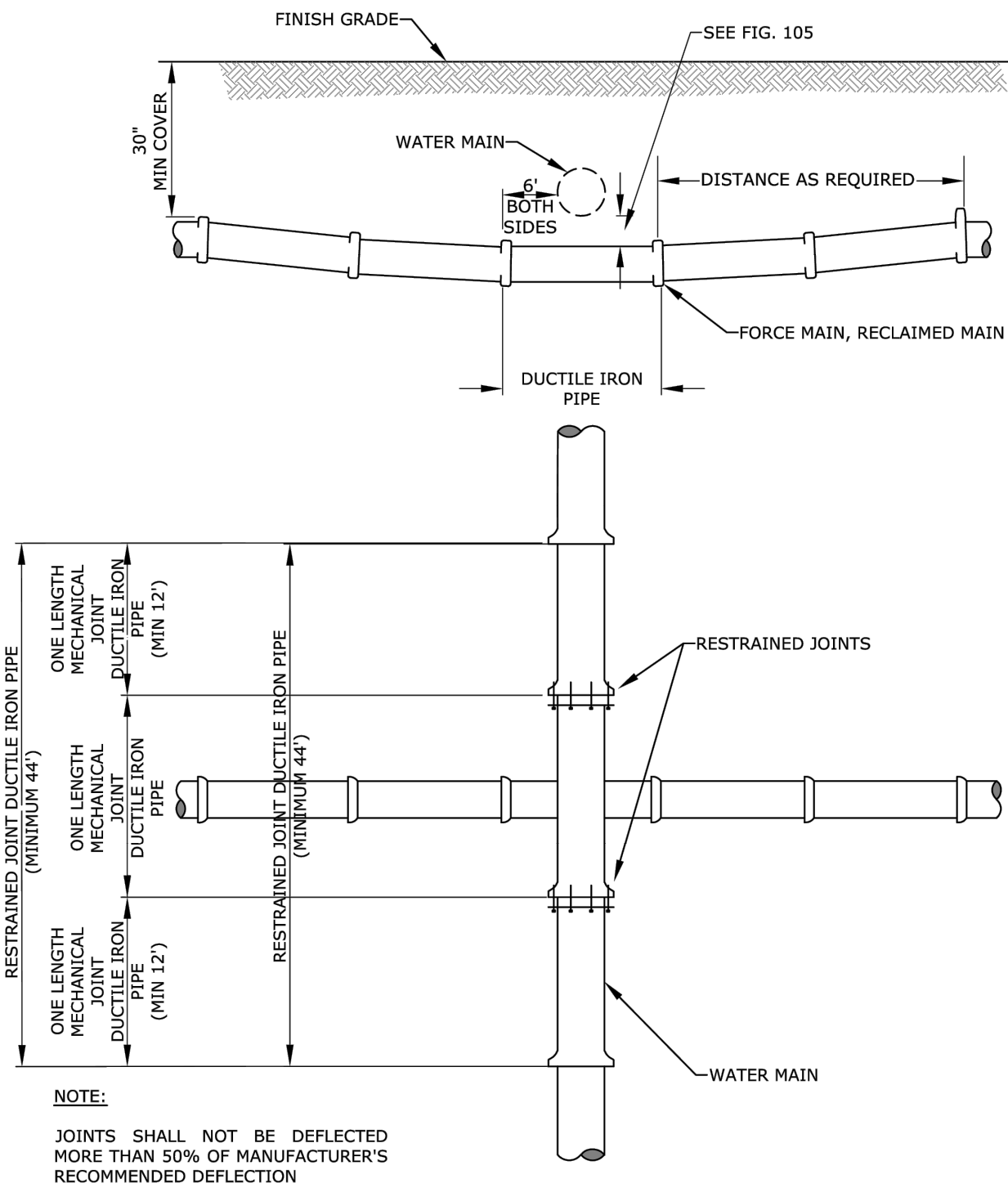


STANDARD DETAIL



NOTE:

