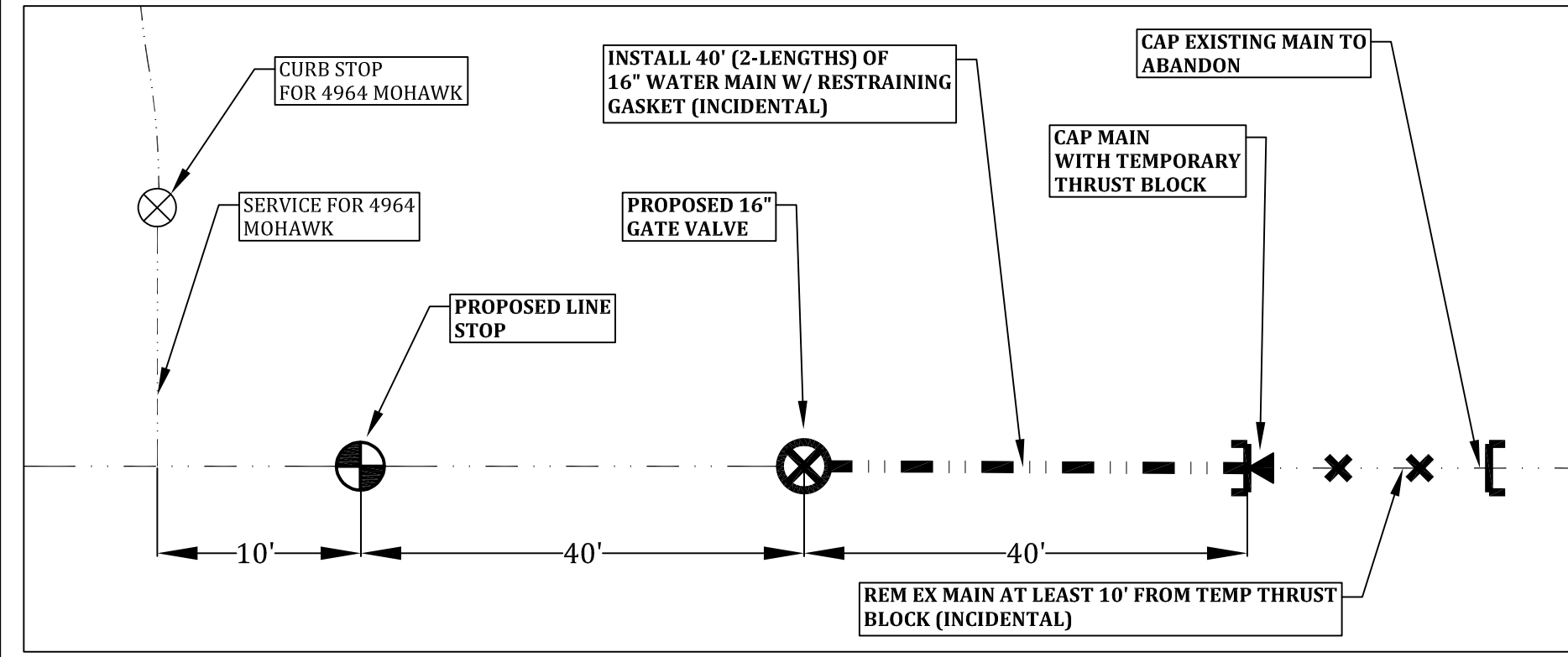


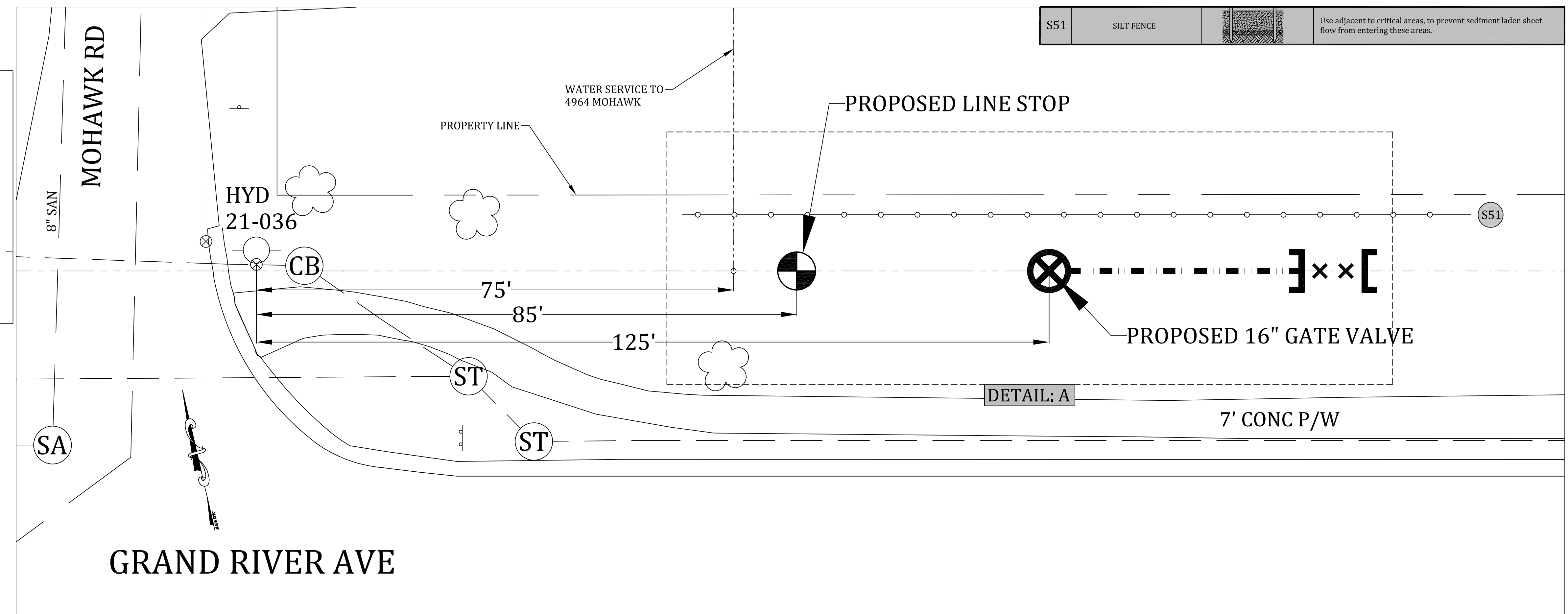
Call 811 before you dig.

WOLVERINE PIPE LINE COMPANY 219-844-9510

Meridian Charter Township Ingham County, Michigan Water Main System		REVISIONS: DATE: 08/10/21 BY: COMMENTS:	
GRAND RIVER AVE (M-43) WATER MAIN LAYOUT		SCALE: 1" = 40' HOR 1" = 3' VERT	
DRAWN BY: MH 08/05/21 CHECKED BY:		PAGE: 2 OF 5 FILE:	

