

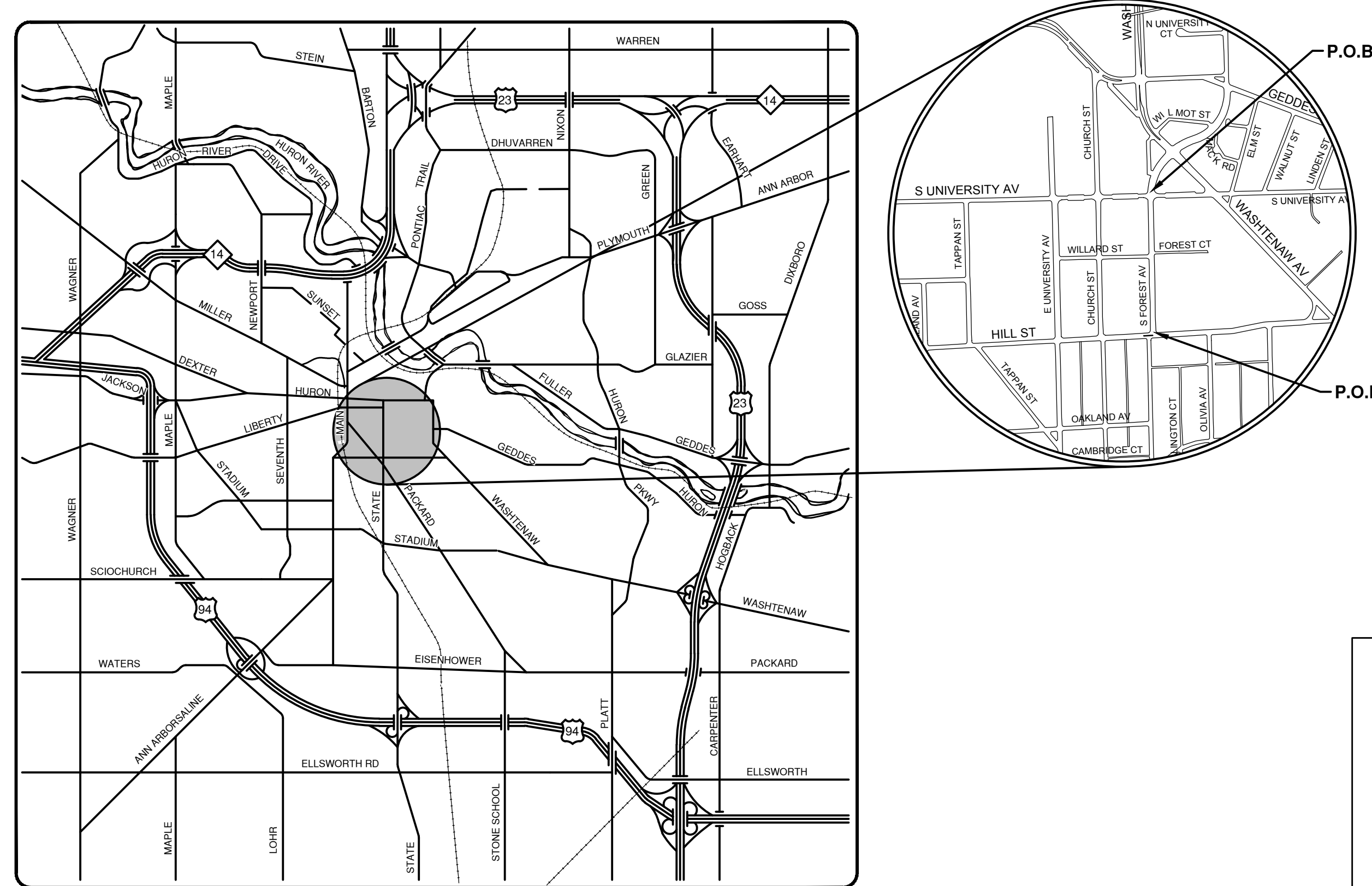
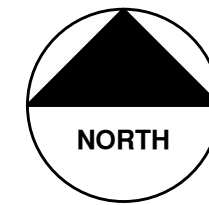


CITY OF ANN ARBOR PROJECT MANAGEMENT

S. FOREST AVENUE IMPROVEMENTS

BID No. 4293 FILE No. 2012-039

MAY 2013



VICINITY MAP

Sheet List Table	
Sheet Number	Sheet Title
1	Cover
2	Typical Cross-Sections & Details
3	Details
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6	Road Plan & Profile Sta 0+00 to 3+50
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8	Road Plan & Profile Sta 7+00 to 11+00
9	Water Main Plan & Profile Sta 0+00 to 5+92
10	Transformer Park Removal & SESC Plan
11	Transformer Park Construction Plan
12	Transformer Park Grading & Drainage
13	ADA Ramps & Detailed Grading
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15	Detour Plan
16	Temporary Traffic Control
17	Pavement Marking

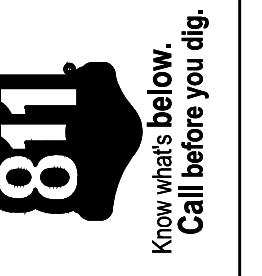
NOTES:

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

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 53, 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.

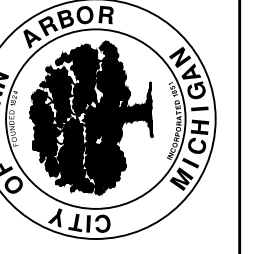
THE UNDERGROUND LOCATIONS SHOWN FOR NATURAL GAS (GAS), TELEPHONE (TEL), ELECTRICAL POWER (PWR), CABLE TV (CTV) AND FIBER OPTIC LINES (FIBER) ARE APPROXIMATE. THE CITY OF ANN ARBOR ASSUMES NO RESPONSIBILITY FOR THEIR ACCURATE REPRESENTATION IN THIS DRAWING. MISS DIG MUST BE CONTACTED PRIOR TO CONSTRUCTION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

PROJECT MANAGEMENT SERVICE UNIT	
	PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR
PROJECT DESCRIPTION CONTRACT FOR RECONSTRUCTION OF FOREST AVENUE BETWEEN S. UNIVERSITY AVENUE AND HILL STREET, INCLUDES REPLACEMENT OF HMA PAVEMENT, AGGREGATE BASE, CURB, STORM SEWER, WATER MAIN AND PERMANENT PAVEMENT MARKINGS. ALSO INCLUDES IMPROVEMENTS TO THE POCKET PARK AREA	ENGINEER'S SEAL _____ IGOR V. KOTYAR, P.E. - MI LICENSE No. 43287 PROJECT ENGINEER DATE 05/16/2013
ENGINEER'S SEAL _____ CHRISTOPHER E. WALL, P.E. - MI LICENSE No. 45668 PROJECT MANAGER DATE 05/16/2013	PREPARED UNDER THE SUPERVISION OF _____ DATE 05/16/2013
SHEET No. 1 TO 17	DRAWING No. C001116012



REV.	DATE	DESCRIPTION
01	05-08-2013	BID SET
		ATP
		CEW
		CHECKED

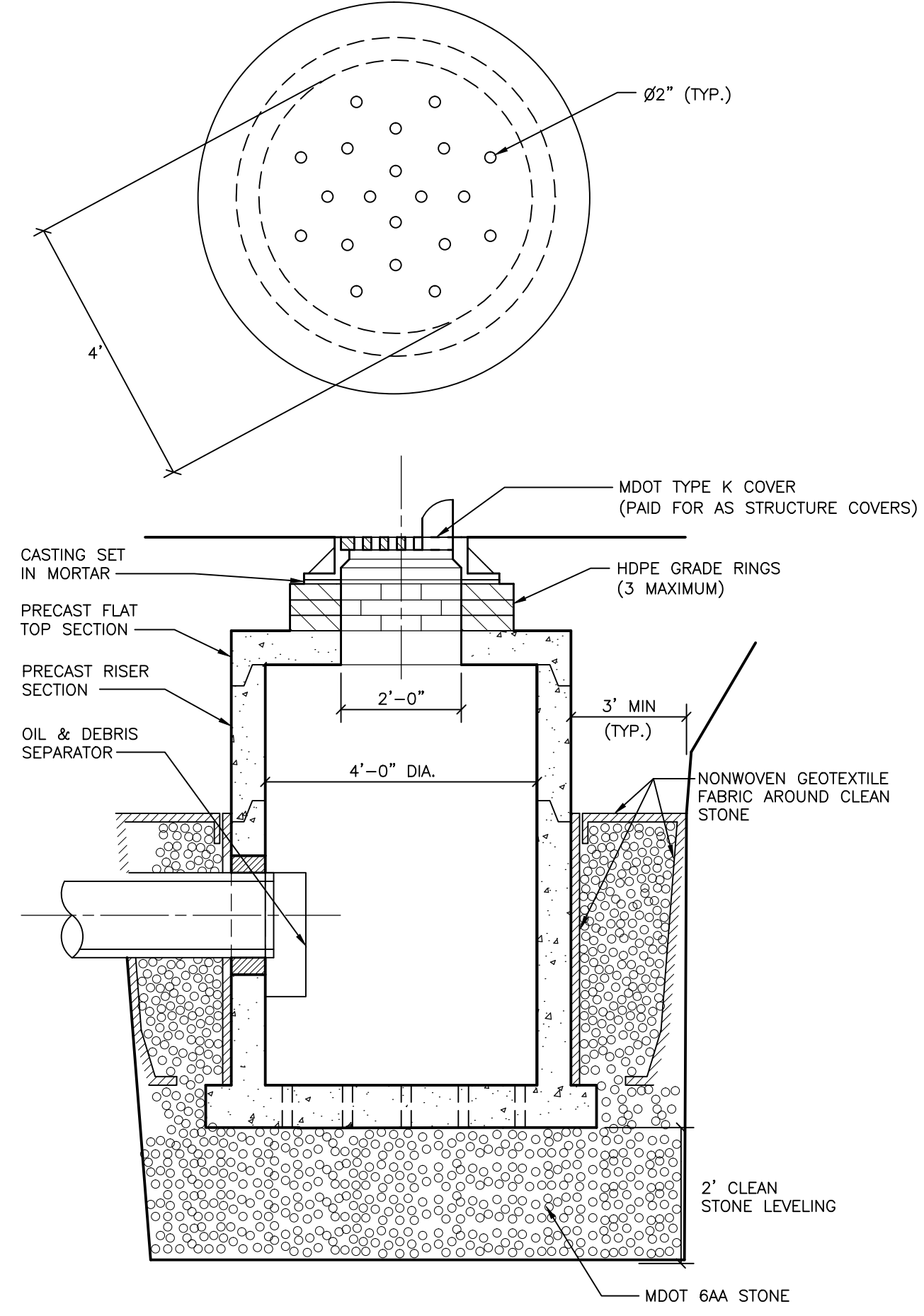
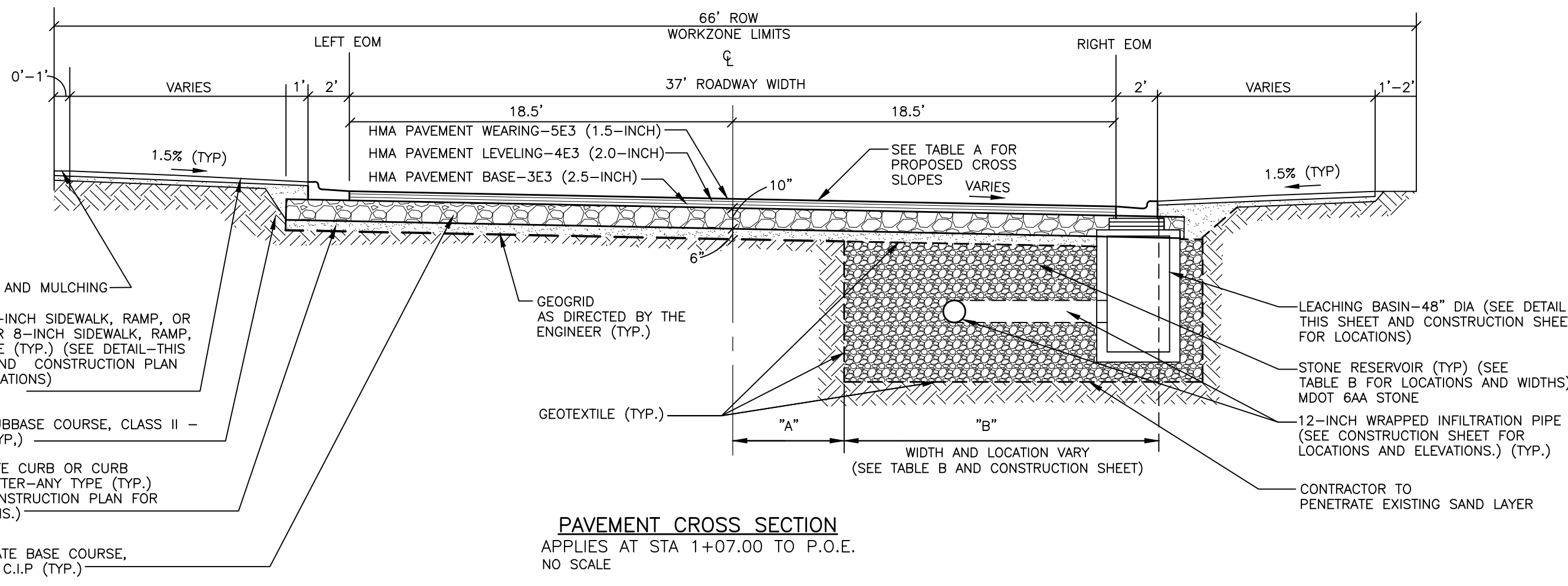
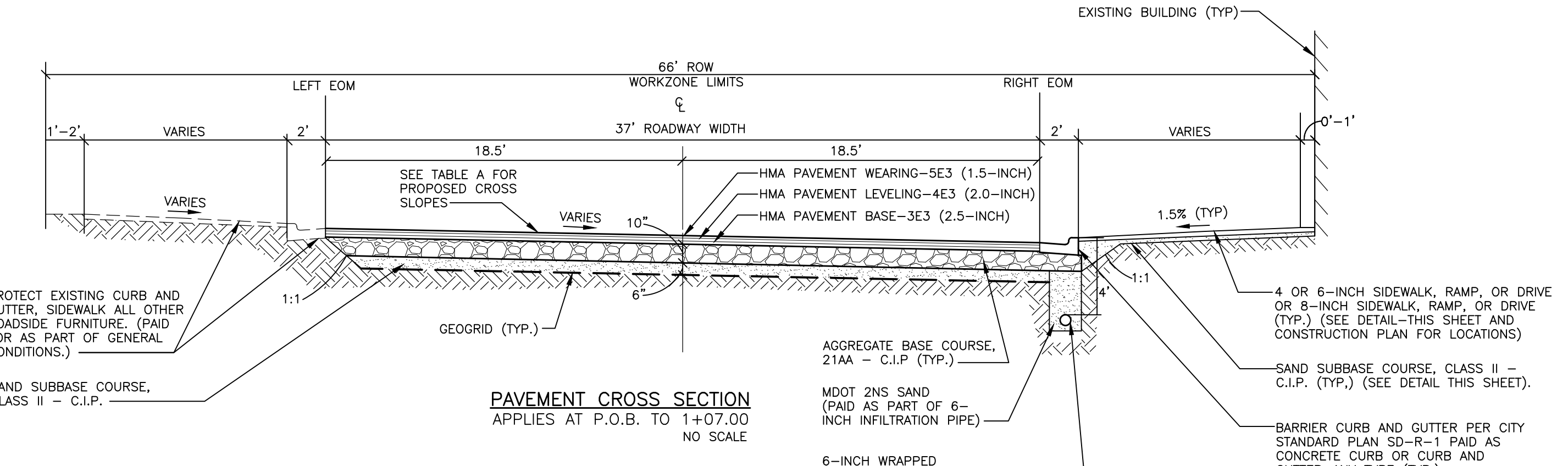
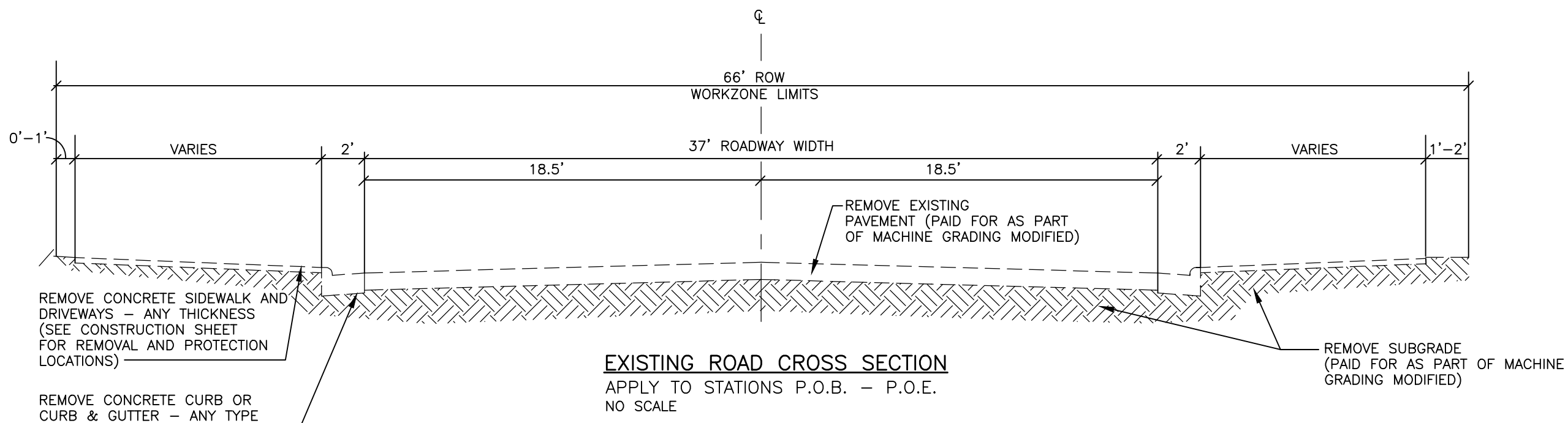
CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
ANN ARBOR, MI 48106-1667
www.a2gov.org



PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR
CONTRACT FOR RECONSTRUCTION OF FOREST AVENUE BETWEEN S. UNIVERSITY AVENUE AND HILL STREET, INCLUDES REPLACEMENT OF HMA PAVEMENT, AGGREGATE BASE, CURB, STORM SEWER, WATER MAIN AND PERMANENT PAVEMENT MARKINGS. ALSO INCLUDES IMPROVEMENTS TO THE POCKET PARK AREA

CONTRACTOR SHALL:

- TAKE ALL PRECAUTIONS TO SUPPORT UTILITY POLES, COORDINATE WITH APPROPRIATE UTILITY COMPANIES AND MINIMIZE SCHEDULE DELAYS.
- COMPLETE ALL WORK IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL CODES, RULES AND REGULATIONS. OBTAIN ALL NECESSARY LOCAL, STATE AND FEDERAL PERMITS AND PAY PERMIT FEES FOR THE WORK OR CONFIRM REQUIRED PERMITS HAVE BEEN OBTAINED BY OTHERS PRIOR TO COMMENCING CONSTRUCTION.
- BE RESPONSIBLE AT ALL TIMES FOR SITE SAFETY IN ACCORDANCE WITH THE LATEST REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY AUTHORITY HAVING JURISDICTION.
- CALL MISS DIG @ 1-800-482-7171 AT LEAST 3 WORKING DAYS PRIOR TO ANY EXCAVATION TO CONFIRM THE LOCATIONS OF EXISTING BURIED UTILITIES. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE PART OF THE "MISS DIG" ALERT SYSTEM. COORDINATE THE RELOCATION OF EXISTING UTILITIES WITH THE UTILITY OWNER. BE RESPONSIBLE FOR PROTECTING EXISTING UTILITIES AND REPAIRING DAMAGE TO EXISTING UTILITIES RESULTING FROM THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COSTS OF REPAIRING OR REPLACING ANY DAMAGED UTILITIES AT NO EXPENSE TO THE OWNER.
- COMPLY WITH THE CONDITIONS AND REQUIREMENTS OF THE SOIL EROSION AND SEDIMENTATION CONTROL PERMIT, INCLUDING BUT NOT LIMITED TO, CERTIFIED STORM WATER OPERATOR REQUIREMENTS. INSTALL ALL CONTROL MEASURES PRIOR TO COMMENCING CONSTRUCTION.
- PROVIDE TRAFFIC CONTROL BARRICADES, SIGNS, LIGHTS, ETC. IN ACCORDANCE WITH THE LATEST EDITION OF THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES PART 6 AS NECESSARY FOR THE PROTECTION AND SAFETY OF THE PUBLIC. MAINTAIN THESE DEVICES AT ALL TIMES DURING CONSTRUCTION.
- MAINTAIN A CLEAN WORK AREA. THOROUGHLY CLEAN AND/OR SWEEP STREETS AND ROADWAYS AS NEEDED AND AS REQUIRED BY THE ENGINEER.
- MAINTAIN ACCESS TO PROPERTIES AND FOR POSTAL SERVICE DURING CONSTRUCTION. COORDINATE WITH THE APPROPRIATE JURISDICTIONAL AUTHORITIES, CONDUCT OPERATIONS TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, WALKS AND OTHER ADJACENT OCCUPIED OR USED FACILITIES. ANY CLOSURE REQUIRES PERMISSION FROM ENGINEER AND COORDINATION WITH PROPERTY OWNERS AND RESIDENTS.
- RESTORE ALL DISTURBED AREAS NOT COVERED BY OTHER SURFACE TREATMENT WITH 4" TOPSOIL, SEED, FERTILIZER AND MULCH BLANKETS.
- PROTECT EXISTING SITE IMPROVEMENTS AND LANDSCAPING FROM DAMAGE. RESTORE/REPLACE DAMAGED IMPROVEMENTS AND LANDSCAPING TO ORIGINAL CONDITION ACCEPTABLE TO THE ENGINEER.
- PROTECT TREES AND SHRUBS FROM DAMAGE DURING CONSTRUCTION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- REFER DISCREPANCIES TO THE ENGINEER FOR CLARIFICATION.
- THE INFORMATION CONTAINED ON THESE DRAWINGS PERTAINING TO EXISTING CONDITIONS, SUCH AS BUT NOT LIMITED TO, UTILITIES, TOPOGRAPHY, SUBSURFACE CONDITIONS, IS FURNISHED SOLELY AS THE BEST INFORMATION AVAILABLE AND ITS ACCURACY IS NOT GUARANTEED. THE USE OF THIS INFORMATION DOES NOT PROVIDE RELIEF FOR THE CONTRACTOR FROM ANY RESPONSIBILITY FOR DAMAGES DUE TO ANY INACCURACIES.
- ALL REMOVED MATERIALS ARE THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE NOTED IN CONTRACT DOCUMENTS OR AS DIRECTED BY THE ENGINEER. CLEANUP AND DISPOSE OF ALL EXCESS MATERIALS OFF SITE AT A LOCATION DESIGNATED FOR THIS USE AND IN ACCORDANCE WITH LOCAL REGULATIONS OR AT AN ON SITE LOCATION DESIGNATED BY THE OWNER.
- USE (2) TWO BENCHMARKS FOR VERIFICATION OF ALL CONSTRUCTION ELEVATIONS. SET ADDITIONAL BENCH MARKS TO COMPLY WITH THIS REQUIREMENT.
- RESTORE ALL STREET SURFACES, DRIVEWAYS, CULVERTS, ROADSIDE DRAINAGE DITCHES, AND OTHER PUBLIC OR PRIVATE STRUCTURES THAT ARE DISTURBED OR DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITIES TO A CONDITION EQUAL TO OR BETTER THAN EXISTING CONDITIONS AND TO THE SATISFACTION OF THOSE HAVING JURISDICTION, UNLESS NOTED OTHERWISE IN THE PLANS.
- NO EQUIPMENT, MATERIALS, OR STOCKPIILING SHALL BE ALLOWED ON WILLARD STREET. SWEEP WILLARD REGULARLY TO AND VACUUM ENTIRE STREET AFTER PROJECT COMPLETION.

