PUBLIC UTILITIES

AT&T 337 N. ABBOTT, RM. 201 TELEPHONE

HAVEN

PANDA

HEATHER CIR.

ROSELAND AV

GREENCLIFF DR.

MANSFIELD DR.

SARAÑAC LN.

TEKONSH

TONAPAH TRI

COCHISE LN.

ACRES LN.

ARROWHEAD

MOUNT HOPE

GLENDALE CEMETERY

RIVERSIDE CEMETERY

SHEET 4

NDIAN HILLS

0

BEAR

CIR.

MELVILLE

DR.

LINDEN DR.

ERI TERRACE

CAHILL DR.

HEATHER

WARDCLIFF SCHOOL

GAS

ELECTRIC

EAST LANSING, MI 48823 517.337.3660

CONSUMERS ENERGY 530 W. WILLOW ST. P.O. BOX 30162

LANSING, MI 48909 517.373.6100

COMCAST **CABLE TV**

1070 TROWBRIDGE ROAD EAST LANSING, MI 48823 517.332.1012

MERIDIAN TOWNSHIP

WATER MAINS 5151 MARSH RD. SANITARY SEWER **OKEMOS, MI 48864** PATHWAYS 517.853.4440

WOLVERINE PIPE LINE PETROLEUM PIPELINE

8105 VALLEYWOOD LANE PORTAGE, MI 49024-5251 231.323.2491

INGHAM COUNTY DRAIN

DRAINS COMMISIONER STORM SEWER

707 BUHL ST. MASON, MI 48854 517.676.8395

INGHAM COUNTY ROAD DEPT PUBLIC ROADS AND 301 BUSH ST. RIGHTS OF WAY

MASON. MI 48854 517.676.9722

MICHIGAN DEPARTMENT OF TRANSPORTATION -

PUBLIC ROADS AND 1700 PORT LANSING RD RIGHTS OF WAY

LANSING, MI 48854 517.335.3754

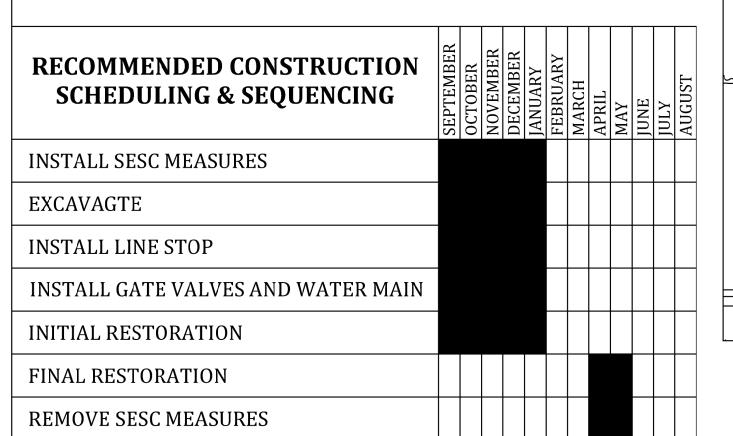
SOIL EROSION & SEDIMENTATION CONTROL NOTES

- All soil erosion and sediment control (SESC) work shall conform to the standards and specifications of the Ingham County Drain Commissioner's Office and Meridian Township.
- Daily inspections shall be made by the contractor for effectiveness of SESC measures. Any necessary repairs shall be performed without delay.
- Erosion of any sediment from work on the site shall be contained on-site and not allowed to collect on any off-site areas or in waterways. Waterways include both natural and man-made open ditches, streams, storm drains, lakes, ponds, and wetlands.
- The Contractor shall apply temporary SESC measures when required and as directed on these plans. The Contractor shall remove temporary measures as soon as permanent stabilization of slopes, ditches, and other changes have been established.
- Staging the work shall be done by the Contractor as directed in these plans and as required to ensure progressive stabilization of disturbed earth.
- Soil erosion control practice shall be established in the early stages of construction by the Contractor. Sedimentation control practices shall be applied as a perimeter defense against any transporting of soil off the site.
- 7. The Contractor shall preserve natural vegetation as much as possible
- Vegetative stabilization of all disturbed areas shall be established within 15 days of completion of the final grading.

SOILS:

GRAND RIVER AVENUE

CERESCO SOIL - FINE SANDY LOAM



GRAND RIVER AVENUE GATE VALVE REPLACEMENT 2021 **CONSTRUCTION PLANS** MERIDIAN TOWNSHIP

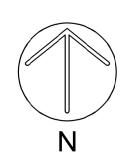
INGHAM COUNTY, MICHIGAN

SEMINOLE DR.

J RIVER AVE CV

SAPPHIRE LN

BANYON TRL



GAYLORD C. SMITH CT.

LAKE LANSING

CENTRAL PARK DR.

0

HAMILTON RD.

TOMAHAWK

PAWNEE

OKEMOS CENTRAL

POST OFFICE

KINGSWOOD

ONEIDA DR

RD.

TRL



STANDARD CONSTRUCTION NOTES

- 1. The Contractor shall notify the Charter Township of Meridian, Department of Public Works, Office of Engineering 517-853-4440 a minimum of 72 hours prior to the start of construction of public utilities or of construction within the public right-of-way.
- All construction shall conform to the current standards and specifications of the Charter Township of Meridian which are included as part of these plans in effect at the time of construction.
- After the completion of construction of public utilities or construction within public right-of-way, the contractor must request a final inspection. Any punchlist items resulting from the final inspection must be resolved prior to final release and acceptance.
- The existing utilities indicated on the plans are in accordance with available information. It shall be the contractor's obligation to verify the exact location of all existing utilities, which might affect this job.
- The contractor shall notify "MISS DIG" 1-800-482-7171 at least 72 hours prior to the start of construction.
- The contractor shall at all times be aware of inconvenience caused to the abutting property owners and the general public. Where the contractor does not remedy undue inconveniences, the Charter Township of Meridian, upon four hours notice, reserves the right to perform the work and deduct the cost therefore from the money due
- 7. A Registered Land Surveyor provided by the contractor at the contractor's expense shall replace all property irons and monuments disturbed or destroyed by the contractor's operations.
- Contractor shall provide Owner and Township Engineer a copy of written permission to use private property for storage of equipment and materials or for his construction operations.
- Trench backfill under existing or proposed roadways, driveways, and parking areas, shall be sand or gravel, placed in 12" layers (maximum) and consolidated to 95% of maximum density as measured by modified proctor unless otherwise noted.
- 10. Trees and shrubs are to be protected during construction and bored where necessary.
- 11. Existing fences shall be removed and restored to their original condition or better where in conflict with
- 12. Driveways, culverts, ditches, drain tile, tile fields, drainage structures, etc., that are disturbed by the contractor's operations shall be immediately restored.
- 13. All established lawn areas disturbed by the contractor's operations shall be resodded with matching sod. All other areas shall be seeded and mulched. Seeding and mulching shall be done in accordance with the General Specifications.
- 14. All ditch slopes shall have established vegetation and be protected from erosion.
- 15. All utility poles in close proximity to construction shall be supported in a manner satisfactory to the utility
- 16. Onsite parking and sanitary facilities shall be provided for construction workers. The facilities shall be constructed and operated (with minimal impact to the surrounding area) to the satisfaction of the Township.