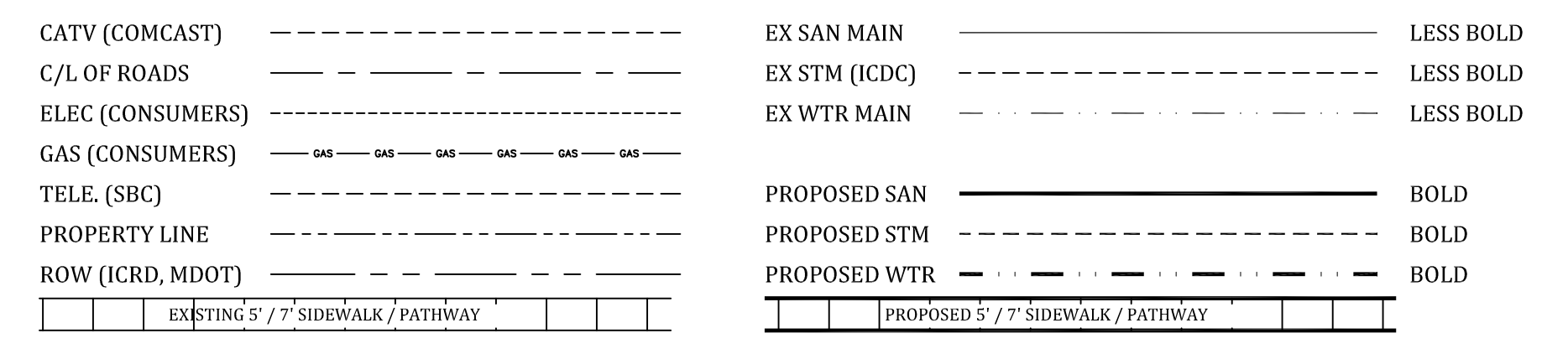
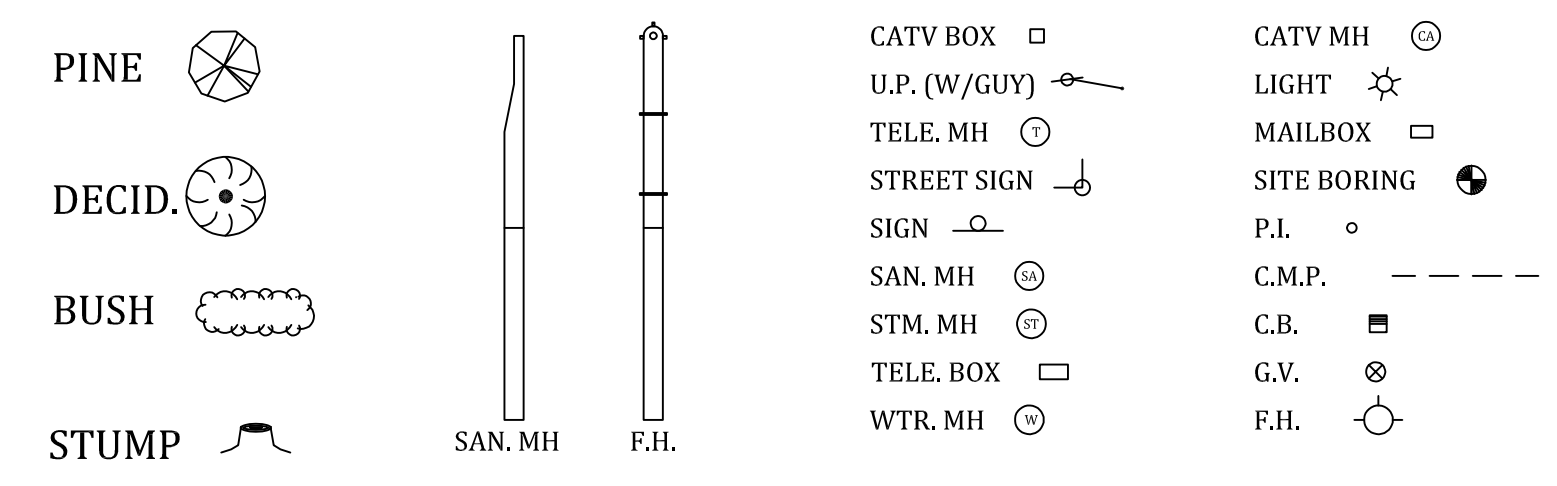
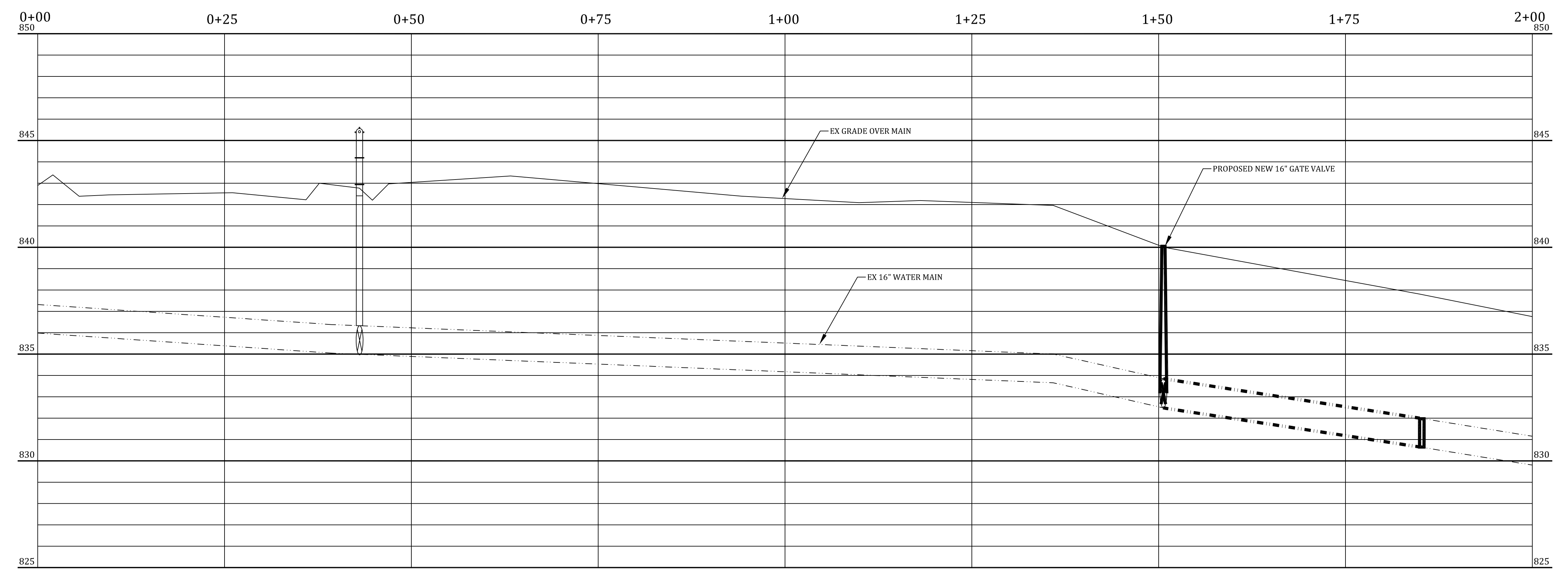


DETAIL: A



SUGGESTED PROCEDURE:

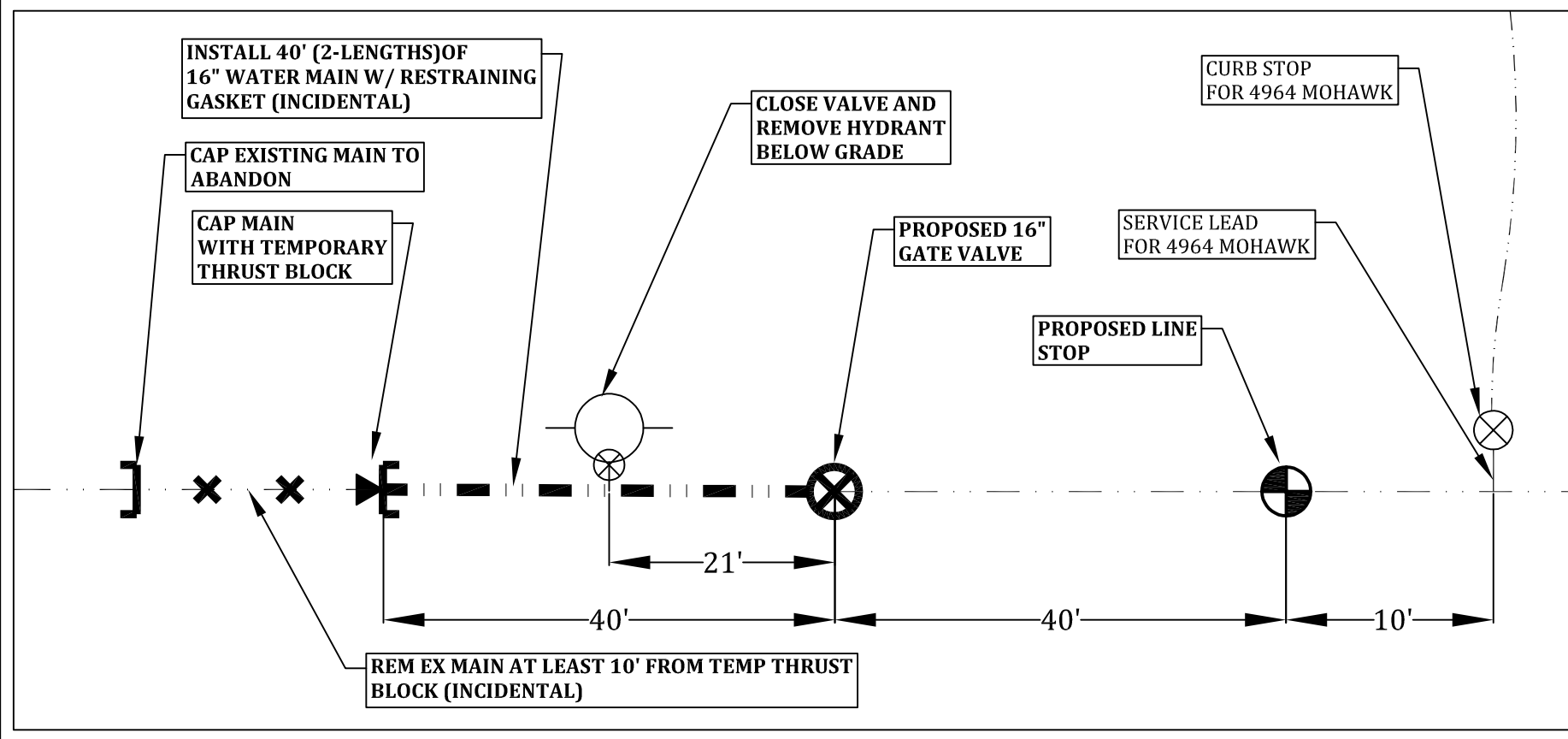
1. CONTACT TOWNSHIP WATER DEPARTMENT TO SHUT OFF VALVE 21-19
2. INSERT 16" LINE STOP IN MAIN 85' EAST OF HYDRANT 21-036 [DETAIL A]
3. INSERT 16" LINE STOP IN MAIN 61' EAST OF HYDRANT 21-035 (IN FRONT OF 2308 GRAND RIVER AVE) [DETAIL B]
4. RELEASE PRESSURE USING A HYDRANT AND DRAIN WATER MAIN TO LOCAL 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



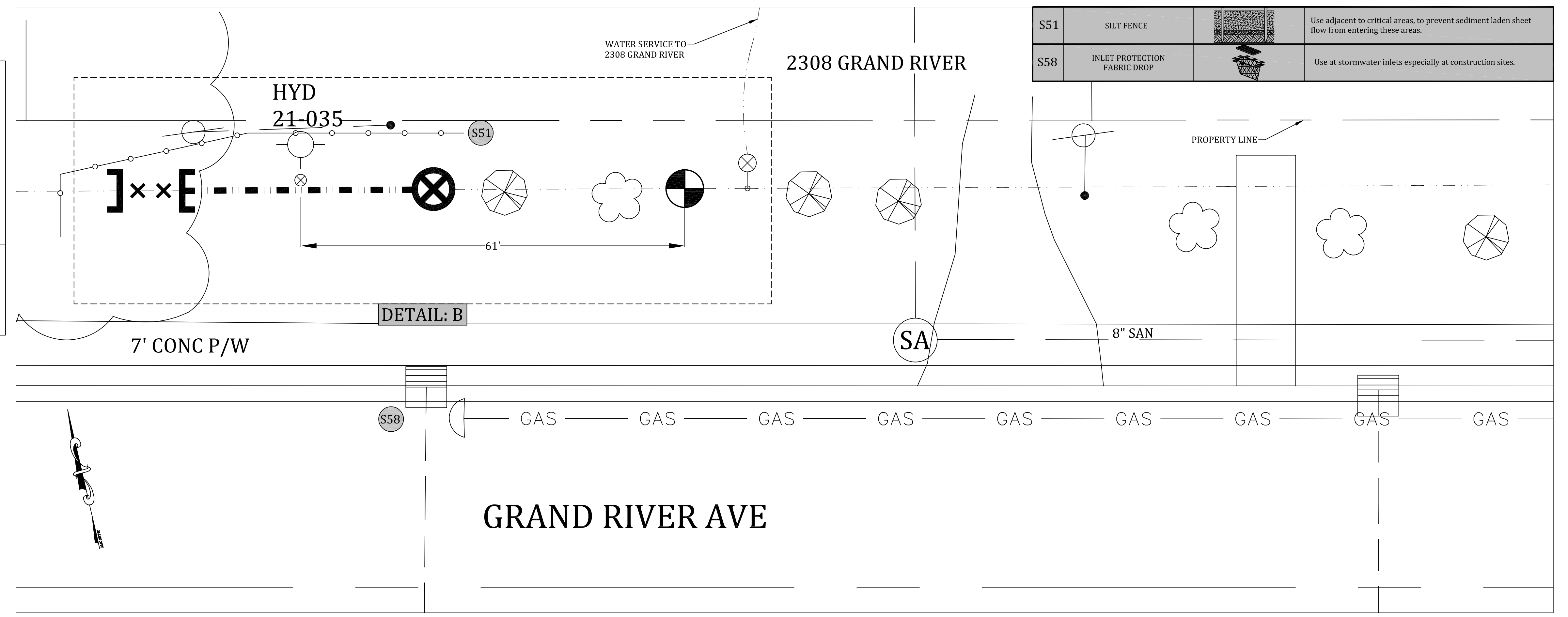
Call 811 before you dig.