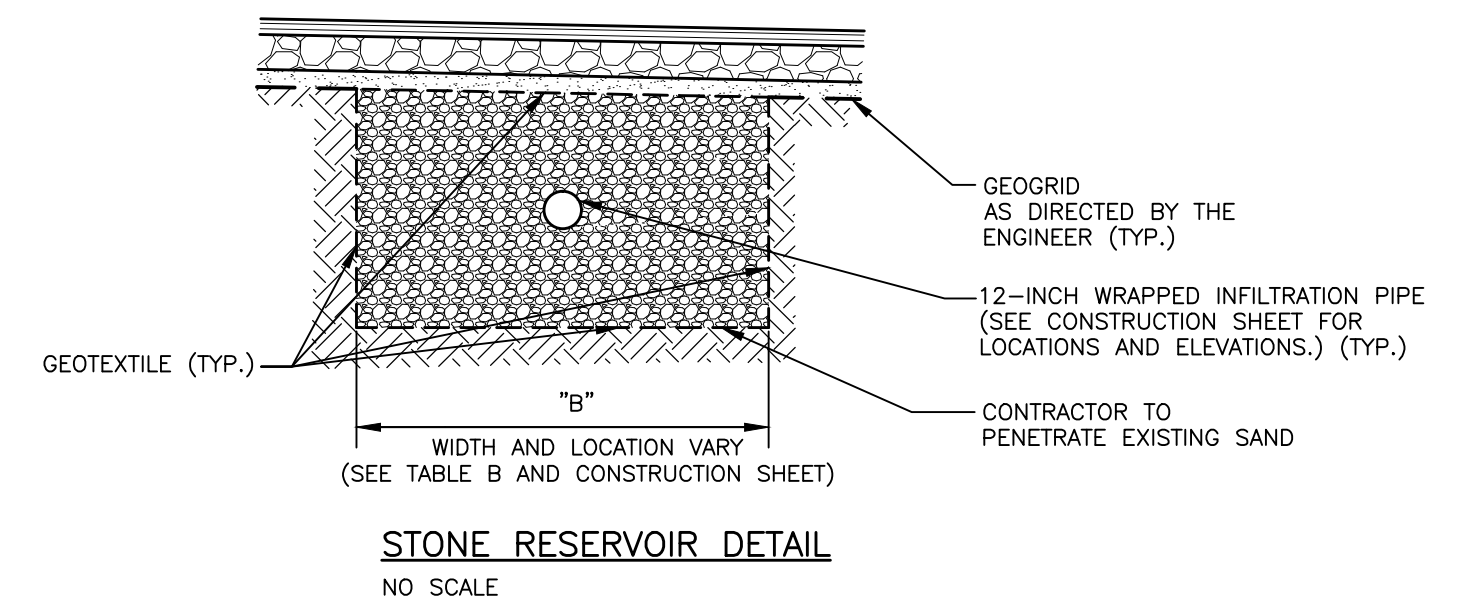


LEACHING BASIN - 48" DIA
NO SCALE
ALL ITEMS PAID FOR AS "LEACHING BASIN - 48" DIA" UNLESS SPECIFIED


HMA APPLICATION CHART					
PAY ITEM	MIX	EST RATE OF APPLICATION	FINAL THICKNESS	PERFORMANCE GRADE	REMARKS
HMA PAVEMENT WEARING, 5E3	5E3	165 LBS/SYD	1.5"	64-28	FULL-DEPTH RECONSTRUCT
HMA PAVEMENT LEVELING, 4E3	4E3	220 LBS/SYD	2.0"	64-28	FULL-DEPTH RECONSTRUCT
HMA PAVEMENT BASE, 3E3	3E3	275 LBS/SYD	2.5"	64-28	FULL-DEPTH RECONSTRUCT
BIT BOND COAT SS-1h (FOR INFORMATION ONLY) NOT PAY ITEM	SS-1h	0.05 to 0.15 GAL/SYD			BETWEEN LAYERS

TABLE A PROPOSED CROSS SLOPES*					
STA	RIGHT EOM	RIGHT CROSS SLOPE	CENTERLINE	LEFT CROSS SLOPE	LEFT EOM
0+29	MATCH	MATCH	MATCH	MATCH	MATCH
0+50	878.27	-3.00%	878.93	-0.24%	MATCH
0+75	877.37	-3.00%	877.93	-3.00%	MATCH
1+00	876.94	-2.50%	877.50	-2.50%	MATCH
1+25	876.56	-2.25%	877.03	-2.25%	MATCH
1+50	876.19	-2.00%	876.56	-2.00%	MATCH
1+75	875.84	-2.00%	876.20	-2.00%	MATCH
2+00	875.48	-2.00%	875.85	-2.00%	MATCH
2+25	875.22	-2.00%	875.59	-2.00%	MATCH
2+50	874.96	-2.00%	875.33	-2.00%	MATCH
2+75	874.62	-2.00%	874.99	-2.00%	MATCH
3+00	874.29	-2.00%	874.66	-2.00%	MATCH
3+25	873.82	-2.00%	874.22	-2.00%	MATCH
3+50	MATCH	-2.41%	873.79	-2.41%	MATCH
3+75	MATCH	-2.20%	873.52	-2.20%	873.93
4+00	MATCH	-2.00%	873.26	-2.00%	873.63
4+28	MATCH	-2.00%	872.87	-2.00%	873.24
4+50	872.00	-2.00%	872.37	-2.00%	872.74
4+75	871.76	-1.75%	872.08	-1.75%	872.40
5+00	MATCH	-1.50%	871.79	-1.50%	872.07
5+25	MATCH	-1.50%	871.30	-1.50%	871.58
5+50	MATCH	-1.50%	870.81	-1.50%	871.09
5+75	MATCH	-1.50%	870.40	-1.50%	870.68
6+00	MATCH	-1.50%	870.00	-1.50%	870.28
6+25	MATCH	-1.50%	869.61	-1.50%	869.89
6+50	MATCH	-1.50%	869.23	-1.50%	869.51
6+75	MATCH	-1.50%	868.76	-1.50%	869.04
7+00	MATCH	-1.50%	868.50	-1.50%	868.78
7+25	MATCH	-1.50%	868.04	-1.50%	868.32
7+50	MATCH	-1.50%	867.65	-1.50%	867.93
7+75	MATCH	-1.50%	867.22	-1.50%	867.50
8+00	MATCH	-1.50%	866.84	-1.50%	867.12
8+25	MATCH	-1.50%	866.49	-1.50%	866.77
8+50	MATCH	-1.50%	866.15	-1.50%	866.43
8+75	MATCH	-1.50%	866.01	-1.50%	866.29
9+00	MATCH	-1.50%	865.90	-1.50%	866.18
9+25	MATCH	-1.50%	865.79	-1.50%	866.07
9+50	MATCH	-1.50%	865.63	-1.50%	865.81
9+75	MATCH	-1.50%	865.35	-1.50%	865.63
10+00	MATCH	-1.50%	865.10	-1.50%	865.38
10+31	MATCH	0.92%	864.75	0.92%	864.92
10+50	MATCH	2.76%	865.24	0.24%	865.285

TABLE B STONE RESERVOIR LOCATION AND WIDTHS				
A	B	FROM STA	TO STA	
RIGHT TRENCH EDGE C/L OFFSET	WIDTH			
20.5'	13'	1+09	2+05	
15.5'	8.5'	2+05	3+06	
20.5'	13.5'	3+06	3+16	
15.5'	8.5'	3+16	4+34	
20.5'	13.5'	4+34	4+44	
15.5'	8.5'	4+44	5+52	
20.5'	13.5'	5+52	5+62	
15.5'	8.5'	5+62	6+57	
20.5'	13.5'	6+57	6+67	
15.5'	8.5'	6+67	8+60	
20.5'	18'	8+60	8+70	
13'	13'	8+70	10+21	
20.5'	13'-10"	10+21	10+31	




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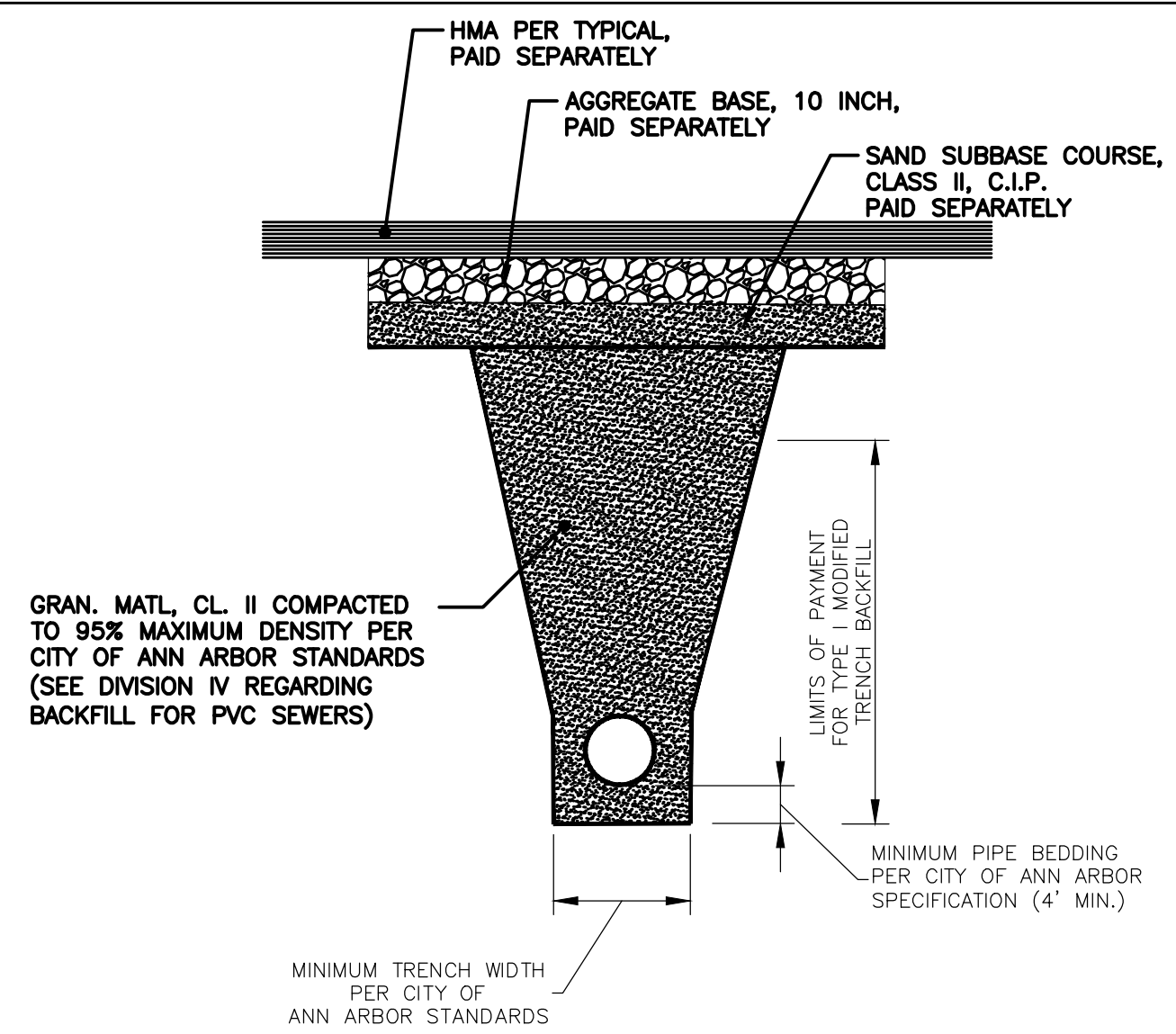
CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
PO BOX 8647
ANN ARBOR MI 48106-8647
www.a2gov.org



PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR
FOREST AVENUE IMPROVEMENTS

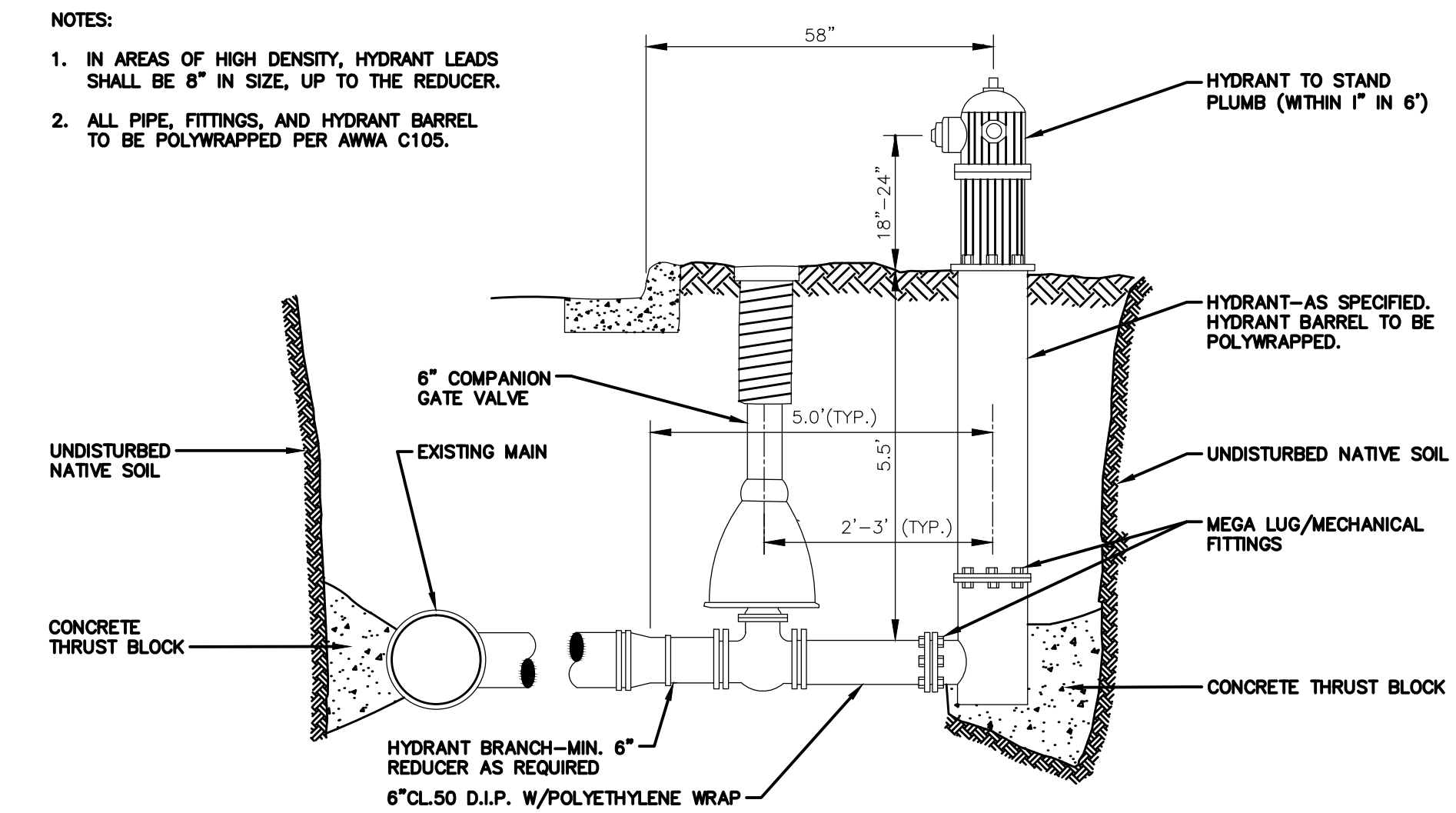
TYPICAL CROSS-SECTIONS AND DETAILS

SCALE PLAN N.T.S.
DRAWING No. C002110612
SHEET No. 2 OF 17



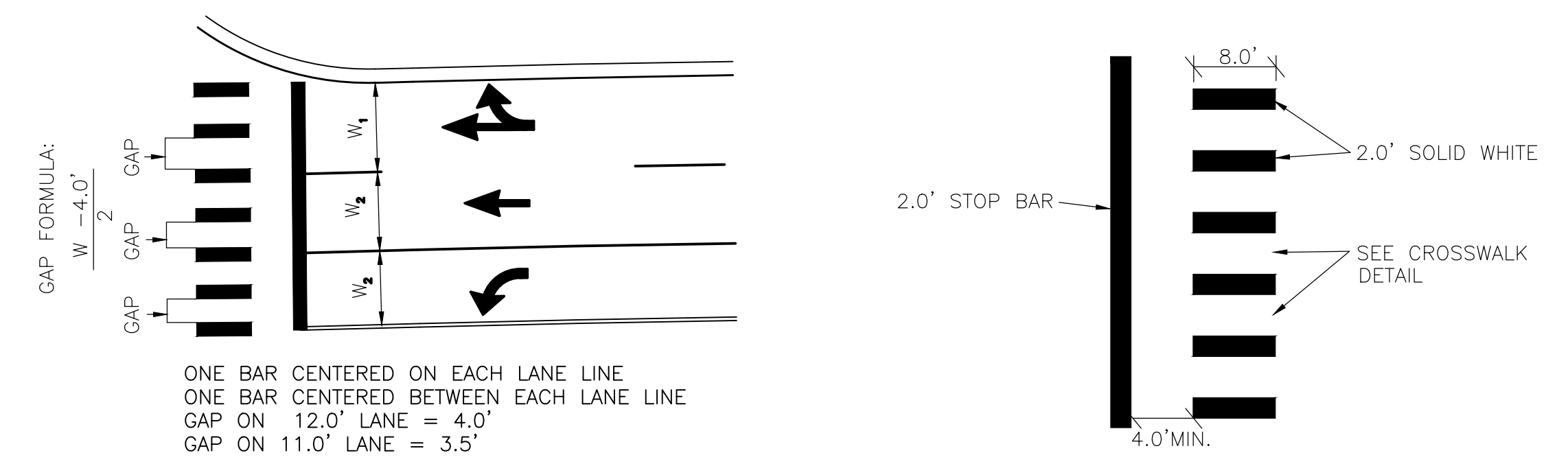
- NOTE:** DENSITY TESTING PER CITY ANN ARBOR STANDARD SPECIFICATIONS
- NOTE:** TRENCH DETAILS SHOW TYPE OF BACKFILL ONLY
- NOTE:** ALL TRENCHING TO CONFORM TO ALL APPLICABLE M.I.O.S.H.A. STANDARDS
- NOTE:** GEOGRID, STONE RESERVOIR (AT CROSSINGS), AGGREGATE BASE AND HMA PAID SEPARATELY

UTILITY TRENCH - TYPE I MODIFIED



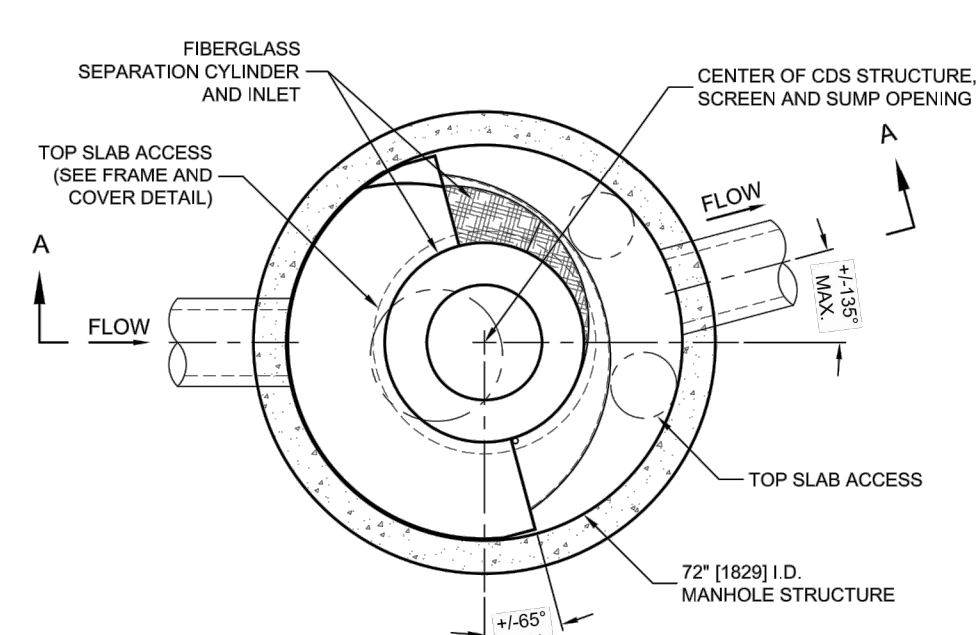
- NOTES:**
- IN AREAS OF HIGH DENSITY, HYDRANT LEADS SHALL BE 8" IN SIZE, UP TO THE REDUCER.
 - ALL PIPE, FITTINGS, AND HYDRANT BARREL TO BE POLYWRAPPED PER AWWA C105.