WATER MAIN NOTE

CENTRAL

- Hydrant elevations and gate well tap elevations shall be set to existing ground elevations unless otherwise directed by the
- All water mains shall be constructed with 5 feet of cover below finish grade, unless otherwise indicated on the plans.
- Connection to the existing water main shall not be made until after the successful completion of pressure and bacteriological tests. Pressure testing shall be performed in accordance with AWWA C600. Additionally, all corporation stops for proposed house services shall be installed prior to pressure testing. Disinfection and bacteriological testing shall be in accordance with the AWWA C651. Before the mains are chlorinated, they shall be thoroughly flushed. All mains shall be chlorinated for a period of at least twenty-four (24) hours. Chlorine shall be added in sufficient quantity to give a 50-ppm residual of free chlorine after a twenty-four (24) hour period. After completion of the chlorine procedure, the main shall be flushed. Then water samples shall be taken from the main for bacteriological tests. If the tests should result in unsafe conditions, the chlorinating shall be repeated by the Contractor. Two consecutive passing samples at least 24 hours apart must be obtained before the main can be connected to the existing water system.
- All valves shall be counter-clock wise open.
- 5. All fire hydrants shall be EJIW 5BR (54915) Traffic Type with breakaway flange or approved equal.
- 6. Hydrants shall be painted OSHA red.
- 7. Two brass wedges shall be installed at each joint on ductile iron pipe.
- Polyethylene encasement of pipes will be required in all areas. The encasement shall be V-Bio® Enhanced Polyethylene Encasement, in accordance with ANSI/AWWA C105/A21.5, installed per the manufacturer's instructions.
- For existing lines: service taps, shut off valves, and service line extensions to the property shall be made by Township Department of Public Works personnel for connections 2" and smaller.
- 10. Where water mains must dip to pass under a storm sewer or sanitary sewer, the sections which are deeper than normal

shall be kept to a minimum length by the use of 45, 22½ or 11¼ degree bends properly restrained.

- 11. All manhole covers shall bear the legend "Meridian Water" with tree logo, where available.
- 12. Lead content requirements for all pipes, piping fittings, plumbing fittings, and fixtures that are used for potable water shall comply with NSF/ANSI 372 Standard.
- 13. All mechanical joints and fittings shall be restrained using MEGALUG® style restraints, or approved equal. All exposed metal components of the restrained-joint system shall be treated with a corrosion resistant coating, including: the collar, breakaway bolts, wedges, and connecting nuts and bolts.

