CITY OF ANN ARBOR
ENGINEERING

2020 MISC. UTILITY PROJECT

ITB No. 4626, FILE No. 2019026

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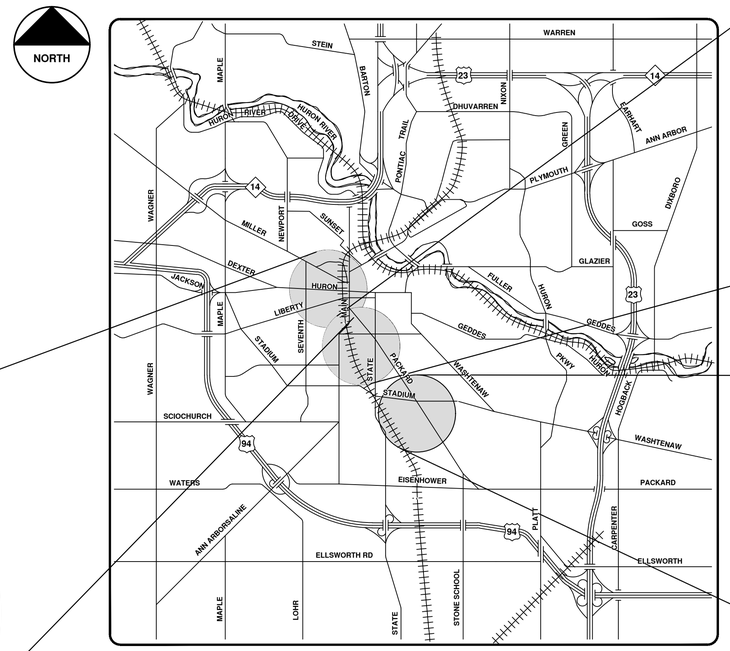
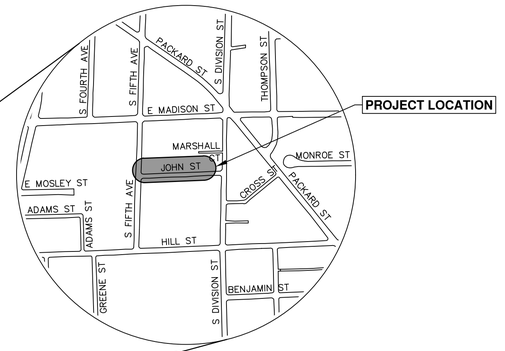
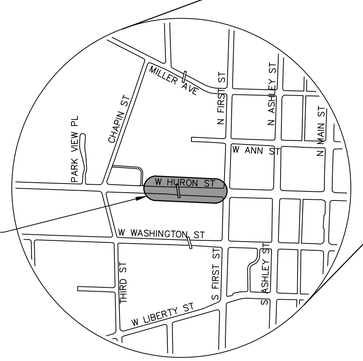
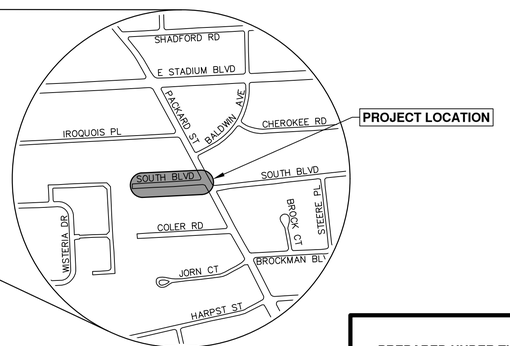


VICINITY MAP







NOTES:

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

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

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

PREPARED UNDER THE SUPERVISION OF

BRIAN SLIZEWSKI, P.E. - MI LICENSE No. 35654
PROJECT MANAGER

4 / 15 / 2020
DATE

STATE OF MICHIGAN
BRIAN SLIZEWSKI
ENGINEER
No. 35654
LICENSED PROFESSIONAL ENGINEER

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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	OUT FOR BID	4-15-2020	CC,DF,KB	BS

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
(734) 794-6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2019026-1

SHEET No. 1 OF 28

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 service.

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. 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.

7. "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.

8. Postal delivery and refuse pickup service shall be maintained at all times by the Contractor.

9. Where street curbs are undermined due to construction activities, they shall be removed and replaced as directed by the Engineer.

10. 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".

11. All curb, sidewalk, driveway approach removals shall be approved by Engineer before the work is done.

12. Sawed sewer pipe connections shall be coupled with a Fernco flexible coupling and a stainless steel shear ring.

13. The location of material stock piles and on-site staging areas to be approved by the Engineer.

14. 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.

15. All structures shall receive new castings as directed by the Engineer, as specified on the standard casting schedule. The existing castings are the property of the City of Ann Arbor. The Contractor shall deliver to City of Ann Arbor Public Works Facility at the W.R. Wheeler Service Center located at 4251 Stone School Road.

16. 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.

17. 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.

18. 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"

19. 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.

20. Plumbing permits issued by City of Ann Arbor Planning and Development Services for private sanitary service leads are required.

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

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

SEQUENCE OF EROSION CONTROL MEASURES:

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

SAMPLE SOIL EROSION AND SEDIMENTATION CONTROL INSTALLATION MINIMUM REQUIREMENTS:

1.1. INSTALL SILT FENCE, TREE PROTECTION FENCING, MUD MATS, INLET FILTERS ON EXISTING DRAINAGE FEATURES, AND ALL OTHER TEMPORARY SOIL EROSION CONTROLS, PRIOR TO ANY CLEARING OR EARTH MOVING OPERATION.

1.2. STRIP AND STOCKPILE TOPSOIL. STABILIZE STOCKPILE AS REQUIRED.

1.3. INSTALL WATER MAINS, STORM AND SANITARY SEWERS, AND OTHER ENCLOSED DRAINAGE FEATURES. NEW INLET FILTERS SHALL BE INSTALLED IMMEDIATELY FOLLOWING INSTALLATION OF NEW DRAINAGE INLETS.

1.4. PERFORM MACHINE GRADING OPERATIONS AND CONSTRUCT PAVEMENTS (MAINLINE, SIDEWALKS, DRIVES, ETC.).

1.5. CONTINUALLY MAINTAIN EROSION AND SEDIMENTATION CONTROL MEASURES, AS REQUIRED TO ALLOW DRAINAGE AND SEDIMENT REMOVAL. REMOVE ANY ACCUMULATED SEDIMENT IMMEDIATELY.

1.6. COMPLETE ALL FINE GRADING.

1.7. TEMPORARY SEED AND INSTALL EROSION CONTROL BLANKET IN ALL DISTURBED AREAS.

1.8. REFER TO LANDSCAPE PLANTING PLANS FOR PERMANENT SITE STABILIZATION.

1.9. CLEAN OUT STORM SEWER SYSTEMS.

1.10. REMEDY ANY NOTED DEFECTS TO THE SATISFACTION OF THE CITY OF ANN ARBOR'S SOIL EROSION AND SEDIMENTATION CONTROL OFFICIAL.

1.11. ALL TEMP. SOIL EROSION CONTROL MEASURES MUST BE REMOVED, WITH ENGINEERS APPROVAL, PRIOR TO FINAL INSPECTION

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

TEMPORARY SEEDING:

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

ON SITE SOILS PER THE USDA SOIL SURVEY OF WASHTENAW COUNTY, MICHIGAN:
- FoB – FOX SANDY LOAM – IN UPLAND AREAS AND ON OUT WASH PLAINS, KAMES, VALLEY TRAINS, TERRACES, AND MORAINES. SLOPES ARE UNIFORM OR SHORT AND COMPLEX.

AREA OF PROPOSED DISTURBANCE = 0.5 ACRES

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

PERMIT	ISSUING AUTHORITY
LANE CLOSURE PERMIT*	CITY OF ANN ARBOR ENGINEERING
"NO PARKING" SIGNS PERMIT*	CITY OF ANN ARBOR ENGINEERING
GRADING/SOIL EROSION & SEDIMENTATION CONTROL PERMIT*	CITY OF ANN ARBOR CUSTOMER SERVICE
RIGHT-OF-WAY PERMIT*	CITY OF ANN ARBOR CUSTOMER SERVICE
* 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
M.D.E.Q. SANITARY SEWER CONSTRUCTION PERMIT	MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

CONTACT INFORMATION

PUBLIC UTILITIES	OWNER	CONTACT
WATER		
SANITARY		
STORM	CITY OF ANN ARBOR PUBLIC WORKS W.R. WHEELER SERVICE CENTER 4251 STONE SCHOOL ROAD ANN ARBOR, MI 48108	(734) 794-6350
FORESTRY		
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	ANTHONY IGNASIAK (734) 397-4447
CABLE	COMCAST 27800 FRANKLIN ROAD SOUTHFIELD, MI 48034	RON SUTHERLAND (313) 999-8300
PHONE	AT&T 550 S. MAPLE ROAD ANN ARBOR, MI 48103	JEFF LEHMAN SR (734) 996-5334
FIBER OPTIC	MCI 2800 N. GLENFILLE ROAD RICHARDSON, TX 75082	DEAN BOYERS (972) 729-6016
FIBER OPTICS	WINDSTREAM 1295 S LINDEN ROAD, SUITE B FLINT, MI 48532	GREG SERICH (810) 244-3500
STREET LIGHTING	DTE ENERGY 8001 HAGGERTY ROAD BELLEVILLE, MI 48111	LANCE ALLEY (734) 397-4188

JOHN STREET BENCHMARKS

BM #	ELEV	DESCRIPTION
1	817.22	SET PK NAIL IN NORTH FACE OF UTILITY POLE. S.E. CORNER OF S. FIFTH AVE & JOHN ST.
2	828.21	SET SPIKE IN NORTH FACE OF UTILITY POLE. SOUTH SIDE OF JOHN ST. ACROSS FROM HOUSE #335

HURON STREET BENCHMARKS

BM #	ELEV	DESCRIPTION
E	831.14	ARROW ON HYDRANT. NW CORNER OF HURON STREET AND NORTH ASHLEY STREET
F	814.11	CHISELED X ON SE BOLT FOR STRAIN POLE, NW CORNER OF HURON STREET AND NORTH FIRST STREET.
G	798.22	SET COTTON SPINDLE ON NORTH SIDE OF UTILITY POLE ON SOUTH SIDE OF HURON STREET AT HSE #401 HURON (ILLI'S AUTO SERVICE)
1047	800.01	CITY OF ANN ARBOR BENCHMARK AAGRS NO 0104 STEEL ROD IN BOX AT SOUTHEAST CORNER OF HURON AVENUE AND THIRD STREET

SOUTH BOULEVARD BENCHMARKS

BM #	ELEV	DESCRIPTION
4	833.28	SET CHISELED X IN SANITARY MANHOLE
5	831.57	SET SPIKE IN EAST FACE OF P.P. AT W. END OF SOUTH BLVD ONLINE W. S'LY CURB
6	837.24	SET SPIKE IN WEST FACE OF P.P. AT N.E. CORNER OF PACKARD ST. AND SOUTH BLVD.
7	834.54	SET SPIKE IN SOUTH FACE OF P.P. AT SOUTH SIDE OF COLER ST. AT ENTRANCE TO PARKING LOT.
8	831.88	SET SPIKE IN SOUTH FACE OF LAMP POST AT NORTH SIDE OF DRIVE AT #1427 COLER STREET.
9	830.80	SET CHISELED X IN NORTH FLANGE BOLT OF HYDRANT AT WEST END OF COLER STREET.
10	831.47	SOUTHWEST CORNER OF CONCRETE PORCH AT #1503 ASTOR DRIVE
11	830.32	SET CHISELED X IN EAST-SOUTHEAST FLANGE BOLT OF HYDRANT IN CURB ISLAND AT #1449 WISTERIA DRIVE

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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	OUT FOR BID	4-15-2020	CC,DP,KB	BS

CITY OF ANN ARBOR
PUBLIC SERVICES
301 E. HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
(734) 794-6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2020 MISC. UTILITY PROJECT

STANDARD NOTES

SCALE : NTS

DRAWING No. 2019026-2

SHEET No. 2 OF 28

R:\2019026 John St Sanitary\Plan Production\2019026Cov.dwg - _a2 standard bw.stb - Plot Date: 4/15/2020 12:06:25 PM

EXISTING LEGEND

- FIRE HYDRANT
- GATE VALVE IN BOX
- GATE VALVE IN WELL
- STOP BOX
- WATER VAULT
- WELL
- CATCH BASIN (SQ)
- CATCH BASIN (RD)
- STORM MANHOLE
- NON-CURB CATCH BASIN (SQ)
- END SECTION
- SANITARY MANHOLE
- CLEAN-OUT
- POST
- PEDESTRIAN SIGNAL
- SIGN
- HAND HOLE
- ORNAMENTAL LIGHT
- FLOOD LIGHT
- UNKNOWN MANHOLE
- TELEPHONE MANHOLE
- TELEPHONE RISER
- GAS VALVE
- GAS VENT
- GAS BOX
- ELECTRICAL RISER
- TRANSFORMER
- UTILITY POLE
- LAMP POLE
- GUY ANCHOR
- GUY POLE
- MONITORING WELL
- MAILBOX
- SOIL BORING
- TRAVERSE POINT
- BENCH MARK
- IRON PIPE
- MON BOX

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

PROPOSED LEGEND

- HYDRANT (PLAN)
- WATER GATE WELL
- REDUCER
- WATER GATE VALVE
- WATER STOP BOX
- WATER VAULT
- INLET
- DOUBLE INLET
- INLET JUNCTION CHAMBER
- ROUND CATCH BASIN
- STORM MANHOLE
- DRAIN ARROW
- FLARED END SECTION
- SANITARY MANHOLE
- CLEAN-OUT
- BARREL
- SIGN
- PUSH BUTTON
- HAND HOLE

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

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

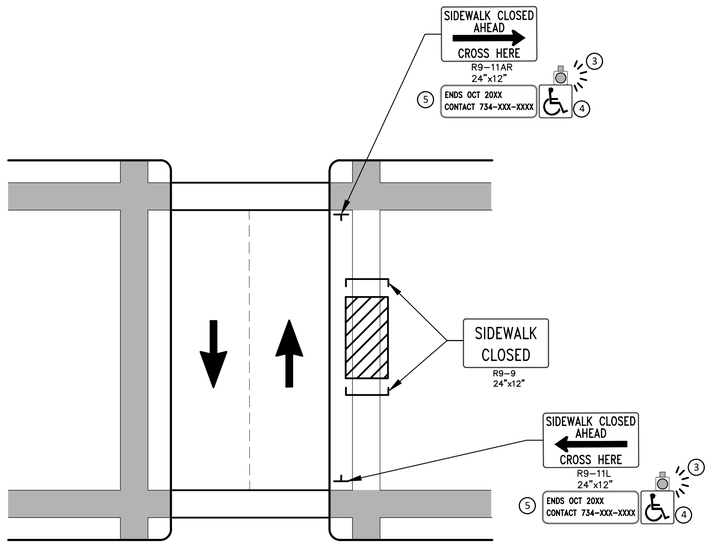
2020 MISC. UTILITY PROJECT

LEGEND

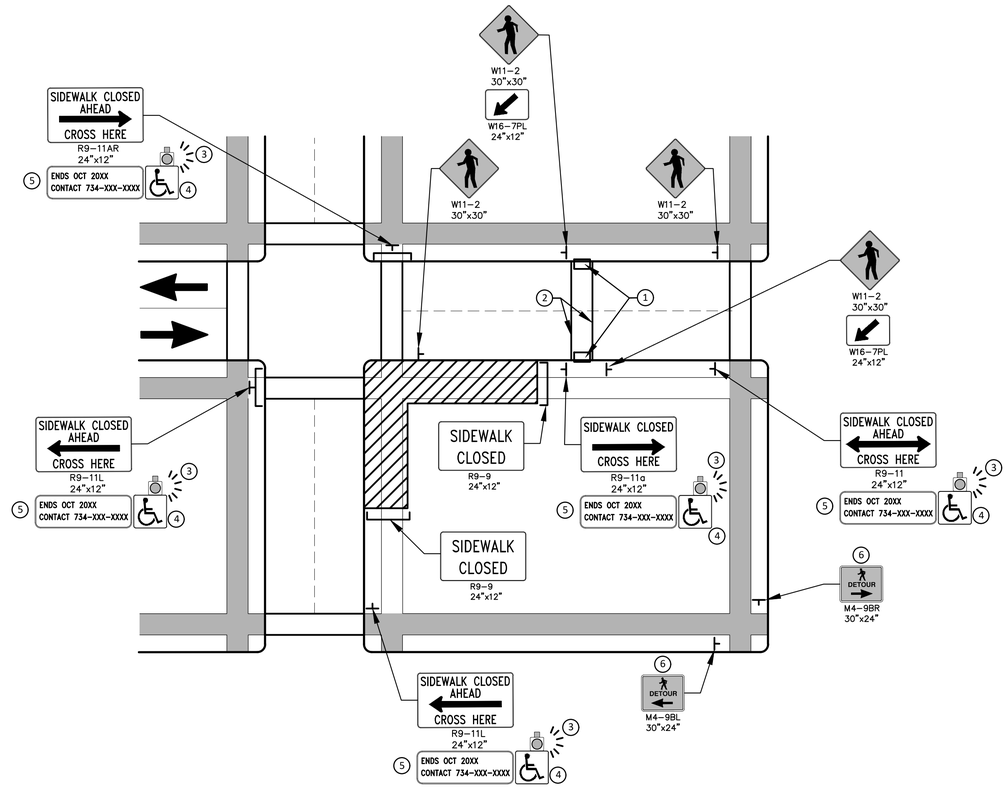
SCALE : NTS

DRAWING No.
2019026-3

SHEET No.
3 OF 28



PEDESTRIAN DETOUR USING OPPOSITE SIDE OF STREET



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

GENERAL NOTES

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

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

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

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

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

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

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

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

SPECIFIC NOTES

(1) TEMPORARY CURB RAMPS WITH DETECTABLE WARNINGS.

