

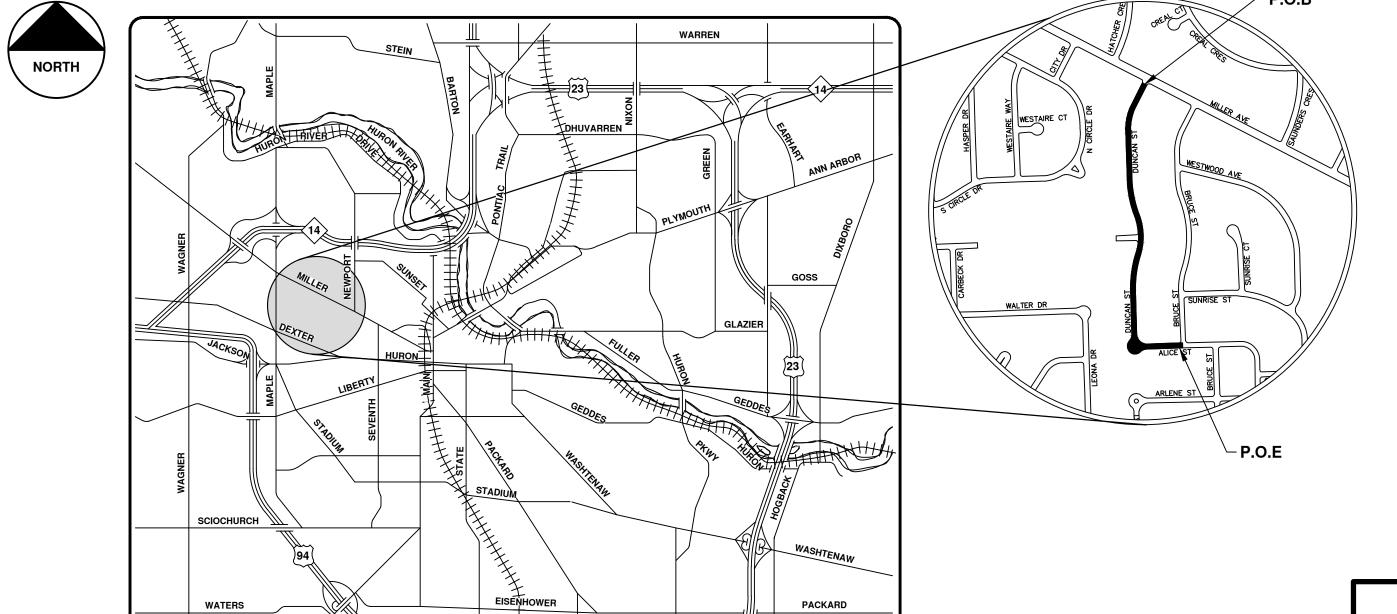
CITY OF ANN ARBOR PROJECT MANAGEMENT

REFERENCE, AND THIS PROJECT'S CONTRACT DOCUMENTS. THE OMISSION OF ANY CURRENT STANDARD DETAIL DOES NOT RELIEVE THE CONTRACTOR

DUNCAN STREET IMPROVEMENTS

BID No. ITB 4368, FILE No. 2013027

SHEET LIST TABLE					
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1	COVER SHEET				
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VICINITY MAP

PROJECT MANAGEMENT SERVICE UNIT NICHOLAS HUTCHINSON, P.E. - MI LICENSE No. 46789 **CITY ENGINEER** / /2015 PREPARED UNDER THE SUPERVISION OF

/ /2015

IGOR V. KOTLYAR, P.E. - MI LICENSE No. 43287

PROJECT ENGINEER

1 TO 17

CONSTRUCTION NOTES:

- 1. 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.
- 2. The location and depth of all existing utilities and service leads are to be field verified by the Contractor prior to construction.
- 3. 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.
- 4. The Contractor is to take special care to protect the existing water main and be responsible for maintaining consistent water
- 5. 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".
- 6. Trenches for new water services shall be excavated to MIOSHA and City of Ann Arbor Field Services requirements.
- 7. City of Ann Arbor Field Services 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 Field Services.
- 8. 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 Field Services.
- 9. 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.
- 10. All ductile iron pipe and fittings shall be polyethylene wrapped per ANSI/AWWA C105/A21.5.
- 11. Cor-blu bolts to be used at all mechanical water main joints at hydrants and Megalug
- 12. 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.
- 13. 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.
- 14. "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.

- 15. Postal delivery and refuse pickup service shall be maintained at all times by the Contractor.
- 16. 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 Field Operations and Maintenance Facility at the W.R. Wheeler Service Center located at 4251 Stone School Road.
- 17. Where street curbs are undermined due to construction activities, they shall be removed and replaced as directed by the Engineer.
- 18. 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".
- 19. All curb, sidewalk, driveway approach removals shall be approved by Engineer before the work is done.
- 20. Sawed sewer pipe connections shall be coupled with a Fernco flexible coupling and a stainless steel shear ring.
- 21. The location of material stock piles and on-site staging areas to be approved by the
- 22. 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.
- 23. 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 Field Operations and Maintenance Facility at the W.R. Wheeler Service Center located at 4251 Stone School Road.
- 24. Payment for drainage structure sumps, where specified, shall be included in the payment for the various drainage structure sizes and or
- 25. 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.
- 26. 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.
- 27. 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"
- 28. In areas where edge drain cannot be installed in accordance with City of Ann Arbor Detail SD-TD-11. 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 & SEDIMENT CONTROL GENERAL NOTES:

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

- 1. THE CONTRACTOR SHALL IMPLEMENT AND MAINTAIN SOIL EROSION CONTROL MEASURES AS DIRECTED BY THE ENGINEER AT ALL TIMES DURING CONSTRUCTION. ANY MODIFICATIONS OR ADDITIONS TO THE SOIL EROSION CONTROL MEASURES DUE TO CONSTRUCTION OR CHANGED CONDITIONS SHALL BE AS DIRECTED AND APPROVED BY THE ENGINEER.
- 2. ALL SOIL EROSION AND SEDIMENTATION CONTROL WORK SHALL CONFORM TO THE PERMIT REQUIREMENTS OF THE CITY OF ANN ARBOR, CITY ORDINANCE CHAPTER 63, CITY OF ANN ARBOR STANDARDS DIVISION VII. THE LAWS OF THE STATE OF MICHIGAN. AND THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.
- 3. DAILY, OR AFTER ANY STORM EVENT, INSPECTIONS OF EROSION CONTROL MEASURES SHALL BE MADE BY THE CONTRACTOR. PERIODIC INSPECTIONS MAY BE MADE BY THE ENGINEER TO DETERMINE THE EFFECTIVENESS OF EROSION AND SEDIMENTATION CONTROL MEASURES. ANY NECESSARY CORRECTIONS SHALL BE MADE WITHOUT DELAY, AND WITHOUT ADDITIONAL COST TO THE CITY OF ANN ARBOR
- 4. EROSION AND SEDIMENTATION FROM WORK ON THE SITE SHALL BE CONTAINED ON THE SITE AND NOT BE ALLOWED TO COLLECT ON ANY OFF-SITE AREAS. ROADWAYS OR WATERWAYS.
- 5. ALL MUD/DIRT 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, WITHIN FOUR (4) HOURS OF BEING SO ORDERED.
- 6. RESTORATION OF ALL DISTURBED AREAS, INCLUDING PLACEMENT OF TOPSOIL, SEED, FERTILIZER AND MULCH AND/OR SOD SHALL BE PERFORMED WITHIN FIVE (5) DAYS OF THE COMPLETION OF FINAL GRADE.
- 7. CONSTRUCTION OPERATIONS SHALL BE SCHEDULED AND PERFORMED SO THAT PREVENTATIVE SOIL EROSION CONTROL MEASURES ARE IN PLACE PRIOR TO EXCAVATION IN CRITICAL AREAS AND TEMPORARY STABILIZATION MEASURES ARE IN PLACE IMMEDIATELY FOLLOWING BACKFILLING OPERATIONS.
- 8. SPECIAL PRECAUTIONS WILL BE TAKEN IN THE USE OF CONSTRUCTION EQUIPMENT TO PREVENT SITUATIONS THAT PROMOTE EROSION.
- 9. PROPER DUST CONTROL SHALL BE MAINTAINED DURING CONSTRUCTION BY USE OF WATER TRUCKS AND/OR DUST PALLATIVE AS REQUIRED.
- 10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL TEMPORARY SOIL EROSION CONTROL MEASURES AND REMOVAL OF SOME MEASURES UPON AUTHORIZED COMPLETION OF THE PROJECT. FINAL COMPLETION OF PROJECT WILL NOT BE AUTHORIZED UNTIL ALL SITE WORK AND UTILITY CONSTRUCTION IS COMPLETE AND ALL SOILS ARE STABILIZED.
- 11. THE CONTRACTOR SHALL NOT GRADE INTO ADJACENT PROPERTIES. SILT AND PROTECTIVE FENCE SHALL BE INSTALLED AND MAINTAINED TO PREVENT GRADING, EROSION AND SEDIMENTATION INTO THE ADJACENT
- 12. TREE PROTECTION FENCING MUST REMAIN INTACT UNTIL RESTORATION OF THE SITE IS COMPLETE.

SEQUENCE OF EROSION CONTROL MEASURES:

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

SAMPLE SOIL EROSION AND SEDIMENTATION CONTROL INSTALLATION MINIMUM REQUIREMENTS

- 1.1. INSTALL SILT FENCE, TREE PROTECTION FENCING, AND INLET FILTERS ON EXISTING DRAINAGE FEATURES PRIOR TO ANY CLEARING OR EARTH MOVING OPERATION.
- 1.2. STRIP AND STOCKPILE TOPSOIL. STABILIZE STOCKPILE AS REQUIRED.
- 1.3. INSTALL WATER MAINS, STORM AND SANITARY SEWERS, AND OTHER ENCLOSED DRAINAGE FEATURES. NEW INLET FILTERS SHALL BE INSTALLED IMMEDIATELY FOLLOWING INSTALLATION OF NEW DRAINAGE
- 1.4. PERFORM MACHINE GRADING OPERATIONS AND CONSTRUCT PAVEMENTS (MAINLINE, SIDEWALKS, DRIVES,
- 1.5. CONTINUALLY MAINTAIN EROSION AND SEDIMENTATION CONTROL MEASURES, AS REQUIRED TO ALLOW DRAINAGE AND SEDIMENT REMOVAL. REMOVE ANY ACCUMULATED SEDIMENT IMMEDIATELY.
- 1.6. COMPLETE ALL GRADING AND FINE GRADING.
- 1.7. TEMPORARY SEED AND INSTALL EROSION CONTROL BLANKET IN ALL DISTURBED AREAS.
- 1.8. CLEAN OUT STORM SEWER SYSTEMS.
- 1.9. REMOVE ALL TEMPORARY SOIL EROSION CONTROL MEASURES UPON FINAL INSPECTION AND APPROVAL BY THE ENGINEER.
- 1.10. REMEDY ANY NOTED DEFECTS TO THE SATISFACTION OF THE CITY OF ANN ARBOR'S SOIL EROSION AND SEDIMENTATION CONTROL OFFICIAL.