SHEET INDEX

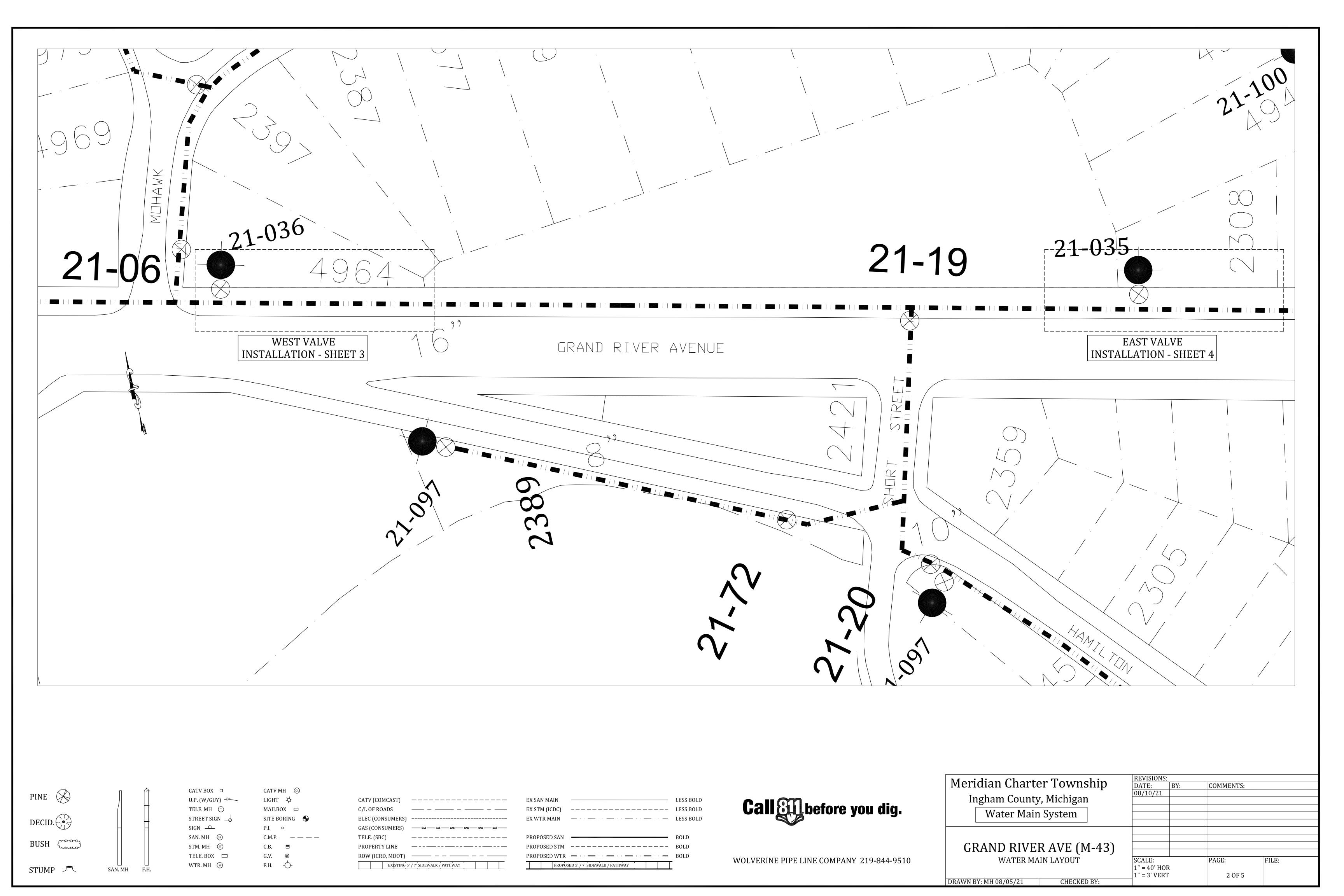
SHT# TITLE **COVER SHEET**

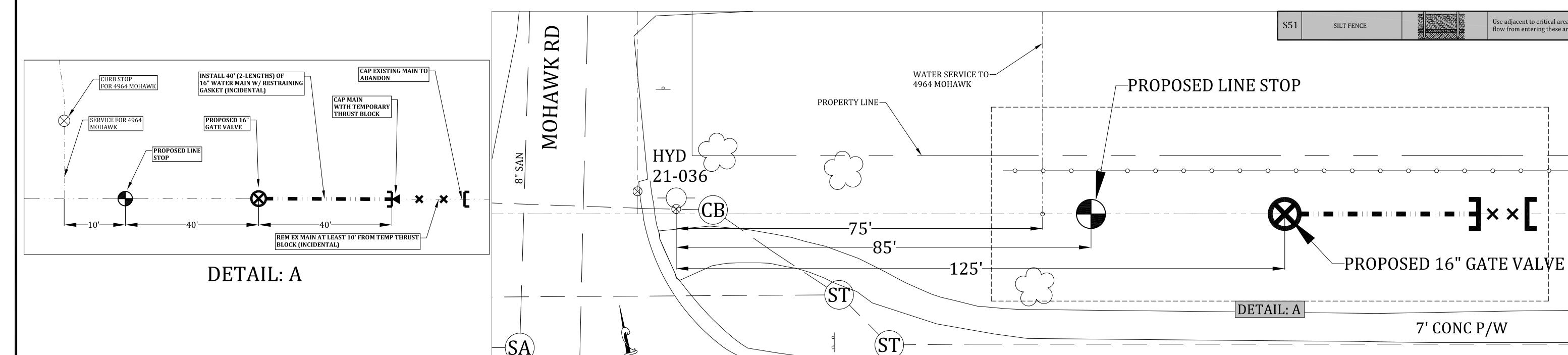
WATER MAIN LAYOUT

GRAND RIVER WTR PLAN (WEST) GRAND RIVER WTR PLAN (EAST)

WATER MAIN DETAIL SHEET

GRAND RIVER - GATE VALVE REPLACEMENT 2021

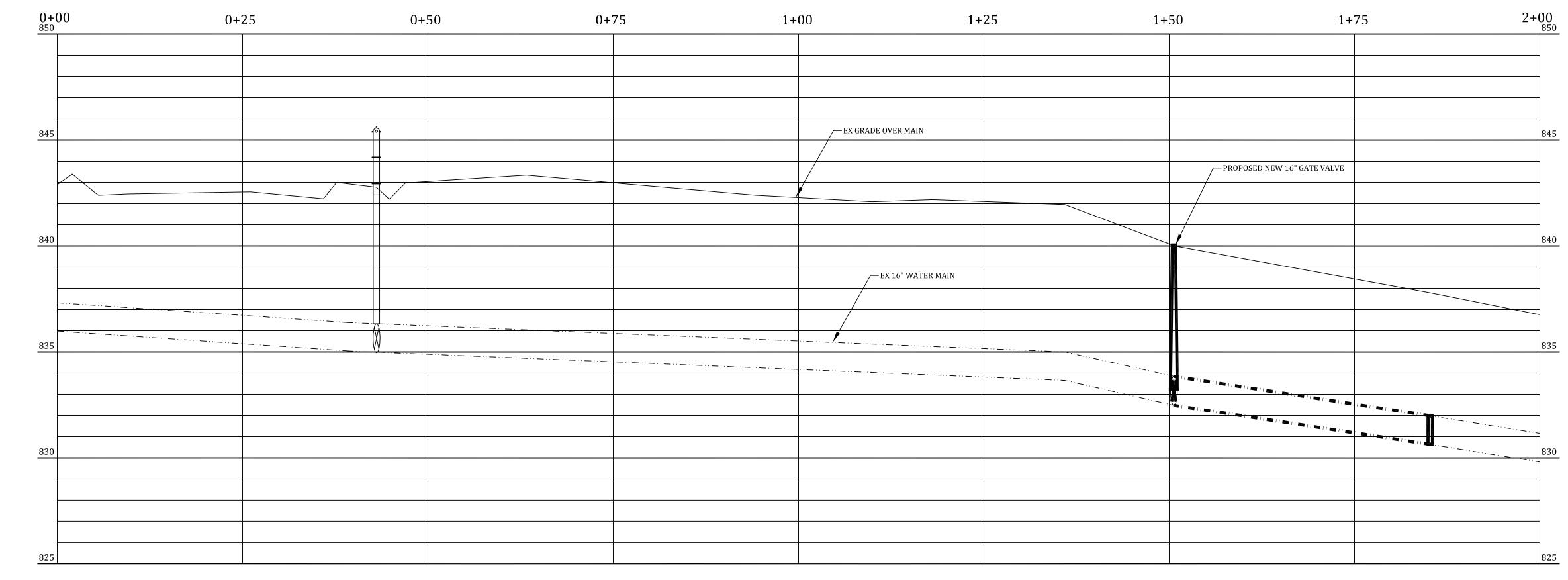


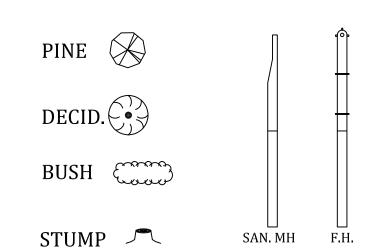


GRAND RIVER AVE

SUGGESTED PROCEDURE:

- CONTACT TOWNSHIP WATER DEPARTMENT TO SHUT OFF VALVE 21-19
- 2. INSERT 16" LINE STOP IN MAIN 85' EAST OF HYDRANT 21-036 [DETAIL A]
- 3. INSERT 16" LINE STOP IN MAIN 61' EAST OF HYDRANT 21-035 (IN FRONT OF 2308 GRAND RIVER AVE) [DETAIL B]
- 4. RELEASE PRESSURE USING A HYDRANT AND DRAIN WATER MAIN TO LOCAL WETLAND OR OTHER TOWNSHIP APPROVED LOCATION
- 5. INSTALL NEW 16" GATE VALVE 125' EAST OF HYDRANT 21-036
- 6. REMOVE 50' OF EXISTING MAIN AND INSTALL 40' OF PIPE CONTINUING EAST OF NEW VALVE. USE A RESTRAINING GASKET BETWEEN PIPE SEGMENTS [DETAIL A]
- 7. INSTALL TEMPORARY CAP ON NEW PIPE WITH TEMPORARY THRUST BLOCK [DETAIL A]
- 8. ABANDON MAIN EAST OF NEWLY INSTALLED PIPE USING A CAP [DETAIL A]
- 9. CLOSE VALVE FOR HYDRANT 21-035 AND REMOVE HYDRANT BELOW GRADE
- 10. INSTALL NEW 16" GATE VALVE 26' EAST OF HYDRANT 21-035 [DETAIL B]
- 11. REMOVE 50' OF EXISTING MAIN AND INSTALL 40' OF PIPE CONTINUING WEST OF NEW VALVE. USE A RESTRAINING GASKET BETWEEN PIPE SEGMENTS [DETAIL B]
- 12. INSTALL TEMPORARY CAP ON NEW PIPE WITH TEMPORARY THRUST BLOCK [DETAIL B]
- 13. PRESSURE TEST NEWLY INSTALLED 16" MAIN, THEN CHLORINATE, FLUSH, AND SAMPLE PER TOWNSHIP STANDARD REQUIREMENTS
- 14. ABANDON MAIN WEST OF NEWLY INSTALLED PIPE USING A CAP OR PLUG [DETAIL B]
- 15. BACKFILL AND REMOVE LINE STOPS AT BOTH ENDS OF WORK AREA, LEAVING ALL VALVES CLOSED
- 16. GRADE AND STABILIZE SITE FOR THE WINTER
- 17. PERFORM FINAL RESTORATION IN THE SPRING
- 18. REMOVE SESC MEASURES AFTER GRASS IS GROWING





CATV MH (A) CATV BOX □ LIGHT 🌣 U.P. (W/GUY) ❖─ TELE. MH 🗇 MAILBOX SITE BORING 🕀 STREET SIGN SIGN — SAN. MH SA C.M.P. — — — STM. MH ST TELE. BOX \square WTR. MH 🏻 w

CATV (COMCAST) _____ TELE. (SBC) ______

EXISTING 5' / 7' SIDEWALK / PATHWAY

----- LESS BOLD PROPOSED 5' / 7' SIDEWALK / PATHWAY

Call before you dig.

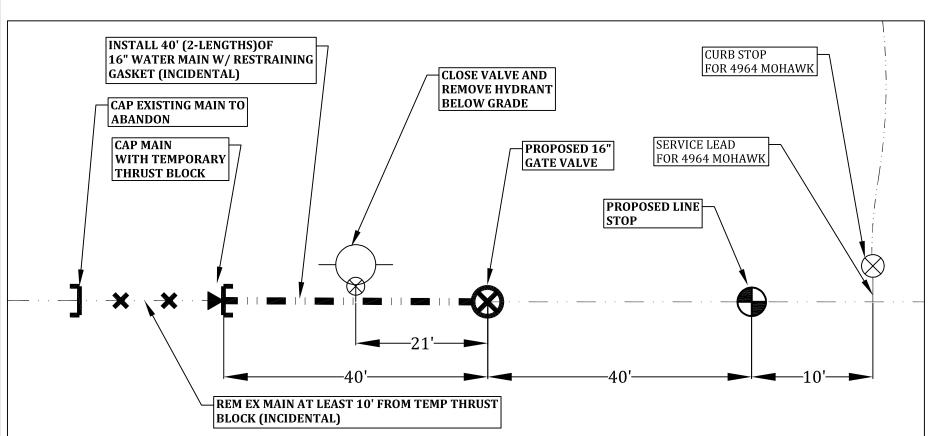
WOLVERINE PIPE LINE COMPANY 219-844-9510

REVISIONS: Meridian Charter Township DATE: **COMMENTS:** 08/10/21 Contract Plans Ingham County, Michigan Water Main System GRAND RIVER AVE (M-43) WATER PLAN (WEST) SCALE: PAGE: 1'' = 10' HOR1" = 3' VERT 3 OF 5 DRAWN BY: MH 08/05/21 CHECKED BY:

Use adjacent to critical areas, to prevent sediment laden sheet

flow from entering these areas.

