

**\*\* PLEASE NOTE \*\***

THE FOLLOWING PLANS ARE FOR  
**INFORMATIONAL PURPOSE ONLY**

THE CITY OF CANTON **WILL NOT** ACCEPT AND/OR  
CONSIDER ANY BID AS AN OFFICIAL BID UNLESS SAID  
BIDDER HAS PICKED UP AND/OR PAID FOR A  
COMPLETE BID PACKAGE FROM THE CITY OF  
CANTON CONTRACT OFFICE AS OUTLINED IN THE  
LEGAL NOTICE!

# THE CANTON WATER DEPARTMENT

## W. MAPLE ST./KENT AVE. WATERLINE EXTENSION PROJECT

### PHASE II

### VILLAGE OF HARTVILLE

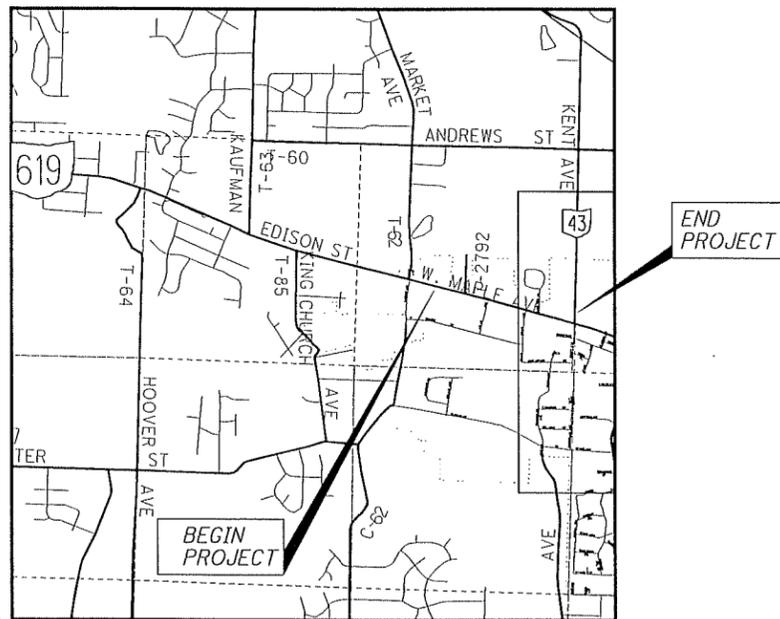
STARK COUNTY, OHIO  
AUGUST 2012

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#### LEGEND

County Line	Waterline (Ex)
Township Line	Waterline (Pr)
Section Line	Tree Line (Ex)
Corporation Line	Ownership Hook Symbol
Fence Line (Ex)	Property Line Symbol
Center Line	Break Line Symbol
Right of Way (Ex)	Tree (Pr)
Right of Way (Pr)	Tree (Remove)
Standard Highway Ease. (Ex)	Evergreen (Ex)
Temporary Right of Way	Evergreen (Remove)
Channel Ease. (Pr)	Wetland (Pr)
Utility Ease. (Ex)	Post (Ex)
Railroad	Light (Ex)
Guardrail (Ex)	Fire Hydrant (Ex)
Construction Limits	Water Valve (Ex)
Edge of Pavement (Ex)	Telephone Pole (Ex)
Edge of Pavement (Pr)	Light Pole (Ex)
Edge of Shoulder (Ex)	Fire Hydrant (Pr)
Edge of Shoulder (Pr)	Water Valve (Pr)



LOCATION MAP  
(NOT TO SCALE)



**UNDERGROUND UTILITIES**  
CONTACT BOTH SERVICES  
CALL TWO WORKING DAYS  
BEFORE YOU DIG

CALL  
1-800-352-2764  
(TOLL FREE)

OHIO UTILITIES PROTECTION SERVICE  
NON-MEMBERS  
MUST BE CALLED DIRECTLY

OIL & GAS PRODUCERS PROTECTIVE  
SERVICE CALL: 1-800-925-0988

PLAN PREPARED BY:

**ME COMPANIES**

4150 Belden Village St.  
Suite 104  
Canton, OH 44718  
Contact: Robert Graham  
330-491-9000 ext. 234  
Fax 330-491-9001



#### CANTON CITY OFFICIALS

MAYOR WILLIAM J. HEALY, II  
SERVICE DIRECTOR WARREN PRICE  
CANTON WATER DEPARTMENT SUPERINTENDENT TYLER S. CONVERSE

MEMBERS OF CANTON CITY COUNCIL  
COUNCIL PRESIDENT ALLEN SCHULMAN

MEMBERS-AT-LARGE MARY M. CIPELLI  
JOE COLE  
JAMES BABCOCK

WARD ONE GREG HAWK  
WARD TWO THOMAS E. WEST  
WARD THREE JAMES E. GRIFFIN  
WARD FOUR CHRIS SMITH  
WARD FIVE KEVIN FISHER  
WARD SIX DAVID R. DOUGHERTY  
WARD SEVEN JOHN MARIOL II  
WARD EIGHT EDMOND MACK  
WARD NINE FRANK NORRIS

#### HARTVILLE VILLAGE OFFICIALS

MAYOR RICHARD CURRIE

#### MEMBERS OF HARTVILLE VILLAGE COUNCIL

PRESIDENT: CYNTHIA BILLINGS  
EDEL TUCKER  
ROBERT BLYTHE  
VACANT  
KELLY RIES  
JIM SULLIVAN

*Tyler Converse* 8-9-12  
TYLER CONVERSE - SUPERINTENDENT DATE:

*Robert Graham*  
SIGNED: ROBERT GRAHAM, P.E. DATE: 8/7/12

J:\TS\11-076 Canton Water, Hartville & Lake Twp. Extension\STA\11076\roadway\sheet\Phase II\11076GT001.dgn 8/7/2012 10:31:49 AM kmtkoppes\... ODOTV81\_PDF\_Full.pltcf ODOTV81\_Pen-ME.tbl M-E Cor

FEDERAL PROJECT NO.

PID NO.

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT

CANTON WATERLINE  
HARTVILLE/LAKE TWP

**GENERAL NOTES:**

THE CONTRACTOR SHALL PRESERVE ALL CORNERSTONES, IRON PINS, CONCRETE MONUMENTS, OR ANY TYPE OF LAND MONUMENT. HE SHALL HAVE ALL MONUMENTS AND OR PINS IN THE PROXIMITY OF THE WORK REFERENCED. HE SHALL REPLACE DESTROYED OR DAMAGED MONUMENTS AND OR PINS AND SHALL FURNISH A CERTIFICATION BY A REGISTERED SURVEYOR THAT THEY HAVE BEEN RESTORED. THIS PRICE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ALL ITEMS IN THE PROPOSAL.

BEFORE THE CITY WILL APPROVE AND ACCEPT THE WORK AND RELEASE THE GUARANTY RETAINER, THE CONTRACTOR SHALL FURNISH THE CITY A WRITTEN REPORT INDICATING THE RESOLUTION OF ANY AND ALL PROPERTY DAMAGE CLAIMS FILED WITH THE CONTRACTOR BY ANY PARTY DURING THE CONSTRUCTION PERIOD. THE INFORMATION TO BE SUPPLIED SHALL INCLUDE, BUT NOT BE LIMITED TO, NAME OF CLAIMANT, DATE FILED WITH CONTRACTOR, NAME OF INSURANCE COMPANY AND/OR ADJUSTER HANDLING CLAIM HOW CLAIM, WAS RESOLVED AND IF CLAIM WAS NOT RESOLVED FOR THE FULL AMOUNT, A STATEMENT INDICATING THE REASON FOR SUCH ACTION.

THE CONTRACTOR SHALL PERFORM WORK AS TO NOT DISTURB, DAMAGE OR DESTROY ANY MAILBOX, PAPERBOX, TELEPHONE OR POWER POLES, SIGNS, SHRUBS, LANDSCAPING ITEMS, ETC. ANY ITEM DAMAGED OR DESTROYED SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. ANY ITEM DISTURBED OR IN CONFLICT WITH THE WORK TO BE PERFORMED SHALL BE REMOVED AND RESET AT THE CONTRACTOR'S EXPENSE. PRIOR ENGINEER APPROVAL IS REQUIRED BEFORE ANY OF THE ABOVE ITEMS ARE PERFORMED.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO APPLY WHEN ORDERED BY THE OWNER WATER OR CALCIUM CHLORIDE FOR THE ALLEVIATION OR PREVENTION OF DUST NUISANCE ORIGINATING FROM HIS CONSTRUCTION ACTIVITIES. SUFFICIENT QUANTITIES OF CALCIUM CHLORIDE SHALL BE STORED ON THE JOB SITE AT ALL TIMES TO BE USED FOR DUST CONTROL. THE COST OF DUST CONTROL SHALL BE INCLUDED IN THE UNIT BID PRICES FOR ALL ITEMS OF THE PROPOSAL.

ALL PAVEMENT REMOVAL AND REPLACEMENT, NEW PAVEMENT AND ASSOCIATED ROADWAY WORK SHALL BE IN ACCORDANCE WITH THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION, HEREINAFTER REFERRED TO AS "ODOT", CONSTRUCTION AND MATERIAL SPECIFICATIONS, STANDARD CONSTRUCTION DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS, LATEST ISSUE, WITH THE MODIFICATIONS AS SET FORTH IN THESE SPECIFICATIONS.

THE CONTRACTOR SHALL NOTIFY THE HARTVILLE POLICE AND FIRE DEPARTMENTS AT LEAST 24 HOURS IN ADVANCE OF ANY LANE CLOSING OR TRAFFIC CHANGE.

BENCH MARKS WHICH ARE GIVEN HEREIN ARE BASED ON U.S.G.S:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION LAYOUT AND ANY NECESSARY PERMITS

THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS BEFORE INSTALLING ANY PROPOSED MANHOLES, CATCH BASINS OR CONDUIT. ANY ADJUSTMENTS NEEDED SHALL BE APPROVED BY THE ENGINEER.

EXISTING SEWER AND WATER SERVICE CONNECTIONS SHALL BE PROTECTED AND MAINTAINED IN SERVICE. ANY EXISTING SANITARY SEWER, AND GAS LINE, IN OR OUTSIDE OF THE CONSTRUCTION LIMITS, DAMAGED DURING CONSTRUCTION OF THE PROPOSED PROJECT, WILL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ENGINEER FORTY-EIGHT (48) HOURS IN ADVANCE OF BEGINNING WORK WHICH REQUIRES COMPACTION TESTING AND/OR PRE-POUR INSPECTION PRIOR TO PLACEMENT OF PAVEMENT. WORK WILL NOT BEGIN UNTIL TESTING AND/OR INSPECTION HAS BEEN COMPLETED AND APPROVED BY THE ENGINEER.

THE CONTRACTOR SHALL PERFORM WORK SO AS TO NOT DISTURB, DAMAGE OR DESTROY ANY MAILBOX, PAPER BOX, TELEPHONE OR POWER POLES, SIGNS, FENCES, RETAINING WALLS, LANDSCAPING ITEMS, ETC. ANY ITEM DAMAGED SHALL BE REPLACED AT THE CONTRACTORS EXPENSE. ANY ITEM DISTURBED OR IN CONFLICT WITH THE WORK TO BE PERFORMED SHALL BE REMOVED AND RESET AT THE CONTRACTORS EXPENSE, UNLESS OTHERWISE NOTED IN THE PLANS.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE CITY.

ALL EXISTING SEWERS INSPECTED SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION PRIOR TO CONSTRUCTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

COST OF CLEARING AND GRUBBING, TREE REMOVAL, REMOVAL OF EXISTING PAVEMENT, SIDEWALK, CURB, MANHOLES, CATCH BASINS OR OTHER STRUCTURES ARE TO BE INCLUDED IN THE UNIT PRICE BID FOR ALL ITEMS IN THE PROPOSAL UNLESS LISTED AS A SEPARATE PAY ITEM.

ALL SOIL AREAS DISTURBED SHALL BE TOPSOILED (4" THICK COMPACTED), SEEDED AND MULCHED. ALL TOPSOIL WORK SHALL BE INCLUDED IN THE UNIT BID PRICES FOR ALL ITEMS OF THE PROPOSAL.

THE CONTRACTOR AGREES THAT HE WILL MAKE NO CLAIM AGAINST THE OWNER OR THE ENGINEER IF, IN CARRYING OUT THE WORK, HE FINDS THAT THE ACTUAL SUBSURFACE CONDITIONS ENCOUNTERED DO NOT CONFORM TO THOSE INDICATED BY SAID BORINGS, TEST EXCAVATIONS AND OTHER SUBSURFACE INVESTIGATIONS.

**EXISTING UTILITIES**

EACH CONTRACTOR SHALL VISIT THE SITE PERSONALLY TO ASCERTAIN THE NATURE OF THE WORK AND THOROUGHLY FAMILIARIZE HIMSELF WITH THE SITE PRIOR TO BID SUBMISSION.

THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS HAVE BEEN OBTAINED BY DILIGENT FIELD CHECKS AND SEARCHES OF AVAILABLE RECORDS. IT IS BELIEVED THAT THEY ARE ESSENTIALLY CORRECT, BUT THEIR ACCURACY OR COMPLETENESS IS NOT GUARANTEED.

THE DATA SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR. THE EXISTENCE OF FACILITIES ABOVE OR BELOW GROUND, WHICH MAY NOT BE SHOWN, WILL NOT BE A BASIS FOR A CLAIM FOR EXTRA WORK.

BEFORE ANY WORK IS STARTED THAT WILL INTERFERE WITH THE EXISTING UTILITIES, THE CONTRACTOR SHALL CALL THE "OHIO UTILITIES PROTECTION SERVICE", AT 1-800-362-2764, FORTY-EIGHT (48) HOURS IN ADVANCE OF THE WORK. NON-MEMBER UTILITIES MUST BE CONTACTED DIRECTLY. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS, AT NO ADDITIONAL EXPENSE TO THE CITY OF CANTON, TO AVOID DAMAGE TO EXISTING UNDERGROUND AND OVERHEAD UTILITY LINES DURING THE ENTIRE PROJECT. IN THE EVENT OF DAMAGE TO EXISTING PUBLIC AND/OR PRIVATE UTILITIES, THE AGENCY CONCERNED SHALL BE NOTIFIED IMMEDIATELY AND ALL REPAIR WORK SHALL BE EXECUTED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE RESPECTIVE AGENCY AT NO ADDITIONAL EXPENSE TO THE CITY OF CANTON, INCLUDING ANY INSPECTION FEES OR MAINTENANCE CREWS.

THE UTILITIES WITHIN THE LIMITS OF THIS PROJECT ARE AS FOLLOWS:

VILLAGE OF HARTVILLE  
(SANITARY SEWER)  
P.O. BOX 760  
HARTVILLE, OHIO 44632  
330-877-2861  
ATTN: TOM GRABER

OHIO EDISON  
282 STATE ROUTE 43  
HARTVILLE, OHIO 44632  
OFFICE: 330-877-9324  
FAX: 330-877-0346  
ATTN: EARL W. CLEVINGER

DOMINION EAST OHIO  
320 SPRINGSIDE DRIVE  
AKRON, OHIO 44333  
330-497-5131  
ATTN: MARY LONG

SCOTT PROCESS SYSTEMS  
(FIBER OPTIC AT GRAND TRUNK)  
910 SUNNYSIDE ST. SW  
330-877-2350  
ATTN: IT MANAGER

VILLAGE OF HARTVILLE  
STREET COMMISSIONER  
455 WALES DRIVE  
HARTVILLE, OHIO 44632  
330-877-3006  
ATTN: NATE MILLER

TIME-WARNER CABLE  
5520 WHIPPLE AVE. N.W.  
NORTH CANTON, OHIO 44720  
330-494-8087  
ATTN: TIM KNIGHT

AT&T  
50 W. BOWERY, 4TH FLOOR  
AKRON, OHIO 44308  
330-384-3561  
ATTN: CINDY ZUCHEGNO

LAKE TOWNSHIP STREET DEPT.  
12360 MARKET AVE. N.  
HARTVILLE, OHIO 44632  
330-877-8359  
ATTN: DANIEL KAMERER

B.P. OIL PIPELINE  
4421 BRADLEY ROAD  
CLEVELAND, OHIO 44109  
216-912-2573 OR 1-800-548-6482  
ATTN: NORBERT BRUENING  
LATE 2012 NEW CONTACT  
SUNOCO PIPELINE LP  
1-800-785-7440

WHERE EXISTING LIGHT, POWER OR TELEPHONE POLES ARE IN CLOSE PROXIMITY TO WORK, THE CONTRACTOR SHALL COORDINATE HIS WORK EFFORTS WITH THOSE OF THE UTILITY COMPANIES SUCH THAT THE MAINTENANCE OF THEIR EXISTING FACILITIES CAN BE MAINTAINED AND PROTECTED DURING THE TIME WORK IS GOING ON ADJACENT TO THE POLE.

THE COST FOR ANY REQUIRED PROTECTION OR RELOCATION OF EXISTING LIGHT, POWER OR TELEPHONE POLES OR NATURAL GAS LINES SHALL NOT BE THE RESPONSIBILITY OF THE CITY OF CANTON.

DELAYS TO THE CONTRACTOR AS A RESULT OF TIMING OF POLE RELOCATION OR PROTECTION OR NATURAL GAS LINE RELOCATION/REPLACEMENT SHALL NOT BE CONSIDERED COMPENSABLE DELAYS, AS IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE HIS WORK IN CONFORMANCE TO THE UTILITY COMPANY'S SCHEDULE.

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

EXISTING ROOF DRAINS, FOOTER DRAINS, OR YARD DRAINS, DISTURBED BY THE WORK, SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS BY CONNECTING A CONDUIT THROUGH THE CURB OR INTO A DRAINAGE STRUCTURE. THE LOCATION, TYPE, SIZE AND GRADE OF THE NEW CONDUIT REQUIRED TO REPLACE OR EXTEND THE EXISTING DRAIN WILL BE DETERMINED BY THE ENGINEER. THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ALL ITEMS OF THE PROPOSAL.

ANY ACTIVE CONNECTION TO A SANITARY SEWER ENCOUNTERED DURING CONSTRUCTION SHALL BE RECONNECTED TO THE EXISTING SANITARY SEWER TO THE SATISFACTION OF THE ENGINEER.

THE FOLLOWING CONDUIT TYPES MAY BE USED: SS 944, SS 942, SS 931, 705.01, 705.02, OR 705.08 WITH JOINTS AS PER 705.11 OR 705.12

**STORM SEWER**

ALL EXISTING STORM DRAINAGE PIPING ENCOUNTERED DURING CONSTRUCTION SHALL BE RECONNECTED INTO THE EXISTING STORM SEWER, CONNECTING A CONDUIT THROUGH THE CURB OR INTO A DRAINAGE STRUCTURE OR ABANDONED, AS DIRECTED BY THE ENGINEER. COST TO BE INCLUDED IN THE UNIT PRICE BID ALL ITEMS OF THE PROPOSAL. THIS INCLUDES DOWNSPOUT CONNECTIONS FROM EXISTING BUILDINGS.

**MAINTENANCE OF TRAFFIC**

PRIOR TO THE PRE-CONSTRUCTION MEETING, THE CONTRACTOR SHALL SUBMIT, TO THE VILLAGE OF HARTVILLE AND ODOT, A PROPOSED PROJECT CONSTRUCTION SCHEDULE AND A DETAILED MAINTENANCE OF TRAFFIC PLAN. BOTH THE SCHEDULE AND MAINTENANCE OF TRAFFIC PLAN SHALL BE APPROVED BY THE APPROPRIATE AUTHORITIES PRIOR TO THE START OF CONSTRUCTION. COST OF THIS WORK TO BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 614 - MAINTAINING TRAFFIC.

ACCESS TO ALL DRIVEWAYS SHALL BE MAINTAINED AT ALL TIMES EXCEPTING THE TIME WHEN CONCRETE CURB OR DRIVE APRONS ARE CURING.

**CONTINGENCY ITEMS**

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER.

ITEM 609	CURB, TYPE 6	100 FT
ITEM 609	CURB RAMP	1 EACH

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN SAFE AND SATISFACTORY LOCAL ACCESS, VEHICULAR AND PEDESTRIAN, TO ALL ADJUTING PROPERTIES WITHIN THE PROJECT. THE CONTRACTOR SHALL FURNISH, MAINTAIN, AND SUBSEQUENTLY REMOVE ALL NECESSARY SAFEGUARDS SUCH AS BARRICADES, BARRIERS, TEMPORARY PAVEMENT, LIGHTING, FLAGON, TEMPORARY GUARDRAIL, DETOUR AND CONSTRUCTION SIGNING AND OTHER TRAFFIC CONTROLS SO AS TO AVOID DAMAGE AND/OR INJURY TO AND ENSURE THE SAFETY OF VEHICLES AND PERSONS USING THE ROADWAY DURING CONSTRUCTION BOTH WITHIN AND OUTSIDE OF THE PROJECT LIMITS.

MAINTAINING TRAFFIC SHALL BE IN ACCORDANCE WITH ODOT ITEM 614 AND THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

**WATER MAINS/SERVICES:**

ALL WATER MAINS, SERVICES AND APPURTENANCES SHALL BE DESIGNED AND CONSTRUCTED ACCORDING TO THE CITY OF CANTON WATER DEPARTMENT REQUIREMENTS AND SPECIFICATIONS IN EFFECT AT THE TIME OF CONSTRUCTION.

WATER MAINS SHALL BE CLASS 53 (12" AND UNDER) OR CLASS 54 (OVER 12") DUCTILE IRON, MEETING AWWA C151 WITH PUSH JOINTS. THE MINIMUM COVER OVER WATER MAINS SHALL BE 4'-6" FROM GROUND SURFACE TO THE BARREL OF THE PIPE. THE OUTSIDE SURFACE OF ALL DUCTILE IRON PIPE, FITTINGS AND APPURTENANCES SHALL BE SHOP COATED WITH EITHER A COAL TAR OR ASPHALT BASE BITUMINOUS MATERIAL. IF THE COATING MATERIAL IS FOUND TO BE DAMAGED PRIOR TO THE PIPE TRENCH BEING BACKFILLED, THE CONTRACTOR SHALL PROVIDE AN ADDITIONAL APPROVED MATERIAL AS REQUIRED TO REPAIR THE DAMAGES. THE CONTRACTOR SHALL HAVE SUFFICIENT COATING MATERIALS AVAILABLE AT THE JOB SITE PRIOR TO LAYING THE PIPE. THE INTERIOR OF ALL PIPES AND FITTINGS SHALL BE LINED WITH DOUBLE CEMENT MORTAR AND SEAL COATED IN COMPLETE CONFORMANCE WITH AWWA C104, OR THE LATEST REVISION. FITTINGS SHALL BE RATED FOR 250 PSI WORKING PRESSURE IN ACCORDANCE WITH AWWA C10. PIPE LENGTHS MAY BE DEFLECTED AT THE JOINT IF REQUIRED, AT ONE-HALF THE DEGREE RECOMMENDED BY THE MANUFACTURER.

PLASTIC PIPE SHALL BE AWWA C909 PVC0 PRESSURE PIPE, CL200.

WATER SERVICES WILL BE INSTALLED BY THE CANTON WATER DEPARTMENT AND PAID FOR BY THE OWNER/DEVELOPER.

ANY COMMERCIAL OR INDUSTRIAL WATER SERVICE MUST HAVE SITE AND PLUMBING PLANS SUBMITTED TO THE CANTON BUILDING DEPARTMENT FOR APPROVAL. THE CANTON BUILDING DEPARTMENT WILL DISTRIBUTE THE PLANS TO THE APPROPRIATE DEPARTMENTS FOR REVIEW AND COMMENTS. CORRECTIONS MUST BE MADE AND RESUBMITTED. PRICE ESTIMATES WILL NOT BE ISSUED AND SERVICE TAPS WILL NOT BE MADE UNTIL THE PLANS HAVE BEEN APPROVED BY THE CANTON WATER DEPARTMENT.

DISINFECTION OF WATER MAINS SHALL BE IN ACCORDANCE WITH AWWA C651.

ALL WATER LINE PRESSURE TESTING SHALL CONFORM TO AWWA C600.

WATER MAINS SHALL BE INSTALLED AND BACKFILLED PER O.D.O.T. ITEM 638.

CONTRACTOR SHALL REPLACE ANY TRAFFIC SIGNAL LOOP DETECTOR WIRE DAMAGED DURING WATERLINE INSTALLATION. COST INCLUDED IN THE UNIT PRICES BID FOR ALL ITEMS IN THE PROPOSAL.

CONTRACTOR SHALL REPLACE ANY ROADWAY PAVEMENT MARKINGS DAMAGED OR REMOVED DURING WATERLINE CONSTRUCTION. COST INCLUDED IN THE UNIT PRICES BID FOR ALL ITEMS IN THE PROPOSAL.

CALCULATED  
KMK  
CHECKED  
RGG

GENERAL NOTES

CANTON WATERLINE  
HARTVILLE/ LAKE TWP

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WATER MAINS/SERVICES: (CONTINUED)

WATER LINES LOCATED WITHIN THE LIMITS OF OR WITHIN A 1/2 TO 1 SLOPE OF EXISTING AND/OR PROPOSED ROADWAYS, PARKING AREAS, BUILDINGS, SIDEWALKS, AND/OR DRIVES SHALL BE INSTALLED AS TYPE B CONDUITS. ALL OTHER WATER MAINS SHALL BE INSTALLED AS TYPE C CONDUITS. BEDDING SHALL BE AS SPECIFIED, EXCEPT THE SLAG WILL NOT BE PERMITTED.

