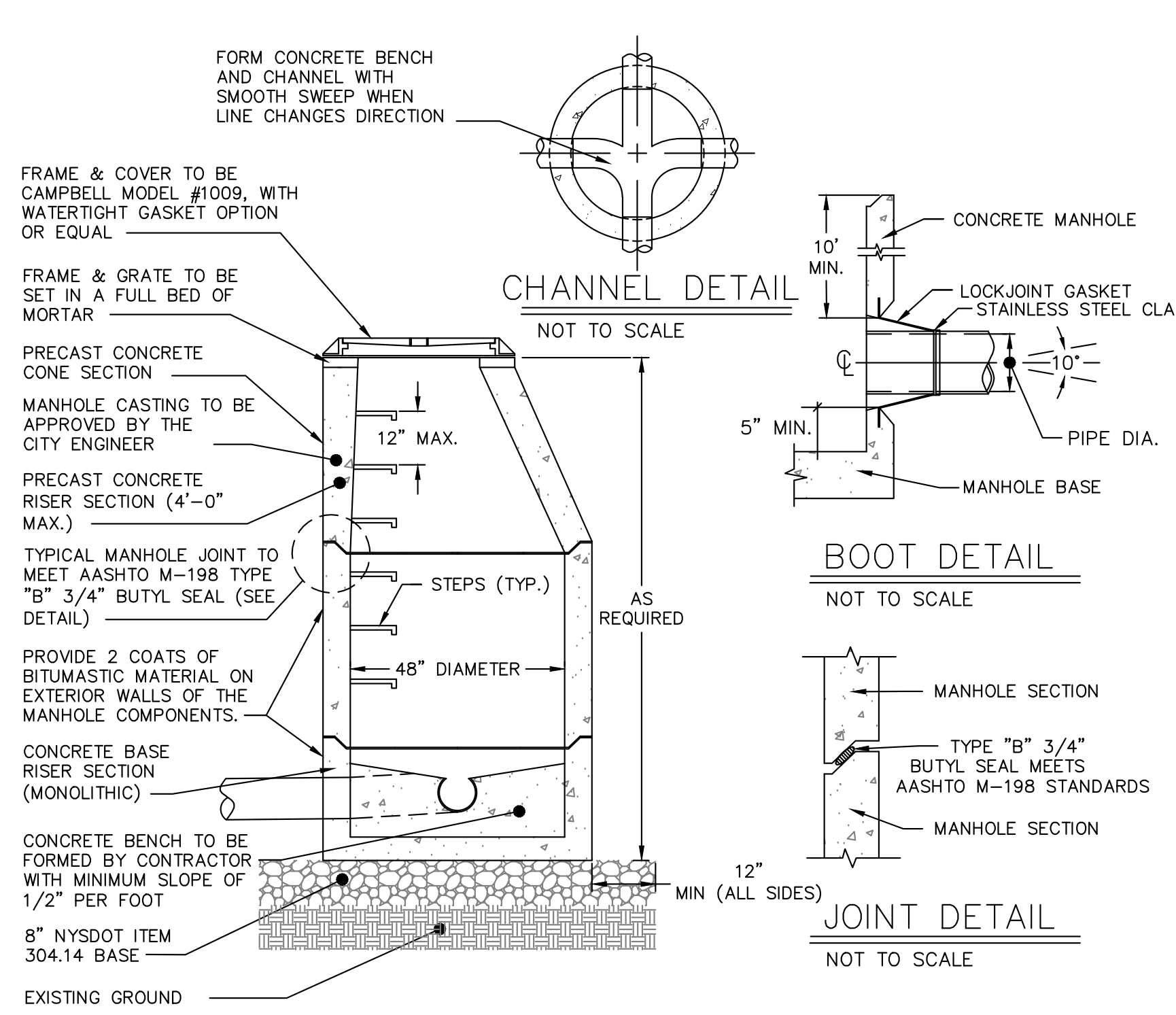
SEWER DETAILS


FORM CONCRETE BENCH AND CHANNEL WITH SMOOTH SWEEP WHEN LINE CHANGES DIRECTION
CHANNEL DETAIL
NOT TO SCALE
FRAME & COVER TO BE CAMPBELL MODEL #1009, WITH WATERTIGHT GASKET OPTION OR EQUAL
FRAME & GRATE TO BE SET IN A FULL BED OF MORTAR
PRECAST CONCRETE CONE SECTION
MANHOLE CASTING TO BE APPROVED BY THE CITY ENGINEER
PRECAST CONCRETE RISER SECTION (4'-0" MAX.)
12" MAX.
TYPICAL MANHOLE JOINT TO MEET AASHTO M-198 TYPE "B" 3/4" BUTYL SEAL (SEE DETAIL)
STEPS (TYP.)
48" DIAMETER
PROVIDE 2 COATS OF BITUMASTIC MATERIAL ON EXTERIOR WALLS OF THE MANHOLE COMPONENTS.
CONCRETE BASE RISER SECTION (MONOLITHIC)
CONCRETE BENCH TO BE FORMED BY CONTRACTOR WITH MINIMUM SLOPE OF 1/2" PER FOOT
8" NYSDOT ITEM 304.14 BASE
EXISTING GROUND
AS REQUIRED
12" MIN (ALL SIDES)
CONCRETE MANHOLE
LOCKJOINT GASKET
STAINLESS STEEL CLAMP
10" MIN.
5" MIN.
PIPE DIA.
MANHOLE BASE
BOOT DETAIL
NOT TO SCALE
MANHOLE SECTION
TYPE "B" 3/4" BUTYL SEAL MEETS AASHTO M-198 STANDARDS
MANHOLE SECTION
JOINT DETAIL
NOT TO SCALE

NOTES:

1. PIPE CONNECTION TO BE STANDARD "LOCKJOINT" BOOT 5" OFF BASE OF MANHOLE (SEE DETAIL).

2. CONCRETE STRENGTH OF MANHOLE COMPONENTS TO BE 4000 PSI @ 28 DAYS IN ACCORDANCE WITH ASTM C-478-86.

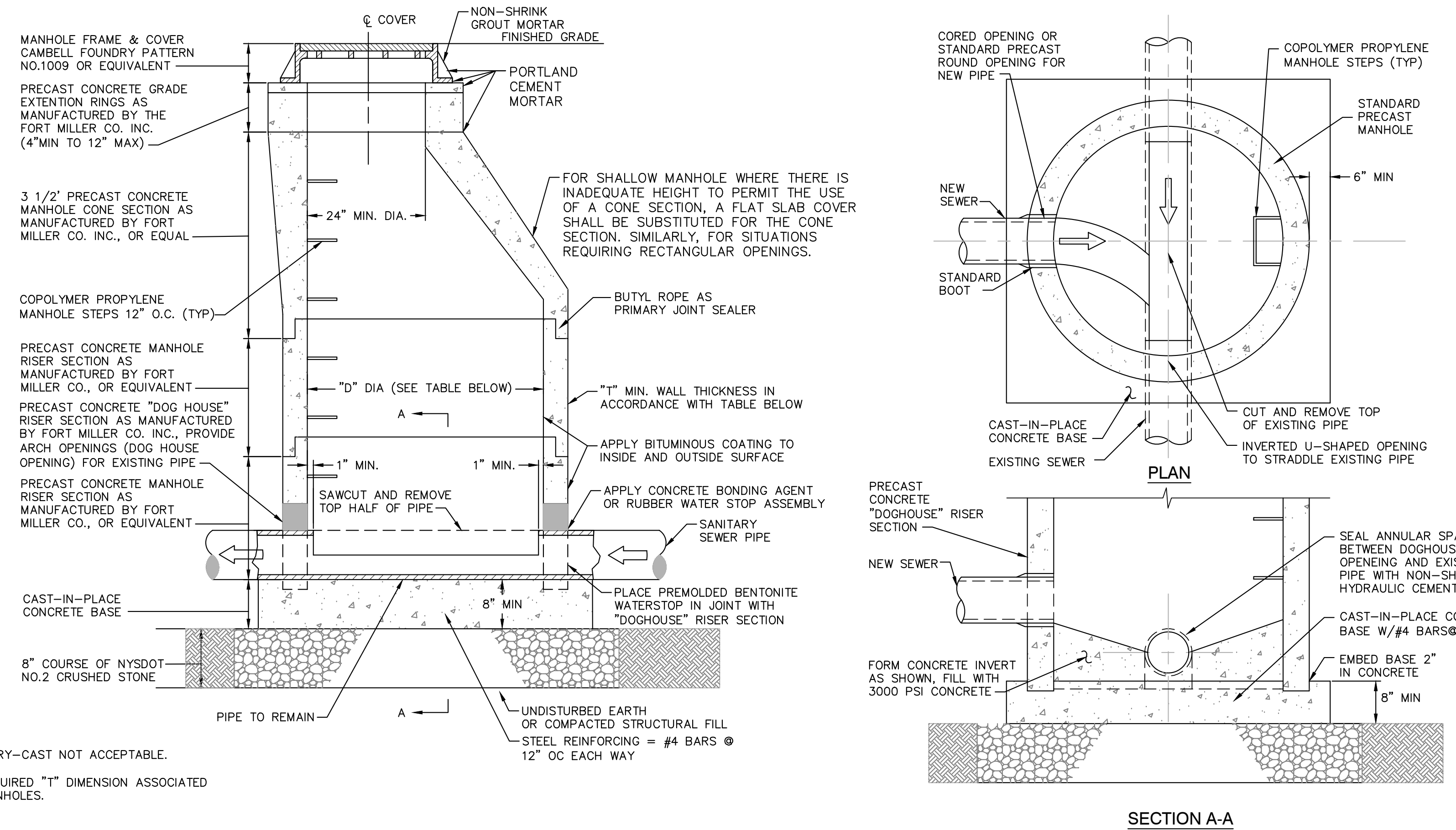
3. STEEL REINFORCMENT OF MANHOLE COMPONENTS TO MEET ASTM A615-A497 REQUIREMENTS.

4. LOADING OF MANHOLE COMPONENTS TO MEET H-20 REQUIREMENTS.

5. CONCRETE USED IN MANHOLE COMPONENTS TO CONTAIN 6% AIR ENTRAINMENT.

6. 4' MAXIMUM FROM MANHOLE TO PIPE JOINT.