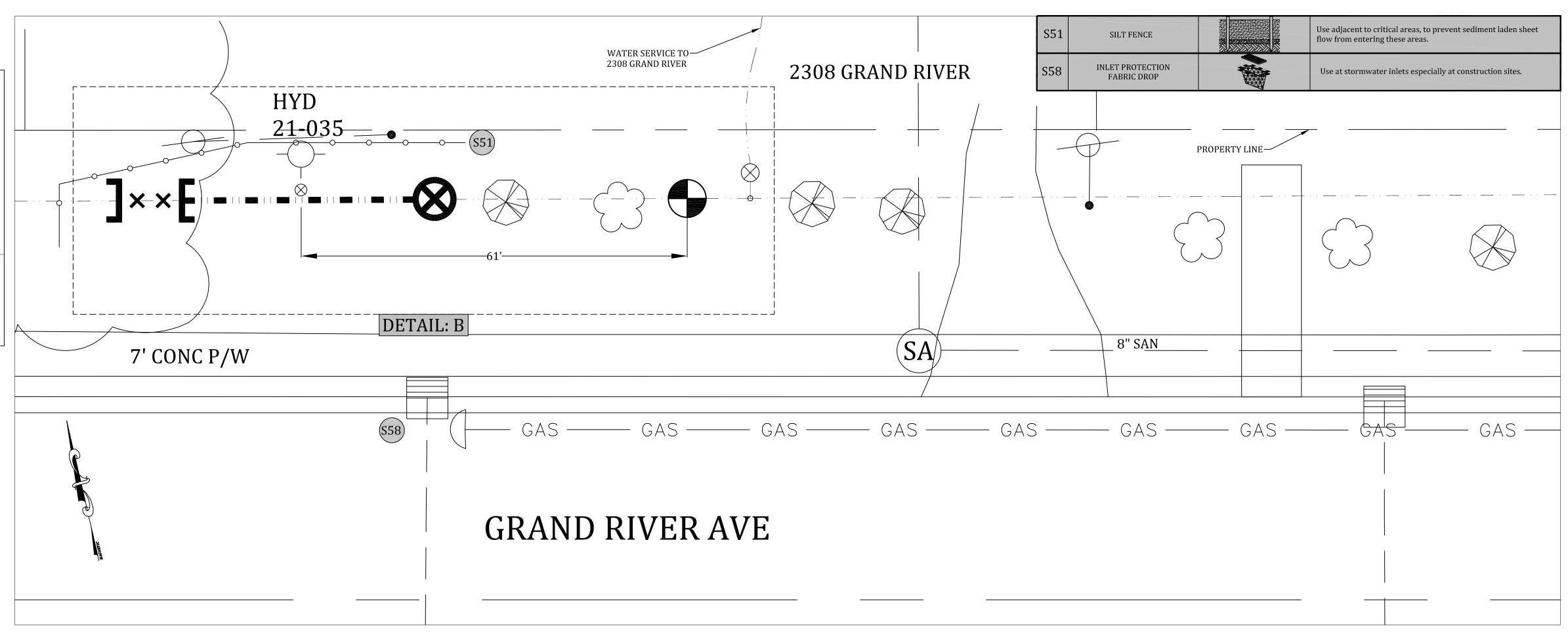
7' CONC P/W

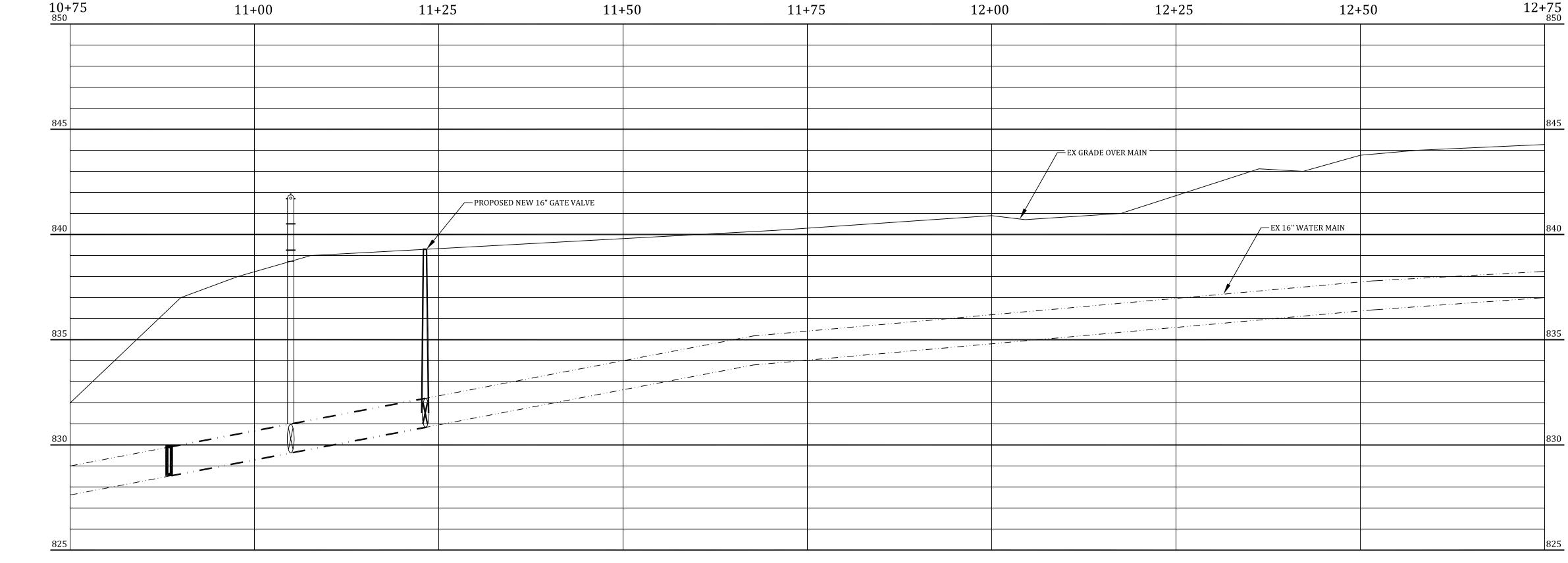


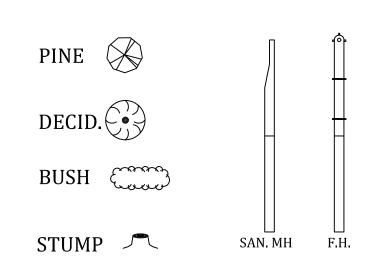
DETAIL: B

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CATV BOX
U.P. (W/GUY)
LIGHT
MAILBOX
STREET SIGN
SITE BORING
P.I.
SAN. MH
SA
SAN. MH
ST
C.B.
TELE. BOX
G.V.
WTR. MH
W
F.H.

CATV MH
GA
CATV MH
CATV
CATV

CATV (COMCAST)	
C/L OF ROADS	
ELEC (CONSUMERS)	
GAS (CONSUMERS)	——— GAS ——— GAS ———— GAS ———————————————
TELE. (SBC)	
PROPERTY LINE	
ROW (ICRD, MDOT)	
EXISTING 5	' / 7' SIDEWALK / PATHWAY