ALL BENDS, FITTINGS, TEES, VALVES, DEAD ENDS, ETC. SHALL BE SECURED EQUAL. POURED-IN-PLACE CONCRETE THRUST BLOCKS SHALL ALSO BE PROVIDED AT/FOR EACH BENDS, FITTING, TEE, DEAD END, ETC. THIS BLOCKING SHALL BE CAREFULLY PLACED TO ENSURE IT IS POSITIONED PROPERLY TO WITHSTAND THE RESULTANT FORCES AT EACH BEND, FITTING, ETC. AND SHALL BEAR ON STABLE UNDISTURBED GROUND CAPABLE OF WITHSTANDING THE POTENTIAL LOADING. TIE RODS ARE TO BE 3/4 INCH DIAMETER. TWO TIE RODS ARE REQUIRED FOR AN 8 INCH PIPE, AND FOUR TIE RODS ARE REQUIRED FOR 12 INCH PIPE. IN ADDITION TO THE RESTRAINT OF ALL BENDS, FITTINGS, TEES, VALVES, DEAD ENDS, ETC. THE CONTRACTOR SHALL ALSO SECURE/RESTRAIN ALL JOINTS FOR AT LEAST FIVE (5) PIPE JOINTS (90 LF MIN.) BEYOND EACH DEAD END, BEND, FITTING, VALVE, TEE, ETC. UTILIZING MEGALUGS, FIELD LOK GASKETS, OR APPROVED EQUALS.

THE CONTRACTOR SHALL PROVIDE 18" VERTICAL CLEARANCE BETWEEN PROPOSED WATERLINES AND ANY SANITARY SEWERS. WHEN 18" CLEARANCE BETWEEN A WATERLINE AND A SANITARY SEWER CANNOT BE OBTAINED, THE CONTRACTOR SHALL PROVIDE CONCRETE ENCASEMENT AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE 12" MINIMUM CLEARANCE BETWEEN WATERLINES AND STORM SEWERS. THE CONTRACTOR SHALL MAINTAIN TEN (10) FOOT HORIZONTAL CLEARANCE BETWEEN WATERLINES/SERVICES AND SANITARY SEWERS AND FOUR (4) FOOT HORIZONTAL CLEARANCE BETWEEN WATERLINES/SERVICES AND STORM SEWERS.

THE FIRE HYDRANT SETTING SHALL INCLUDE THE HYDRANT, ANCHOR TEE, VALVE, VALVE BOX, 6 INCH PIPING AND ALL FITTINGS NEEDED FOR PROPER INSTALLATION. FIRE HYDRANTS SHALL BE MUELLER A423 MEETING THE CITY OF CANTON WATER DEPARTMENT STANDARDS AND REQUIREMENTS. ALL COSTS FOR THE 6" PIPING ASSOCIATED WITH THE INSTALLATION OF FIRE HYDRANTS SHALL BE INCLUDED WITH THE FIRE HYDRANT PAY ITEM. ALL HYDRANTS SHALL BE INSTALLED WITH THE PUMPER NOZZLE FACING THE STREET. ALL FIRE HYDRANT THREADS SHALL BE LUBRICATED WITH A FOOD GRADE LUBRICANT AND OPERATED UPON INSTALLATION.

ALL WATER TAPS AND SERVICES MUST BE INSTALLED BEFORE ANY PAVEMENT FOR THE PROPOSED ROADWAY HAS BEEN PLACED. CONTRACTOR IS NOT TO MAKE ANY SERVICE TAPS ON THE WATER MAIN. THE CANTON WATER DEPARTMENT WILL MAKE ALL SERVICE TAPS.

THE PROPOSED FACILITIES SHALL MAINTAIN A MINIMUM 35 PSI PRESSURE DELIVERED TO THE CURB STOP DURING NORMAL OPERATING CONDITIONS.

BOOSTER PUMPS ARE NOT PERMITTED ON SERVICE CONNECTIONS.

ALL DUCTILE IRON PIPE, INCLUDING FITTINGS AND APPURTENANCES BURIED UNDERGROUND, SHALL BE ENCASED WITH 8 MIL. POLYETHYLENE FILM CONFORMING TO AWWA C105.

THE CONTRACTOR SHALL TAKE ANY AND ALL NECESSARY PRECAUTIONS TO PROTECT AND MAINTAIN IN SERVICE, ANY EXISTING WATER MAINS EXPOSED DURING CONSTRUCTION.

ANY WATER SERVICE LINE THAT IS BROKEN, CUT OR OTHERWISE DAMAGED, SHALL BE REPLACED FROM THE CORPORATION STOP TO THE CURB STOP WITH A SINGLE PIECE OF PLASTIC SERVICE LINE (DRISCOPLX). NO SPLICING OF THE SERVICE LINE WILL BE PERMITTED.

SERVICE BRANCHES WILL BE INSTALLED AS PER O.D.O.T ITEM 638.16, WITH THE FOLLOWING EXCEPTIONS:

- 1. WHEN A SERVICE BRANCH IS DISTURBED FOR LOWERING, RAISING, EXTENDING OR SHORTENING ON THE PROPERTY SIDE ON THE SERVICE STOP, IT SHALL BE REPLACED WITH NEW MATERIALS FROM THE CORPORATION STOP TO THE SERVICE STOP.

IN A STREET IMPROVEMENT, NO EXISTING WATER CURB BOX WILL BE LEFT IN THE PAVEMENT, CURB AND GUTTER OR SIDEWALK. THE CURB BOX WILL BE MOVED TO A SUITABLE LOCATION DETERMINED BY THE CANTON WATER DEPARTMENT. WHEN THE CURB BOX IS MOVED, ALL NEW MATERIAL WILL BE USED FROM THE CORPORATION STOP TO THE CURB STOP WHICH IS A SINGLE PIECE OF PLASTIC SERVICE LINE (DRISCOPLX). NO SPLICING OF THE SERVICE LINE WILL BE PERMITTED. A NEW TAP (CORPORATION STOP) AND CURB STOP AND BOX MAY ALSO BE REQUIRED. THE DETERMINATION WILL BE MADE BY THE CANTON WATER DEPARTMENT.

WHEN AN EXISTING WATER MAIN MUST BE SHUT DOWN TO PERFORM REQUIRED WORK, THE PROPERTIES TO BE EFFECTED SHALL BE GIVEN A MINIMUM 24 HOUR NOTICE OF SAID SHUT DOWN. THE WORK WILL BE SCHEDULED AND COORDINATED TO MINIMIZE THE TIME THE MAIN IS OUT OF SERVICE.

THE CONTRACTOR SHALL NOTIFY THE CITY 48 HOURS IN ADVANCE OF ANY SHUT DOWN OF AN EXISTING MAIN. THE CONTRACTOR WILL NOT OPERATE ANY VALVES. VALVES WILL BE OPERATED BY CANTON WATER DEPARTMENT PERSONNEL ONLY. VALVES DAMAGED BY THE CONTRACTOR'S OPERATION WILL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

ALL VALVE BOXES WILL BE ADJUSTED TO FINAL GRADE OF SURROUNDING PAVEMENT OR FINISHED SURFACE TREATMENTS WHEN THE PROJECT IS COMPLETED.

POLYETHYLENE WATER MAIN AND SERVICE TUBING 2" AND UNDER SHALL BE COPPER TUBE SIZE AND MEET STANDARDS ASTM-D2737 PE3408 AND AWWA C906. THE ONLY ACCEPTABLE TUBING IS CP CHEM PERFORMANCE PIPE DRISCOPLX 5100-ULTRA-LINE.

ANY DIGGING WITHIN THE RIGHT-OF-WAY OF ANY STREET REQUIRES A ROAD OPENING PERMIT. PLEASE CONTACT THE APPROPRIATE GOVERNMENTAL ENTITY FOR INFORMATION REGARDING THE PERMITTING PROCESS AND/OR FEES DUE.

REGARDLESS OF THE SERVICE LINE SIZE, THE WATER SERVICE FROM THE CURB BOX TO THE FACILITY, MUST BE INSTALLED BY A CITY OF CANTON LICENSED PLUMBER. A CITY OF CANTON PLUMBING PERMIT MUST BE ISSUED TO THE PLUMBER INSTALLING THE SERVICE LINE BEFORE THE WATER SERVICE CAN BE INSTALLED.

CONTRACTOR SHALL REPLACE ANY PRIVATE LANDSCAPING IRRIGATION SYSTEMS DAMAGED OR REMOVED DURING WATERLINE CONSTRUCTION. COST INCLUDED IN THE UNIT PRICES BID FOR ALL ITEMS IN THE PROPOSAL.

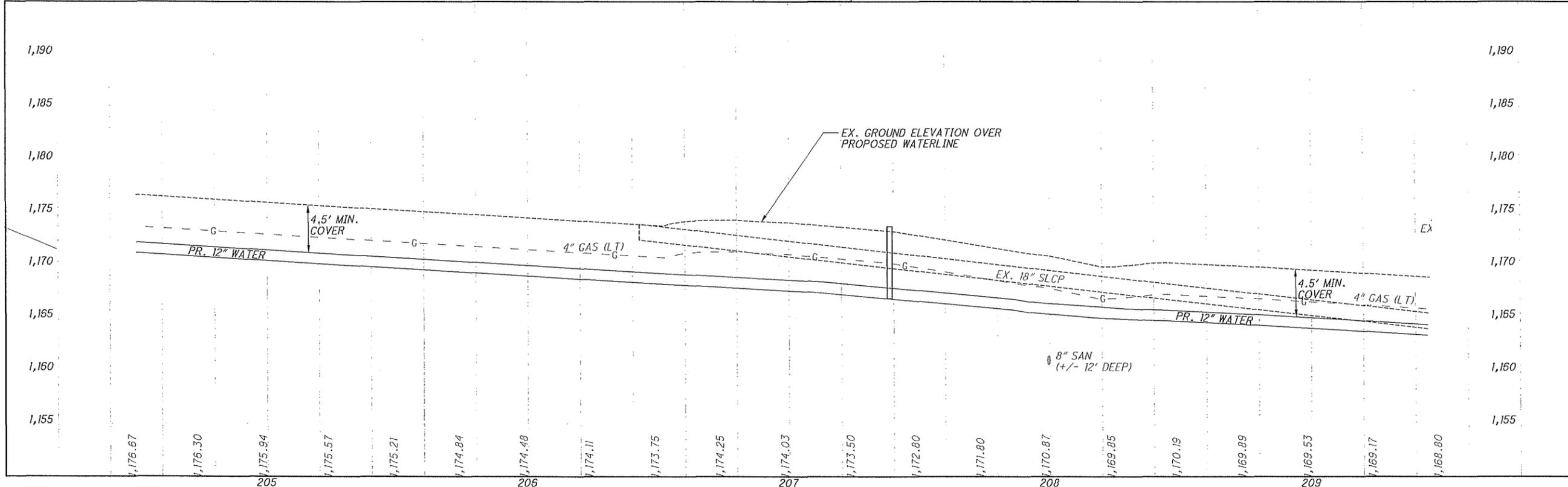
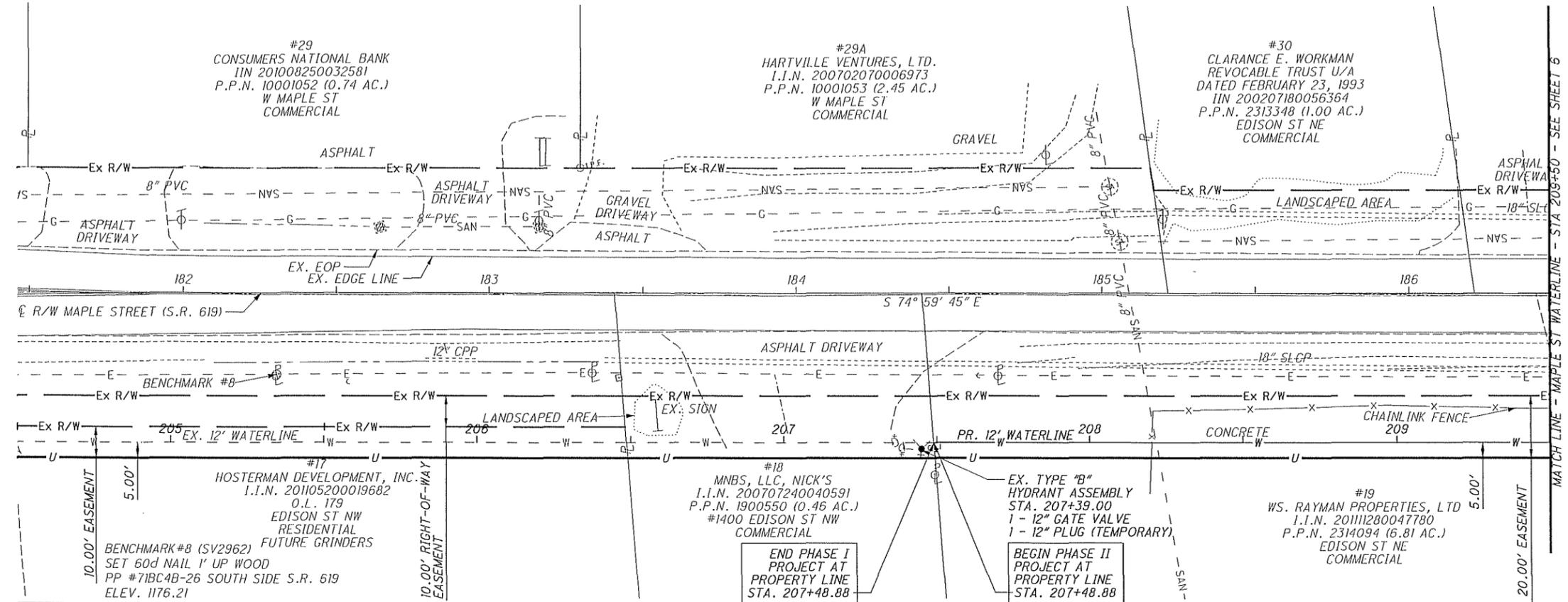
CALCULATED  
KMK  
CHECKED  
RGG