JOINTS SHALL NOT BE DEFLECTED MORE THAN 50% OF MANUFACTURER'S RECOMMENDED DEFLECTION

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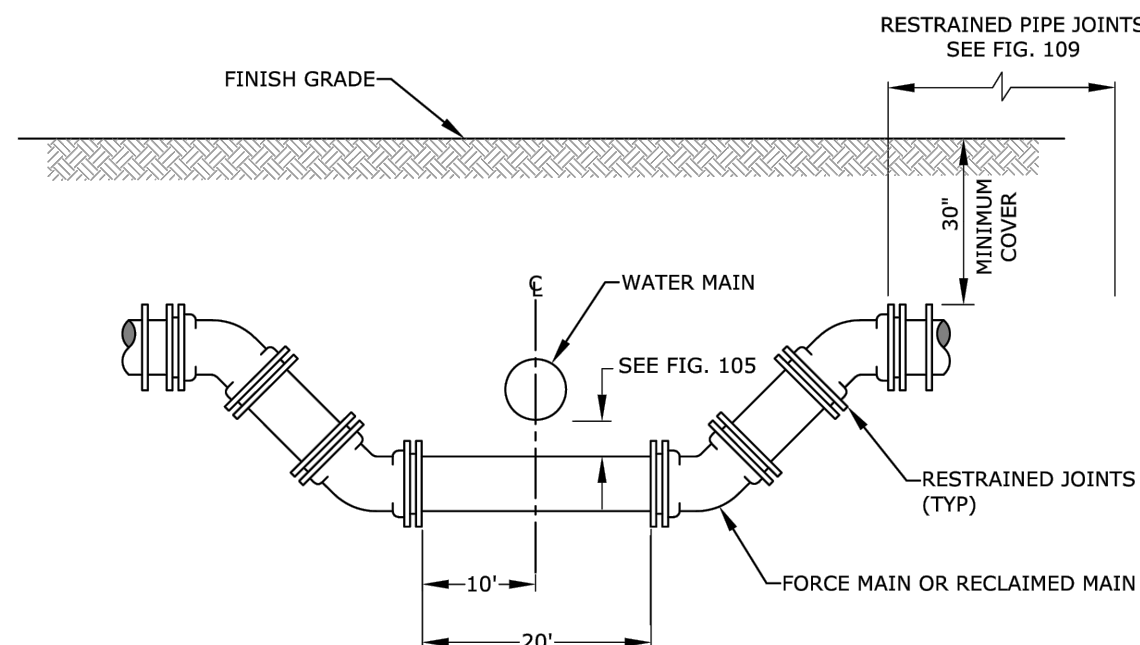
STANDARD UTILITY CROSSING

7/7/2021

FIGURE

106

STANDARD DETAIL



WHEREVER POSSIBLE DEFLECTION OF THE PIPE WILL BE USED TO AVOID EXISTING OBSTRUCTIONS. THIS CROSSING SHALL BE USED ONLY WHEN APPROVED BY WWS.