 EX SAN MAIN
 LESS BOLD

 EX STM (ICDC)
 LESS BOLD

 EX WTR MAIN
 LESS BOLD

 PROPOSED SAN
 BOLD

 PROPOSED STM
 BOLD

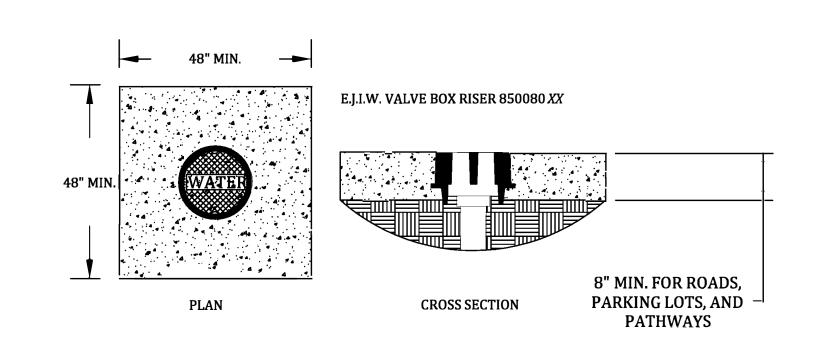
 PROPOSED WTR
 BOLD

 PROPOSED 5' / 7' SIDEWALK / PATHWAY
 BOLD

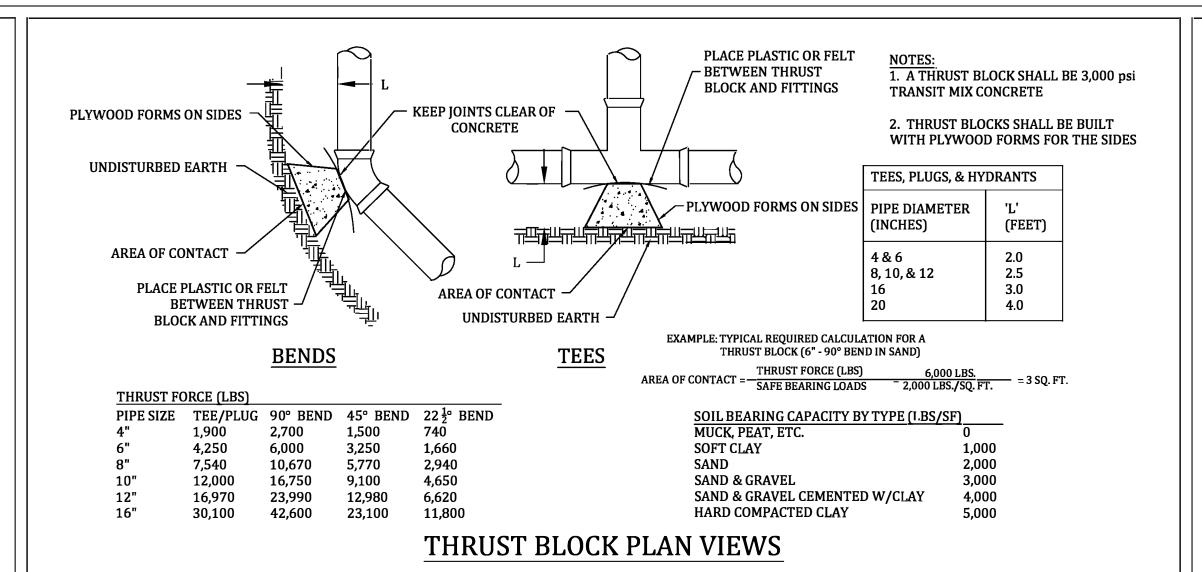


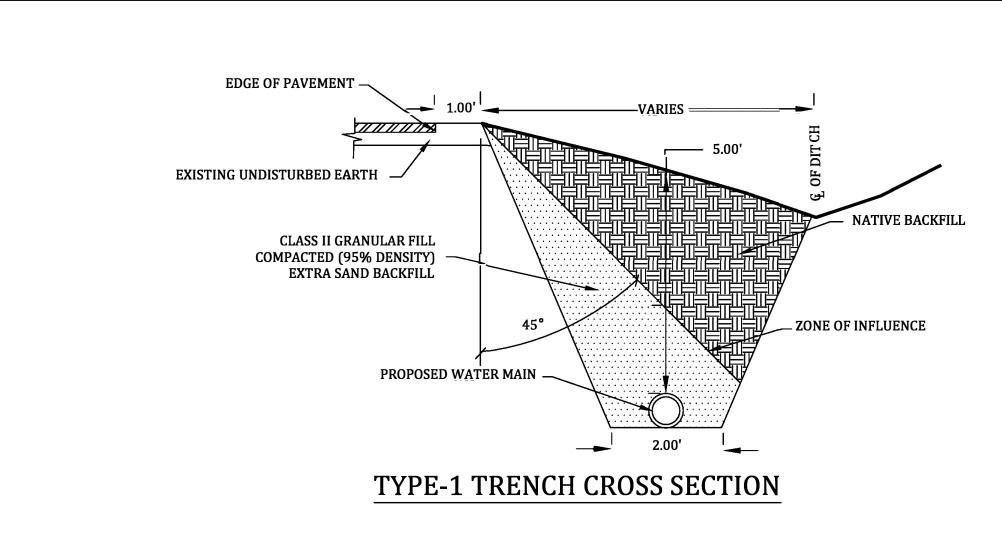
WOLVERINE PIPE LINE COMPANY 219-844-9510

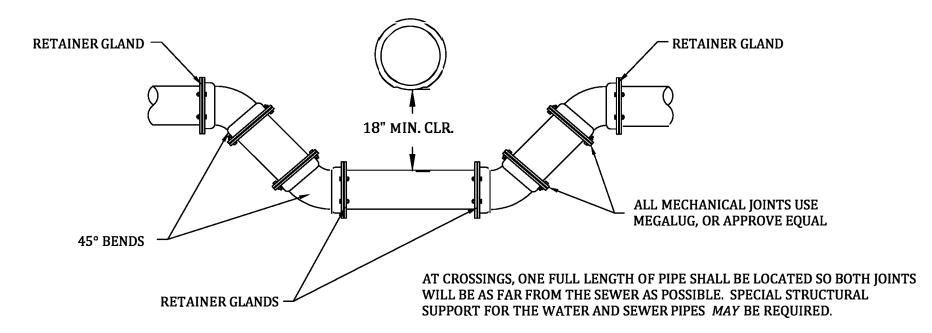
Maridian Charton Torreshin	REVISIONS:				
Ieridian Charter Township	DATE:	BY:	COMMENTS:		
Ingham County, Michigan	08/10/21		Contract Plans		
Water Main System					
GRAND RIVER AVE (M-43)					
WATER PLAN (EAST)	SCALE: 1" = 10' HOR 1" = 3' VERT		PAGE:	FILE:	
AWN BY: MH 08/05/21 CHECKED BY:			4 OF 5		