GENERAL NOTES

CANTON WATERLINE  
HARTVILLE / LAKE TWP



J:\7S\11-11-076 Canton Water, Hartville & Lake Twp. Extension\STA\11076\roadway\sheets\Phase I\11076P202.dgn 8/7/2012 10:31:59 AM kmkoppes" ODOTVBI\_PDF\_Full.pltcf ODOTVBI\_Pen-ME.tbl M-E Co



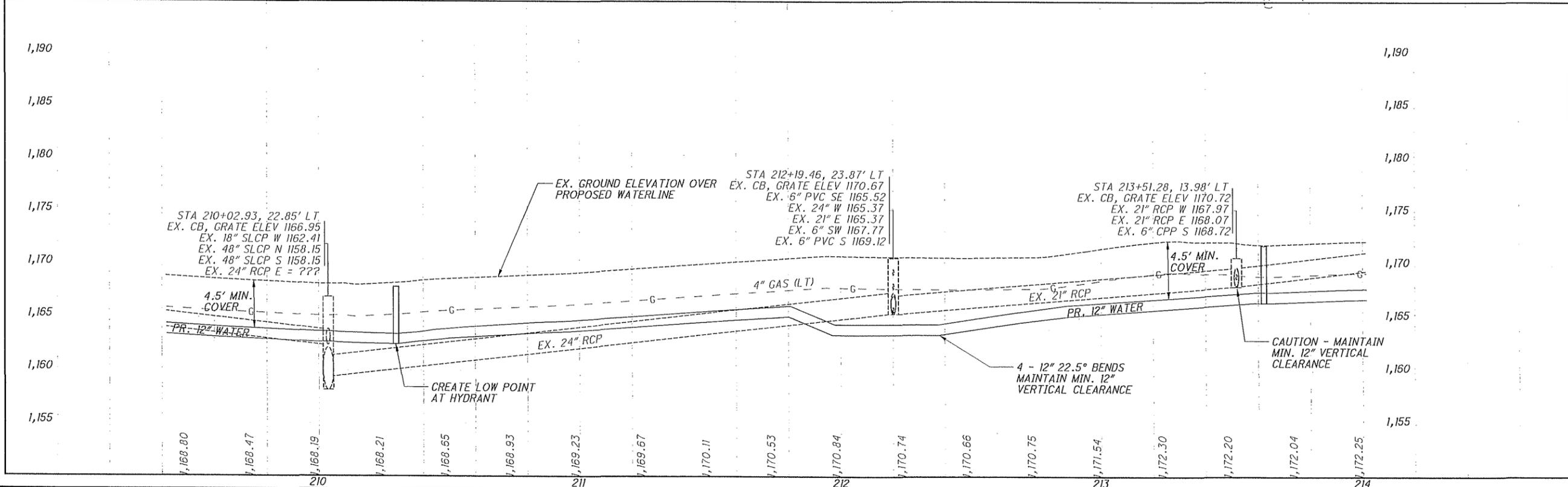
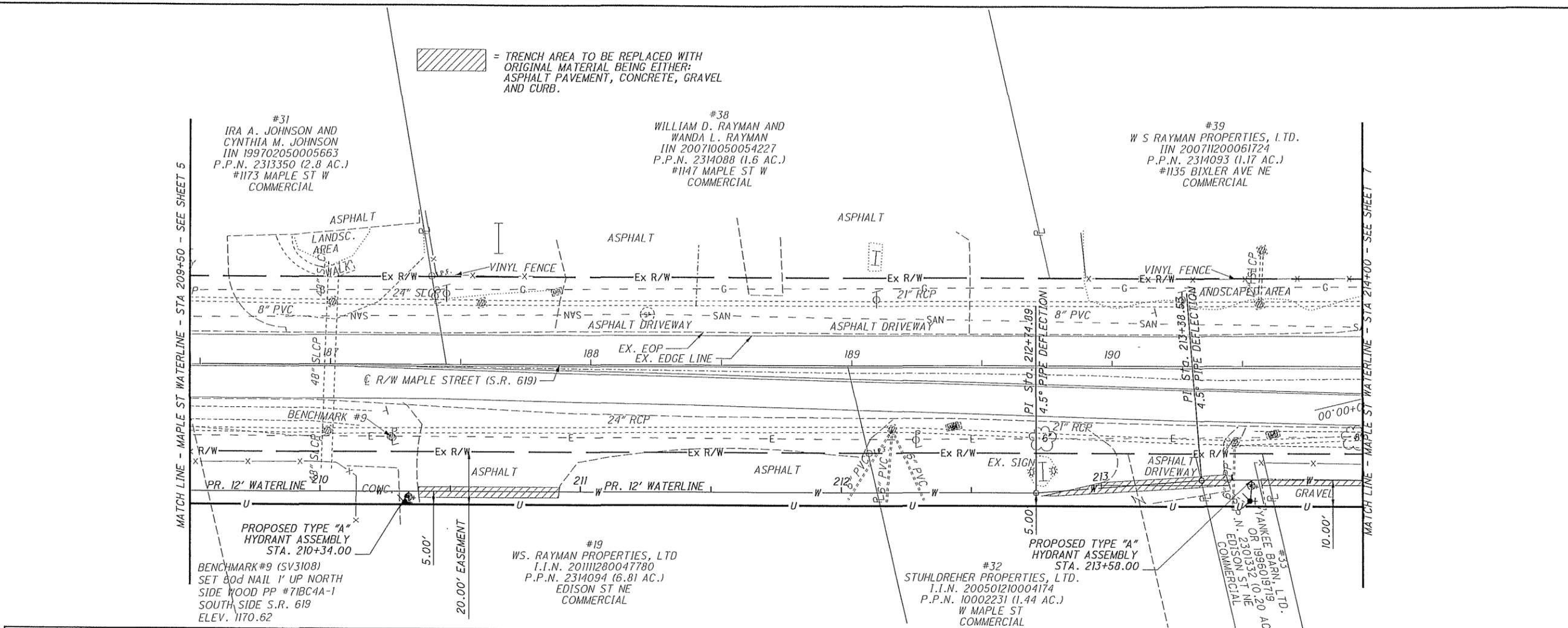
CALCULATED 0  
 MAM  
 CHECKED  
 KMK

0 10 20  
 HORIZONTAL  
 SCALE IN FEET

WATERLINE - PLAN AND PROFILE  
 MAPLE ST - STA 204+50 TO STA 209+50

CANTON WATERLINE  
 HARTVILLE/LAKE TWP

0  
 15



**WATERLINE - PLAN AND PROFILE**

**MAPLE ST - STA 209+50 TO STA 214+00**

CANTON WATERLINE  
HARTVILLE/LAKE TWP

SCALE IN FEET

HORIZONTAL

VERTICAL

STATION

210

211

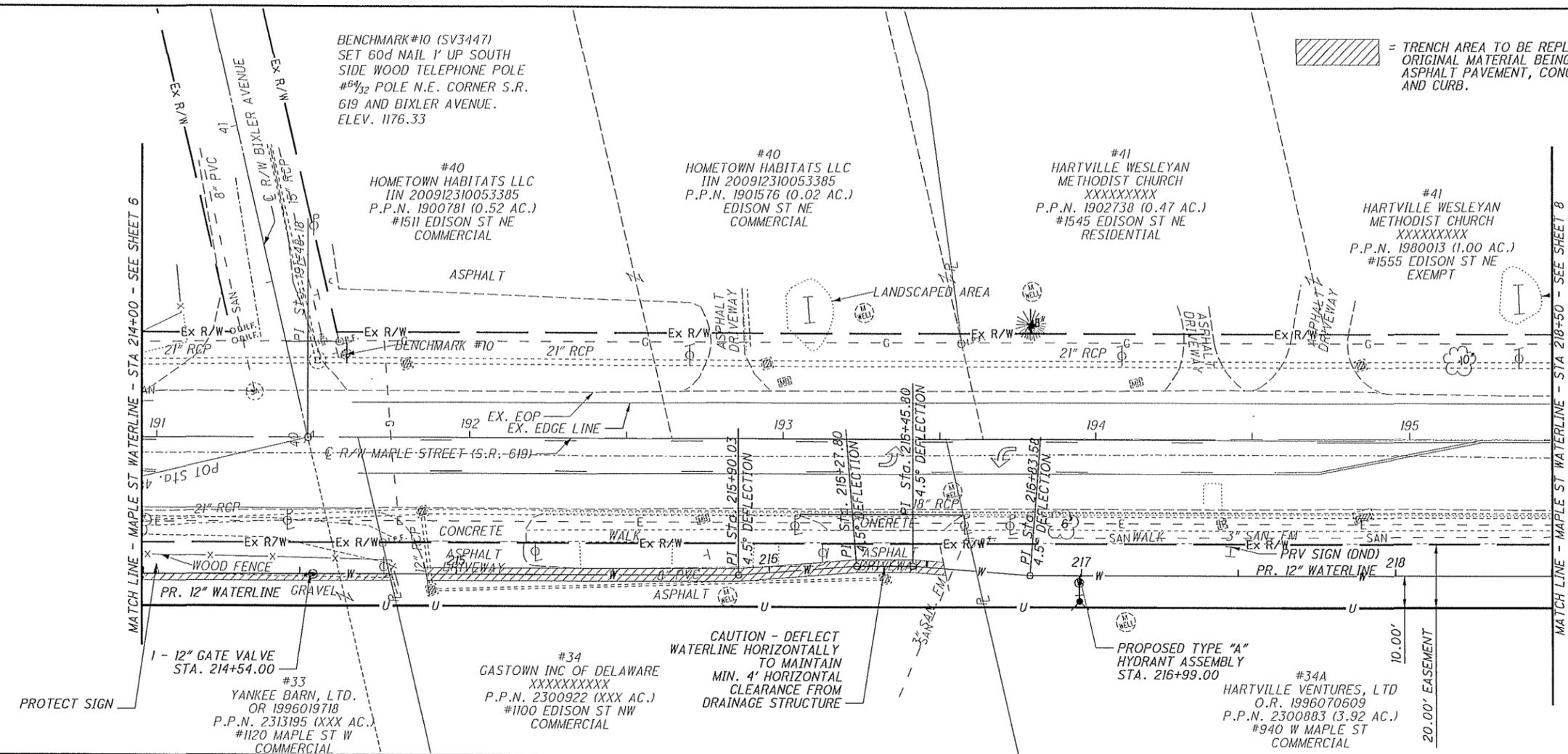
212

213

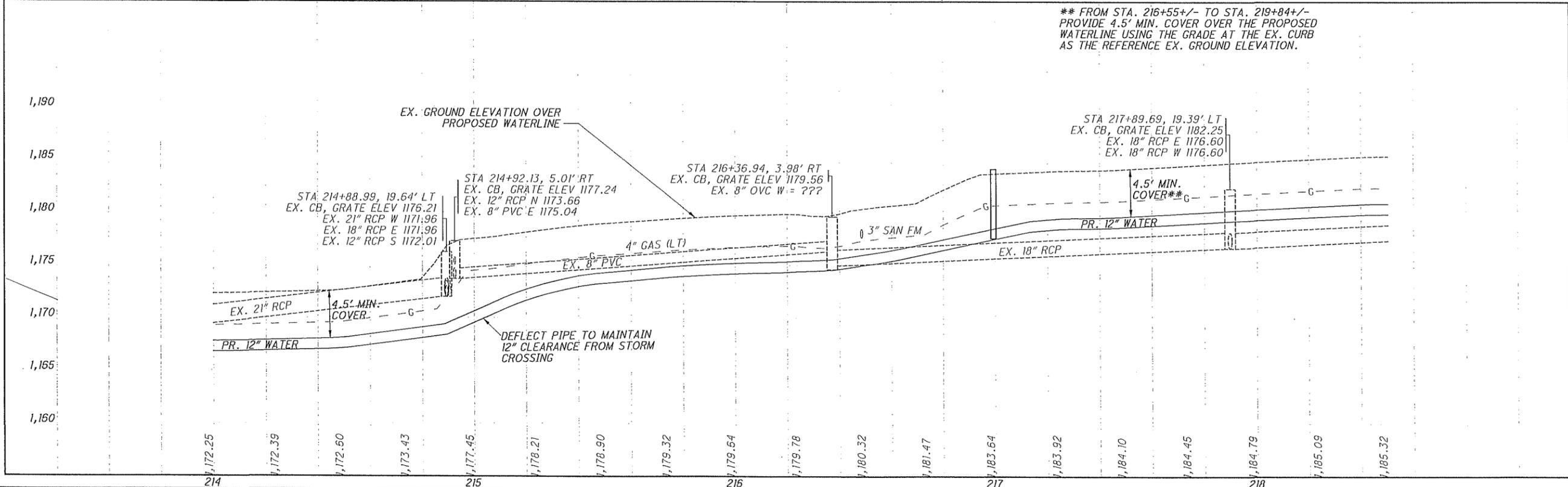
214

CALCULATED	MAM	CHECKED	KMK
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J:\TSV\11-076 Canton Water, Hartville & Lake Twp. Extension\STA\11076\roadway\sheets\Phase I\11076P204.dgn 8/7/2012 10:32:03 AM kmkoppes" ODOTVBI\_PDF\_Full.plt cga ODOTVBI\_Pen-ME.tbl M-E C



 = TRENCH AREA TO BE REPLACED WITH ORIGINAL MATERIAL BEING EITHER: ASPHALT PAVEMENT, CONCRETE, GRAVEL AND CURB.