WOLVERINE PIPE LINE COMPANY 219-844-9510

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

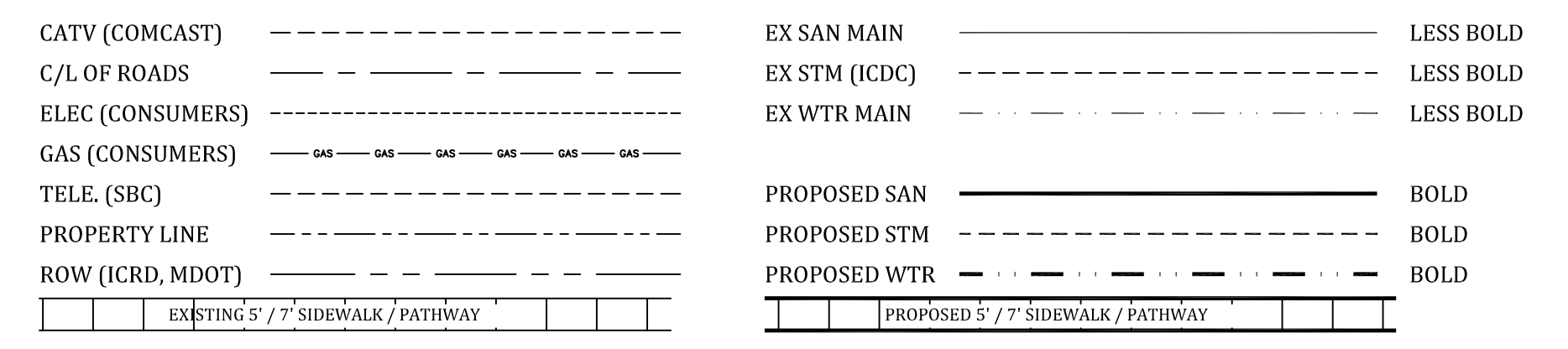
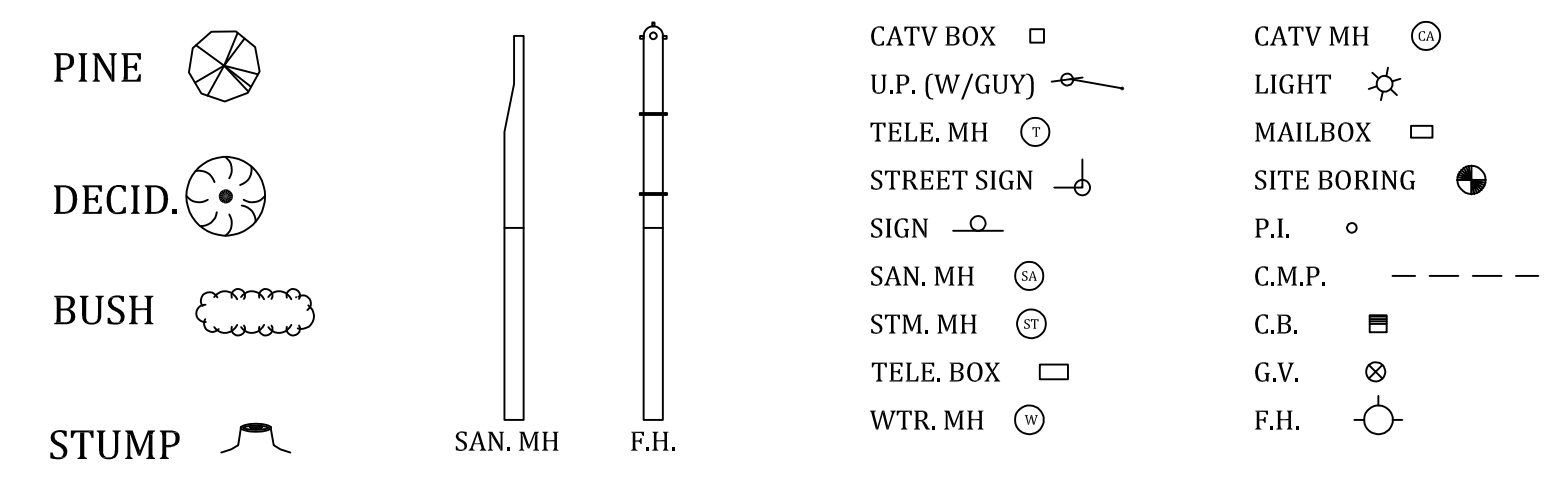
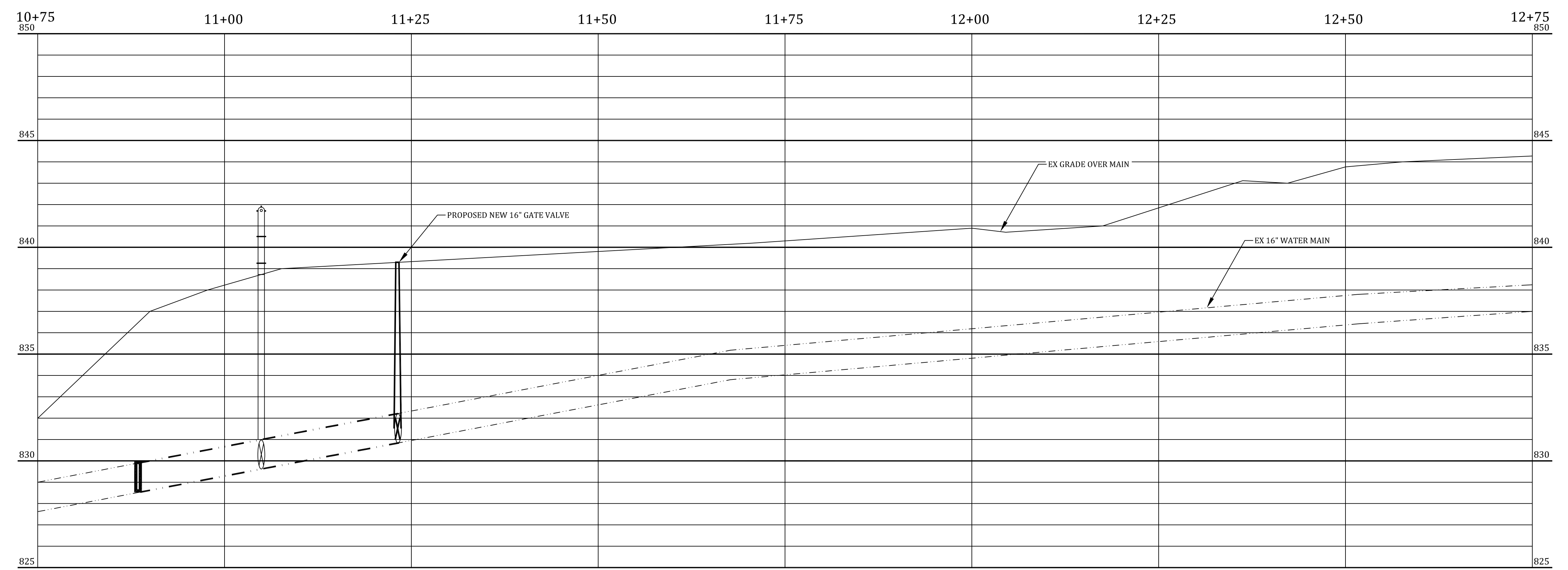


DETAIL: B



SUGGESTED PROCEDURE:

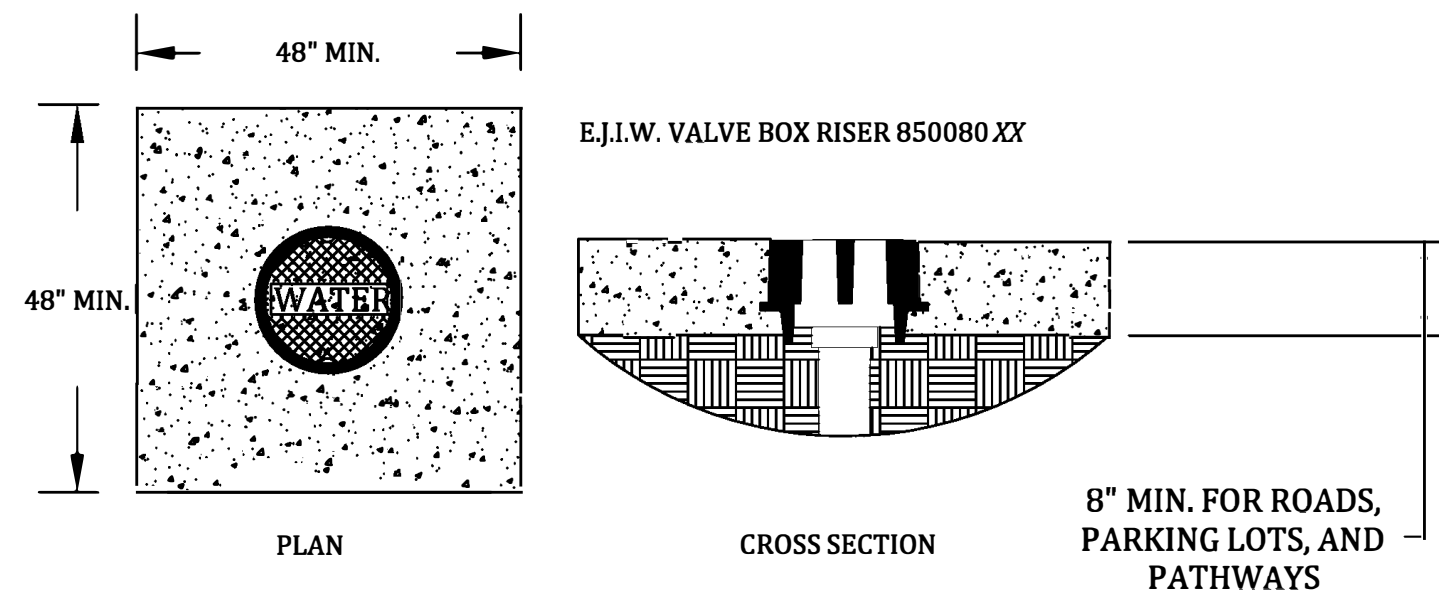
1. CONTACT TOWNSHIP WATER DEPARTMENT TO SHUT OFF VALVE 21-19
2. INSERT 16" LINE STOP IN MAIN 85' EAST OF HYDRANT 21-036 [DETAIL A]
3. INSERT 16" LINE STOP IN MAIN 61' EAST OF HYDRANT 21-035 (IN FRONT OF 2308 GRAND RIVER AVE) [DETAIL B]
4. RELEASE PRESSURE USING A HYDRANT AND DRAIN WATER MAIN TO LOCAL 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 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