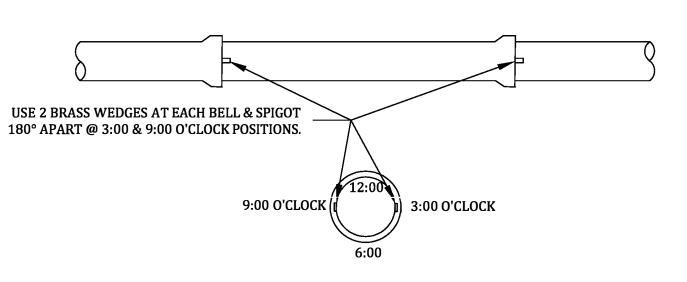
VALVES & CURB STOP BOXES IN CONCRETE



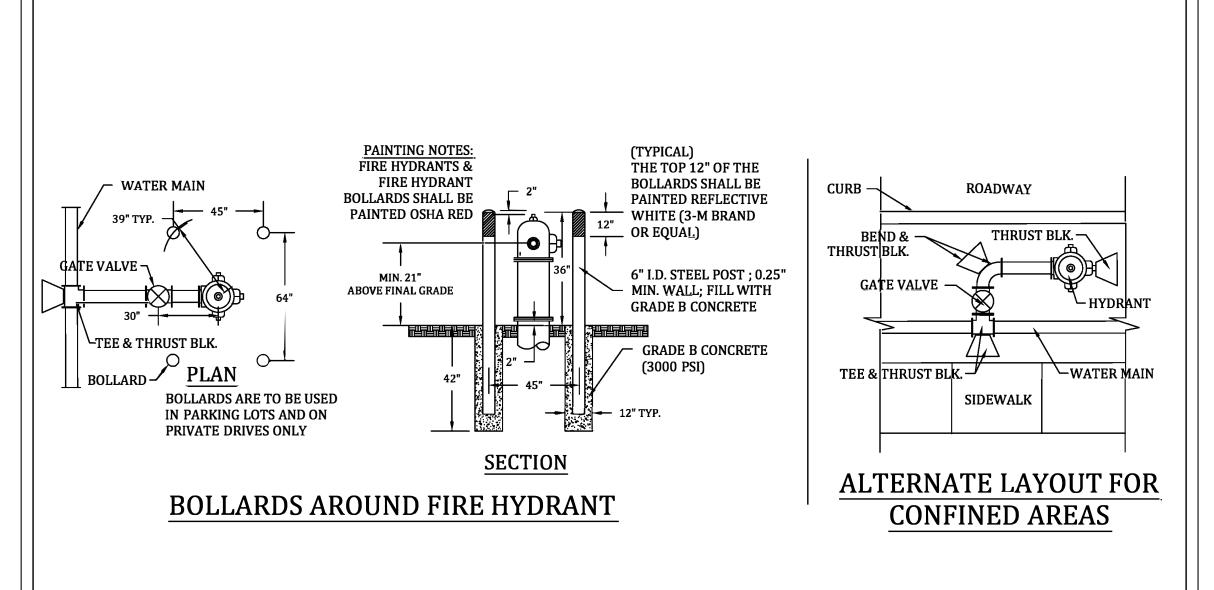


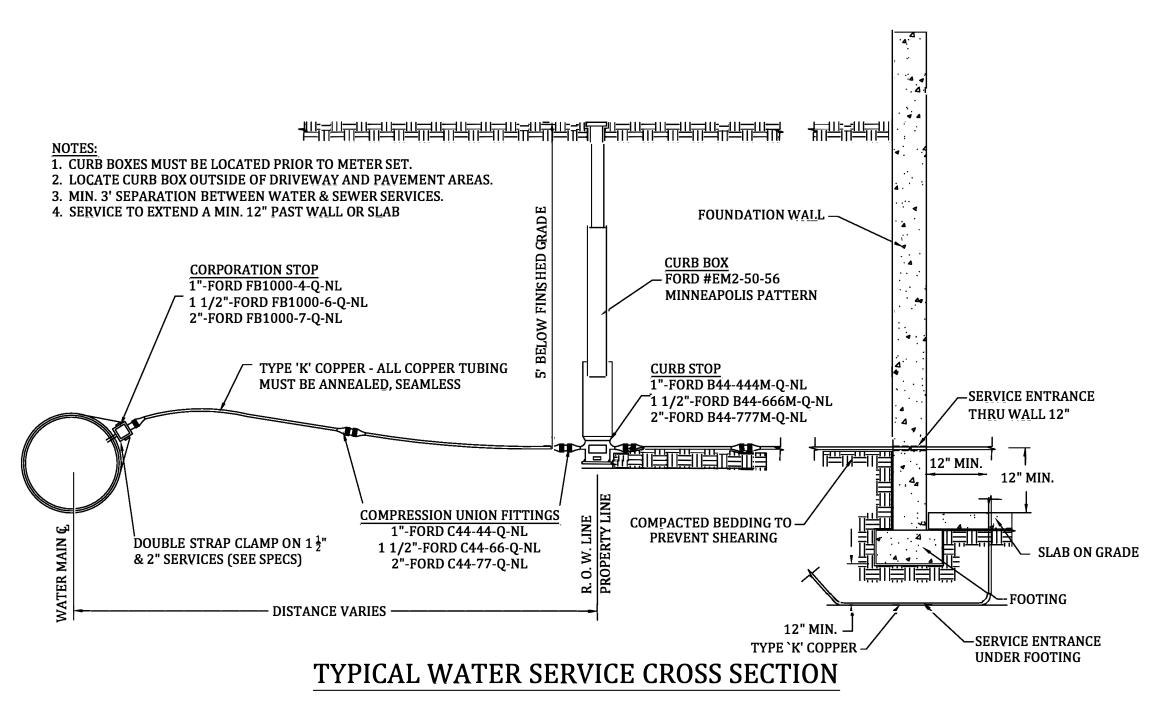


LOWERING WATER MAIN CROSS SECTION



WATER MAIN JOINT DETAILS



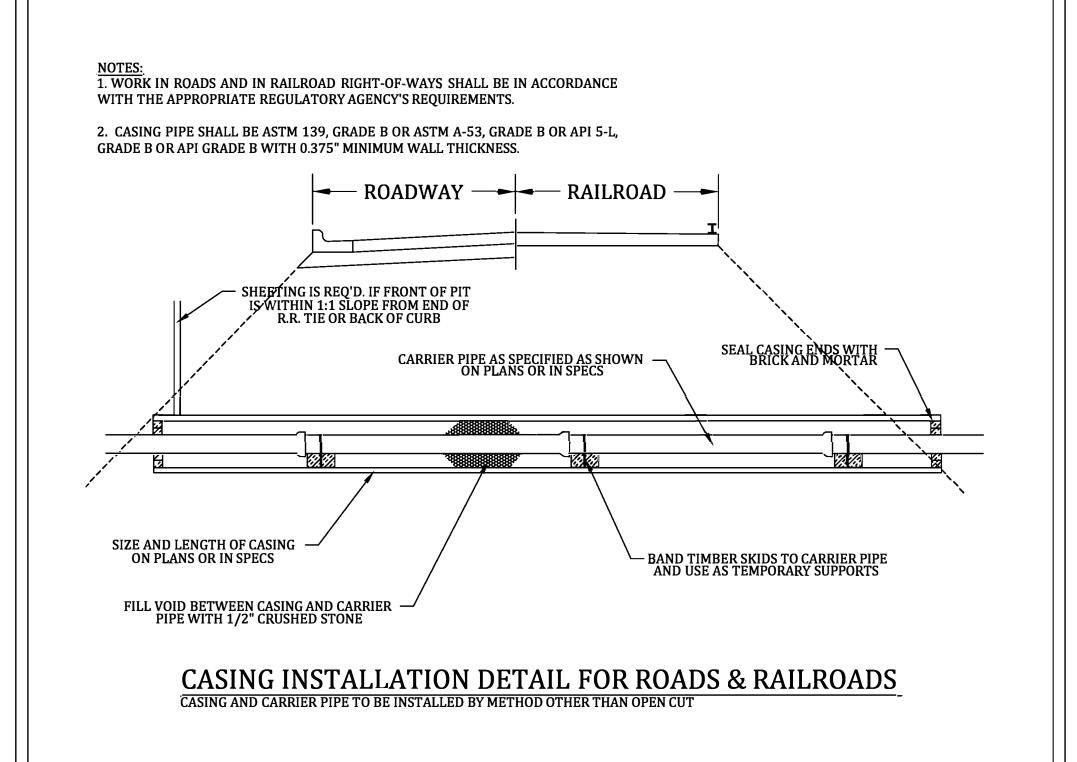


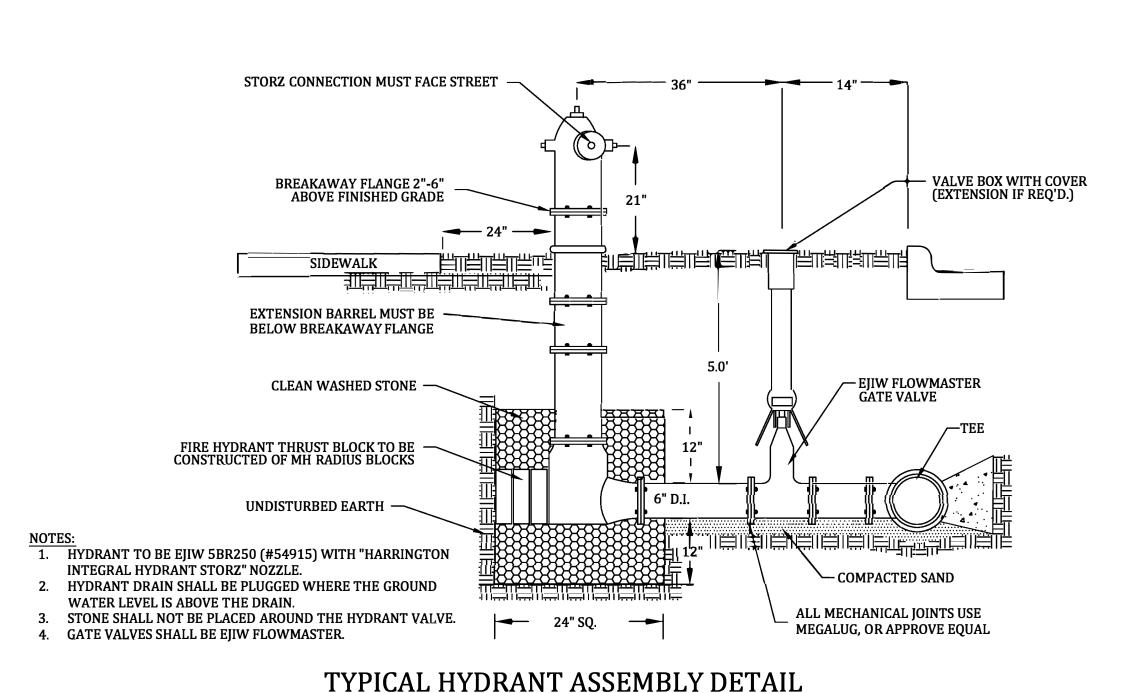
NOTE: ALL WATER PIPES, PIING FITTINGS, PLUMBING FITTINGS AND FIXTURES THAT ARE USED FOR POTABLE WATER MUST COMPLY WITH NEW LEAD-FREE REQUIREMENT AND MUST BEAR