\*\* FROM STA. 216+55+/- TO STA. 219+84+/- PROVIDE 4.5' MIN. COVER OVER THE PROPOSED WATERLINE USING THE GRADE AT THE EX. CURB AS THE REFERENCE EX. GROUND ELEVATION.

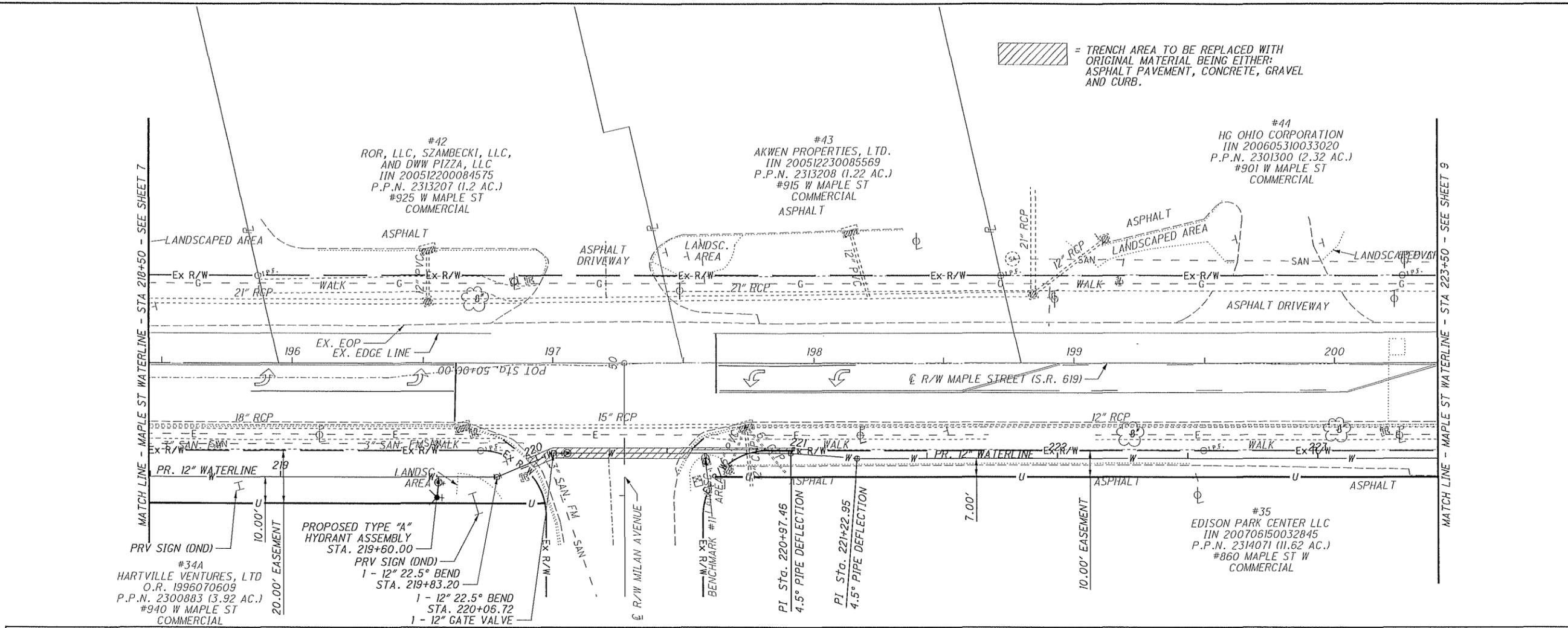
**WATERLINE - PLAN AND PROFILE**  
**MAPLE ST - STA 214+00 TO STA 218+50**

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MAM	
CHECKED	
KMK	

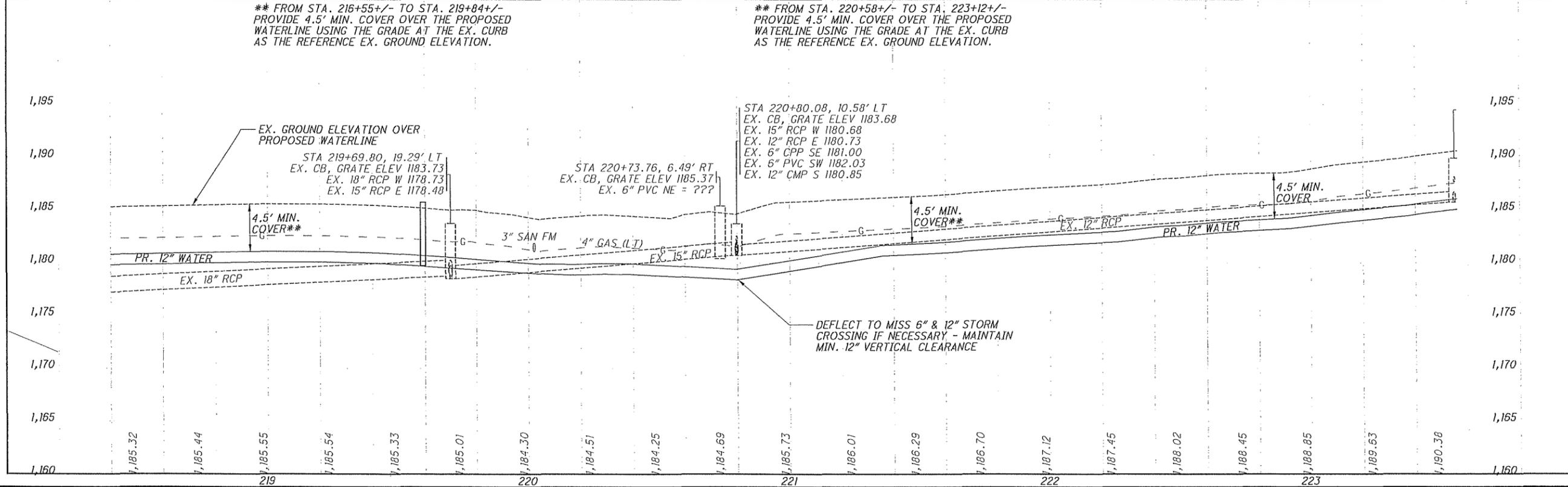
HORIZONTAL SCALE IN FEET  
 0 10 20 40

7  
 15

J:\TSV\11-076 Canton Water, Hartville & Lake Twp. Extension\STA\11076\roadway\sheet\Phase I\11076R205.dgn 8/7/2012 10:32:05 AM kmkoppas" ODOTV81\_PDF\_Full.pltcfq ODOTV81\_Pen-ME.tbl M-E Cc



= TRENCH AREA TO BE REPLACED WITH ORIGINAL MATERIAL BEING EITHER: ASPHALT PAVEMENT, CONCRETE, GRAVEL AND CURB.



**WATERLINE - PLAN AND PROFILE**

**MAPLE ST - STA 218+50 TO STA 223+50**

**CANTON WATERLINE**  
**HARTVILLE/LAKE TWP**

CALCULATED  
MAM

CHECKED  
KMK

0 20 40  
HORIZONTAL  
SCALE IN FEET

8  
15

J:\TSV\11-076 Canton Water, Hartville & Lake Twp. Extension\STA\11076\roadway\sheets\Phase I\11076GP206.dgn 8/7/2012 10:32:07 AM kmkoppes" ODOTV81\_PDF\_Full.plt cfig ODOTV81\_Pen-ME.tbl M-E Cc

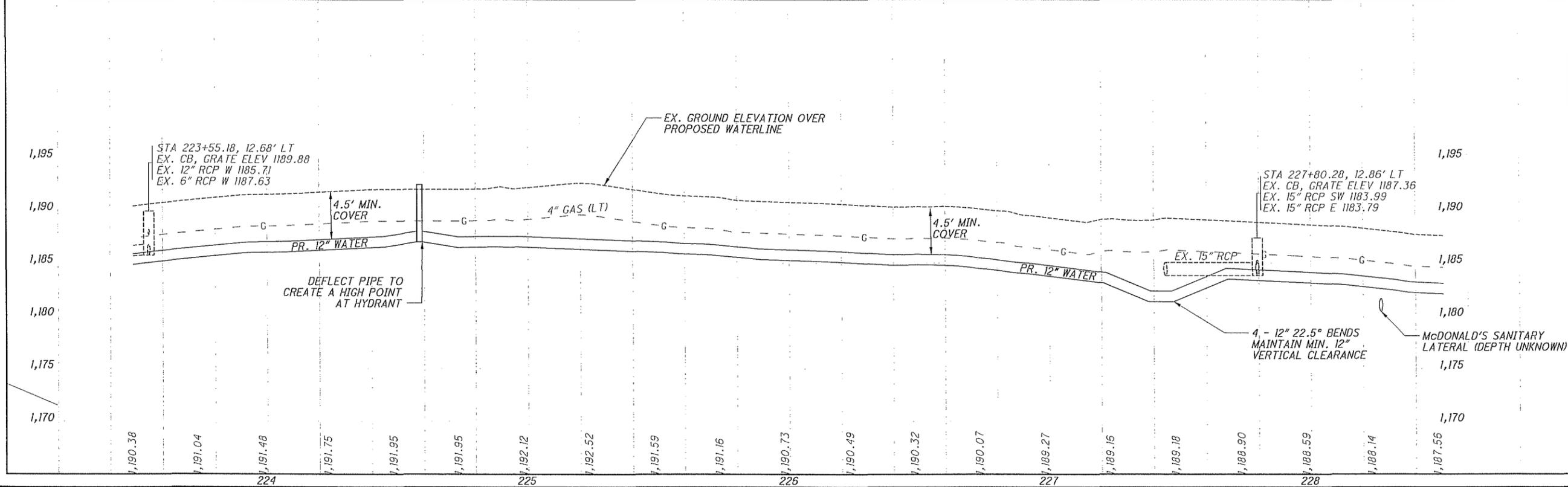
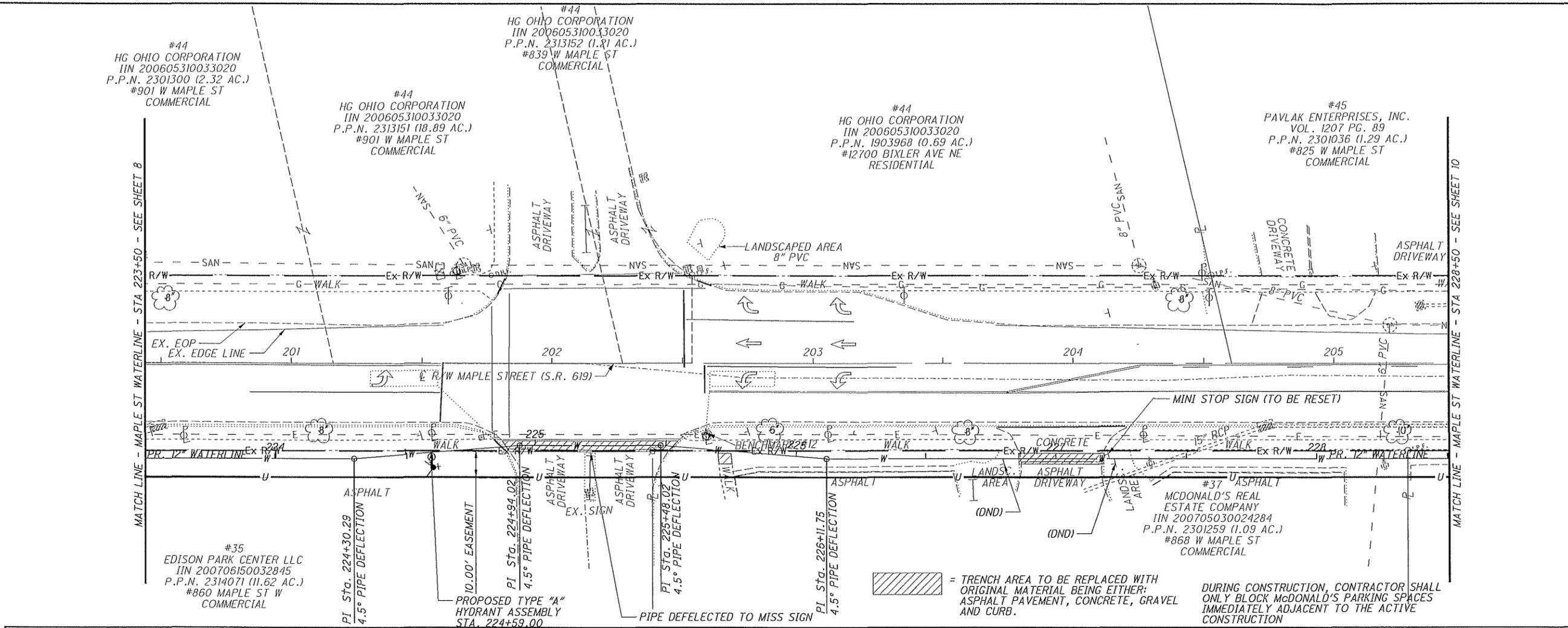


0 20 40  
 HORIZONTAL SCALE IN FEET  
 CALCULATED MAM  
 CHECKED RMK

WATERLINE - PLAN AND PROFILE  
 MAPLE ST - STA 223+50 TO STA 228+50

CANTON WATERLINE  
 HARTVILLE/LAKE TWP

9  
 15



= TRENCH AREA TO BE REPLACED WITH ORIGINAL MATERIAL BEING EITHER: ASPHALT PAVEMENT, CONCRETE, GRAVEL AND CURB.