(2) TEMPORARY PAVEMENT MARKING FOR CROSSWALK LINES.

(3) AN APPROVED AUDIBLE MESSAGE DEVICE OR TACTILE MESSAGE SHALL BE PROVIDED FOR SIGHT-IMPAIRED PEDESTRIANS.

(4) THE INTERNATIONAL SYMBOL OF ACCESSIBILITY SHOULD BE DISPLAYED WHEN ANY WALKWAY THROUGH A WORK ZONE HAS BEEN DETERMINED TO BE TPAR COMPLIANT. THE SYMBOL OF ACCESSIBILITY SHALL NOT BE DISPLAYED IF PERSONS WITH DISABILITIES SHOULD NOT USE THE PRIMARY TEMPORARY PEDESTRIAN DETOUR. THE REASON FOR THE NON-COMPLIANCE SHALL BE POSTED AND AN ALTERNATE ROUTE SHALL BE POSTED WHEN THE PRIMARY TEMPORARY PEDESTRIAN DETOUR IS NON-COMPLIANT TO TPAR STANDARDS.

(5) TYPICAL SIGN MESSAGE FOR A TEMPORARY PEDESTRIAN DETOUR SHALL INCLUDE INFORMATION SUCH AS THE DURATION OF THE WALKWAY RESTRICTIONS (BEGINNING AND/OR END DATES) AND A PROJECT CONTACT NUMBER FOR 24 / 7 QUESTIONS OR REPORTING HAZARDS.

(6) PEDESTRIAN DETOUR TRAILBLAZING SIGNS SHALL BE USED IF THE PEDESTRIAN DETOUR IS IN A LOCATION OTHER THAN ACROSS THE STREET FROM THE SIDEWALK CLOSURE.

PEDESTRIAN TEMPORARY TRAFFIC CONTROL NOTES

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

LEGEND

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

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

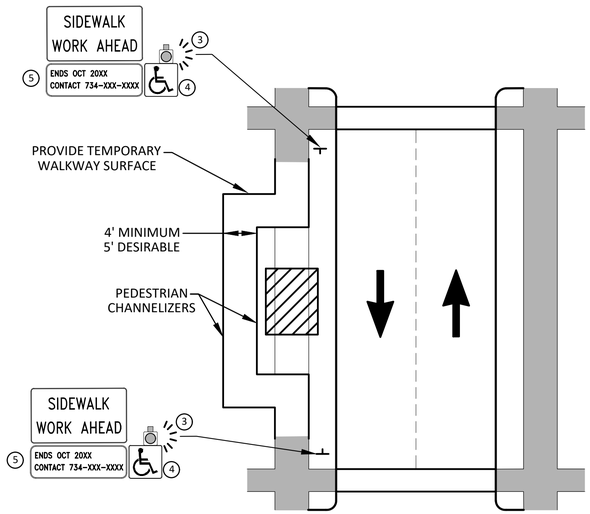
2020 MISC. UTILITY PROJECT

ALTERNATE PEDESTRIAN ROUTE (APR) DETOUR

SCALE : N.T.S.

DRAWING No. 2019026-4

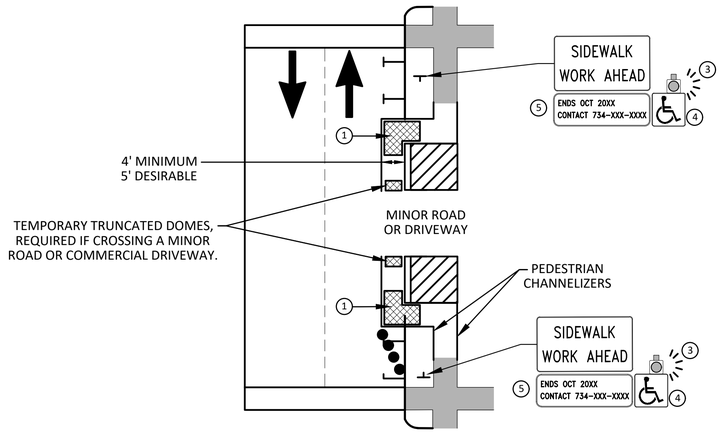
SHEET No. 4 OF 28



BYPASS ON ADJACENT AVAILABLE
RIGHT OF WAY

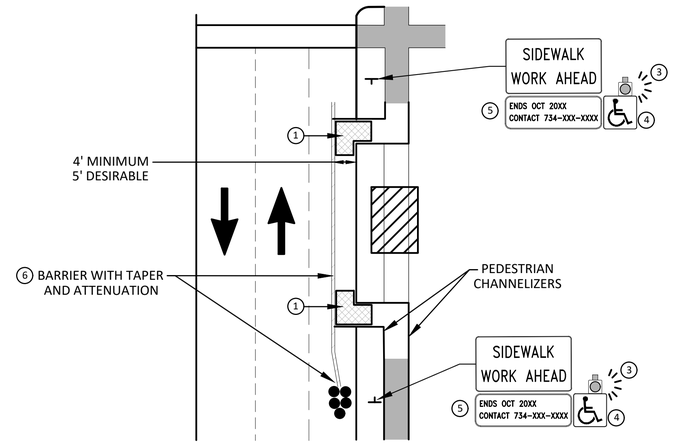
BYPASS TYPE A

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



SIDEWALK BYPASS USING PARKING OR
SHOULDER ON LOW SPEED ROADWAY

BYPASS TYPE B



SIDEWALK BYPASS USING
SHOULDER OR PARKING LANE ON
HIGH SPEED ROADWAY

BYPASS TYPE C

GENERAL NOTES

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

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

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

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

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

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

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

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

SPECIFIC NOTES

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

LEGEND

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

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2020 MISC. UTILITY PROJECT

ALTERNATE PEDESTRIAN ROUTE (APR) BYPASS

SCALE : N.T.S.

DRAWING No. 2019026-5

SHEET No.
5 OF 28

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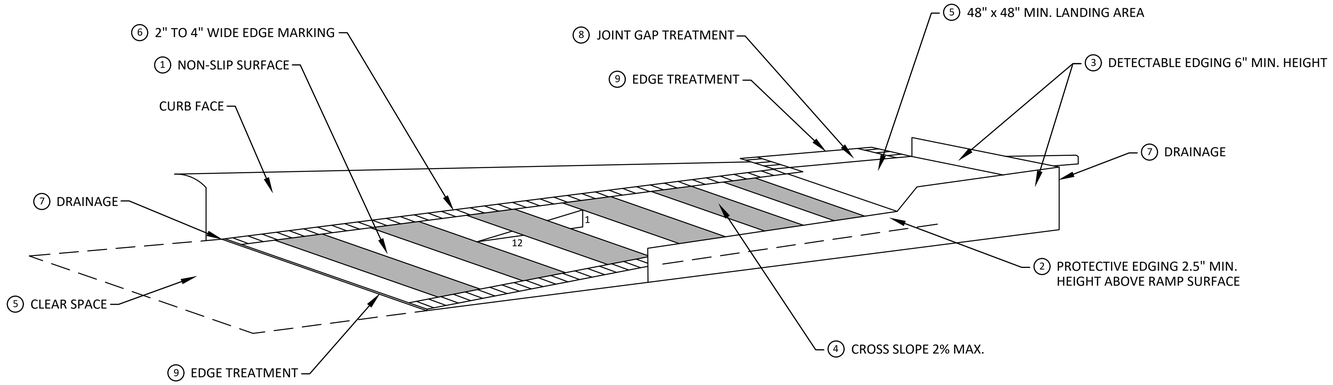
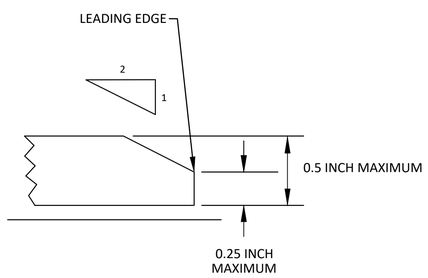


TEMPORARY CURB RAMP
PARALLEL TO CURB

SPECIFIC NOTES

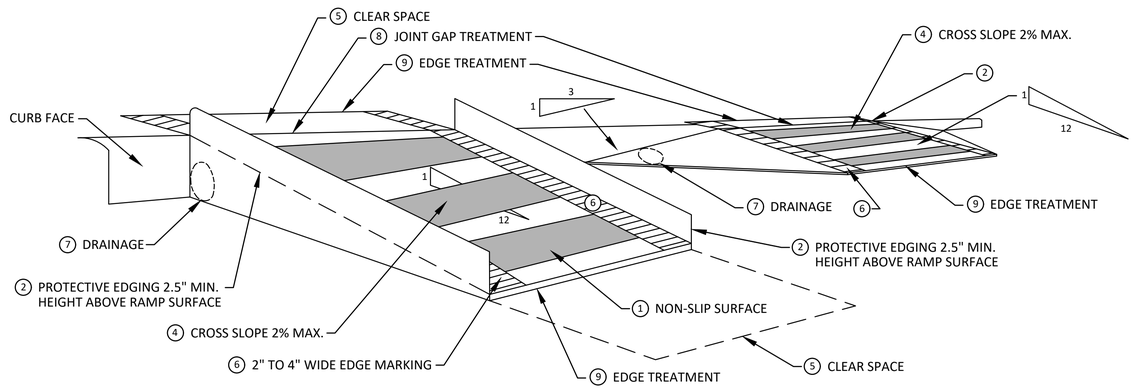
1. CURB RAMPS SHALL BE 48" MIN. WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE.
2. PROTECTIVE EDGING WITH A 2.5" MIN. HEIGHT ABOVE THE RAMP SHALL BE PLACED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3. PROTECTIVE EDGING SHOULD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



9 EDGE TREATMENT

SHOWN WITH PROTECTIVE EDGE

SHOWN WITH SIDE APRON



TEMPORARY CURB RAMP
PERPENDICULAR TO CURB

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

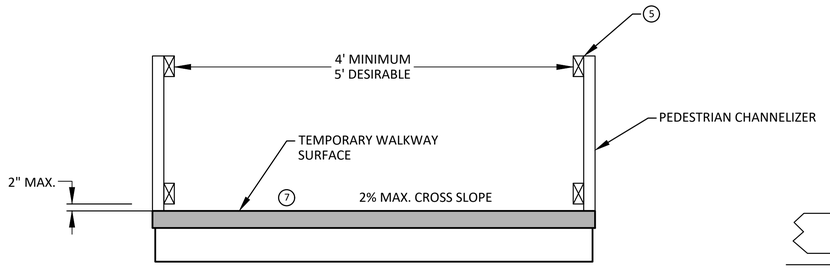
2020 MISC. UTILITY PROJECT

TPAR RAMPS

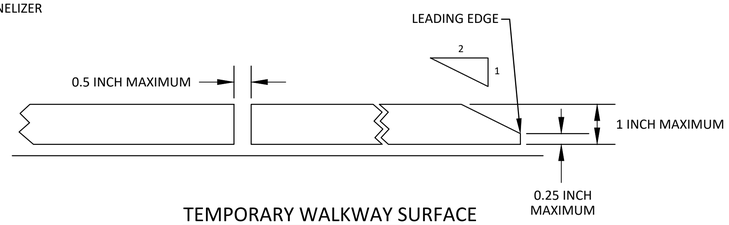
SCALE : N.T.S.

DRAWING No. 2019026-6

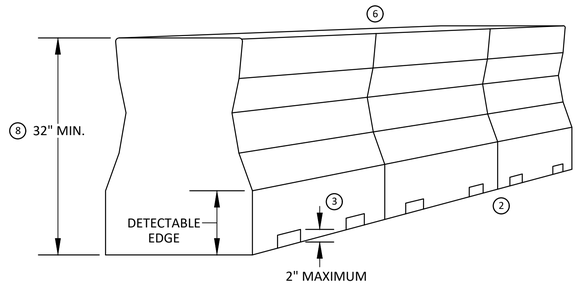
SHEET No. 6 OF 28



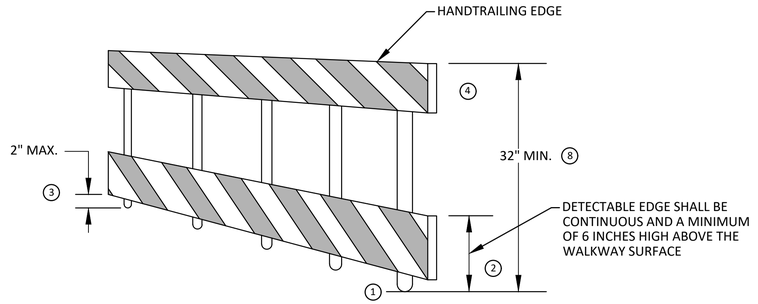
TEMPORARY PEDESTRIAN ACCESS



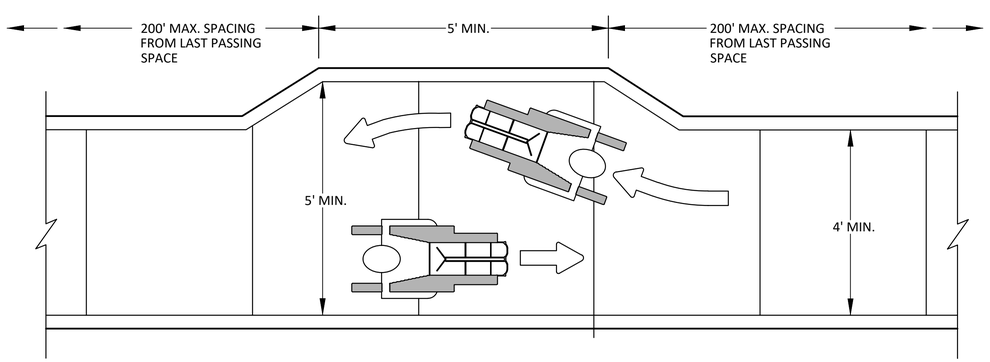
TEMPORARY WALKWAY SURFACE



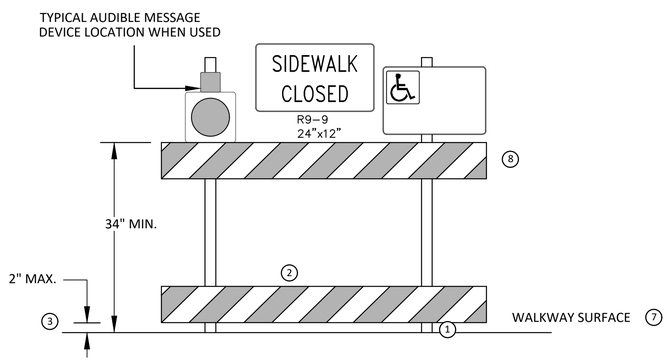
PEDESTRIAN CHANNELIZER USING A BARRIER (MINIMUM REQUIREMENTS)



PEDESTRIAN CHANNELIZER (MINIMUM REQUIREMENTS)



NARROW TEMPORARY PEDESTRIAN ACCESS ROUTE PASSING DETAIL



SIDEWALK BARRICADE

GENERAL NOTES

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

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

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

SPECIFIC NOTES

1. ANY TRIPPING HAZARD IN THE WALKWAY NEEDS A DETECTABLE EDGE. BALLAST SHALL BE LOCATED BEHIND OR INTERNAL TO THE DEVICE. ANY SUPPORT ON THE FRONT OF THE DEVICE SHALL NOT EXTEND INTO THE 48 INCH MINIMUM WALKWAY CLEAR SPACE AND SHALL NOT EXCEED 0.5 INCHES IN HEIGHT ABOVE THE WALKWAY SURFACE.
2. DETECTABLE EDGES SHALL BE CONTINUOUS AND A MINIMUM OF 6 INCHES IN HEIGHT ABOVE WALKWAY SURFACE AND HAVE COLOR MARKINGS CONTRASTING WITH THE WALKWAY SURFACE.
3. DEVICES SHALL NOT BLOCK WATER DRAINAGE FROM THE WALKWAY. A GAP HEIGHT OR OPENING FROM THE WALKWAY SURFACE UP TO A MAXIMUM OF 2 INCHES IS ALLOWED FOR DRAINAGE PURPOSES.
4. PROVIDE A HANDRAIL ON BOTH SIDES OF THE RAMP IF THE RAMP IS NOT EXPOSED TO VEHICLE TRAFFIC AND HAS A TOTAL RISE GREATER THAN 6 INCHES, AND A LENGTH GREATER THAN 72 INCHES.
   - ENSURE THE HANDRAIL IS 1.25 AND 1.5 INCHES WIDE AND CONFIGURED TO BE A "GRASPABLE" CROSS-SECTION.

   SEE CONSTRUCTION SUBSECTION 2.A FOR ADDITIONAL DETAILS.

   WHEN THE RAMP IS EXPOSED TO TRAFFIC, IN LIEU OF HANDRAILS, USE A PROTECTIVE EDGE 2.5 INCHES MINIMUM HEIGHT ABOVE THE RAMP SURFACE OR 1:10 FLARE ON BOTH SIDES OF THE RAMP.
5. ALL DEVICES SHALL BE FREE OF SHARP OR ROUGH EDGES, AND FASTENERS (BOLTS) SHALL BE ROUNDED TO PREVENT HARM TO HANDS, ARMS OR CLOTHING OF PEDESTRIANS.
6. ALL DEVICES USED TO CHANNELIZE PEDESTRIAN FLOW SHOULD INTERLOCK SUCH THAT GAPS DO NOT ALLOW PEDESTRIANS TO STRAY FROM THE INTENDED CHANNELIZED PATH.
7. A WALKWAY SURFACE SHALL BE FIRM, STABLE, AND SLIP RESISTANT. COMPACTED GRAVEL, AGGREGATE, OR SLAG MATERIALS ARE NOT ALLOWED.
8. LONGITUDINAL CHANNELIZING DEVICES FOR PEDESTRIANS SHALL BE 32 INCHES IN HEIGHT OR GREATER.