REVISED

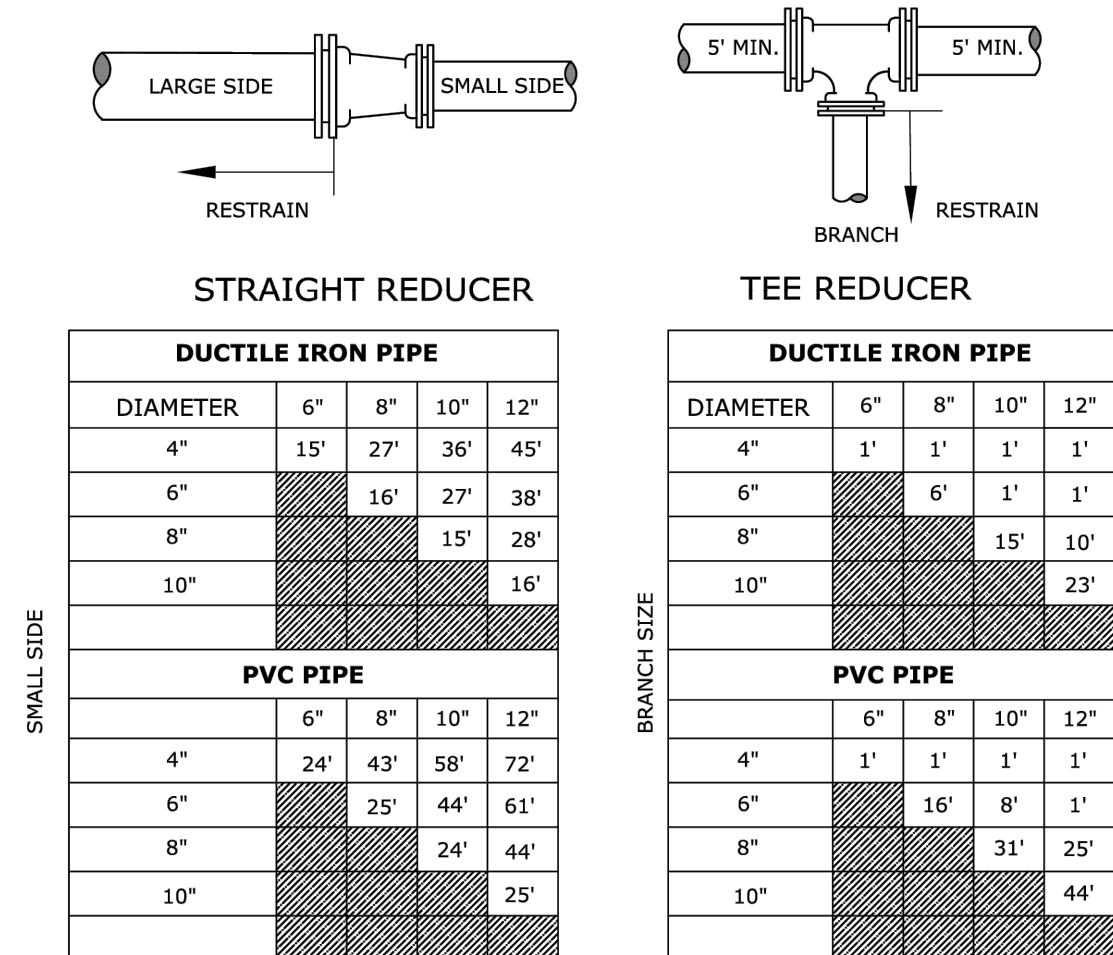
SPECIAL UTILITY CROSSING

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FIGURE

107

STANDARD DETAIL



THE NOTED REQUIREMENTS WERE CALCULATED IN ACCORDANCE WITH THRUST RESTRAINT CALCULATOR V7.2 BY EBAA IRON WITH THE FOLLOWING ASSUMPTIONS:
SOIL CONDITIONS: SW OR GW; LENGTH ALONG RUN EQUALS 4 FEET
LAYING CONDITION: 4, SAND BEDDING, BACKFILL COMPACTED > 80%
MINIMUM COVER: 3.0 FT; SAFETY FACTOR: 1.5; BARE PIPE (NO POLY WRAP)
IF FIELD CONDITIONS DIFFER FROM THE ABOVE, CONTRACTOR SHALL NOTIFY WWS.
FOR PIPE LARGER THAN INCLUDED IN THE ABOVE TABLES, ENGINEER OF RECORD SHALL SUBMIT CALCULATIONS FOR EACH JOINT REQUIRING RESTRAINT.