DURING CONSTRUCTION, CONTRACTOR SHALL ONLY BLOCK McDONALD'S PARKING SPACES IMMEDIATELY ADJACENT TO THE ACTIVE CONSTRUCTION

#44  
 HG OHIO CORPORATION  
 IIN 200605310033020  
 P.P.N. 2301300 (2.32 AC.)  
 #901 W MAPLE ST  
 COMMERCIAL

#44  
 HG OHIO CORPORATION  
 IIN 200605310033020  
 P.P.N. 2313151 (18.89 AC.)  
 #901 W MAPLE ST  
 COMMERCIAL

#44  
 HG OHIO CORPORATION  
 IIN 200605310033020  
 P.P.N. 2313152 (1.91 AC.)  
 #839 W MAPLE ST  
 COMMERCIAL

#44  
 HG OHIO CORPORATION  
 IIN 200605310033020  
 P.P.N. 1903968 (0.69 AC.)  
 #12700 BIXLER AVE NE  
 RESIDENTIAL

#45  
 PAVLAK ENTERPRISES, INC.  
 VOL. 1207 PG. 89  
 P.P.N. 2301036 (1.29 AC.)  
 #825 W MAPLE ST  
 COMMERCIAL

#35  
 EDISON PARK CENTER LLC  
 IIN 200705150032845  
 P.P.N. 2314071 (11.62 AC.)  
 #860 MAPLE ST W  
 COMMERCIAL

#37  
 MCDONALD'S REAL ESTATE COMPANY  
 IIN 200705030024284  
 P.P.N. 2301259 (1.09 AC.)  
 #868 W MAPLE ST  
 COMMERCIAL

MATCH LINE - MAPLE ST WATERLINE - STA 223+50 - SEE SHEET 8

MATCH LINE - MAPLE ST WATERLINE - STA 228+50 - SEE SHEET 10

STA 223+55.18, 12.68' LT  
 EX. CB, GRATE ELEV 1189.88  
 EX. 12" RCP W 1185.71  
 EX. 6" RCP W 1187.63

STA 227+80.28, 12.86' LT  
 EX. CB, GRATE ELEV 1187.36  
 EX. 15" RCP SW 1183.99  
 EX. 15" RCP E 1183.79

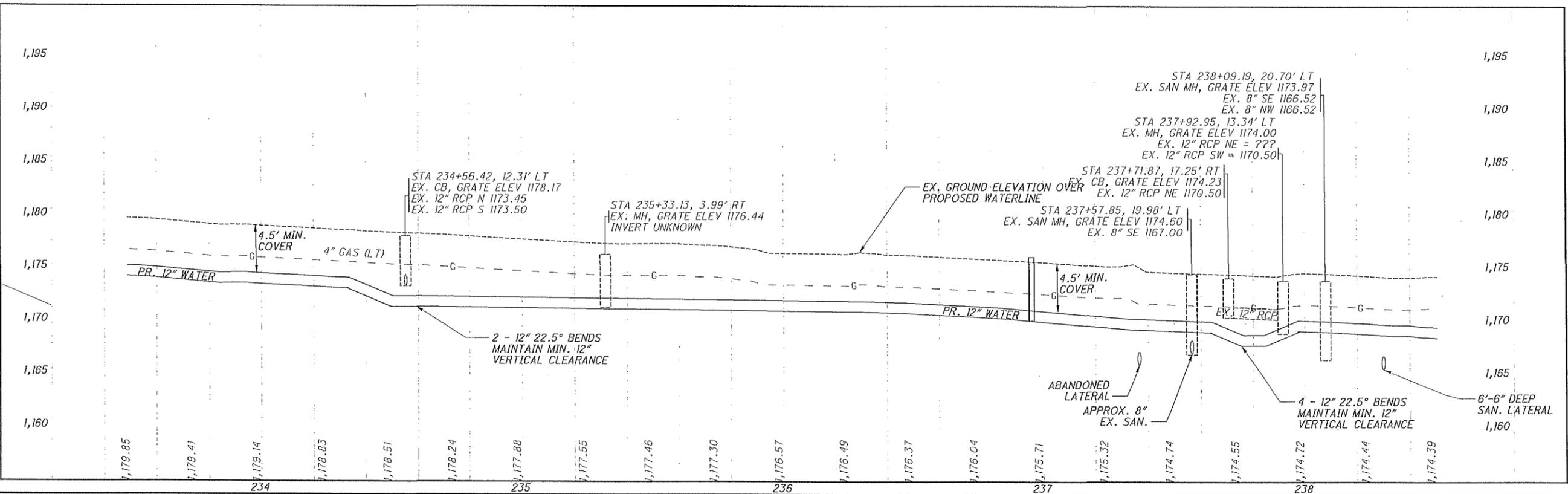
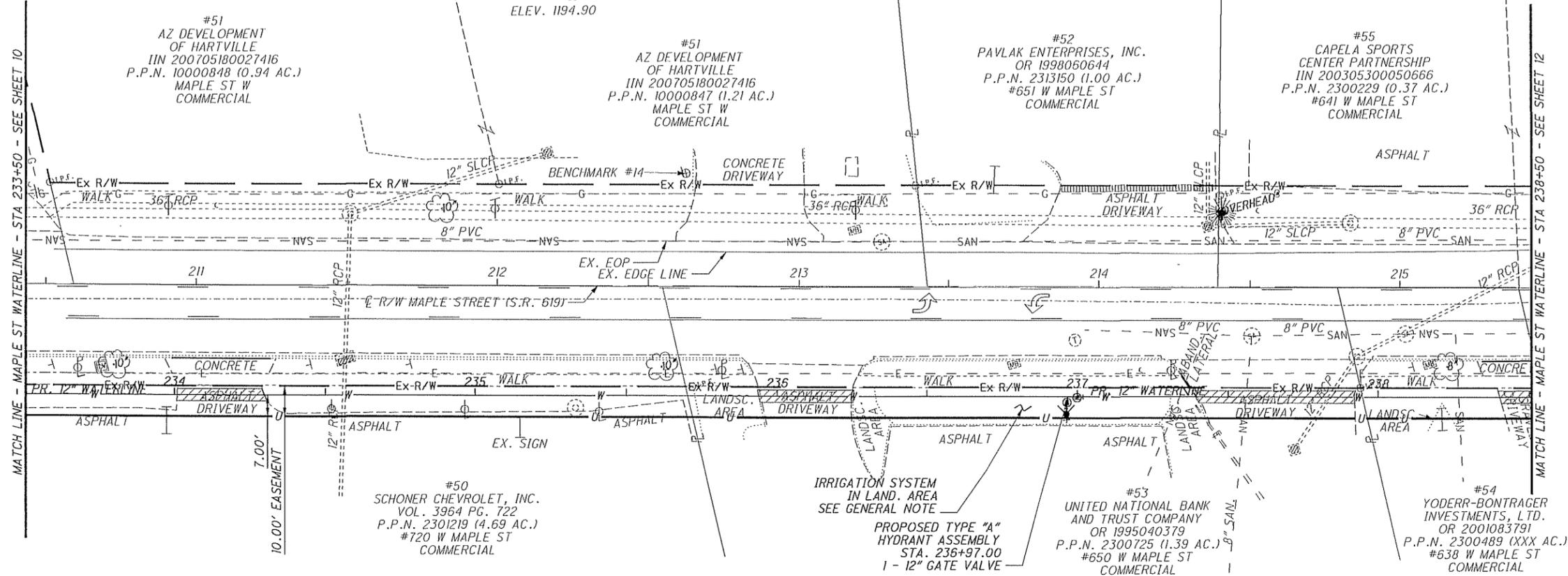
DEFLECT PIPE TO CREATE A HIGH POINT AT HYDRANT

4 - 12" 22.5° BENDS MAINTAIN MIN. 12" VERTICAL CLEARANCE

MCDONALD'S SANITARY LATERAL (DEPTH UNKNOWN)



 = TRENCH AREA TO BE REPLACED WITH ORIGINAL MATERIAL BEING EITHER: ASPHALT PAVEMENT, CONCRETE, GRAVEL AND CURB.



**WATERLINE - PLAN AND PROFILE**  
**MAPLE ST - STA 233+50 TO STA 238+50**

**CANTON WATERLINE**  
**HARTVILLE/LAKE TWP**

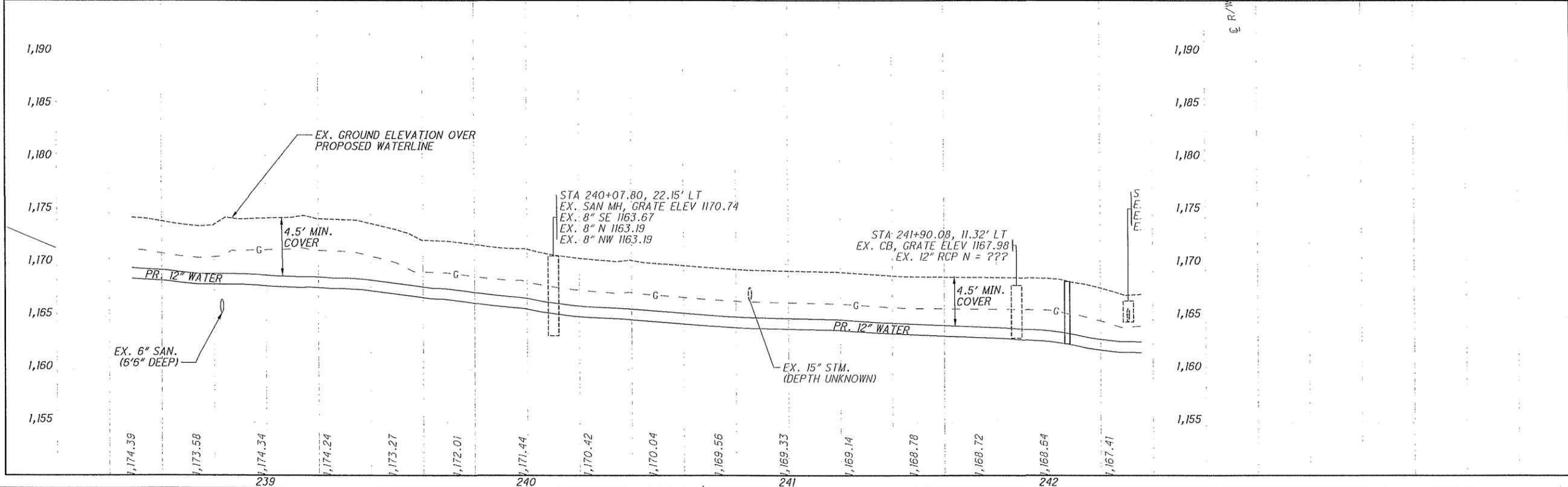
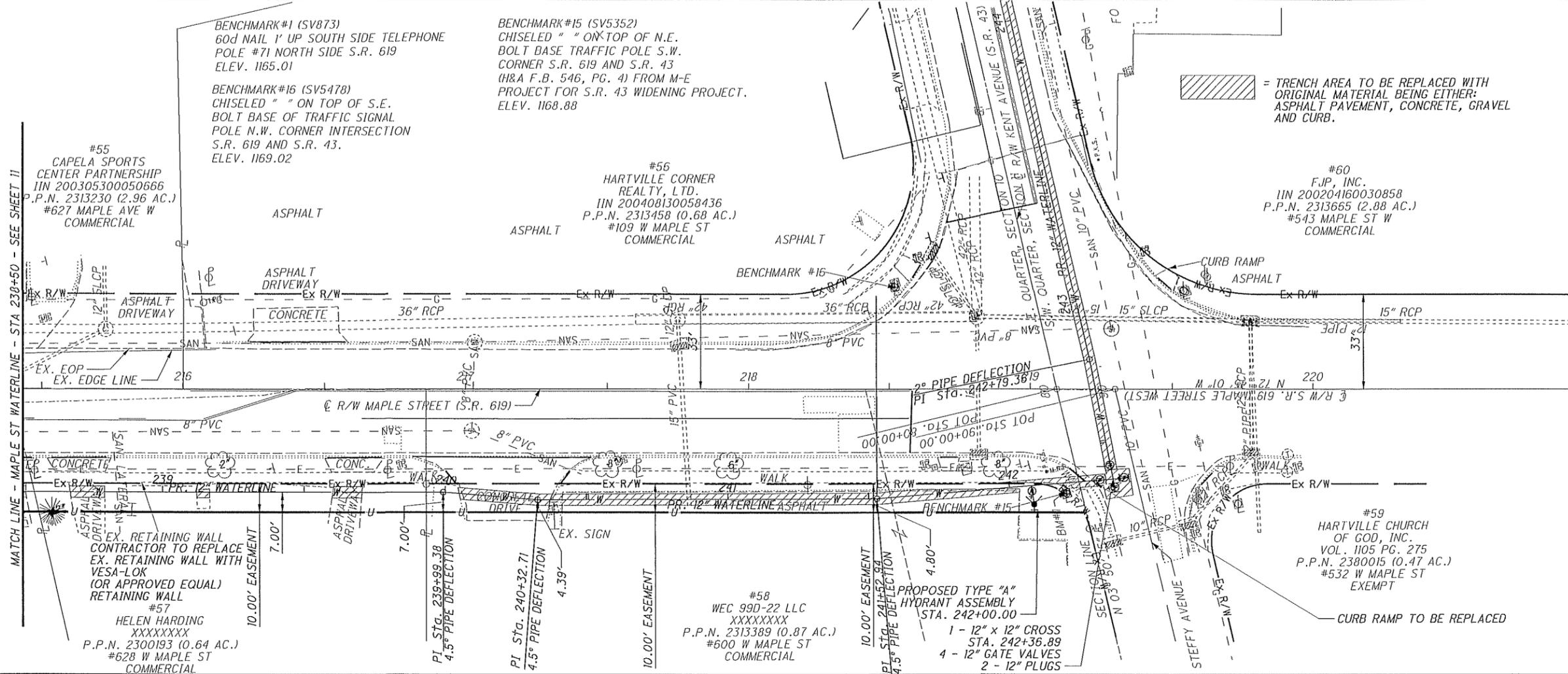
CALCULATED  
MAM

