





PROJECT: MANAGER\Kevin E. Cook, PE  
C:\PW\WORK\YCOOK\01139411\01P-PLT-WATER MAIN DETAILS.DWG - DETAIL 1 - PLOTTED 1/25/2023 10:04 PM BY COOK, KEVIN

GENERAL PLAN NOTES

1. FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174, 2013, THE CONTRACTOR SHALL DIAL 1.800.482.7171 OR 811 OR GO TO WWW.MISSDIG.ORG A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS PRIOR TO BEGINNING EACH DRIVEN SIGN LOCATION AND 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.
2. IT IS THE INTENT THAT ALL GOVERNMENT CORNERS ON THIS PROJECT BE PRESERVED AND THAT, WHERE NECESSARY, MONUMENT BOXES BE PLACED OR ADJUSTED, WHETHER SHOWN OR NOT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLACING STAKES AND/OR FLAGS AT EACH PROPERTY IRON TO ENSURE THAT THEY ARE NOT REMOVED OR DISPLACED DURING CONSTRUCTION OPERATIONS. IF PROPERTY IRONS ARE REMOVED OR DISPLACED DUE TO THE CONTRACTORS OPERATIONS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPLACEMENT OF THOSE IRONS, WITH AN APPROVED LICENSED SURVEYOR REGISTERED IN THE STATE OF MICHIGAN, AT HIS OWN COST.
3. CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE TO: EXISTING UTILITIES, WATERMAINS, AND EXISTING SANITARY OR STORM SEWERS; AND MARKED WATER, STORM AND SANITARY LEADS DURING CONSTRUCTION OF THIS PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE ENGINEER OF ANY CONFLICTS BEFORE PLACING PROPOSED UTILITIES OR OTHER EXCAVATIONS WHICH ARE FOUND TO BE IN CONFLICT. LOCATIONS (HORIZONTAL AND VERTICAL) OF ALL EXISTING UTILITIES IN THE PLANS ARE SHOWN BASED ON THE BEST INFORMATION MADE AVAILABLE TO THE ENGINEER. THE ENGINEER MAKES NO REPRESENTATION AS TO THE ACCURACY OF LOCATIONS SHOWN FOR UTILITIES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE THE NECESSARY COORDINATION WITH UTILITY OWNERS AND TO LOCATE ALL UTILITIES (HORIZONTALLY AND VERTICALLY) INCLUDING SERVICE LEADS PRIOR TO PERFORMING WORK EFFECTING THOSE UTILITIES AND SERVICE LEADS (INCLUDING SERVICE LEADS TO PUBLIC WATER, STORM AND SANITARY SYSTEMS) AND TO PERFORM THE WORK IN A MANNER THAT DOES NOT HARM OR OBSTRUCT THE UTILITIES OR SERVICE LEADS. ALL COSTS TO PROTECT, REPAIR, OR TEMPORARILY BYPASS THEN RESTORE (TO THE SATISFACTION OF UTILITY OWNERS AND THE ENGINEER) UTILITIES AND SERVICE LEADS SHALL BE BORNE SOLELY BY THE CONTRACTOR.
4. CONTRACTOR IS RESPONSIBLE FOR METHODS TO PERFORM THE WORK EFFECTED BY EXISTING UTILITIES INCLUDING EXISTING PHONE COMPANY DUCT BANKS, CONDUITS, GAS LINES AND ALL OTHER UNDERGROUND STRUCTURES AND UTILITIES ENCOUNTERED. THE COSTS TO PERFORM THIS WORK WHICH MAY INCLUDE SHORING, FREE BORING, TUNNELING OR JACKING PIPE AND DEWATERING SHALL BE INCLUDED IN THE CONTRACT UNIT PRICES OF DRAINAGE AND WATERMAIN PAY ITEMS.
5. THE SOIL BORING AND PAVEMENT CORE LOGS REPRESENT POINT INFORMATION. PRESENTATION OF THIS INFORMATION IN NO WAY INFERS THAT SUBSURFACE AND PAVEMENT CONDITIONS ARE THE SAME OTHER THAN THE EXACT LOCATION OF THE BORINGS AND CORES. REFER TO THE PLANS OR PROPOSAL FOR LOG OF BORINGS, IF PROVIDED.  
  
SUBMITTAL OF THEIR BID SHALL BE CONSIDERED PRIMA FACIA EVIDENCE THAT BIDDERS (AND PROSPECTIVE SUB CONTRACTORS) HAVE PERFORMED SITE INVESTIGATIONS AND OTHERWISE INVESTIGATED THE EXISTING SURFACE AND SUBSURFACE CONDITIONS, INCLUDING REVIEW OF BORING LOGS WHICH MAY BE INCLUDED IN THE PLANS OR PROPOSAL, TO THE BIDDER'S SATISFACTION, AND HAS INCLUDED ALL COSTS RELATED TO SURFACE AND SUBSURFACE CONDITIONS IN THE CONTRACT UNIT PRICES OF THE CONTRACT PAY ITEMS. ADDITIONAL COST AND TIME DUE TO SURFACE OR SUBSURFACE CONDITIONS SHALL NOT BE CONSIDERED AS A BASIS OF CLAIMS BY THE CONTRACTOR FOR ADDITIONAL COMPENSATION OR CONTRACT TIME. ALL DEWATERING OF TRENCHES OR GRADE BY ANY MEANS SHALL BE CONSIDERED TO HAVE BEEN INCLUDED IN THE CONTRACT UNIT PRICES OF EFFECTED CONTRACT PAY ITEMS.
6. ELEVATIONS SHOWN ON THESE PLANS ARE FROM NAVD88 DATUM.
7. PRE-CAST STRUCTURES MAY BE UTILIZED AS APPROVED BY THE ENGINEER. HOWEVER, IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN PROPER HOLE ORIENTATION PRIOR TO ORDERING PRE-CAST STRUCTURE COMPONENTS. ALL COSTS TO REPLACE PRE-CAST STRUCTURE COMPONENTS THAT CAN NOT BE FIELD FIT SHALL BE BORNE SOLELY BY THE CONTRACTOR.
8. CONTRACTOR SHALL COORDINATE WITH UTILITY OWNERS FOR ANY NECESSARY ADJUSTMENTS TO THEIR UTILITIES. CONSUMERS ENERGY POWER/LIGHT POLES AND AT&T UTILITY/LIGHT POLES TO BE RELOCATED BY UTILITY OWNERS ONLY. PRIVATELY OWNED PUBLIC UTILITIES (INCLUDING AT&T & CONSUMERS ENERGY) SPECIFIED FOR RELOCATION MAY OR MAY NOT BE RELOCATED PER PLAN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE HIS WORK WITH THE UTILITY COMPANY AND SCHEDULE HIS WORK IN ACCORDANCE WITH THE UTILITY COMPANY'S SCHEDULE. THE CONTRACTOR SHALL BID AND PLAN THE WORK ACCORDINGLY.
9. THE CONTRACTOR SHALL TAKE ADEQUATE PRECAUTIONS TO KEEP CONSTRUCTION DEBRIS FROM ENTERING ANY UTILITY STRUCTURE. CONSTRUCTION DEBRIS WHICH ENTERS ANY UTILITY STRUCTURE OR SPILLED ON THE NEW ROAD SHALL BE CLEANED UP (INCLUDING VACUUM TRUCK STRUCTURE CLEANOUT) BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
10. SUBGRADE UNDERCUTTING WILL BE PAID FOR SEPARATELY. SUBGRADE UNDERCUTTING QUANTITIES SHOWN ON THESE PLANS OR IN THE PROPOSAL REPRESENT QUANTITIES FOR ESTIMATING PURPOSES ONLY. ACTUAL LIMITS OF SUBGRADE UNDERCUTTING WILL BE DETERMINED BY THE ENGINEER DURING CONSTRUCTION, IF REQUIRED. REMOVAL OF HMA AND CONCRETE DRIVES, REGARDLESS OF THICKNESS OR MATERIAL COMPOSITION, INCLUDING SAWCUTTING OR MILLING AS DIRECTED BY THE ENGINEER, SHALL BE INCLUDED IN PAY ITEM PAVT, REM, MODIFIED.  
  
ALL EXCESS EXCAVATED MATERIALS SHALL BE THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR AT AN APPROVED LOCATION PROVIDED BY THE CONTRACTOR, WITH WRITTEN PERMISSION OF THE PROPERTY OWNER WHEN NOT OWNED BY THE CONTRACTOR.
11. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE FOR COORDINATION WITH CITY GARBAGE COLLECTION (CONTACT 810.577.8095). THIS ARRANGEMENT AND COORDINATION MAY REQUIRE EFFORT, TIME AND COSTS TO THE CONTRACTOR. THE CONTRACTOR SHALL DETERMINE THESE COSTS AND INCLUDE THEM IN HIS BID AND PROGRESS SCHEDULE. COORDINATION AND COSTS TO THE CONTRACTOR FOR GARBAGE COLLECTION SHALL NOT BE CONSIDERED AS A BASIS OF CLAIMS FOR ADDITION COMPENSATION OR EXTENSION OF CONTRACT TIME.
12. ALL INTERSECTIONS ARE TO BE CONSIDERED AS COMPLETE UNITS AND THEIR GRADES DETERMINED BEFORE CONSTRUCTION. CLOSURES OF INTERSECTIONS AND ANY TRAFFIC CLOSURES SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE FOR TRAFFIC CONTROL COORDINATION (CONTACT MR. ROD MCGAHA AT 810.766.7165. A MINIMUM OF THREE FULL WORKING DAYS PRIOR TO TRAFFIC DEVICE PLACEMENT. START AND END TIMES OF CLOSURES, SIGNS AND TRAFFIC CONTROL DEVICES PROPOSED, WITH DETOUR ROUTES AND TRAFFIC SHIFTS CLEARLY DEPICTED ON DETAIL DRAWINGS, SHALL BE SUBMITTED FOR REVIEW AND APPROVAL. NO SIGNS OR TRAFFIC DEVICES FOR THIS TRAFFIC CONTROL MAY BE PLACED WITHOUT WRITTEN APPROVAL. NOTIFICATION TO POLICE, EMERGENCY VEHICLES, PUBLIC BUSING AND OTHERS WILL BE BY THE CITY. COSTS TO THE CONTRACTOR FOR TRAFFIC CONTROL COORDINATION SHALL NOT BE CONSIDERED AS A BASIS OF CLAIMS FOR ADDITIONAL COMPENSATION OR EXTENSION OF CONTRACT TIME.
13. WHERE TREES WITHIN THE RIGHT-OF-WAY ARE NOT SPECIFIED FOR REMOVAL, IT IS INTENDED TO PROTECT THOSE TREES AND TO PERFORM THE WORK IN A MANNER WHICH PREVENTS DAMAGE TO THE TREES AND THEIR ROOTS. THE CONTRACTOR SHALL PROTECT TREES WITHIN THE RIGHT-OF-WAY NOT SPECIFIED FOR REMOVAL AND SHALL INCLUDE ALL COSTS TO PROTECT THESE TREES IN THE CONTRACT UNIT PRICES OF EFFECTED PAY ITEMS.
14. ALL REMOVED SIGNS AND POSTS SHALL REMAIN PROPERTY OF THE CITY, CONTRACTOR SHALL COORDINATE PICK UP OF ALL STOCKPILED SIGNS AND POSTS WITH CITY OF FLINT TRAFFIC ENGINEERING SUPERVISOR ROD MCGAHA.