RESTRAINED REDUCING FITTING
150 PSI TEST PRESSURE

REVISED

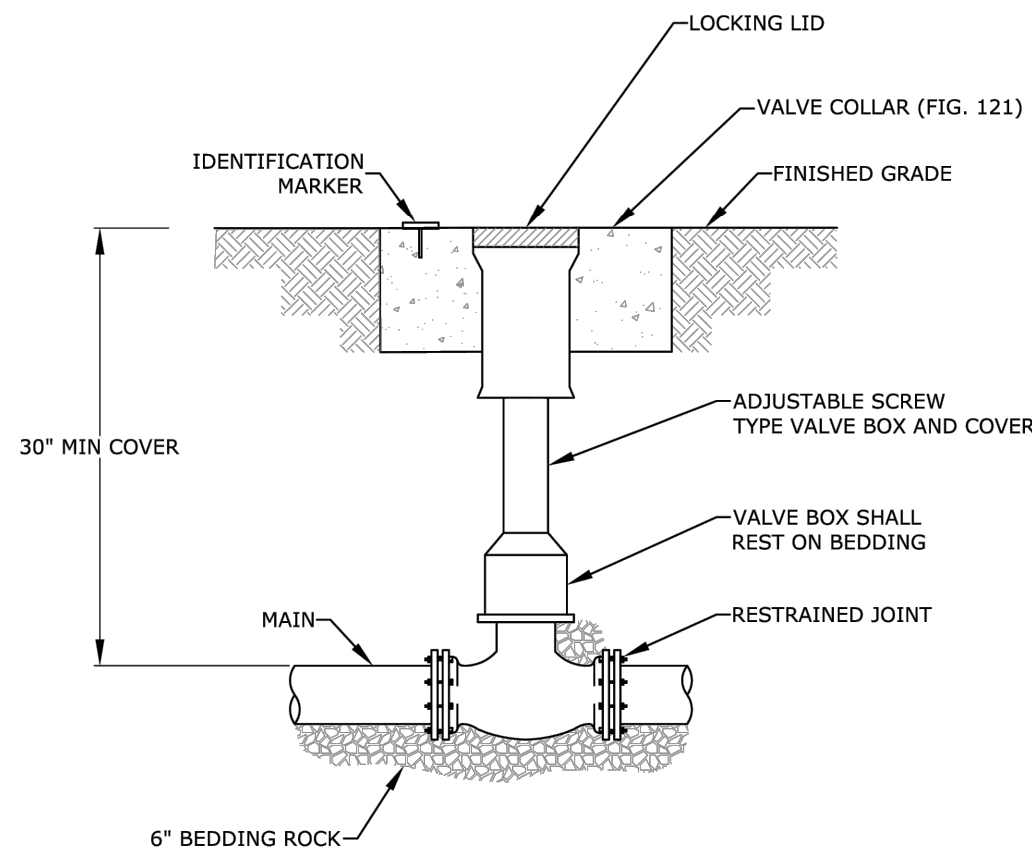
RESTRAINED JOINT
REQUIREMENTS REDUCING FITTINGS

7/7/2021

FIGURE

112

STANDARD DETAIL



1. WHEN VALVE IS NOT LOCATED IN PAVEMENT, PLACE A WHITE REFLECTIVE RAISED PAVEMENT MARKER IN THE DRIVE LANE, ADJACENT TO THE VALVE.
2. OPERATOR EXTENSION SHAFT SHALL BE PROVIDED WHEN OPERATING NUT IS MORE THAN 24" BELOW TOP OF VALVE BOX.
3. PVC PIPE OR DUCTILE IRON PIPE IS NOT ACCEPTABLE FOR VALVE BOX RISER.

REVISED

VALVE BOX DETAIL

7/7/2021

FIGURE

123

STANDARD DETAIL

WATER MAIN SEPARATION IN ACCORDANCE WITH F.A.C. RULE 62-555.314

OTHER PIPE	HORIZONTAL SEPARATION	CROSSINGS (1) (4)	JOINT SPACINGS @ CROSSINGS (FULL JOINT CENTERED)
STORM SEWER, RECLAIMED WATER (2)	Water Main 3 ft. minimum	Water Main 12 inches is the minimum, except for storm sewer, then 12 inches is preferred	Alternate 3 ft. minimum
VACUUM SANITARY SEWER	Water Main 10 ft. preferred	Water Main 12 inches preferred 6 inches min	Alternate 3 ft. minimum
GRAVITY SANITARY SEWER (3)	Water Main 10 ft. preferred	Water Main 12 inches is the minimum, except for gravity sewer, then 6 inches is the minimum and 12 inches is preferred	Alternate 6 ft. minimum
ON-SITE SEWAGE TREATMENT & DISPOSAL SYSTEM	10 ft. minimum		

(1) WATER MAIN SHOULD CROSS ABOVE OTHER PIPE. WHEN WATER MAIN MUST BE BELOW OTHER PIPE, THE MINIMUM SEPARATION IS 12 INCHES.
(2) RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.
(3) GRAVITY SANITARY SEWER SHALL BE LAIN AT LEAST 6 INCHES ABOVE THE TOP OF THE GRAVITY SANITARY SEWER.
(4) 18" VERTICAL MINIMUM SEPARATION REQUIRED BY WWS, UNLESS OTHERWISE APPROVED.

