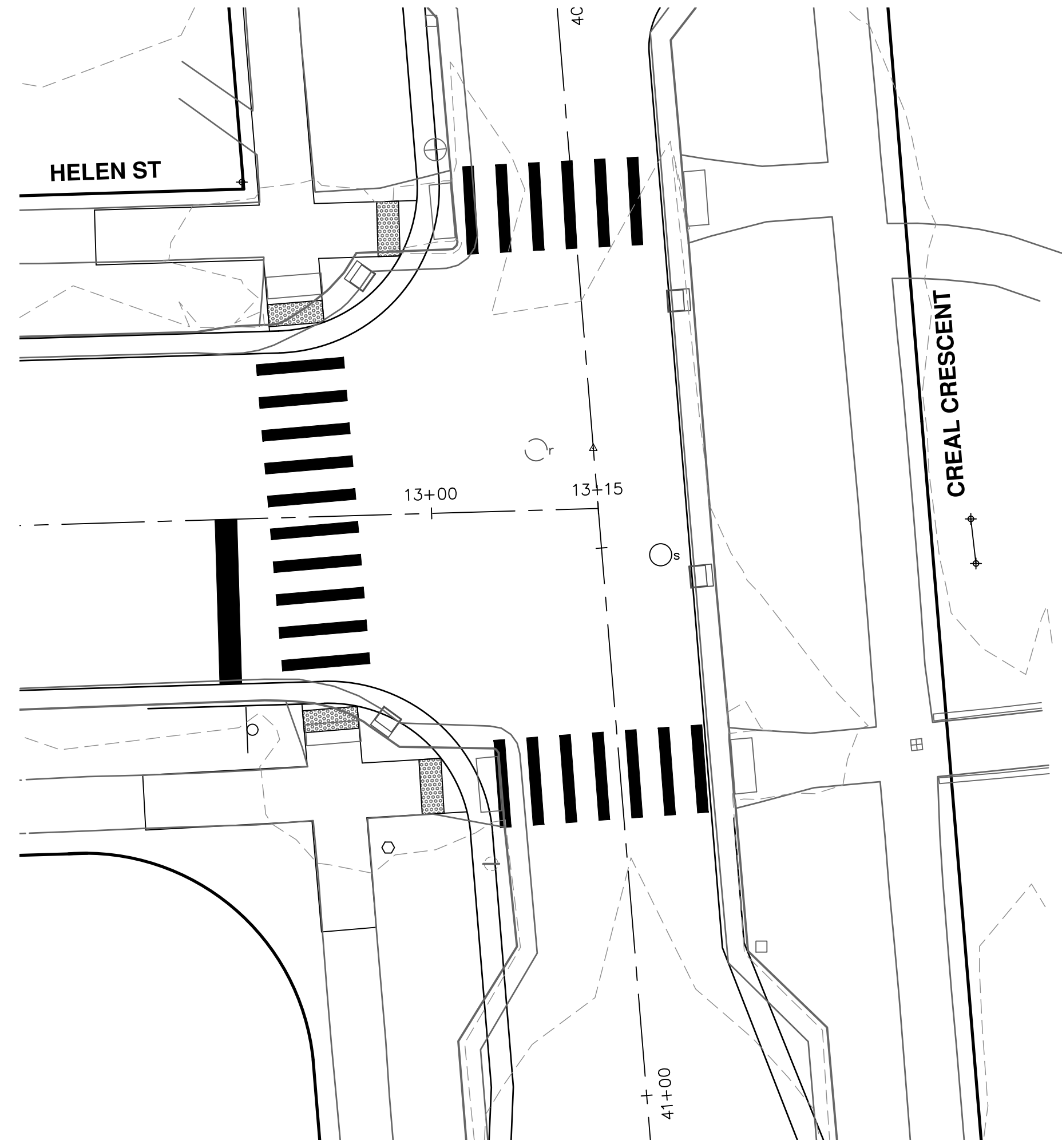
SHEET No. 76 OF 77

811
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00	EGLC PERMIT	11-14-2023	DF/CC/AB	NB

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ANN ARBOR 734.794.4410
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CITY OF ANN ARBOR MICHIGAN



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CRESCENTS WATER MAIN REPLACEMENT PROJECT
INTERSECTION GRADE SHEETS

HELEN ST - CREAL CRESCENT & SAUNDERS CRESCENT - HILLRIDGE BLVD

SCALE: 1" = 10'



DRAWING No.
2022012-77

SHEET No.

77 OF 77



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00	EGLS PERMIT	11-14-2023	DF/CC/KB	NB