WATER MAIN NOTES

1. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY 72 HOURS PRIOR TO BEGINNING, THE CITY OF FLINT WATER DEPARTMENT, PAUL SIMPSON 810.766.7202, TRANSPORTATION DEPARTMENT, RODNEY MCGAHA 810.691-3106, THE CITY ENGINEER, MARK ADAS AT 810.766.715 EXT. 2601, AND THE DEPARTMENT OF PUBLIC WORKS DIRECTOR, MIKE BROWN AT 810.766.7202, EXT. 3413. THE CONTRACTOR SHALL PROVIDE ALL THE DEPARTMENTS AND PERSONS MENTIONED ABOVE WITH AN ESTIMATED SCHEDULE OF TASKS WITH ASSOCIATED DATES IN WRITTEN FORM.
2. ALL MATERIALS AND CONSTRUCTION PROCEDURES SHALL COMPLY WITH THE CURRENT CITY OF FLINT STANDARD DETAILS & MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION, 2020 EDITION. SEE SPECIAL PROVISION FOR WATER MAIN SPECIFICATIONS IN BID PROPOSAL.
3. HDPE PIPE MAY BE DR-11. ALL JOINTS MUST USE DATA LOGGER. MAY USE ELECTRIC WELD TAP OR BRASS SADDLE. FOR ALL OTHER INSTALLATION METHODS ALL PUBLIC WATER MAIN SHALL BE CLASS 52 ZINC COATED DUCTILE IRON, CLASS 54 ZINC COATED DUCTILE IRON PIPE, OR C-909 POLYVINYL CHLORIDE PIPE AS DEFINED IN THE BID PROPOSAL. THE PIPE SHALL BE BELL AND SPIGOT OR MECHANICAL JOINT FOR FITTINGS FITTED WITH A RUBBER GASKET.
4. GATE VALVES SHALL BE MANUFACTURED FROM EAST JORDAN IRON WORKS MEETING OR EXCEEDING AWWA C509. VALVES OUTSIDE PAVED AREAS WILL BE PLACED IN A 3 PIECE SCREW STYLE, GRAY IRON (ASTM A48, CLASS 30A) WITH COAL TAR ASPHALTIC DIP VALVE BOX (TYLER OR SIMILAR APPROVED). VALVES IN PAVED AREAS SHALL BE PLACED IN A GATEWELL STRUCTURE. GATEWELL STRUCTURES SHALL HAVE DIAMETER AS SPECIFIED IN THE PLANS AND DETAIL SHEET.
5. CHECK VALVES SHALL BE MANUFACTURED FROM RESILIENT WEDGE VALVE DUCTILE IRON (FLOW MASTER) RIGHT HAND OPEN MEETING OR EXCEEDING ASTM A126 GRADE B. VALVES SHALL COMPLY WITH AWWA C508, LATEST VERSION. VALVES SHALL ALLOW FOR CLEAR WATERWAY OPENING. CLAPPER ARM SHALL BE MADE OF DUCTILE IRON CONFORMING TO ASTM A536 GRADE 65-45-12. THE DISC SHALL NOT CONTACT THE BODY WHEN THE VALVE IS IN THE FULL OPEN POSITION. CHECK VALVE SHAFTS ARE TO BE STAINLESS STEEL WITH CORROSION RESISTANT BEARINGS. CHECK VALVES TO BE AMERICAN FLOW CONTROL 50-SC SWING CHECK VALVE OR APPROVED EQUAL.
6. PRIOR TO REQUESTING A FINAL PRESSURE TEST, THE CONTRACTOR SHALL BE REQUIRED TO DO THE FOLLOWING ITEMS:  
  
A) CONDUCT A PRELIMINARY PRESSURE TEST ON THE SYSTEM.  
B) PROVIDE ALL RECORDS REFLECTING ACTUAL CONSTRUCTION CONDITIONS AND AS MEASURED QUANTITIES AND LOCATIONS.  
C) PROVIDE MATERIAL CERTIFICATION.  
D) COMPLETE FINAL ADJUSTMENTS TO GRADE OF FIRE HYDRANT AND VALVE COVERS AND PROPER CAP COLORING CODING, USING THE TWO PART COATING SYSTEM AS DEFINED IN SPECIAL PROVISION.
7. WHERE SANITARY LEADS OR OTHER UTILITIES ARE ENCOUNTERED, THE CONTRACTOR SHALL MAKE ADJUSTMENTS TO PROVIDE CONTINUOUS SERVICE TO PROPERTIES ALONG THE ROUTE OF CONSTRUCTION. UNLESS OTHERWISE PROVIDED IN THE PLANS AND SPECIFICATIONS ELSEWHERE FOR THIS PROJECT, PAYMENT FOR ALL WORK AND COSTS, INCLUDING THE RECONSTRUCTION OF SANITARY SEWER AND DRAIN LEADS TO ACCOMMODATE CONSTRUCTION OR ADJUSTING WATER MAIN CONSTRUCTION, TO CLEAR EXISTING SERVICES, SHALL BE CONSIDERED INCLUDED IN THE CONTRACT UNIT PRICES OF WATER MAIN PAY ITEMS.
8. CONNECTIONS TO EXISTING WATER MAINS AND VALVES SHALL BE INSPECTED/SUPERVISED BY THE CITY OF FLINT STAFF, WITH ALL LABOR, MATERIAL AND EQUIPMENT PROVIDED BY THE CONTRACTOR. ALL CHLORINATION AND WATER QUALITY SAMPLING OF NEW LINES AND APPURTENANCES AND THE OPENING AND CLOSING OF EXISTING VALVES AND SERVICE LEAD CONNECTIONS SHALL BE PERFORMED BY THE CITY OF FLINT STAFF. A FULL DIAMETER TAPPING SLEEVE IS REQUIRED FOR ALL PRESSURE TAPS. A GATEWELL STRUCTURE SHALL BE REQUIRED AROUND ALL PRESSURE TAPS, WITH GATEWELL SIZE AND DETAILS SHOWN ON THE DETAIL SHEET FOUND ELSEWHERE IN THESE PLANS.
9. ALL WATER MAIN SHALL HAVE A MINIMUM COVER OVER THE TOP OF THE PIPE OF 5.5' FROM FINISHED GRADE. THE PIPE SHALL BE LAID ON A 4" PREPARED CLASS II SAND CUSHION WITH RECESSES TO ACCOMMODATE PIPE BELLS. REFER TO MDOT UTILITY TRENCH DETAIL R-83-C.
10. CONTRACTOR SHALL RESTRAIN ALL THRUST IN THE SYSTEM BY THE USE OF THRUST BLOCKS, RESTRAINED-TIE RODDED JOINTS, MEGA-LUG LOCKING RETAINING RINGS OR ENGINEER APPROVED EQUAL. ALL HYDRANTS, TEES, VERTICAL OR HORIZONTAL BENDS AND FUTURE VALVE CONNECTIONS SHALL BE RESTRAINED. CONTRACTOR SHALL SUBMIT A SCHEDULE OF RESTRAINT METHODS AND LOCATIONS TO ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION. THREADED RODDING SHALL HAVE OWNER AND ENGINEER APPROVAL PRIOR TO BEING INCORPORATED INTO PROJECT CONSTRUCTION.
11. EXISTING GATE WELLS SHALL BE REMOVED (MINIMUM 2 FT BELOW SUBBASE) AS NOTED ON THE PLAN SHEETS, AND PAID AS PAY ITEM GATE WELL, ABANDON. PAY ITEM GATE WELL, ABANDON SHALL INCLUDE ALL LABOR AND MATERIALS NECESSARY TO REMOVE CASTING FRAME, COVER, STRUCTURE, AND PLACE AND COMPACT CLASS II GRANULAR BACKFILL INSIDE OF STRUCTURE PER SPECIAL PROVISION IN BID PROPOSAL. EXCEPT AS NOTED ELSEWHERE IN THESE PLANS OR BID PROPOSAL FOR REINSTALLATION OF EXISTING UNDAMAGED STRUCTURE CASTINGS: 1) EXISTING COVERS AND CASTINGS SHALL BE SALVAGED; AND 2) SALVAGED MATERIALS WILL BE DELIVERED TO THE APPROVED ON-SITE STOCKPILING LOCATION BY THE CONTRACTOR FOR CITY FORCES TO COLLECT. VALVE BOXES TO BE ABANDONED SHALL BE KNOCKED DOWN (MINIMUM 2 FT BELOW SUB BASE) AND FILLED WITH CONCRETE, PAID AS PAY ITEM GATE WELL, ABANDON.
12. THE PROJECT SHALL REQUIRE FINAL RESTORATION IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. ALL GROUND SURFACES SHALL BE RESTORED TO ORIGINAL CONDITION OR BETTER PRIOR TO FINAL CONTRACT APPROVAL.
13. WATER MAINS SHALL BE CHLORINATED IN ACCORDANCE WITH AWWA C651-14, PRESSURE TESTED IN ACCORDANCE WITH AWWA C600-05 AND DISINFECTED IN ACCORDANCE WITH AWWA C651-99. ALL MATERIAL AND EQUIPMENT SHALL BE PROVIDED BY THE CONTRACTOR. WATER MAINS SHALL BE TESTED TO 150 PSI FOR TWO HOURS. ALLOWABLE LEAKAGE IS 0.092 GPH X LENGTH OF TESTED PIPING (FT) X NOMINAL PIPE DIAMETER (INCHES) / 1,000 FT. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE CITY OF FLINT WATER SERVICE CENTER AT 810.766.7202, 72 HOURS PRIOR TO TESTING OF WATER MAIN AND SHALL NOT TEST UNTIL A REPRESENTATIVE OF THE WATER DISTRIBUTION CENTER IS ON SITE. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT TO THE CITY OF FLINT WATER SERVICE CENTER, AT THE DISTRIBUTION CENTER, AND CITY OF FLINT, AT THE UTILITIES DEPARTMENT, A DETAILED DESCRIPTION OF TESTING PROCEDURES AND CHLORINATION LIMITS FOR APPROVAL. THE CONTRACTOR WILL NOT TEST MORE THAN 1,200' OF WATER MAIN AT ANY TIME. DURING TESTING, THE CONTRACTOR WILL PROVIDE A FORM INDICATING THE LENGTH OF PIPE BY STATIONS, LOCATION OF TESTING AND BLOWOFF, AND PRESSURE TEST RESULTS WHICH WILL BE SIGNED BY THE CONTRACTOR'S REPRESENTATIVE AND WATER DISTRIBUTION REPRESENTATIVE. THE CONTRACTOR IS REQUIRED TO UTILIZE A MINIMUM OF 2" BLOWOFFS AND VALVES (BRASS OR COPPER MATERIAL ONLY) FOR TESTING. ALL DISCHARGED CHLORINATED WATER MUST BE DISCHARGED INTO SANITARY SEWER SYSTEM.
14. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ALL PROCEDURES AND COSTS FOR COORDINATION WITH ALL CITY DEPARTMENTS FOR WATER MAIN CONSTRUCTION AND INCLUDE ALL COSTS AND TIME IN THEIR BID AND PROGRESS SCHEDULE.
15. CONTRACTOR SHALL HAVE THE OPTION OF PRESSURE TESTING THE WATER MAIN AGAINST THE VALVE. IF THE VALVE LEAKS, THE CONTRACTOR SHALL MAKE REPAIRS (OR REPLACE) AND REPEAT THE PRESSURE TEST AGAINST THE VALVE OR CONSTRUCTED CAP. ALL COSTS FOR VALVE REPAIR, REPLACEMENT, OR TEMPORARY FITTINGS REQUIRED FOR PRESSURE TESTING SHALL BE CONSIDERED TO HAVE BEEN INCLUDED IN THE COST OF THE CONTRACT PAY ITEM FOR PRESSURE TESTING AND WILL NOT BE PAID FOR SEPARATELY.
16. THE CONTRACTOR SHALL PROVIDE CORPORATIONS (TO BE SUPERVISED BY THE CITY OF FLINT) ON THE WATER LINE FOR PRESSURE TESTING, CHLORINE ADDITION AND BLOW-OFF PURPOSES. THE CORPORATIONS SHALL HAVE COPPER PIPE EXTENDING TO THE GROUND SURFACE. THE CONTRACTOR SHALL REMOVE THE COPPER LINE UPON A SATISFACTORY TEST AND INSTALL A PLUG ON THE CORPORATION. AS A MINIMUM, CONTRACTOR SHALL PLACE A 2" CORPORATION WITH MUELLER THREADS INLET AND COPPER THREADS OUTLET ON EACH SIDE OF THE VALVES FOR TESTING AND CHLORINATION. THE CONTRACTOR IS REQUIRED TO CONFORM TO THE CURRENT MDEQ STANDARDS AND THE CITY OF FLINT REQUIREMENTS FOR WATER MAIN TESTING. HYDRANT SAMPLING IS NOT