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

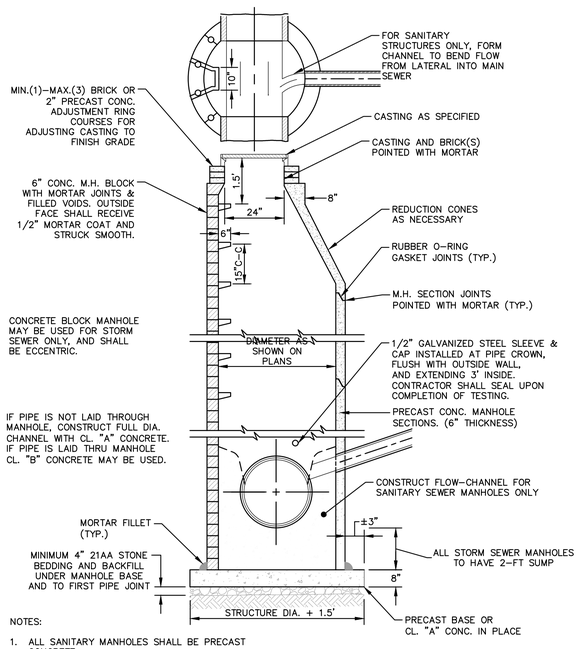
2020 MISC. UTILITY PROJECT

TPAR WALKWAY DEVICES

SCALE : N.T.S.

DRAWING No. 2019026-7

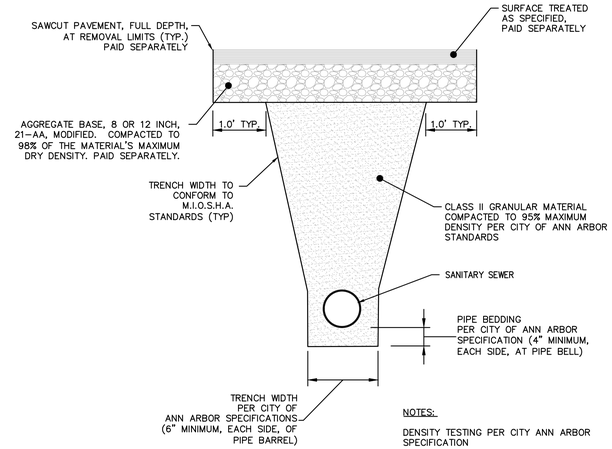
SHEET No. 7 OF 28



NOTES:

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

STANDARD MANHOLE (TYPE I)



NOTES:

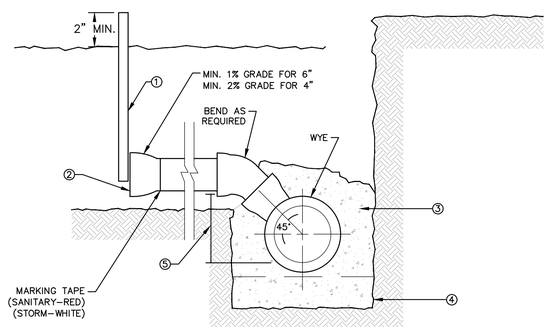
DENSITY TESTING PER CITY ANN ARBOR SPECIFICATION

TRENCH DETAILS SHOW TYPE OF BACKFILL AND SURFACE RESTORATION ONLY.

ALL TRENCHING TO CONFORM TO ALL APPLICABLE M.I.O.S.H.A. STANDARDS

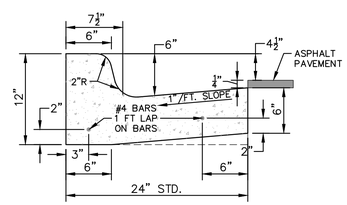
TRENCH DETAIL - TYPE I, SD-TD-1, MODIFIED

1. MIN. 2" X 2" CEDAR TREATED LUMBER, MARKED (SANITARY–RED., STORM–WHITE), SET VERTICALLY.
2. CAP WITH SOLVENT WELDED CAP OR PLUG
3. CLASS "X" CONCRETE TO EXTEND MIN. 1.0' BEYOND TEE OR WYE JOINTS. (D.I.P. TEE OR WYE NOT ENCASED)
4. CLASS II GRANULAR MATERIAL, COMPACTED TO 95% MAXIMUM DENSITY PER CITY OF ANN ARBOR STANDARDS.
5. 8"x 4" TEE INVERT – ADD 0.83' TO MAIN INVERT 8"x 6" TEE INVERT – ADD 0.87' TO MAIN INVERT



NOTES:
TAPS INTO EXISTING SEWERS SHALL BE DONE ONLY BY CITY UTILITIES DEPARTMENT.

SEWER CONNECTION



CURB AND GUTTER, CONC, DET F4, SPECIAL

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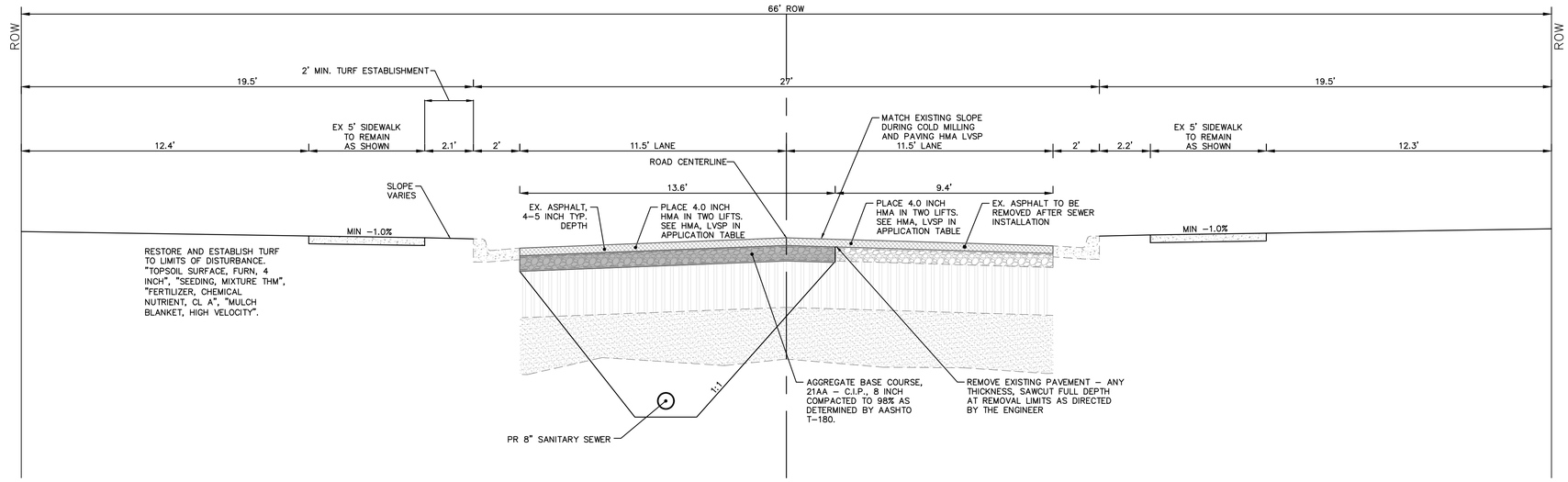
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
2020 MISC. UTILITY PROJECT
SANITARY SEWER DETAILS

SCALE : NTS
DRAWING No. 2019026-8
SHEET No. 8 OF 28



JOHN STREET
PROPOSED TYPICAL SECTION

POB TO POE
N.T.S.

HMA APPLICATION ESTIMATE						
HMA PAVEMENT	HMA MIX	RATE OF APPLICATION	THICKNESS (INCHES)	AWI (MIN.)	BINDER	LOCATION/NOTES
HMA PAVEMENT TOP	LVSP	220 LB/SYD	2	260 (TOP)	PG 58-28	TOP COURSE
HMA PAVEMENT LEVELING	LVSP	220 LB/SYD	2	–	PG 58-28	LEVELING COURSE
HMA APPROACH TOP	LVSP	220 LB/SYD	2	260 (TOP)	PG 58-28	TOP COURSE
HMA APPROACH LEVELING	LVSP	220 LB/SYD	2	–	PG 58-28	LEVELING COURSE
HAND PATCHING	LVSP	0 – 440 LB/SYD			PG 58-28	HAND PATCHING
ASPHALT EMULSION	SS-1h	0.05 – 0.15 GAL/SYD	–	–	–	INCLUDE IN COST OF HMA ITEM

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2020 MISC. UTILITY PROJECT

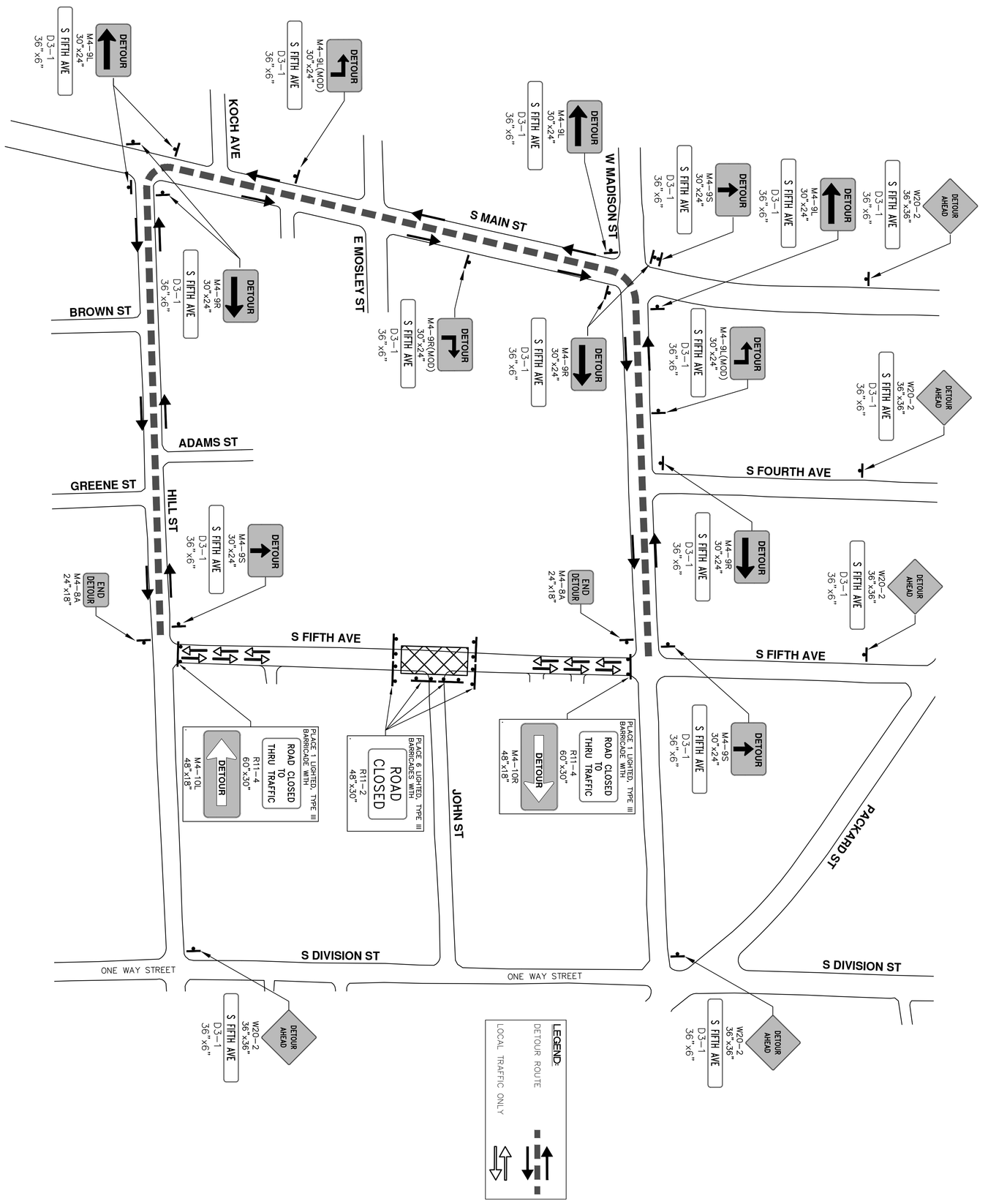
JOHN STREET

TYPICAL SECTION

SCALE: 1" = 3'

DRAWING No. 2019026-9

SHEET No. 9 OF 28



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SCALE PLAN: 1" = 100'

DRAWING No. 2019026-10

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JOHN STREET

DETOUR PLAN - SANITARY SEWER CONNECTION AT S FIFTH AVE

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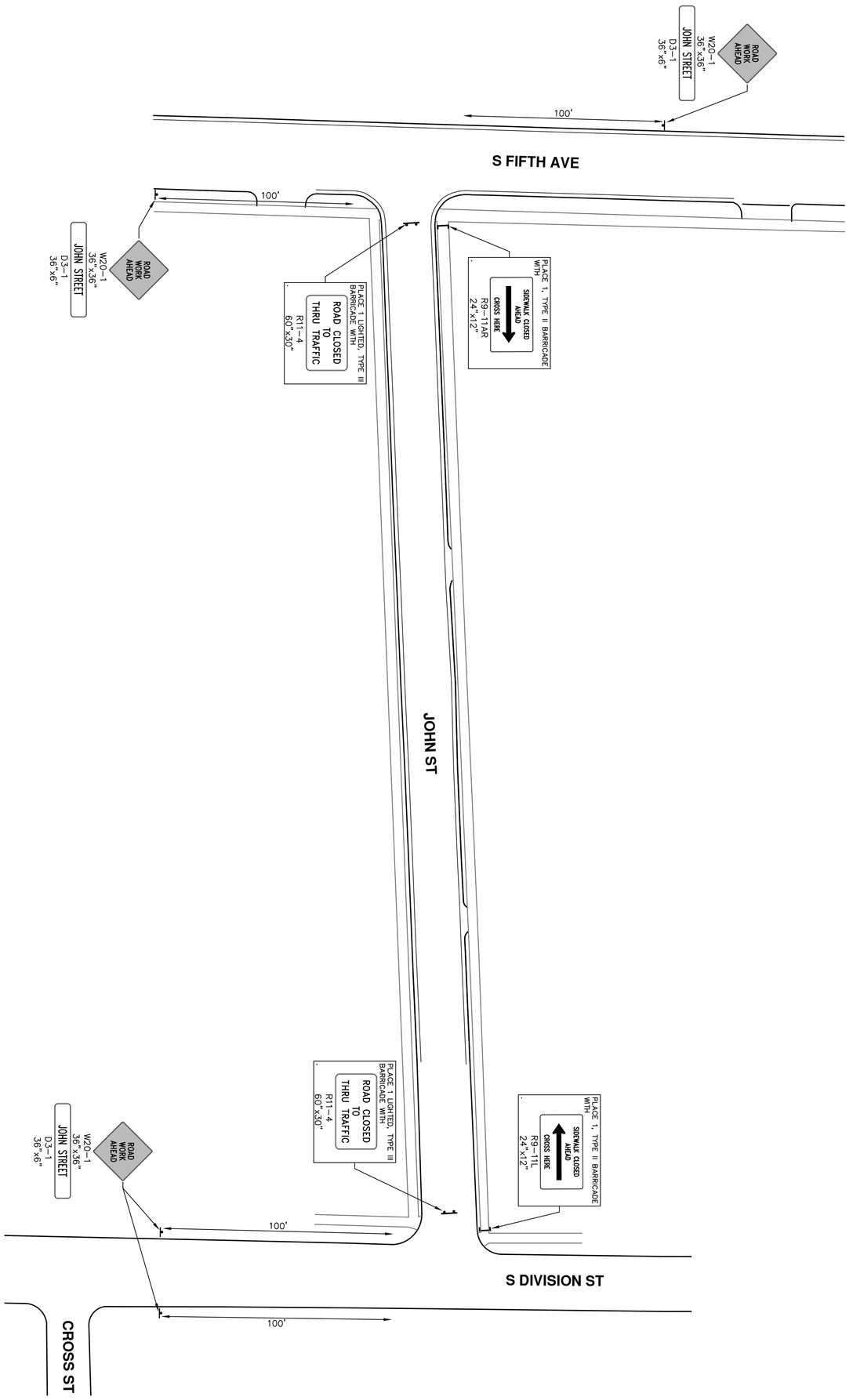

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE PLAN: 1" = 30'