PRE-CAST CONCRETE SANITARY MANHOLE DETAIL
NOT TO SCALE


℄ COVER
NON-SHRINK GROUT MORTAR
FINISHED GRADE
PORTLAND CEMENT MORTAR
MANHOLE FRAME & COVER CAMBELL FOUNDRY PATTERN NO.1009 OR EQUIVALENT
PRECAST CONCRETE GRADE EXTENTION RINGS AS MANUFACTURED BY THE FORT MILLER CO. INC. (4"MIN TO 12" MAX)
24" MIN. DIA.
3 1/2" PRECAST CONCRETE MANHOLE CONE SECTION AS MANUFACTURED BY FORT MILLER CO. INC., OR EQUAL
FOR SHALLOW MANHOLE WHERE THERE IS INADEQUATE HEIGHT TO PERMIT THE USE OF A CONE SECTION, A FLAT SLAB COVER SHALL BE SUBSTITUTED FOR THE CONE SECTION. SIMILARLY, FOR SITUATIONS REQUIRING RECTANGULAR OPENINGS.
COPOLYMER PROPYLENE MANHOLE STEPS 12" O.C. (TYP)
BUTYL ROPE AS PRIMARY JOINT SEALER
PRECAST CONCRETE MANHOLE RISER SECTION AS MANUFACTURED BY FORT MILLER CO., OR EQUIVALENT
"D" DIA (SEE TABLE BELOW)
"T" MIN. WALL THICKNESS IN ACCORDANCE WITH TABLE BELOW
PRECAST CONCRETE "DOG HOUSE" RISER SECTION AS MANUFACTURED BY FORT MILLER CO. INC., PROVIDE ARCH OPENINGS (DOG HOUSE OPENING) FOR EXISTING PIPE
APPLY BITUMINOUS COATING TO INSIDE AND OUTSIDE SURFACE
PRECAST CONCRETE MANHOLE RISER SECTION AS MANUFACTURED BY FORT MILLER CO., OR EQUIVALENT
1" MIN.
SAWCUT AND REMOVE TOP HALF OF PIPE
APPLY CONCRETE BONDING AGENT OR RUBBER WATER STOP ASSEMBLY
SANITARY SEWER PIPE
CAST-IN-PLACE CONCRETE BASE
PLACE PREMOLDED BENTONITE WATERSTOP IN JOINT WITH "DOGHOUSE" RISER SECTION
8" MIN
8" COURSE OF NYSDOT NO.2 CRUSHED STONE
STEEL REINFORCING = #4 BARS @ 12" OC EACH WAY
PIPE TO REMAIN
UNDISTURBED EARTH OR COMPACTED STRUCTURAL FILL
A
CORED OPENING OR STANDARD PRECAST ROUND OPENING FOR NEW PIPE
COPOLYMER PROPYLENE MANHOLE STEPS (TYP)
STANDARD PRECAST MANHOLE
NEW SEWER
6" MIN
STANDARD BOOT
CAST-IN-PLACE CONCRETE BASE
EXISTING SEWER
CUT AND REMOVE TOP OF EXISTING PIPE
INVERTED U-SHAPED OPENING TO STRADDLE EXISTING PIPE
PLAN
PRECAST CONCRETE "DOGHOUSE" RISER SECTION
NEW SEWER
SEAL ANNULAR SPACE BETWEEN DOGHOUSE OPENING AND EXISTING PIPE WITH NON-SHRINK HYDRAULIC CEMENT
CAST-IN-PLACE CONCRETE BASE W/#4 BARS@12" OC EW
FORM CONCRETE INVERT AS SHOWN, FILL WITH 3000 PSI CONCRETE
EMBED BASE 2" IN CONCRETE
8" MIN
SECTION A-A

MANHOLE NOTES:

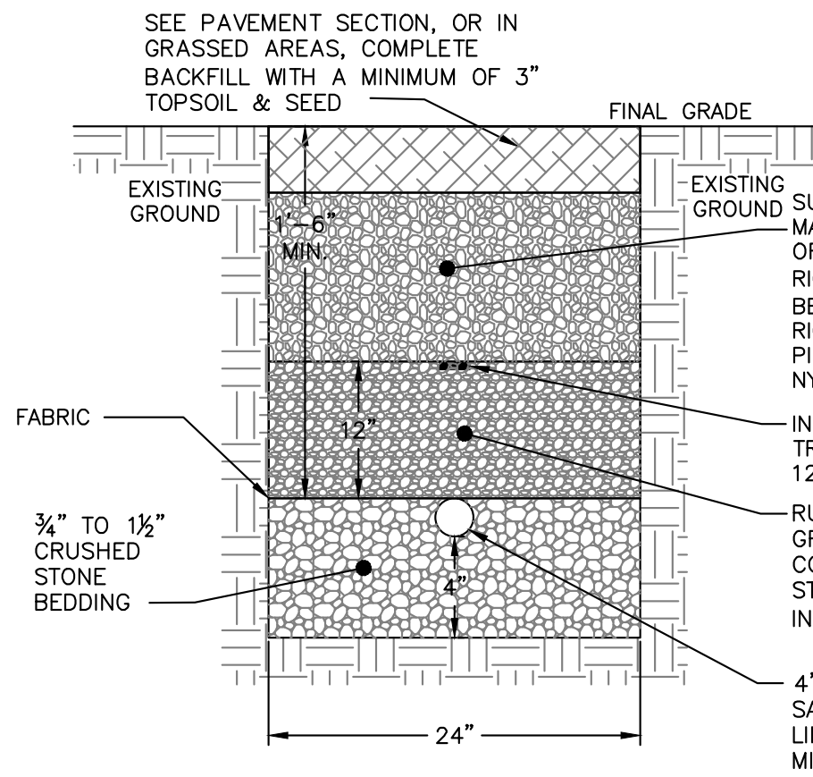
1. USE ONLY WET-CAST UNITS. DRY-CAST NOT ACCEPTABLE.

2. MANUFACTURER TO VERIFY REQUIRED "T" DIMENSION ASSOCIATED WITH DEPTH OF INDIVIDUAL MANHOLES.

TABLE

OUTLET SEWER PIPE SIZE	"D" DIA MIN	"T" WALL THICKNESS MIN
8" THRU 21"	4'-0"	5"
24" THRU 30"	5'-0"	6"

PRECAST CONCRETE INSERTION "DOGHOUSE" MANHOLE DETAIL
NOT TO SCALE

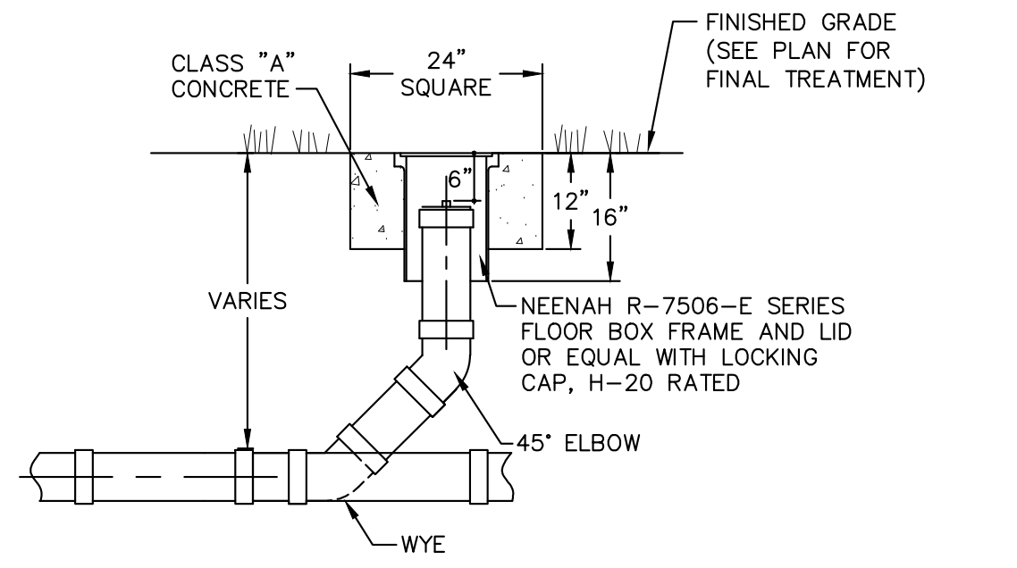

SEE PAVEMENT SECTION, OR IN GRASSED AREAS, COMPLETE BACKFILL WITH A MINIMUM OF 3" TOPSOIL & SEED
FINAL GRADE
EXISTING GROUND
SUITABLE RUN OF TRENCH IN 6" MAX. COMPACTED LIFTS - OUTSIDE OF ROADWAY AND ROAD RIGHT-OF-WAY ONLY (SEE NOTE 2 BELOW). UNDER ROADWAY AND RIGHT-OF-WAY ENTIRE TRENCH TO PIPE CROWN MATERIAL SHALL BE NYSDOT ITEM 304.14.
FILTER FABRIC
INSTALL MAGNETIC TRACER CAUTION TAPE 12 INCHES ABOVE LINE
RUN OF BANK GRAVEL BACKFILL COMPACTED TO 95% STANDARD PROCTOR IN TWO 6" LIFTS
¾" TO 1½" CRUSHED STONE BEDDING
12"
4"
24"
4"ø OR 6"ø SDR 35 PVC SANITARY SEWER SERVICE LINE @ 2% AND 1% MINIMUM SLOPE RESPECTIVELY

NOTES:

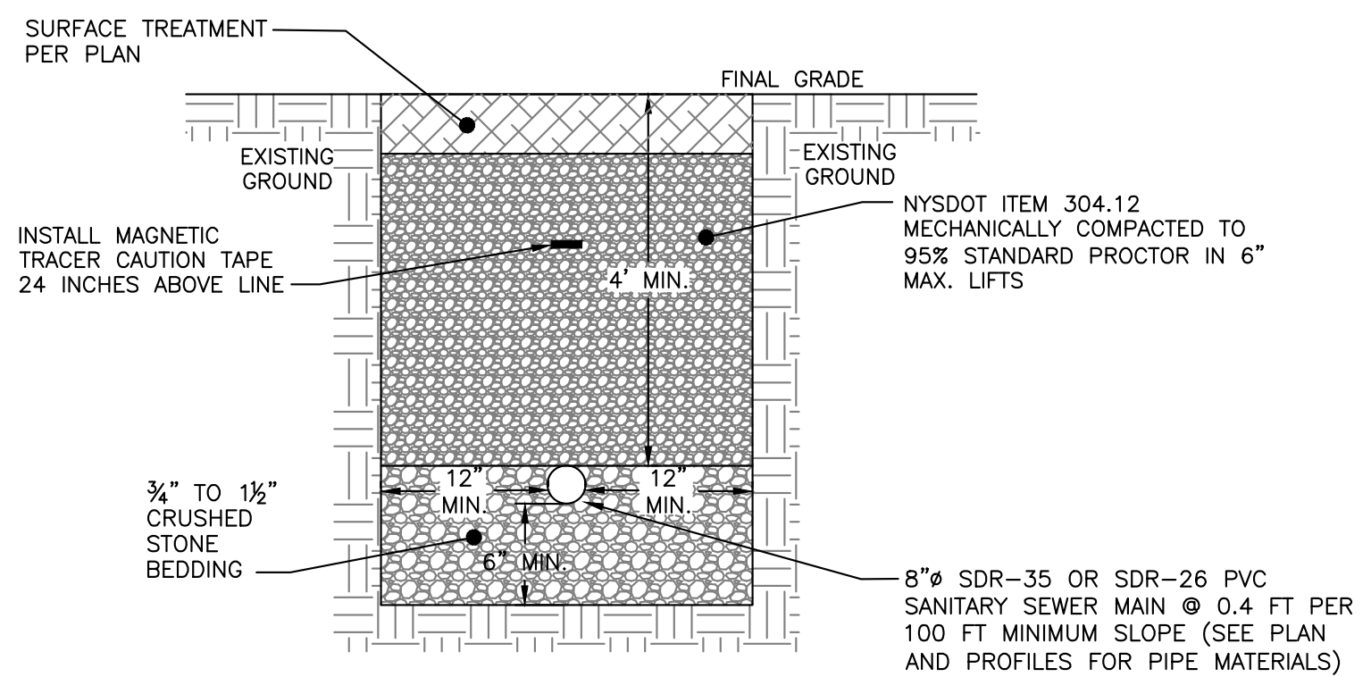
1. EXCAVATION AND TRENCHING SHALL MEET ALL OSHA REQUIREMENTS.

2. SUITABLE RUN OF TRENCH SHALL NOT INCLUDE FROZEN MATERIALS, DEBRIS, ORGANIC MATERIALS, LARGE STONES OR OTHER UNSUITABLE MATERIALS. IF THE RUN OF TRENCH MATERIAL IS FOUND TO BE UNSUITABLE, A SUITABLE BACKFILL MATERIAL SHALL BE IMPORTED AND USED.

SANITARY SEWER SERVICE LINE TRENCH DETAIL
NOT TO SCALE


CLASS "A" CONCRETE
24" SQUARE
FINISHED GRADE (SEE PLAN FOR FINAL TREATMENT)
12"
16"
VARIES
NEENAH R-7506-E SERIES FLOOR BOX FRAME AND LID OR EQUAL WITH LOCKING CAP, H-20 RATED
45° ELBOW
WYE

CLEANOUT DETAIL
NOT TO SCALE

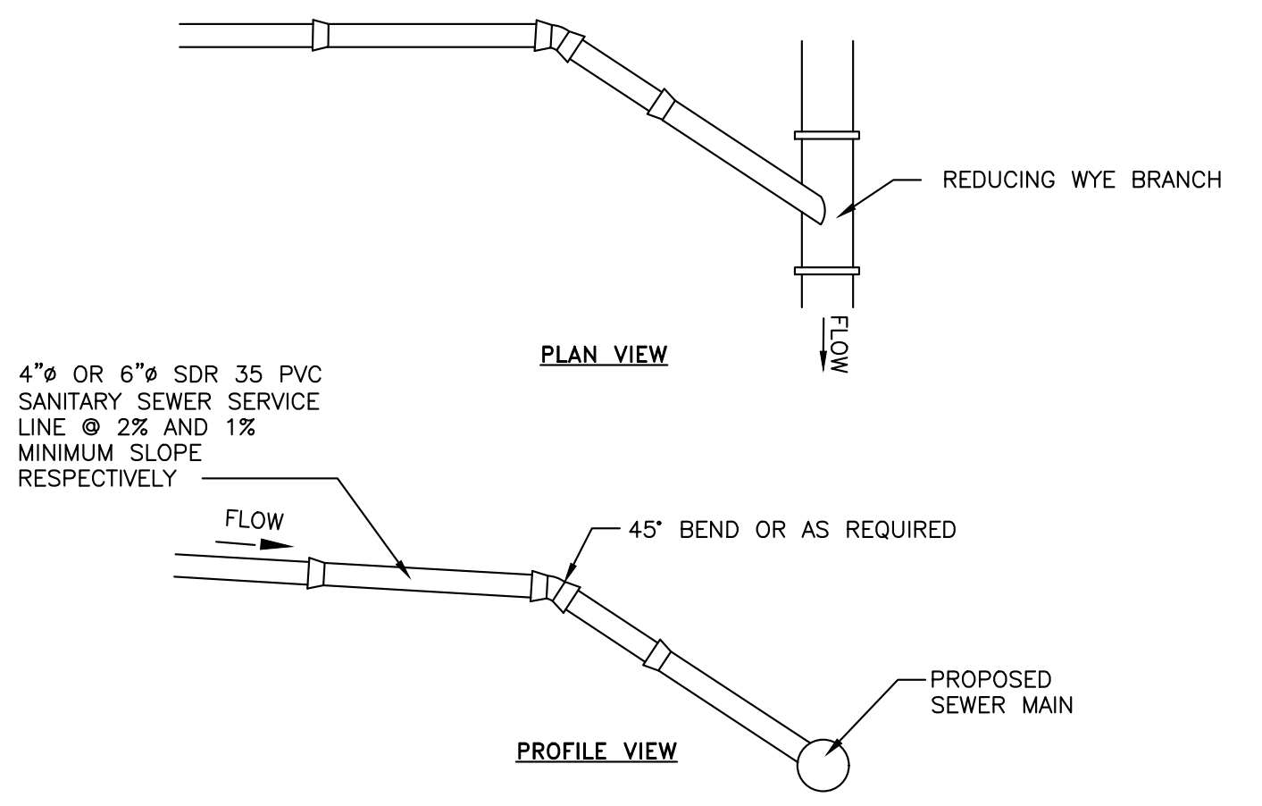

SURFACE TREATMENT PER PLAN
FINAL GRADE
EXISTING GROUND
EXISTING GROUND
NYSDOT ITEM 304.12 MECHANICALLY COMPACTED TO 95% STANDARD PROCTOR IN 6" MAX. LIFTS
INSTALL MAGNETIC TRACER CAUTION TAPE 24 INCHES ABOVE LINE
4' MIN.
¾" TO 1½" CRUSHED STONE BEDDING
12" MIN.
12" MIN.
6" MIN.
8"ø SDR-35 OR SDR-26 PVC SANITARY SEWER MAIN @ 0.4 FT PER 100 FT MINIMUM SLOPE (SEE PLAN AND PROFILES FOR PIPE MATERIALS)

NOTES:
1. EXCAVATION AND TRENCHING SHALL MEET ALL OSHA REQUIREMENTS.
2. SEWER MAIN MATERIAL SHALL BE 8 DIAMETER SDR-26 PVC BELL AND SPIGOT GRAVITY SEWER PIPE, WITH GASTIGHT AND WATERTIGHT JOINTS.

SANITARY SEWER MAIN TRENCH DETAIL
NOT TO SCALE

SANITARY SEWER NOTES:

1. THE PROPOSED APARTMENTS ARE TO BE SERVED BY THE CITY OF BEACON MUNICIPAL SEWER SYSTEM. INSTALLATION OF ALL COMPONENTS SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY CODE, CHAPTER 179.
2. REFER TO THE DUTCHESS COUNTY DEPARTMENT OF HEALTH STANDARD NOTES FOR ADDITIONAL PERTINENT INFORMATION.
3. THE DUTCHESS COUNTY DEPARTMENT OF HEALTH, CITY OF BEACON CHIEF SEWER OPERATOR, AND THE CERTIFYING PROFESSIONAL ENGINEER SHALL BE NOTIFIED PRIOR TO COMMENCEMENT OF THE SEWER MAIN INSTALLATION.
4. SEWER MAIN MATERIAL SHALL BE 8" DIAMETER SDR-35 OR SDR-26 PVC BELL AND SPIGOT GRAVITY SEWER PIPE, WITH GASTIGHT AND WATERTIGHT JOINTS.
5. SEWER MAIN SHALL BE LAID IN STRAIGHT ALIGNMENT. MANHOLES SHALL BE CONSTRUCTED AT ALL CHANGES IN SLOPE, ALIGNMENT OR AT INTERVALS NOT EXCEEDING 400 LINEAR FEET. STRAIGHT ALIGNMENT SHALL BE VERIFIED BY DEFLECTION TESTING.
6. THE SEWER MAIN SHALL BE INSTALLED AND TESTED FOR EXFILTRATION PRIOR TO BEING PERMITTED TO OPERATE. ALL NEW SANITARY SEWER GRAVITY LINES SHALL PASS A LOW PRESSURE AIR TEST IN ACCORDANCE WITH ASTM C-828 AT A PRESSURE OF 3.5 PSI.
7. MANHOLES SHALL BE VACUUM TESTED IN ACCORDANCE WITH ASTM C-1244. IF PRESSURE DROP EXCEEDS THE SPECIFIED AMOUNT, THE NECESSARY REPAIRS OR REPLACEMENTS REQUIRED SHALL BE MADE TO REDUCE THE PRESSURE DROP TO WITHIN THE SPECIFIED LIMIT, AND THE TESTS SHALL BE REPEATED UNTIL THE REQUIREMENT IS MET.
8. SERVICE LATERALS SHALL BE 4" DIAMETER SDR-35 PVC WITH A MINIMUM SLOPE OF 2%, UNLESS OTHERWISE NOTED ON THE PLAN.
9. ALL SANITARY SEWER MAINS AND MANHOLES UP TO, BUT NOT INCLUDING, THE EXISTING MANHOLE SHALL BE OWNED, OPERATED AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION.