FIRE HYDRANT ASSEMBLY SD-W-1



CROSSWALK DETAIL

STOP BAR DETAIL



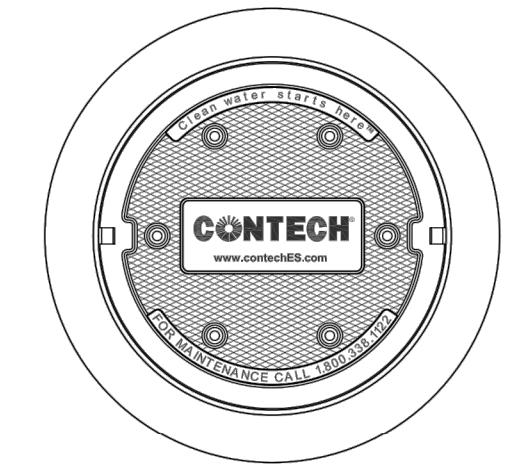
PLAN VIEW B-B
N.T.S.

CDS3020-6-C DESIGN NOTES

CDS3020-6-C RATED TREATMENT CAPACITY IS 2.0 CFS [56.6 L/s], OR PER LOCAL REGULATIONS. MAXIMUM HYDRAULIC INTERNAL BYPASS CAPACITY IS 20.0 CFS [566 L/s]. IF THE SITE CONDITIONS EXCEED 20.0 CFS [566 L/s], AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

THE STANDARD CDS3020-6-C CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

CONFIGURATION DESCRIPTION	
GRATED INLET ONLY (NO INLET PIPE)	
GRATED INLET WITH INLET PIPE OR PIPES	
CURB INLET ONLY (NO INLET PIPE)	
CURB INLET WITH INLET PIPE OR PIPES	
SEPARATE OIL BAFFLE (SINGLE INLET PIPE REQUIRED FOR THIS CONFIGURATION)	
SEDIMENT WEIR FOR NJDEP / NJCAT CONFORMING UNITS	

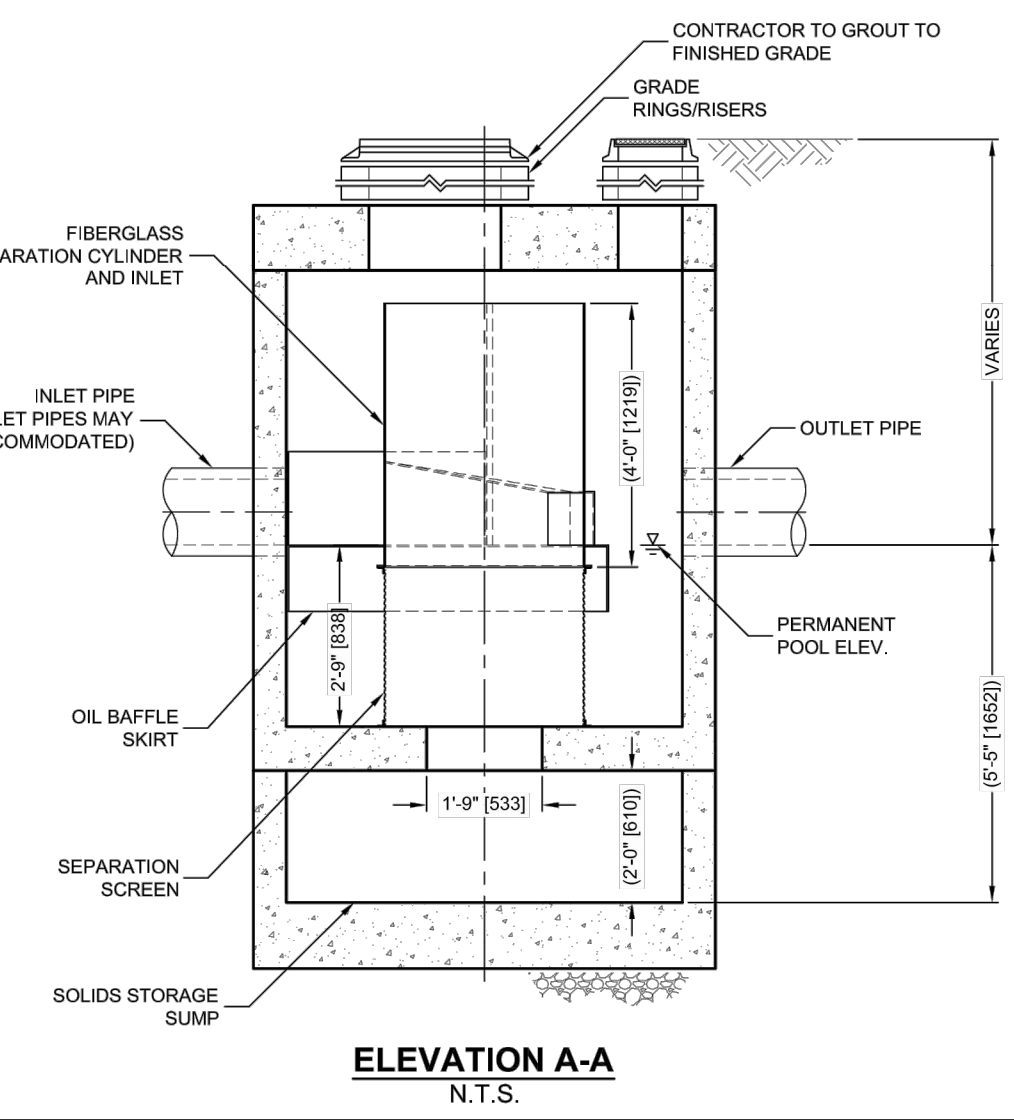


FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	
WATER QUALITY FLOW RATE (CFS OR L/s)	*
PEAK FLOW RATE (CFS OR L/s)	*
RETURN PERIOD OF PEAK FLOW (YRS)	*
SCREEN APERTURE (2400 OR 4700)	*
PIPE DATA	I.E. MATERIAL DIAMETER
INLET PIPE 1	* * *
INLET PIPE 2	* * *
OUTLET PIPE	* * *
RIM ELEVATION	*
ANTI-FLOTATION BALLAST	WIDTH HEIGHT
	* *
NOTES/SPECIAL REQUIREMENTS:	
* PER ENGINEER OF RECORD	

- GENERAL NOTES**
- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
 - DIMENSIONS MARKED WITH () ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
 - FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.contechES.com
 - CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
 - STRUCTURE SHALL MEET AASHTO HS20 AND CASTINGS SHALL MEET HS20 (AASHTO M 306) LOAD RATING, ASSUMING GROUNDWATER ELEVATION AT OR BELOW THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION.
 - PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.
- INSTALLATION NOTES**
- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
 - CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE (LIFTING CLUTCHES PROVIDED).
 - CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.
 - CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.
 - CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.



ELEVATION A-A
N.T.S.

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REV.	DATE	DESCRIPTION
01	05-08-2013	BID SET
		ATP
		CED
		CHECKED

CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET
ANN ARBOR, MI 48106-1500
734.764.4410
www.a2gov.org

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR
FOREST AVENUE IMPROVEMENTS

SCALE PLAN: N.T.S.
DRAWING No. C003110612

SHEET No. 3 OF 17

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

PERMIT	ISSUING AUTHORITY
LANE CLOSURE PERMIT	CITY OF ANN ARBOR PROJECT MANAGEMENT UNIT
"NO PARKING" SIGNS PERMIT	CITY OF ANN ARBOR PROJECT MANAGEMENT UNIT
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
M.D.E.Q. WATER MAIN CONSTRUCTION PERMIT	MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

CONTACT INFORMATION

PUBLIC UTILITIES	OWNER	CONTACT
WATER		DAN WOODEN (734) 794-6350
SANITARY		MARK COZART (734) 794-6350
STORM	CITY OF ANN ARBOR FIELD OPERATIONS SERVICE UNIT W.R. WHEELER SERVICE CENTER 4251 STONE SCHOOL ROAD ANN ARBOR, MI 48108	KEVIN ERNST (734) 794-6350
FORESTRY		TRACY PENNINGTON (734) 794-6350
SIGNS SIGNALS STREET LIGHTS		CHUCK FOJTIK (734) 794-6361
PRIVATE UTILITIES	OWNER	CONTACT
GAS	DTE ENERGY 17150 ALLEN ROAD MELVINDALE, MI 48122	JAY WILLIAMS (313) 380-7303
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

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. Supporting existing utilities shall be included in "Machine Grading Modified".
- 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 transferring water services shall be excavated to MIOSHA and City of Ann Arbor Field Services requirements.
- 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.
- 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.
- The Contractor shall backfill trenches in accordance with Trench Detail Type 1, Modified. 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-blw bolts to be used at all mechanical water main joints at hydrants and Megalug fittings
- When all water services are transferred the Contractor shall abandon the existing water main. Reference the Public Services Department Standard Specifications for water main abandonment procedures. Caps and plugs shall be installed by the Contractor where shown on the plans and shall be included in the item of work for water main abandonment or as directed by Engineer.
- The Contractor shall construct, flush, and bacteriologically test the water main as detailed in the Public Services Department Standard Specifications, "Water Main Testing" (Item 3H, pg. IV-34) 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. Contractor to coordinate with DDA and Republic Parking to obtain meter bags for parking meters within the construction limits. The cost of parking meter bags to be included in pay item "General Conditions, Modified".
- 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 Field Operations and Maintenance 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. At no time shall the contractor be allowed to store materials or equipment on Willard Street.
- 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, either Type B or Type K, or 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.
- 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 1, Modified as detailed in the specifications. Trench Detail 1 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 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 CONTROL NOTES:

GENERAL

- The contractor shall implement and maintain the soil erosion control measures as shown on the plans at all times during construction on this project. Any modifications or additions to the soil erosion control measures due to construction or changed conditions shall be compiled with as required or directed by the owner, project engineer, or the City of Ann Arbor. The contractor is required to obtain a Soil Erosion Control Permit anytime the disturbed area exceeds 1 acre.
- All soil erosion and sedimentation control work shall conform to the permit requirements of the City of Ann Arbor, Chapter 63, and the laws of the State of Michigan.
- Daily or after storm events inspections shall be made by the contractor. Periodic inspections may be made by the owner/project 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 Owner.
- 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 or waterways.
- All mud/dirt tracked onto roads from the site due to construction, shall be promptly removed by the contractor. If so ordered, the Contractor shall employ a mechanical street sweeper at no additional cost to the Owner.
- Restoration of all disturbed areas, including placement of topsoil, seed, fertilizer and mulch and/or sod shall be done within 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 chloride as required or as directed by Engineer.
- The contractor shall be responsible for maintaining all temporary soil erosion control measures and removal of some upon authorized completion of the project. 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 fence shall be installed and maintained to prevent grading, erosion and sedimentation into them.
- Tree protection fencing must remain intact until restoration of the site is complete.
- Ensure all soil is stabilized. Remove all temporary soil erosion control measures.

- TEMPORARY SEEDING:
- Seed in accordance with project drawings and specifications.
 - Any disturbed area not paved, seeded, mulched, sodded or built upon by November 15th or June 30th is to be temporarily stabilized per specifications.
- ROADS:
- During construction, all roads shall be protected from unvegetated areas washing onto road surface by placement of silt fence behind curb or a 10 foot wide straw mulch bank behind curb or other approved method and/or as shown on the plans.
 - During construction of any portion of the project, adjoining roads shall be maintained free of dirt, silt and construction debris. Contractor required to use vacuum sweeper equipment for cleaning construction site and adjoining roads. The use of broom sweeper is not permitted.

SEQUENCE OF EROSION CONTROL MEASURES:

- Install silt fence, tree protection fencing and inlet filters on existing storm inlets prior to any clearing or earth moving operation.
 - Install inlet filters immediately following installation of proposed storm drainage system.
 - Contractor to continually maintain erosion and sedimentation control measures, as required to allow drainage and sediment removal. Remove any accumulated sediment.
 - Strip and clear - maintain erosion control measures around temporary stock piles.
 - Rough grade
 - Install stormwater management system.
 - Connect stormwater management system.
- CATCH BASIN/MANHOLE PROTECTION:
- Protect storm sewer catch basins with approved inlet filters.

CIVIL SYMBOL LEGEND

TOPOGRAPHY - PLAN

	SHRUBS		PAVED SURFACE
	CONIFEROUS TREE		EXISTING CURB & GUTTER
	DECIDUOUS TREE		PROPOSED CURB & GUTTER
	HEDGE EDGE OF WOODS		CONCRETE MONUMENT
	EXISTING DITCH		PROPERTY IRON
	LIGHT		SET PROPERTY IRON
	GUY ANCHOR		LOT LINE (AS PLATTED)
	UTILITY POLE		R.O.W. LINE
	SIGN		SECTION LINE
	GUARD RAIL		BENCH MARK
	EXISTING FENCE		SECTION CORNER
	PROPOSED FENCE		
	GRAVEL SURFACE		

EXISTING UTILITIES

	8" SAN SANITARY SEWER & MANHOLE
	12" STM STORM SEWER & MANHOLE
	CATCH BASIN CURB TYPE
	CATCH BASIN LAWN TYPE
	VALVE
	HYDRANT
	PLUG
	6" WTR WATER MAIN
	2" GAS GAS MAIN
	UNDERGROUND ELECTRIC
	FIBER OPTICS
	UNDERGROUND TELEPHONE
	TELEPHONE PEDESTAL

PROPOSED UTILITIES

	8" SAN SANITARY SEWER & MANHOLE
	WYE & LEAD
	RISER & LEAD
	12" STM STORM SEWER & MANHOLE
	CATCH BASIN
	UNDERDRAIN
	8" WTR WATER MAIN
	VALVE & BOX
	METER
	PLUG
	STANDARD FIRE HYDRANT ASSEMBLY
	CURB STOP & BOX
	GAS MAIN
	UNDERGROUND ELECTRIC
	UNDERGROUND TELEPHONE

MISCELLANEOUS

	EASEMENT LINE
	SOIL BORING LOCATION
	PROPOSED PAVEMENT/GUTTER ELEVATION
	PROPOSED PAVEMENT MARKING (PAINTING)
	PROPOSED BARRIER FREE PARKING

PIPE	CONTENTS	ABBREVIATIONS
	GAS	NATURAL GAS
	SAN	SANITARY SEWER
	STM	STORM SEWER
	WTR	WATER
	FM	FORCE MAIN

PIPE	MATERIAL	ABBREVIATIONS
CSP	CORRUGATED STEEL PIPE	
CSPA	CORRUGATED STEEL PIPE ARCH	
DIP	DUCTILE IRON PIPE	
NRCP	NON-REINFORCED CONCRETE PIPE	
PE	POLYETHYLENE	
PE PERF.	POLYETHYLENE PIPE PERFORATED	
PVC	POLYVINYL CHLORIDE	
RPC	REINFORCED CONCRETE PIPE	
VCP	WITRIFIED CLAY PIPE	



DATE	DESCRIPTION	REV.
05-08-2013	ATP	1
	BID SET	01
	CEW	
	CHECKED	

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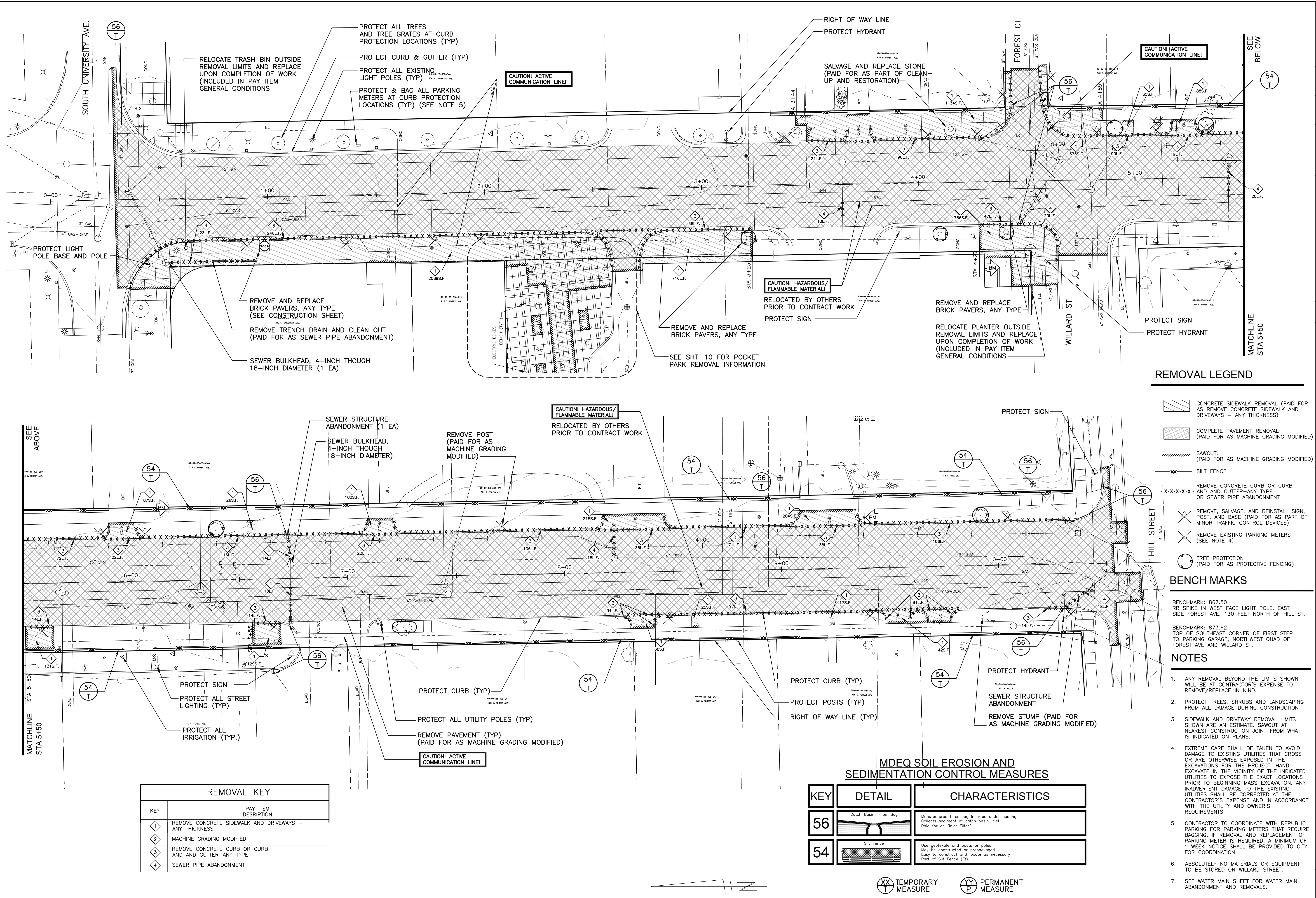
PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

FOREST AVENUE IMPROVEMENT PROJECT

SCALE PLAN N.T.S.

DRAWING No. C004110612

NOTES & LEGEND



REMOVAL LEGEND

- CONCRETE SIDEWALK REMOVAL (PAID FOR AS REMOVE CONCRETE SIDEWALK AND DRIVEWAYS - ANY THICKNESS)
- COMPLETE PAVEMENT REMOVAL (PAID FOR AS MACHINE GRADING MODIFIED)
- SAWCUT (PAID FOR AS MACHINE GRADING MODIFIED)
- SILT FENCE
- REMOVE CONCRETE CURB OR CURB AND AND GUTTER-ANY TYPE OR SEWER PIPE ABANDONMENT
- REMOVE, SALVAGE, AND REINSTALL SIGN, POST, AND BASE (PAID FOR AS PART OF MINOR TRAFFIC CONTROL DEVICES)
- REMOVE EXISTING PARKING METERS (SEE NOTE 4)
- TREE PROTECTION (PAID FOR AS PROTECTIVE FENCING)

BENCH MARKS

BENCHMARK: 867.50
RR SPIKE IN WEST FACE LIGHT POLE, EAST SIDE FOREST AVE, 130 FEET NORTH OF HILL ST.

BENCHMARK: 873.62
TOP OF SOUTHEAST CORNER OF FIRST STEP TO PARKING GARAGE, NORTHWEST QUAD OF FOREST AVE AND WILLARD ST.

NOTES

1. ANY REMOVAL BEYOND THE LIMITS SHOWN WILL BE AT CONTRACTOR'S EXPENSE TO REMOVE/REPLACE IN KIND.
2. PROTECT TREES, SHRUBS AND LANDSCAPING FROM ALL DAMAGE DURING CONSTRUCTION
3. SIDEWALK AND DRIVEWAY REMOVAL LIMITS SHOWN ARE AN ESTIMATE. SAWCUT AT NEAREST CONSTRUCTION JOINT FROM WHAT IS INDICATED ON PLANS.
4. EXTREME CARE SHALL BE TAKEN TO AVOID DAMAGE TO EXISTING UTILITIES THAT CROSS OR ARE OTHERWISE EXPOSED IN THE EXCAVATIONS FOR THE PROJECT. HAND EXCAVATE IN THE VICINITY OF THE INDICATED UTILITIES TO EXPOSE THE EXACT LOCATIONS PRIOR TO BEGINNING MASS EXCAVATION. ANY INADVERTENT DAMAGE TO THE EXISTING UTILITIES SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE AND IN ACCORDANCE WITH THE UTILITY AND OWNER'S REQUIREMENTS.
5. CONTRACTOR TO COORDINATE WITH REPUBLIC PARKING FOR PARKING METERS THAT REQUIRE BAGGING. IF REMOVAL AND REPLACEMENT OF PARKING METER IS REQUIRED, A MINIMUM OF 1 WEEK NOTICE SHALL BE PROVIDED TO CITY FOR COORDINATION.
6. ABSOLUTELY NO MATERIALS OR EQUIPMENT TO BE STORED ON WILLARD STREET.
7. SEE WATER MAIN SHEET FOR WATER MAIN ABANDONMENT AND REMOVALS.

REMOVAL KEY	
KEY	PAY ITEM DESCRIPTION
1	REMOVE CONCRETE SIDEWALK AND DRIVEWAYS - ANY THICKNESS
2	MACHINE GRADING MODIFIED
3	REMOVE CONCRETE CURB OR CURB AND AND GUTTER-ANY TYPE
4	SEWER PIPE ABANDONMENT

MDEQ SOIL EROSION AND SEDIMENTATION CONTROL MEASURES		
KEY	DETAIL	CHARACTERISTICS
56		Manufactured filter bag inserted under coating. Collects sediment at catch basin inlet. Paid for as "inlet Filter"
54		Use geotextile and posts or poles. May be constructed or prepackaged. Easy to construct and locate as necessary. Part of Silt Fence (FS).