WATER MAIN NOTES, CONTINUED:

- ACCEPTABLE.
17. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL FURNISH SHOP DRAWINGS AND MATERIAL CERTIFICATIONS, TO THE ENGINEER AND THE CITY OF FLINT WATER SERVICE CENTER VERIFYING THAT ALL WATER MAIN (AND APPURTENANCES) ITEMS USED ON THE PROJECT MEET THE REQUIREMENTS AND APPROVAL OF THE ENGINEER, CITY OF FLINT, AND MDOT STANDARDS, AS APPLICABLE.
18. MINIMUM HORIZONTAL DISTANCE BETWEEN SEWERS AND WATER MAIN SHALL BE 10'. VERTICAL SEPARATION SHALL BE 18".
19. THE CONTRACTOR SHALL ENCASE THE WATER MAIN IN CONCRETE FOR 3' BEYOND THE LIMITS WHERE VERTICAL SEPARATION BETWEEN WATER MAIN AND OTHER UTILITY IS LESS THAN 18". COST IS INCLUDED IN THE PRICES BID FOR THE WATER MAIN PAY ITEMS. DETAIL SHALL BE SUBMITTED FOR APPROVAL TO THE ENGINEER PRIOR TO PLACEMENT.
20. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING WATER MAIN SIZE AND LOCATIONS PRIOR TO CONNECTION. NO CONNECTION TO THE EXISTING WATER MAIN WILL BE MADE UNTIL APPROVAL OF THE PROPOSED WATER MAIN IS RECEIVED. THE CONTRACTOR MUST MAINTAIN SERVICE AT ALL TIMES EXCEPT DURING SERVICE LEAD INSTALLATIONS. CONTRACTOR SHALL NOTIFY RESIDENTS OF TEMPORARY SERVICE DISRUPTION A MINIMUM OF 24 HOURS IN ADVANCE.
21. ALL IN LINE BENDS, FITTINGS, TEES, SOLID SLEEVES, REDUCERS, AND FIRE HYDRANTS SHALL BE CONSTRUCTED WITH MECHANICAL JOINTS, AND ENCASED IN 8 MIL POLYETHYLENE. THE POLYETHYLENE FILM TUBE SHALL BE INSTALLED IN ACCORDANCE WITH ANSI/AWWA C 105/A21.5, METHOD A AND SHALL INCLUDE TAPING THE ENDS FULL CIRCUMFERENCE. METHOD A CONSISTS OF CUTTING THE POLYETHYLENE TUBE 2 FEET LONGER THAN THE PIPE TO PROVIDE AN OVERLAP AT THE JOINTS. THE COST OF THE POLYETHYLENE ENCASEMENT SHALL BE INCLUDED IN THE PRICES BID FOR THE WATER MAIN PAY ITEMS. RESTRAINING METHODS SHALL CONFORM TO STANDARD WATER DETAIL SHEET.
22. DEFLECT WATER MAIN AS NOTED ON THE PLANS. DEFLECT WATER MAIN NO MORE THAN ONE-HALF OF THE MANUFACTURER'S RECOMMENDED MAXIMUM DEFLECTION FOR EACH JOINT. IF NEEDED, USE BENDS TO MAKE DEFLECTIONS. ADDITIONAL BENDS ARE INCIDENTAL TO WATER MAIN, \_INCH, OPEN CUT.
23. A MDEQ WATER MAIN PERMIT HAS BEEN OBTAINED BY THE CITY OF FLINT PRIOR TO CONSTRUCTION. CHLORINATION/DISINFECTION PERFORMANCE AND ACCEPTANCE ARE THE RESPONSIBILITY OF THE CITY OF FLINT, AS PROVIDED FOR AND WITH SUCH LIMITATIONS, AS DESCRIBED IN THE SPECIAL PROVISION FOR WATER MAIN WORK IN THE BID PROPOSAL.
24. THE CONTRACTOR SHALL SUPPLY VALVES AND SOLID MECHANICAL JOINT SLEEVES, AS NOTED ON THE PLANS, THAT WILL FIT THE EXISTING MAINS. CONTACT THE CITY OF FLINT WATER SERVICE CENTER FOR PRE-APPROVED CITY VENDORS. ALL FITTINGS SHALL BE RIGHT HAND OPEN.
25. HYDRANTS SHALL BE MUELLER SUPER CENTURION OR EAST JORDON BR-250 CONFORMING TO CURRENT AWWA C-502. UNLESS OTHERWISE DIRECTED BY THE ENGINEER, LOCATE ALL HYDRANTS 2.0' CLEAR FROM THE RIGHT OF WAY, SERVICE CURB BOXES AND HYDRANT VALVE BOXES 2.0' MIN. BEHIND PROPOSED CURB AND 0.3' MIN. FROM PROPOSED SIDEWALK. SEE FIRE HYDRANT DETAIL SHEET 7 FOR MORE INFORMATION.
26. ALL GATEWELL STRUCTURES SHALL BE PRECAST CONCRETE.
27. BIDDERS ARE TO INCLUDE ALL COSTS AND TIME TO OBTAIN AND COMPLY WITH PROCEDURES, APPROVALS, CHARGES AND ALL COORDINATION WITH THE CITY OF FLINT INCLUSIVE TO THE PROJECT. ACTIVITIES TO BE COORDINATED INCLUDE, BUT ARE NOT LIMITED TO, INSPECTION, TESTING, CHLORINATION, FLUSHING, PLACEMENT OF CORPORATIONS AND SERVICE LEADS, PLACEMENT OF TAPPING VALVES, AND PLACEMENT OF CONNECTIONS TO EXISTING WATERMAIN. THERE WILL BE NO CONSIDERATION GIVEN TO CLAIMS BY THE CONTRACTOR FOR ADDITIONAL COMPENSATION OR EXTENSION OF CONTRACT TIME FOR FAILURE TO INCLUDE THESE COSTS AND PROCEDURAL TIME IN THEIR BID (CONTRACT AMOUNT) AND PROGRESS SCHEDULE.
28. REMOVE EXISTING HYDRANTS AS INDICATED ON THE PLANS. CONTRACTOR SHALL CLEARLY DESIGNATE WHEN THE EXISTING HYDRANT IS OUT OF SERVICE.
29. ALL WATER HYDRANTS, VALVES, FRAMES AND COVERS SALVAGED SHALL BE STOCKPILED IN AN APPROVED LOCATION FOR CITY FORCES TO COLLECT. ALL MATERIAL NOT WANTED BY CITY SHALL BE DISPOSED OF BY THE CONTRACTOR.
30. CONTRACTOR TO BORE AROUND OR SUPPORT AND ENSURE STABILITY OF EXISTING UTILITY POLE DURING PLACEMENT OF PROPOSED WATERMAIN.

3-26-09

DEPARTMENT OF PUBLIC WORKS  
ENGINEERING AND UTILITIES

TITLE:

Notes Sheet

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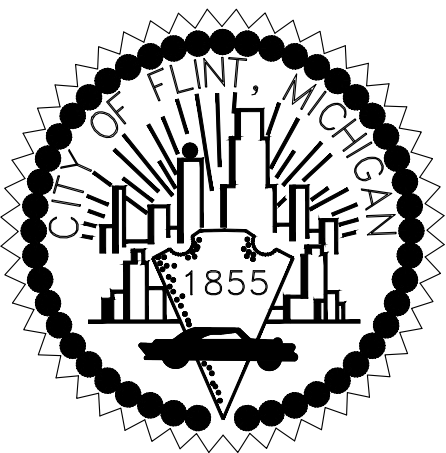
REVISIONS:

CHECKED BY:

SCALE:

NO SCALE

SHEET



CITY OF FLINT  
1101 SOUTH SAGINAW STREET  
FLINT, MI 48502

SAGINAW STREET WATER MAIN REPLACEMENT PROJECT

ISSUED FOR: DATE: BY:  
OWNER REVIEW 9-14-22 KEC  
JFB 1-25-23 KEC

JOB NO.  
COF1069.01F

SHEET

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555 S. Saginaw Street, Suite 201  
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DESCRIPTION