REDUCING WYE BRANCH
PLAN VIEW
4"ø OR 6"ø SDR 35 PVC SANITARY SEWER SERVICE LINE @ 2% AND 1% MINIMUM SLOPE RESPECTIVELY
FLOW
45° BEND OR AS REQUIRED
PROPOSED SEWER MAIN
PROFILE VIEW

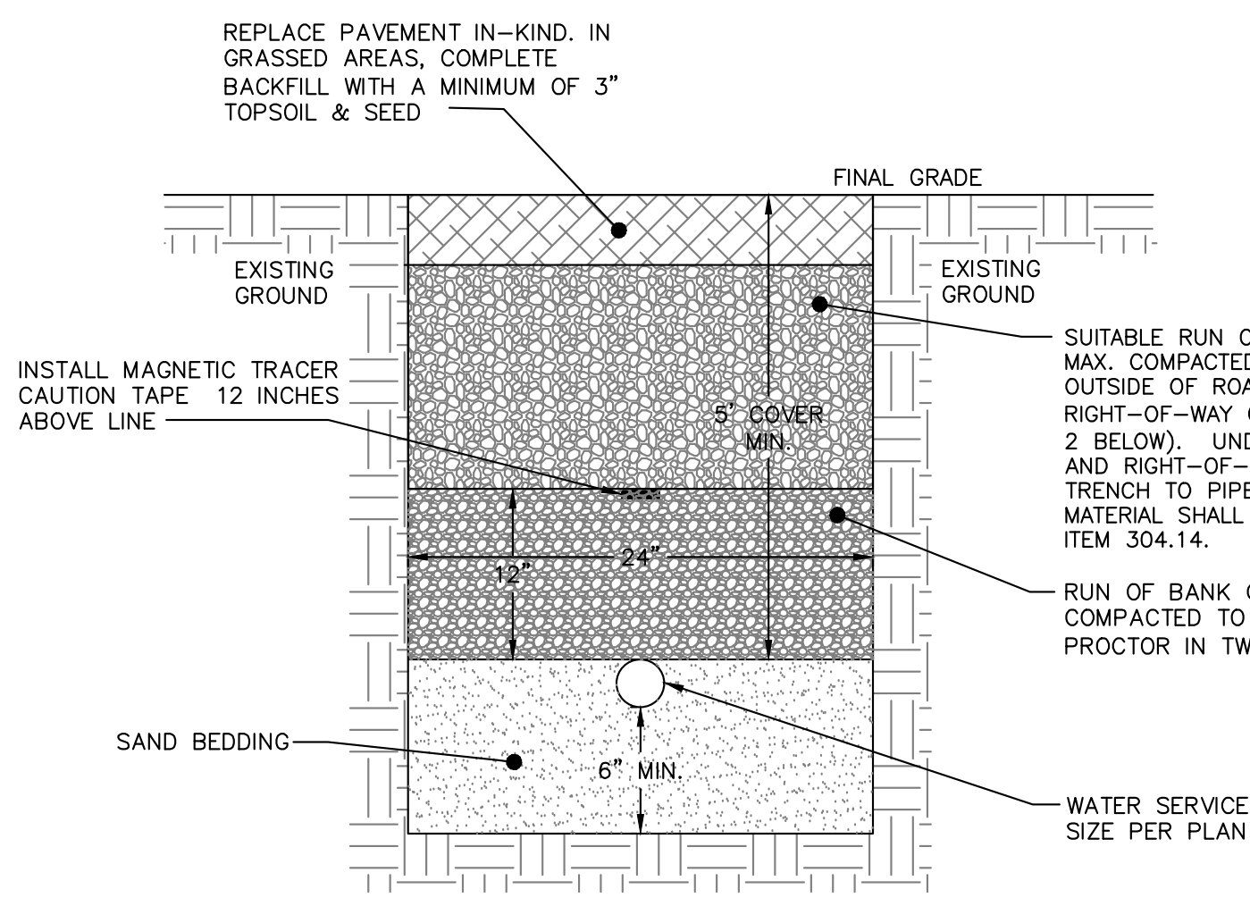
NOTES:

1. EXCAVATION AND TRENCHING SHALL MEET ALL OSHA REQUIREMENTS.

2. SUITABLE RUN OF TRENCH SHALL NOT INCLUDE FROZEN MATERIALS, DEBRIS, ORGANIC MATERIALS, LARGE STONES OR OTHER UNSUITABLE MATERIALS. IF THE RUN OF TRENCH MATERIAL IS FOUND TO BE UNSUITABLE, A SUITABLE BACKFILL MATERIAL SHALL BE IMPORTED AND USED.

SANITARY SEWER SERVICE CONNECTION DETAIL
NOT TO SCALE

WATER DETAILS


REPLACE PAVEMENT IN-KIND. IN GRASSED AREAS, COMPLETE BACKFILL WITH A MINIMUM OF 3" TOPSOIL & SEED
FINAL GRADE
EXISTING GROUND
EXISTING GROUND
INSTALL MAGNETIC TRACER CAUTION TAPE 12 INCHES ABOVE LINE
SUITABLE RUN OF TRENCH IN 6" MAX. COMPACTED LIFTS - OUTSIDE OF ROADWAY AND ROAD RIGHT-OF-WAY ONLY (SEE NOTE 2 BELOW). UNDER ROADWAY AND RIGHT-OF-WAY ENTIRE TRENCH TO PIPE CROWN MATERIAL SHALL BE NYSDOT ITEM 304.14.
5' COVER MIN.
24"
12"
RUN OF BANK GRAVEL BACKFILL COMPACTED TO 95% STANDARD PROCTOR IN TWO 6" LIFTS
SAND BEDDING
6" MIN.
WATER SERVICE LINE SIZE PER PLAN

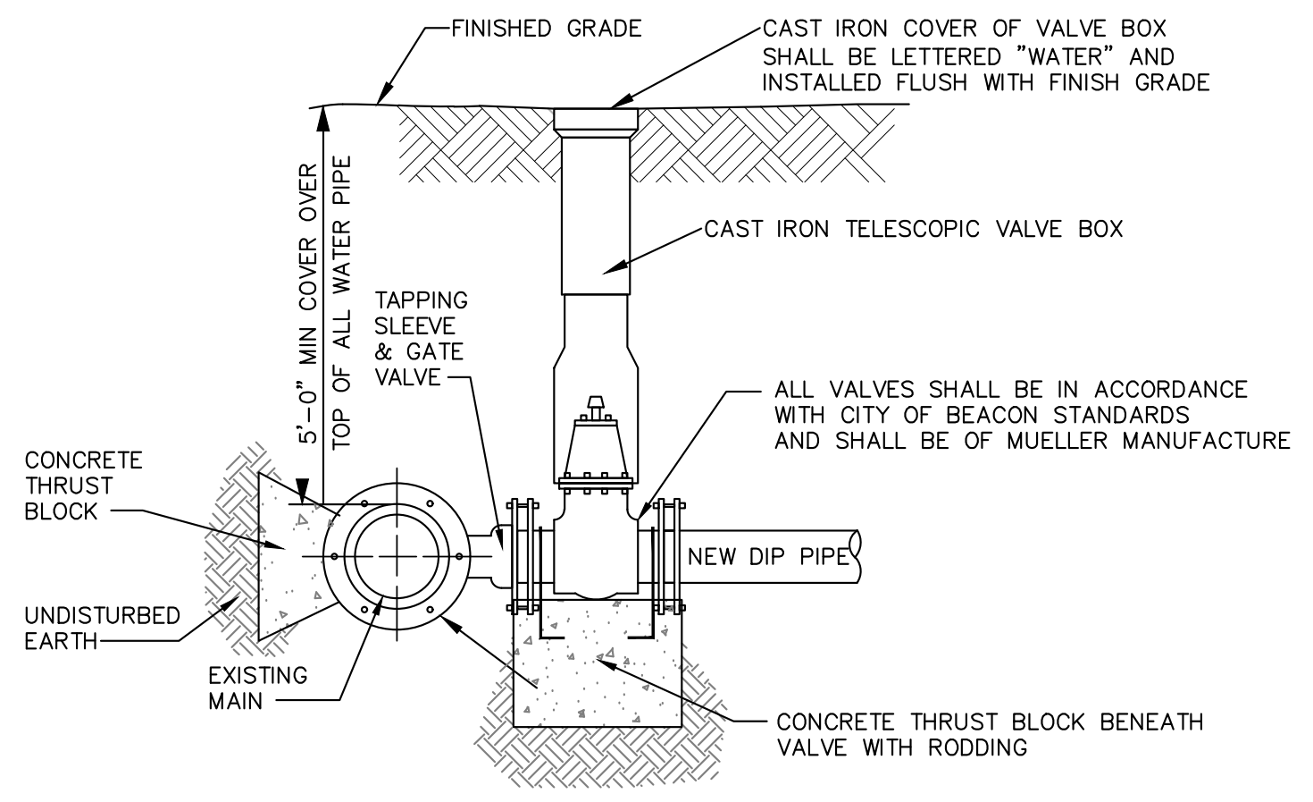
NOTES:

1. EXCAVATION AND TRENCHING SHALL MEET ALL OSHA REQUIREMENTS.

2. SUITABLE RUN OF TRENCH SHALL NOT INCLUDE FROZEN MATERIALS, DEBRIS, ORGANIC MATERIALS, ENLOGATED PARTICLES, LARGE STONES OR OTHER UNSUITABLE MATERIALS. IF THE RUN OF TRENCH MATERIAL IS FOUND TO BE UNSUITABLE, A SUITABLE BACKFILL MATERIAL SHALL BE IMPORTED AND USED.