CITY OF ANN ARBOR
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PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR
FOREST AVENUE IMPROVEMENTS PROJECT
REMOVAL PLAN

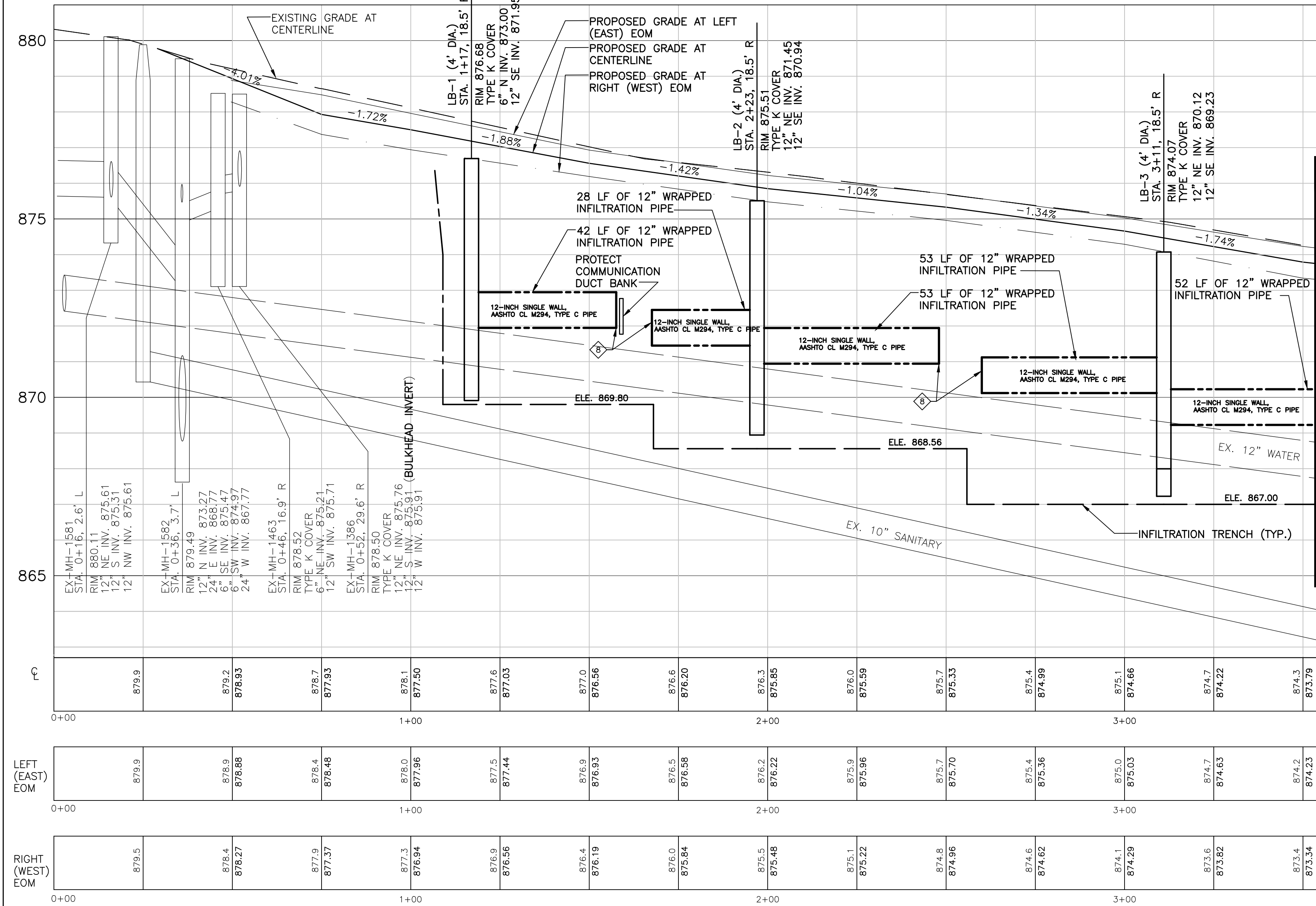
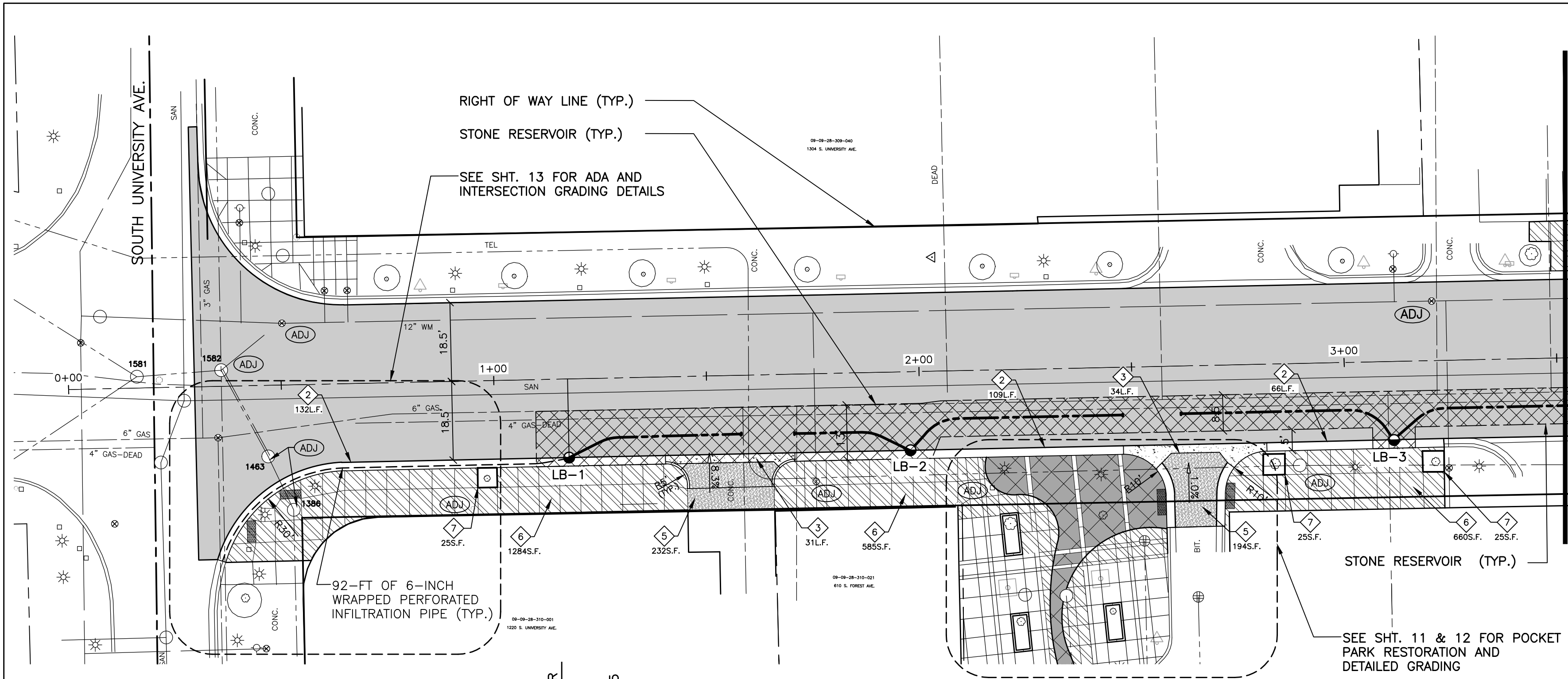
SCALE PLAN: 1" = 20'
DRAWING NO: C005110612

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
01	05-08-2013	BID SET	ATP	CEW

DATE: 05-08-2013
DRAWN: ATP
CHECKED: CEW

STATION: STA. 0+00 TO STA. 11+00

SHEET NO. 5 OF 17




CONSTRUCTION KEY		
KEY	PAY ITEM DESCRIPTION	CITY OF ANN ARBOR DETAIL
1	SPILL-OUT BARRIER CURB AND GUTTER (PAID AS CONCRETE CURB OR CURB & GUTTER - ANY TYPE)	SD-R-3
2	BARRIER CURB AND GUTTER (PAID AS CONCRETE CURB OR CURB & GUTTER - ANY TYPE)	SD-R-1
3	"M" OPENING (PAID AS CONCRETE CURB OR CURB & GUTTER - ANY TYPE)	SD-R-6
4	6-INCH DRIVE APPROACH (PAID AS 4 OR 6-INCH SIDEWALK, RAMP, OR DRIVE)	SD-R-6
5	8-INCH DRIVE APPROACH (PAID AS 4 OR 6-INCH SIDEWALK, RAMP, OR DRIVE)	SD-R-6
6	4 OR 6-INCH SIDEWALK, RAMP, OR DRIVE	MDOT R-28-F
7	REMOVE AND REPLACE BRICK PAVERS, ANY TYPE	SD-SW & SD-R-9
8	SPLIT END CAP	

LEGEND	
	PROPOSED STANDARD PAVEMENT SECTION (SEE SHEET 2 FOR LIST OF PAY ITEMS AND THICKNESSES)
	6-INCH DRIVE APPROACH (PAID FOR AS 4 OR 6-INCH SIDEWALK, RAMP OR DRIVE)
	PROPOSED "M" DRIVE APPROACH PER SD-R-6 (PAID FOR AS)
	8-INCH DRIVE APPROACH (PAID FOR AS 4 OR 6-INCH SIDEWALK, RAMP OR DRIVE)
	PROPOSED SIDEWALK (PAID FOR AS 4 OR 6-INCH SIDEWALK, RAMP OR DRIVE)
	STONE RESERVOIR (CYO)
	REMOVE, REPLACE AND ADJUST COVER/RM/CASTING PER ENGINEER (PAID AS EITHER "ADJUST STRUCTURE COVER" OR "ADJUST MONUMENT BOX OR GATE VALVE AND BOX")

EXISTING STORM SEWER STRUCTURE TABLE					
STRUCTURE NUMBER	ROAD STATION	PROPOSED RIM ELEVATION	TYPE	INVERTS	ADJUSTMENTS
1581	0+16	880.11	STMH	12" NE = 875.61 12" S = 875.31 12" NW = 875.61	N/A
1582	0+36	879.49	STMH	12" N = 873.27 24" E = 868.77 6" SE = 875.47 6" SW = 874.97 24" W = 867.77	ADJUST STRUCTURE COVER
1463	0+46	878.52	STMH	6" NE = 875.21 12" SW = 875.71	ADJUST STRUCTURE COVER
1386	0+52	878.50	STMH	12" NE = 875.76 12" S = 875.91 (BH) 12" W = 875.91	ADJUST STRUCTURE COVER

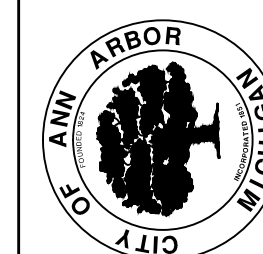
PROPOSED STORM SEWER STRUCTURE TABLE				
STRUCTURE NUMBER	ROAD STATION	PROPOSED RIM ELEVATION	STRUCTURE TYPE AND COVER	INVERTS
LB-1	1+17	876.68	LEACHING BASIN-48" DIA W/ COVER K	N 6" INV. = 873.00 SE 12" INV. = 871.95
LB-2	2+23	875.51	LEACHING BASIN-48" DIA W/ COVER K	NE INV. = 871.45 SE INV. = 870.94
LB-3	3+11	874.07	LEACHING BASIN-48" DIA W/ COVER K	NE INV. = 870.12 SE INV. = 869.23



Know what's below.
Call before you dig.

DATE	DESCRIPTION
05-08-2013	ATP
01	BID SET
	REV.

CITY OF ANN ARBOR
PUBLIC SERVICE
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ANN ARBOR, MI 48106-0667
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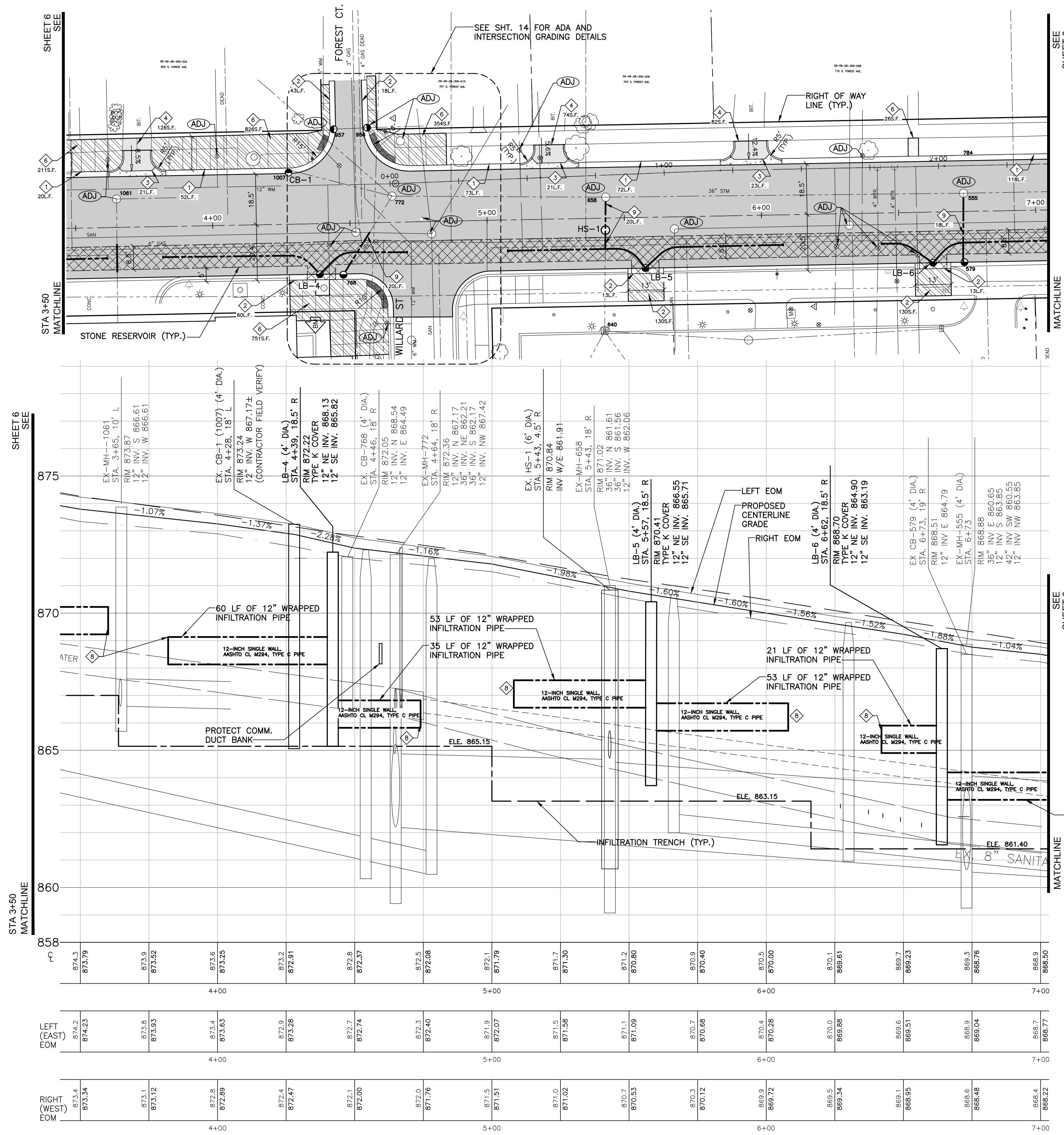


PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR
FOREST AVENUE
ROAD PLAN AND PROFILE
STA. 0+00 TO STA. 3+50

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

DRAWING No. C006110612

SHEET No. 6 OF 17



CONSTRUCTION KEY

KEY	PAY ITEM DESCRIPTION	CITY OF ANN ARBOR DETAIL
1	SPILL-OUT BARRIER CURB AND GUTTER (PAID AS CONCRETE CURB OR CURB & GUTTER - ANY TYPE)	SD-R-3
2	BARRIER CURB AND GUTTER (PAID AS CONCRETE CURB OR CURB & GUTTER - ANY TYPE)	SD-R-1
3	"M" OPENING (PAID AS CONCRETE CURB OR CURB & GUTTER - ANY TYPE)	SD-R-6
4	6-INCH DRIVE APPROACH (PAID AS 4 OR 6-INCH SIDEWALK, RAMP, OR DRIVE)	SD-R-6
5	8-INCH DRIVE APPROACH (PAID AS 4 OR 6-INCH SIDEWALK, RAMP, OR DRIVE)	SD-R-6
6	4 OR 6-INCH SIDEWALK, RAMP, OR DRIVE	MDOT R-28-F SD-SW
7	REMOVE AND REPLACE BRICK PAVERS, ANY TYPE	
8	SPLIT END CAP	
9	RCP CL V, 12-INCH, TRENCH DETAIL I	SD-TD-1

EXISTING STORM SEWER STRUCTURE TABLE

STRUCTURE NUMBER	ROAD STATION	PROPOSED RIM ELEVATION	TYPE	INVERTS	ADJUSTMENTS
1061	3+65	873.87	STMH	12" S = 866.61 12" W = 866.61	ADJUST STRUCTURE COVER
1007	4+27	873.23	CB	12" S = ?	REMOVE CB (SEE CB-1)
768	4+46	872.05	CB	12" N = 868.54 12" S = 864.49	ADJUST STRUCTURE COVER
772	4+65	872.36	STMH	12" N = 867.17 36" NE = 862.21 36" S = 862.17 12" NW = 867.42	ADJUST STRUCTURE COVER
957	4+44		CB	12" N = 870.01	REPLACE COVER W/ COVER K*
956	4+57		CB	12" N = 868.54 12" S = 864.49	REPLACE COVER W/ COVER K*
640	5+42	869.45	CB	12" E = 862.55 12" S = 862.55 8" SW = 865.40 12" NW = 864.25	N/A
658	5+43	871.02	STMH	36" N = 861.61 36" S = 861.56 12" W = 862.06	ADJUST STRUCTURE COVER
555	6+73	868.88	STMH	36" E = 860.65 12" S = 863.85 42" SW = 860.55 12" NW = 863.85	ADJUST STRUCTURE COVER
784	6+72	SEE CB-1	CB	12" W = 864.16	REMOVE CB
579	6+73	868.51	CB	12" E = 864.79	ADJUST STRUCTURE COVER


*PAID AS "STRUCTURE COVER" (EACH)

PROPOSED STORM SEWER STRUCTURE TABLE

STRUCTURE NUMBER	ROAD STATION	PROPOSED RIM ELEVATION	STRUCTURE TYPE AND COVER	INVERTS
LB-4	4+39	872.22	LEACHING BASIN-48" DIA W/ COVER K	NE INV. = 868.13 SE INV. = 865.82
LB-5	5+57	870.41	LEACHING BASIN-48" DIA W/ COVER K	NE INV. = 866.55 SE INV. = 865.71
LB-6	6+62	868.70	LEACHING BASIN-48" DIA W/ COVER K	NE INV. = 864.90 SE INV. = 863.19
CB-1	4+27	873.23	SINGLE INLET W/ COVER K	S INV. = CONTRACTOR TO FIELD VERIFY
HS-1	5+43	870.84	HYDRO SEPARATOR	W 12" INV. = 861.91 E 12" INV. = 861.91

LEGEND

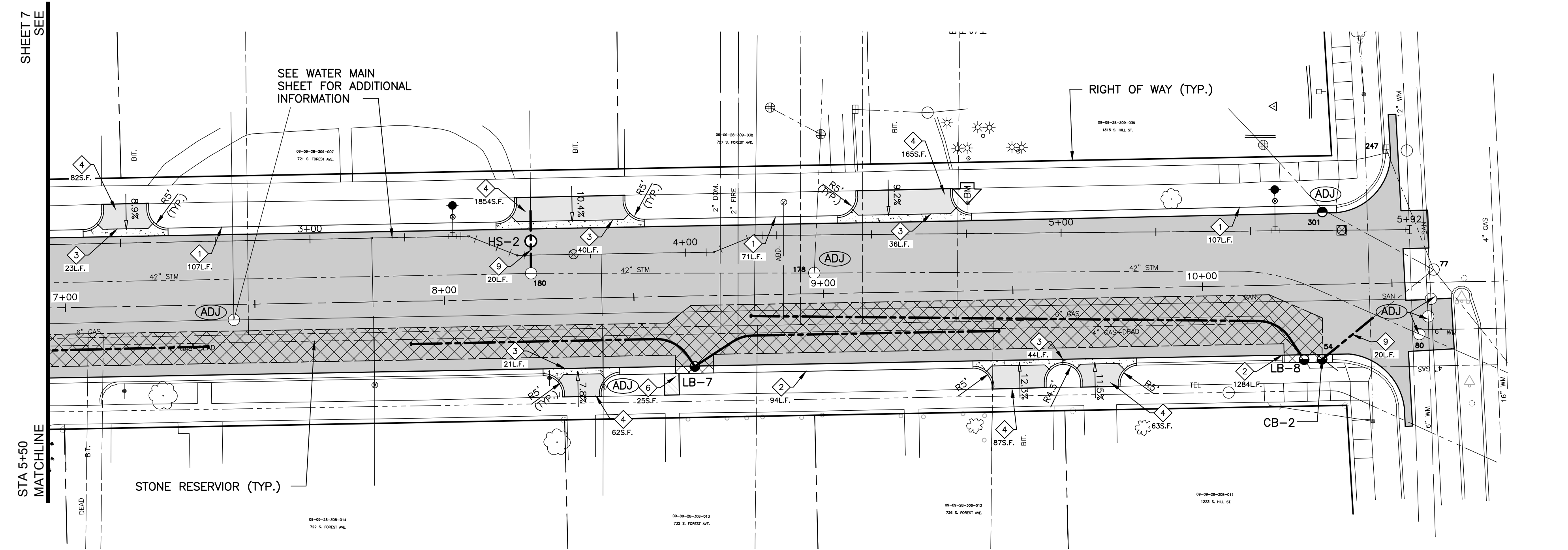
- PROPOSED STANDARD PAVEMENT SECTION (SEE SHEET 2 FOR LIST OF PAY ITEMS AND THICKNESSES)
- 6-INCH DRIVE APPROACH (PAID FOR AS 4 OR 6-INCH SIDEWALK, RAMP OR DRIVE)
- PROPOSED "M" DRIVE APPROACH PER SD-R-6 (PAID FOR AS 6-INCH DRIVE APPROACH (PAID FOR AS 4 OR 6-INCH SIDEWALK, RAMP OR DRIVE)
- 8-INCH DRIVE APPROACH (PAID FOR AS 4 OR 6-INCH SIDEWALK, RAMP OR DRIVE)
- PROPOSED SIDEWALK (PAID FOR AS 4 OR 6-INCH SIDEWALK, RAMP OR DRIVE)
- STONE RESERVOIR (CY)
- REMOVE, REPLACE AND ADJUST COVER/RM/CASTING PER ENGINEER (PAID AS EITHER "ADJUST STRUCTURE COVER" OR "ADJUST MONUMENT BOX OR GATE VALVE AND BOX")