DRAWING No. 2019026-11

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JOHN STREET

MAINTENANCE OF TRAFFIC

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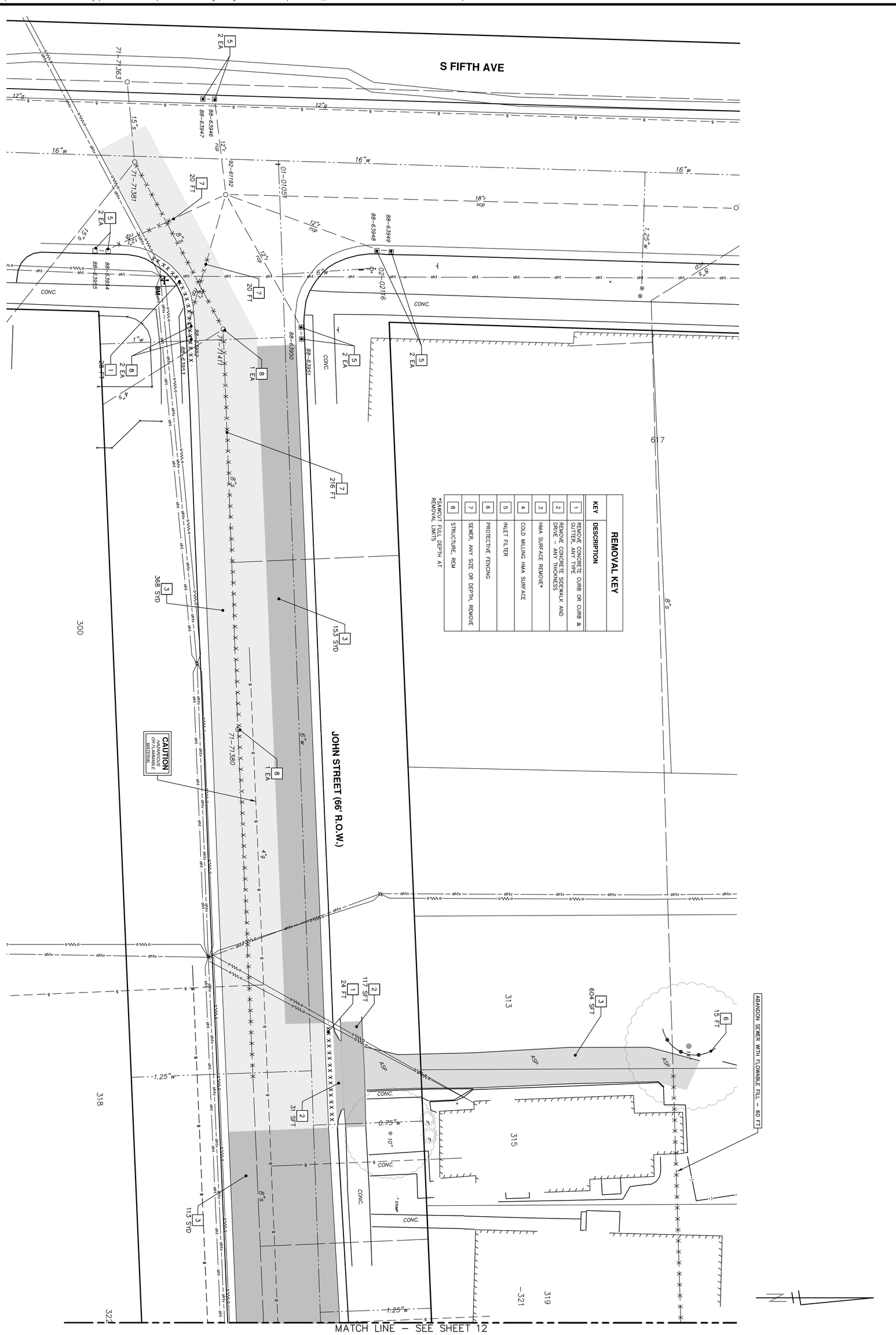

SHEET No.	CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING			
12 OF 28	SCALE PLAN: 1" = 10'	2020 MISC. UTILITY PROJECT	CITY OF ANN ARBOR PUBLIC SERVICES 301 EAST HURON STREET P.O. BOX 8647 ANN ARBOR, MI 48107-8647 734-794-6410 www.a2gov.org	
	DRAWING No. 2019026-12	JOHN STREET		
		REMOVAL PLAN - 315 JOHN STREET AND JOHN STREET		

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
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REMOVAL KEY

KEY	DESCRIPTION
1	REMOVE CONCRETE CURB OR CURB & GUTTER, ANY TYPE
2	REMOVE CONCRETE SIDEWALK AND DRIVE – ANY THICKNESS
3	HMA SURFACE REMOVE*
4	COLD MILLING HMA SURFACE
5	INLET FILTER
6	PROTECTIVE FENCING
7	SEWER, ANY SIZE OR DEPTH, REMOVE
8	STRUCTURE, REM

*SAWCUT FULL DEPTH AT REMOVAL LIMITS

MATCH LINE – SEE SHEET 11

ABANDON SEWER WITH FLOWABLE FILL – 110 FT

8 1 EA

7 22 FT

3 67 SYD

8 1 EA

8 1 EA

4 287 SYD

4 442 SYD

2 96 SFT

2 25 SFT

1 20 FT

3 51 Syd

4 287 SYD

CAUTION
HAZARDOUS OR FLAMMABLE MATERIAL

JOHN STREET (66' R.O.W.)

S DIVISION ST

71–71378

71–71413

71–073135

71–71412

71–71379

BM–1

CONC.

ASP

EX CONC WALL

8"s

4"s

6"w

4"g

1"w

0.75"w

ohtv

oht

ohw

18"

20"

12"

8

6

4

323

327

333

335

339

626

324

328

332

336

338

702

R:\2019026 John St Sanitary\Plan Production\2019026Rem.dwg Dwg Created: 9–Apr–20 – _a2 standard bw.stb – Plot Date: 15–Apr–20

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE PLAN: 1" = 10'

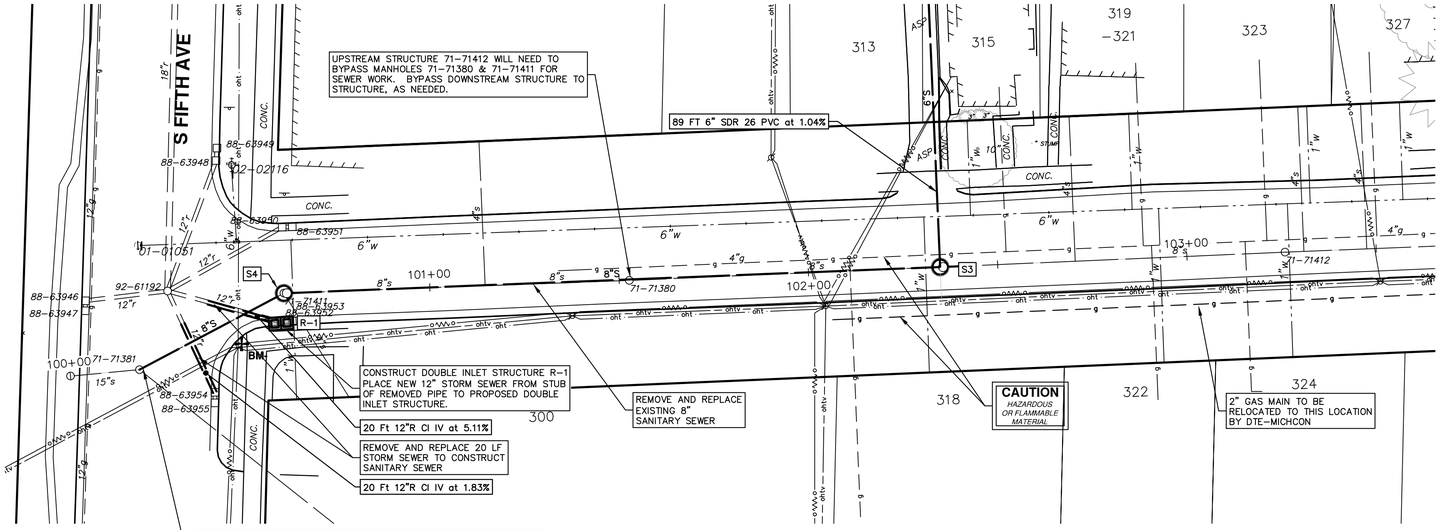
DRAWING No. 2019026-13

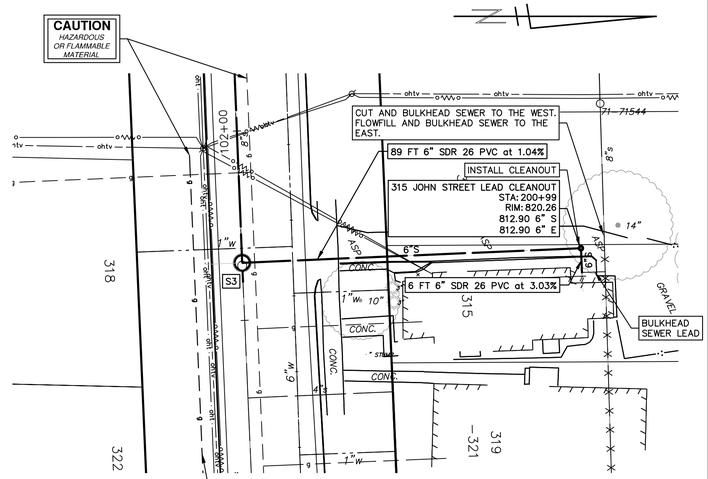
SHEET No. 13 OF 28

2020 MISC. UTILITY PROJECT

JOHN STREET

REMOVAL PLAN - ALLEY AND JOHN STREET





NOTES:

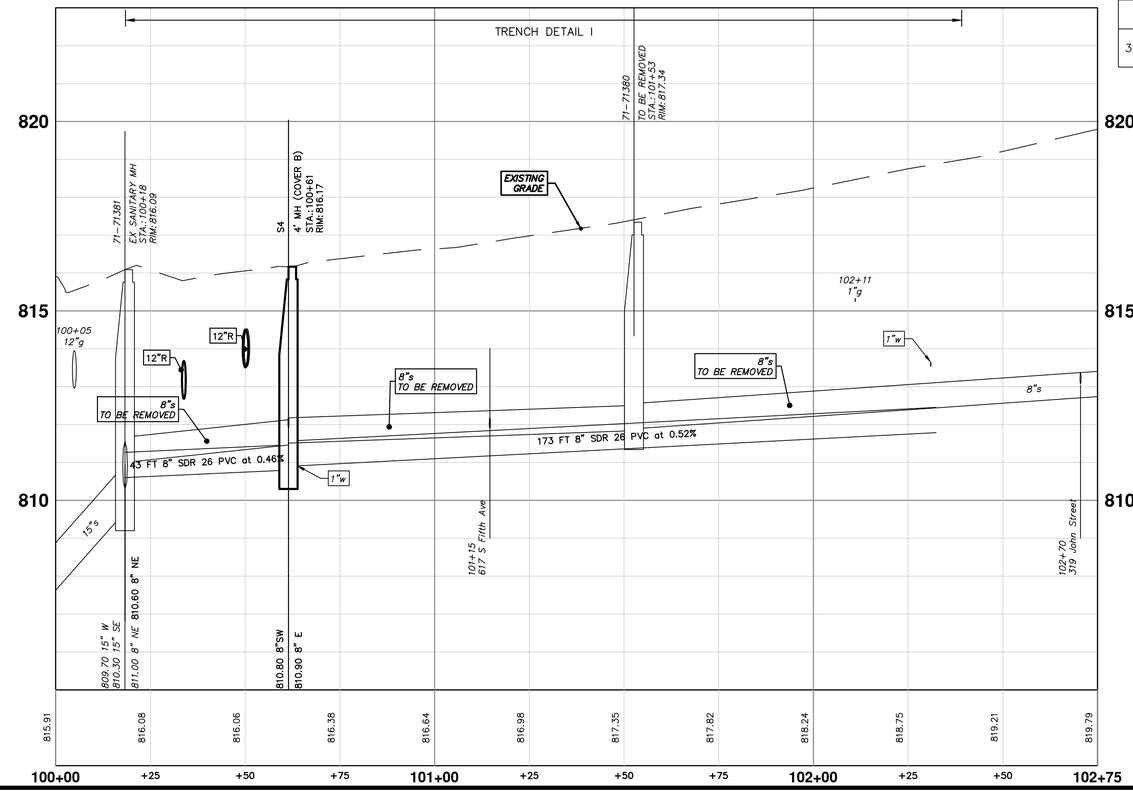
1. ADD 2 CYD OF 6A CRUSHED LIMESTONE AND GRADE OUT IN THE PARKING AREA.
2. DRIVEWAY CURB REMOVAL INCIDENTAL TO PAVEMENT REMOVAL.
3. REMOVE OR BULKHEAD/FLOWFILL ABANDONED SANITARY SEWER.
4. CONTRACTOR TO VERIFY INVERT OF EXISTING LEADS BEFORE INSTALLING NEW SEWER PIPE AND LEADS. PAID AS EXPLORATORY EXCAVATION

SANITARY SEWER STRUCTURE TABLE

STRUCTURE	STATION	RIM	DEPTH	DIA.	TYPE	INVERTS	NOTES
S3	102+35	818.92	7.12	48"	4' MH	6" N 811.97 8" E 812.46 8" W 811.80	4' MH (Cover B)
S4	100+61	816.17	5.37	48"	4' MH	8" E 810.90 8" SW 810.80	4' MH (Cover B)

SANITARY SEWER CLEANOUT STRUCTURE TABLE

STRUCTURE	STATION/OS	RIM	DEPTH	INVERTS	NOTES
315 John Street Lead Cleanout	200+99/0.00	820.26	7.36	6" E 812.90 6" S 812.90	Sanitary Cleanout

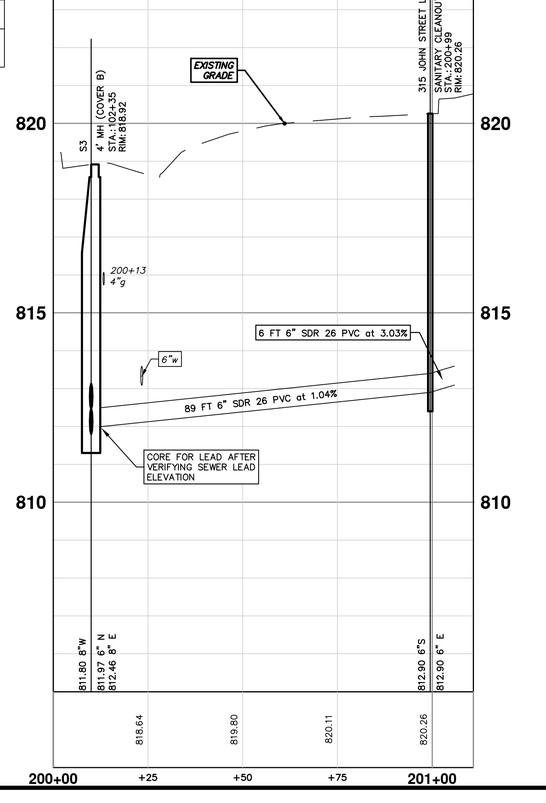


BYPASSING FLOW

THE CONTRACTOR SHALL MAINTAIN FLOW IN THE EXISTING SANITARY SEWER DURING WORK HOURS BY BYPASS PUMPING. GRAVITY SANITARY FLOW SHALL BE RESTORED DURING NON WORK HOURS. DURING WET WEATHER EVENTS, THE FLOW IN THE SANITARY SEWER WILL RISE RAPIDLY AND MAY BECOME SURCHARGED. THE CONTRACTOR SHALL MAINTAIN FLOW IN SUCH A MANNER AS THE EXISTING FLOW CAN BE ADEQUATELY TRANSPORTED, INCLUDING WET WEATHER FLOW.

THE CONTRACTOR SHALL PLAN HIS OPERATION SUCH THAT THERE WILL BE NO BACKUPS, LEAKS OR DISCHARGES OF SEWERAGE. THE CONTRACTOR BE COMPLETELY RESPONSIBLE FOR ALL CLEANUP OF BACKUPS, LEAKS OR DISCHARGES OF SEWERAGE.

THE CONTRACTOR SHALL ALSO FURNISH AND HAVE AVAILABLE ON-SITE; REDUNDANT PUMPING FACILITIES IN CASE OF ANY FAILURE OF THE PUMPING SYSTEM INCLUDING PUMPS, PIPING, POWER SOURCE, ELECTRICAL, CONNECTIONS, ETC. REDUNDANT PUMPING FACILITIES ALSO INCLUDE HAVING A BACKUP POWER GENERATOR IN CASE THE PRIMARY POWER SOURCE FAILS. THE CONTRACTOR SHALL PROVIDE AND ADEQUATE LABOR FORCE TO OVERSEE THE BYPASS PUMPING INCLUDING PROVIDING LABOR TO MAINTAIN 24 HOUR PER DAY OPERATION AND EMERGENCY BACKUP SERVICE, IF NECESSARY. THE CONTRACTOR WILL NOT BE ABLE TO OBSTRUCT FLOWS IN THE SEWER UNLESS THE PRIMARY AND REDUNDANT EQUIPMENT IS ON-SITE AND IN OPERABLE CONDITION. THE BYPASS PUMPING OPERATION SHALL NOT BE PAID FOR SEPARATELY AND SHALL BE INCLUDED IN THE COST OF PAY ITEM FOR "GENERAL CONDITIONS".