DATE

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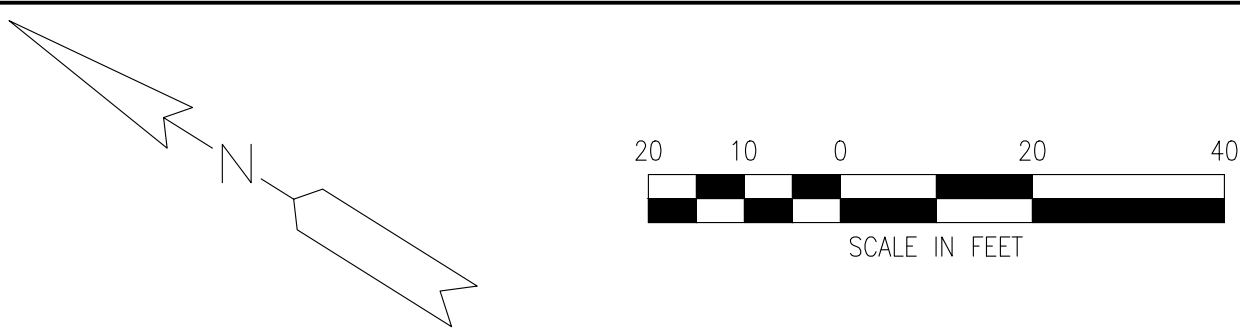
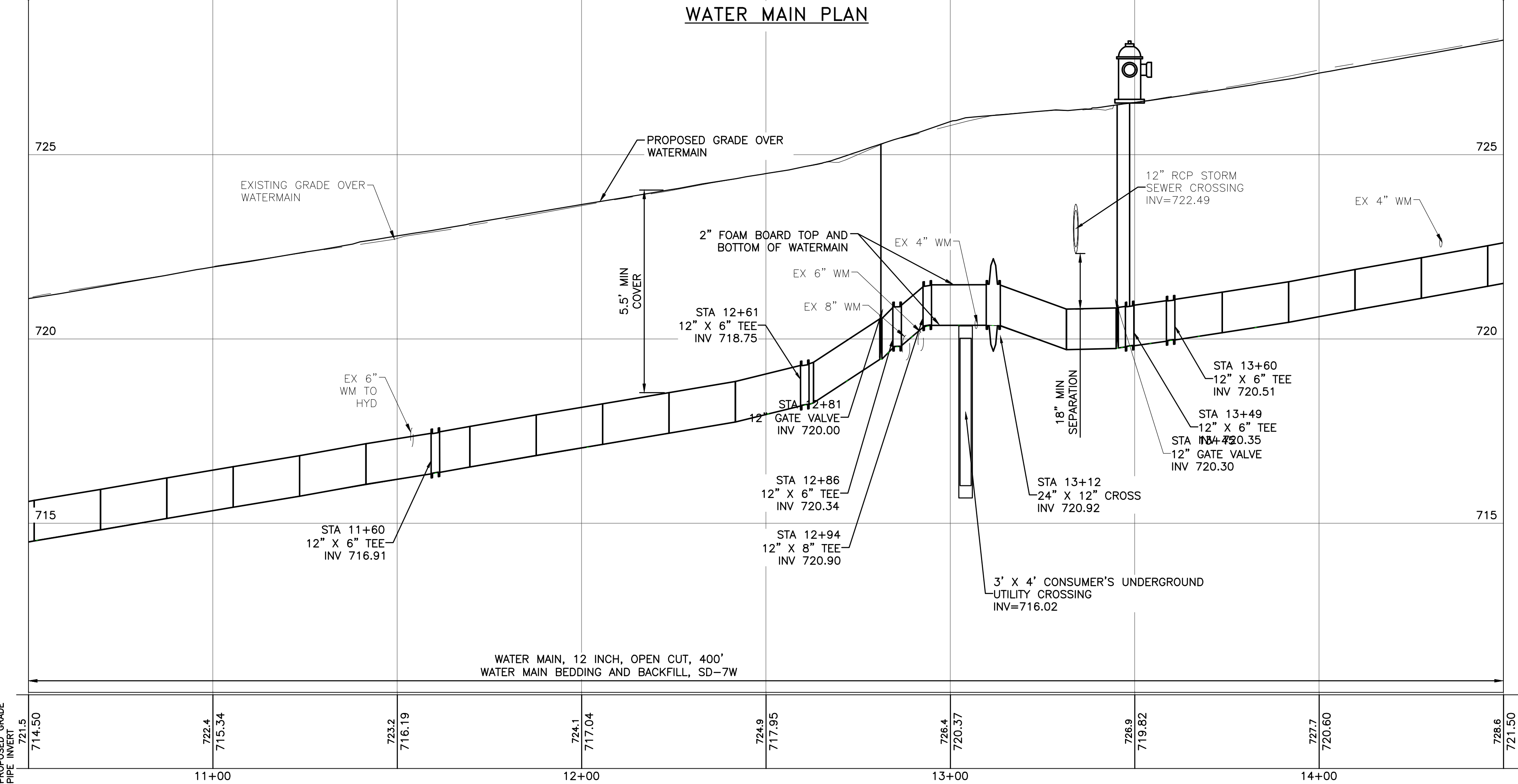
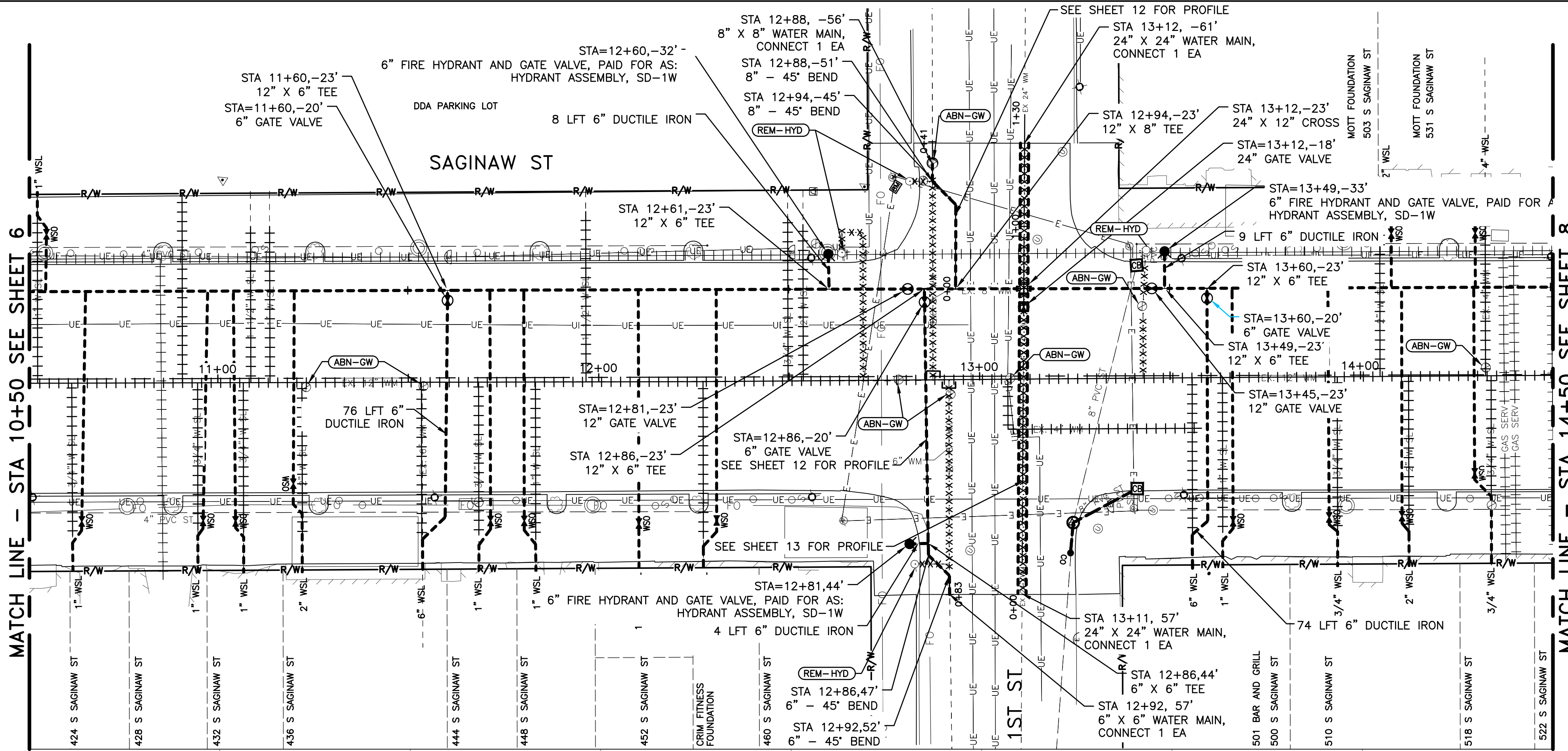
BY







PROJECT: MANAGER: Kevin E. Cook, PE  
FIELD BOOK INFORMATION: - WM 3 - PLOTTED 1/25/2023 10:04 PM BY COOK, KEVIN  
C:\PW\WORK\COOK\0139411\CUP-PLT-WATERMAIN.DWG



QUANTITIES THIS SHEET		
DESCRIPTION	UNIT	QUANTITY
HYDRANT ASSEMBLY, SD-1W	EA	3
GATE VALVE AND BOX, 6 INCH	EA	3
GATE VALVE, 8 INCH	EA	1
GATE VALVE, 12 INCH	EA	2
GATE VALVE, 24 INCH	EA	1
GATE WELL, ABANDON	EA	8
HYDRANT, REM	EA	4
WATER MAIN, 6 INCH, CUT AND PLUG	EA	1
WATER MAIN, 8 INCH, CUT AND PLUG	EA	1
WATER SERV	EA	3
WATER SERV, LONG	EA	12
GATE WELL, 48 INCH DIA	EA	1
GATE WELL, 60 INCH DIA	EA	2
GATE WELL, 72 INCH DIA	EA	1
GATE WELL, COVER	EA	4
WATER MAIN, 24 INCH, OPEN CUT	FT	118
WATER MAIN, 12 INCH, OPEN CUT	FT	400
WATER MAIN, 8 INCH, OPEN CUT	FT	35
WATER MAIN, 6 INCH, DIP, OPEN CUT	FT	171
WATER MAIN BEDDING AND BACKFILL, SD-7W	FT	724
WATER MAIN, 24 INCH, REM	FT	119
WATER MAIN, 6 INCH, REM	FT	134
WATER MAIN, 8 INCH, REM	FT	56
WATER MAIN CONNECT, NEW 24 INCH TO EXISTING 24 INCH	EA	2
WATER MAIN CONNECT, NEW 8 INCH TO EXISTING 8 INCH	EA	1
WATER MAIN CONNECT, NEW 6 INCH TO EXISTING 6 INCH	EA	1
WATER MAIN, ABANDON, FLOWABLE FILL	CYD	13

WATER SERVICE LINES THIS SHEET		
10+55	1"	26'
10+65	1"	74'
10+97	1"	74'
11+04	1"	74'
11+26	2"	74'
11+72	1"	74'
11+80	1"	74'
12+11	1 1/2"	74"
12+24	2"	74'
13+66	1"	74'
13+92	3/4"	73'
14+08	2"	28'
14+11	2"	72'
14+29	3/4"	74'
14+30	4"	27'



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CITY OF FLINT  
1101 SOUTH SAGINAW STREET  
FLINT, MI 48502  
SAGINAW STREET WATER MAIN REPLACEMENT PROJECT  
WM PLAN AND PROFILE SHEET  
STA 10+50 TO STA 14+50