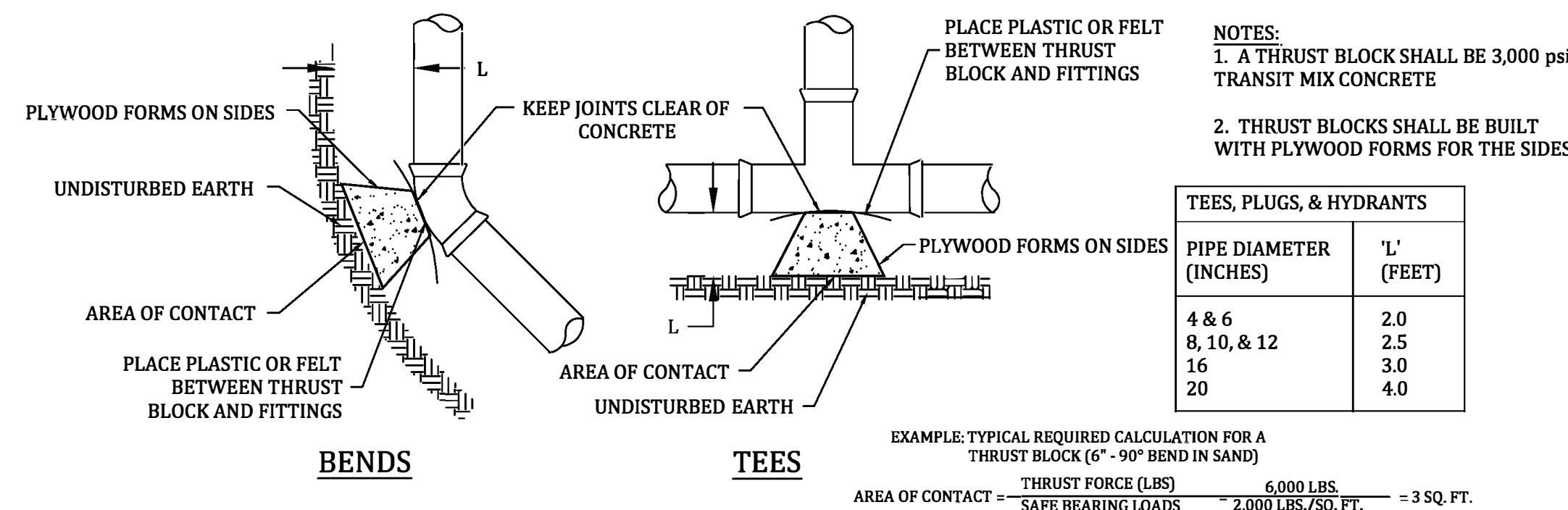
Call 811 before you dig.

WOLVERINE PIPE LINE COMPANY 219-844-9510

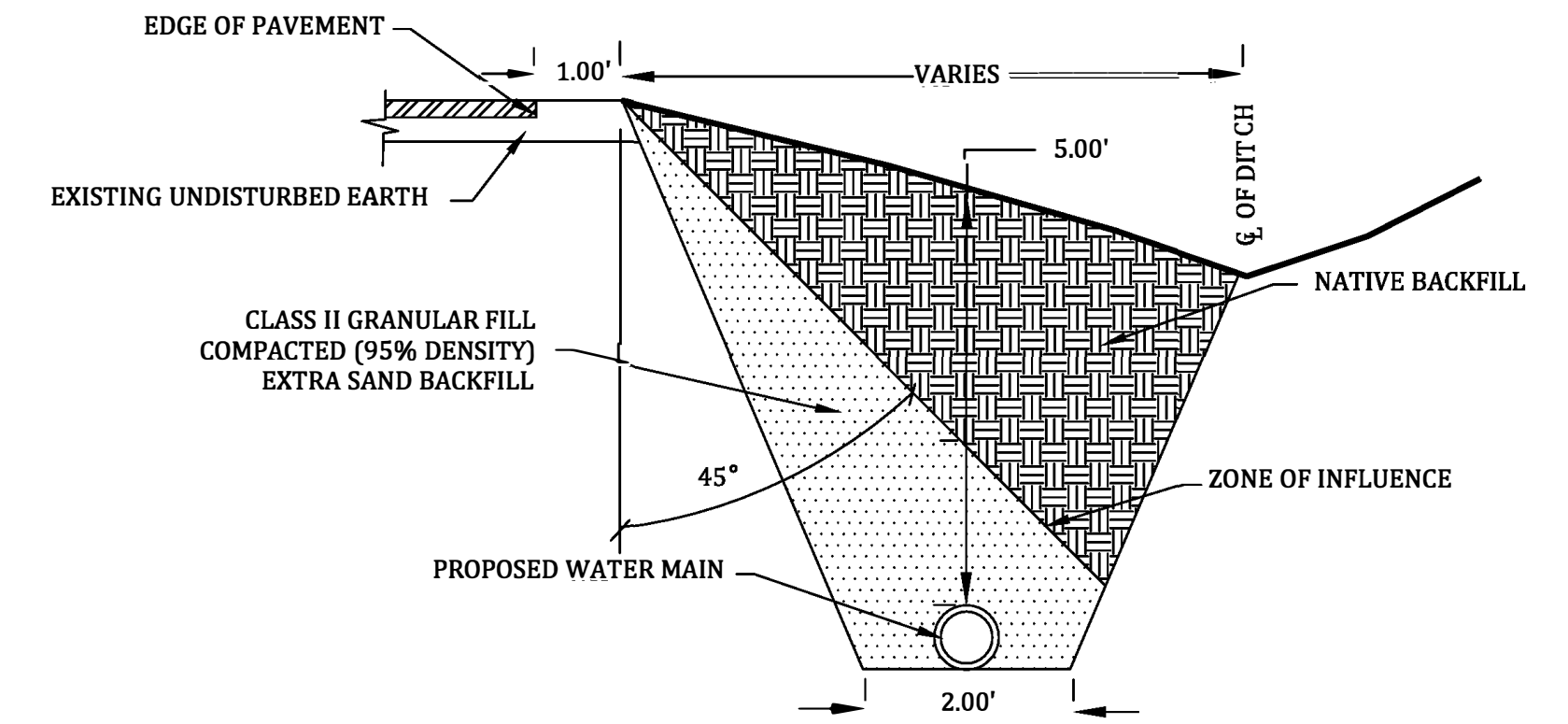
Meridian Charter Township Ingham County, Michigan Water Main System		REVISIONS: DATE: 08/10/21 BY: COMMENTS:	
GRAND RIVER AVE (M-43) WATER PLAN (EAST)		SCALE: 1" = 10' HOR 1" = 3' VERT	PAGE: 4 OF 5
		DRAWN BY: MH 08/05/21	CHECKED BY:



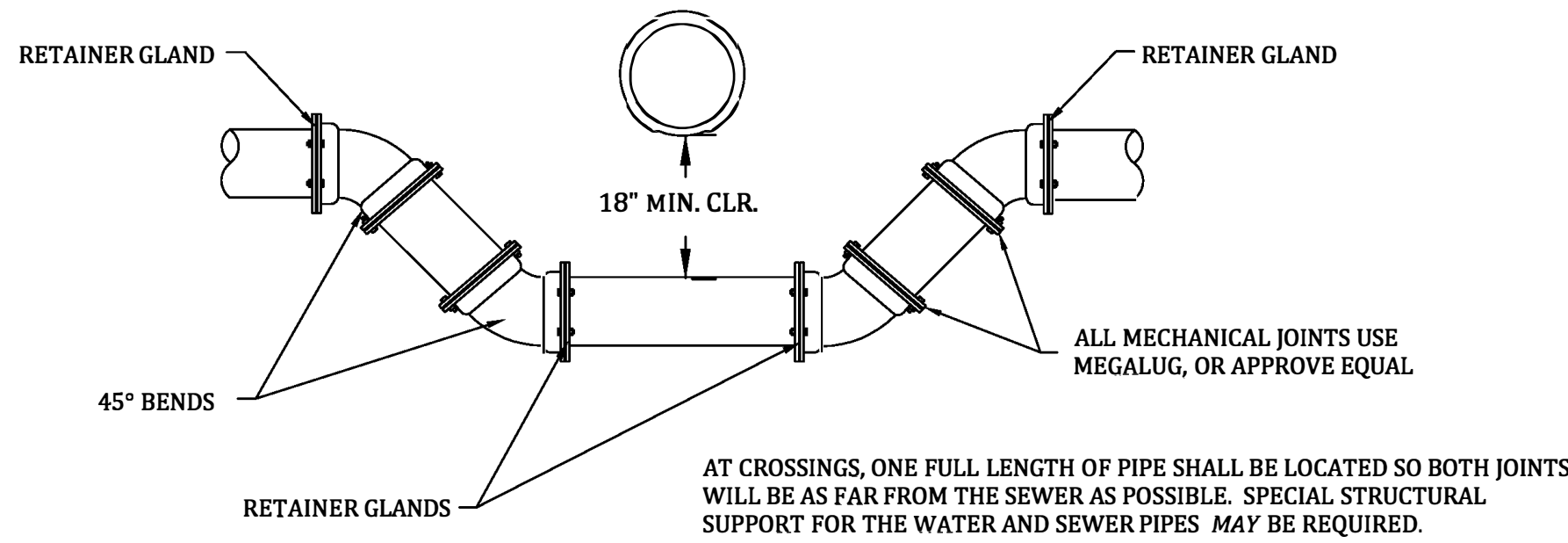
VALVES & CURB STOP BOXES IN CONCRETE



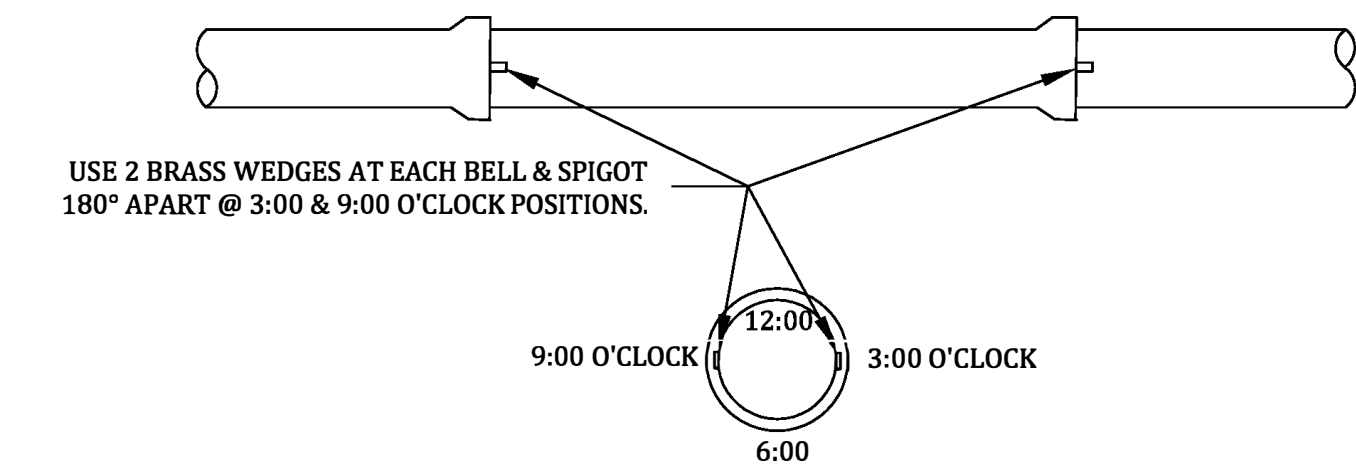
THRUST BLOCK PLAN VIEWS



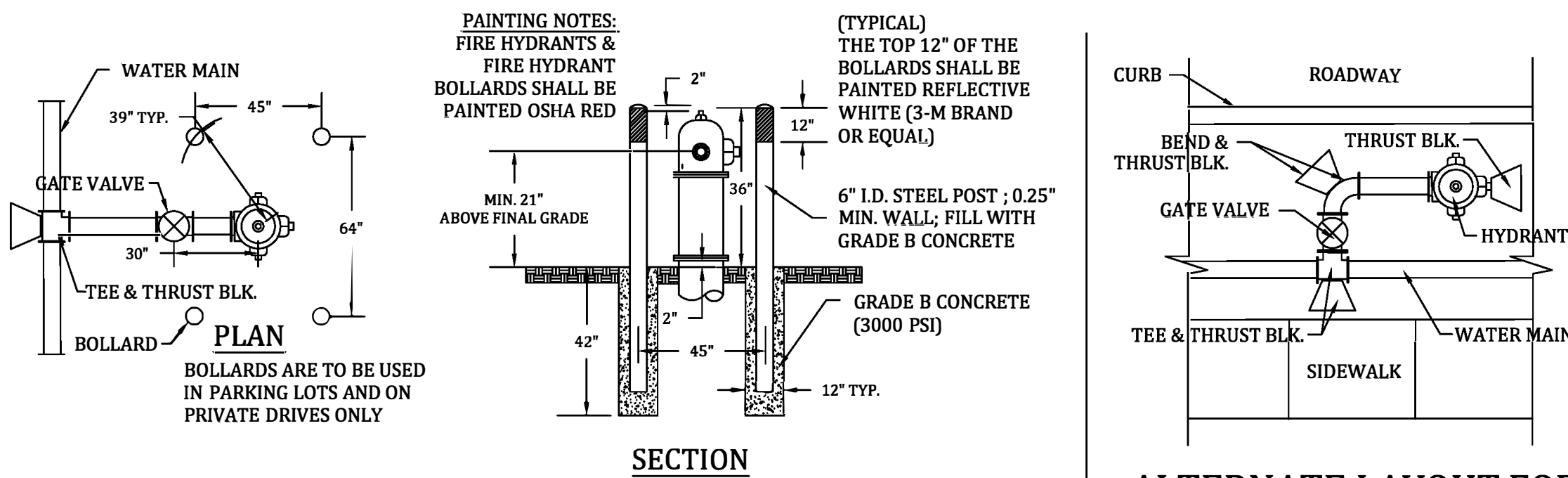
TYPE-1 TRENCH CROSS SECTION



LOWERING WATER MAIN CROSS SECTION

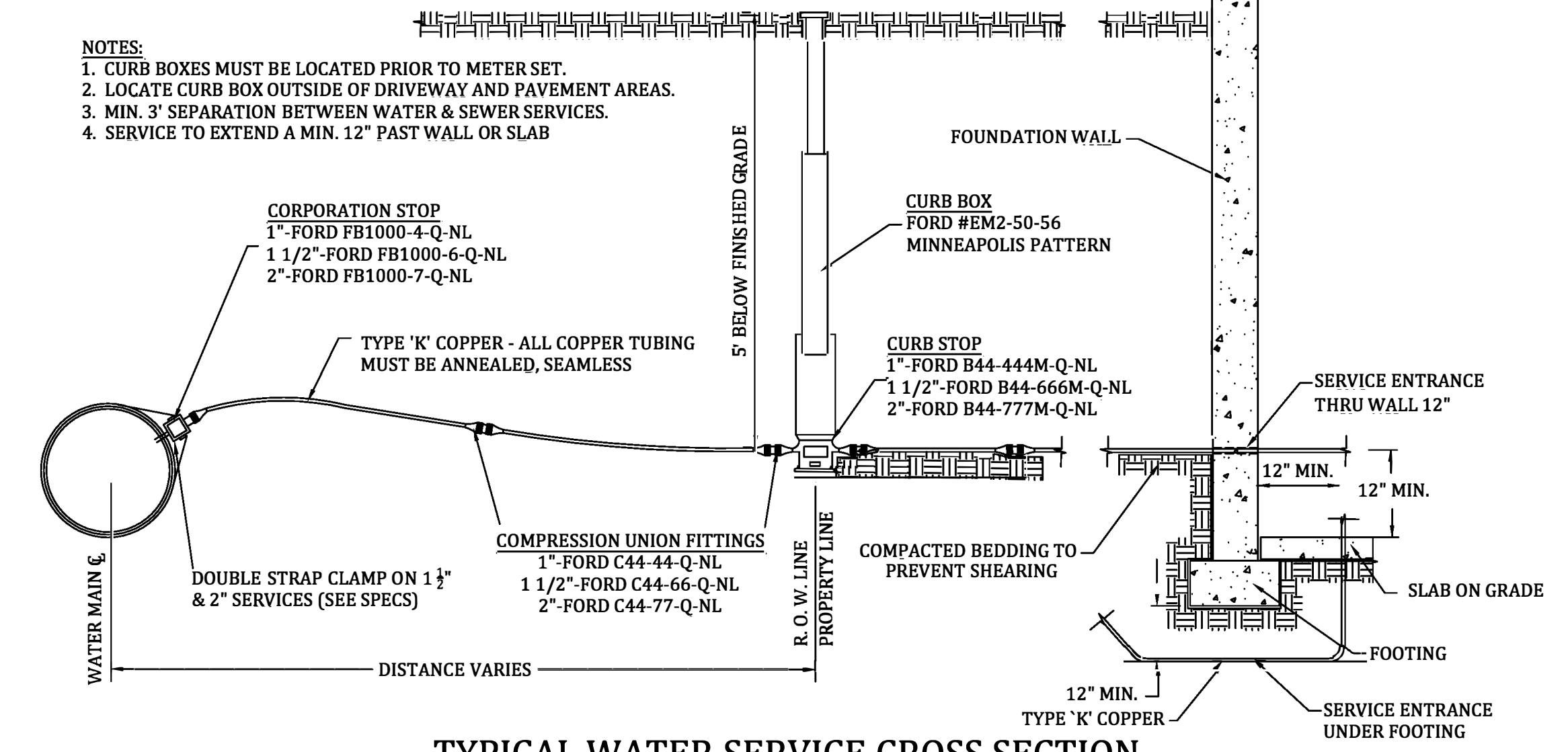


WATER MAIN JOINT DETAILS



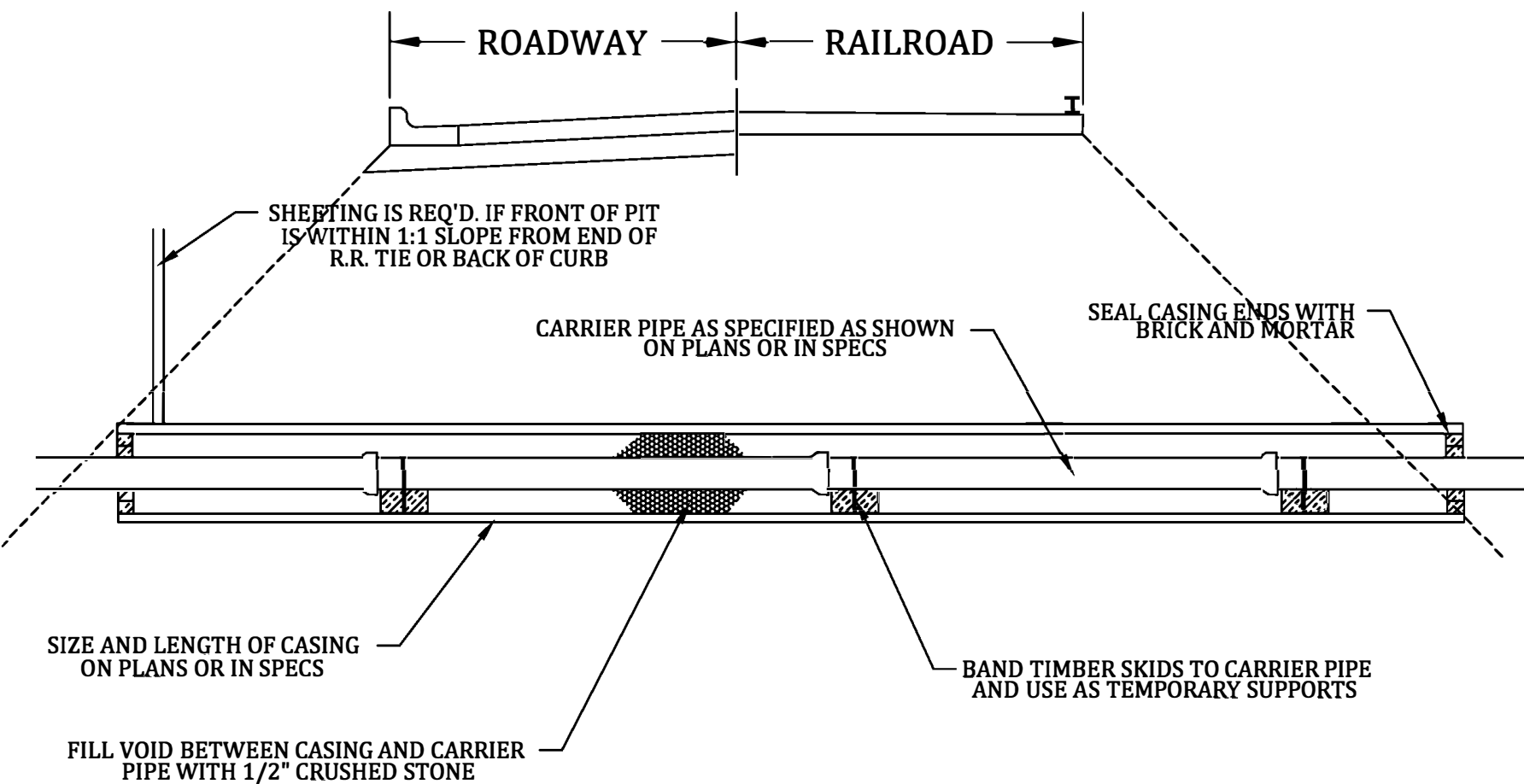
BOLLARDS AROUND FIRE HYDRANT

ALTERNATE LAYOUT FOR CONFINED AREAS



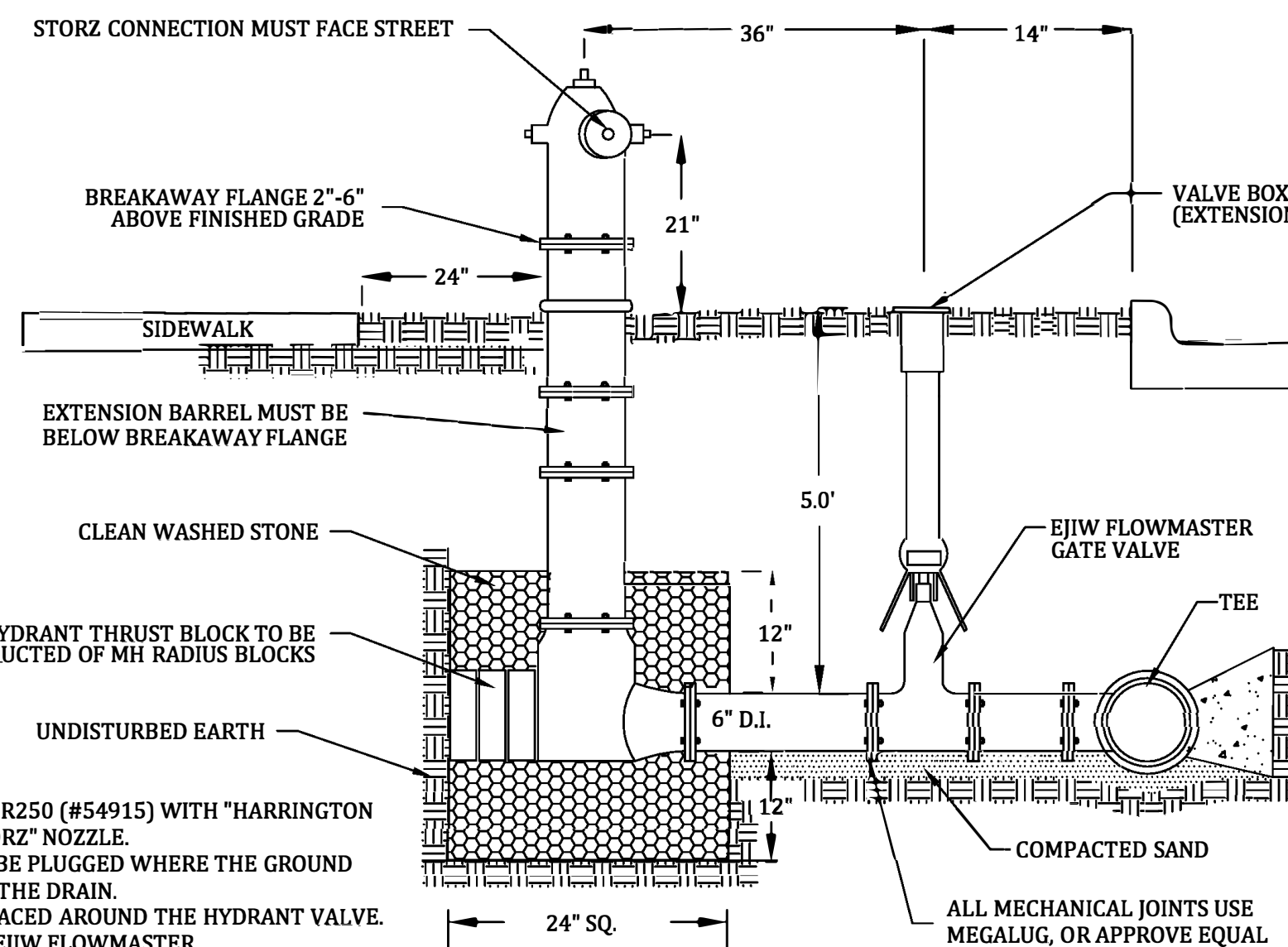
TYPICAL WATER SERVICE CROSS SECTION

- NOTES:
1. WORK IN ROADS AND IN RAILROAD RIGHT-OF-WAYS SHALL BE IN ACCORDANCE WITH THE APPROPRIATE REGULATORY AGENCY'S REQUIREMENTS.