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

TEMPORARY SEEDING:

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

PERMITS REQUIRED TO BE OBTAINED BY THE CONTRACTOR PRIOR TO THE REGINNING OF CONSTRUCTION

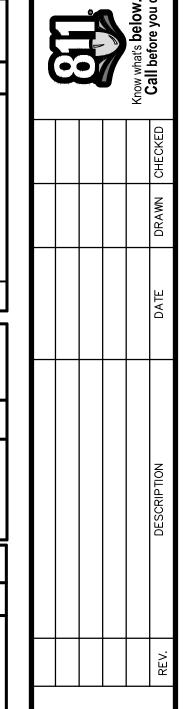
ISSUING AUTHORITY
CITY OF ANN ARBOR PROJECT MANAGEMENT UNIT
CITY OF ANN ARBOR PROJECT MANAGEMENT UNIT
CITY OF ANN ARBOR CUSTOMER SERVICE
CITY OF ANN ARBOR CUSTOMER SERVICE

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

PERMIT	ISSUING AUTHORITY
	MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
	MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

CONTACT INFORMATION

PUBLIC UTILITIES	OWNER	CONTACT
WATER		DAN WOODEN (734) 794-6350
SANITARY	OLTY OF ANN APPOR	MARK COZART (734) 794-6350
STORM	CITY OF ANN ARBOR FIELD OPERATIONS SERVICE UNIT W.R. WHEELER SERVICE CENTER	KEVIN ERNST (734) 794-6350
FORESTRY	4251 STONE SCHOOL ROAD ANN ARBOR, MI 48108	STEVEN GOEBEL (734) 794-6350
SIGNS SIGNALS STREET LIGHTS		CHUCK FOJTIK (734) 794–6361
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	CLAY COMBEE (734) 397-4112
CABLE	COMCAST 27800 FRANKLIN ROAD SOUTHFIELD, MI 48034	RON SUTHERLAND (313) 999-8300
PHONE	AT&T 550 S. MAPLE ROAD ANN ARBOR, MI 48103	(734) 996–2135
FIBER OPTIC	MCI 2800 N. GLENFILLE ROAD RICHARDSON, TX 75082	DEAN BOYERS (972) 729-6016





PROJECT MANAGEMENT

SHEET No. 2 OF 17

BM#	ELEV	DESCRIPTION		
1	970.170	Hydrant at SE Corner of Miller and Duncan		
2	965.805	RR spike W face of Utility Pole at House #1030 Duncan		
3	963.166	RR spike E face of Utility Pole at House #1015 Duncan		
4	954.441	RR spike W face of Utility Pole at House #924 Duncan		
5	951.286 Steamer Valve of Hydrant on E side of Duncan at House			
6	952.792	RR spike W face of Utility Pole at House #832 Duncan		
7	945.665	RR spike E face of Utility Pole at House #811 Duncan		
8	946.421	RR spike W face of Utility Pole at House #708 Duncan		
9	943.845	RR spike W face of Utility Pole at House #700 Duncan		
10	941.962	RR spike S face of Utility Pole at Intersection of Alice and Duncan		
11	939.392	RR spike S face of Utility Pole at NW Corner of Alice and Bruce		

	PR	OPOSED STORM SEV	VER STRUCTU	JRE TAB	LE	
STRUCTURE	ROAD STATION	INVERT ELEVATION, SIZE & DIRECTION	TOP OF CASTING ELEVATION	DEPTH (Feet)	SIZE	APPLICATION/ CONSTRUCTION
R1	1+74 13.41RT	12" S 961.51	963.97	4.46	24" Dia.	Prop. 2' Dia. Str.
R2	2+24 -15.22LT	12" SW 960.04	963.64	5.60	24" Dia.	Prop. 2' Dia. Str.
R3	6+33 -15.03LT	12" S 948.47	952.77	6.30	24" Dia.	Prop. 2' Dia. Str.
R4	6+44 14.46RT	12" E 949.63	952.53	4.90	24" Dia.	Prop. 2' Dia. Str.
R5	8+01 -14.47LT	12" W 948.57	950.32	3.75	24" Dia.	Prop. 2' Dia. Str.
88-64545	10+08 30.92RT	12" S 946.56 12" N 946.56	949.96	5.40	48" Dia.	Prop. 4' Dia. Str.
R6	10+43 29.26RT	12" N 947.12	949.82	4.70	24" Dia.	Prop. 2' Dia. Str.
R7	12+80 14.45RT	12" SE 938.89	942.29	5.40	24" Dia.	Prop. 2' Dia. Str.
R8	12+87 -14.17LT	12" SW 939.08	942.18	5.10	24" Dia.	Prop. 2' Dia. Str.
R9	15+02 13.74RT	12" SE 939.83	943.93	6.10	24" Dia.	Prop. 2' Dia. Str.
R10	15+07 -14.45LT	12" S 939.90	943.60	5.70	24" Dia.	Prop. 2' Dia. Str.
R11	16+69 49.79RT	12" SE 937.20	940.90	5.70	24" Dia.	Prop. 2' Dia. Str.
R12	16+83 -13.94LT	12" SW 937.10	940.20	5.10	24" Dia.	Prop. 2' Dia. Str.
R13	17+04 40.65RT	12" NE 938.01	940.01	4.00	24" Dia.	Prop. 2' Dia. Str.
R14	17+24 47.48RT	12" NW 936.93	939.73	4.80	24" Dia.	Prop. 2' Dia. Str.
R15	19+52 -14.68LT	12" SE 934.08	937.68	5.60	24" Dia.	Prop. 2' Dia. Str.
R16	19+71 -33.31LT	12" E 933.50	937.10	5.60	24" Dia.	Prop. 2' Dia. Str.
R17	19+80 14.28RT	12" N 932.98	937.28	6.30	24" Dia.	Prop. 2' Dia. Str.
R18	19+99 -32.73LT	12" SW 932.85	936.45	5.60	24" Dia.	Prop. 2' Dia. Str.

EXISTING SANITARY SEWER STRUCTURE TABLE							
STRUCTURE	ROAD STATION	RIM	DEPTH	DIA.	TYPE	INVERTS	
71–68108	1+60.18 5.56R	964.84	13.90	48	4' M.H.	12" NW 952.94 12" SE 952.94	
71–68104	2+06.77 7.17R	964.36	11.44	48	4' M.H.	12" S 954.91	
71–68103	3+43.87 -6.41L	963.16	11.80	48	4' M.H.	12" N 953.46 12" S 953.36	
71–67824	7+18.33 -3.18L	950.74	11.90	48	4' M.H.	12" N 940.94 12" S 940.84	
71–67823	10+02.25 0.91R	951.11	14.40	48	4' M.H.	12" N 938.81 12" W 940.21 12" S 938.71	
71-67822	13+00.60 -2.97L	943.36	10.40	48	4' M.H.	12" N 935.16 12" S 934.96	
71–67821	15+87.41 -5.54L	942.14	12.25	48	4' M.H.	12" N 931.94 12" S 931.89	
71–67820	16+99.19 26.91R	940.90	11.95	48	4' M.H.	12" N 930.95 12" E 930.95	
71–67819	19+89.46 -0.47L	937.45	12.80	48	4' M.H.	12" N 926.90 12" W 926.75 12" E 926.65	

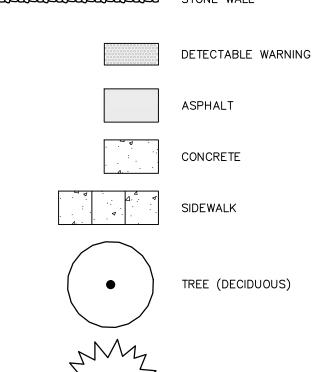
WATER MAIN STRUCTURE TABLE						
STRUCTURE	TYPE	ROAD STATION	RIM	DEPTH		
gvib #01-00536	REMOVE	0+42 -0.85L	968.28	5.00		
Hydrant #02—00506	REMOVE	0+47 -22.18L	969.09	5.00		
Hydrant #02—00505	REMOVE	8+12 -21.42L	949.56	6.95		
gviw #01-08291	REMOVE	10+31 3.59R	950.70	5.00		
Hydrant #02-00504	REMOVE	15+47 20.85R	943.14	6.40		
gviw #01-00535	REMOVE	16+76 11.43R	940.96	6.04		
#01-00264	gviw #01-00264	19+84 -34.23L	937.69	6.17		
#01-08409	gvib #01-08409	20+16 -8.25L	936.34	6.04		
ex. hyd #02-00480	Hyd #02-00480	20+28 -20.31L	936.09	6.64		

PROPOSED WATER MAIN STRUCTURE TABLE
TRUCTURE TYPE UTILITY RIM DEPTH
H-3 HYDRANT 0+04 0.00 950.20 6.00
H-1 HYDRANT 0+12 961.62 6.00
H-5 HYDRANT 0+13 0.00 940.19 6.00
H-4 HYDRANT 0+19 0.00 944.21 6.00
H-2 HYDRANT 0+28 0.00 949.50 6.00
V-1 8" G.V.I.B. 4+02 961.03 6.17
V-2 8" G.V.I.W. 10+12 950.69 6.16
V-4 8" G.V.I.B. 13+42 0.00 943.87 6.17
V-5 8" G.V.I.B. 17+28 0.00 940.39 6.16
V-6 8" G.V.I.B. 19+60 0.00 937.91 6.17