CHECKED  
KMK




HORIZONTAL SCALE IN FEET

11  
15



**WATERLINE - PLAN AND PROFILE**

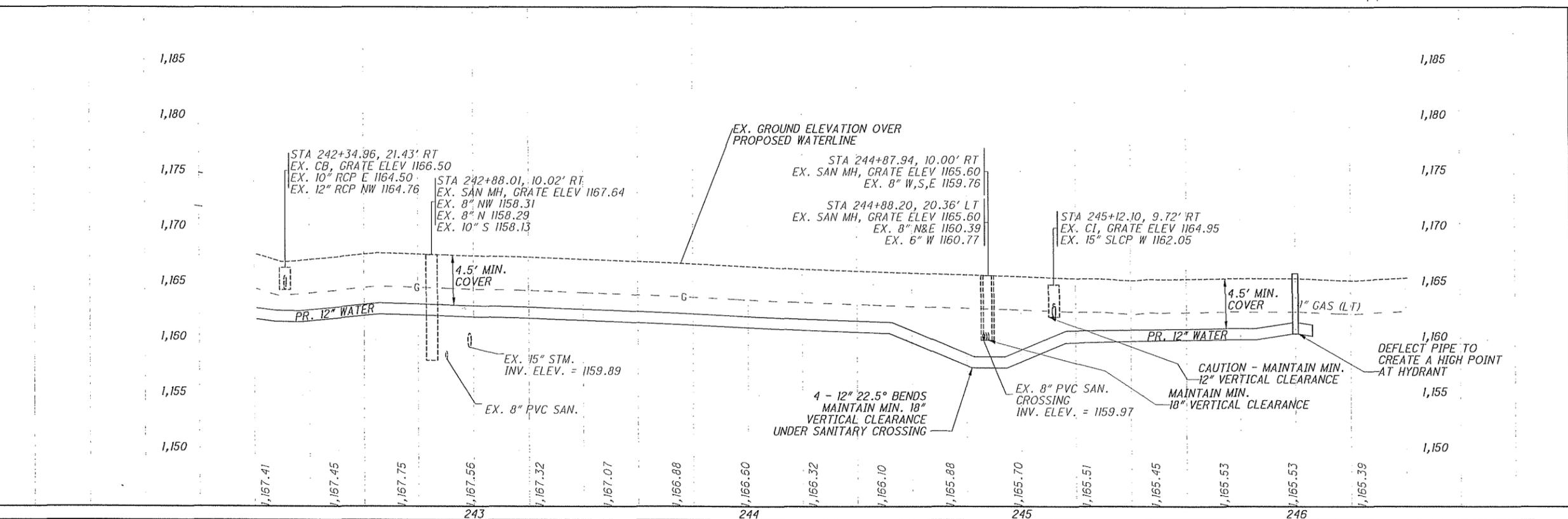
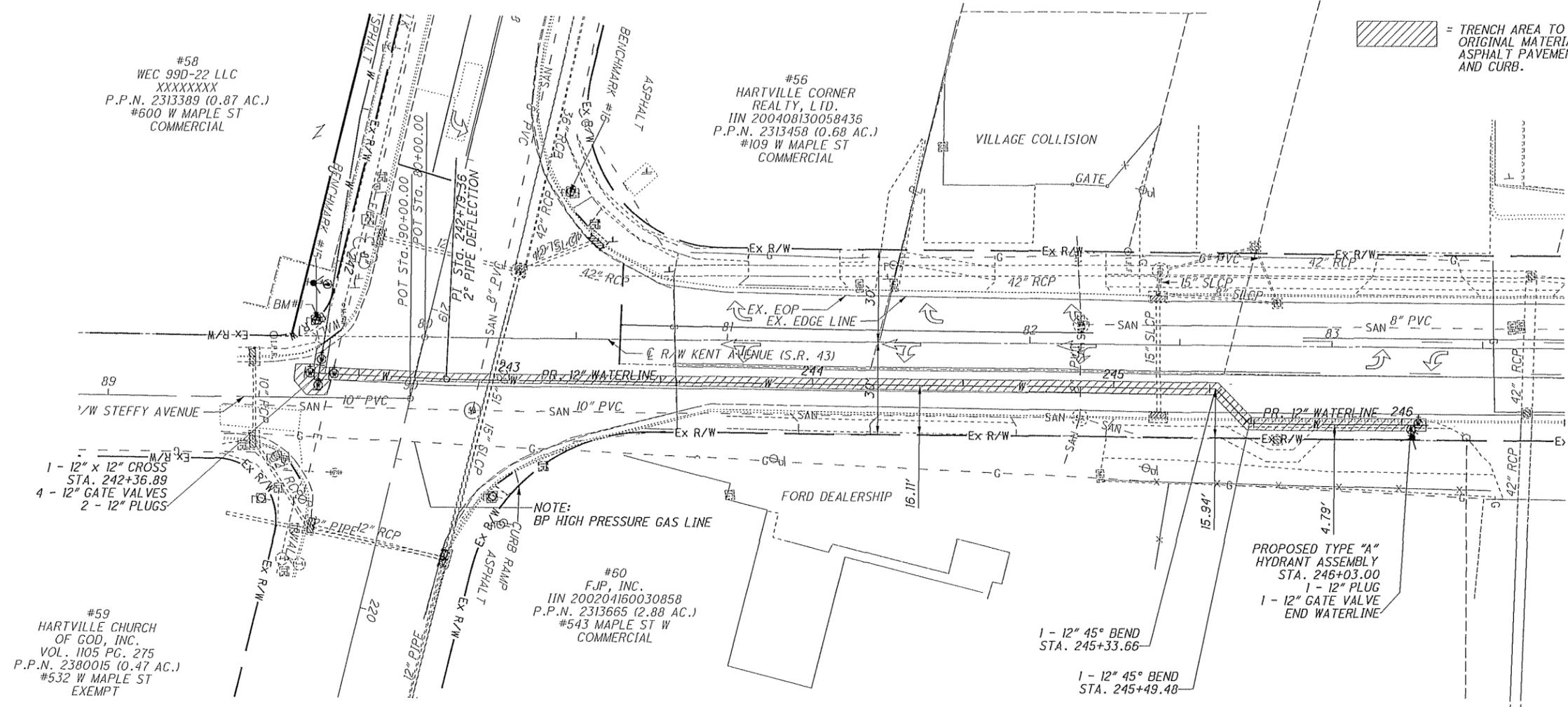
**MAPLE ST - STA 238+50 TO STA 242+35.01**

**CANTON WATERLINE**  
HARTVILLE/LAKE TWP

12  
15

0 10 20 40  
HORIZONTAL SCALE IN FEET

CALCULATED MAM  
CHECKED KMK



#58  
WEC 99D-22 LLC  
XXXXXXX  
P.P.N. 2313389 (0.87 AC.)  
#600 W MAPLE ST  
COMMERCIAL

#56  
HARTVILLE CORNER  
REALTY, L.D.  
IIN 200408130058436  
P.P.N. 2313458 (0.68 AC.)  
#109 W MAPLE ST  
COMMERCIAL

#59  
HARTVILLE CHURCH  
OF GOD, INC.  
VOL. 1105 PG. 275  
P.P.N. 2380015 (0.47 AC.)  
#532 W MAPLE ST  
EXEMPT

#60  
F.J.P., INC.  
IIN 200204160030858  
P.P.N. 2313665 (2.88 AC.)  
#543 MAPLE ST W  
COMMERCIAL

= TRENCH AREA TO BE REPLACED WITH ORIGINAL MATERIAL BEING EITHER: ASPHALT PAVEMENT, CONCRETE, GRAVEL AND CURB.

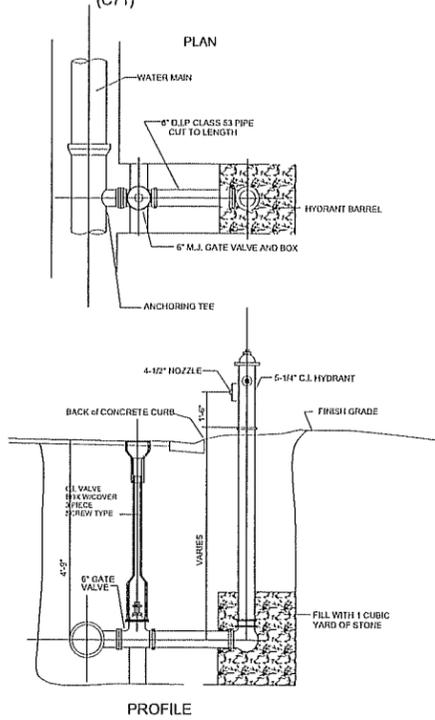
**WATERLINE - PLAN AND PROFILE**

**KENT AVE - STA 242+35 TO STA 246+50**

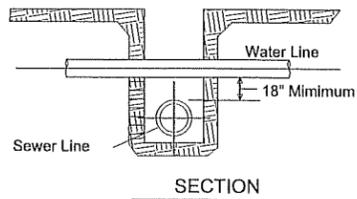
**CANTON WATERLINE**  
**HARTVILLE/LAKE TWP**

13  
15

**HYDRANT SETTING (C71)**



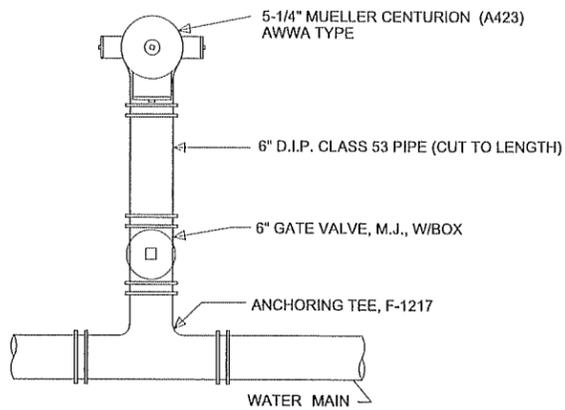
**VERTICAL WATER MAIN CLEARANCE (C186)**



**NOTES:**

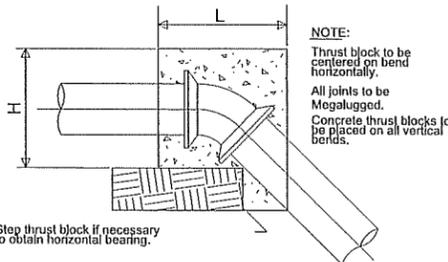
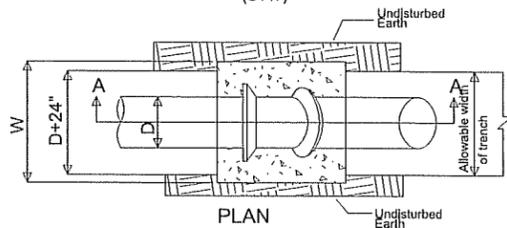
1. If joint on water main is within limits of sewer trench, install mechanical bell joint clamp
2. If clearance is less than 18", encase sewer pipe 6 ft. each side of water main. To be paid at unit price bid per cubic yard of concrete.
3. In no case shall the sewer pipe contact any water main, service line or appurtenance.