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PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR
FOREST AVENUE
ROAD PLAN AND PROFILE
STA 3+50 TO 7+00

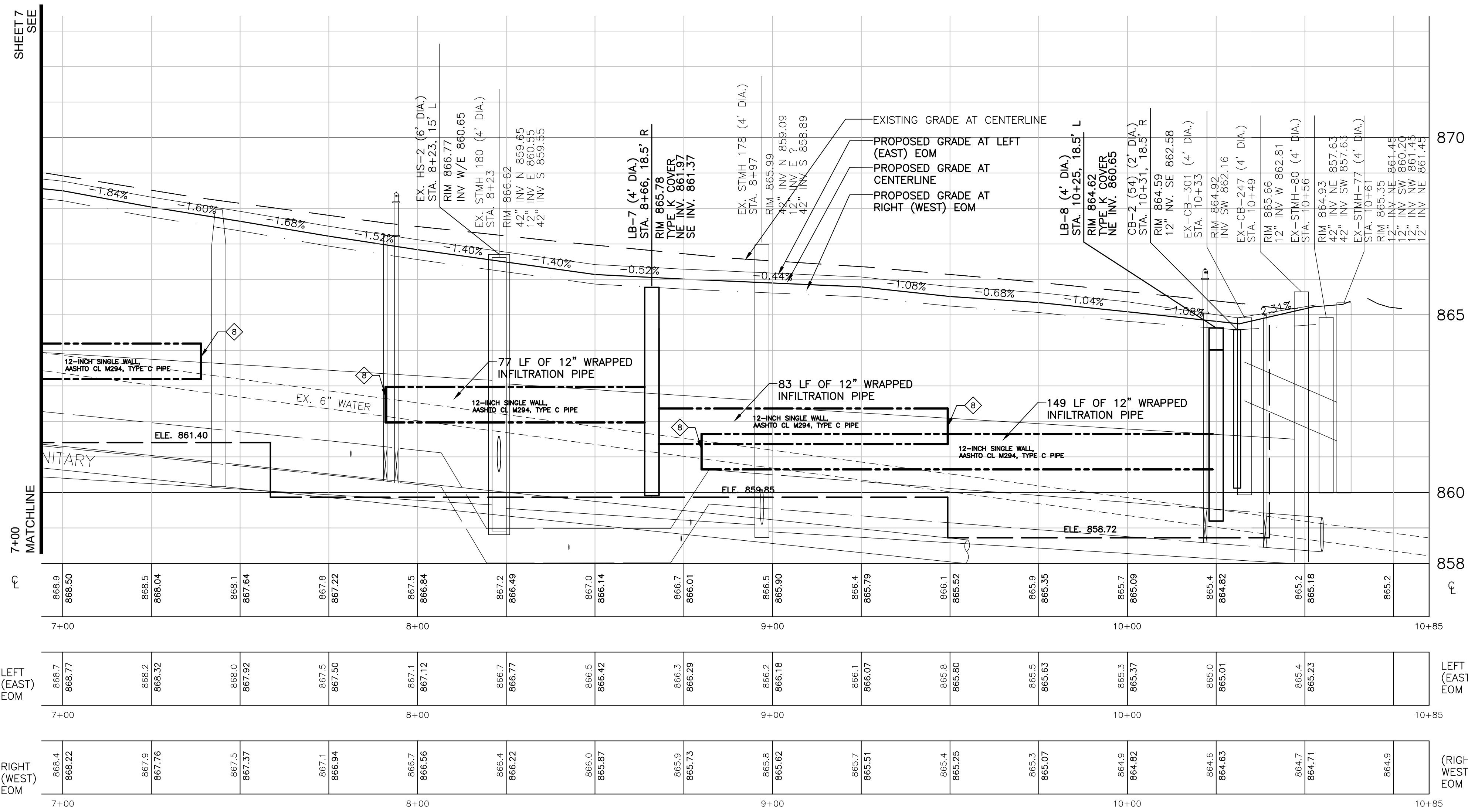
SHEET No. **7 OF 17**




CONSTRUCTION KEY		
KEY	PAY ITEM DESCRIPTION	CITY OF ANN ARBOR DETAIL
1	SPILL-OUT BARRIER CURB AND GUTTER (PAID AS CONCRETE CURB OR CURB & GUTTER - ANY TYPE)	SD-R-3
2	BARRIER CURB AND GUTTER (PAID AS CONCRETE CURB OR CURB & GUTTER - ANY TYPE)	SD-R-1
3	'M' OPENING (PAID AS CONCRETE CURB OR CURB & GUTTER - ANY TYPE)	SD-R-6
4	6-INCH DRIVE APPROACH (PAID AS 4 OR 6-INCH SIDEWALK, RAMP, OR DRIVE)	SD-R-6
5	8-INCH DRIVE APPROACH (PAID AS 4 OR 6-INCH SIDEWALK, RAMP, OR DRIVE)	SD-R-6
6	4 OR 6-INCH SIDEWALK, RAMP, OR DRIVE	MDOT R-28-F SD-SW
7	REMOVE AND REPLACE BRICK PAVERS, ANY TYPE	
8	SPLIT END CAP	
9	RCP CL V, 12-INCH, TRENCH DETAIL I	SD-TD-1

LEGEND	
[Symbol]	PROPOSED STANDARD PAVEMENT SECTION (SEE SHEET 2 FOR LIST OF PAY ITEMS AND THICKNESSES)
[Symbol]	6-INCH DRIVE APPROACH (PAID FOR AS 4 OR 6-INCH SIDEWALK, RAMP, OR DRIVE)
[Symbol]	PROPOSED 'M' DRIVE APPROACH PER SD-R-6 (PAID FOR AS)
[Symbol]	8-INCH DRIVE APPROACH (PAID FOR AS 4 OR 6-INCH SIDEWALK, RAMP, OR DRIVE)
[Symbol]	PROPOSED SIDEWALK (PAID FOR AS 4 OR 6-INCH SIDEWALK, RAMP, OR DRIVE)
[Symbol]	STONE RESERVOIR (C1D)
[Symbol]	REMOVE, REPLACE AND ADJUST COVER/RM/CASTING PER ENGINEER (PAID AS EITHER 'ADJUST STRUCTURE COVER' OR 'ADJUST MONUMENT BOX OR GATE VALVE AND BOX')

EXISTING STORM SEWER STRUCTURE TABLE					
STRUCTURE NUMBER	ROAD STATION	PROPOSED RIM ELEVATION	TYPE	INVERTS	ADJUSTMENTS
180	8+23	866.62	STMH	42" N = 859.65 12" E = 860.55 42" S = 859.55	ADJUST STRUCTURE COVER
178	8+97	865.99	STMH	42" N = 859.09 12" E = ? 42" S = 858.89	ADJUST STRUCTURE COVER
301	10+32	864.92	CB	12" SW = 862.16	ADJUST STRUCTURE COVER
54	10+31	864.59	CB	12" SE = 862.58	REMOVE CB (SEE CB-2)
247	10+49	865.66	CB	12" W = 862.81	PROTECT STRUCTURE COVER
77	10+61	865.35	STMH	12" NE = 861.45 12" SW = 860.20 12" NW = 861.45 12" SE = 861.45	N/A
80	10+56	864.93	STMH	42" NE = 857.63 42" SW = 857.63	ADJUST STRUCTURE COVER




PROPOSED STORM SEWER STRUCTURE TABLE				
STRUCTURE NUMBER	ROAD STATION	PROPOSED RIM ELEVATION	STRUCTURE TYPE AND COVER	INVERTS
LB-7	8+66	865.78	LEACHING BASIN-48" DIA W/ COVER K	NE INV. = 861.97 SE INV. = 861.37
LB-8	10+25	864.62	LEACHING BASIN-48" DIA W/ COVER K	NE INV. = 860.65
CB-2	10+31	864.59	SINGLE INLET W/ COVER K	12" W INV. = 862.58
HS-2	8+23	866.77	HYDRO SEPARATOR	E 12" INV. = 860.65 W 12" INV. = 860.65



Know what's below. Call before you dig.

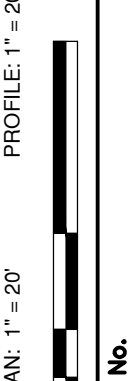
DATE	DESCRIPTION	BY	CHECKED
05-08-2013		ATP	ATP
		BID SET	
		REV.	

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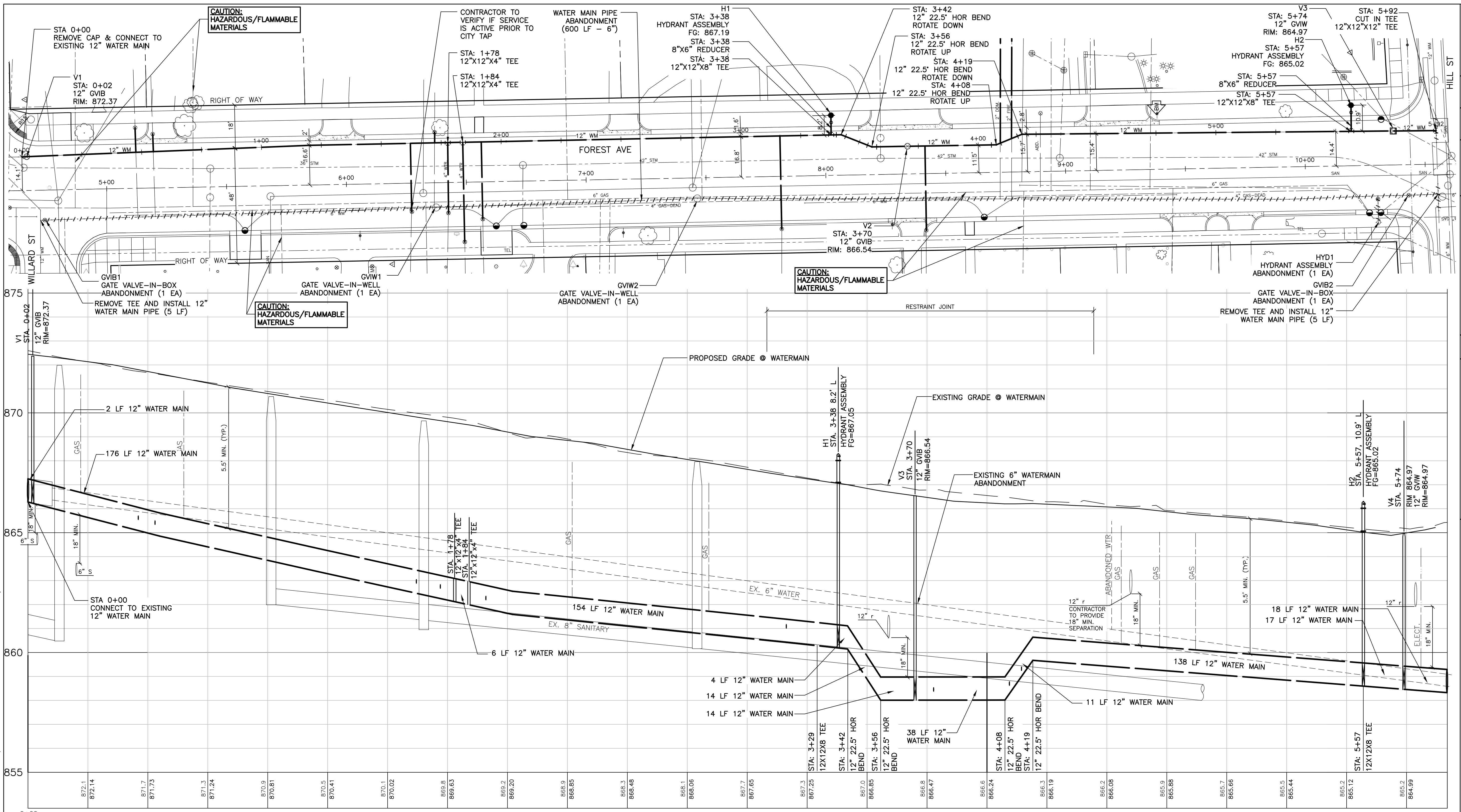
PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR
FOREST AVENUE
 ROAD PLAN AND PROFILE
 STA. 7+00 TO STA. 11+00

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



DRAWING No.
C008110612

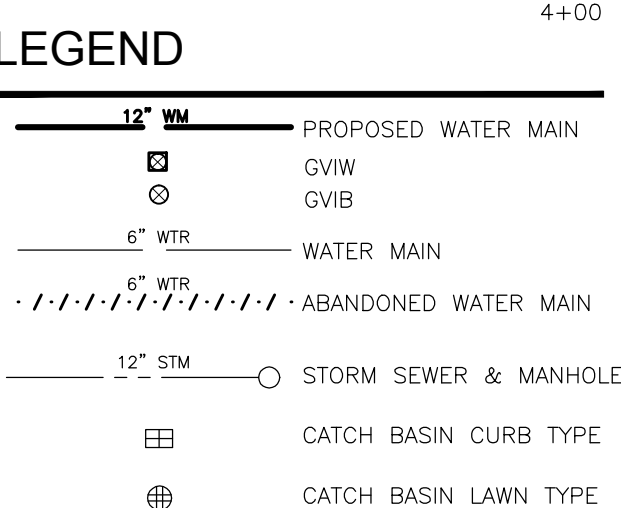
SHEET No.
8 OF 17



STRUCTURE NUMBER	TYPE	WM STATION	RIM	DEPTH
V1	12" GVIB	0+02	872.37	6.25'
V2	12" GVIB	3+70	866.54	6.75'
H1	HYD ASSEMBLY	3+38	867.19	6.90'
H2	HYD ASSEMBLY	5+57	865.02	6.55'
V3	12" GVIB	5+74	864.97	6.50'

STRUCTURE NUMBER	TYPE	WM STATION
GVIB1	(REMOVE)	0+08
GVW1	(REMOVE)	1+72
GVW2	(REMOVE)	2+81
HYD1	(REMOVE)	5+68
GVIB2	(REMOVE)	5+80

- NOTES**
- FITTINGS, OTHER THAN THOSE SPECIFICALLY INCLUDED AS SEPARATE CONTRACT PAY ITEMS; BLOW-OFF ASSEMBLIES; CONCRETE THRUST BLOCKS; SOLID SLEEVES; AND MECHANICAL PLUGS WHICH ARE REQUIRED TO COMPLETE THE WORK, SHALL BE INCLUDED IN THE PRICE OF THE WATER MAIN.
 - ALL WATER MAIN TO BE CLASS 50 DIP WITH POLYWRAP.
 - ALL UTILITY CROSSINGS SHALL PROVIDE A MINIMUM OF 18" OF SEPARATION.
 - PROTECT ALL TREES AND SITE FIXTURES. ANY DAMAGE CAUSED BY CONTRACTOR SHALL BE REPAIRED OR REPLACED AT CONTRACTORS EXPENSE.
 - ALL COPPER WATER SERVICE TRANSFERS WILL BE DONE BY THE CITY OF ANN ARBOR FIELD OPERATIONS. EXCAVATION AND BACKFILL SERVICES WILL BE DONE BY CONTRACTOR
 - CONTRACTOR TO VERIFY LOCATION OF EXISTING 6-INCH TIE-IN AT HILL. IF CROSS IS IN SERVICE AT EITHER THE 6-INCH OR 12-INCH LINE RUNNING EAST-WEST, CONTRACTOR SHALL REMOVE AND REPLACE WITH TEE FOR EXISTING 6-INCH WATER MAIN TO THE SOUTH. ALL WORK INCLUDED IN WATER MAIN ABANDONMENT PAY ITEM.




BENCH MARKS

BENCHMARK: 867.50
RR SPIKE IN WEST FACE LIGHT POLE, EAST SIDE FOREST AVE, 130 FEET NORTH OF HILL ST.

BENCHMARK: 873.62
TOP OF SOUTHEAST CORNER OF FIRST STEP TO PARKING GARAGE, NORTHWEST QUAD OF FOREST AVE AND WILLARD ST.

*REMOVE, REPLACE AND ADJUST COVER/RIM/CASTING PER ENGINEER (PAID AS EITHER "ADJUST STRUCTURE COVER", "ADJUST CURB INLET STRUCTURE COVER" OR ADJUST MONUMENT BOX OR GATE VALVE AND BOX)



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PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR
FOREST AVENUE IMPROVEMENT PROJECT
WATER MAIN

STA. 0+00 TO STA. 5+92

SHEET No. 9 OF 17

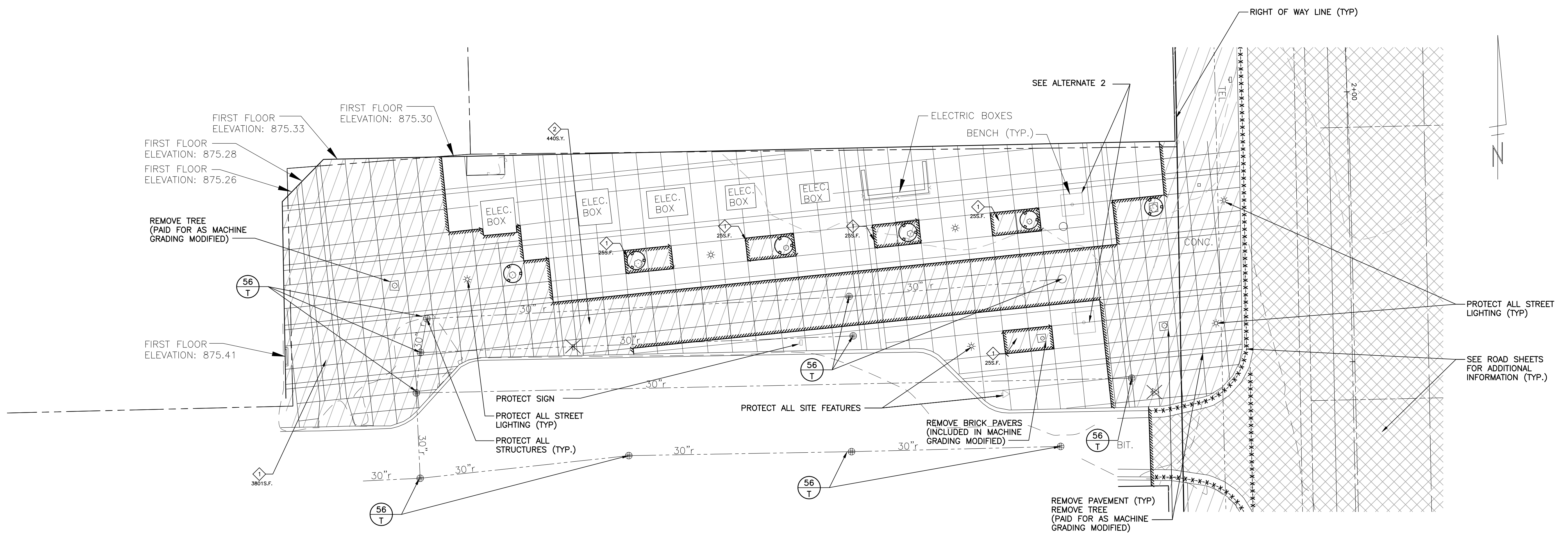


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01	05-08-2013	ATP	CONC.
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		ATP	DRAWN

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PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR
FOREST AVENUE IMPROVEMENT PROJECT
TRANSFORMER PARK
REMOVAL AND SESC PLAN

SCALE PLAN: 1" = 20'
DRAWING No. C010110612



REMOVAL KEY	
KEY	PAY ITEM DESCRIPTION
	REMOVE CONCRETE SIDEWALK AND DRIVEWAYS - ANY THICKNESS

REMOVAL LEGEND

- CONCRETE SIDEWALK REMOVAL (PAID FOR AS REMOVE CONCRETE SIDEWALK AND DRIVEWAYS - ANY THICKNESS)
- COMPLETE PAVEMENT REMOVAL (PAID FOR AS MACHINE GRADING MODIFIED) SEE ROAD SHEETS.
- SAWCUT. (PAID FOR AS MACHINE GRADING MODIFIED)
- REMOVE CONCRETE CURB OR CURB AND AN GUTTER-ANY TYPE
- REMOVE, SALVAGE, AND REINSTALL SIGN, POST, AND BASE (PAID FOR AS PART OF MINOR TRAFFIC CONTROL DEVICES)
- REMOVE, SALVAGE AND REINSTALL EXISTING PARKING METERS (SEE NOTE 4)
- TREE PROTECTION (PAID FOR AS PROTECTIVE FENCING)

BENCH MARKS

BENCHMARK: 867.50
RR SPIKE IN WEST FACE LIGHT POLE, EAST SIDE FOREST AVE, 130 FEET NORTH OF HILL ST.