		STORM SEWER S		T		
STRUCTURE	ROAD STATION	INVERT ELEVATION, SIZE & DIRECTION	TOP OF CASTING ELEVATION	DEPTH (Feet)	SIZE	APPLICATION/ CONSTRUCTION
R(1349)	1+66 30.49RT	12" S 959.93	964.53	4.60	24" Dia.	Cylindrical Structure Slab Top Circular Frame
88-61457	1+74 13.41RT	12" S 961.51	963.97	2.46	24" Dia.	DROP INLET (REMOVE)
88-61465	2+24 -15.22LT	12" SW 960.04	963.64	3.60	24" Dia.	DROP INLET (REMOVE)
92-57105	2+38 -5.51LT	12" N 957.87 12" NE 959.57 12" N 959.47 12" S 957.72	964.37	8.65	48" Dia.	4' MH
92-57104	3+34 -11.02LT	12" N 955.07 12" S 955.07	963.22	10.15	48" Dia.	4' MH
88-61455	6+33 -15.03LT	12" S 948.47	952.77	4.30	24" Dia.	DROP INLET (REMOVE)
88-61456	6+44 14.46RT	12" E 949.63	952.53	2.90	24" Dia.	DROP INLET (REMOVE)
92–56908	6+55 -11.19LT	12" S 944.39 12" W 947.54 12" N 944.39 12" N 946.24 12" E 944.34	952.54	10.20	48" Dia.	4' MH
92-56909	7+07 -9.01LT	12" S 944.46 12" N 944.46	950.96	8.50	48" Dia.	4' MH
88–61453	8+00 13.46RT	12" E 946.22	948.67	2.45	24" Dia.	Cylindrical Structure Slab Top Circular Frame
92–56910	8+01 -10.74LT	12" W 944.79 12" S 944.79 12" E 944.89 12" N 944.59	949.18	6.59	48" Dia.	4' MH
88-61454	8+01 -14.47LT	12" W 948.57	950.32	1.75	24" Dia.	DROP INLET (REMOVE)
92-56995	9+82 -8.85LT	12" W 947.92 12" N 947.92	951.12	5.20	48" Dia.	4' MH
92-56956	9+88 32.43RT	12" S 945.87 12" W 945.07 12" E 944.87	951.27	8.40	48" Dia.	4' MH
88-64545	10+08 30.92RT	12" S 946.56 12" N 946.56	949.96	3.39	48" Dia.	
88-61452	10+43 29.26RT	12" N 947.12	949.82	2.70	24" Dia.	DROP INLET (REMOVE)
R(1347)	12+66 20.28RT	12" W 939.62 12" SE 938.92	943.22	6.30	48" Dia.	4' MH
88-61450	12+80 14.45RT	12" SE 938.89	942.29	3.40	24" Dia.	DROP INLET (REMOVE)
88-61451	12+87 -14.17LT	6" SE 940.36 12" SW 939.08	942.18	3.10	24" Dia.	DROP INLET (REMOVE)
92-56893	12+98 -8.76LT	12" NW 938.21 12" NE 936.91 12" NW 938.36 12" S 936.91	943.11	8.20	48" Dia.	4' MH
88-61449	15+02 13.74RT	12" SE 939.83	943.93	4.10	24" Dia.	DROP INLET (REMOVE)
88-61448	15+07 -14.45LT	12" S 939.90	943.60	3.70	24" Dia.	DROP INLET (REMOVE)
92-56892	15+15 -11.21LT	12" NW 938.41 12" N 936.21 12" N 939.11 12" S 936.21	944.11	9.90	48" Dia.	4' MH
88-50744	16+69 49.79RT	12" SE 937.20	940.90	3.70	24" Dia.	DROP INLET (REMOVE)
88-50745	16+83 -13.94LT	12" SW 937.10	940.20	3.10	24" Dia.	DROP INLET (REMOVE)
92–63652	16+96 35.50RT	12" NW 935.48 12" NE 935.48 12" SE 935.78 12" E 935.38	940.76	7.38	48" Dia.	4' MH
92–56890	17+04 26.23RT	12" N 935.14 12" W 935.24 12" SW 936.94 12" E 935.04	940.44	7.40	48" Dia.	4' MH
88-61436	17+04 40.65RT	12" NE 938.01	940.01	2.00	24" Dia.	DROP INLET (REMOVE)
88-61437	17+24 47.48RT	12" NW 936.93	939.73	2.80	24" Dia.	DROP INLET (REMOVE)
88-61399	19+52 -14.68LT	12" SE 934.08	937.68	3.60	24" Dia.	DROP INLET (REMOVE)
92–56888	19+79 -30.28LT	12" N 931.85 12" W 932.85 12" S 931.80	937.70	7.90	48" Dia.	4' MH
92-56887		937.78	8.70	48" Dia.	4' MH	
88-61398	19+80 14.28RT	12" N 932.98	937.28	4.30	24" Dia.	DROP INLET (REMOVE)
88-61401	19+99 -32.73LT	12" SW 932.85	936.45	3.60	24" Dia.	DROP INLET (REMOVE)

		STORM SEWER S	TRUCTURE T	ABLE		
JRE	ROAD	INVERT ELEVATION,	TOP OF CASTING	DEPTH	SIZE	APPLICATION/
'KE	STATION	SIZE & DIRECTION	ELEVATION	(Feet)	SIZE	CONSTRUCTIÓN
,	1+66 30.49RT	12" S 959.93	964.53	4.60	24" Dia.	Cylindrical Structure Slab Top Circular
	30.49KT					Frame
57	1+74 13.41RT	12" S 961.51	963.97	2.46	24" Dia.	DROP INLET (REMOVE)
55	2+24 -15.22LT	12" SW 960.04	963.64	3.60	24" Dia.	DROP INLET (REMOVE)
		12" N 957.87				(,
5	2+38 -5.51LT	12" NE 959.57 12" N 959.47	964.37	8.65	48" Dia.	4' MH
,,	<i>3+34</i>	12" S 957.72 12" N 955.07	963.22	10.15	48" Dia.	4' MH
-	-11.02LT	12" S 955.07	903.22	10.15	40 DIG.	DROP INLET
5	6+33 -15.03LT	12" S 948.47	952.77	4.30	24" Dia.	(REMOVE)
6	6+44 14.46RT	12" E 949.63	952.53	2.90	24" Dia.	DROP INLET (REMOVE)
		12" S 944.39 12" W 947.54				
18	6+55 -11.19LT	12 W 947.54 12" N 944.39 12" N 946.24	952.54	10.20	48" Dia.	4' MH
		12" E 944.34				
9	7+07 -9.01LT	12" S 944.46 12" N 944.46	950.96	8.50	48" Dia.	4' MH
	8+00	12" E 946.22	948.67	2.45	24" Dia.	Cylindrical Structure Slab
	13.46RT	72 2 370.22	0 70.07	2.,0	21 Dia.	Top Circular Frame
,	8+01	12" W 944.79 12" S 944.79	949.18	6.59	48" Dia.	4' MH
	–10.74LT	12" E 944.89 12" N 944.59		0.00	70 Dia.	, ,,,,,
4	8+01 -14.47LT	12" W 948.57	950.32	1.75	24" Dia.	DROP INLET (REMOVE)
5	9+82	12" W 947.92	951.12	5.20	48" Dia.	4' MH
\dashv	-8.85LT	12" N 947.92 12" S 945.87				
6	9+88 32.43RT	12" W 945.07 12" E 944.87	951.27	8.40	48" Dia.	4' MH
	10+08 30.92RT	12" S 946.56 12" N 946.56	949.96	3.39	48" Dia.	
2	10+43	12" N 947.12	949.82	2.70	24" Dia.	DROP INLET
	29.26RT 12+66	12" W 939.62				(REMOVE)
_	20.28RT	12" SE 938.92	943.22	6.30	48" Dia.	4' MH
0	12+80 14.45RT	12" SE 938.89	942.29	3.40	24" Dia.	DROP INLET (REMOVE)
1	12+87 -14.1 <i>7</i> LT	6" SE 940.36 12" SW 939.08	942.18	3.10	24" Dia.	DROP INLET (REMOVE)
	10 1 00	12" NW 938.21				
3	12+98 -8.76LT	12" NE 936.91 12" NW 938.36 12" S 936.91	943.11	8.20	48" Dia.	4' MH
	15+02	12" SE 939.83	943.93	4.10	24" Dia.	DROP INLET
	13.74RT 15+07					(REMOVE) DROP INLET
8	-14.45LT	12" S 939.90	943.60	3.70	24" Dia.	(REMOVE)
2	15+15 -11.21LT	12" NW 938.41 12" N 936.21	944.11	9.90	48" Dia.	4' MH
\Box	-11.ZIL1	12" N 939.11 12" S 936.21				
4	16+69 49.79RT	12" SE 937.20	940.90	3.70	24" Dia.	DROP INLET (REMOVE)
5	16+83 -13.94LT	12" SW 937.10	940.20	3.10	24" Dia.	DROP INLET (REMOVE)
- 1	10.97L1	12" NW 935.48		1		(

+	HYDRANT (PLAN)	w	WATER MAIN
8	WATER GATE WELL		STORM SEWER
•	REDUCER	<u> </u>	SANITARY SEWER
I	WATER GATE VALVE		CENTERLINE OF DITCH
(()	WATER STOP BOX		CENTERLINE OF ROAD
W	WATER VAULT	////	FENCE
•	INLET		SILT FENCE
	DOUBLE INLET		LOT/UNIT
•	INLET JUNCTION CHAMBER		
	ROUND CATCH BASIN		CURB
8	STORM MANHOLE		TEMPORARY GRADING PERMIT
~	DRAIN ARROW		WATER EASMENT
∇	FLARED END SECTION		STORM EASEMENT
0	SANITARY MANHOLE		SANITARY EASEMENT
©	CLEAN-OUT		R.O.W.
•	BARREL		LIMITS OF CONSTRUCTION
•	SIGN	احزاحزاحزاحزاحزاحزاحزاحزاحز	STONE WALL
	PUSH BUTTON		



PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

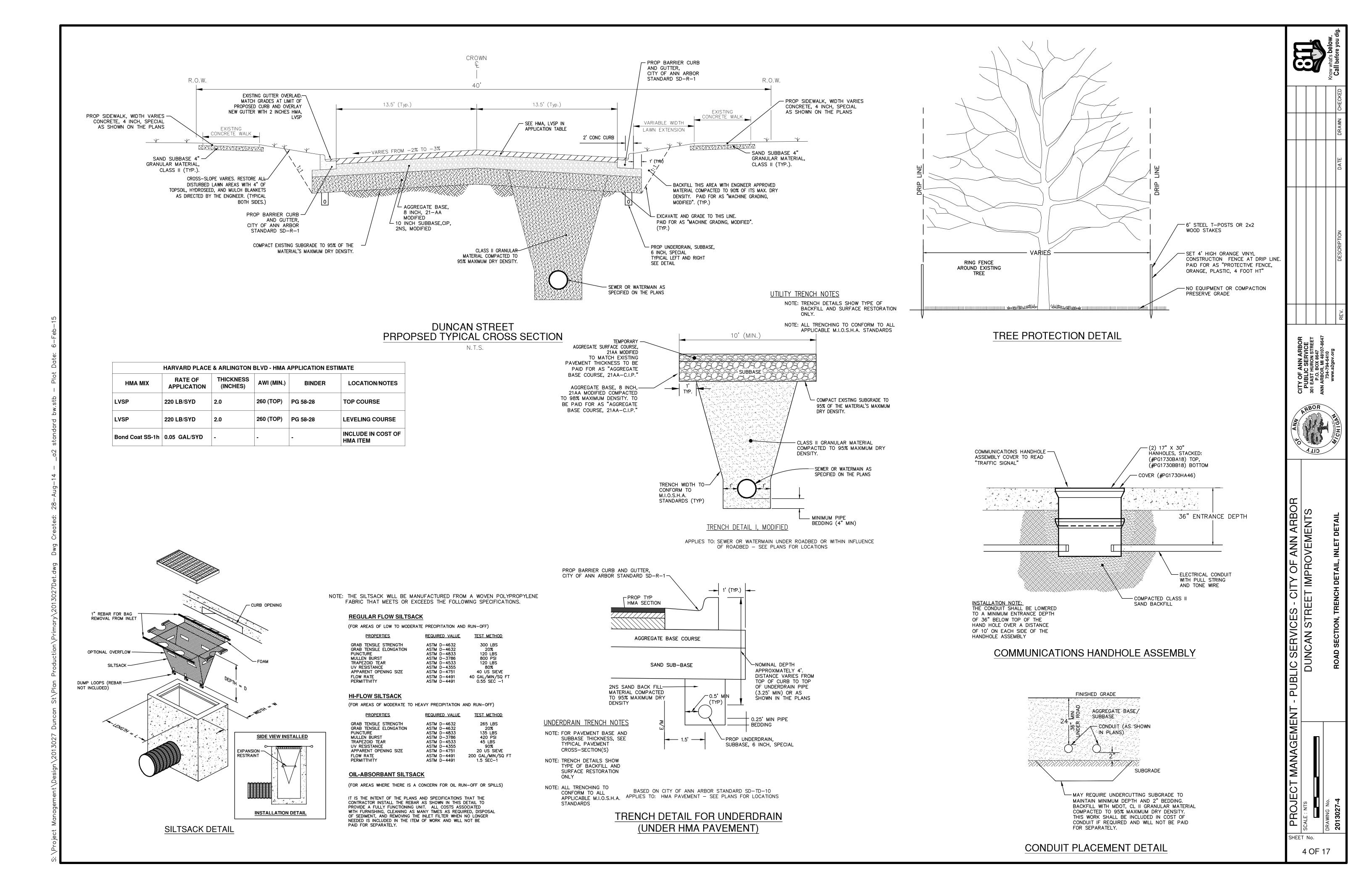
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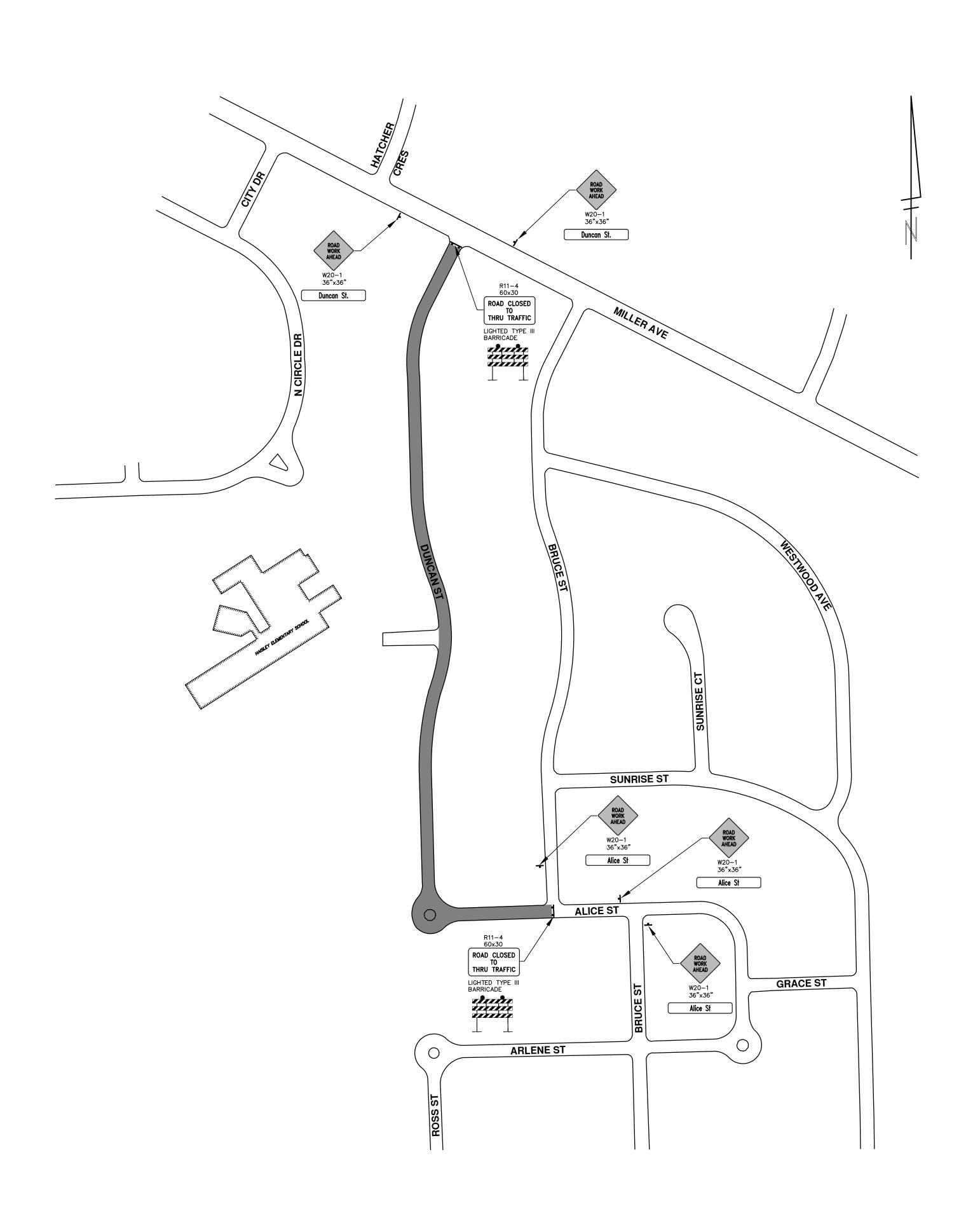
DRAWING No.

LEGENDS, BENCHMARKS AND CASTING SCHEDULES 3 OF 17

TREE (DECIDUOUS)

TREE (CONIFEROUS)





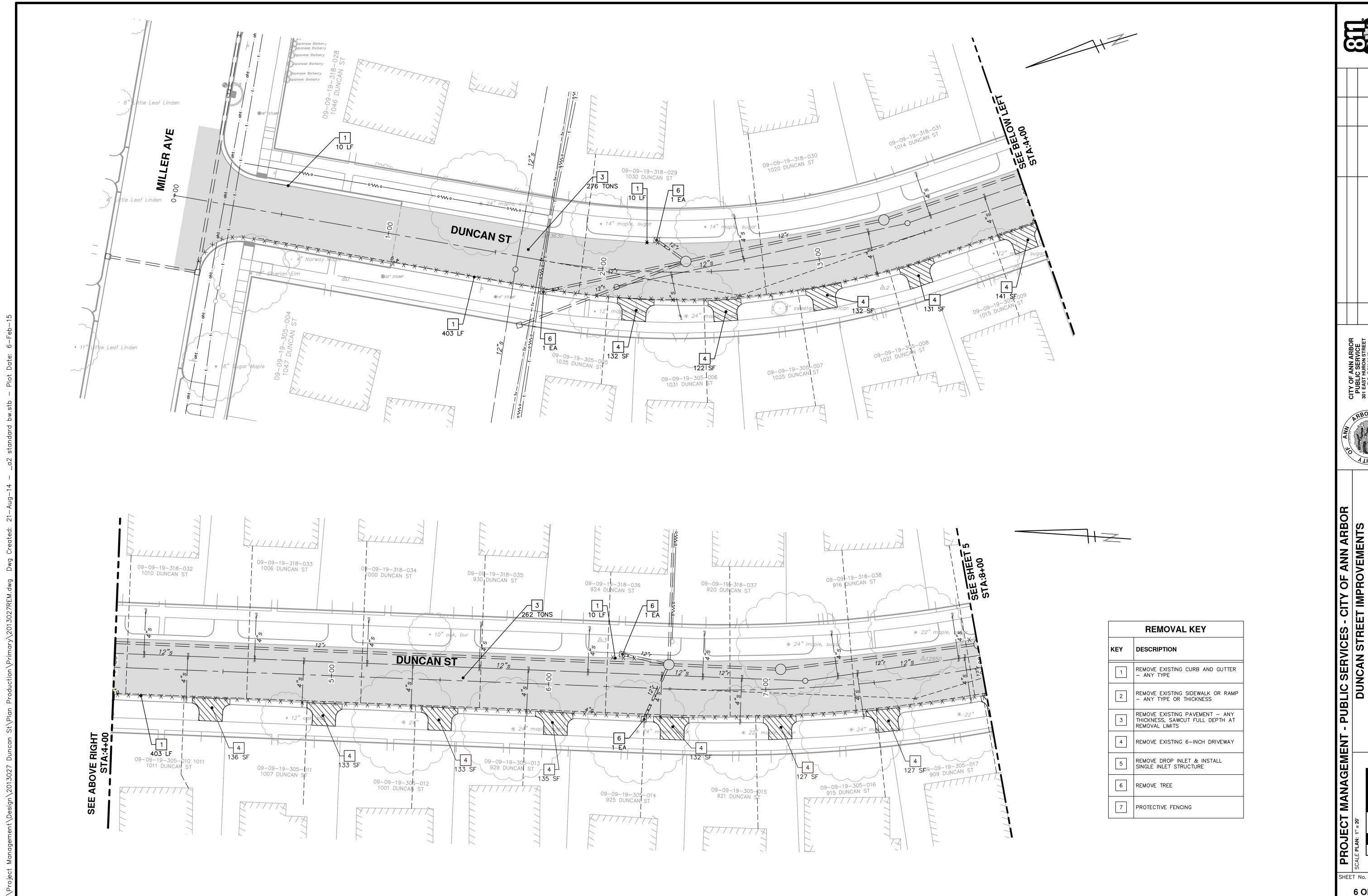
THIS PROJECT WILL REQUIRE ADDITIONAL COORDINATION WITH THE CITY OF ANN ARBOR 2015 STREET RESURFACING CONTRACT. THE FINAL STREET RESTORATION INCLUDING PLACEMENT OF THE CONCRETE CURB AND GUTTER, CONCRETE SIDEWALK, DRIVE APPROACHES, BITUMINOUS PAVEMENT AND TURF RESTORATION WILL BE PERFORMED UNDER SEPARATE CONTRACT.

ALL TRAFFIC CONTROL MEASURES SHALL REMAIN IN PLACE PER APPROVED PLANS AND SPECIFICATIONS UNTIL FINAL STREET RESTORATION WORK IS COMPLETED BY CITY OF ANN ARBOR 2015 STREET RESURFACING CONTRACT. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE TRAFFIC CONTROL MEASURES UNTIL THE CITY CONTRACTOR FOR 2015 STREET RESURFACING CONTRACT MOBILIZES TO THE SITE. THE CITY WILL NOTIFY CONTRACTOR OF THE COMPLETION OF THE FINAL STREET RESTORATION WORK AND THE CONTRACTOR WILL BE REQUIRED TO REMOVE ALL TRAFFIC CONTROL MEASURES AT THIS TIME. THE TIMEFRAME BETWEEN COMPLETION OF THE UTILITY WORK AND COMPLETION OF THE FINAL STREET RESTORATION IS NOT EXPECTED TO EXCEED 90 CALENDAR DAYS. THIS WORK SHALL BE INCLUDED IN THE BID PRICE FOR THE CONTRACT PAY ITEM "ITEM NO. 203, MINOR TRAFFIC CONTROL."

MAINTAINING TRAFFIC AND TRAFFIC CONTROL

- 1. THE NECESSARY SIGNS AND SIGN SUPPORT STANDARDS, BARRICADES, AND TRAFFIC CONTROL DEVICES NECESSARY FOR THE PROTECTION OF TRAFFIC SHALL BE IN ACCORDANCE WITH MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AS APPROVED BY THE CITY OF ANN ARBOR. ALL SUCH DEVICES SHALL BE FURNISHED, INSTALLED, AND MAINTAINED BY THE CONTRACTOR.
- 2. REFER TO CITY SPECIFICATIONS FOR DETAILS ON MATERIALS, EQUIPMENT, AND CONSTRUCTION METHODS.
- 3. ALL POSTS TO BE DRIVEN INTO GROUND.
- 4. CONTRACTOR TO FIELD STAKE ALL SIGNS AND CONTACT CITY FOR REVIEW AND APPROVAL OF SIGN PLACMENT PRIOR TO INSTALLATION.