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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2020 MISC. UTILITY PROJECT

JOHN STREET

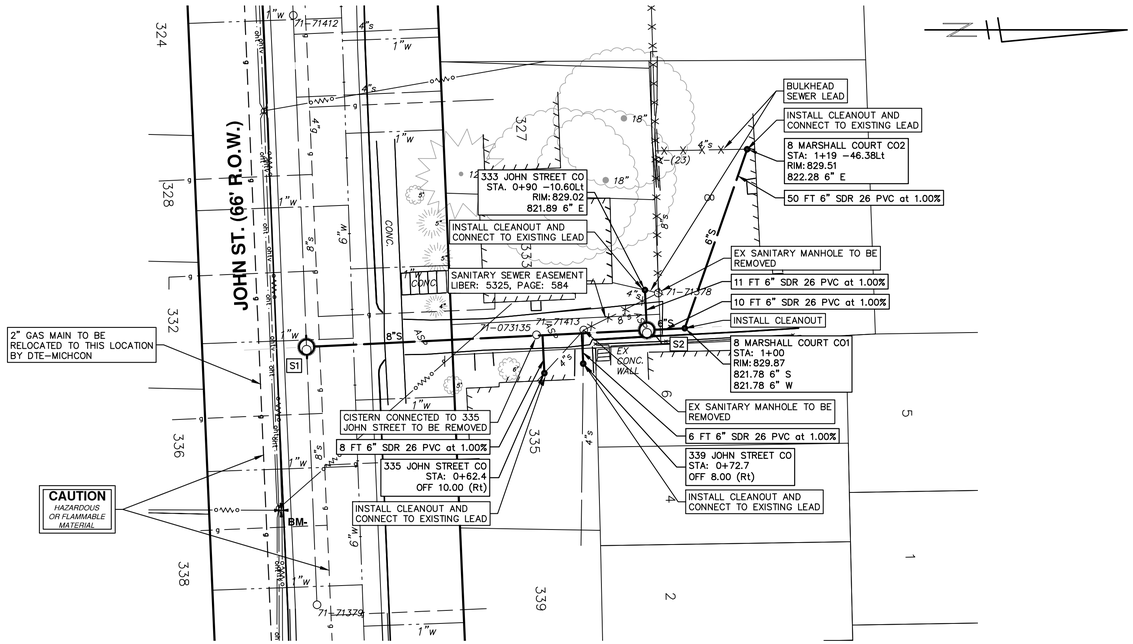
SANITARY SEWER - JOHN STREET

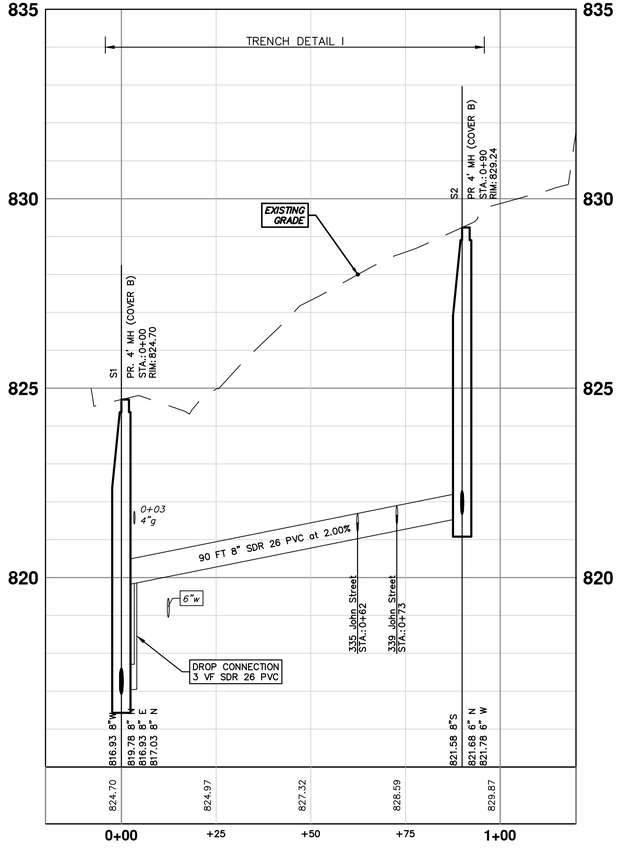
SCALE PLAN: 1" = 20' PROFILE: 1" = 2'

DRAWING No. 2019026-14

SHEET No. 14 OF 28

R:\2019026 John St Sanitary\Plan Production\2019026Swr.dwg Dwg Created: 9-Apr-20 — _a2 standard bw.stb — Plot Date: 15-Apr-20





NOTES:

1. ADD 2 CYD OF 6A CRUSHED LIMESTONE AND GRADE OUT IN THE PARKING AREA.
2. DRIVEWAY CURB REMOVAL INCIDENTAL TO PAVEMENT REMOVAL.
3. REMOVE OR BULKHEAD/FLOWFILL ABANDONED SANITARY SEWER.
4. CONTRACTOR TO VERIFY INVERT OF EXISTING LEADS BEFORE INSTALLING NEW SEWER PIPE AND LEADS. PAID AS EXPLORATORY EXCAVATION

SANITARY SEWER CLEANOUT STRUCTURE TABLE

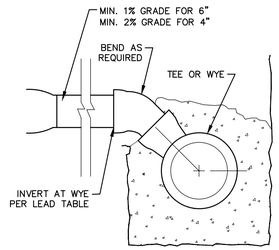
STRUCTURE	STATION/OS	RIM	DEPTH	INVERTS	NOTES
8 Marshall Court CO1	1+00/0.00	829.87	8.09	6" W 821.78 6" S 821.78	Pr Sanitary Cleanout
8 Marshall Court CO2	1+19/–46.38Lt	829.51	7.23	6" E 822.28	Pr Sanitary Cleanout
333 John Street CO	0+90/–10.60Lt	829.02	7.14	6" E 821.89	Pr Sanitary Cleanout
335 John Street CO	0+62/10.00Rt	828.75	6.97	6" W 821.78	Pr Sanitary Cleanout
339 John Street CO	0+73/8.00Rt	830.81	8.85	6" W 821.96	Pr Sanitary Cleanout

SANITARY SEWER LEAD TABLE

ADDRESS	MATERIAL	LENGTH	SLOPE	INVERT AT WYE/MH
Lead 8 Marshall Ct	SDR 26 PVC	10'	1.0%	821.68
Lead 315 John Street	SDR 26 PVC	89'	1.0%	811.97
Lead 333 John Street	SDR 26 PVC	11'	1.0%	821.78
Lead 335 John Street	SDR 26 PVC	8'	1.0%	821.70
Lead 339 John Street	SDR 26 PVC	6'	1.0%	821.90

SANITARY SEWER STRUCTURE TABLE

STRUCTURE	STATION	RIM	DEPTH	DIA.	TYPE	INVERTS	NOTES
S1	0+00	824.70	7.77	48"	4' MH	8" N 819.78 8" E 816.93 8" N 817.03 8" W 816.93	Pr. 4' MH (Cover B)
S2	0+90	829.24	7.66	48"	4' MH	6" N 821.68 6" W 821.78 8" S 821.58	Pr 4' MH (Cover B)



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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2020 MISC. UTILITY PROJECT

JOHN STREET

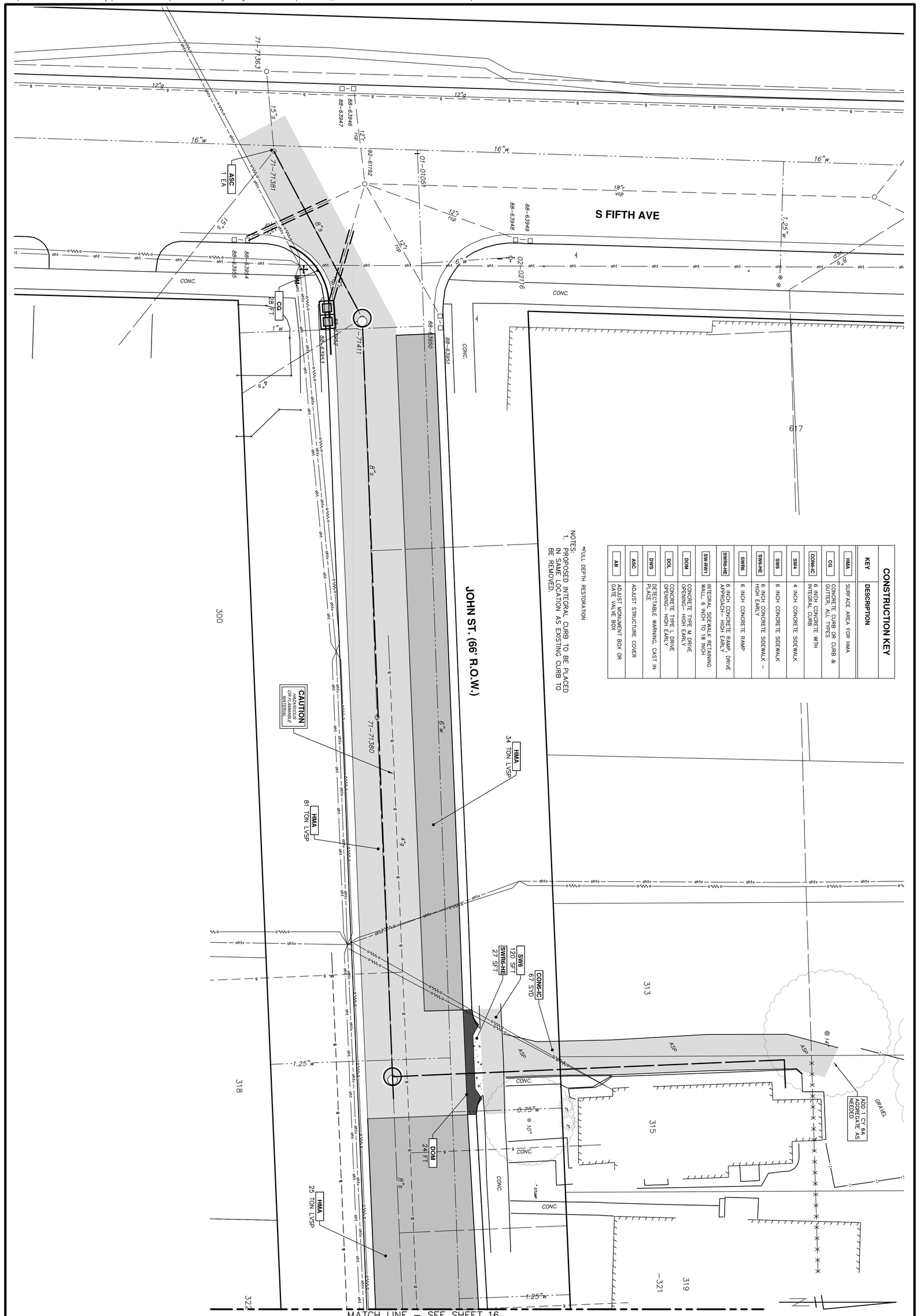
SANITARY SEWER - ALLEY AND 315 JOHN STREET LEAD

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

DRAWING No. 2019026-15

SHEET No. 15 OF 28

R:\2019026 John St Sanitary\Plan Production\20190026Swr.dwg Dwg Created: 9–Apr–20 – _a2 standard bw.stb – Plot Date: 15–Apr–20



CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CONCRETE, CURB OR CURB & GUTTER, ALL TYPES
CON6-IC	6" INCONCRETE WITH INTEGRAL CURB
SW4	4" INCH CONCRETE SIDEWALK
SW5	5" INCH CONCRETE SIDEWALK
SW6-HE	6" INCH CONCRETE SIDEWALK - HIGH EARLY
SW6	6" INCH CONCRETE RAMP
SWR6-HE	6" INCH CONCRETE RAMP, DRIVE APPROACH - HIGH EARLY
SWX-RW1	INTEGRAL SIDEWALK RETAINING WALL 6" INCH TO 18" INCH
DOM	CONCRETE TYPE M DRIVE OPENING - HIGH EARLY
DOL	CONCRETE TYPE L DRIVE OPENING - HIGH EARLY
DWS	DETECTABLE WARNING, CAST IN PLACE
ASC	ADJUST STRUCTURE COVER
AB	ADJUST MONUMENT BOX OR GATE VALVE BOX

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SCALE PLAN: 1" = 10'

DRAWING No. 2019026-16

2020 MISC. UTILITY PROJECT

JOHN STREET

RESTORATION PLAN - 315 JOHN STREET AND JOHN STREET

SHEET No. 16 OF 28

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CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CONCRETE CURB OR CURB & GUTTER, ALL TYPES
CON6-IC	6 INCH CONCRETE WITH INTEGRAL CURB
SW4	4 INCH CONCRETE SIDEWALK
SW6	6 INCH CONCRETE SIDEWALK
SW6-HE	6 INCH CONCRETE SIDEWALK – HIGH EARLY
SWR6	6 INCH CONCRETE RAMP
SWR6-HE	6 INCH CONCRETE RAMP, DRIVE APPROACH– HIGH EARLY
SW-RW1	INTEGRAL SIDEWALK RETAINING WALL, 6 INCH TO 18 INCH
DOM	CONCRETE TYPE M DRIVE OPENING– HIGH EARLY
DOL	CONCRETE TYPE L DRIVE OPENING– HIGH EARLY
DWS	DETECTABLE WARNING, CAST IN PLACE
ASC	ADJUST STRUCTURE COVER
AB	ADJUST MONUMENT BOX OR GATE VALVE BOX

*FULL DEPTH RESTORATION

NOTES:
1. PROPOSED 4 FOOT INTEGRAL CURB TO BE PLACED IN SAME LOCATION AS EXISTING CURB TO BE REMOVED.

DRIVEWAY TO BE PLACED AT 1% TYP. SLOPE TOWARDS CURB ON EAST SIDE OF DRIVEWAY

PERMANENT SANITARY SEWER EASEMENT LIBER: 5325, PAGE: 584

CON6-IC
73 SYD

HMA
64 TON LVSP

SW6
100 SFT

SWR6-HE
22 SFT

DOM
20 FT

HMA
100 TON LVSP

ASC
1 EA

ASC
1 EA

HMA
12 TON LVSP

CAUTION
HAZARDOUS OR FLAMMABLE MATERIAL

BM-

JOHN ST. (66' R.O.W.)

MATCH LINE – SEE SHEET 15

DIVISION ST

71-71378
71-71413
71-073135
71-71412
71-71379

8 6 4 2 323 327 333 335 339 626 324 328 332 336 338 702

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
2020 MISC. UTILITY PROJECT
JOHN STREET
RESTORATION PLAN - ALLEY AND JOHN STREET

SCALE PLAN: 1" = 10'

DRAWING No.
2019026-17

SHEET No.
17 OF 28

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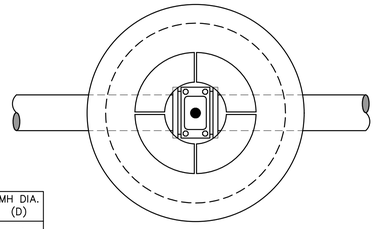
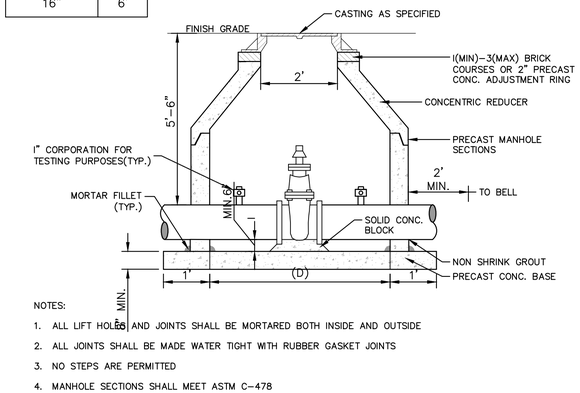


TOP VIEW

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



NOTES:

1. ALL LIFT HOLES AND JOINTS SHALL BE MORTARED BOTH INSIDE AND OUTSIDE
2. ALL JOINTS SHALL BE MADE WATER TIGHT WITH RUBBER GASKET JOINTS
3. NO STEPS ARE PERMITTED
4. MANHOLE SECTIONS SHALL MEET ASTM C–478

GATE WELL FOR MAIN 16" & SMALLER

MINIMUM STANDARDS

THE MDOT GRADE P1 OR P–NC CONCRETE AT THE FITTING FACE SHALL EXTEND TO WITHIN 2 INCHES OF THE BELL AND SHALL EXTEND FROM THE FITTING FACE A MINIMUM OF 2 FEET TO THE UNDISTURBED SOLID GROUND.

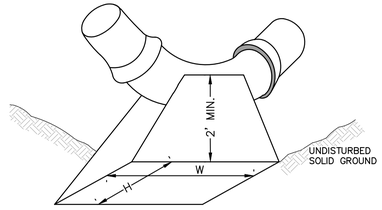
THE DIMENSIONS OF THE THRUST BLOCK AT THE FACE OF THE UNDISTURBED SOLID GROUND SHALL BE AS SHOWN IN THE TABLE BELOW.