ISSUED FOR: DATE: BY:  
OWNER REVIEW 9-14-22 KEC  
JFB 1-25-23 KEC

JOB NO.:  
COF1069.01F

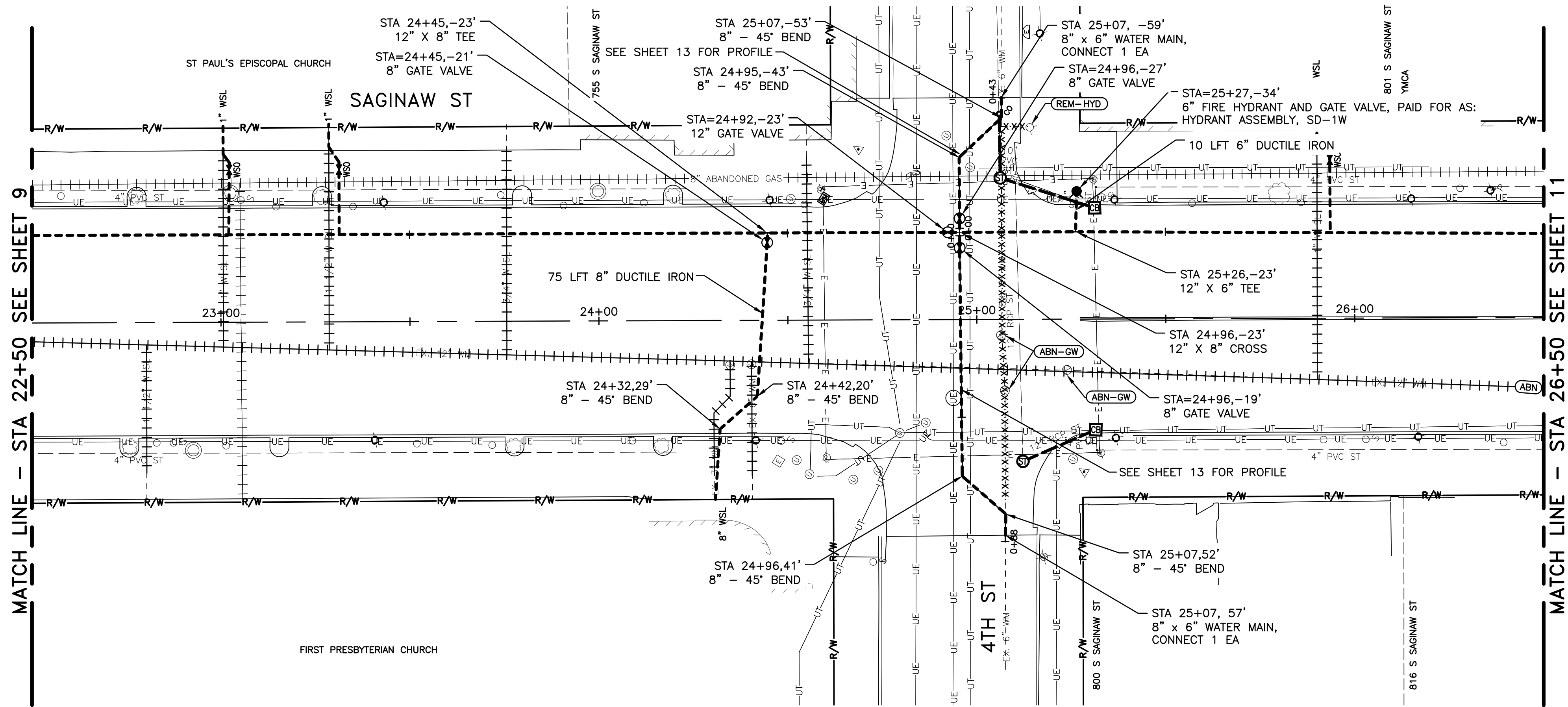
SHEET  
7

DESCRIPTION  
DATE  
REV#

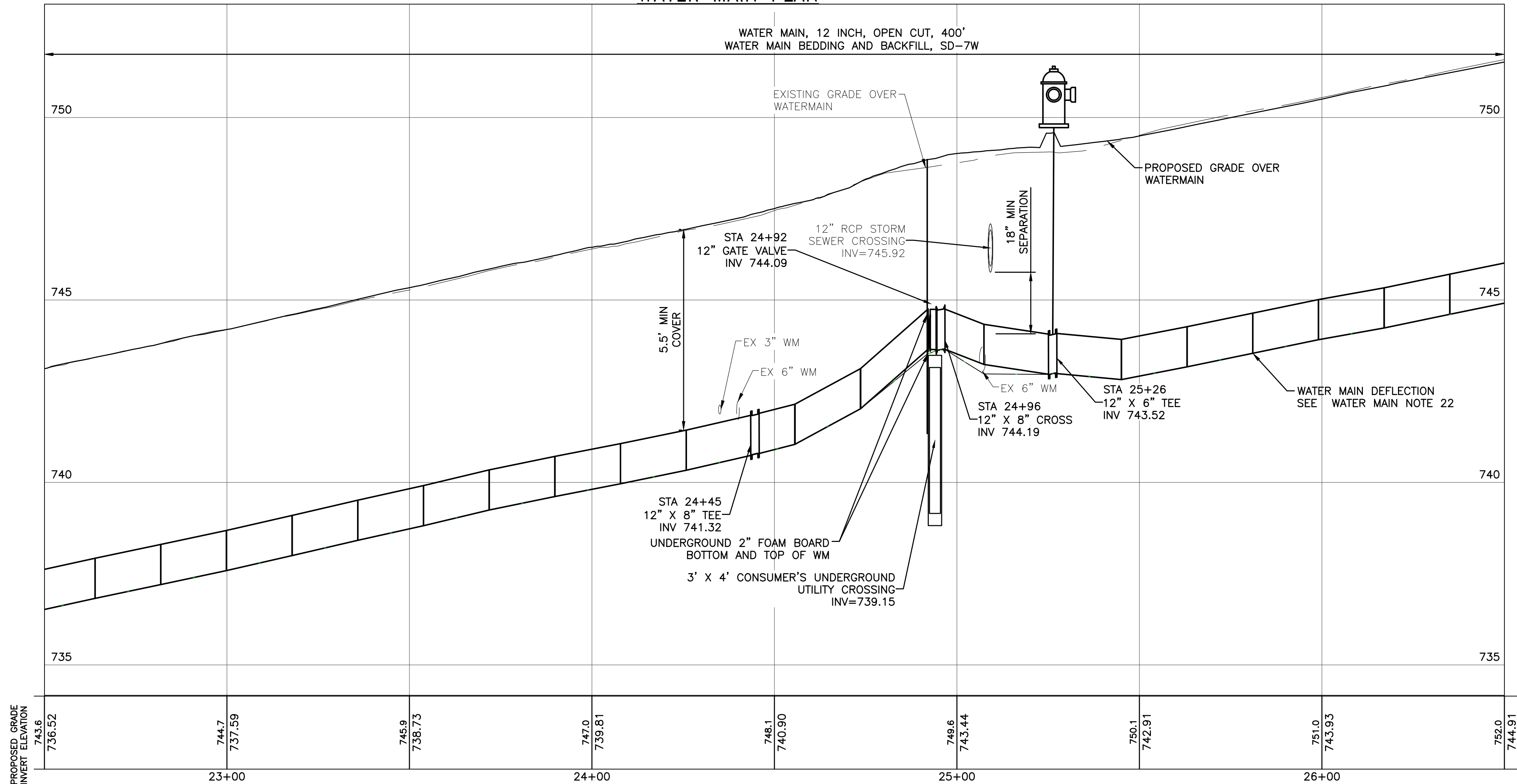
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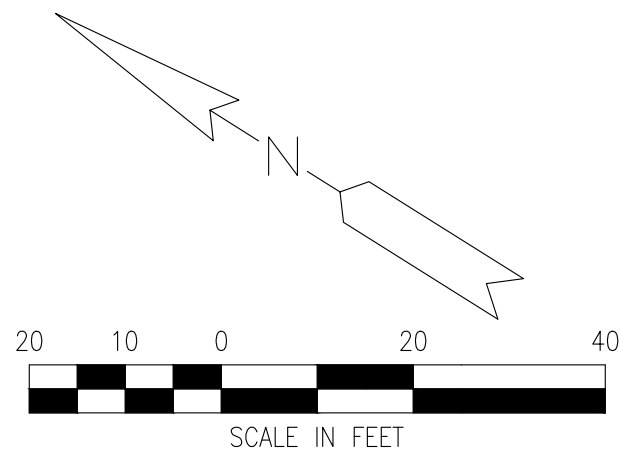




WATER MAIN PLAN



WATER MAIN PROFILE



QUANTITIES THIS SHEET

DESCRIPTION	UNIT	QUANTITY
HYDRANT ASSEMBLY, SD-1W	EA	1
GATE VALVE, 8 INCH	EA	2
GATE VALVE, 12 INCH	EA	1
GATE WELL, ABANDON	EA	3
HYDRANT, REM	EA	1
WATER SERV	EA	3
GATE WELL, 48 INCH DIA	EA	2
GATE WELL, 60 INCH DIA	EA	1
GATE WELL, COVER	EA	3
WATER MAIN, 12 INCH, OPEN CUT	FT	400
WATER MAIN, 8 INCH, OPEN CUT	FT	196
WATER MAIN, 6 INCH, DIP, OPEN CUT	FT	10
WATER MAIN BEDDING AND BACKFILL, SD-7W	FT	606
WATER MAIN, 6 INCH, REM	FT	8
WATER MAIN, 8 INCH, REM	FT	98
WATER MAIN CONNECT, NEW 8 INCH TO EXISTING 6 INCH	EA	2
WATER MAIN, ABANDON, FLOWABLE FILL	CYD	15

WATER SERVICE LINES THIS SHEET

23+02	1"	27'
23+31	1 1/2"	29'
25+94	1 1/2"	30'



Know what's below.  
Call before you dig.

CITY OF FLINT  
1101 SOUTH SAGINAW STREET  
FLINT, MI 48502  
SAGINAW STREET WATER MAIN REPLACEMENT PROJECT  
WM PLAN AND PROFILE SHEET  
STA 22+50 TO STA 26+50

ISSUED FOR: DATE: BY:  
OWNER REVIEW 9-14-22 KEC  
JFB 1-25-23 KEC

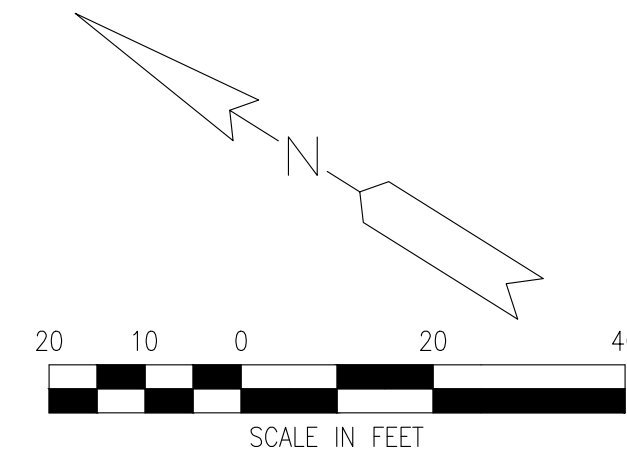
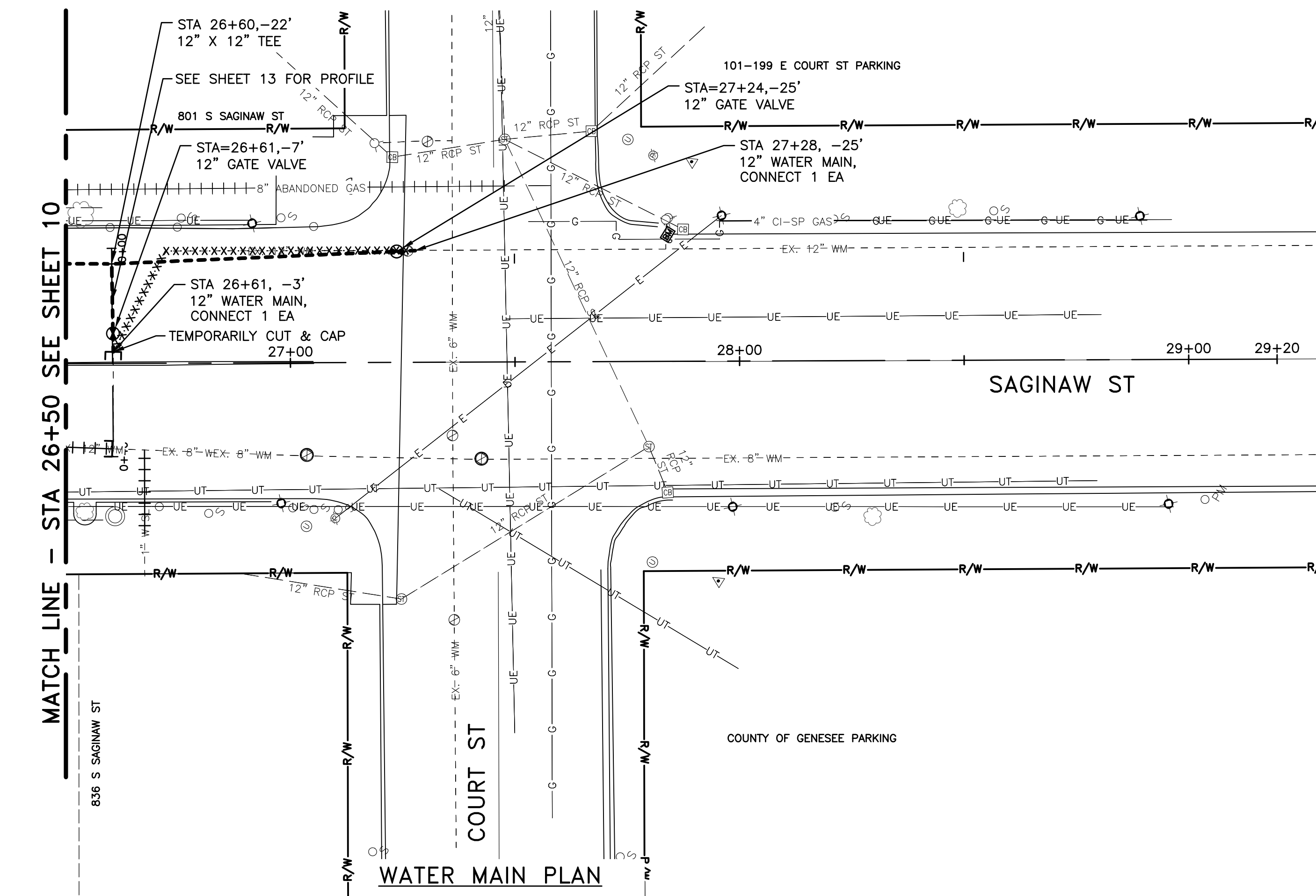
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COF1069.01F