SHEET No. 5 OF 17



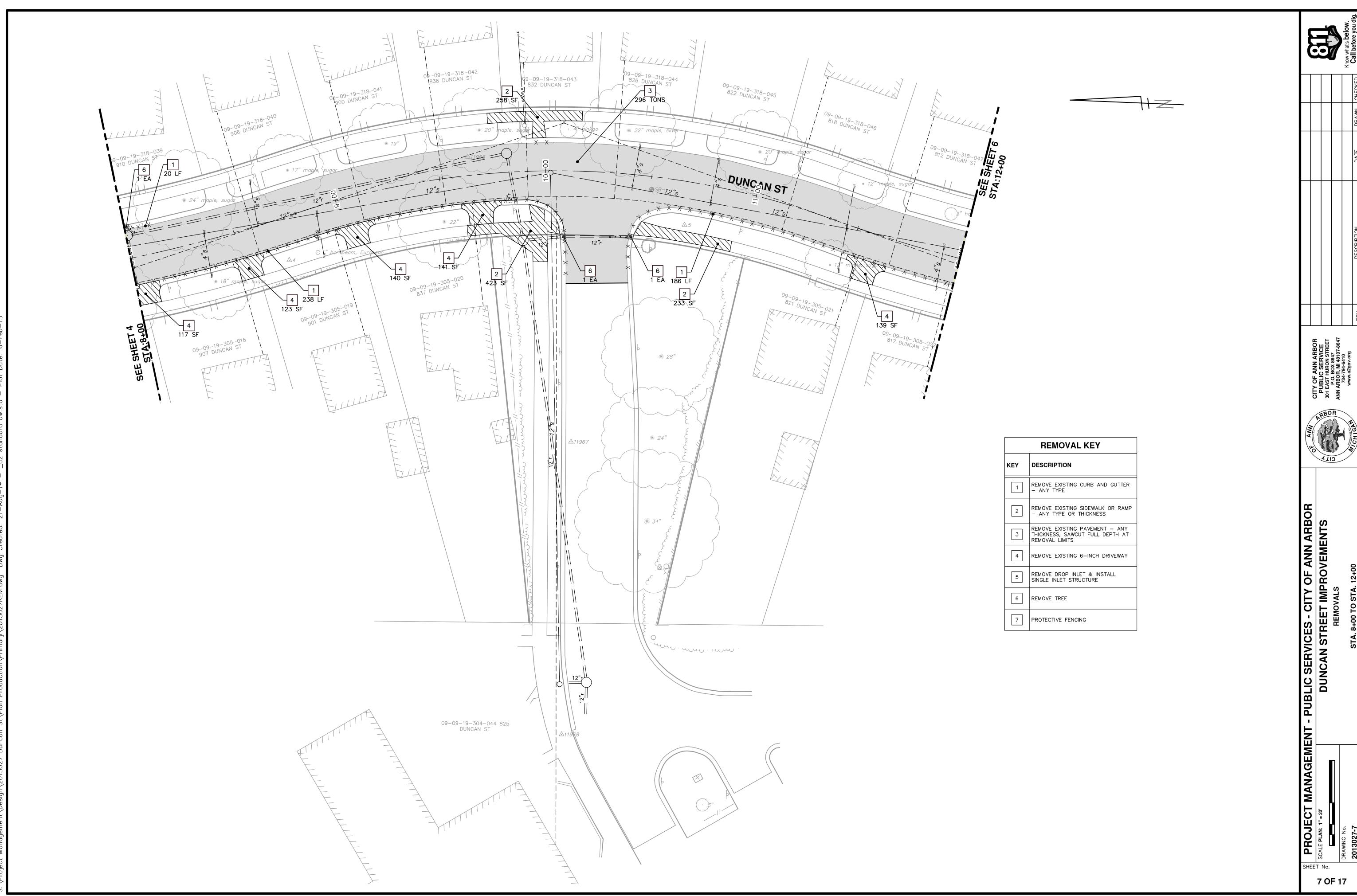
PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

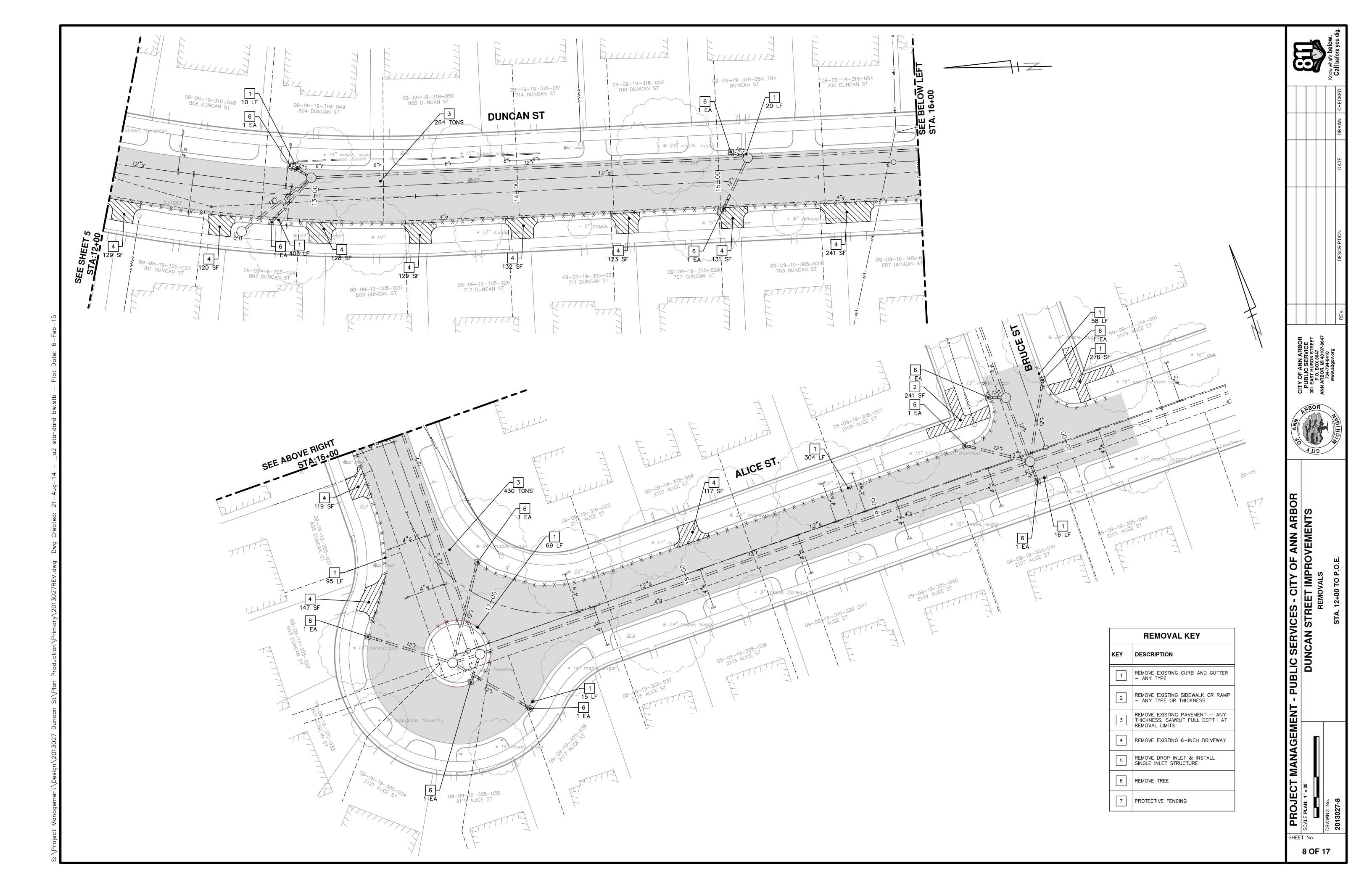
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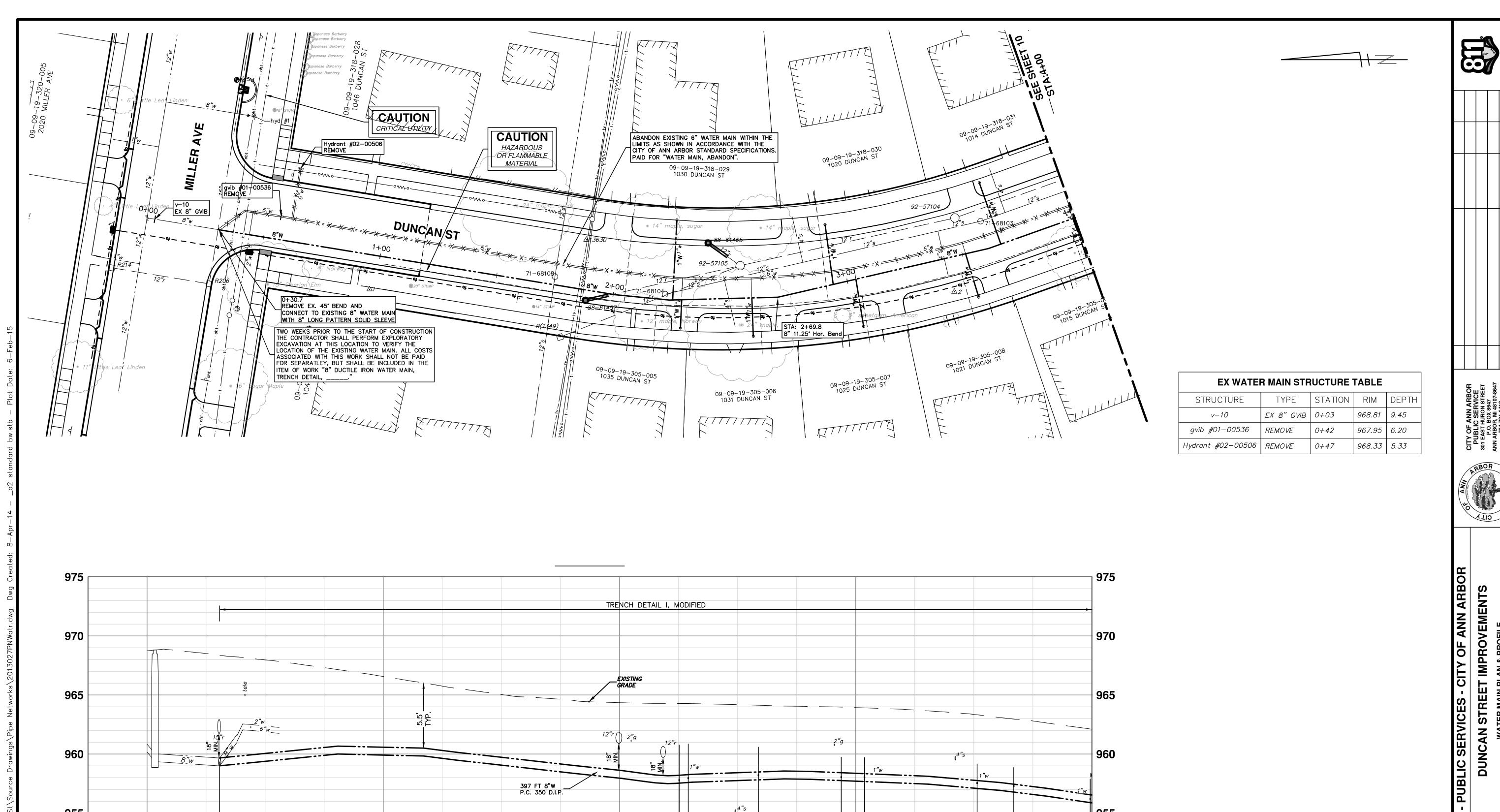
DUNCAN STREET IMPROVEMENTS