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

FITTINGS I.D.	PLUG TEE CROSS		BENDS								HYDRANT	
			90°		45°		22½°		11¼°			
INCHES	W	H	W	H	W	H	W	H	W	H	W	H
4	1.0	1.0	1.0	1.0	1.0	1.0						
6	2.0	1.5	2.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	2.0	1.5
8	2.5	2.0	3.5	2.0	2.0	2.0	2.0	1.0	1.0	1.0	2.5	2.0
12	3.5	3.0	5.5	3.0	3.5	2.5	2.0	2.0	2.0	1.0		
16	6.0	3.5	6.0	4.0	5.0	3.0	3.5	2.5	2.0	2.0		

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

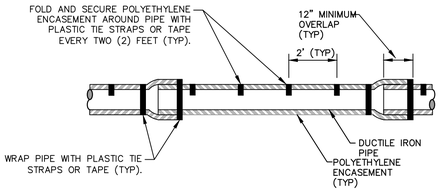
W = WIDTH IN FEET
H = HEIGHT IN FEET



NOTE:

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

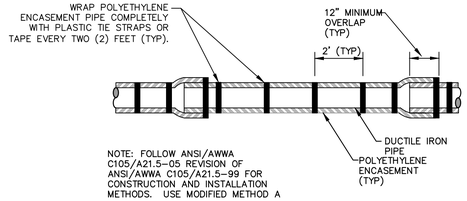
THRUST BLOCK



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

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

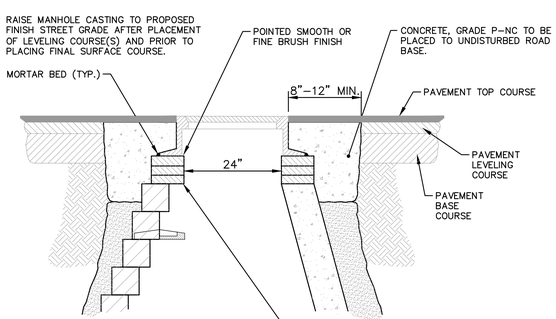
POLYETHYLENE ENCASEMENT (DRY INSTALLATION)



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

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

POLYETHYLENE ENCASEMENT (WET INSTALLATION)

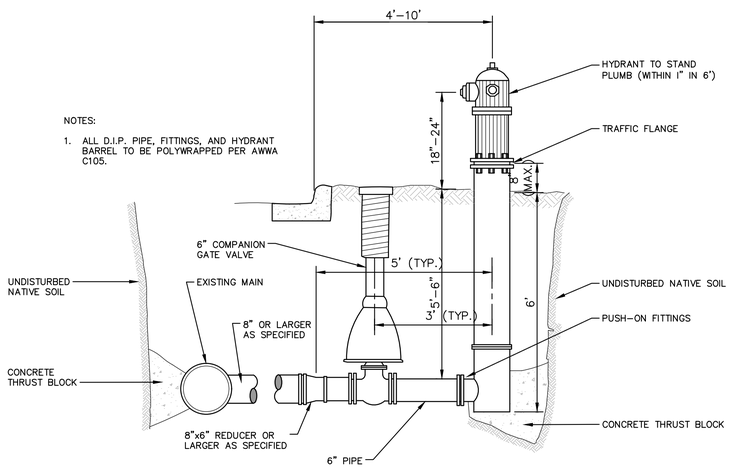


NOTE:

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

ADDITIONAL REPAIRS NECESSARY BEYOND 15" BELOW GRADE TO BE PAID FOR AS, "ADDITIONAL DEPTH STRUCTURE ADJUST/REPAIR"

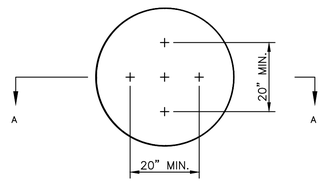
MANHOLE CASTING ADJUSTMENT



NOTES:

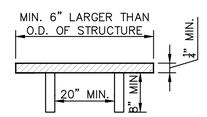
1. ALL D.I.P. PIPE, FITTINGS, AND HYDRANT BARREL TO BE POLYWRAPPED PER AWWA C105.

FIRE HYDRANT ASSEMBLY



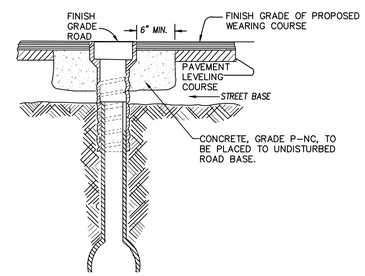
NOTE: PLATE MAY BE CIRCULAR, SQUARE OR RECTANGULAR

SECTION A – A



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

STRUCTURE PLATE



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

WATER VALVE BOX ADJUSTMENT

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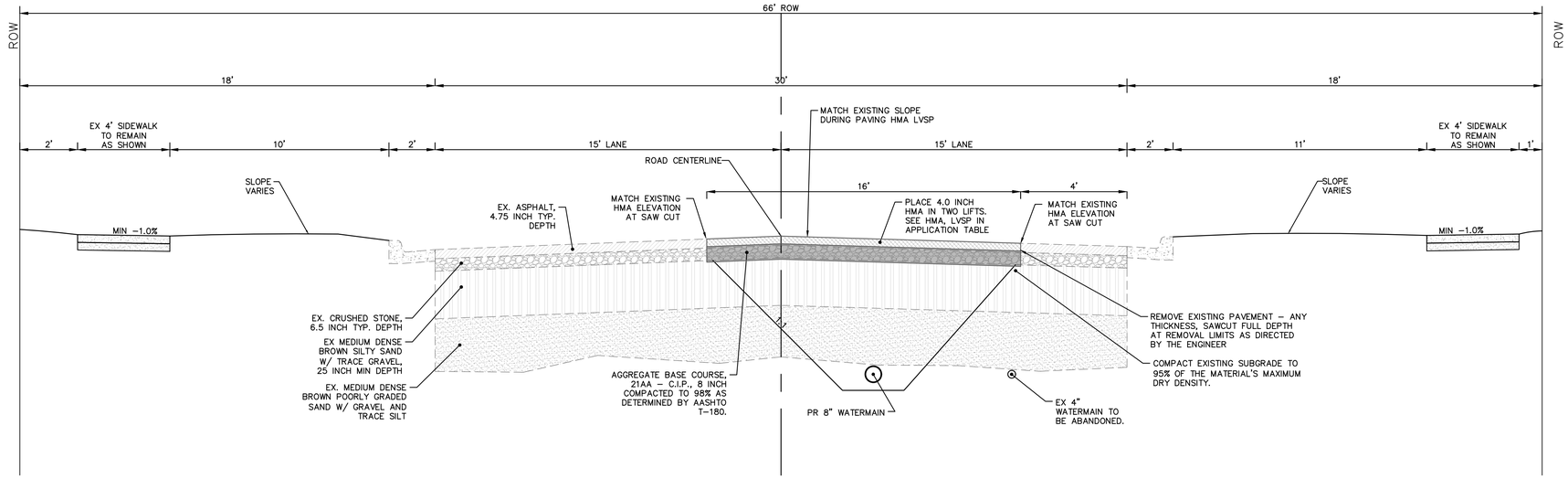
2020 MISC. UTILITY PROJECT

WATER MAIN DETAILS

SCALE : NTS

DRAWING No. 2019026-18

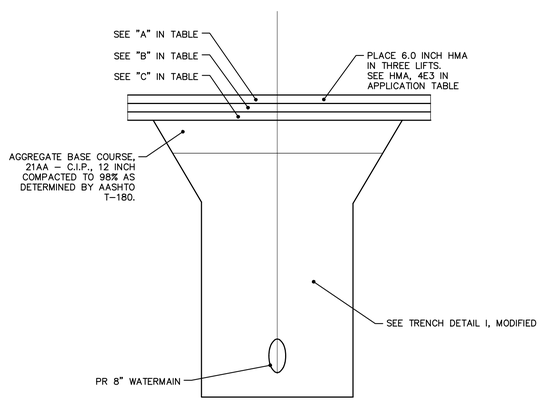
SHEET No. 18 OF 28



SOUTH BOULEVARD
PROPOSED TYPICAL SECTION

POB TO POE
N.T.S.

HMA APPLICATION ESTIMATE						
HMA PAVEMENT	HMA MIX	RATE OF APPLICATION	THICKNESS (INCHES)	AWI (MIN.)	BINDER	LOCATION/NOTES
HMA PAVEMENT TOP	LVSP	220 LB/SYD	2	260 (TOP)	PG 58-28	TOP COURSE
HMA PAVEMENT LEVELING	LVSP	220 LB/SYD	2	–	PG 58-28	LEVELING COURSE
HMA APPROACH TOP	LVSP	220 LB/SYD	2	260 (TOP)	PG 58-28	TOP COURSE
HMA APPROACH LEVELING	LVSP	220 LB/SYD	2	–	PG 58-28	LEVELING COURSE
HAND PATCHING	LVSP	0 - 440 LB/SYD			PG 58-28	HAND PATCHING
ASPHALT EMULSION	SS-1h	0.05 - 0.15 GAL/SYD	–	–	–	INCLUDE IN COST OF HMA ITEM



PACKARD STREET
PROPOSED TYPICAL SECTION

POB TO POE
N.T.S.

HMA APPLICATION ESTIMATE						
ITEM	HMA MIX	RATE OF APPLICATION	THICKNESS (INCHES)	AWI (MIN.)	BINDER	LOCATION/NOTES
A	4E3	220 LB/SYD	2	260	PG 64-22	TOP COURSE
B	4E3	220 LB/SYD	2	–	PG 64-22	LEVELING COURSE
C	4E3	220 LB/SYD	2	–	PG 64-22	BASE COURSE

Know what's below. Call before you dig.

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
2020 MISC. UTILITY PROJECT
SOUTH BOULEVARD
TYPICAL SECTION

SCALE PLAN: 1" = 3'

DRAWING No.
2019026-19

SHEET No.
19 OF 28

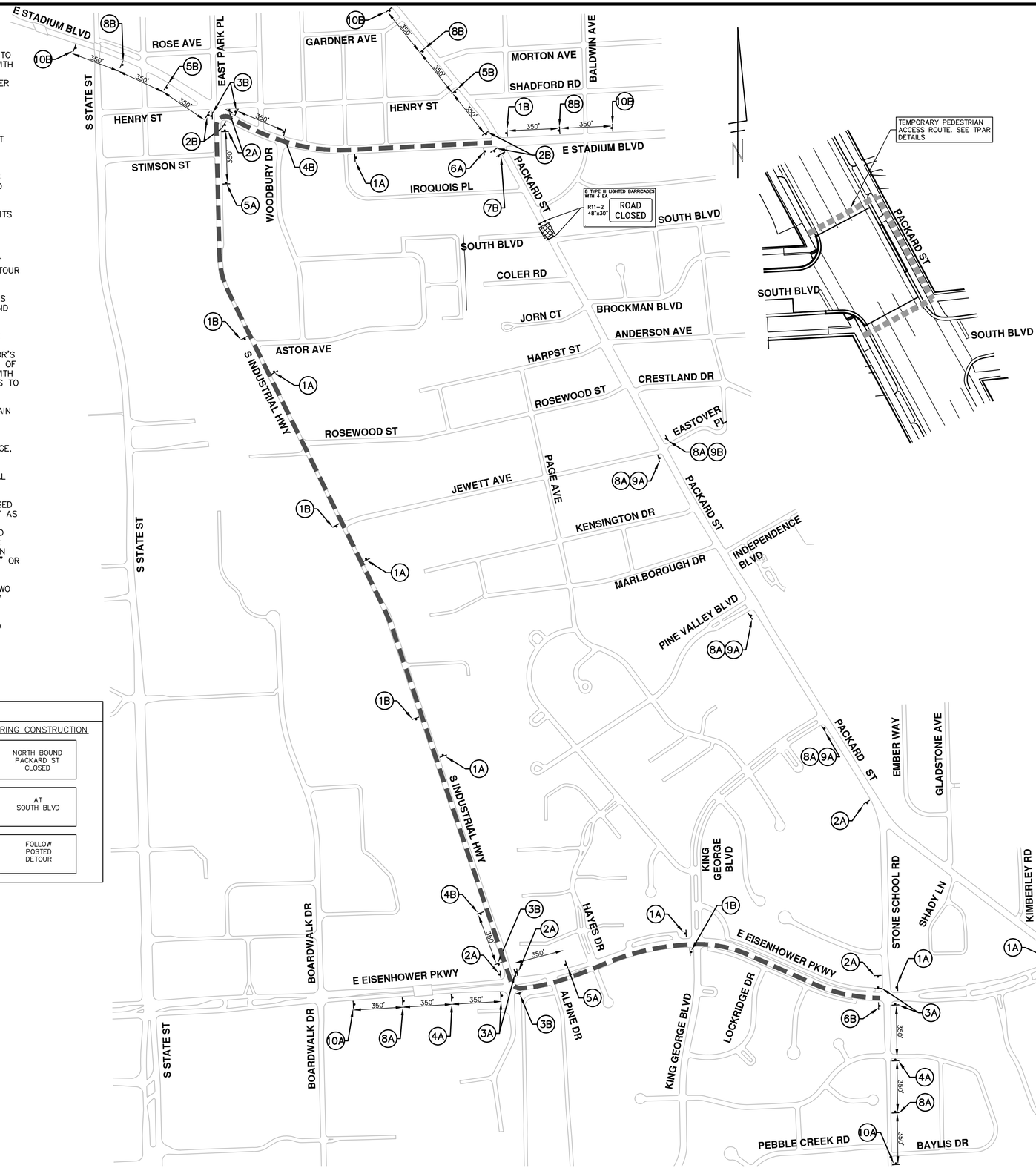
DETOUR CONSTRUCTION NOTES:

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

PCMS MESSAGE PHASING		
PRIOR TO CONSTRUCTION	DURING CONSTRUCTION	DURING CONSTRUCTION
PACKARD STREET CONSTRUCTION	SOUTH BOUND PACKARD ST CLOSED	NORTH BOUND PACKARD ST CLOSED
MONTH DATE *	AT SOUTH BLVD	AT SOUTH BLVD
DETOUR ROUTE ADVISED	FOLLOW POSTED DETOUR	FOLLOW POSTED DETOUR

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

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



SIGN	NUMBER	QUANTITY
1A NB PACKARD ST / DETOUR ↑	D3–1	8
	M4–9S 30"x24"	8
2A NB PACKARD ST / DETOUR →	D3–1	6
	M4–9R 30"x24"	6
3A NB PACKARD ST / DETOUR ←	D3–1	4
	M4–9L 30"x24"	4
4A NB PACKARD ST / DETOUR ↰	D3–1	2
	M4–9L (MOD) 30"x24"	2
5A NB PACKARD ST / DETOUR ↱	D3–1	2
	M4–9R (MOD) 30"x24"	2
6A NB PACKARD ST / END DETOUR	D3–1	1
	M4–8A 24"x18"	1
7A ROAD CLOSED TO THRU TRAFFIC	R11–4 60"x30"	1
8A NORTH BOUND PACKARD CLOSED AT SOUTH BLVD FOLLOW DETOUR	SPECIAL 48"x66"	7
9A DETOUR →	M4–10R 48"x18"	3
10A NB PACKARD ST / DETOUR AHEAD	D3–1	3
	W20–2 36"x36"	3
BARRICADE, TYPE III, HIGH INTENSITY, LIGHTED – 1 EACH		
SIGN, PORTABLE, CHANGEABLE MESSAGE – 2 EACH VERIFY EXACT QUANTITY AND LOCATION WITH ENGINEER PRIOR TO ORDERING		

SIGN	NUMBER	QUANTITY
1B SB PACKARD ST / DETOUR ↑	D3–1	5
	M4–9S 30"x24"	5
2B SB PACKARD ST / DETOUR →	D3–1	4
	M4–9R 30"x24"	4
3B SB PACKARD ST / DETOUR ←	D3–1	4
	M4–9L 30"x24"	4
4B SB PACKARD ST / DETOUR ↰	D3–1	2
	M4–9L (MOD) 30"x24"	2
5B SB PACKARD ST / DETOUR ↱	D3–1	2
	M4–9R (MOD) 30"x24"	2
6B SB PACKARD ST / END DETOUR	D3–1	1
	M4–8A 24"x18"	1
7B ROAD CLOSED TO THRU TRAFFIC	R11–4 60"x30"	1
8B SOUTH BOUND PACKARD CLOSED AT SOUTH BLVD FOLLOW DETOUR	SPECIAL 48"x66"	3
9B DETOUR ←	M4–10L 48"x18"	1
10B SB PACKARD ST / DETOUR AHEAD	D3–1	3
	W20–2 36"x36"	3
BARRICADE, TYPE III, HIGH INTENSITY, LIGHTED – 1 EACH		
SIGN, PORTABLE, CHANGEABLE MESSAGE – 2 EACH VERIFY EXACT QUANTITY AND LOCATION WITH ENGINEER PRIOR TO ORDERING		

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2020 MISC. UTILITY PROJECT

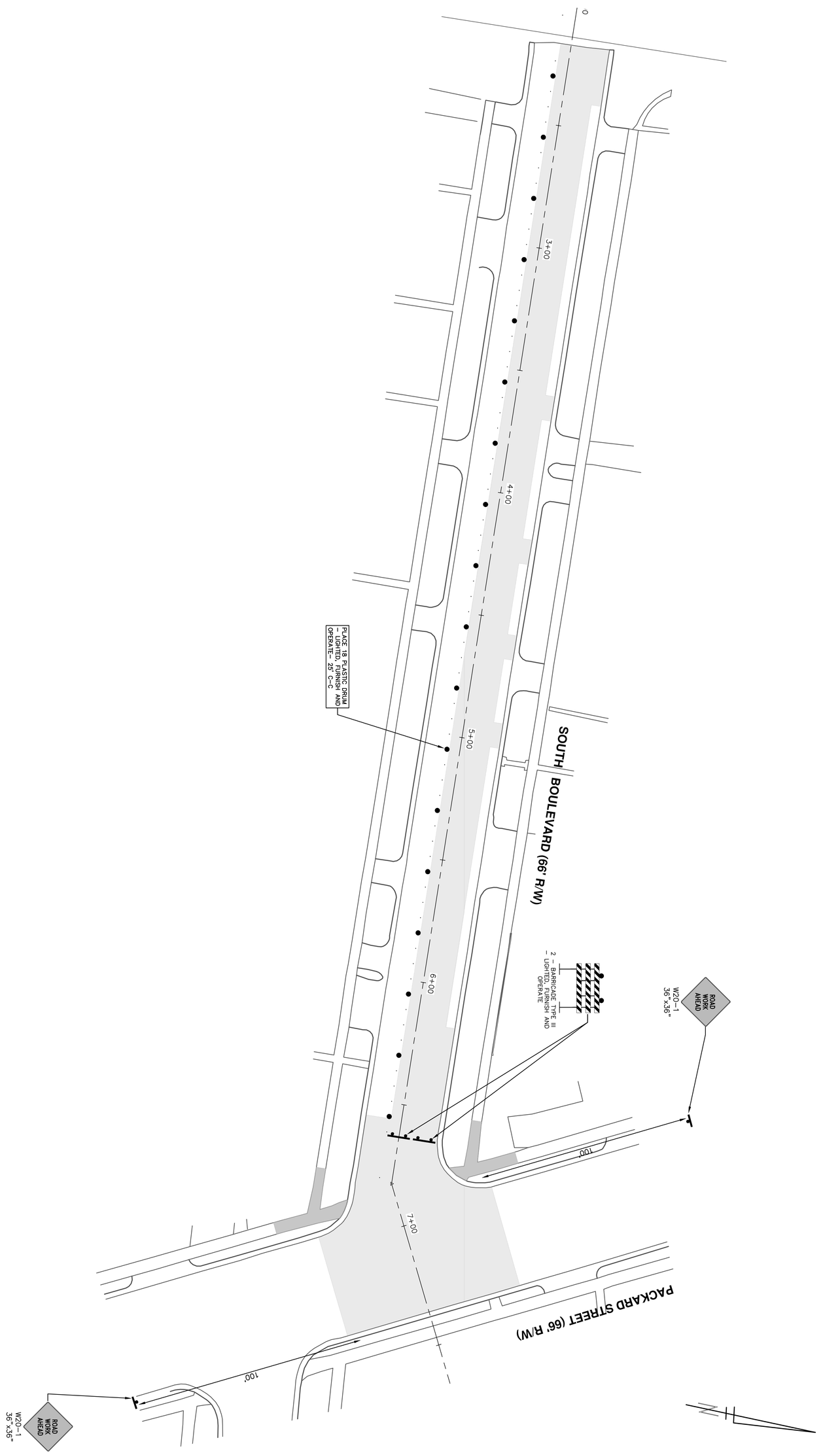
DETOUR PLAN

SCALE PLAN: 1" = 400'