3. IN AREAS WHERE 5' COVER REQUIREMENT CANNOT BE MET, THE CONTRACTOR SHALL PROVIDE PIPE INSULATION TO PREVENT FREEZING.

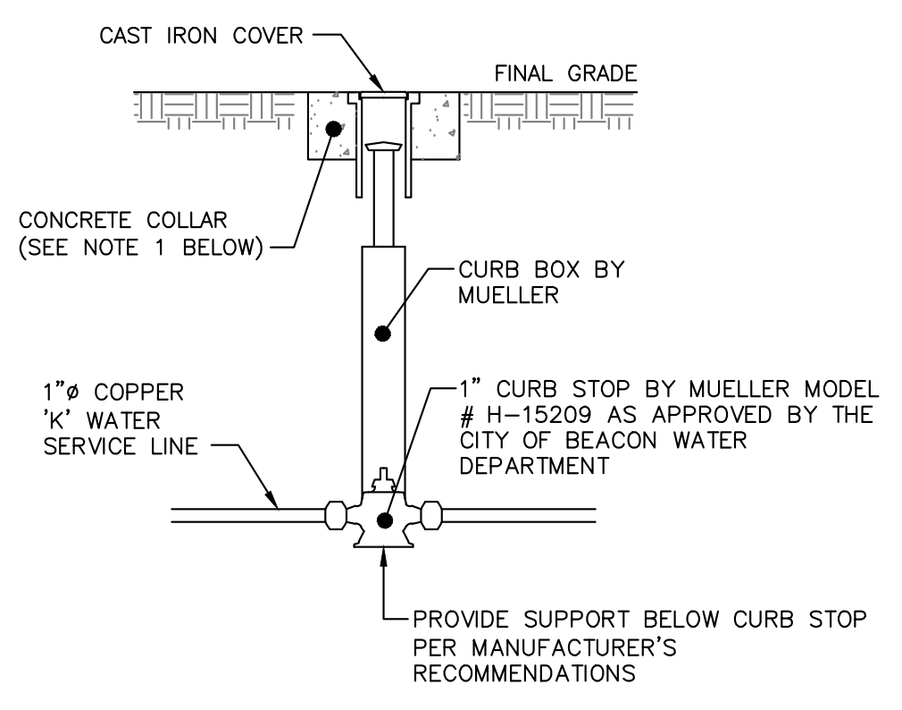
WATER SERVICE LINE TRENCH DETAIL
NOT TO SCALE


FINISHED GRADE
CAST IRON COVER OF VALVE BOX SHALL BE LETTERED "WATER" AND INSTALLED FLUSH WITH FINISH GRADE
CAST IRON TELESCOPIC VALVE BOX
5'-0" MIN COVER OVER TOP OF ALL WATER PIPE
TAPPING SLEEVE & GATE VALVE
ALL VALVES SHALL BE IN ACCORDANCE WITH CITY OF BEACON STANDARDS AND SHALL BE OF MUELLER MANUFACTURE
CONCRETE THRUST BLOCK
NEW DIP PIPE
UNDISTURBED EARTH
EXISTING MAIN
CONCRETE THRUST BLOCK BENEATH VALVE WITH RODDING

NOTES:

1. ALL VALVES SHALL OPEN BY TURNING LEFT (COUNTERCLOCKWISE) AND HAVE A 2-INCH SQUARE-OPERATING NUT PAINTED RED.
2. ALL VALVES SHALL BE M.J. RESILIENT WEDGE TYPE WITH "O" RING PACKING, DESIGNED FOR A WORKING PRESSURE OF 150 PSI AND BE IN FULL CONFORMANCE WITH AWWA C500.
3. TAPPING SLEEVE AND GATE VALVE SHOWN ARE MUELLER H-615, AND T-2630 RESPECTIVELY.

TAPPING SLEEVE DETAIL
NOT TO SCALE


CAST IRON COVER
FINAL GRADE
CONCRETE COLLAR (SEE NOTE 1 BELOW)
CURB BOX BY MUELLER
1"ø COPPER 'K' WATER SERVICE LINE
1" CURB STOP BY MUELLER MODEL # H-15209 AS APPROVED BY THE CITY OF BEACON WATER DEPARTMENT
PROVIDE SUPPORT BELOW CURB STOP PER MANUFACTURER'S RECOMMENDATIONS

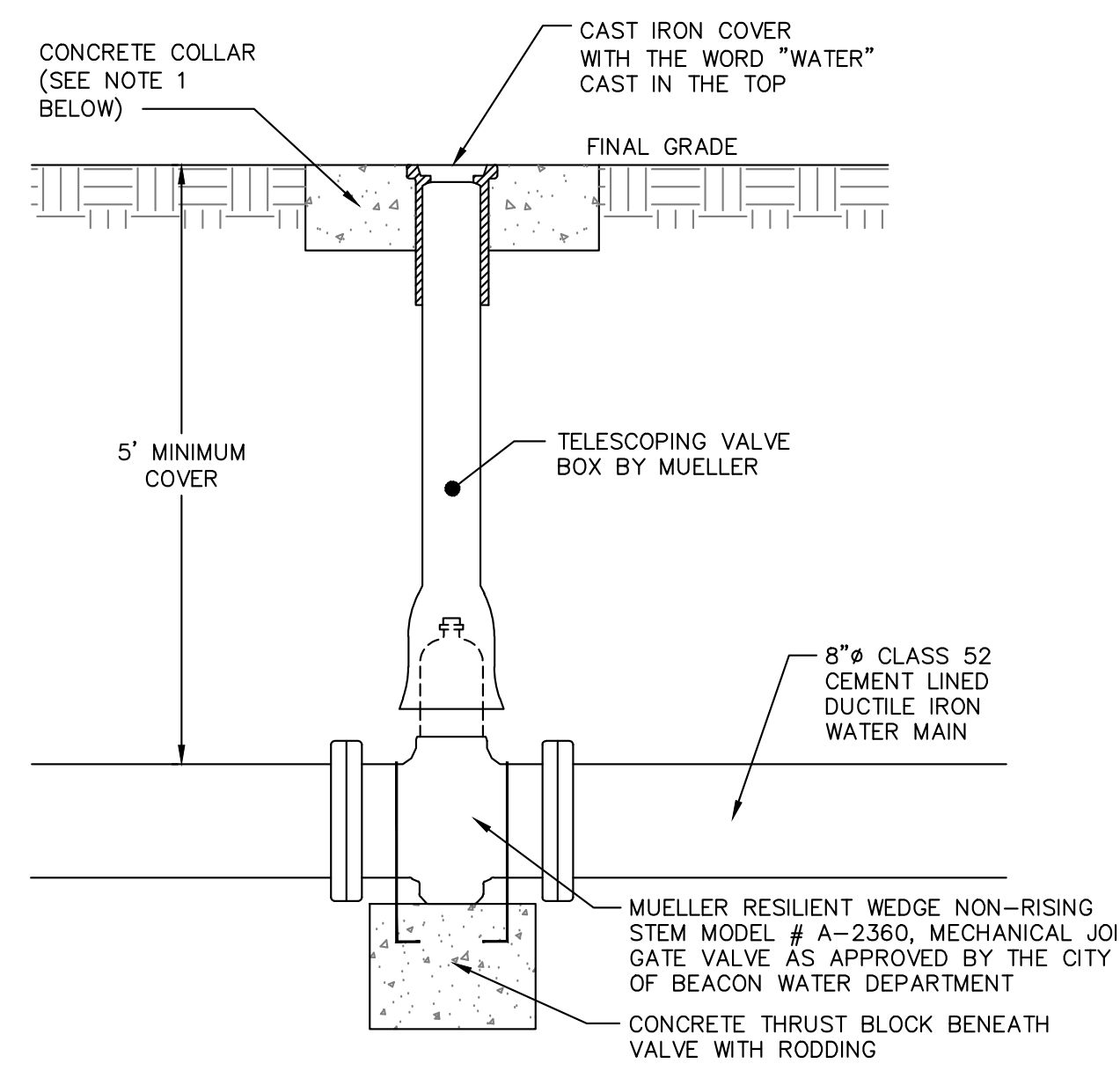
NOTES:

1. CONCRETE COLLAR TO BE PROVIDED IN AREAS THAT ARE NOT PAVED. THE COLLAR SHALL BE 6" FROM THE COVER AND SHALL EXTEND 6" BELOW FINAL GRADE.

2. CURB STOP TO BE COMPRESSION TYPE BY MUELLER.

3. AREA AROUND CURB BOX TO BE BACKFILLED WITH GRAVELLY MATERIAL.

WATER SHUT-OFF VALVE DETAIL
NOT TO SCALE


CONCRETE COLLAR (SEE NOTE 1 BELOW)
CAST IRON COVER WITH THE WORD "WATER" CAST IN THE TOP
FINAL GRADE
5' MINIMUM COVER
TELESCOPING VALVE BOX BY MUELLER
8"ø CLASS 52 CEMENT LINED DUCTILE IRON WATER MAIN
MUELLER RESILIENT WEDGE NON-RISING STEM MODEL # A-2360, MECHANICAL JOINT GATE VALVE AS APPROVED BY THE CITY OF BEACON WATER DEPARTMENT
CONCRETE THRUST BLOCK BENEATH VALVE WITH RODDING

NOTES:

1. CONCRETE COLLAR TO BE PROVIDED IN AREAS THAT ARE NOT PAVED. THE COLLAR SHALL BE 6" FROM THE COVER AND SHALL EXTEND 6" BELOW FINAL GRADE.

GATE VALVE DETAIL
NOT TO SCALE

WATERMAIN DISINFECTION & TESTING

1. THE CONTRACTOR SHALL NOTIFY THE CITY OF BEACON WATER DEPARTMENT PRIOR TO TESTING AND SHALL ALSO COORDINATE HIS ACTIONS WITH THE CITY ENGINEER SO AS TO AVOID UNDUE DISTURBANCE OF THE WATER SUPPLY TO ANY EXISTING USERS.
2. THE CONTRACTOR SHALL INFORM THE DESIGN ENGINEER'S AND CITY ENGINEER'S OFFICE A MINIMUM OF 24 HOURS PRIOR TO TESTING SUCH THAT WITNESSING CAN TAKE PLACE AND PROPER CERTIFICATIONS CAN BE ISSUED.
3. ALL NEWLY INSTALLED WATER MAINS SHALL BE FLUSHED AT A MINIMUM VELOCITY OF 2.5 FT/SECOND BEFORE AND AFTER DISINFECTION.
4. ALL WATER LINES SHALL BE DISINFECTED USING THE PROCEDURES DESCRIBED IN THE LATEST EDITION OF AWWA C651 SPECIFICATIONS FOR DISINFECTION OF WATER LINES (WITH THE EXCEPTION OF THE TABLET METHOD). WATER ENTERING THE NEW MAIN SHALL RECEIVE A DOSE OF CHLORINE FED AT A CONSTANT RATE SUCH THAT THE WATER WILL HAVE NOT LESS THAN 25 MG/L FREE CHLORINE. CHLORINE APPLICATION SHALL NOT CEASE UNTIL THE ENTIRE MAIN IS FILLED WITH HEAVILY CHLORINATED WATER.
5. DISINFECTED WATER SHALL REMAIN IN THE NEWLY INSTALLED WATER LINE FOR A MINIMUM OF 24 HOURS. AFTER THIS RETENTION PERIOD, THE HEAVILY CHLORINATED WATER SHALL BE FLUSHED FROM THE MAIN UNTIL CHLORINE MEASUREMENTS SHOW A CONCENTRATION IN THE WATER LEAVING THE MAIN HAS NO HIGHER THAN THAT GENERALLY PREVAILING IN THE SYSTEM. AT SUCH TIME, BACTERIOLOGICAL SAMPLING FOR SUBMITTAL TO STATE HEALTH LABORATORIES SHALL BE PERFORMED BY THE CONTRACTOR.
6. WATER SAMPLES SHALL BE TESTED FOR TOTAL COLIFORM, TPC (HETEROTROPHIC PLATE COUNT), TURBIDITY & COLOR.
7. CONTRACTOR WILL CONTINUE FLUSHING AND DISINFECTION OPERATION UNTIL ACCEPTABLE BACTERIOLOGICAL RESULTS ARE OBTAINED. TWO (2) SUCCESSIVE SAMPLES ARE TO BE TAKEN AT TWENTY-FOUR (24) HOUR INTERVALS.
8. THE ENVIRONMENT INTO WHICH THE HEAVILY CHLORINATED WATER IS TO BE DISCHARGED SHALL BE INSPECTED, AND IF THERE IS ANY LIKELIHOOD THAT THE CHLORINATED DISCHARGE WILL CAUSE DAMAGE, THEN A REDUCING AGENT SHALL BE APPLIED TO THE WATER TO BE WASTED TO THOROUGHLY NEUTRALIZE THE CHLORINE RESIDUAL IN THE WATER. PERMITS MAY BE REQUIRED. THE CITY ENGINEER SHALL BE NOTIFIED PRIOR TO DISPOSAL OF HIGHLY CHLORINATED WATER.