REMOVALS

REMOVALS







≬ 12"s

964.64

+75

2+00

967.97

+50

+75

968.51 **968.51**

+25

-0+25

0+00

966.57

1+00

965.75 **965.75**

+25

965.04

+50

964.27

+25

964.18

+50

+75

963.93

3+00

+25

963.35

+50

962.80

+75

4+00

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBC

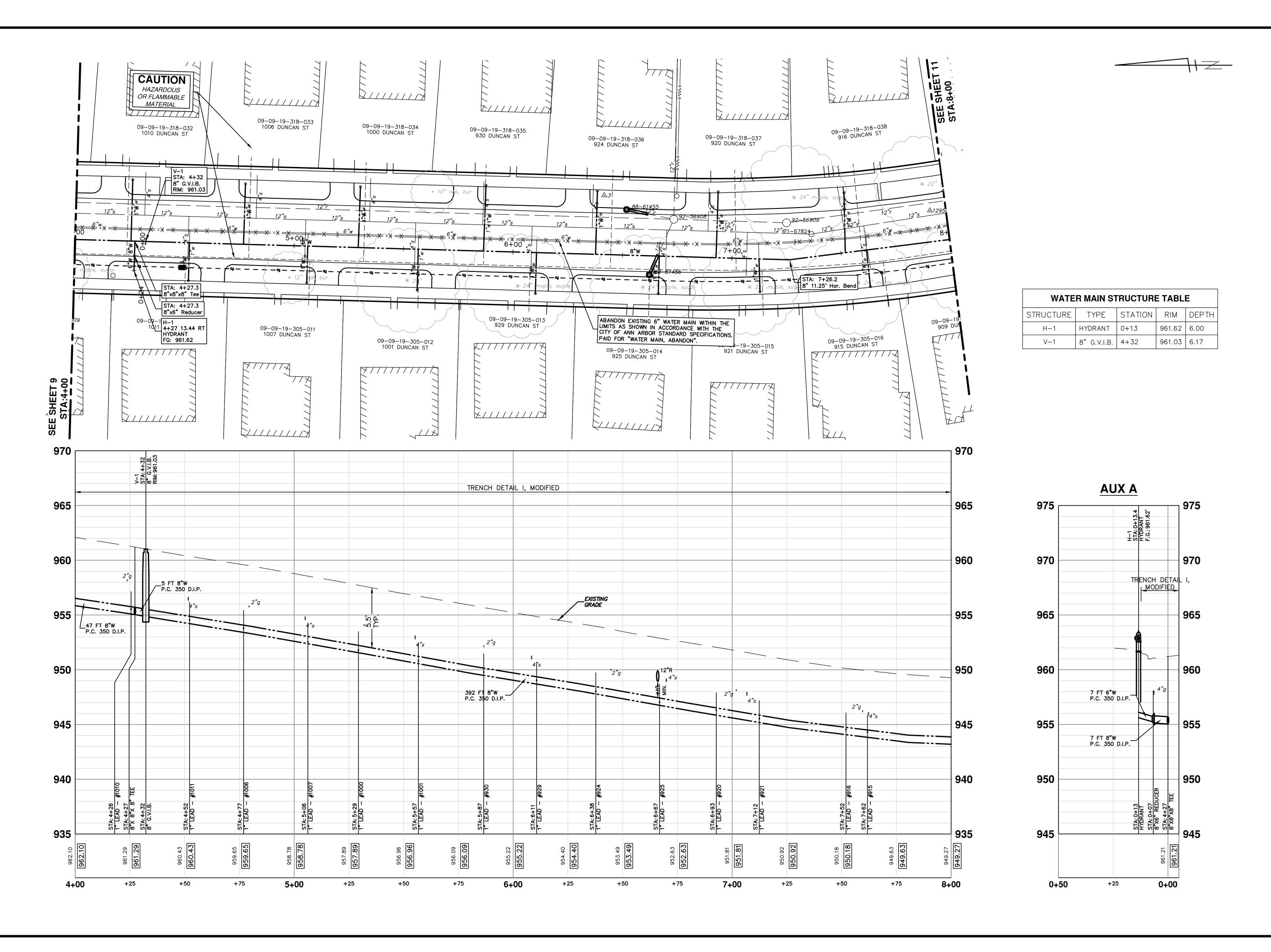
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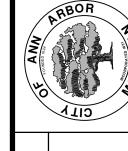
DUNCAN STREET IMPROVEMENTS

DRAWING No.

WATER MAIN PLAN & PROFILE

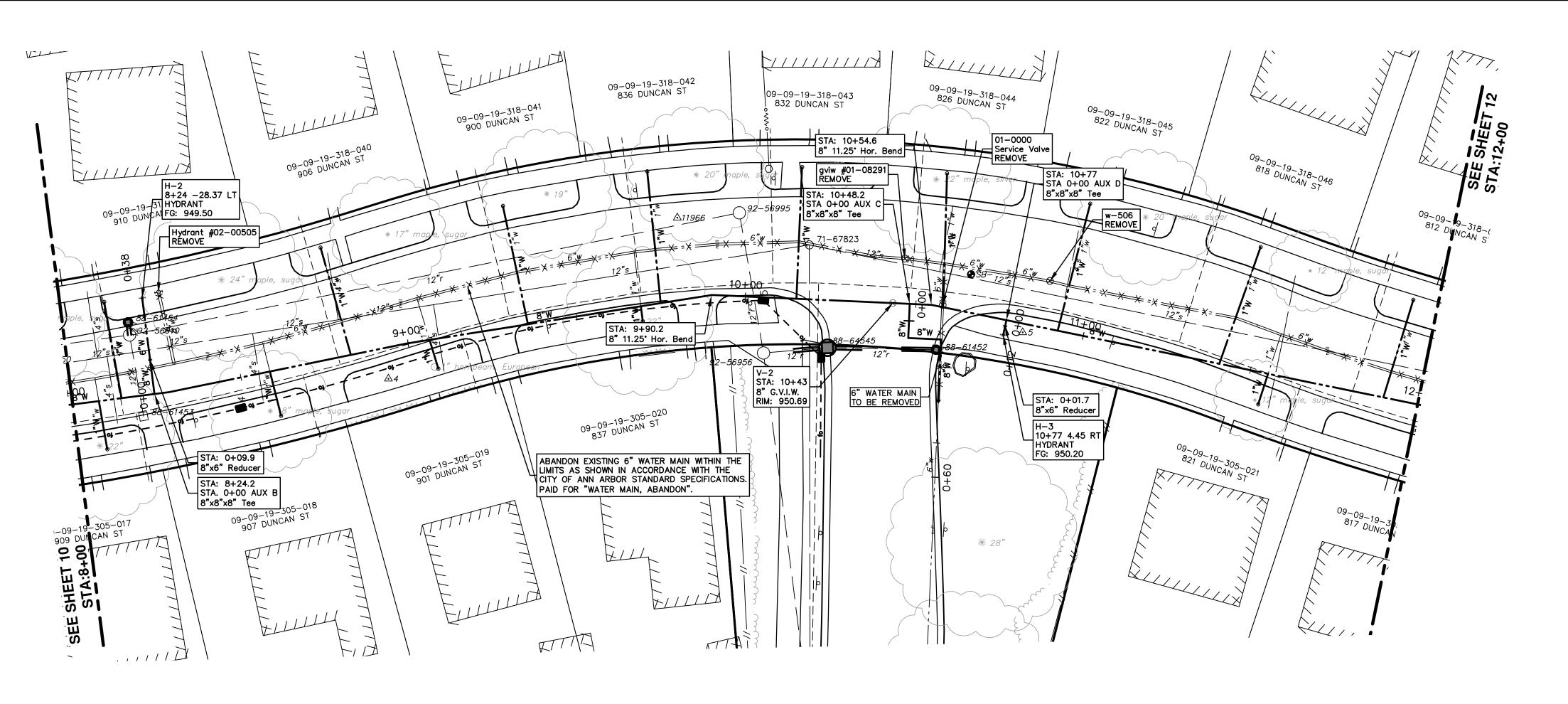
WATER - STA. 0+00 TO 4+00 SHEET No. 9 OF 17





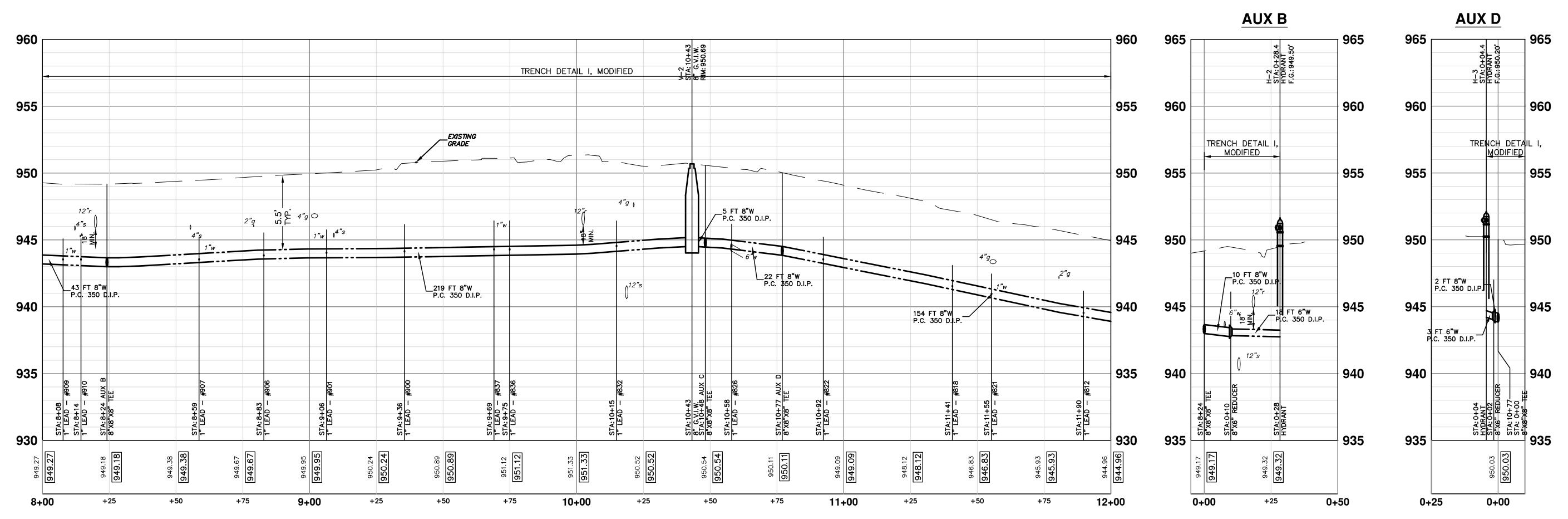
WATER MAIN PLAN & PROFILE WATER - STA. 4+00 TO 8+00