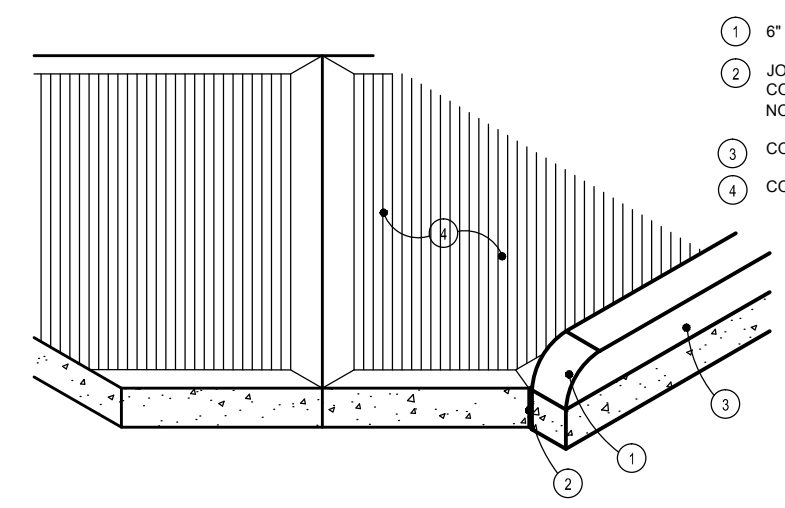
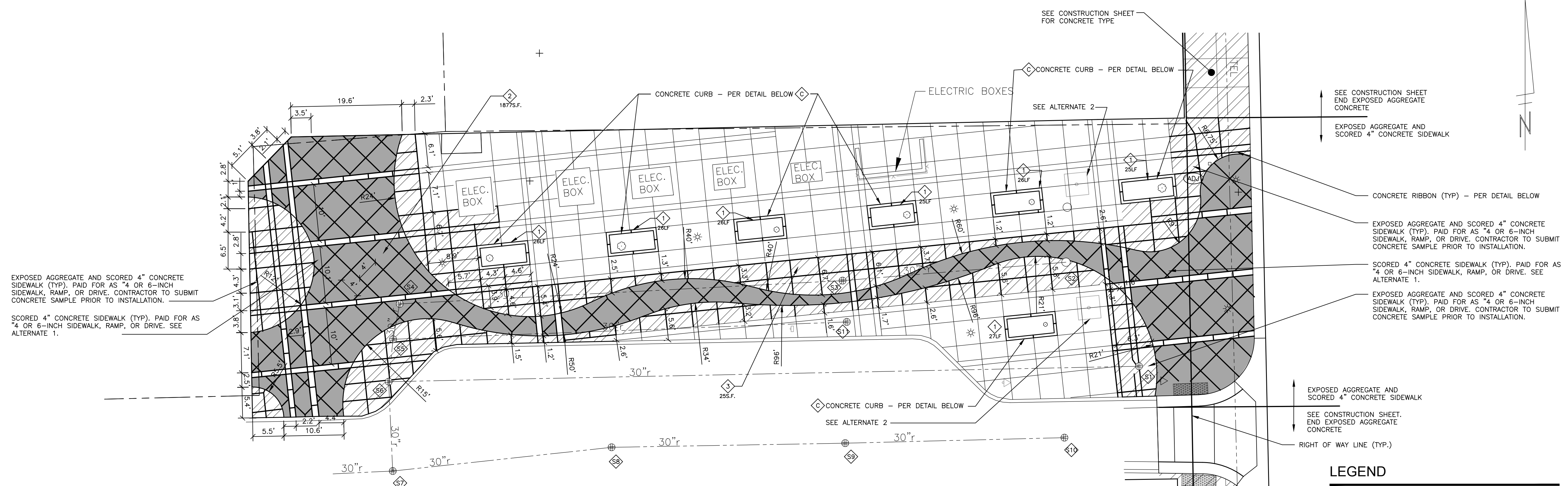
BENCHMARK: 873.62
TOP OF SOUTHEAST CORNER OF FIRST STEP TO PARKING GARAGE, NORTHWEST QUAD OF FOREST AVE AND WILLARD ST.

NOTES

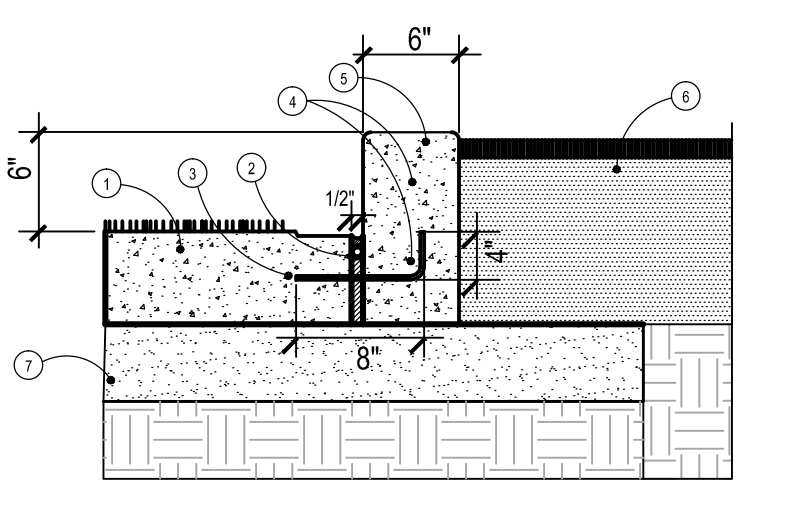
1. ANY REMOVAL BEYOND THE LIMITS SHOWN WILL BE AT CONTRACTOR'S EXPENSE TO REMOVE/REPLACE IN KIND.
2. PROTECT TREES, SHRUBS AND LANDSCAPING FROM ALL DAMAGE DURING CONSTRUCTION
3. SIDEWALK AND DRIVEWAY REMOVAL LIMITS SHOWN ARE AN ESTIMATE. SAWCUT AT NEAREST CONSTRUCTION JOINT FROM WHAT IS INDICATED ON PLANS.
4. EXTREME CARE SHALL BE TAKEN TO AVOID DAMAGE TO EXISTING UTILITIES THAT CROSS OR ARE OTHERWISE EXPOSED IN THE EXCAVATIONS FOR THE PROJECT. HAND EXCAVATE IN THE VICINITY OF THE INDICATED UTILITIES TO EXPOSE THE EXACT LOCATIONS PRIOR TO BEGINNING MASS EXCAVATION. ANY INADVERTENT DAMAGE TO THE EXISTING UTILITIES SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE AND IN ACCORDANCE WITH THE UTILITY AND OWNER'S REQUIREMENTS.
5. SEE TRANSFORMER PARK CONSTRUCTION SHEET FOR ALTERNATE INFORMATION.

MDEQ SOIL EROSION AND SEDIMENTATION CONTROL MEASURES

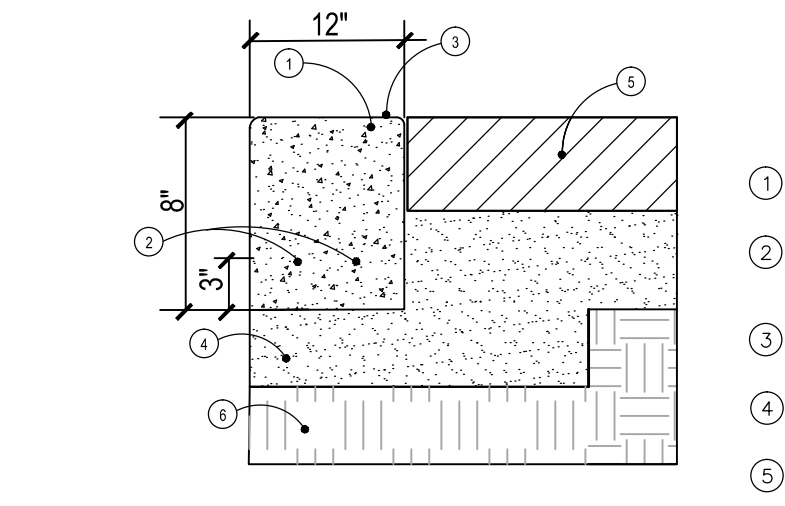
KEY	DETAIL	CHARACTERISTICS
56		Manufactured filter bag inserted under casting. Collects sediment at catch basin inlet. Paid for as part of General Conditions
	TEMPORARY MEASURE	
	PERMANENT MEASURE	



CONCRETE CURB EDGE END - ISOMETRIC VIEW
NOT TO SCALE



SIDEWALK W/ CURB SECTION
NOT TO SCALE



CONCRETE RIBBON SECTION
NOT TO SCALE
PAID FOR AS "4 OR 6-INCH SIDEWALK, RAMP, OR DRIVE" (SF).

- 1 6" RADIUS ROUNDED CURB END
 - 2 JOINTS SEALED W/ BACKER ROD AND CAULKING. COLOR TO MATCH CONCRETE. NON ASPHALTIC 1/2" PREMOLDED EXPAN. JNT.
 - 3 CONCRETE CURB - LIGHT BROOM FINISH
 - 4 CONCRETE WALK - SEE LAYOUT PLAN
- NOTE: ALL WORK CONSIDERED INCIDENTAL TO CONCRETE SIDEWALK OR CURB PAY ITEMS.

- 1 4-INCH SIDEWALK PAID FOR AS "4 OR 6-INCH SIDEWALK, RAMP, OR DRIVE" (SF).
- 2 JOINTS SEALED W/ BACKER ROD AND CAULKING. COLOR TO MATCH CONCRETE. NON ASPHALTIC 1/2" PREMOLDED EXPAN. JNT. INCIDENTAL TO CURB WORK.
- 3 12" LONG #4 RE-BAR, 18" O.C. INCIDENTAL TO CURB WORK. INCIDENTAL TO CURB WORK.
- 4 #4 RE-BAR. INCIDENTAL TO CURB WORK.
- 5 CONCRETE CURB - LIGHT BROOM FINISH. INCIDENTAL TO CURB WORK.
- 6 PLACE WOOD CHIPS, PAID FOR AS "CLEAN-UP & RESTORATION".
- 7 4-INCH CLASS II SAND PAID FOR "SAND SUBBASE COURSE, CLASS II - C.I.P."

- 1 4-INCH SIDEWALK PAID FOR AS "4 OR 6-INCH SIDEWALK, RAMP, OR DRIVE" (SF).
- 2 #4 RE-BAR. INCIDENTAL TO 4 OR 6-INCH SIDEWALK, RAMP, OR DRIVE PAY ITEM.
- 3 CONCRETE CURB - LIGHT BROOM FINISH. INCIDENTAL TO CURB WORK.
- 4 4-INCH CLASS II SAND PAID FOR "SAND SUBBASE COURSE, CLASS II - C.I.P."
- 5 EXISTING OR PROPOSED SIDEWALK.
- 6 EXISTING GRADE

CONSTRUCTION KEY		
KEY	PAY ITEM DESCRIPTION	CITY OF ANN ARBOR DETAIL
1	CONCRETE CURB OR CURB & GUTTER - ANY TYPE	THIS SHEET
2	4 OR 6-INCH COLORED CONCRETE SIDEWALK, RAMP, OR DRIVE - PARK	SD-R-6
3	4 OR 6-INCH SIDEWALK, RAMP, OR DRIVE	SD-R-6

STRUCTURE TABLE		
STRUCTURE NUMBER	EXISTING RIM ELEVATION	ADJUSTMENT ELEVATION*
57	875.70	875.70
58	875.88	875.88
59	875.66	875.66
54	874.99	874.90
55	874.88	874.87
56	874.91	874.91
57	874.21	N/A
58	874.65	N/A
59	874.74	N/A
510	874.73	N/A
511	875.48	N/A

REMOVE, REPLACE AND ADJUST COVER/RIM/CASTING PER ENGINEER (PAID AS EITHER ADJUST STRUCTURE COVER, ADJUST CURB INLET STRUCTURE COVER* OR ADJUST MONUMENT BOX OR GATE VALVE AND BOX)

- LEGEND**
- PROPOSED COLORED CONCRETE SIDEWALK (SEE ALTERNATE 1 NOTES - THIS SHEET). IF COLORED CONCRETE IS NOT CHOSEN, CONTRACTOR SHALL INSTALL STANDARD CONTRACT 4-INCH CONCRETE.
 - PROPOSED EXPOSED AGGREGATE AND SCORED SIDEWALK. (PAID FOR AS 4 OR 6-INCH SIDEWALK, RAMP OR DRIVE) CONTRACTOR TO SUBMIT CONCRETE SAMPLE PRIOR TO INSTALLATION.

- BENCH MARKS**
- BENCHMARK: 867.50
RR SPIKE IN WEST FACE LIGHT POLE, EAST SIDE FOREST AVE, 130 FEET NORTH OF HILL ST.
 - BENCHMARK: 873.62
TOP OF SOUTHEAST CORNER OF FIRST STEP TO PARKING GARAGE, NORTHWEST QUAD OF FOREST AVE AND WILLARD ST.

- NOTES**
- PROTECT ALL TREES AND SITE FIXTURES. ANY DAMAGE CAUSED BY CONTRACTOR SHALL BE REPAIRED OR REPLACED AT CONTRACTORS EXPENSE.
 - CONTRACTOR TO ENSURE POSITIVE DRAINAGE ON NORTH SIDE OF PLANTERS PRIOR TO RAISED CURB INSTALLATION. THE ENGINEER SHALL BE NOTIFIED OF ANY POTENTIAL AREAS WITH LOW POINTS OR INSUFFICIENT SLOPE IMMEDIATELY.

- ALTERNATE 1**
- INSTALL COLORED CONCRETE PER PLAN AND AS DIRECTED BY ENGINEER. COLORED CONCRETE SAMPLE SHALL BE SUBMITTED TO CITY ENGINEER FOR APPROVAL PRIOR TO INSTALLATION. COLORED CONCRETE MATERIAL SHALL BE SCOFFLED CONCRETE COLORING, TEXTURING & PERFORMANCE (www.scofield.com/coloredconcrete_main.html) OR APPROVED EQUAL. ALL WORK TO BE PAID FOR AS "ALTERNATE 1: 4 OR 6-INCH COLORED CONCRETE SIDEWALK, RAMP, OR DRIVE."

- ALTERNATE 2**
- REMOVE BENCHES AND ALL ASSOCIATED FOOTINGS AND HARDWARE. REMOVE CONCRETE SIDEWALK TO PERFORM WORK AS DIRECTED BY THE ENGINEER. REPLACE REMOVED CONCRETE WITH EXPOSED AGGREGATE CONCRETE TO MATCH EXISTING. CONTRACTOR TO PROVIDED SAMPLES OF EXPOSED AGGREGATE CONCRETE PRIOR TO CONCRETE INSTALLATION. ALL WORK TO BE PAID FOR AS "ALTERNATE 2: REMOVE BENCHES"

Know what's below. Call before you dig.

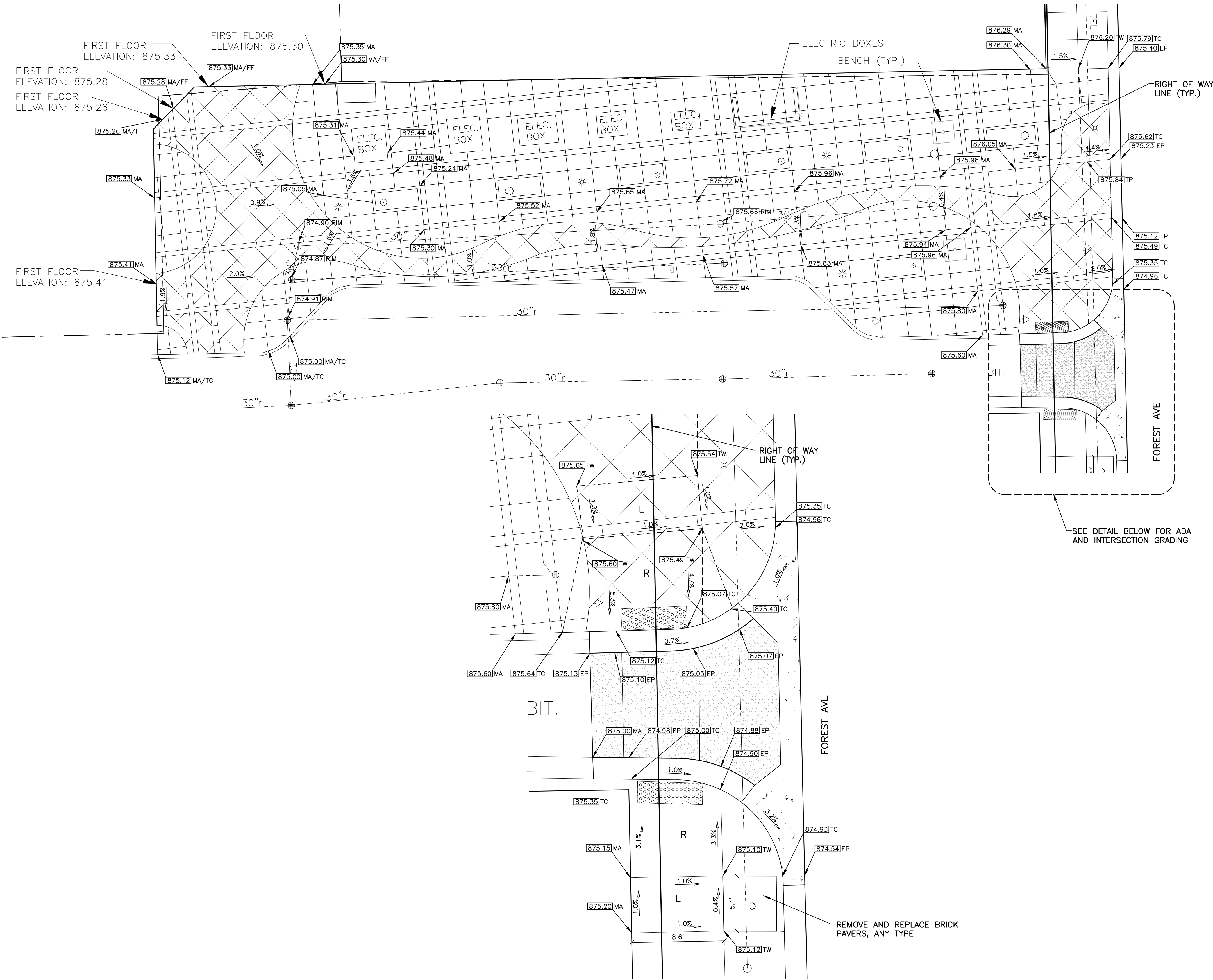
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PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR
FOREST AVENUE IMPROVEMENT PROJECT
TRANSFORMER PARK
CONSTRUCTION PLAN

SCALE PLAN: 1" = 20'
DRAWING No. C01110612

SHEET No. 11 OF 18



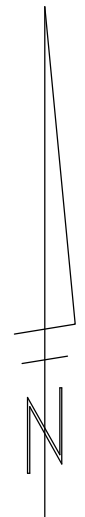
xxx.xx	PROPOSED ELEVATION
x.xx%	PROPOSED SLOPE
TC	PROPOSED TOP OF CURB ELEVATION
TP	PROPOSED TOP OF PAVEMENT ELEVATION
EW	PROPOSED EDGE OF WALK ELEVATION
EM	PROPOSED EDGE OF METAL ELEVATION
HP	PROPOSED HIGH POINT ELEVATION
MA	MATCH EXISTING
FF	EXISTING FIRST FLOOR ELEVATION
EP	PROPOSED EDGE OF PAVEMENT
R	SIDEWALK RAMP
L	LEVEL LANDING AREA
[Pattern]	DETECTABLE WARNING CAST IN PLACE
- - -	GRADE BREAK

BENCH MARKS

BENCHMARK: 867.50
RR SPIKE IN WEST FACE LIGHT POLE, EAST SIDE FOREST AVE, 130 FEET NORTH OF HILL ST.

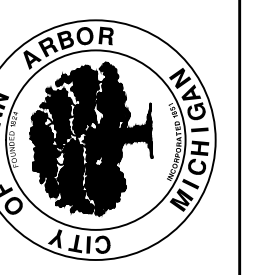
BENCHMARK: 873.62
TOP OF SOUTHEAST CORNER OF FIRST STEP TO PARKING GARAGE, NORTHWEST QUAD OF FOREST AVE AND WILLARD ST.

**GRADING DETAIL
FOREST & ALLEY INTERSECTION**
SCALE: 1" = 5'



REV.	DATE	DESCRIPTION
01	05-08-2013	BID SET
		ATP
		CEW
		CHECKED

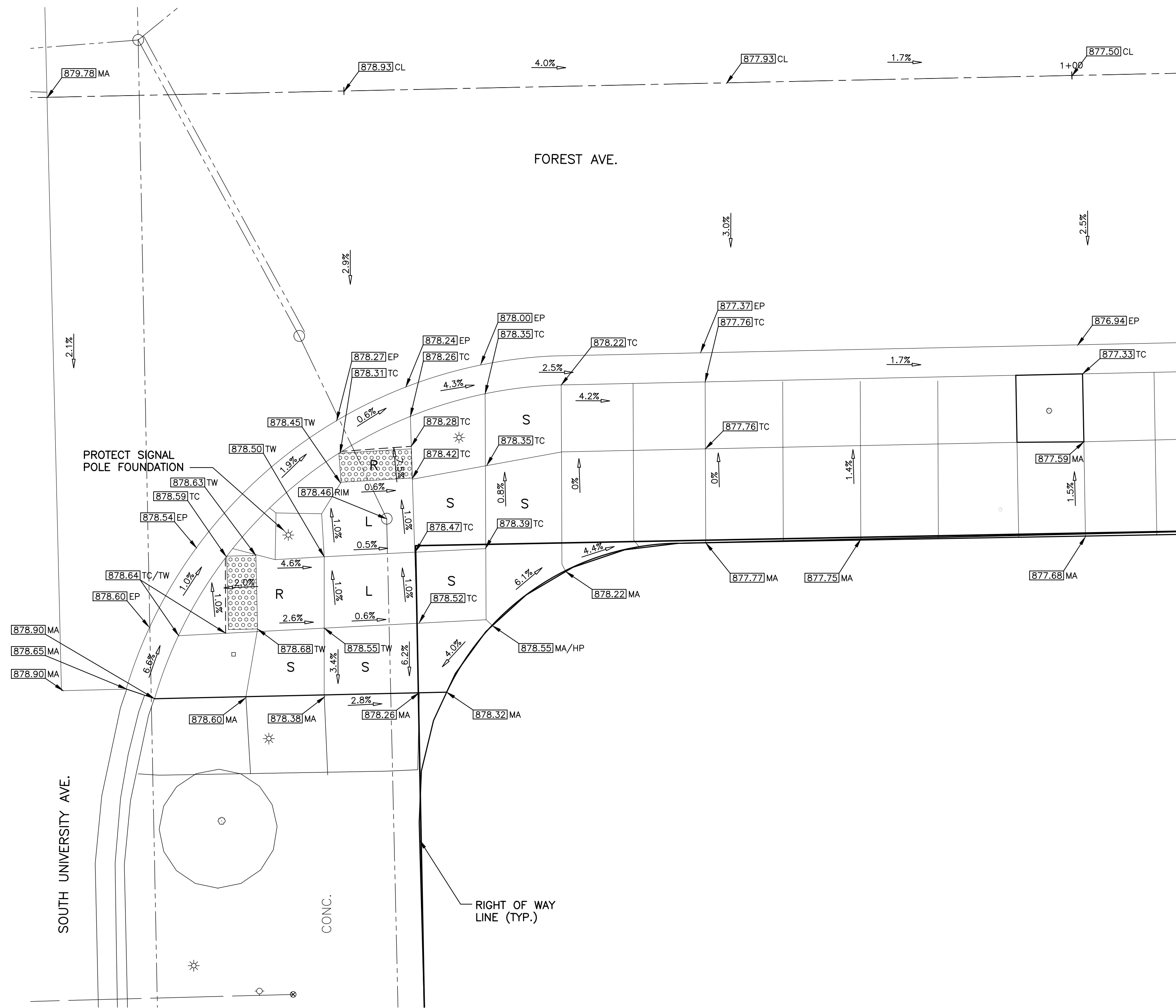
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PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR
FOREST AVENUE IMPROVEMENT PROJECT
TRANSFORMER PARK
GRADING & DRAINAGE PLAN

SCALE PLAN: 1" = 20'
DRAWING No. C012110612

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INTERSECTION OF S. UNIVERSITY AND FOREST AVE

SCALE: 1" = 5'



GRADING LEGEND

- xxxx.xx PROPOSED ELEVATION
- X.XX% PROPOSED SLOPE
- TC PROPOSED TOP OF CURB ELEVATION
- TP PROPOSED TOP OF PAVEMENT ELEVATION
- EW PROPOSED EDGE OF WALK ELEVATION
- EM PROPOSED EDGE OF METAL ELEVATION
- HP PROPOSED HIGH POINT ELEVATION
- MA MATCH EXISTING
- FF EXISTING FIRST FLOOR ELEVATION
- EP PROPOSED EDGE OF PAVEMENT
- S SIDEWALK
- R SIDEWALK RAMP
- L LEVEL LANDING AREA
- [Pattern] DETECTABLE WARNING, CAST IN PLACE
- - - - - GRADE BREAK

BENCHMARKS

BENCHMARK: 867.50
RR SPIKE IN WEST FACE LIGHT POLE, EAST SIDE FOREST AVE, 130 FEET NORTH OF HILL ST.