WATER NOTES:

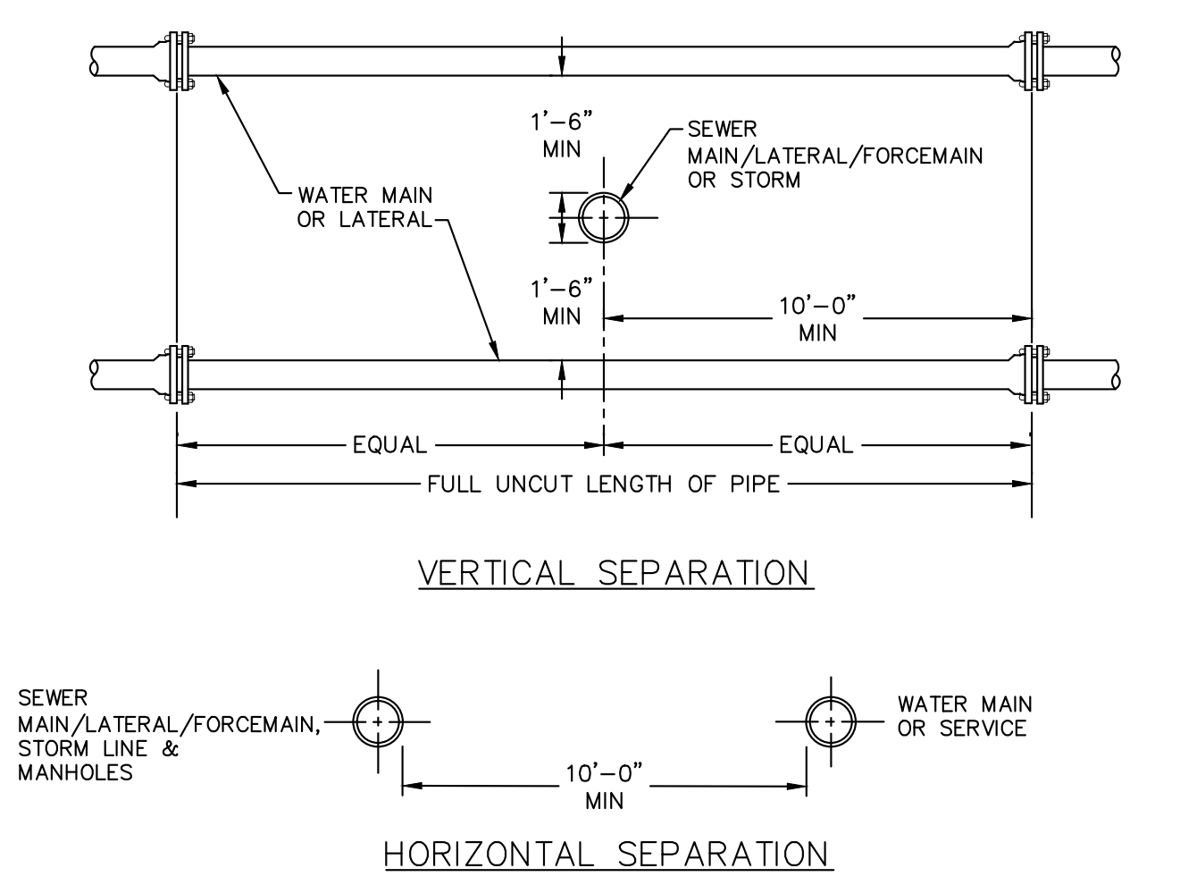
1. THE PROPOSED BUILDING IS TO BE SERVED BY THE CITY OF BEACON MUNICIPAL WATER SYSTEM. INSTALLATION OF ALL COMPONENTS SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY CODE, CHAPTER 219.
2. REFER TO THE DUTCHESS COUNTY DEPARTMENT OF HEALTH STANDARD NOTES FOR ADDITIONAL PERTINENT INFORMATION.
3. THE WATER MAIN SHALL BE INSTALLED, PRESSURE TESTED AND LEAKAGE TESTED IN ACCORDANCE WITH THE LATEST EDITION OF AWWA C600 (SEE NOTES BELOW).
4. THE DUTCHESS COUNTY DEPARTMENT OF HEALTH, CITY OF BEACON WATER OPERATOR, AND THE CERTIFYING PROFESSIONAL ENGINEER SHALL BE NOTIFIED PRIOR TO COMMENCEMENT OF THE WATER MAIN INSTALLATION.
5. THE WATER MAIN SHALL BE DISINFECTED IN ACCORDANCE WITH THE LATEST EDITION OF AWWA C651 (SEE NOTES BELOW).
6. WATER MAIN MATERIAL SHALL BE CLASS 52 CEMENT LINED DUCTILE IRON PIPE WITH MECHANICAL JOINTS AND SHALL MEET THE REQUIREMENTS OF AWWA C150 AND ANSI A21.51.
7. MEGALUG RESTRAINING SYSTEMS SHALL BE USED AT ALL FITTINGS, VALVES AND HYDRANTS (SEE SCHEDULE ON SHEET 14).
8. GATE VALVES SHALL BE MUELLER RESILIENT WEDGE, NON-RISING STEM, MECHANICAL JOINT.
9. HYDRANTS SHALL BE A-423 MUELLER CENTURION, WITH A MUELLER GATE VALVE BEFORE THE HYDRANT.
10. SERVICE LINES SHALL BE 3/4" COPPER K, UNLESS OTHERWISE NOTED ON THE PLAN.
11. THE CONTRACTOR SHALL VERIFY THE EXISTING WATER MAIN MATERIAL AND BE PREPARED TO PROVIDE A SPECIAL COUPLING FOR CONNECTION OF THE PROPOSED DUCTILE IRON WATER MAIN.
12. A PRESSURE REDUCING VALVE SHALL BE INSTALLED FOR EACH NEW TOWNHOME, WATTS MODEL 25AUB-Z3 OR EQUAL AS APPROVED BY THE CITY OF BEACON WATER DEPARTMENT.
13. THE CITY OF BEACON SHALL OWN, OPERATE AND MAINTAIN THE WATER MAIN THROUGHOUT THE SITE, INCLUDING ALL APPURTENANCES.
14. THE HOA OR OWNER SHALL ANNUALLY EXERCISE ALL WATER VALVES.

WATER MAIN PRESSURE & LEAKAGE TESTING

GENERAL: ALL PIPING SHALL BE TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE LATEST EDITION OF AWWA C600, EXCEPT AS ADDED OR AMENDED BELOW:
1. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY FOR ANY AND ALL REQUIRED PIPE TAPS FOR TESTING, AND AS NECESSARY FOR TESTING AS SPECIFIED. EQUIPMENT WILL BE SUCH THAT THE ENGINEER MAY INSTALL HIS OWN PRESSURE GAUGE.
2. A PRESSURE TEST AND LEAKAGE TEST ARE REQUIRED FOR ALL PIPE.
3. TESTING TO BE PERFORMED ONLY AFTER PARTIAL OR COMPLETE BACKFILL AND RESTRAINT BLOCKING (USING HIGH EARLY CEMENT) HAS HAD 36 HOURS TO CURE OR BLOCKING USING STANDARD CEMENT HAS HAD 7 DAYS TO CURE.
4. THE MAIN SHALL BE PARTIALLY BACKFILLED OR BRACED AGAINST MOVEMENT DURING THE TEST. ALL AIR MUST BE BLED OUT OF THE SECTION TO BE TESTED. IF NECESSARY, CONTRACTOR SHALL INSTALL CORPORATION STOPS AT THE HIGH POINTS, FOR BLOW-OFFS. AFTER ALL AIR HAS BEEN EXPELLED, THE CORPORATION COCKS SHALL BE CLOSED AND THE PRESSURE TEST APPLIED. AFTER EXAMINATION OF EXPOSED PARTS OF THE SYSTEM, THE TEST PRESSURE SHALL BE INCREASED TO 1 1/2 TIMES THE NORMAL PRESSURE, BASED UPON THE ELEVATION OF THE LOWEST POINT IN THE LINE OR SECTION UNDER THE TEST, BUT SUCH PRESSURE SHALL NOT BE LESS THAN 150 PSI NOR MORE THAN 200 PSI, AND EXPOSED PARTS AGAIN EXAMINED. THE MINIMUM DURATION OF THE LEAKAGE TEST SHALL BE TWO (2) HOURS.
5. ALLOWABLE SYSTEM LEAKAGE AS SPECIFIED IN THE REFERENCED STANDARDS. IF LEAKAGE IN SYSTEM IS GREATER THAN ALLOWABLE, CONTRACTOR WILL LOCATE AND REPAIR SYSTEM AT HIS EXPENSE AND RETEST, CONTINUE TO TEST AND REPAIR THE SYSTEM UNTIL LEAKAGE IS WITHIN ACCEPTABLE LIMITS.
6. NO DUCTILE IRON PIPE INSTALLATION WILL BE ACCEPTED IF THE LEAKAGE IS GREATER THAN THAT DETERMINED BY THE FOLLOWING FORMULA:

$$L = \frac{SD\sqrt{P}}{148{,}000}$$

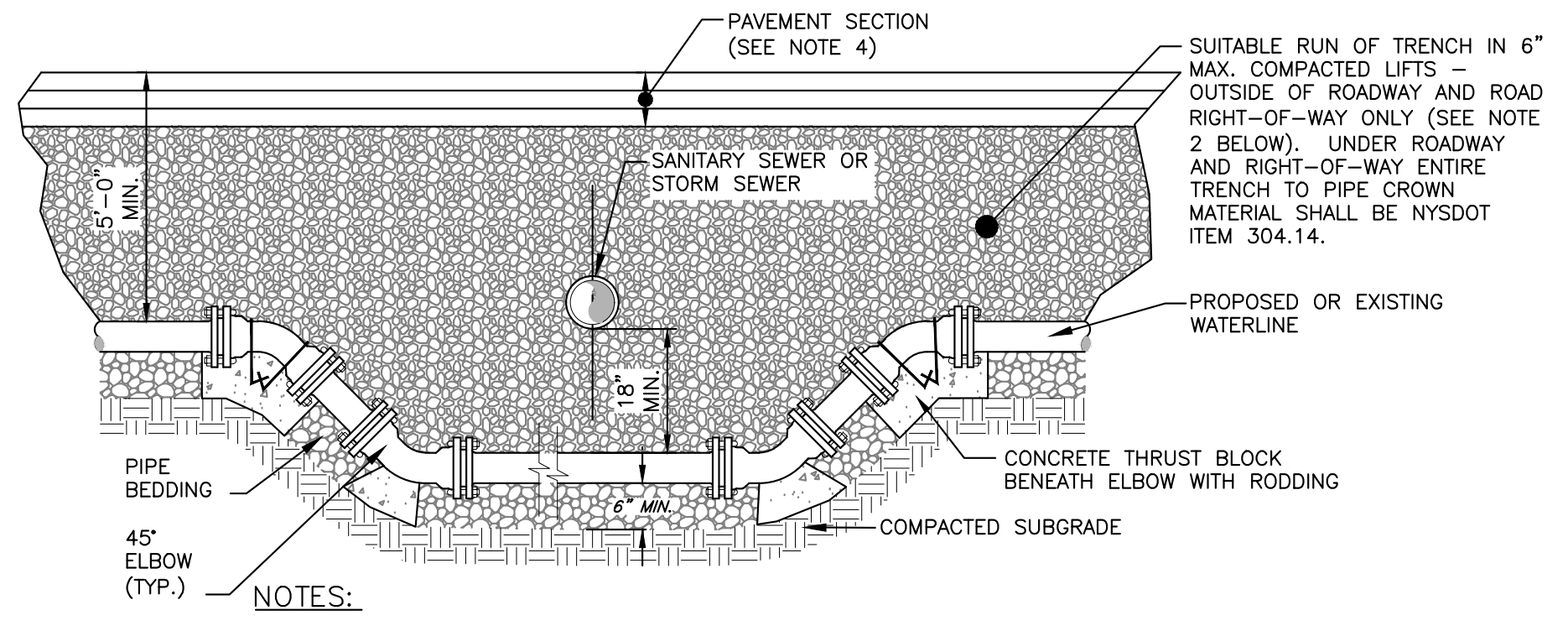
WHERE
L = LEAKAGE IN GALLONS PER HOUR
S = LENGTH OF PIPE TESTED, IN FEET
D = NOMINAL DIAMETER OF PIPE IN INCHES
P = AVERAGE TEST PRESSURE DURING LEAKAGE TEST, IN PSI (GAUGE)



NOTE:

1. NO DEVIATION IN THE SEPARATION REQUIREMENTS WILL BE PERMITTED WITHOUT THE EXPRESS APPROVAL OF THE DUTCHESS COUNTY DEPARTMENT OF HEALTH AND THE CITY OF BEACON. CONCRETE ENCASEMENT OF WATERLINE OR OFFSETTING OF WATERLINE SHALL BE REQUIRED WHERE SEPARATION DISTANCES CANNOT BE MAINTAINED.

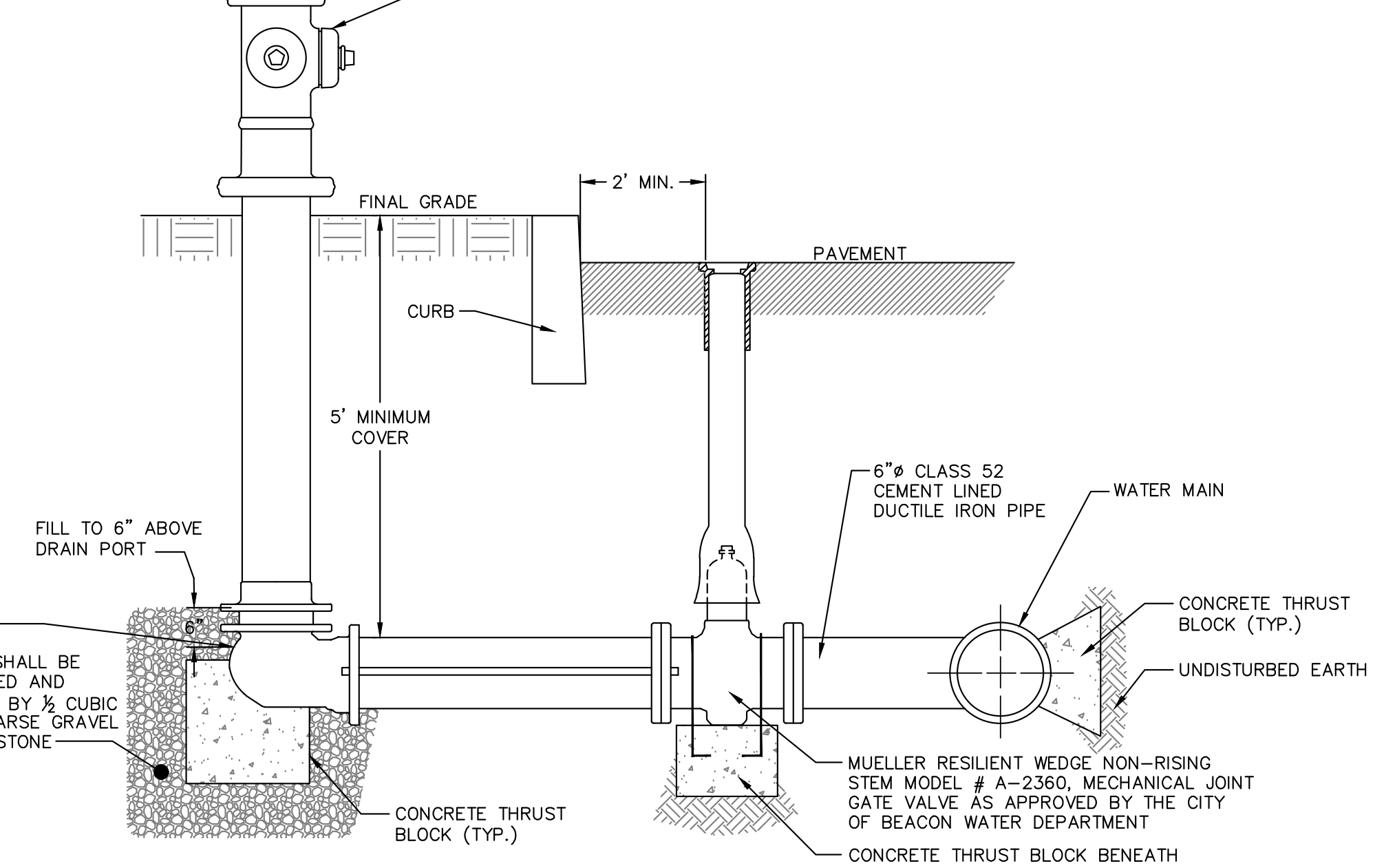
WATER LINE SEPARATION DETAIL
NOT TO SCALE


PAVEMENT SECTION (SEE NOTE 4)
SUITABLE RUN OF TRENCH IN 6" MAX. COMPACTED LIFTS - OUTSIDE OF ROADWAY AND ROAD RIGHT-OF-WAY ONLY (SEE NOTE 2 BELOW). UNDER ROADWAY AND RIGHT-OF-WAY ENTIRE TRENCH TO PIPE CROWN MATERIAL SHALL BE NYSDOT ITEM 304.14.
SANITARY SEWER OR STORM SEWER
PROPOSED OR EXISTING WATERLINE
18" MIN.
CONCRETE THRUST BLOCK BENEATH ELBOW WITH RODDING
PIPE BEDDING
6" MIN.
COMPACTED SUBGRADE
45° ELBOW (TYP.)

NOTES:

1. WHEN THE ELEVATION OF THE SANITARY OR STORM SEWER CAN NOT BE VARIED TO MEET THE ABOVE REQUIREMENTS, THE WATER SERVICE LINE OR MAIN SHALL BE RELOCATED TO PROVIDE THIS REQUIRED SEPARATION OR RECONSTRUCTED WITH MECHANICAL JOINT PIPE FOR A DISTANCE OF TEN (10) FEET ON EACH SIDE OF THE SEWER. ONE FULL LENGTH OF WATERMAIN SHALL BE CENTERED OVER THE SEWER SO THAT BOTH JOINTS WILL BE AS FAR AWAY FROM THE SEWER AS POSSIBLE.
2. SUITABLE RUN OF TRENCH SHALL NOT INCLUDE FROZEN MATERIALS, DEBRIS, ORGANIC MATERIALS, ENLOGATED PARTICLES, LARGE STONES OR OTHER UNSUITABLE MATERIALS. IF THE RUN OF TRENCH MATERIAL IS FOUND TO BE UNSUITABLE, A SUITABLE BACKFILL MATERIAL SHALL BE IMPORTED AND USED.
3. THE RELOCATED WATER MAIN/SERVICE LINE SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA, NYSDOH AND DCDOH STANDARDS.
4. PAVEMENT RESTORATION SHALL BE IN ACCORDANCE WITH THE PAVEMENT RESTORATION DETAIL.
5. ALL REPLACED WATERMAIN SHALL BE 12"ø CLASS 52 DUCTILE IRON.