DRAWING No. 2019026-20

SHEET No. 20 OF 28

R:\2019026 John St Sanitary\Plan Production\2019026Dtrl.dwg Dwg Created: 8–Apr–20 – _a2 standard bw.stb – Plot Date: 15–Apr–20



SHEET No.
21 OF 28

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE : 1" = 20'

DRAWING No.
2019026-21

2020 MISC. UTILITY PROJECT

MAINTENANCE OF TRAFFIC

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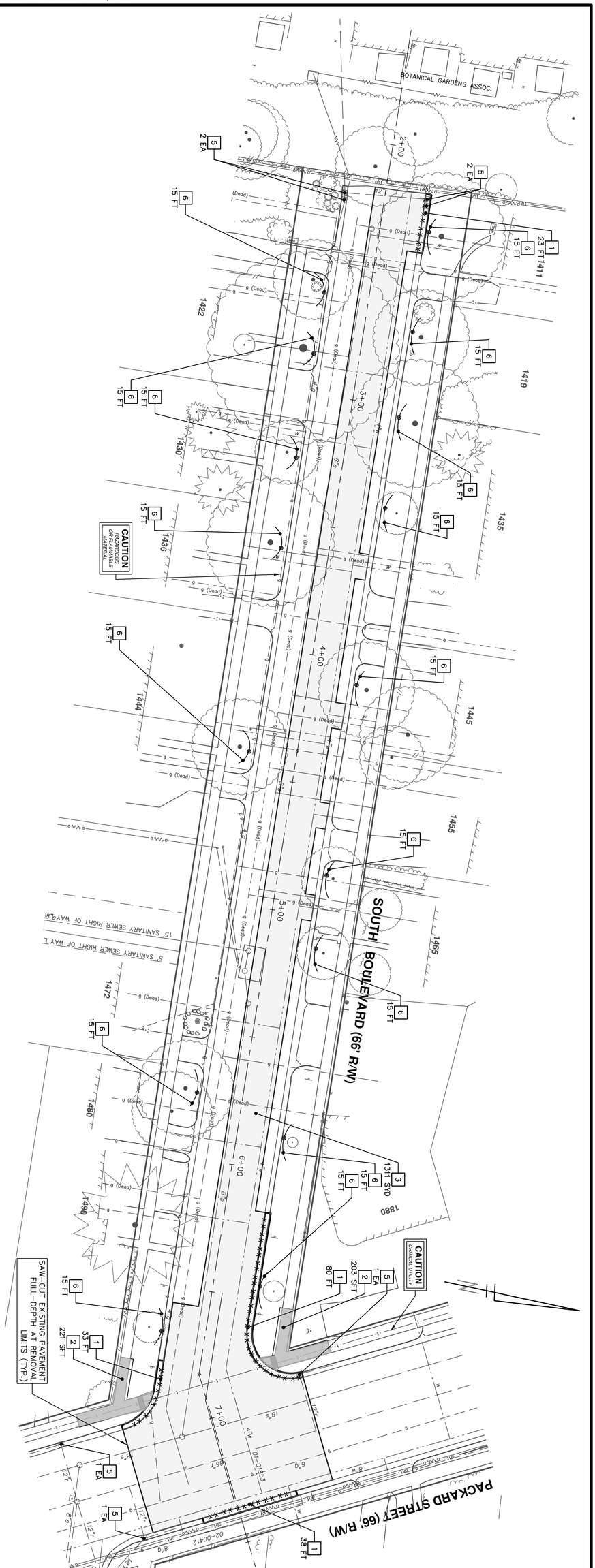

REMOVAL KEY

KEY	DESCRIPTION
1	REMOVE CONCRETE CURB OR CURB & GUTTER, ANY TYPE
2	REMOVE CONCRETE SIDEWALK AND DRIVE - ANY THICKNESS
3	HMA SURFACE REMOVE*
4	COLD MILLING HMA SURFACE
5	INLET FILTER
6	PROTECTIVE FENCING
7	SEWER, ANY SIZE OR DEPTH, REMOVE
8	STRUCTURE, REM

*SAWCUT FULL DEPTH AT REMOVAL LIMITS

SHEET No. 22 OF 28

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE : 1" = 20'

DRAWING No. 2019026-22

2020 MISC. UTILITY PROJECT

REMOVALS

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00	OUT FOR BID	4-15-2020	CC,DF,KB	BS

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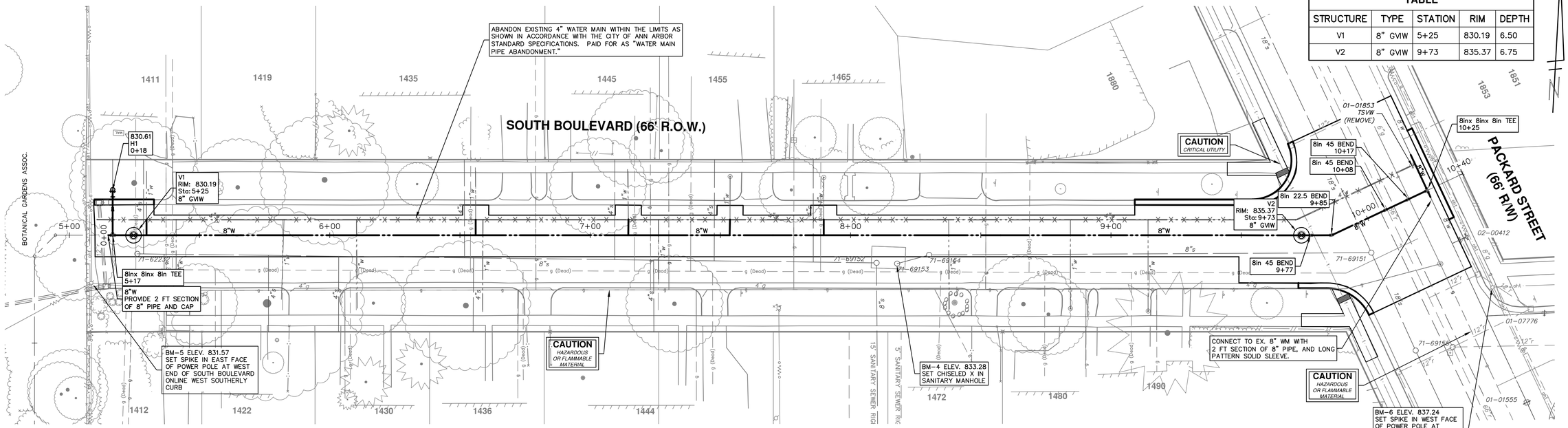
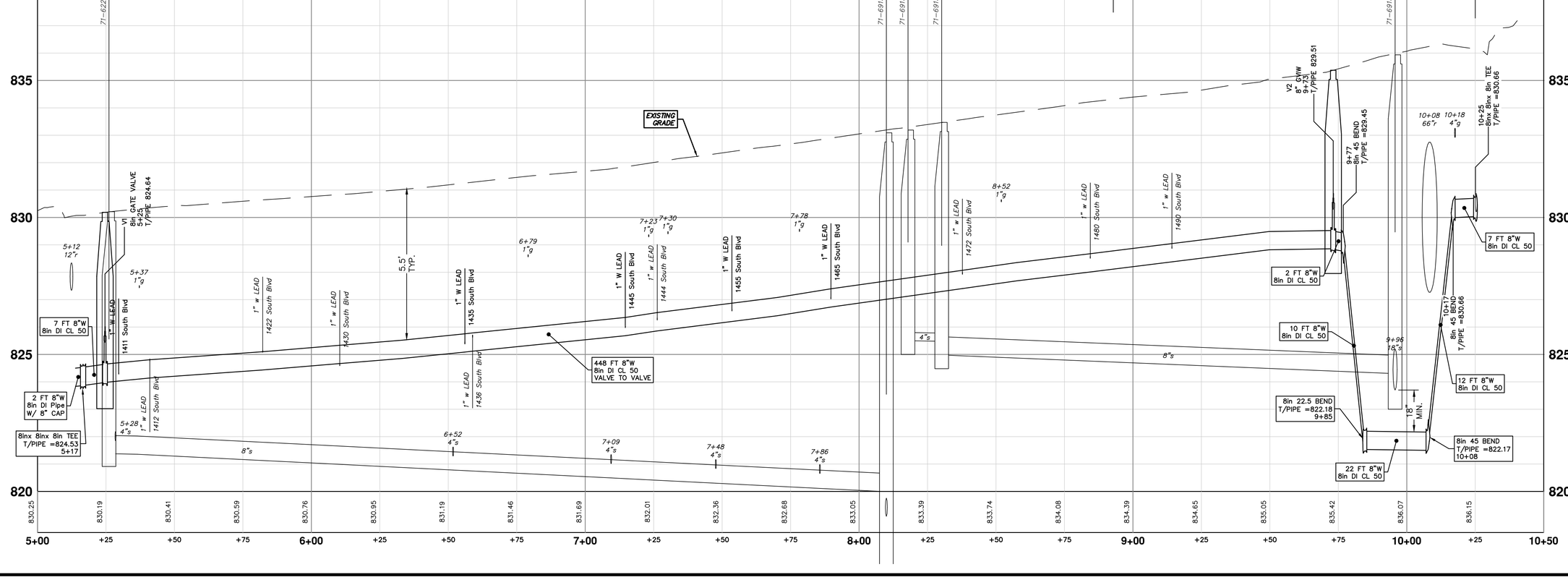
WATER MAIN STRUCTURE TABLE

STRUCTURE	TYPE	STATION	RIM	DEPTH
V1	8" GVIW	5+25	830.19	6.50
V2	8" GVIW	9+73	835.37	6.75





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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

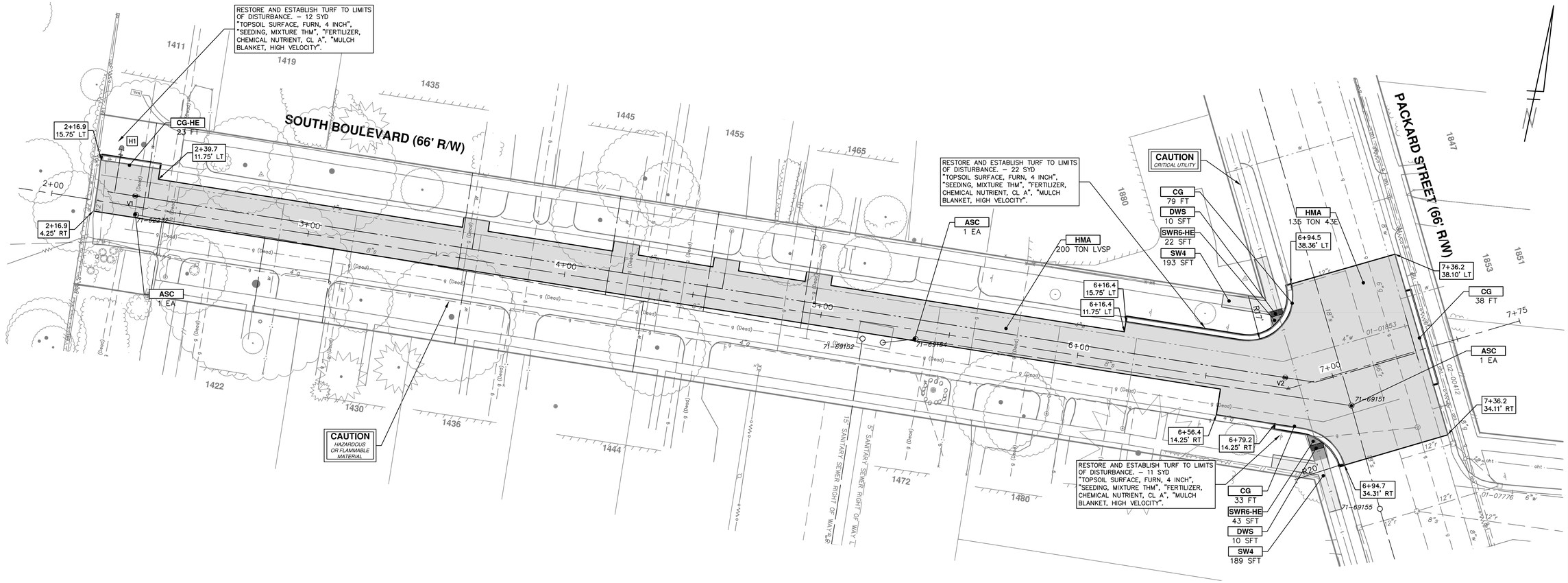
2020 MISC. UTILITY PROJECT

WATER MAIN PLAN & PROFILE

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

DRAWING No. 2019026-23

SHEET No. 23 OF 28



CONSTRUCTION KEY

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

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2020 MISC. UTILITY PROJECT

RESTORATION PLAN

SCALE : 1" = 20'

DRAWING No.
2019026-24

SHEET No.
24 OF 28

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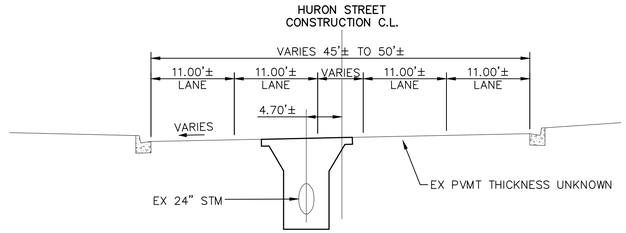
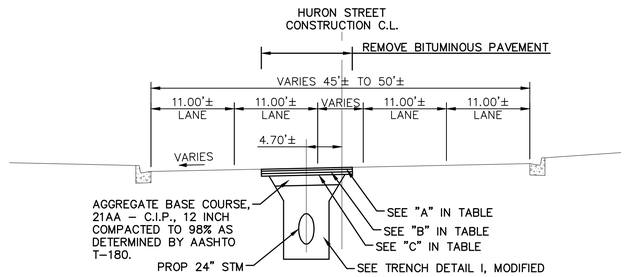


EXISTING HURON STREET SECTION

SECTION APPLIES TO:
SEE PLANS



PROPOSED HURON STREET SECTION

SECTION APPLIES TO:
SEE PLANS

HMA APPLICATION ESTIMATE

ITEM	HMA MIX	RATE OF APPLICATION	THICKNESS (INCHES)	AWI (MIN.)	BINDER	LOCATION/NOTES
A	4E3	220 LB/SYD	2	–	PG 64–22	TOP COURSE
B	4E3	220 LB/SYD	2	–	PG 64–22	LEVELING COURSE
C	4E3	220 LB/SYD	2	–	PG 64–22	BASE COURSE

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PH: 734-665-6000

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MARK	DATE	DESCRIPTION	BY
00	4–15–20	OUT FOR BID	BS