SHEET

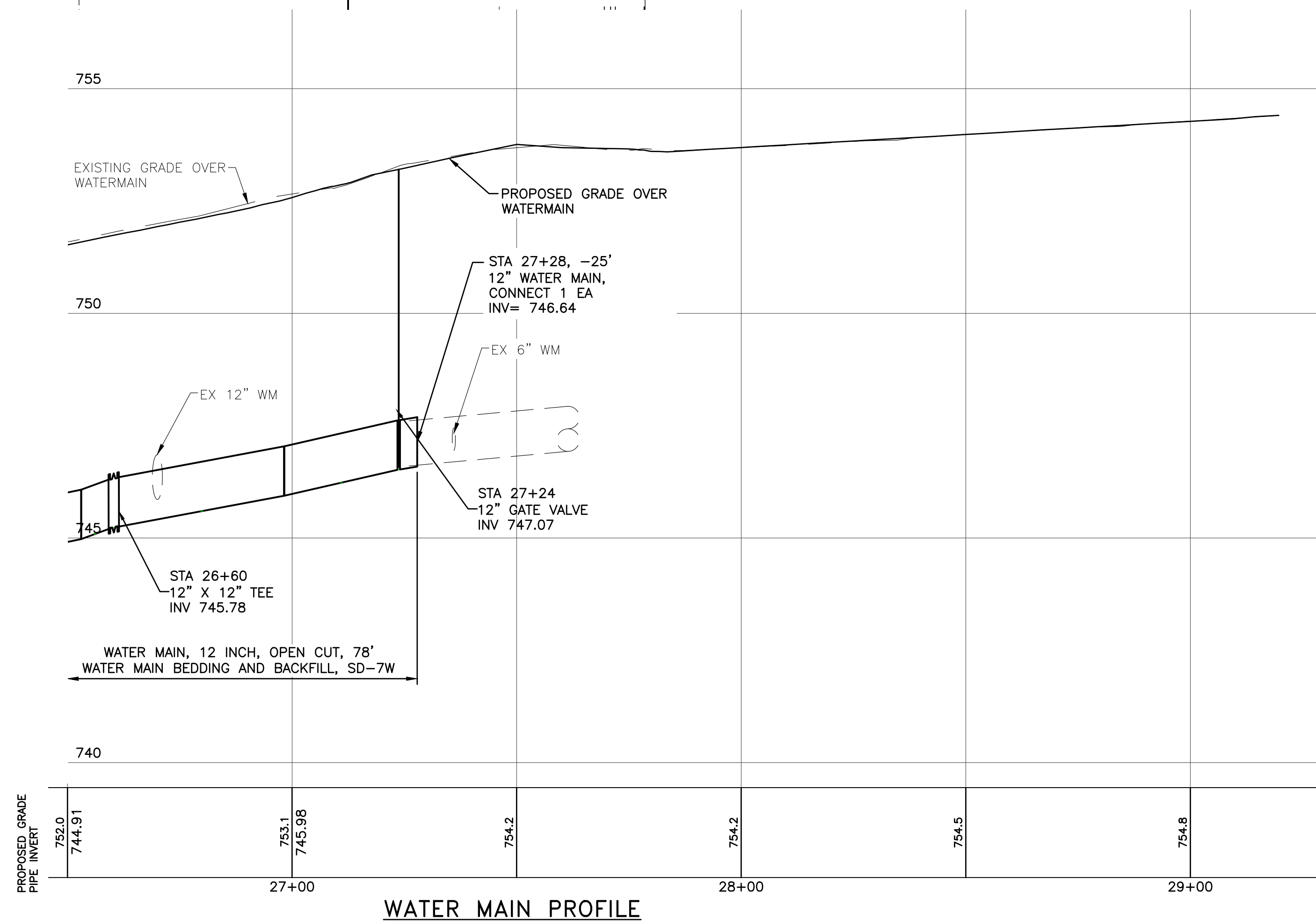
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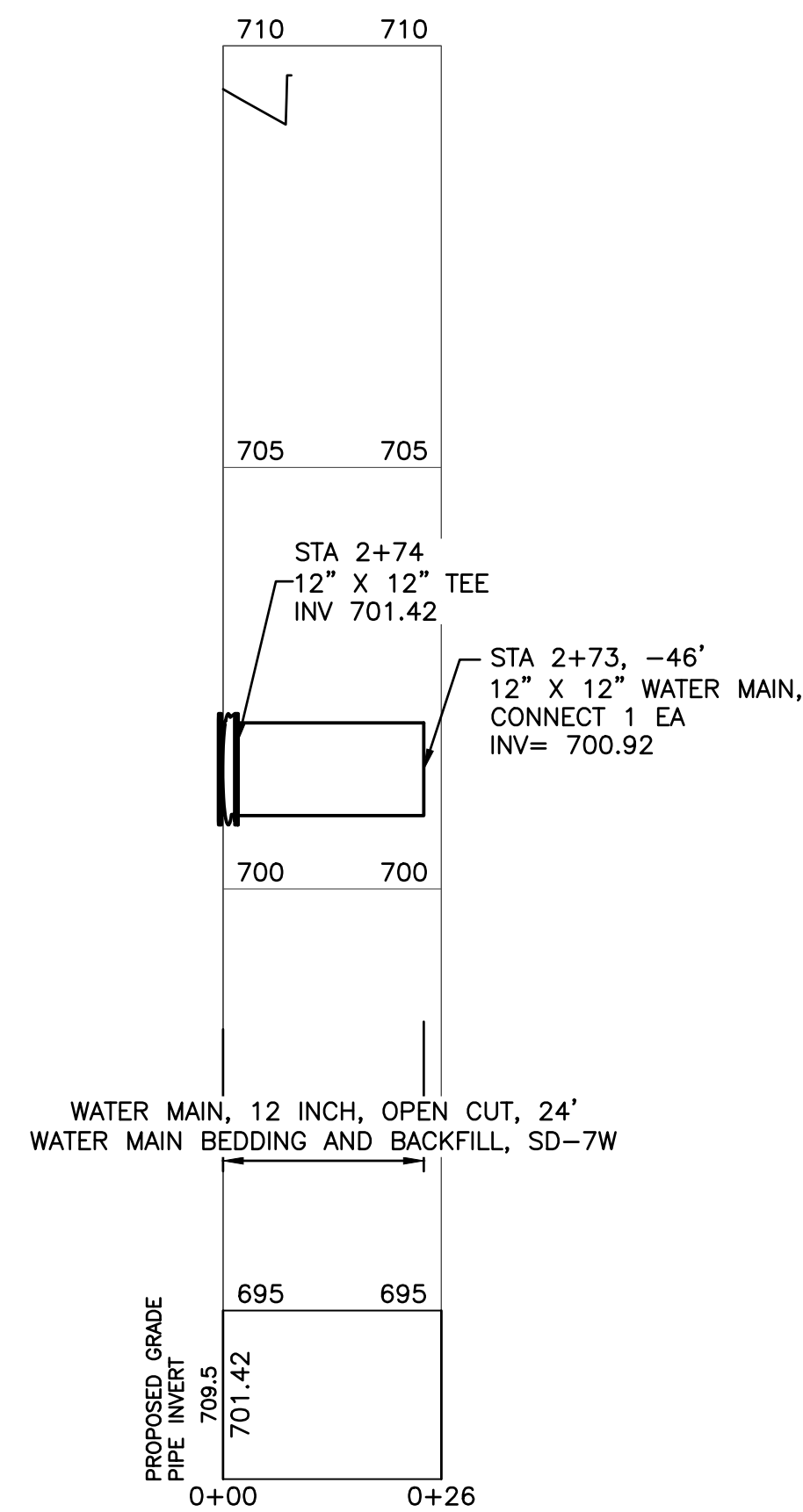


555 S. Saginaw Street, Suite 201  
Flint, MI 48502  
www.wadetrim.com

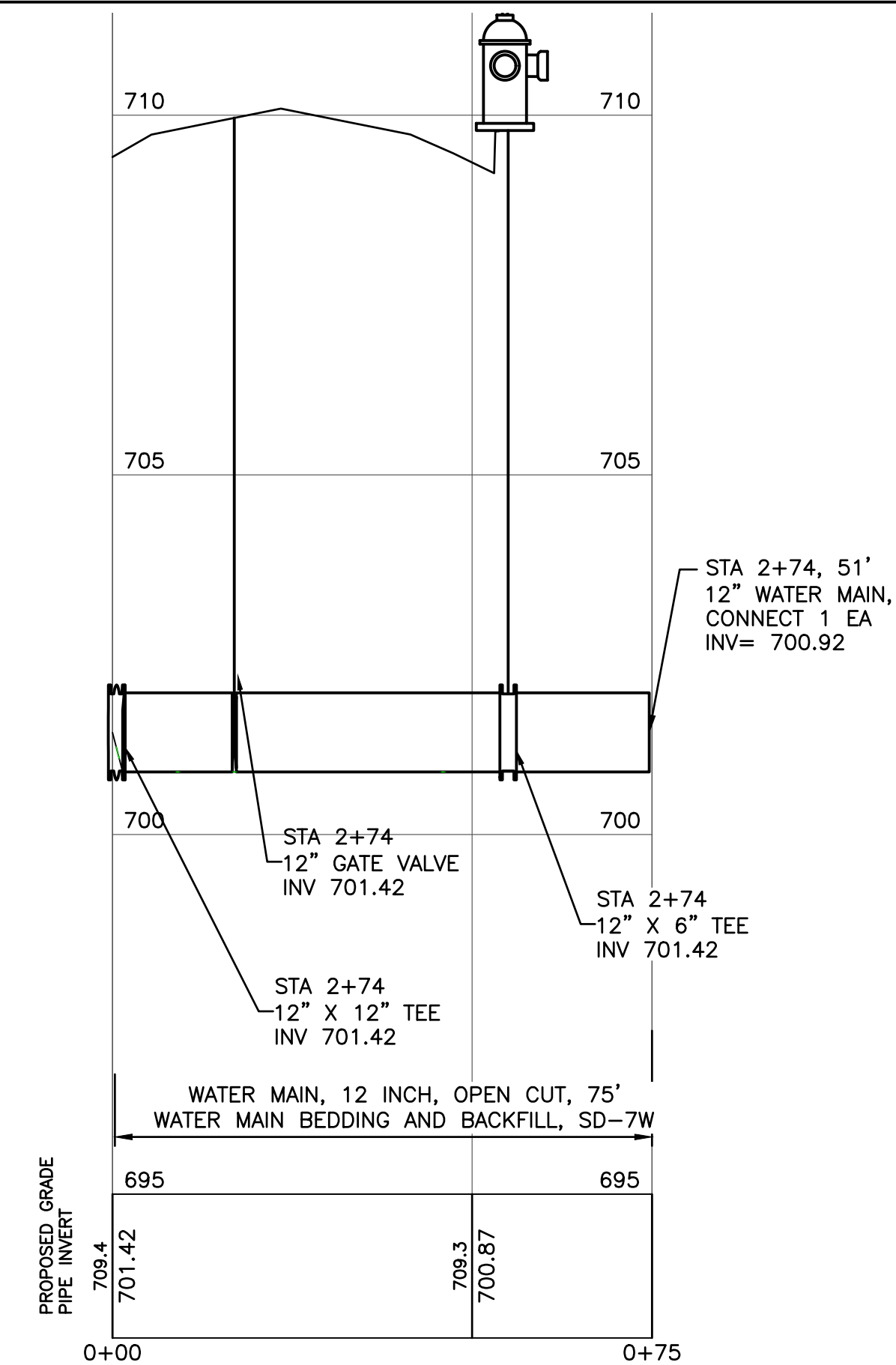


QUANTITIES THIS SHEET		
DESCRIPTION	UNIT	QUANTITY
GATE VALVE, 12 INCH	EA	2
WATER MAIN, 12 INCH, CUT AND PLUG	EA	1
WATER SERV. LONG	EA	1
GATE WELL, 60 INCH DIA	EA	2
GATE WELL, COVER	EA	2
WATER MAIN, 12 INCH, OPEN CUT	FT	98
WATER MAIN BEDDING AND BACKFILL, SD-7W	FT	98
WATER MAIN, 12 INCH, REM	FT	80
WATER MAIN CONNECT, NEW 12 INCH TO EXISTING 12 INCH	EA	2
WATER MAIN, ABANDON, FLOWABLE FILL	CYD	1