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBC SCALE PLAN: 1:20 PROFILE: 1" = 4" DUNCAN STREET IMPROVEMENTS



WATER MAIN STRUCTURE TABLE						
TRUCTURE	TYPE	STATION	RIM	DEPTH		
H-3	HYDRANT	0+04	950.20	6.00		
V-3	8" G.V.I.B.	0+05	950.55	6.71		
H-2	HYDRANT	0+28	949.50	6.75		
V-2	8" G.V.I.W.	10+43	950.69	6.16		
	H-3 V-3 H-2	H-3 HYDRANT V-3 8" G.V.I.B. H-2 HYDRANT	H-3 HYDRANT 0+04 V-3 8" G.V.I.B. 0+05 H-2 HYDRANT 0+28	H-3 HYDRANT 0+04 950.20 V-3 8" G.V.I.B. 0+05 950.55 H-2 HYDRANT 0+28 949.50		

EX WATER MAIN STRUCTURE TABLE						
STRUCTURE	TYPE	STATION	RIM	DEPTH		
Hydrant #02-00505	REMOVE	8+12	949.56	6.95		
gviw #01-08291	REMOVE	10+31	950.70	9.60		
01-0000	Service Valve REMOVE	10+43	950.37	6.17		
w-506	REMOVE	10+74	949.42	6.24		



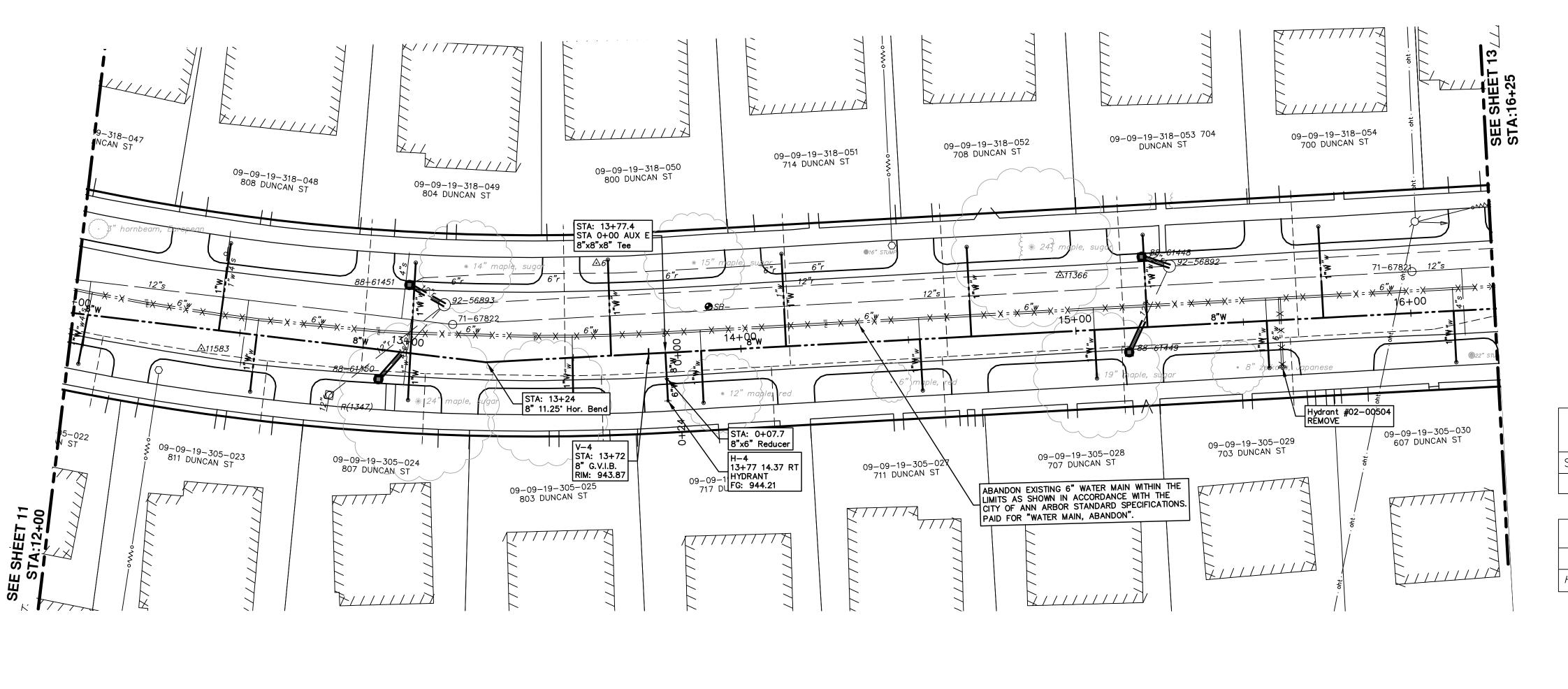
PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBC

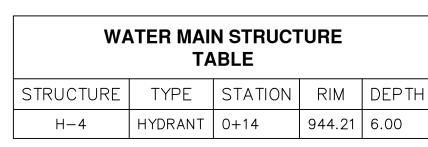
SCALE PLAN: 1:20 PROFILE: 1" = 4"

DRAWING NO.