CITY OF ANN ARBOR
PUBLIC WORKS

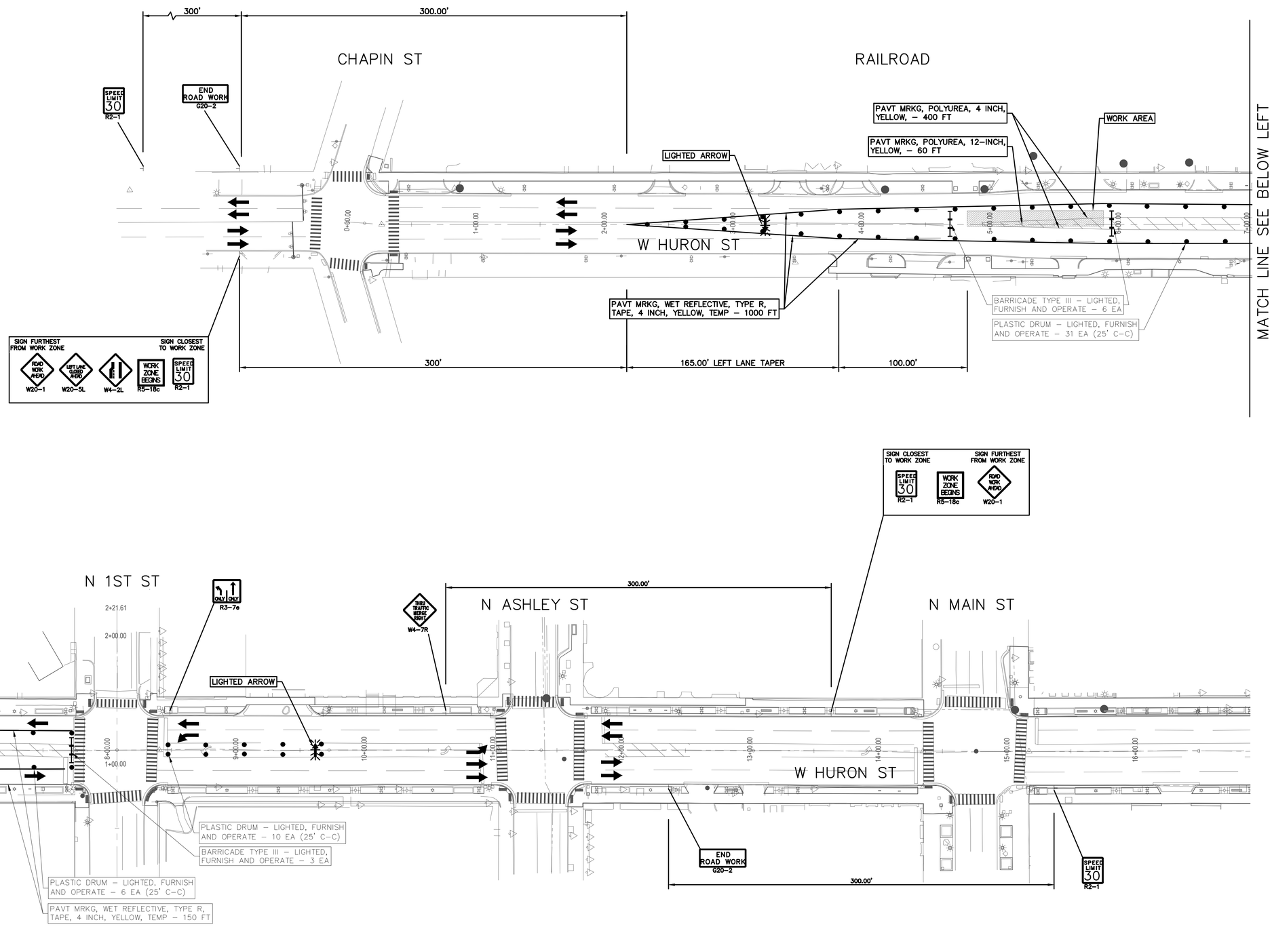
2020 MISC. UTILITY PROJECT

TYPICAL SECTION

Project No.:	200-31537-19004
Designed By:	D. WARREN
Drawn By:	S. GOTHA
Checked By:	G. MARKSTROM

25
OF 28

Bar Measures 1 inch



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CITY OF ANN ARBOR
PUBLIC WORKS

2020 MISC. UTILITY PROJECT

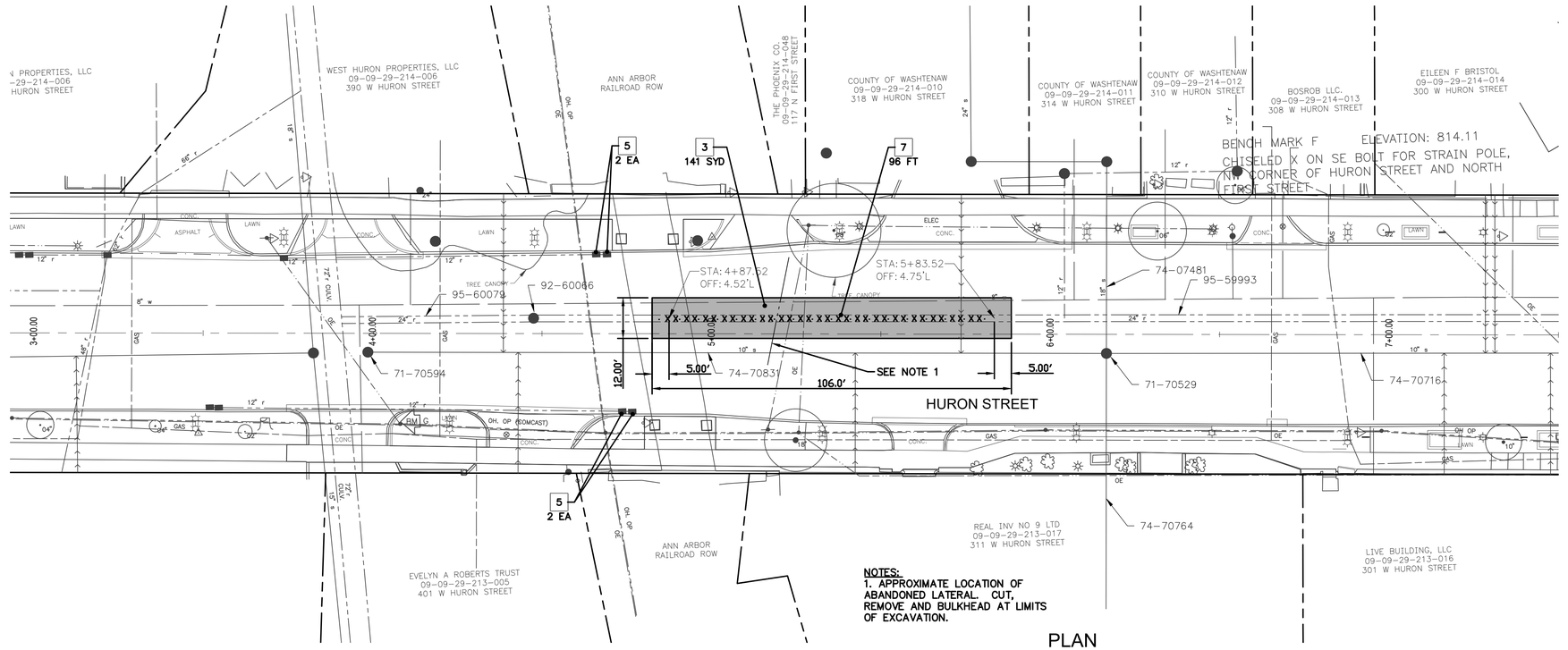
MAINTENANCE OF TRAFFIC

Project No.:	200-31537-19004
Designed By:	A. BICKLEY
Drawn By:	A. BICKLEY
Checked By:	G. MARKSTROM

26
OF 28

Bar Measures 1 inch

4/15/2020 12:12:46 PM - R:\20190026 JOHN ST SANITARY\HURON AND 1ST\C-MOT_PH1.DWG - FIEGEL, DAVID



NOTES:
1. APPROXIMATE LOCATION OF ABANDONED LATERAL. CUT, REMOVE AND BULKHEAD AT LIMITS OF EXCAVATION.

PLAN
SCALE: 1"=20'

REMOVAL KEY	
KEY	DESCRIPTION
1	REMOVE CONCRETE CURB OR CURB & GUTTER, ANY TYPE
2	REMOVE CONCRETE SIDEWALK AND DRIVE – ANY THICKNESS
3	HMA SURFACE REMOVE*
4	COLD MILLING HMA SURFACE
5	INLET FILTER
6	PROTECTIVE FENCING
7	SEWER, ANY SIZE OR DEPTH, REMOVE
8	STRUCTURE, REM

*SAWCUT FULL DEPTH AT REMOVAL LIMITS

PROFILE
SCALE: 1"=20'H, 1"=5'V

SCALE: 1" = 20'

Bar Measures 1 inch

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PH: 734-665-6000

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MARK	DATE	DESCRIPTION	BY
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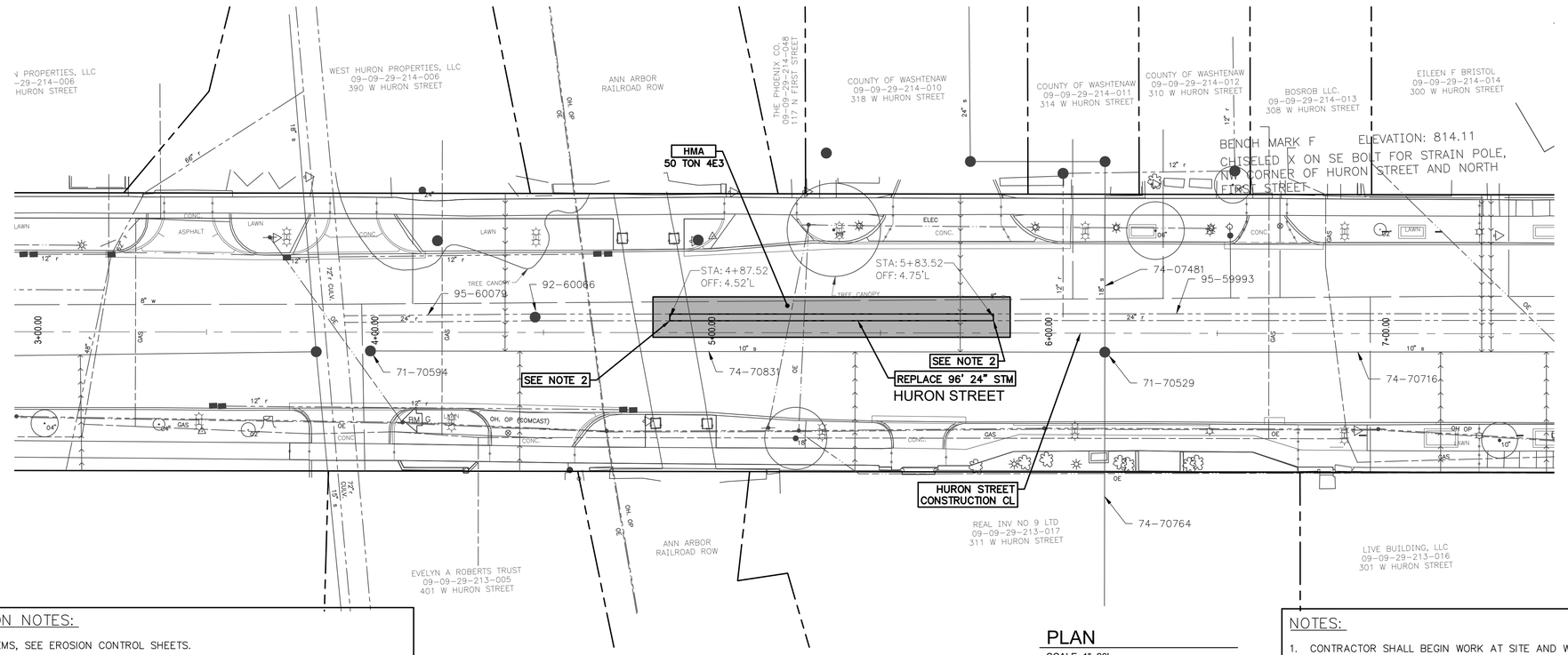
CITY OF ANN ARBOR
PUBLIC WORKS

2020 MISC. UTILITY PROJECT

REMOVALS

Project No.:	200-31537-19004
Designed By:	D. WARREN
Drawn By:	S. GOTHA
Checked By:	G. MARKSTROM

27 OF 28



PLAN

SCALE: 1"=20'

SEWER CONSTRUCTION NOTES:

1. FOR EROSION CONTROL ITEMS, SEE EROSION CONTROL SHEETS.
2. ALL SEWER REPAIR SHALL BE STAGED IN ACCORDANCE WITH THE CONSTRUCTION STAGING SHEETS AND SPECIAL PROVISION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL WORK, CONSTRUCTION METHODS, AND EQUIPMENT TO COMPLY WITH THE CONTRACT REQUIREMENTS.
3. THE CONTRACTOR SHALL CAREFULLY PROTECT FROM DAMAGE OR INJURY DURING CONSTRUCTION OPERATIONS ALL UTILITIES NOT DESIGNATED FOR REMOVAL OR ABANDONMENT. EXISTING FACILITIES NOT DESIGNATED FOR REMOVAL OR ABANDONMENT BUT WHICH ARE DAMAGED BY THE CONTRACTORS OPERATION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT HIS SOLE EXPENSE, IN A MANNER THAT IS APPROVED BY THE ENGINEER.
4. THE EXISTING UTILITIES SHOWN ON THESE PLANS REPRESENT THE BEST INFORMATION AVAILABLE AS OBTAINED THROUGH THE SURVEYS AND/OR EXISTING PLANS. THIS INFORMATION DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO BE SATISFIED AS TO ITS ACCURACY AND/OR THE LOCATION OF EXISTING UTILITIES. IF STORM, SANITARY, OR WATER MAINS CROSS WITH LESS THAN 18" CLEARANCE, THEY SHALL BE SADDLED. IF SEWERS CROSS OTHER UTILITIES, CONTACT THEIR RESPECTIVE OWNERS FOR INFORMATION ON HOW TO PROCEED. PAYMENT FOR THE COORDINATION EFFORTS, CONCRETE SADDLES, AND ANY OTHER ASSOCIATED ITEMS SHALL BE INCLUDED IN THE RELATED SEWER ITEMS AND SHALL NOT BE PAID FOR SEPARATELY.

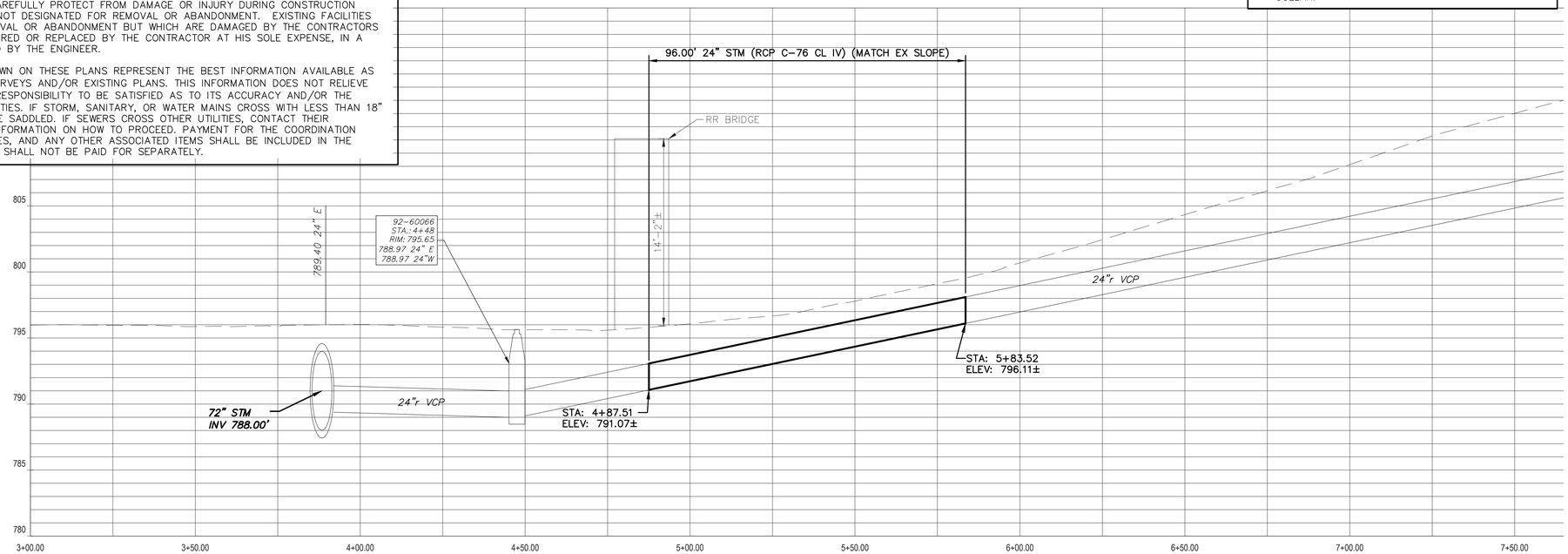
NOTES:

1. CONTRACTOR SHALL BEGIN WORK AT SITE AND WORK CONTINUOUSLY FROM REMOVAL OF PAVEMENT TO RESTORATION OF PAVEMENT WITHOUT UNNECESSARY DELAY.
2. CONNECTION TO EXISTING PIPE USING CONCRETE COLLAR.

CONSTRUCTION KEY

KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CONCRETE CURB OR CURB & GUTTER, ALL TYPES
CON6-IC	6 INCH CONCRETE WITH INTEGRAL CURB
SW4	4 INCH CONCRETE SIDEWALK
SW6	6 INCH CONCRETE SIDEWALK
SW6-HE	6 INCH CONCRETE SIDEWALK – HIGH EARLY
SWR6	6 INCH CONCRETE RAMP
SWR6-HE	6 INCH CONCRETE RAMP, DRIVE APPROACH– HIGH EARLY
SW-RW1	INTEGRAL SIDEWALK RETAINING WALL, 6 INCH TO 18 INCH
DOM	CONCRETE TYPE M DRIVE OPENING– HIGH EARLY
DOL	CONCRETE TYPE L DRIVE OPENING– HIGH EARLY
DWS	DETECTABLE WARNING, CAST IN PLACE
ASC	ADJUST STRUCTURE COVER
AB	ADJUST MONUMENT BOX OR GATE VALVE BOX

*FULL DEPTH RESTORATION



PROFILE

SCALE: 1"=20'H, 1"=5'V

SCALE: 1" = 20'

Bar Measures 1 inch

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MARK	DATE	DESCRIPTION	BY
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CITY OF ANN ARBOR
PUBLIC WORKS

2020 MISC. UTILITY PROJECT

STORM SEWER PLAN & PROFILE

Project No.:	200-31537-19004
Designed By:	D. WARREN
Drawn By:	S. GOTHA
Checked By:	G. MARKSTROM

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