REVISED

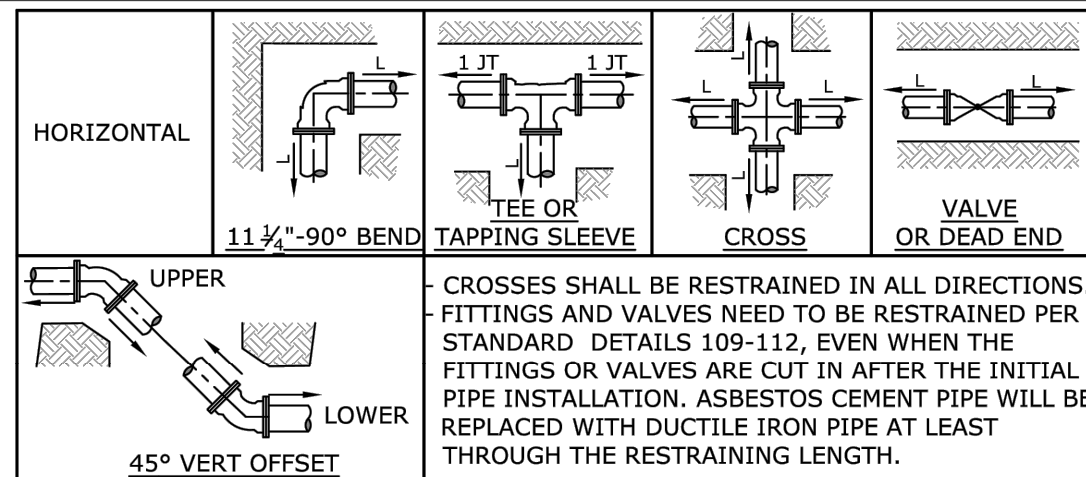
WATER MAIN SEPARATION

7/7/2021

FIGURE

105

STANDARD DETAIL



CROSSES SHALL BE RESTRAINED IN ALL DIRECTIONS. FITTINGS AND VALVES NEED TO BE RESTRAINED PER STANDARD DETAILS 109-112, EVEN WHEN THE FITTINGS OR VALVES ARE CUT IN AFTER THE INITIAL PIPE INSTALLATION. ASBESTOS CEMENT PIPE WILL BE REPLACED WITH DUCTILE IRON PIPE AT LEAST THROUGH THE RESTRAINING LENGTH.

THE NOTED REQUIREMENTS WERE CALCULATED IN ACCORDANCE WITH THRUST RESTRAINT CALCULATOR V7.2 BY EBAA IRON WITH THE FOLLOWING ASSUMPTIONS:
SOIL CONDITIONS: SW OR GW; NOMINAL SIZE EQUALS BRANCH SIZE; LENGTH ALONG RUN EQUALS 4 FEET
LAYING CONDITION: 4, SAND BEDDING, BACKFILL COMPACTED > 80%; VERTICAL LOW SIDE DEPTH EQUALS 3.5 FEET
MINIMUM COVER: 3.0 FT; SAFETY FACTOR: 1.5; BARE PIPE (NO POLY WRAP)
IF FIELD CONDITIONS DIFFER FROM THE ABOVE, CONTRACTOR SHALL NOTIFY WWS.
FOR PIPE LARGER THAN INCLUDED IN THE ABOVE TABLES, ENGINEER OF RECORD SHALL SUBMIT CALCULATIONS FOR EACH JOINT REQUIRING RESTRAINT.