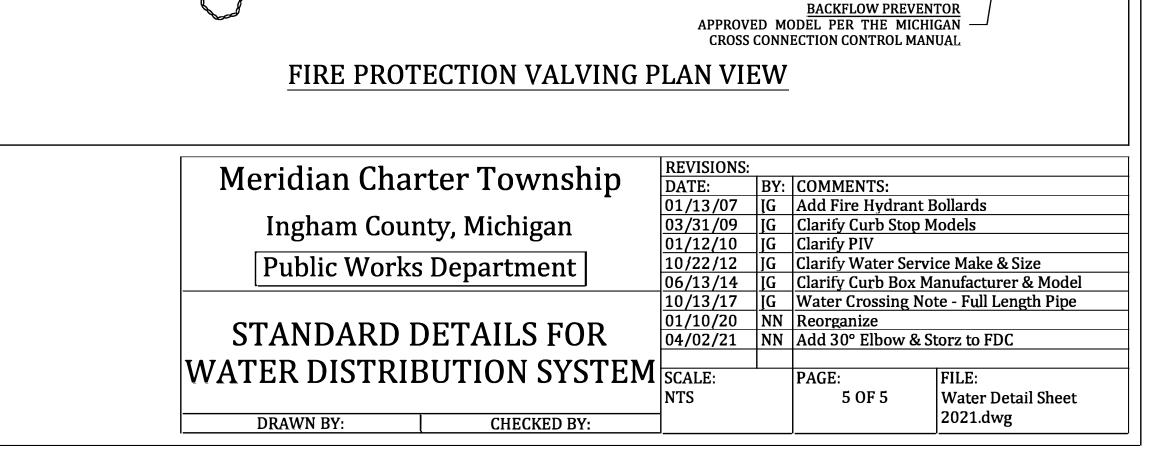
THE MARK NSF/ANSI STANDARD 61, ANNEX G OR NSF-61-G.

FDC SHOULD BE 30° ELBOW WITH A

5" STORZ CONNECTION







NO MECHANICAL BENDS ALLOWED FOR

COPPER SERVICES; NO TEE ALLOWED; USE SADDLE WITH 1-1/2" & LARGER TAP

> <u>CURB STOP</u> 1"-FORD B44-<mark>444M-Q-NL</mark>

1 1/2"-FORD B44-666M-Q-NL 2"-FORD B44-777M-Q-NL

P.I.V. UNLESS APPROVED OTHERWISE -

→ 5' TO 10' ←

DOMESTIC

- BUILDING WALL