

APPENDIX 10I
VERTICAL ELBOW INSTALLATIONS

<u>DESCRIPTION</u>	<u>DRAWING #</u>
INDEX	10I-1
RESTRAINED JOINT VERTICAL OFFSET UNDER UTILITY/OBJECT	10I-2
RESTRAINED JOINT VERTICAL OFFSET OVER UTILITY/OBJECT	10I-3
RESTRAINED JOINT SINGLE VERTICAL OFFSET	10I-4



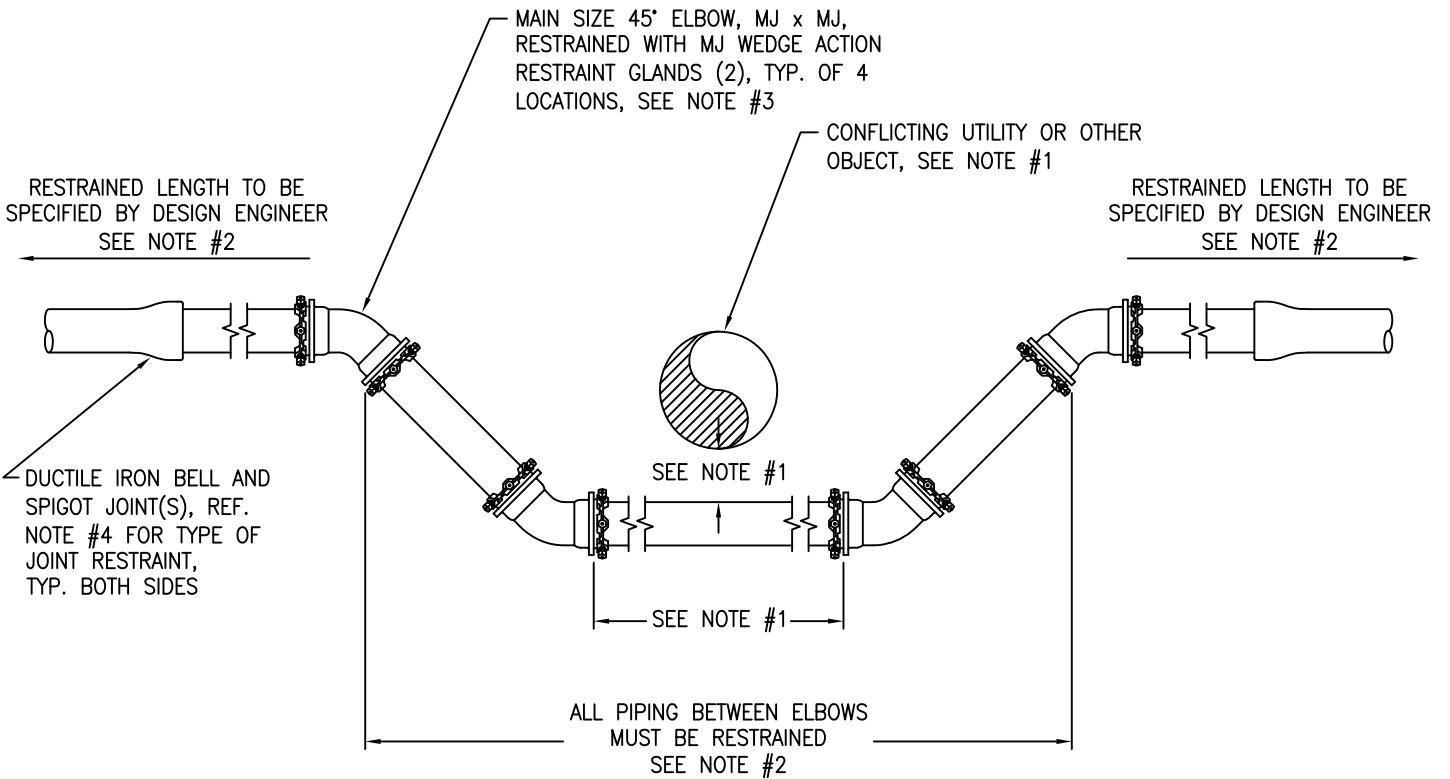
DATE
7/2001
REV
7/2011

APPENDIX 10I
VERTICAL ELBOW INSTALLATIONS
INDEX

DRAWING NUMBER
10I-1

NOTES:

1. REFERENCE TMWA ENGINEERING & CONSTRUCTION STANDARDS SECTIONS 7, 8, AND/OR 8A FOR UTILITY SEPARATION REQUIREMENTS.
2. ALL RESTRAINED JOINT PIPING SHALL BE DUCTILE IRON PIPE (RJ-DIP). RESTRAINED LENGTHS OUTSIDE OUTERMOST ELBOWS SHALL BE CALCULATED BY THE DESIGN ENGINEER AND SPECIFIED ON THE WATER IMPROVEMENT PLANS.
3. RESTRAINED JOINT FITTINGS SHALL BE MECHANICAL JOINT (MJ) DUCTILE IRON RESTRAINED WITH MECHANICAL JOINT WEDGE ACTION RESTRAINT GLANDS.
4. BELL AND SPIGOT PUSH-ON JOINTS SHALL BE RESTRAINED USING RUBBER GASKETS WITH STAINLESS STEEL LOCKING SEGMENTS VULCANIZED INTO THE RUBBER GASKET.
5. ALL BOLTS AND EXPOSED METAL SHALL BE COATED WITH BRUSHED-ON MASTIC.
6. FITTINGS, DUCTILE IRON PIPE, AND OTHER METAL PARTS SHALL BE ENCASED WITH POLYETHYLENE WRAP PER AWWA C105.