BENCHMARK: 873.62
TOP OF SOUTHEAST CORNER OF FIRST STEP TO PARKING GARAGE, NORTHWEST QUAD OF FOREST AVE AND WILLARD ST.



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FOREST AVENUE IMPROVEMENT PROJECT

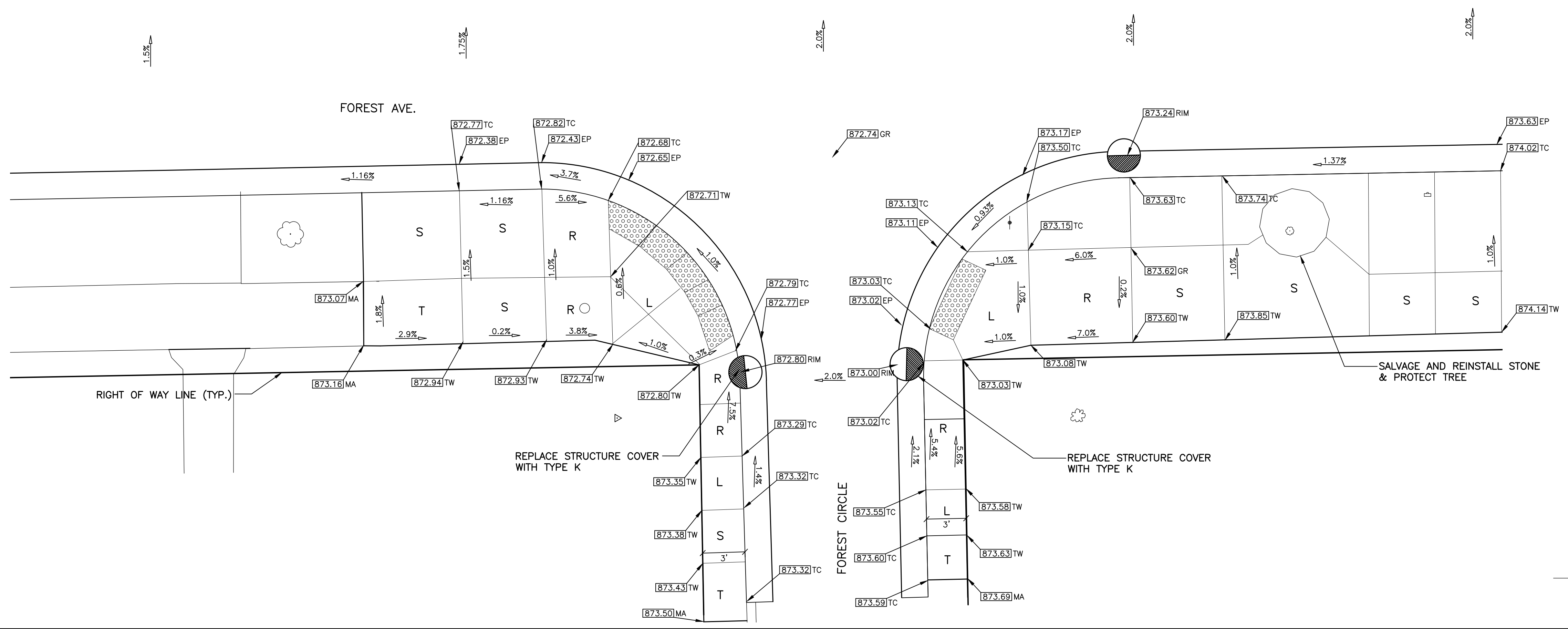
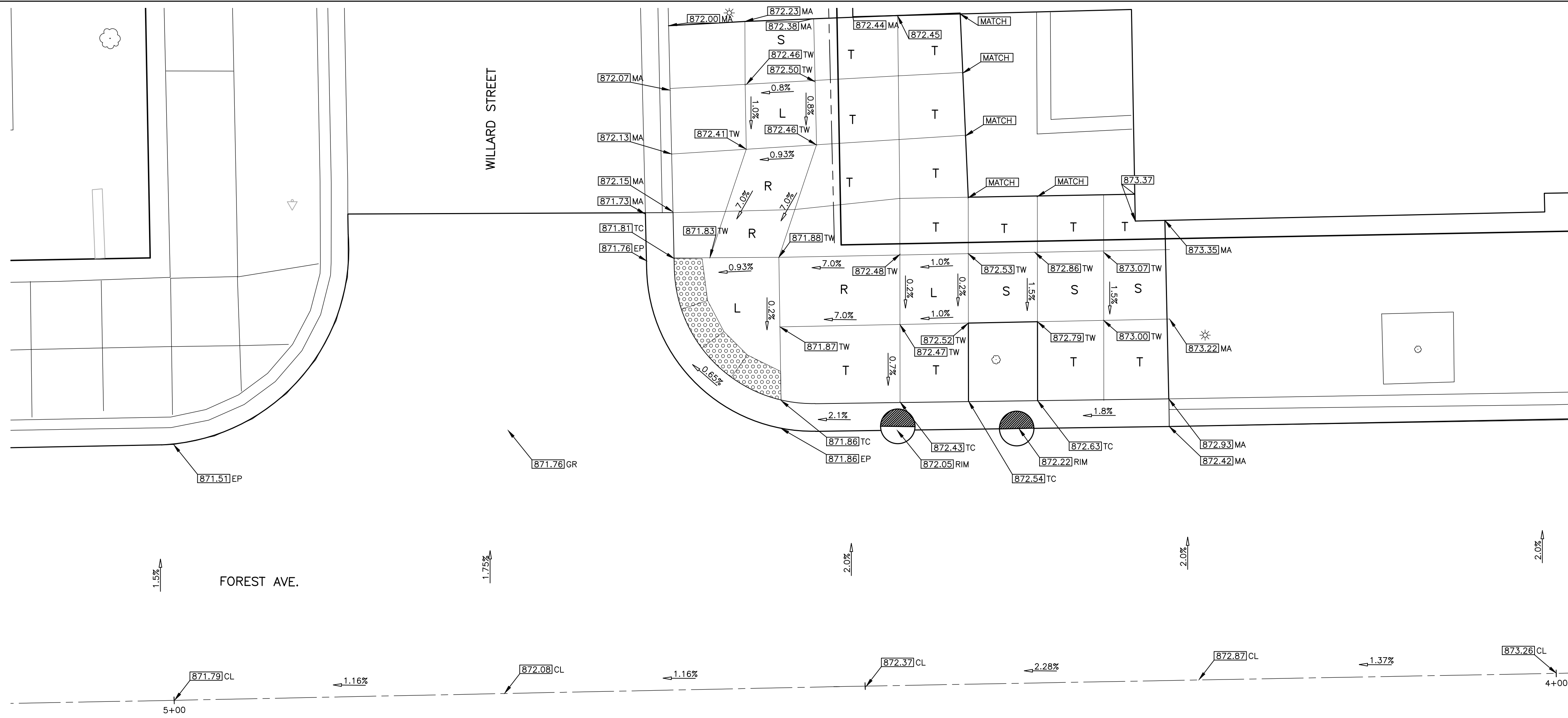
SCALE PLAN: 1" = 5'

DRAWING No. C013110612

ADA RAMPS & DETAILED GRADING

SHEET No. 13 OF 18

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GRADING LEGEND

- xxxx.xx PROPOSED ELEVATION
- X.XX% PROPOSED SLOPE
- TC PROPOSED TOP OF CURB ELEVATION
- TP PROPOSED TOP OF PAVEMENT ELEVATION
- EW PROPOSED EDGE OF WALK ELEVATION
- EM PROPOSED EDGE OF METAL ELEVATION
- HP PROPOSED HIGH POINT ELEVATION
- MA MATCH EXISTING
- FF EXISTING FIRST FLOOR ELEVATION
- CL PROPOSED CENTERLINE OF ROAD
- EP PROPOSED EDGE OF PAVEMENT
- R SIDEWALK RAMP
- L LEVEL LANDING AREA
- S SIDEWALK
- T SIDEWALK TRANSITION
- [Pattern] DETECTABLE WARNING CAST IN PLACE
- - - GRADE BREAK

LEGEND

- [Pattern] PROPOSED STANDARD HMA PAVEMENT SECTION
- (ADJ) REMOVE, REPLACE AND ADJUST COVER/RIM/CASTING PER ENGINEER

BENCH MARKS

BENCHMARK: 867.50
RR SPIKE IN WEST FACE LIGHT POLE, EAST SIDE FOREST AVE, 130 FEET NORTH OF HILL ST.

BENCHMARK: 873.62
TOP OF SOUTHEAST CORNER OF FIRST STEP TO PARKING GARAGE, NORTHWEST QUAD OF FOREST AVE AND WILLARD ST.



REV.	DATE	DESCRIPTION
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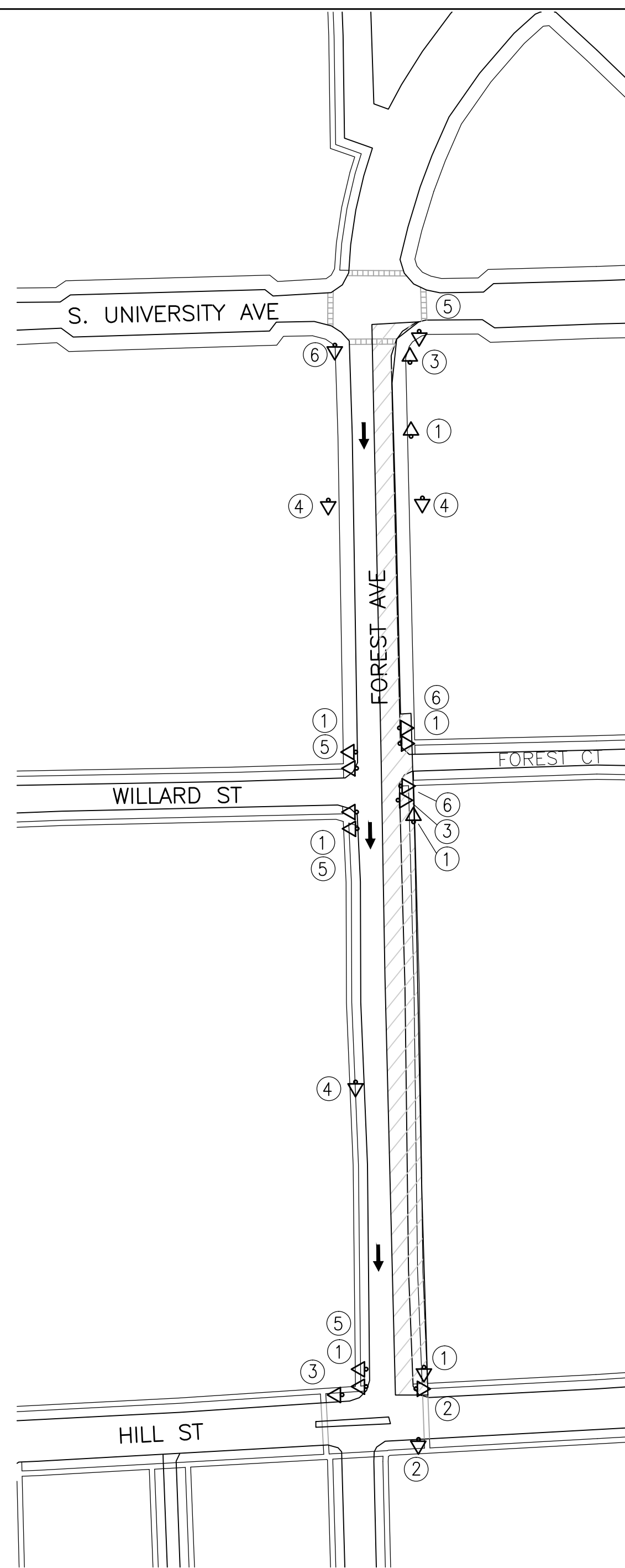
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PUBLIC SERVICE
301 EAST HURON STREET
ANN ARBOR, MI 48106-1647
www.a2gov.org



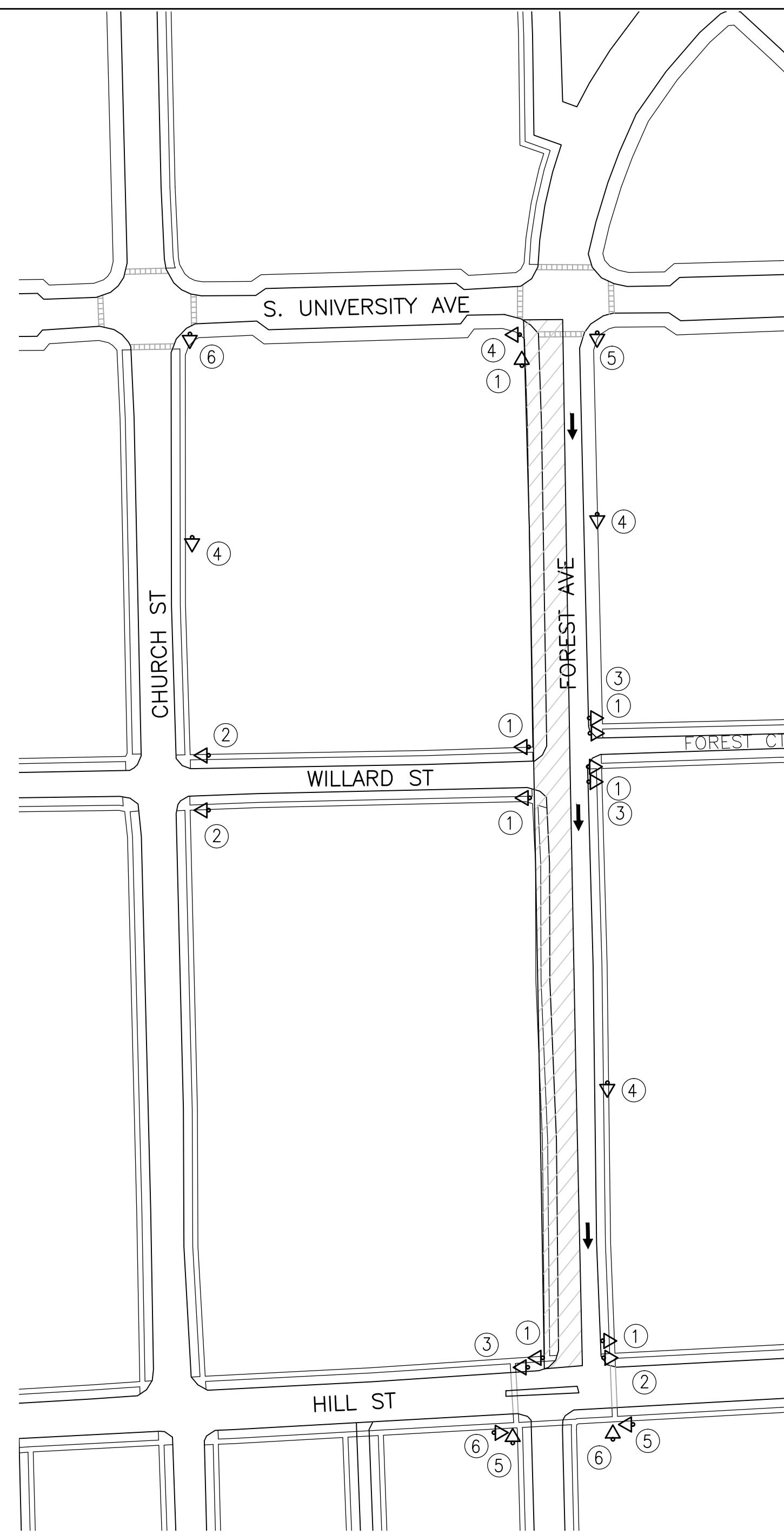
PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR
FOREST AVENUE IMPROVEMENT PROJECT
ADA RAMPS & DETAILED GRADING

SCALE PLAN: 1" = 5'
DRAWING No. C014110612

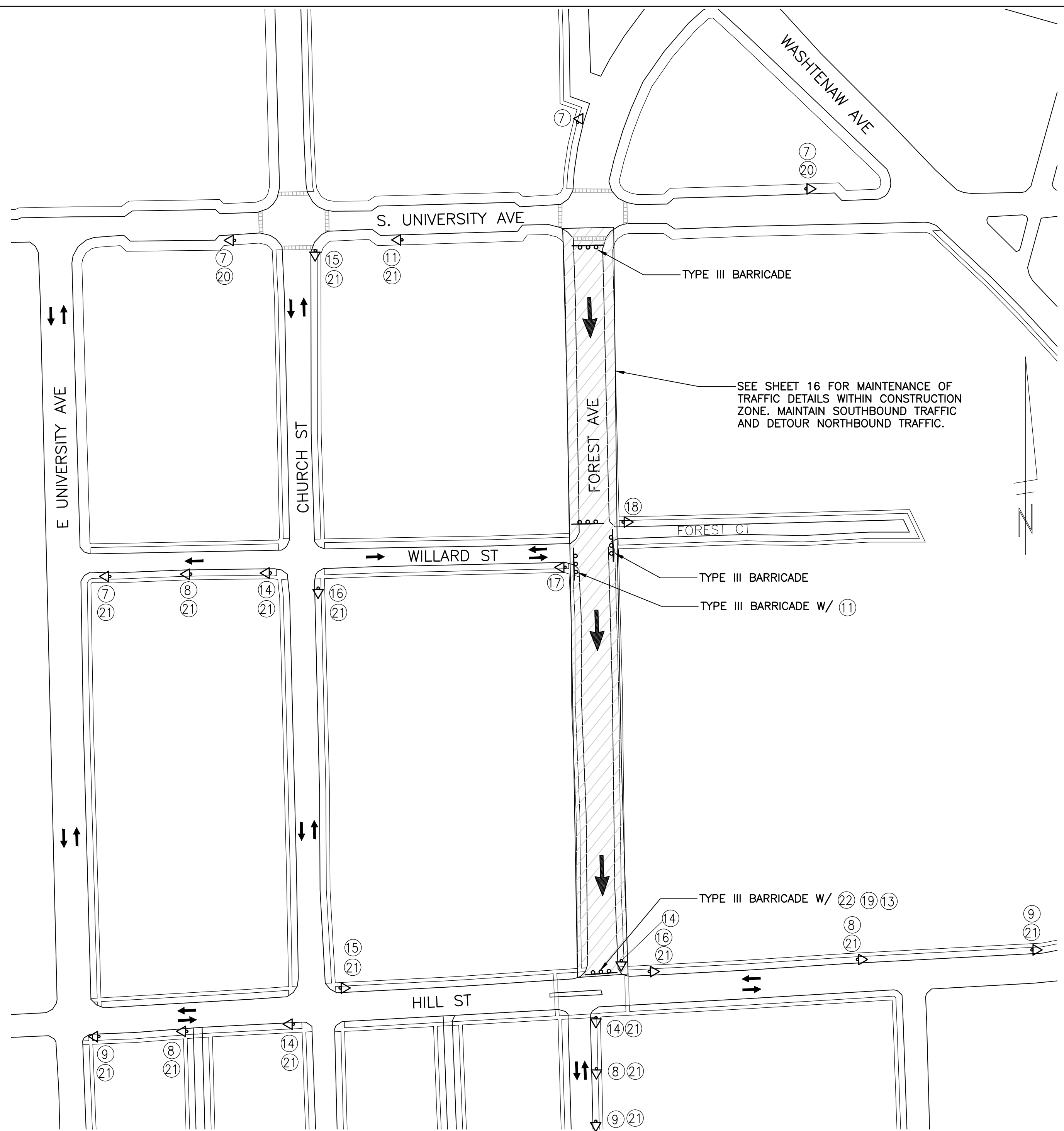
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PEDESTRIAN DETOUR - PHASE 1
SCALE: 1" = 120'

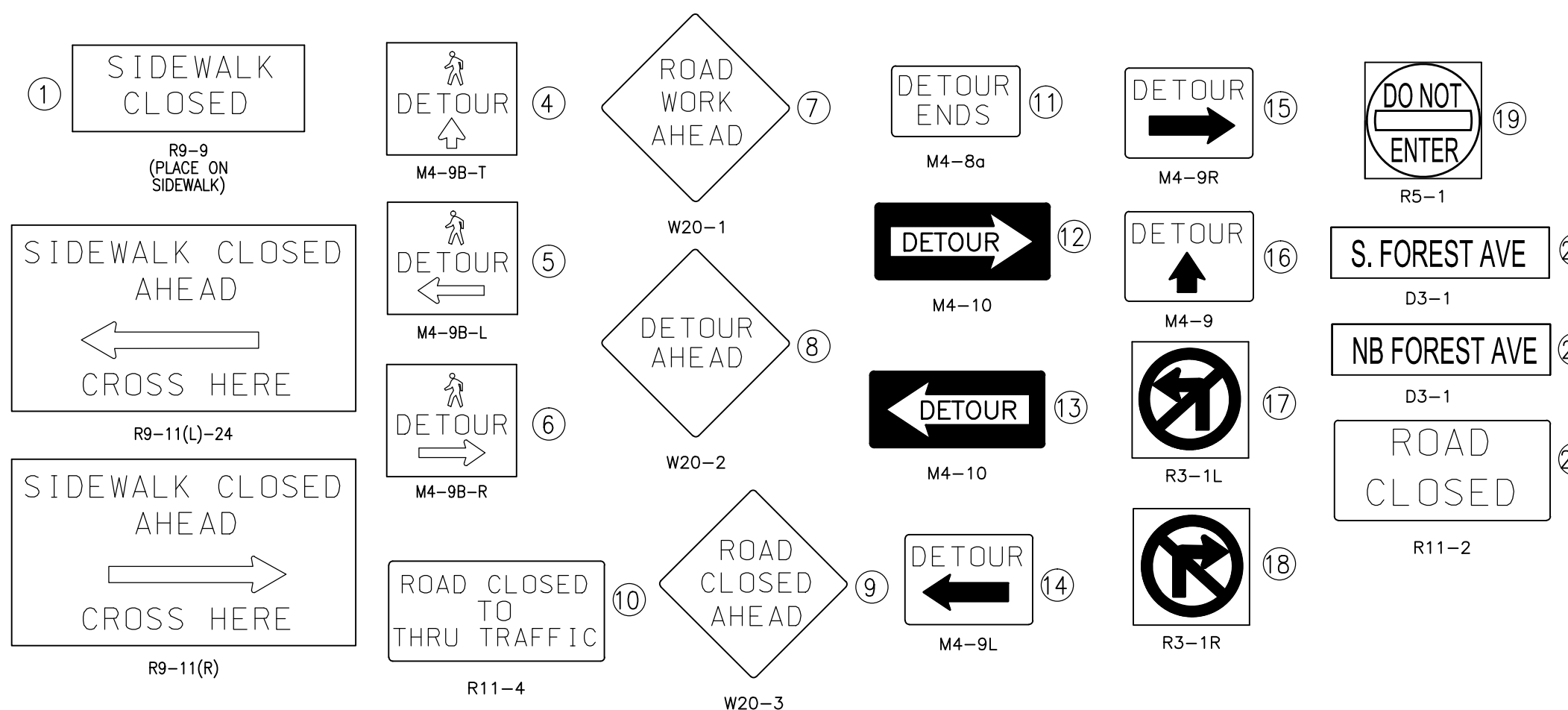


PEDESTRIAN DETOUR - PHASE 2
SCALE: 1" = 120'



CONSTRUCTION METHOD AND SEQUENCING

VEHICLE DETOUR
SCALE: 1" = 120'



IT IS THE INTENT OF THE FOLLOWING SEQUENCE OF CONSTRUCTION TO PROVIDE A WORK AREA FOR THE CONTRACTOR WHILE ALSO MAINTAINING TRAFFIC IN A MANNER WHICH IS SAFE FOR THE TRAVELING PUBLIC. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE, SCHEDULE, AND OVERSEE ALL UTILITY RELOCATIONS AND ADJUSTMENTS. THE CONTRACTOR SHALL ACCOUNT FOR ALL SUCH EFFORT IN THE CONSTRUCTION SCHEDULE. ALL TEMPORARY OR PERMANENT PAVEMENT MARKINGS AND SIGNING SHALL BE IN PLACE BEFORE ANY PAVEMENT IS OPENED TO TRAFFIC. THE WORK TO BE COMPLETED ON THIS STREET SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING ITEMS. THE ORDER OF CONSTRUCTION SHALL BE AS GIVEN UNLESS OTHERWISE AUTHORIZED OR DIRECTED BY THE ENGINEER.