**HYDRANT CONNECTION (TYPE "A") (C70)**



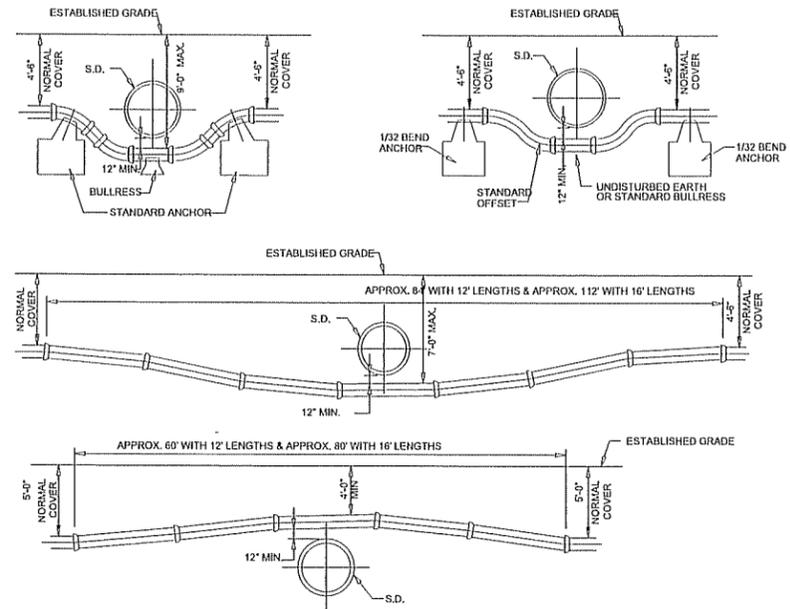
HYDRANT SETTINGS CONSIST OF HYDRANT, VALVE, VALVE BOX, FITTINGS AND MATERIALS SHOWN OR SPECIFIED WHICH ARE NEEDED FOR PROPER INSTALLATION.  
SEE SPECIFICATIONS FOR MORE INFORMATION ABOUT MATERIALS, SETTING HYDRANTS AND DRAINAGE REQUIREMENTS.  
IF RESTRAINED JOINT FITTINGS CANNOT BE USED, (2) THE RODS AND (4) EYE BOLTS WINUTS AND WASHERS MUST BE USED.  
FIGURES SUCH AS F-1217 INDICATE CLOW CORPORATION STYLES. USE THIS BRAND OR APPROVED EQUAL.  
ALL HYDRANTS ARE TO BE INSTALLED WITH THE PUMPER NOZZLE FACING THE STREET.

**CONCRETE THRUST BLOCKS FOR VERTICAL BENDS ON WATER MAINS POURED IN PLACE (CLASS C) (C147)**

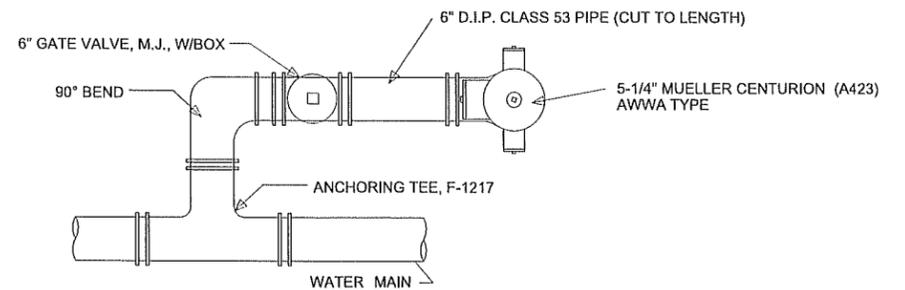


SIZE OF PIPE	DEGREE OF BEND											
	11 1/2				22 1/2				45			
	L	W	H	V cu. yds	L	W	H	V cu. yds	L	W	H	V cu. yds
6"	12	48	18	0.2	15	43	36	0.5	28	55	24	0.8
8"	12	63	24	0.4	18	57	34	0.7	36	57	33	1.4
12"	20	54	36	0.8	37	82	37	1.7	48	82	61	3.1
16"	31	65	38	1.6	60	65	39	3.0	65	65	65	5.6

**WATER MAIN CROSSING STORM DRAIN (C187)**



**HYDRANT CONNECTION (TYPE "B") (C70)**



HYDRANT SETTINGS CONSIST OF HYDRANT, VALVE, VALVE BOX, FITTINGS AND MATERIALS SHOWN OR SPECIFIED WHICH ARE NEEDED FOR PROPER INSTALLATION.  
SEE SPECIFICATIONS FOR MORE INFORMATION ABOUT MATERIALS, SETTING HYDRANTS AND DRAINAGE REQUIREMENTS.  
IF RESTRAINED JOINT FITTINGS CANNOT BE USED, (2) THE RODS AND (4) EYE BOLTS WINUTS AND WASHERS MUST BE USED.  
FIGURES SUCH AS F-1217 INDICATE CLOW CORPORATION STYLES. USE THIS BRAND OR APPROVED EQUAL.  
ALL HYDRANTS ARE TO BE INSTALLED WITH THE PUMPER NOZZLE FACING THE STREET.

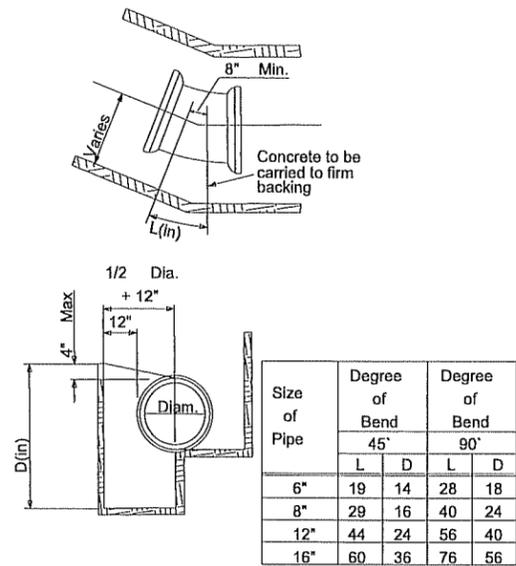
CALCULATED  
MAM  
CHECKED  
KMK

MISCELLANEOUS DETAILS

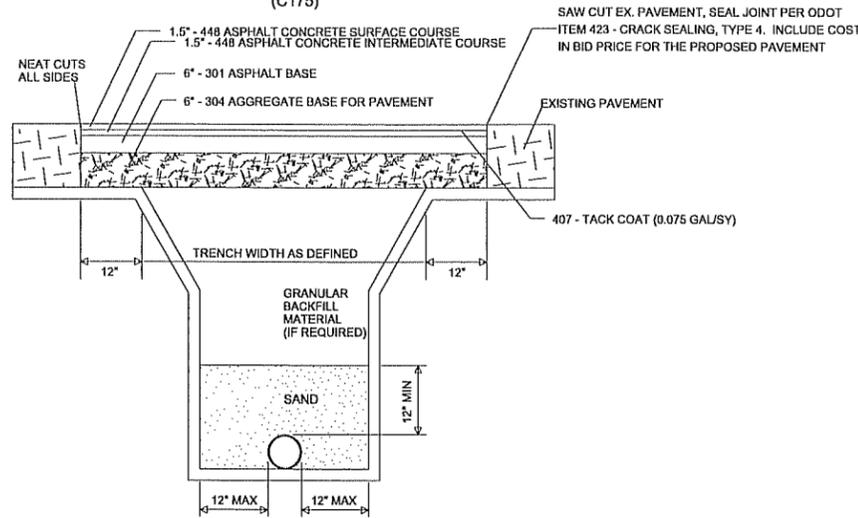
CANTON WATERLINE  
HARTVILLE / LAKE TWP

J:\TS\11-076 Canton Water, Hartville & Lake Twp. Extension\STA\11076\roadway\sheet\Phase I\11076GZ002.dgn 8/7/2012 4:13:43 PM kmkoppes" ODOTV8i\_Half.pltcfq ODOTV8i\_Pen-ME.tbl M-E Cam

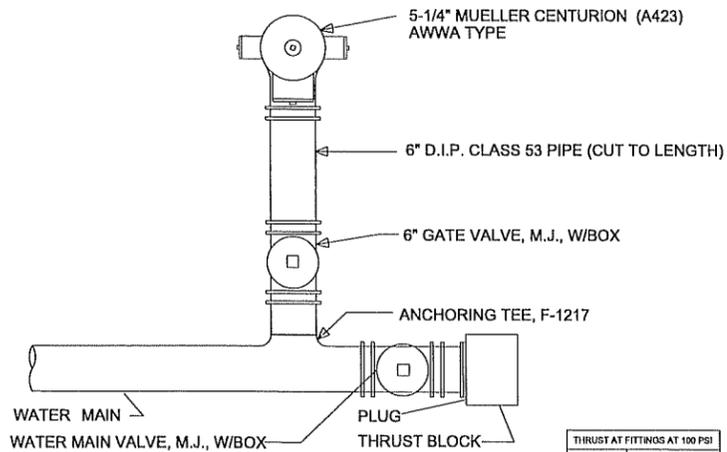
**HORIZONTAL THRUST BLOCKS**  
(C130)



**PAY LIMITS - TRENCH & ROADWAY FOR D.I.P.**  
(C175)



**HYDRANT CONNECTION AT END OF MAIN**  
DWG.NO.C383



HYDRANT SETTINGS CONSIST OF HYDRANT, VALVE, VALVE BOX, FITTINGS AND MATERIALS SHOWN OR SPECIFIED WHICH ARE NEEDED FOR PROPER INSTALLATION.

SEE SPECIFICATIONS FOR MORE INFORMATION ABOUT MATERIALS, SETTING HYDRANTS AND DRAINAGE REQUIREMENTS.

IF RESTRAINED JOINT FITTINGS CANNOT BE USED, (2) TIE RODS AND (4) EYE BOLTS W/ NUTS AND WASHERS MUST BE USED.

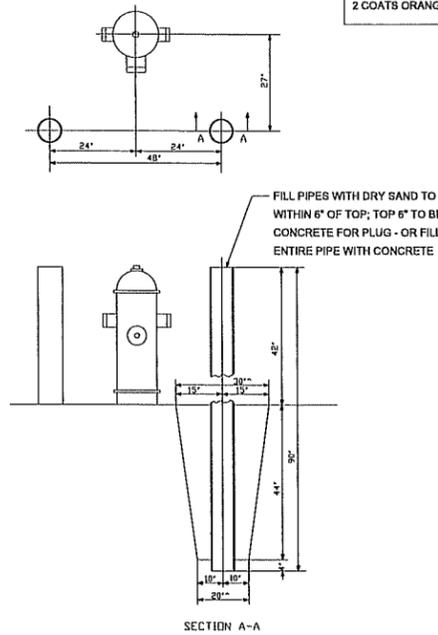
FIGURES SUCH AS F-1217 INDICATE CLOW CORPORATION STYLES. USE THIS BRAND OR APPROVED EQUAL.

ALL HYDRANTS ARE TO BE INSTALLED WITH THE PUMPER NOZZLE FACING THE STREET.

MAIN SIZE	TOTAL POUNDS
6	3,739
8	6,433
10	9,877
12	13,685
14	18,385
16	23,779
18	29,865
20	36,644
24	52,276

**MATERIALS REQUIRED FOR SET OF 2 POSTS**

- 2EA. 6"x90" UNCOATED STEEL PIPES, MIN. WALL THICKNESS .432"
- 36CF 1 - 2 - 12 - 5 CONCRETE WITH GRAVEL AGGREGATE
- 1 COAT REDLEAD PRIMER PAINT
- 2 COATS ORANGE PAINT



\*\* IF REQUIRED

CANTON WATER DEPARTMENT - CITY OF CANTON, OHIO  
STANDARD HYDRANT GUARD POSTS APR. 5, 1989 DWG.NO. C67

CALCULATED  
MAM  
CHECKED  
KMK

MISCELLANEOUS DETAILS

CANTON WATERLINE  
HARTVILLE/ LAKE TWP