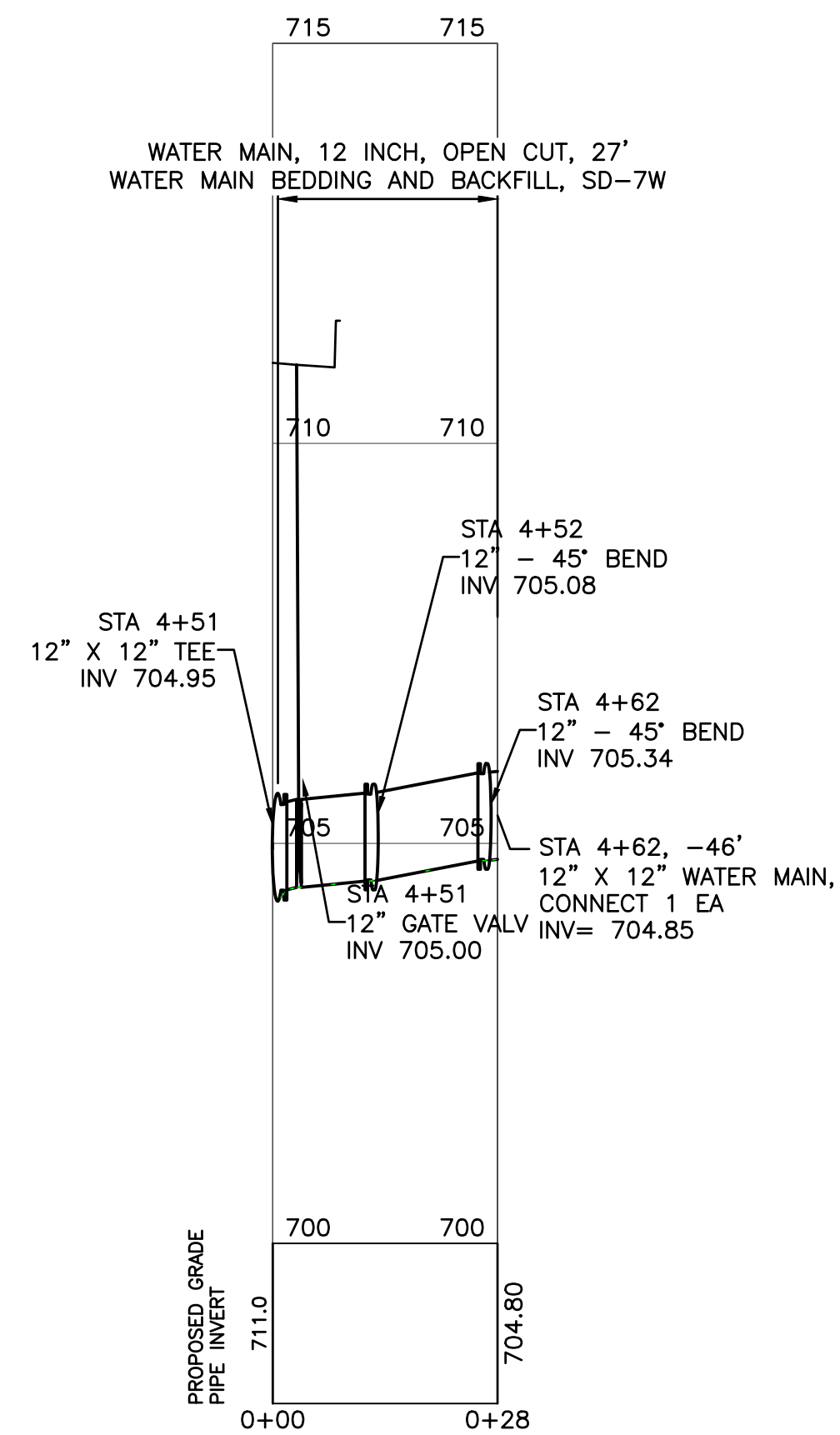




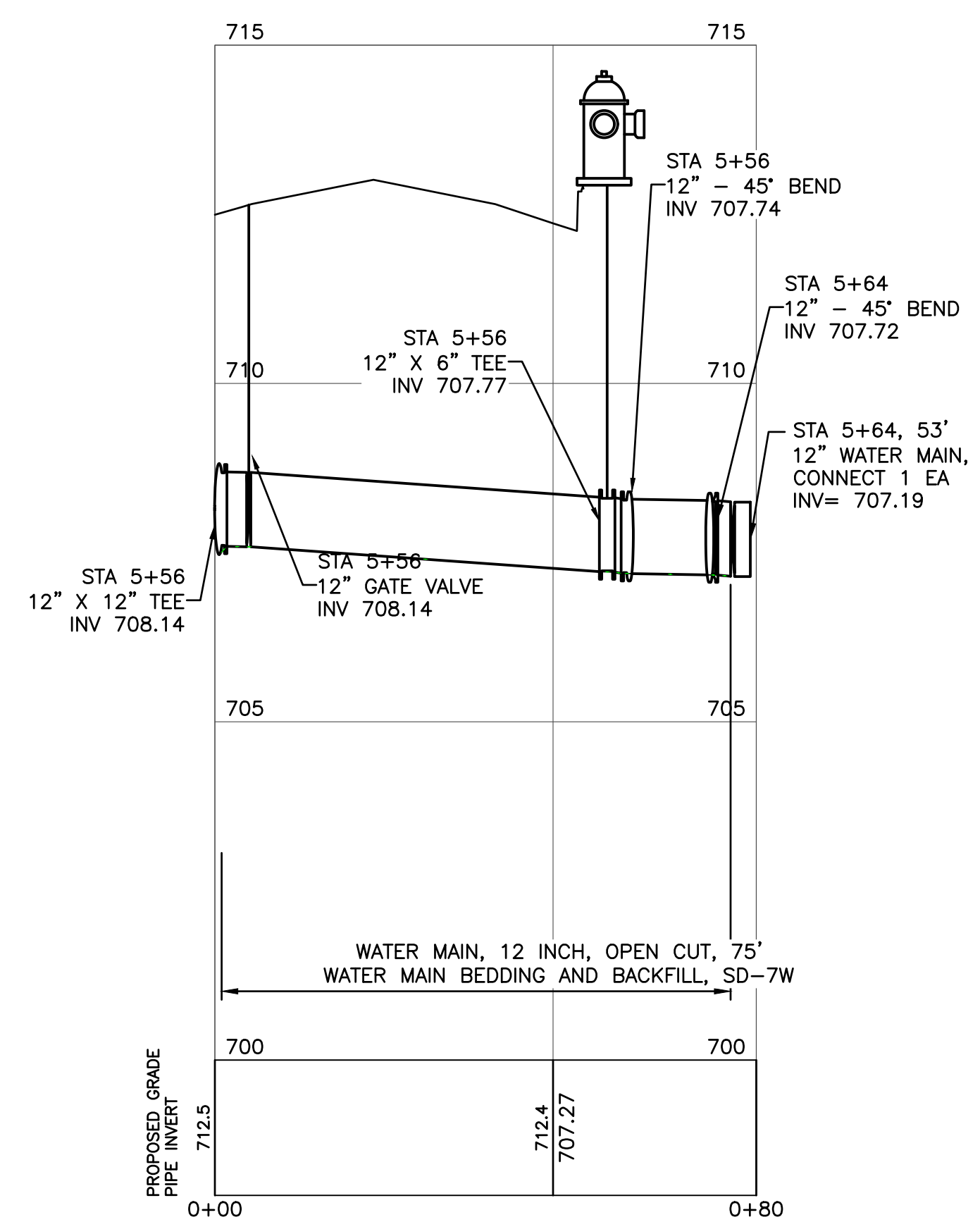
E FLINT RIVER TRAIL - STA 2+73  
12" WATER MAIN  
SEE SHEET 5



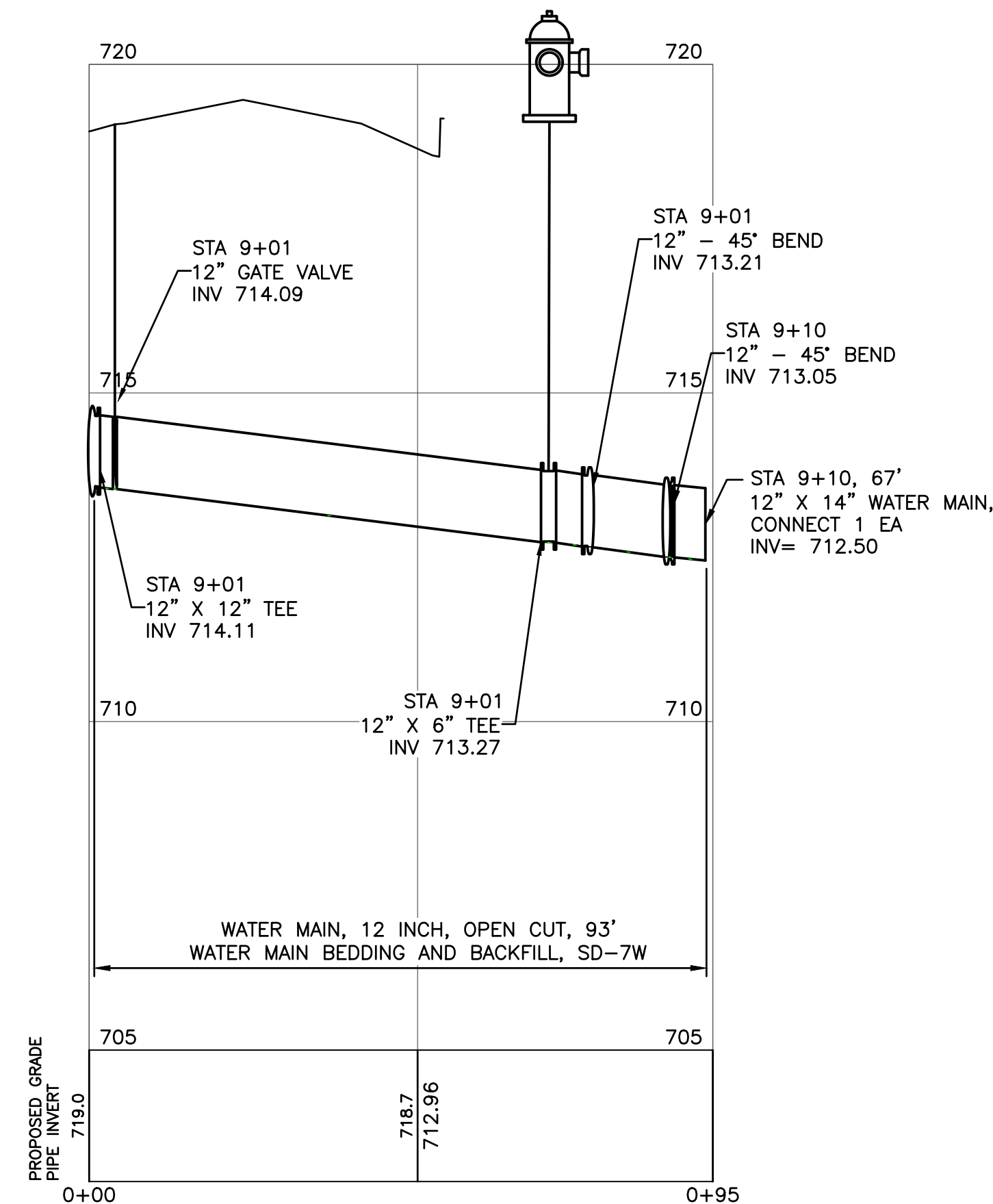
E FLINT RIVER TRAIL - STA 2+73  
12" WATER MAIN  
SEE SHEET 5