- PHASE 1:**
1. IMPLEMENT PHASE 2 TRAFFIC MAINTENANCE, AND SOIL EROSION CONTROLS IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
 2. PERFORM ALL REMOVALS AND TEMPORARY RESTORATIONS TO ALLOW ACCESS TO PROPERTIES AND ONE-WAY TRAFFIC ON FOREST AVE.
 3. BRING UP BASE COURSE MATERIAL TO ALLOW AND MAINTAIN ONE-WAY TRAFFIC. CONTRACTOR SHALL NOT LEAVE EXCAVATIONS OPEN OVER NIGHT.
 4. INSTALL REMAINING BMP STORM WATER STRUCTURES IN FOREST AVENUE.
 5. PERFORM ALL CONCRETE WORK, INCLUDING RESTORATION, IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
 6. PERFORM PAVEMENT STRUCTURE INSTALLATION AND RELATED IMPROVEMENT IN INCREMENTS THAT ALLOW ACCESS TO PROPERTIES ON FOREST AVENUE PER PLANS, AND AS DIRECTED BY THE ENGINEER. CONTRACTOR SHALL NOT LEAVE EXCAVATIONS OPEN OVER NIGHT.
 7. PAVE REMAINING FOREST AVE USING SPECIFIED SECTION AND APPROVED PAVEMENT MIX. BETWEEN HMA LEVELING AND WEARING COURSES, CONTRACTOR SHALL ADJUST ALL STRUCTURE COVERS, MONUMENT BOXES, AND VALVE BOXES TO THEIR FINISHED GRADES.
 8. COMPLETE ALL MISCELLANEOUS SIDEWALK AND CONSTRUCTION ITEMS, INCLUDING CLEAN-UP AND FINAL RESTORATION.
 9. COMPLETE ALL MISCELLANEOUS SIDEWALK AND CONSTRUCTION ITEMS, INCLUDING CLEAN-UP AND FINAL RESTORATION.
 10. REMOVE ALL TRAFFIC CONTROL DEVICES. REMOVE MISS DIG FLAGS.

- PHASE 2:**
1. IMPLEMENT TRAFFIC MAINTENANCE, AND SOIL EROSION CONTROLS IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
 2. PERFORM ALL REMOVALS AND TEMPORARY RESTORATIONS TO ALLOW ACCESS TO PROPERTIES AND ONE-WAY TRAFFIC ON FOREST AVE.
 3. PERFORM INFILTRATION TRENCH CONSTRUCTION. BRING UP BASE COURSE MATERIAL TO ALLOW AND MAINTAIN ONE-WAY TRAFFIC. CONTRACTOR SHALL NOT LEAVE EXCAVATIONS OPEN OVER NIGHT.
 4. INSTALL BMP STORM WATER STRUCTURES IN FOREST AVENUE.
 5. PERFORM ALL CONCRETE WORK, INCLUDING RESTORATION, IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
 6. PERFORM PAVEMENT STRUCTURE INSTALLATION AND RELATED IMPROVEMENT IN INCREMENTS THAT ALLOW ACCESS TO PROPERTIES ON FOREST AVENUE PER PLANS, AND AS DIRECTED BY THE ENGINEER. CONTRACTOR SHALL NOT LEAVE EXCAVATIONS OPEN OVER NIGHT.
 7. PAVE FOREST AVE TO CENTERLINE PART-WIDTH USING SPECIFIED SECTION AND APPROVED PAVEMENT MIX. BETWEEN HMA LEVELING AND WEARING COURSES, CONTRACTOR SHALL ADJUST ALL STRUCTURE COVERS, MONUMENT BOXES, AND VALVE BOXES TO THEIR FINISHED GRADES.
 8. COMPLETE ALL MISCELLANEOUS SIDEWALK AND CONSTRUCTION ITEMS.

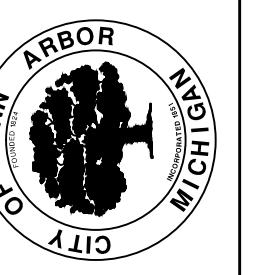
MAINTAINING TRAFFIC AND TRAFFIC CONTROLS

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 PLACEMENT PRIOR TO INSTALLATION.
5. ACCESS TO PARKING STRUCTURE AND CROSS ROADS MUST BE MAINTAINED AT ALL TIME. 2 DAYS NOTICE MUST PROVIDED BEFORE TEMPORARY CLOSURES.



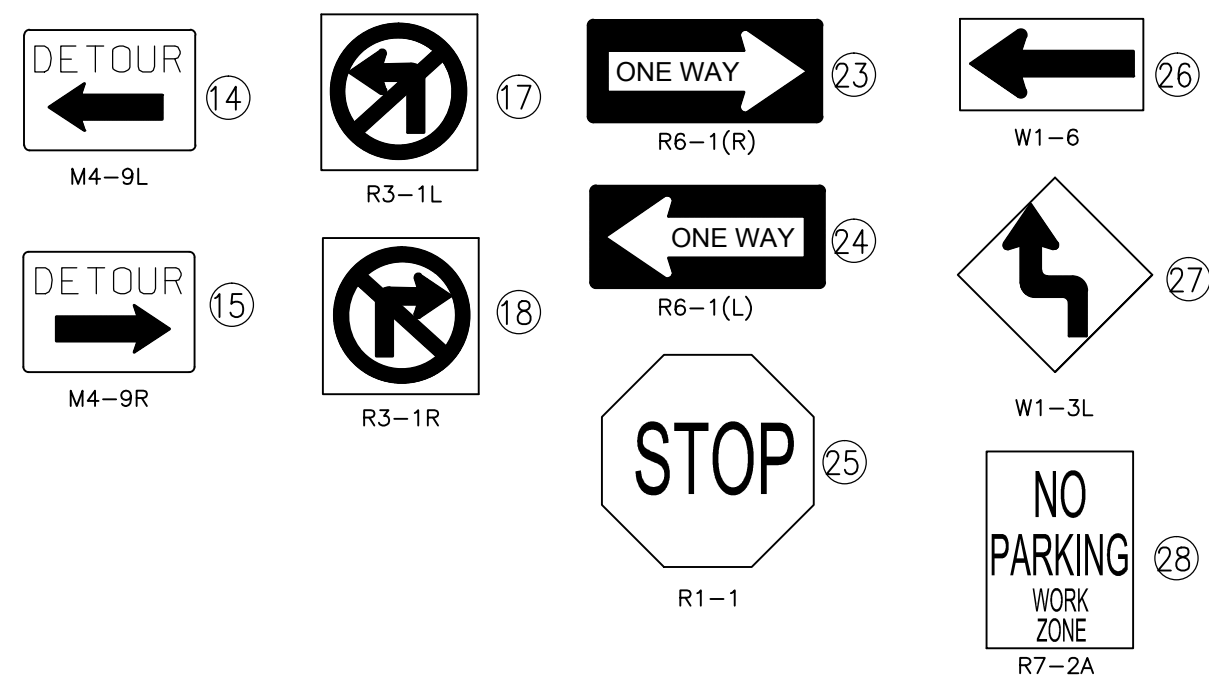
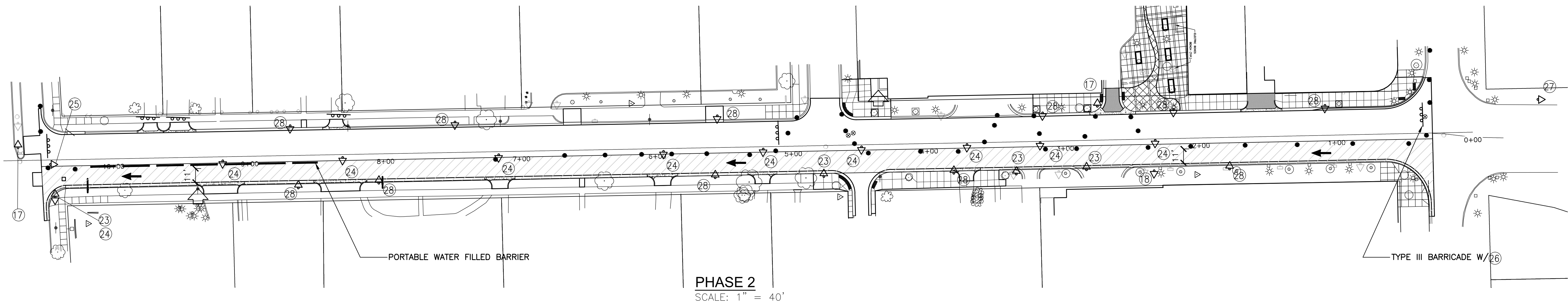
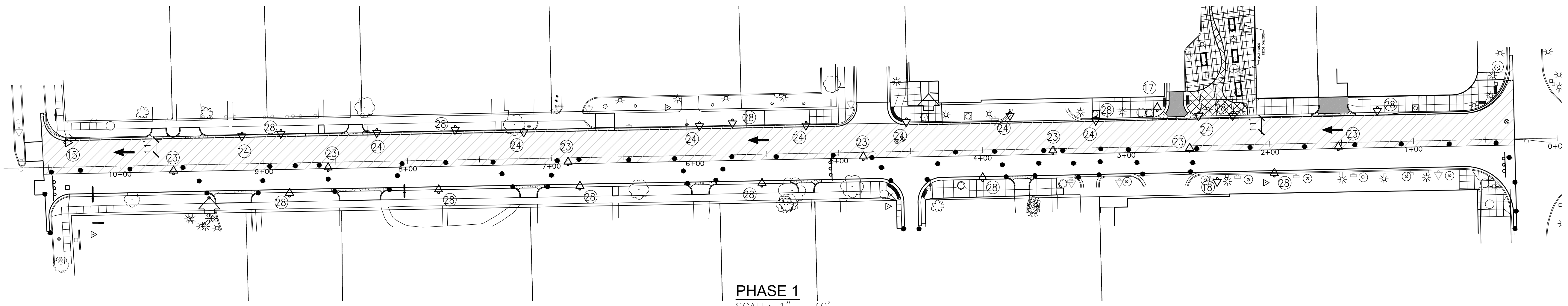
REV.	DATE	DESCRIPTION	BY	CHECKED
01	05-08-2013	BID SET	ATP	CEW

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
ANN ARBOR, MI 48106-1500
www.a2gov.org



PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR
FOREST AVENUE IMPROVEMENT PROJECT
DETOUR PLAN

SCALE PLAN: 1" = 100'
DRAWING No. C015110612
SHEET No. 15 OF 17

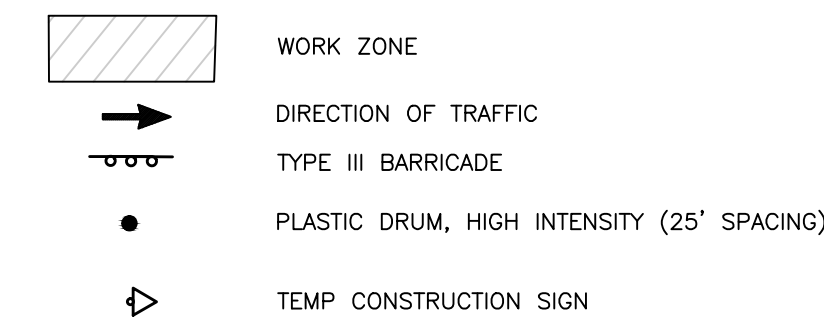


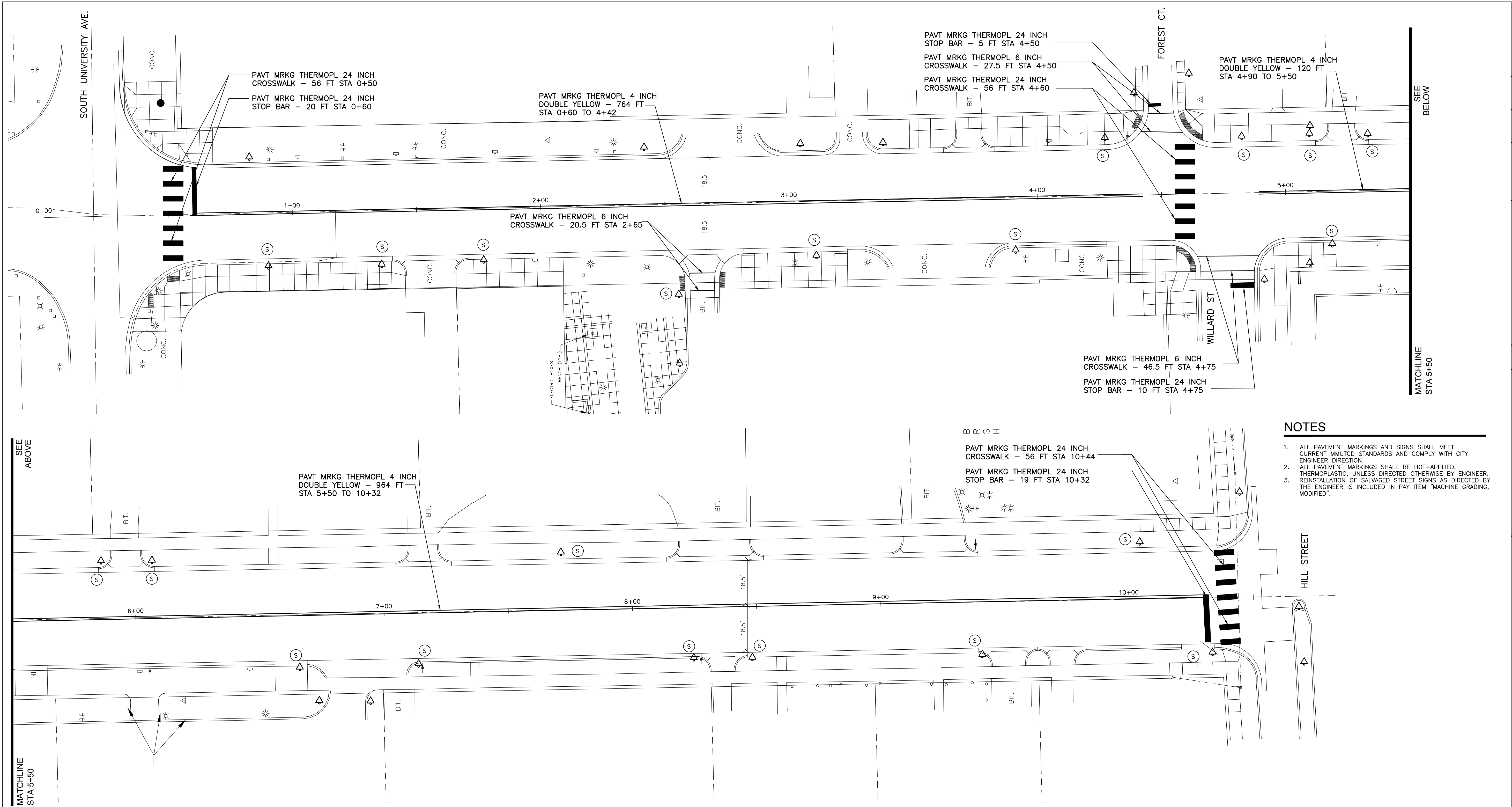
LANE CLOSURE DETAIL

USE OF TRAFFIC REGULATOR OPERATIONS ARE ALLOWED GIVEN PERMISSION FROM THE ENGINEER. SUCH OPERATIONS SHALL COMPLY WITH THE MMUTCD AND CORRESPONDING FIGURE 6H-10.

TRAFFIC CONTROL QUANTITIES					
QTY.	TYPE	DESCRIPTION	SIZE	AREA	TOTAL AREA
16	D3-1	NB FOREST AVE	12X36	3	48
2	D3-1	S FOREST AVE	12X36	3	6
7	R9-9	SIDEWALK CLOSED	30X18	3.75	26.25
3	R9-11L	SIDEWALK CLOSED - CROSS HERE	24X12	2	6
3	R9-11R	SIDEWALK CLOSED - CROSS HERE	24X12	2	6
4	M4-9B-T	PED DETOUR - THRU	30X30	6.25	25
4	M4-9B-L	PED DETOUR - LEFT	30X30	6.25	25
3	M4-9B-R	PED DETOUR - RIGHT	30X30	6.25	18.75
4	W20-1	ROAD WORK AHEAD	36X36	9	36
4	W20-2	DETOUR AHEAD	36X36	9	36
3	W20-3	ROAD CLOSED AHEAD	36X36	9	27
2	R11-4	ROAD CLOSED TO THRU TRAFFIC	30X60	12.5	25
1	M4-8A	DETOUR ENDS	18X24	3	3
0	M4-10R	DETOUR - RIGHT	18X48	6	0
1	M4-10L	DETOUR - LEFT	18X48	6	6
4	M4-9L	DETOUR - LEFT	30X24	5	20
3	M4-9R	DETOUR - RIGHT	30X24	5	15
2	M4-9	DETOUR - THRU	30X24	5	10
2	R3-1L	NO LEFT TURN	24X24	4	8
2	R3-1R	NO RIGHT TURN	24X24	4	8
1	R5-1	DO NOT ENTER	30X30	6.25	6.25
1	R11-2	ROAD CLOSED	30X48	10	10
7	R6-1R	ONE-WAY RIGHT	36X12	3	21
9	R6-1L	ONE-WAY LEFT	36X12	3	27
1	R1-1	STOP	30X30	6.25	6.25
1	W1-6	LEFT ARROW	48X24	8	8
1	W1-3L	SHIFT LEFT	36X36	9	9
14	R7-2A	NO PARKING*	18X12	1.5	21
2	W20-7A	FLAGGER	36X36	9	18
2	W3-4	BE PREPARED TO STOP	36X36	9	18
10	TYPE III	TYPE III LIGHTED BARRICADE	36X36	9	18
70	TYPE II	LIGHTED DRUM			
150	TCB	PORTABLE WATER FILLED BARRIER (LF)			
2	PCMS	SIGN, PORTABLE CHANGEABLE MESSAGE, FURNISH AND OPERATE			
		*PROVIDED BY CITY			

LEGEND





LEGEND

- (N) NEW SIGN AND SUPPORT
- (P) PROTECT SIGN AND SUPPORT
- (S) REMOVE, SALVAGE, & RE-INSTALL WITH NEW SUPPORT
- (E) REMOVE, SALVAGE, & RE-INSTALL WITH EXISTING SUPPORT
- X REMOVE SIGN AND SUPPORT
- ▽ EXISTING SIGN SINGLE/DOUBLE SUPPORT
- ▽ PROPOSED SIGN SINGLE/DOUBLE SUPPORT
- ⊕ EXISTING DESTINATION STREET SIGN
- ⊕ PROPOSED DESTINATION STREET SIGN



NOTES

1. ALL PAVEMENT MARKINGS AND SIGNS SHALL MEET CURRENT MMUTCD STANDARDS AND COMPLY WITH CITY ENGINEER DIRECTION.
2. ALL PAVEMENT MARKINGS SHALL BE HOT-APPLIED, THERMOPLASTIC, UNLESS DIRECTED OTHERWISE BY ENGINEER.
3. REINSTALLATION OF SALVAGED STREET SIGNS AS DIRECTED BY THE ENGINEER IS INCLUDED IN PAY ITEM "MACHINE GRADING, MODIFIED".

CITY OF ANN ARBOR PUBLIC SERVICES 301 EAST HURON STREET ANN ARBOR, MI 48106-1500 www.a2gov.org	
PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR FOREST AVENUE IMPROVEMENT PROJECT	PAVEMENT MARKING
SCALE PLAN: 1" = 100' PROFILE: 1" = 4'	DRAWING No. C017110612
SHEET No. 17 OF 17	

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
01	05-08-2013		ATP	CEW