WATER LINE OFFSET DETAIL
NOT TO SCALE

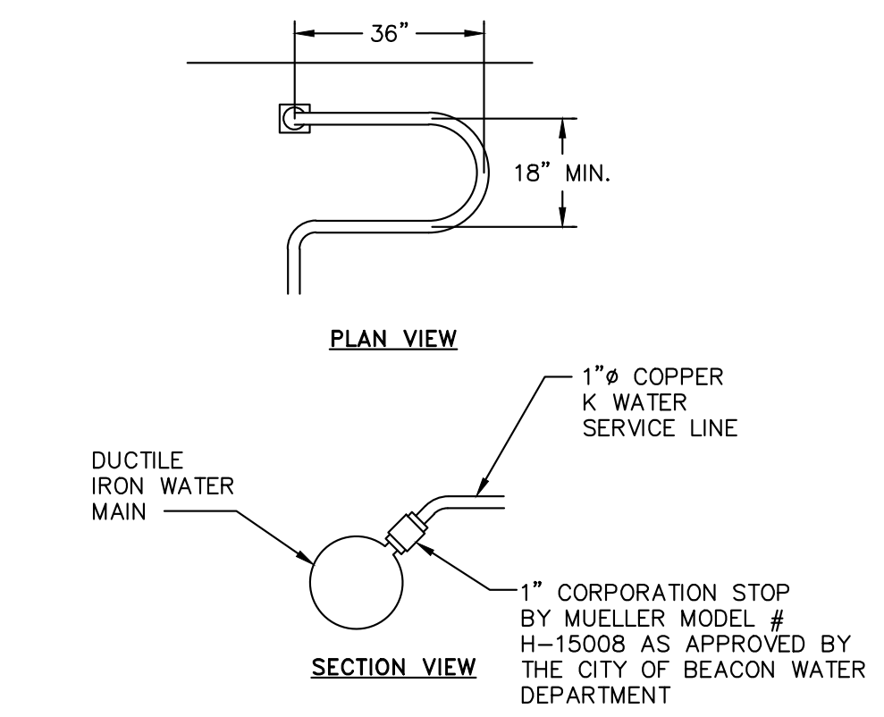

A423 MUELLER CENTURION FIRE HYDRANT AS APPROVED BY THE CITY OF BEACON WATER AND FIRE DEPARTMENT
FINAL GRADE
2' MIN.
PAVEMENT
CURB
5' MINIMUM COVER
6"ø CLASS 52 CEMENT LINED DUCTILE IRON PIPE
WATER MAIN
FILL TO 6" ABOVE DRAIN PORT
WEEP HOLE
WEEP HOLE SHALL BE UNOBSTRUCTED AND SURROUNDED BY ½ CUBIC YARD OF COARSE GRAVEL OR BROKEN STONE
6"
CONCRETE THRUST BLOCK (TYP.)
UNDISTURBED EARTH
CONCRETE THRUST BLOCK (TYP.)
MUELLER RESILIENT WEDGE NON-RISING STEM MODEL # A-2360, MECHANICAL JOINT GATE VALVE AS APPROVED BY THE CITY OF BEACON WATER DEPARTMENT
CONCRETE THRUST BLOCK BENEATH VALVE WITH RODDING

NOTES:

1. THE GATE VALVE SHALL BE LOCATED THIRTY SIX (36) INCHES FROM THE HYDRANT CENTER LINE.

2. ½" STEEL TIE RODS TO BE PROVIDED BETWEEN THE GATE VALVE AND THE HYDRANT.

HYDRANT DETAIL
NOT TO SCALE


36"
18" MIN.
PLAN VIEW
1"ø COPPER K WATER SERVICE LINE
DUCTILE IRON WATER MAIN
SECTION VIEW
1" CORPORATION STOP BY MUELLER MODEL # H-15008 AS APPROVED BY THE CITY OF BEACON WATER DEPARTMENT

NOTES:

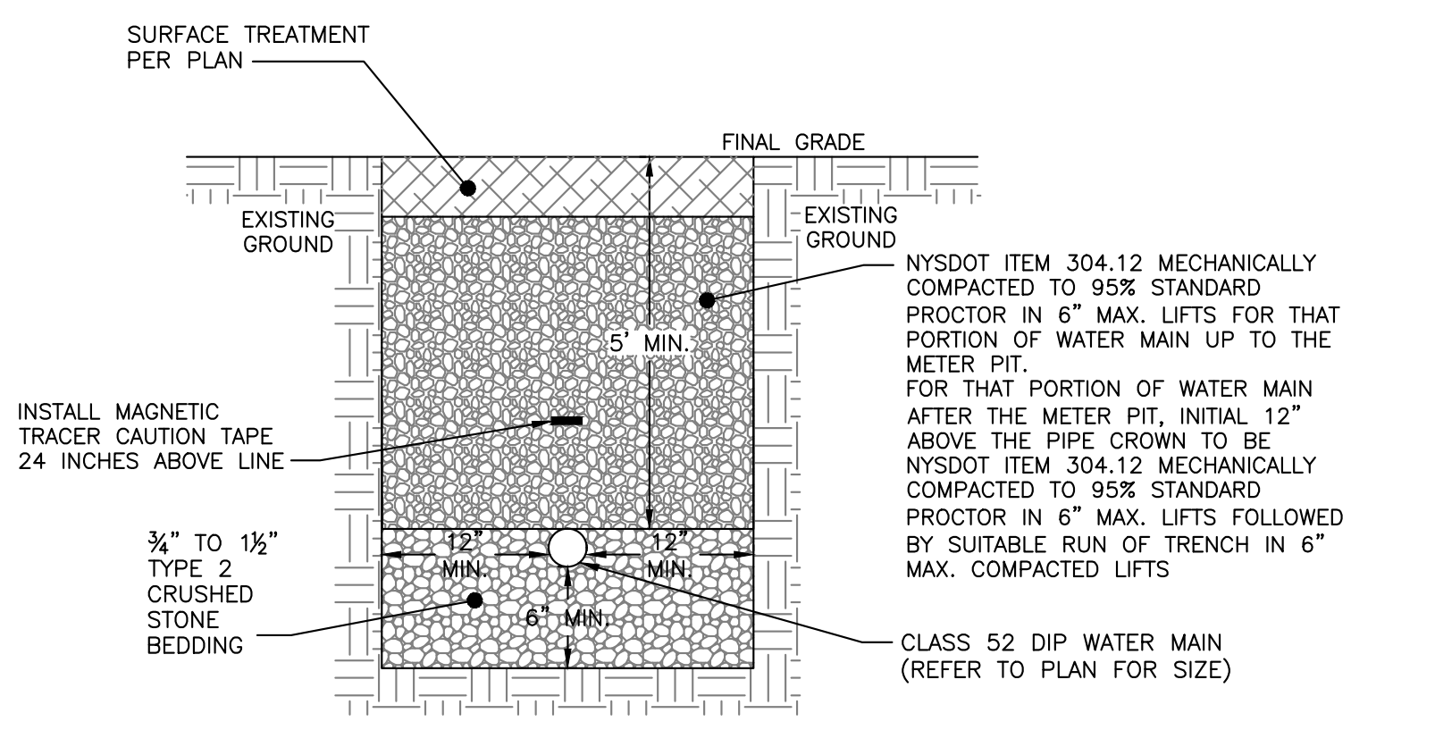
1. A MINIMUM 5' COVER SHALL BE PROVIDED ON THE WATER SERVICE LINE (CONDITIONED ON ACTUAL WATER MAIN DEPTH).

2. CORPORATION STOP TO BE COMPRESSION TYPE BY MUELLER.

3. WATER SERVICE LINE TO HAVE A 'GOOSENECK' NEAR CORPORATION STOP.

4. CORPORATION STOP TO BE INSTALLED IN THE UPPER HALF OF THE WATER MAIN AT AN ANGLE OF APPROXIMATELY 45° FROM HORIZONTAL.

WATER SERVICE CONNECTION DETAIL
NOT TO SCALE


SURFACE TREATMENT PER PLAN
FINAL GRADE
EXISTING GROUND
EXISTING GROUND
NYSDOT ITEM 304.12 MECHANICALLY COMPACTED TO 95% STANDARD PROCTOR IN 6" MAX. LIFTS FOR THAT PORTION OF WATER MAIN UP TO THE METER PIT. FOR THAT PORTION OF WATER MAIN AFTER THE METER PIT, INITIAL 12" ABOVE THE PIPE CROWN TO BE NYSDOT ITEM 304.12 MECHANICALLY COMPACTED TO 95% STANDARD PROCTOR IN 6" MAX. LIFTS FOLLOWED BY SUITABLE RUN OF TRENCH IN 6" MAX. COMPACTED LIFTS
5' MIN.
INSTALL MAGNETIC TRACER CAUTION TAPE 24 INCHES ABOVE LINE
¾" TO 1½" TYPE 2 CRUSHED STONE BEDDING
12" MIN.
12" MIN.
6" MIN.
CLASS 52 DIP WATER MAIN (REFER TO PLAN FOR SIZE)

NOTES:
1. EXCAVATION AND TRENCHING SHALL MEET ALL OSHA REQUIREMENTS.

2. WATER MAIN MATERIAL SHALL BE CLASS 52 CEMENT LINED DUCTILE IRON PIPE WITH MECHANICAL JOINTS AND SHALL MEET THE REQUIREMENTS OF AWWA C150 AND ANSI A21.51, UNLESS NOTED OTHERWISE ON THE PLANS.

WATER MAIN TRENCH DETAIL
NOT TO SCALE

DRAWN BY: MAB				CHECKED BY: DGK			
REVISIONS:				REVISIONS:			
NO.	DATE	DESCRIPTION	BY	NO.	DATE	DESCRIPTION	BY
1	12/25/18	REVISED FOR PLANNING BOARD SUBMISSION	MAB				
2	02/26/19	REVISED FOR PLANNING BOARD SUBMISSION	MAB				
3	03/26/19	NO CHANGE THIS SHEET	MAB				
4	04/30/19	REVISED PER PLANNING BOARD COMMENTS	MAB				
5	05/28/19	REVISED PER PLANNING BOARD COMMENTS	MAB				

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PH: 845-440-6926
F: 845-440-6637

WATER AND SEWER DETAILS
23-28 CREEK DRIVE
23-28 CREEK ROAD
CITY OF BEACON
DUTCHESS COUNTY, NEW YORK
TAX ID: 6054-37-037625

JOB #: 2018:029
DATE: 10/23/2018
SCALE: AS SHOWN
TITLE: D-3
SHEET: 12 OF 12

UNAUTHORIZED ALTERATIONS OR ADDITIONS TO THIS DRAWING IS A VIOLATION OF SECTION 7209.2 OF THE NEW YORK EDUCATION LAW