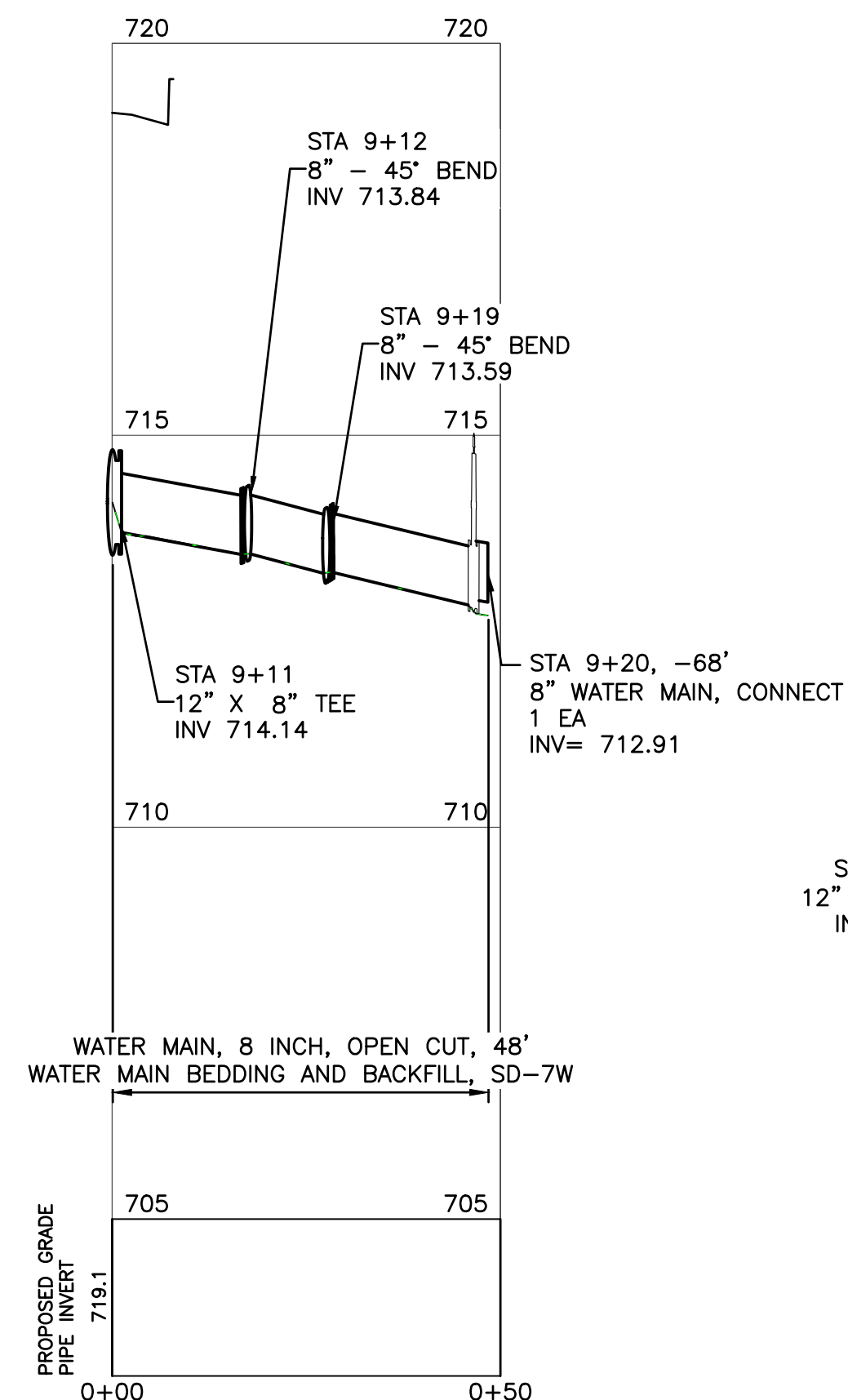
E UNION ST - STA 4+51  
12" WATER MAIN  
SEE SHEET 5



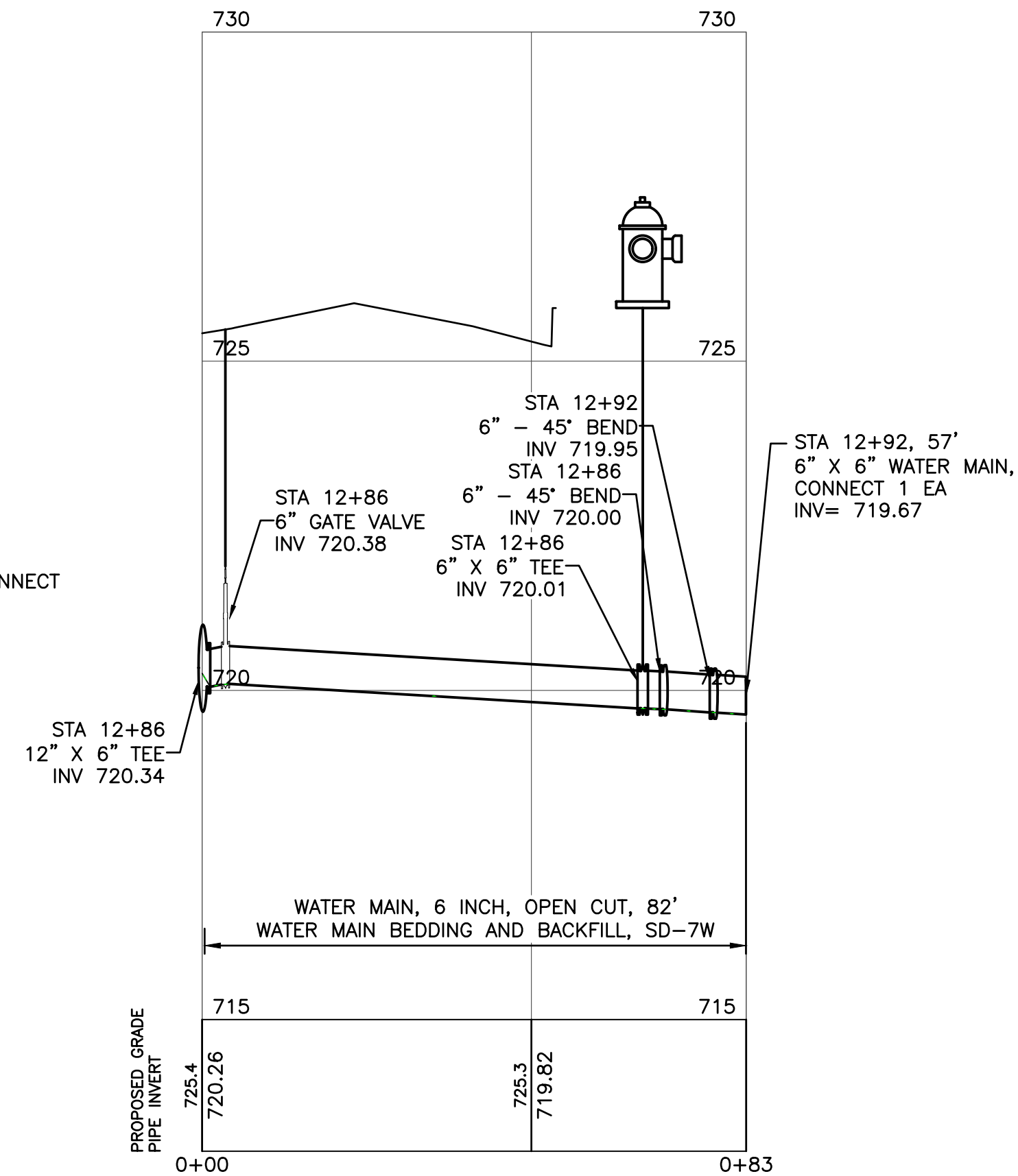
W UNION ST - STA 5+56  
12" WATER MAIN  
SEE SHEET 5



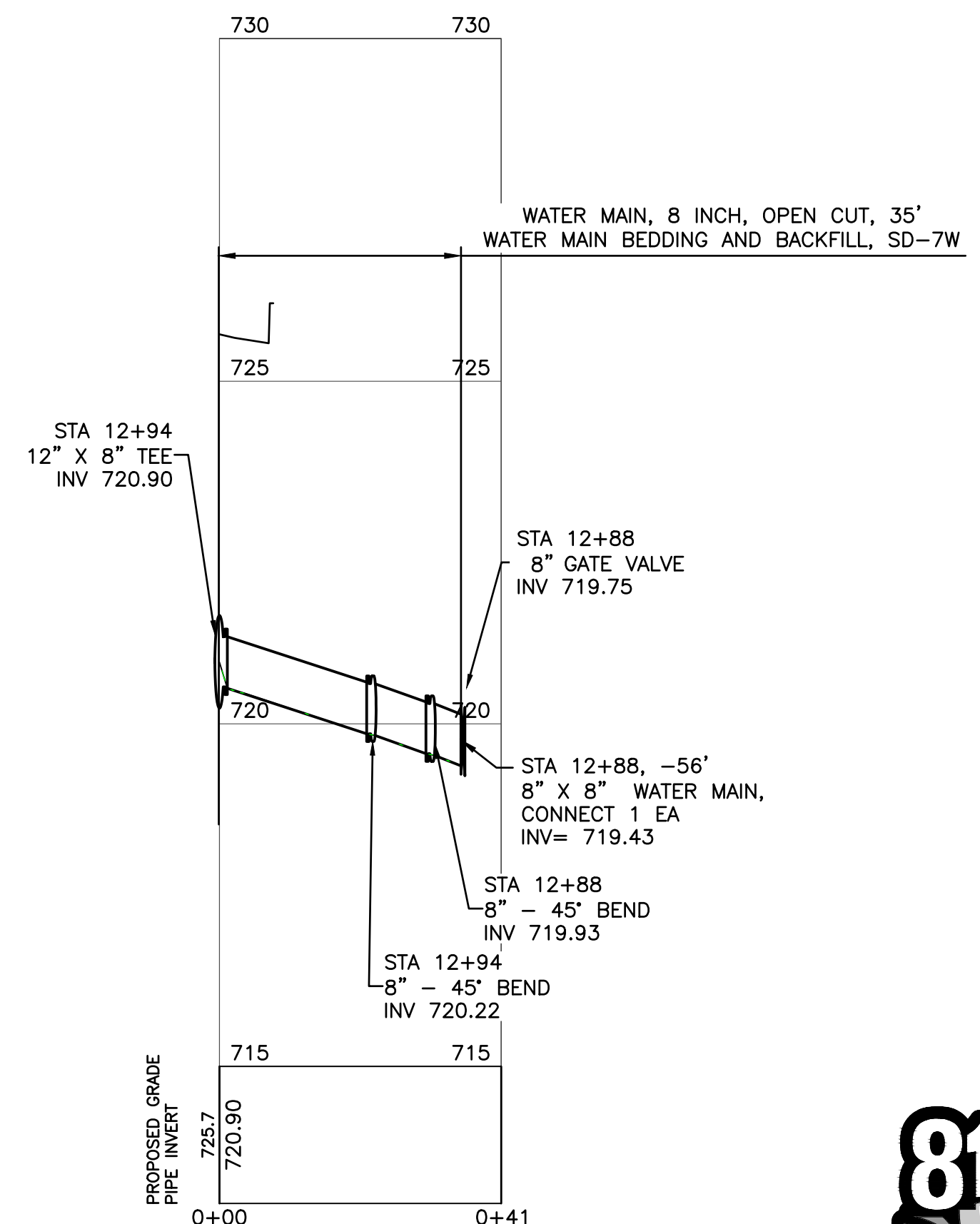
W KEARSLEY ST - STA 9+00  
12" WATER MAIN  
SEE SHEET 6



E KEARSLEY ST - STA 9+13  
8" WATER MAIN  
SEE SHEET 6



W FIRST ST - STA 12+85  
6" WATER MAIN  
SEE SHEET 7



E FIRST ST - STA 12+94  
8" WATER MAIN  
SEE SHEET 7



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