SINGLE FITTING RESTRAINED JOINT
150 PSI TEST PRESSURE

REVISED

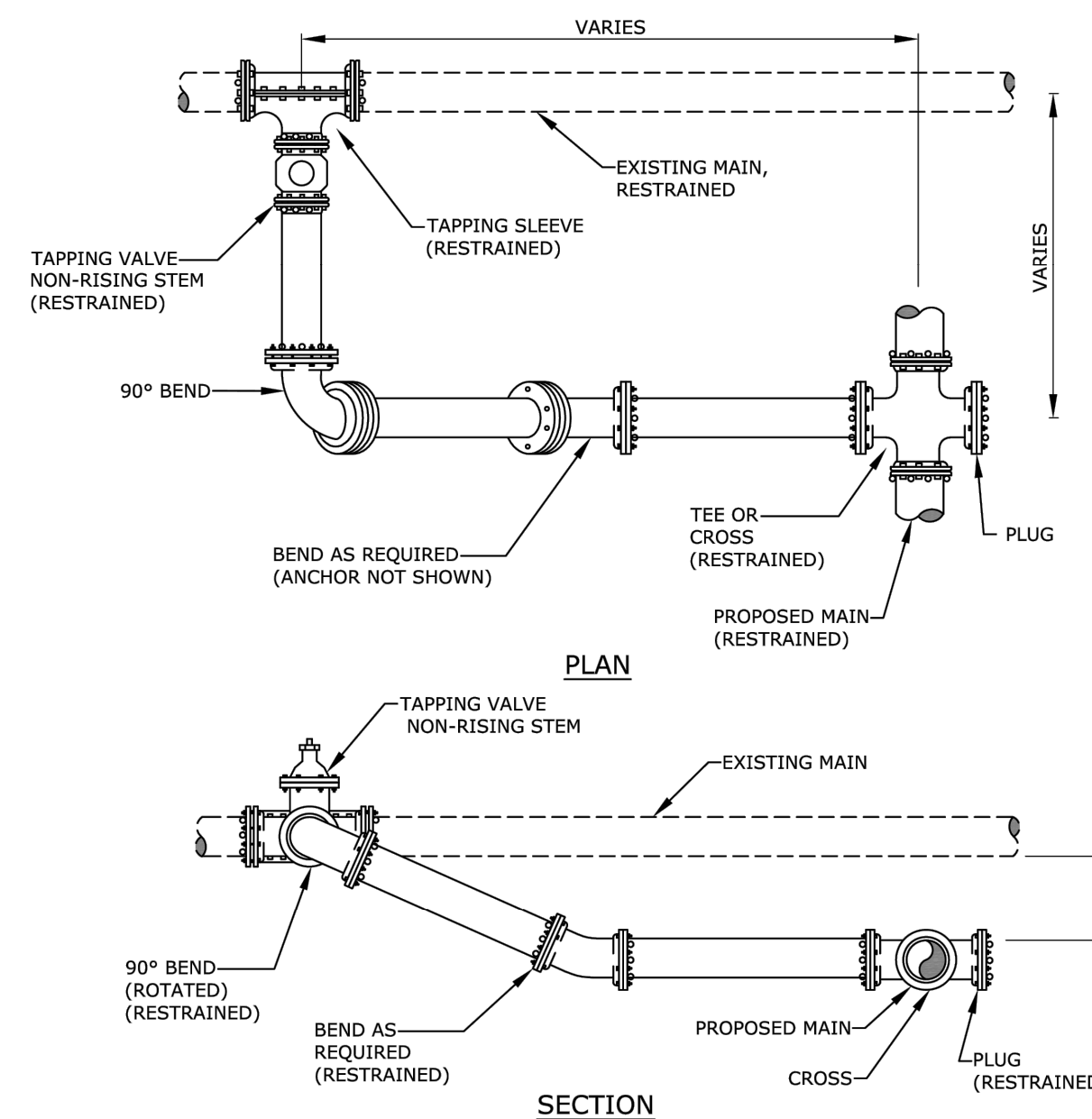
RESTRAINED JOINT
REQUIREMENTS SINGLE FITTING

7/7/2021

FIGURE

109

STANDARD DETAIL



NOTES:

1. ALL JOINTS TO BE RESTRAINED BY APPROVED METHODS.
2. IF CONNECTION IS PRIOR TO FDEP CLEARANCE THEN A SECOND VALVE WITH VENT IS REQUIRED.