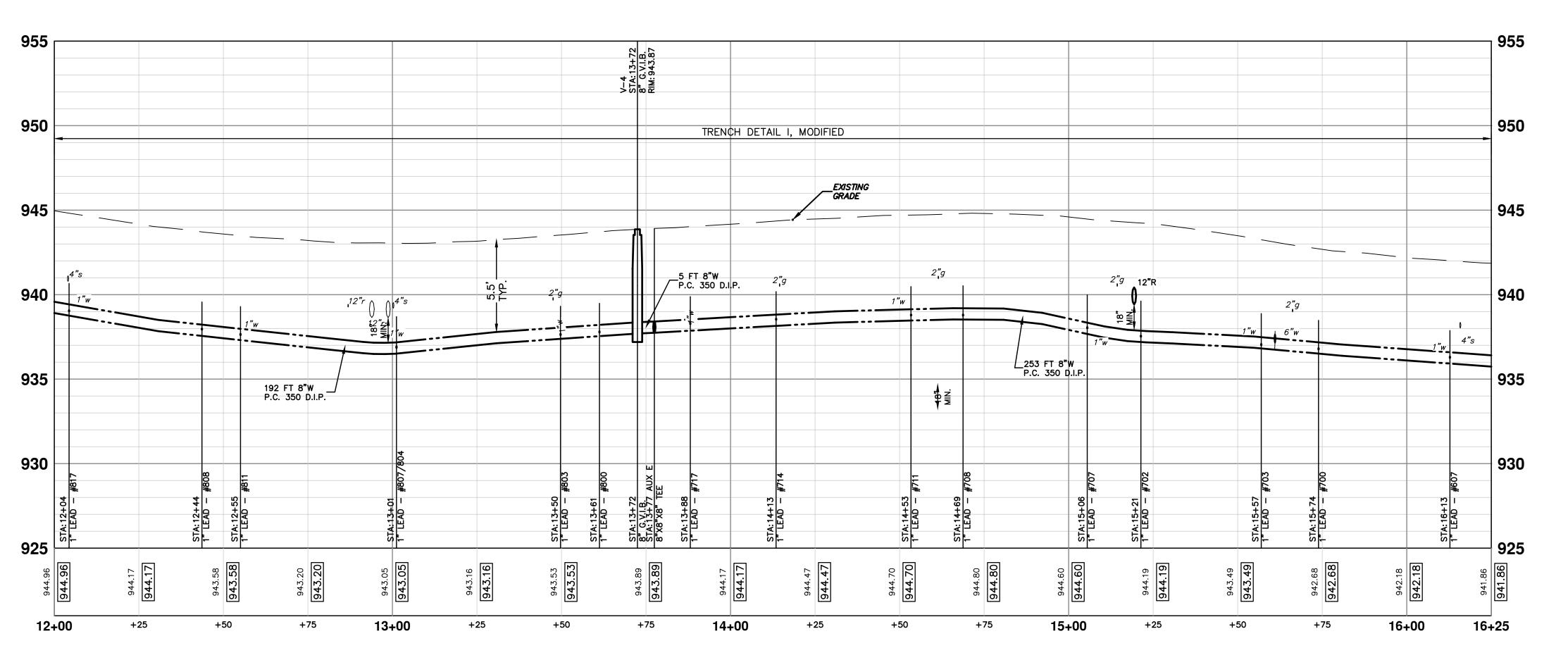
WATER MAIN PLAN & PROFILE

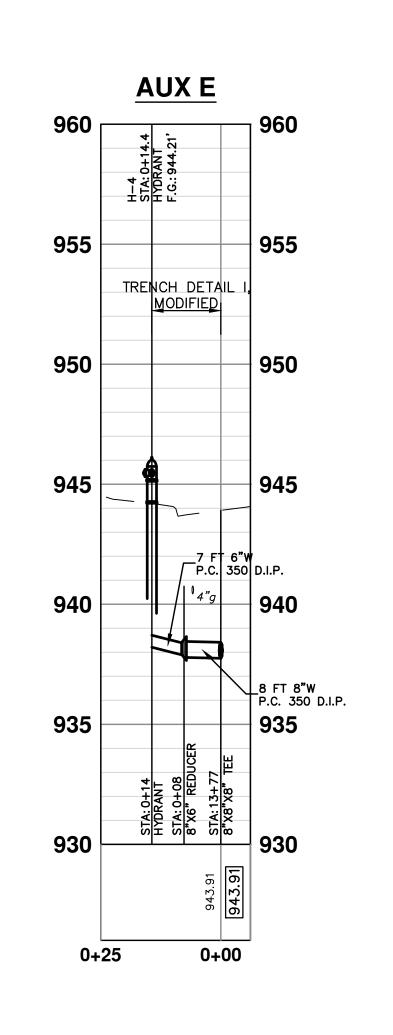
WATER - STA. 8+00 TO 12+00





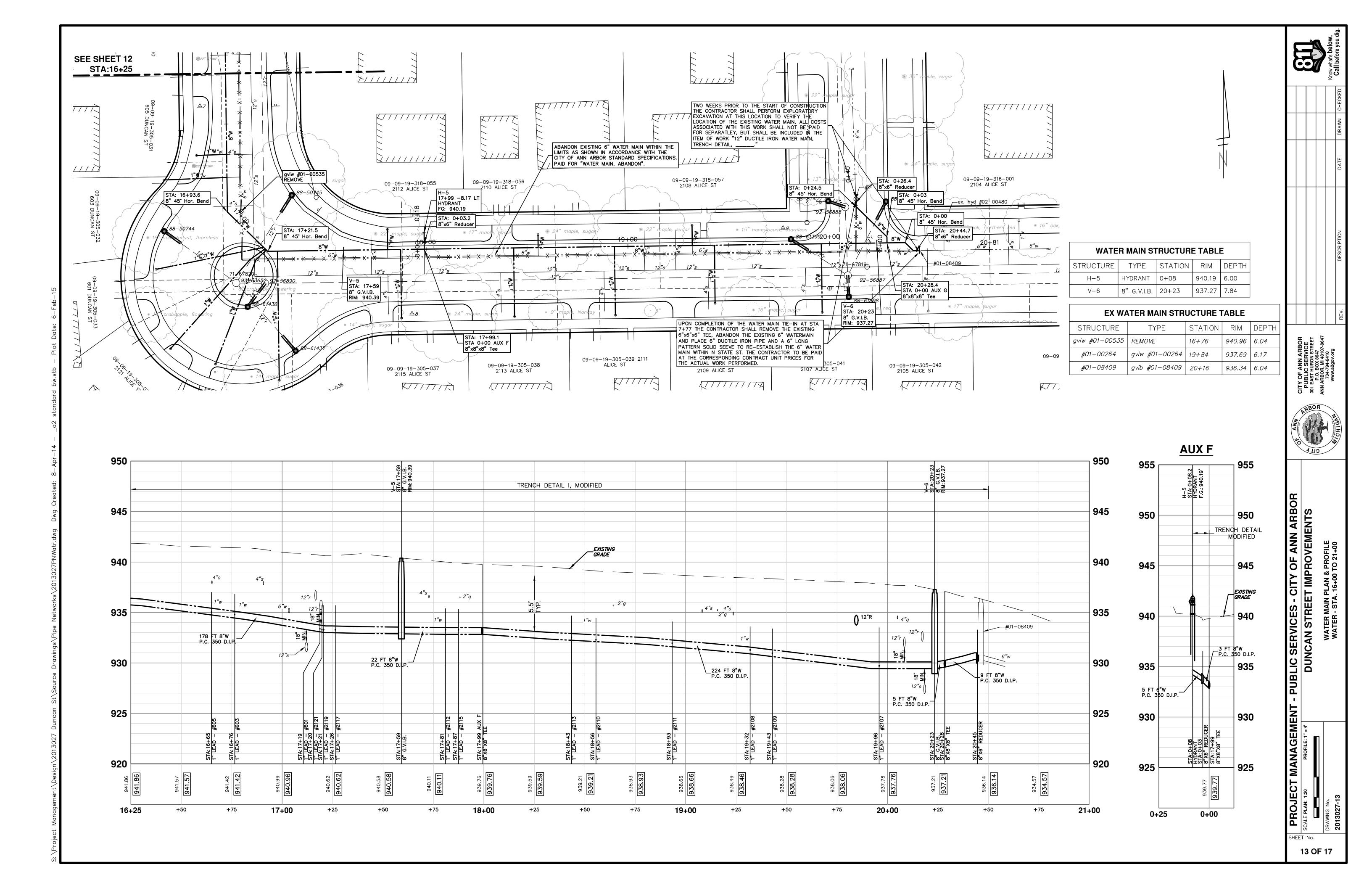
EX WATER MAIN STRUCTURE TABLE						
STRUCTURE	TYPE	STATION	RIM	DEPTH		
Hydrant #02-00504	REMOVE	15+47	943.14	6.40		

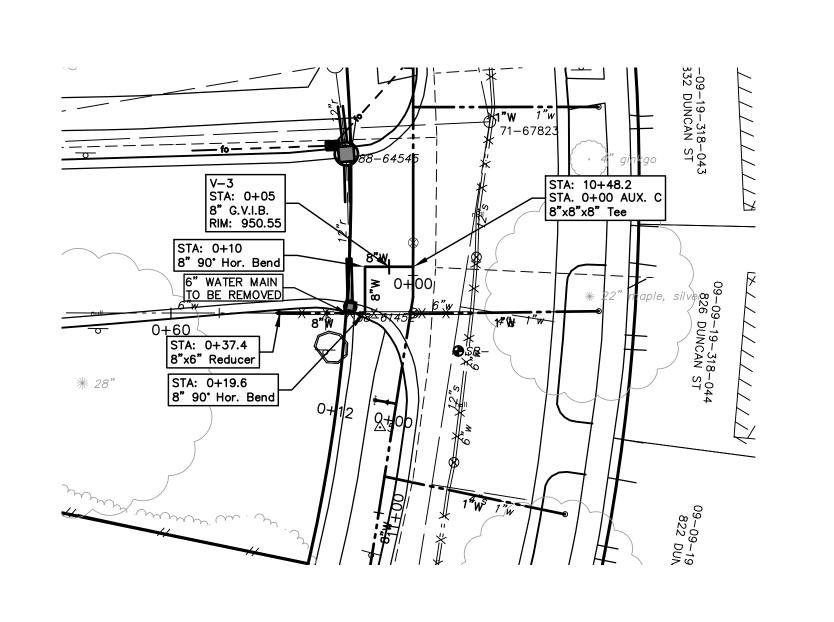


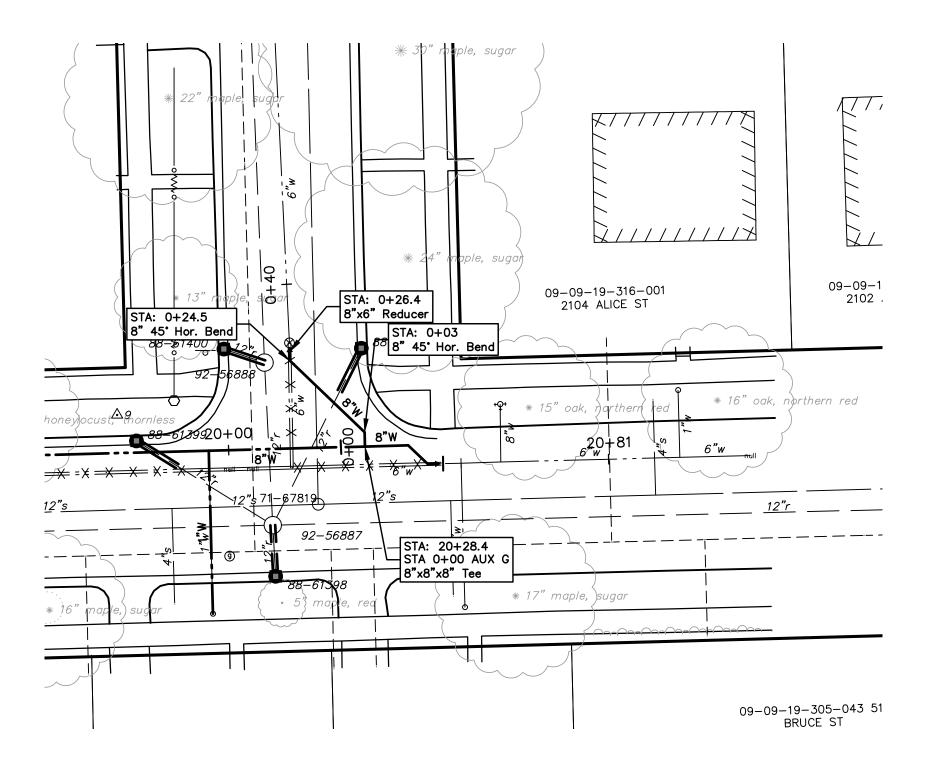


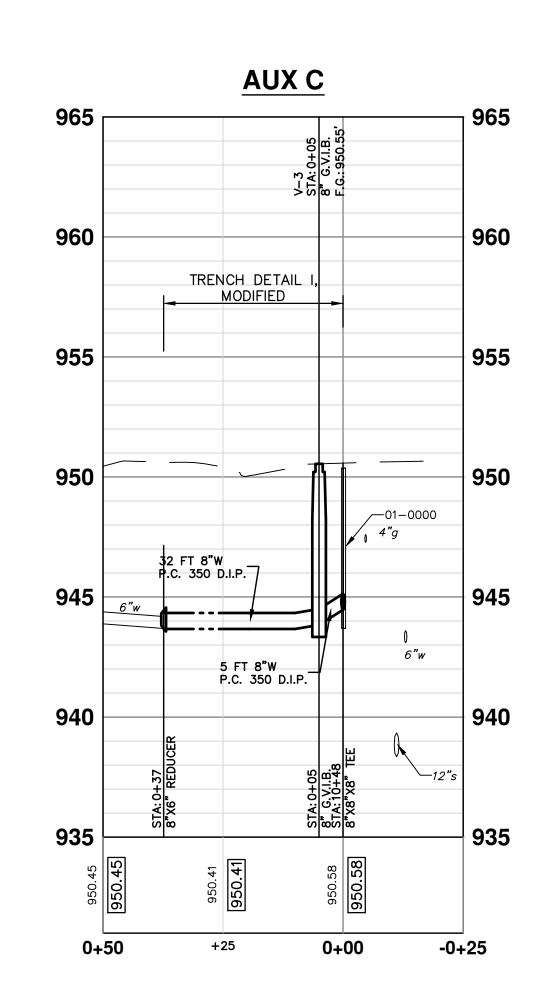
WATER MAIN PLAN & PROFILE WATER - STA. 12+00 TO 16+00

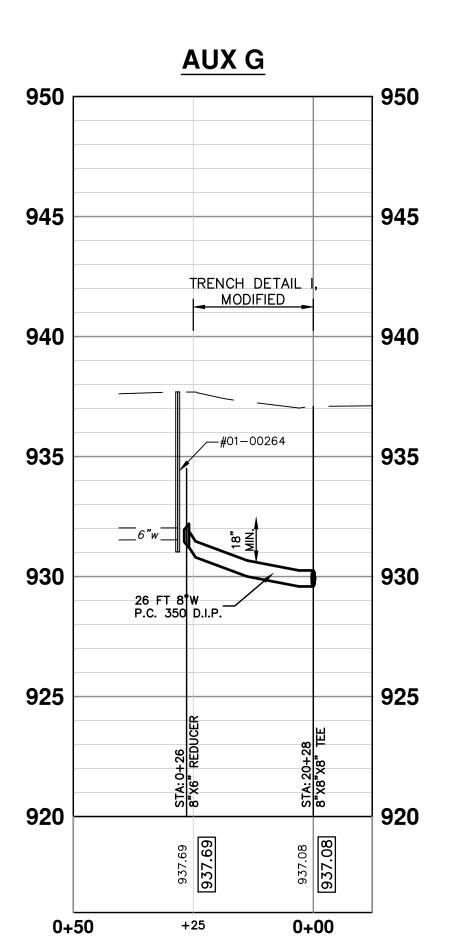
PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR











PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

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

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

DINCAN STREET IMPROVEMENTS

WATER MAIN PLAN & PROFILE

WATER - AUXILIARY C & G

2013027-14



SHEET No.