 2. CASING PIPE SHALL BE ASTM 139, GRADE B OR ASTM A-53, GRADE B OR API 5-L, GRADE B OR API GRADE B WITH 0.375" MINIMUM WALL THICKNESS.



CASING INSTALLATION DETAIL FOR ROADS & RAILROADS

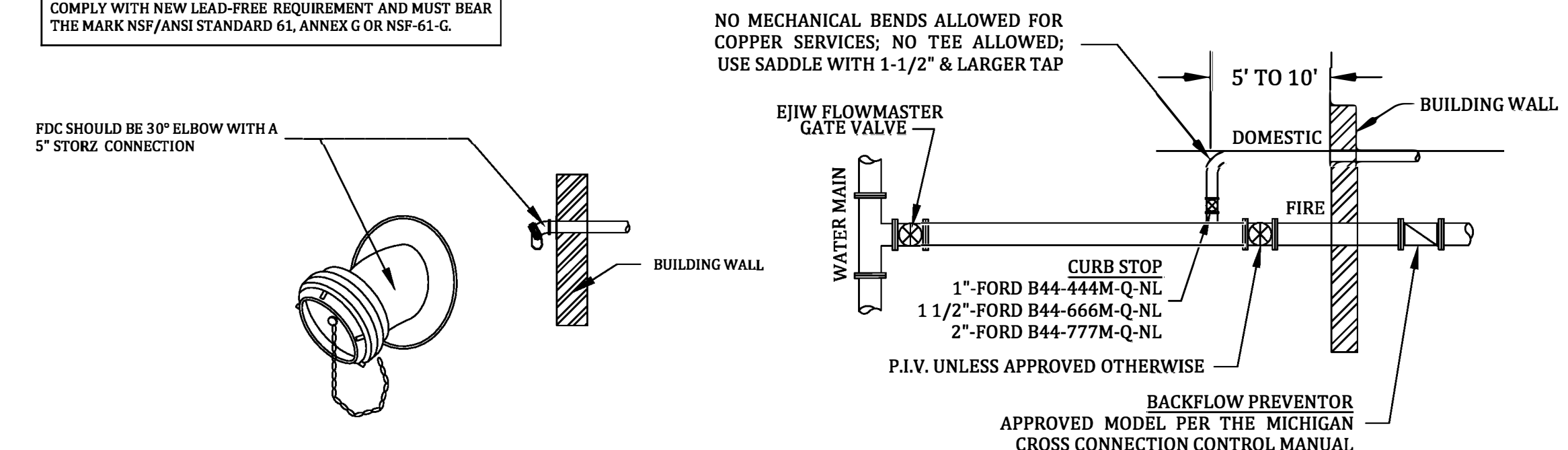
CASING AND CARRIER PIPE TO BE INSTALLED BY METHOD OTHER THAN OPEN CUT



TYPICAL HYDRANT ASSEMBLY DETAIL

- NOTES:
1. HYDRANT TO BE EIJW 5BR250 (#54915) WITH "HARRINGTON INTEGRAL HYDRANT STORZ" NOZZLE.
 2. HYDRANT DRAIN SHALL BE PLUGGED WHERE THE GROUND WATER LEVEL IS ABOVE THE DRAIN.
 3. STONE SHALL NOT BE PLACED AROUND THE HYDRANT VALVE.
 4. GATE VALVES SHALL BE EIJW FLOWMASTER.

NOTE: ALL WATER PIPES, PUMP 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.



FIRE PROTECTION VALVING PLAN VIEW

Meridian Charter Township
Ingham County, Michigan
Public Works Department

STANDARD DETAILS FOR WATER DISTRIBUTION SYSTEM

DRAWN BY: CHECKED BY:

REVISIONS:		
DATE:	BY:	COMMENTS:
01/13/07	IG	Add Fire Hydrant Bollards
03/31/09	IG	Clarify Curb Stop Models
01/12/10	IG	Clarify PIV
10/22/12	IG	Clarify Water Service Make & Size
06/13/14	IG	Clarify Curb Box Manufacturer & Model
10/13/17	IG	Water Crossing Note - Full Length Pipe
01/10/20	NN	Reorganize
04/02/21	NN	Add 30° Elbow & Storz to FDC

SCALE: NTS	PAGE: 5 OF 5	FILE: Water Detail Sheet 2021.dwg
---------------	-----------------	---