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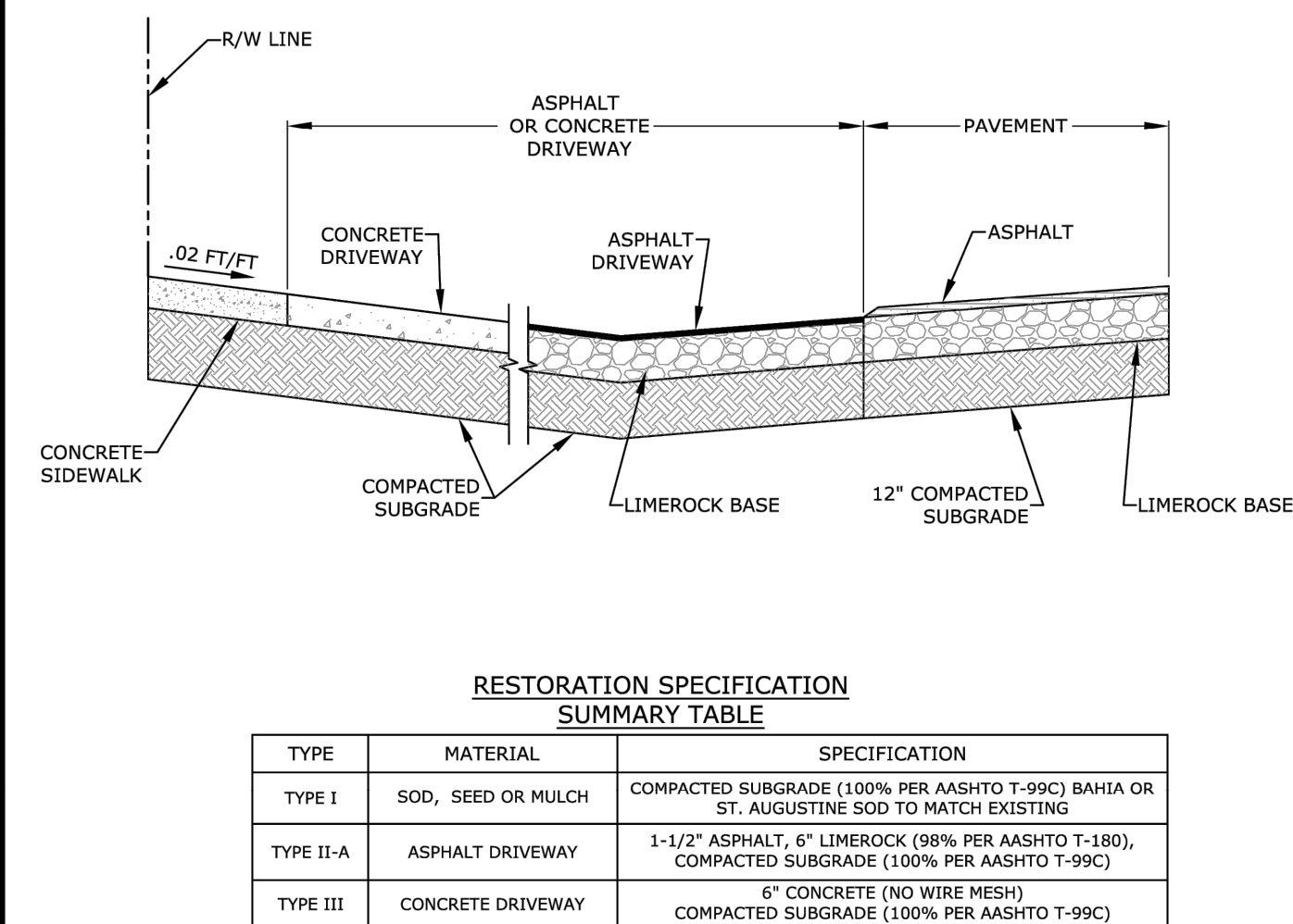
TYPICAL CONNECTION
TO EXISTING MAIN

7/7/2021

FIGURE

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STANDARD DETAIL

RESTORATION SPECIFICATION
SUMMARY TABLE

TYPE	MATERIAL	SPECIFICATION
TYPE I	SOD, SEED OR MULCH	COMPACTED SUBGRADE (100% PER AASHTO T-99C) BAHIA OR ST. AUGUSTINE SOD TO MATCH EXISTING
TYPE II-A	ASPHALT DRIVEWAY	1-1/2" ASPHALT, 6" LIMEROCK (98% PER AASHTO T-180), COMPACTED SUBGRADE (100% PER AASHTO T-99C)
TYPE III	CONCRETE DRIVEWAY	6" CONCRETE (NO WIRE MESH) COMPACTED SUBGRADE (100% PER AASHTO T-99C)

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TYPICAL SECTION THROUGH SWALE

7/7/2021

FIGURE

192

REV PER CITY COMMENTS	12/16/25	DJP
REV PER CITY COMMENTS	10/22/25	DJP
REV PER CITY COMMENTS	08/25/25	DJP
REVISIONS	DATE	BY
FILE NAME: 11146.dwg		

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THE SATORI
4211 N FEDERAL HIGHWAY
WATER DISTRIBUTION &
SANITARY SEWER DETAILS
POMPANO BEACH, FL, 33064

DATE	05/28/25
DRAWN BY	DJP
F.B./ PG.	----
SCALE	N/A

MATTHEW V. KAHN PROFESSIONAL ENGINEER LICENSE NO. 82227 STATE OF FLORIDA - FOR THE FIRM - DATE

JOB # 11146
SHT. NO.
WS-2
OF 16 SHEETS