DATE

7/2001

REV

7/2011

APPENDIX 10I
VERTICAL ELBOW INSTALLATION

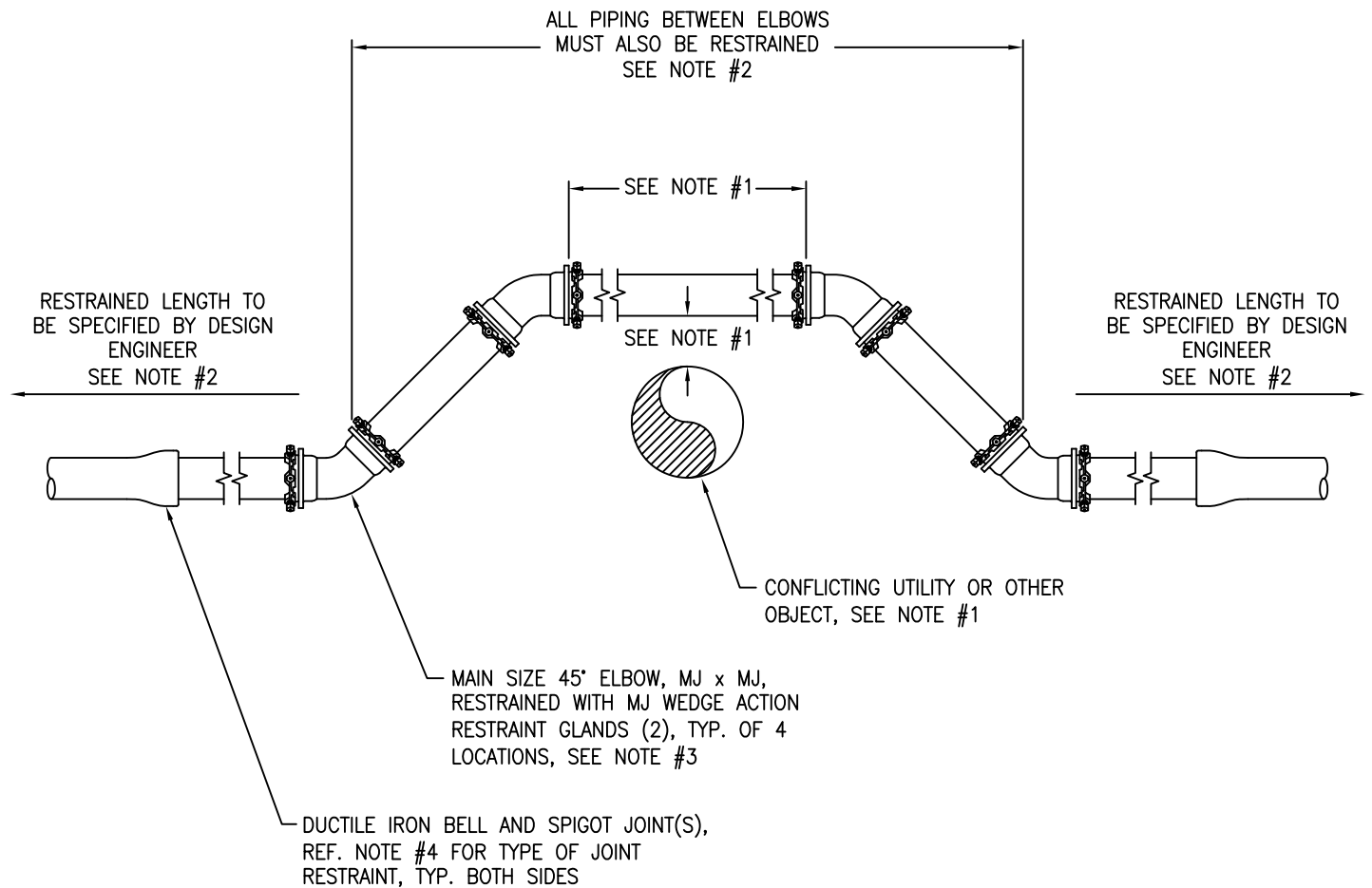
RESTRAINED JOINT VERTICAL OFFSET
UNDER UTILITY/OBJECT
FOR MAINS 6" TO 12"

DRAWING NUMBER

10I-2

NOTES:

1. REFERENCE TMWA ENGINEERING & CONSTRUCTION STANDARDS SECTIONS 7, 8, AND/OR 8A FOR UTILITY SEPARATION REQUIREMENTS.
2. ALL RESTRAINED JOINT PIPING SHALL BE DUCTILE IRON PIPE (RJ-DIP). RESTRAINED LENGTHS OUTSIDE OUTERMOST ELBOWS SHALL BE CALCULATED BY THE DESIGN ENGINEER AND SPECIFIED ON THE WATER IMPROVEMENT PLANS.
3. RESTRAINED JOINT FITTINGS SHALL BE MECHANICAL JOINT (MJ) DUCTILE IRON RESTRAINED WITH MECHANICAL JOINT WEDGE ACTION RESTRAINT GLANDS.
4. BELL AND SPIGOT PUSH-ON JOINTS SHALL BE RESTRAINED USING RUBBER GASKETS WITH STAINLESS STEEL LOCKING SEGMENTS VULCANIZED INTO THE RUBBER GASKET.
5. ALL BOLTS AND EXPOSED METAL SHALL BE COATED WITH BRUSHED-ON MASTIC.
6. FITTINGS, DUCTILE IRON PIPE, AND OTHER METAL PARTS SHALL BE ENCASED WITH POLYETHYLENE WRAP PER AWWA C105.



DATE
7/2001
REV
7/2011

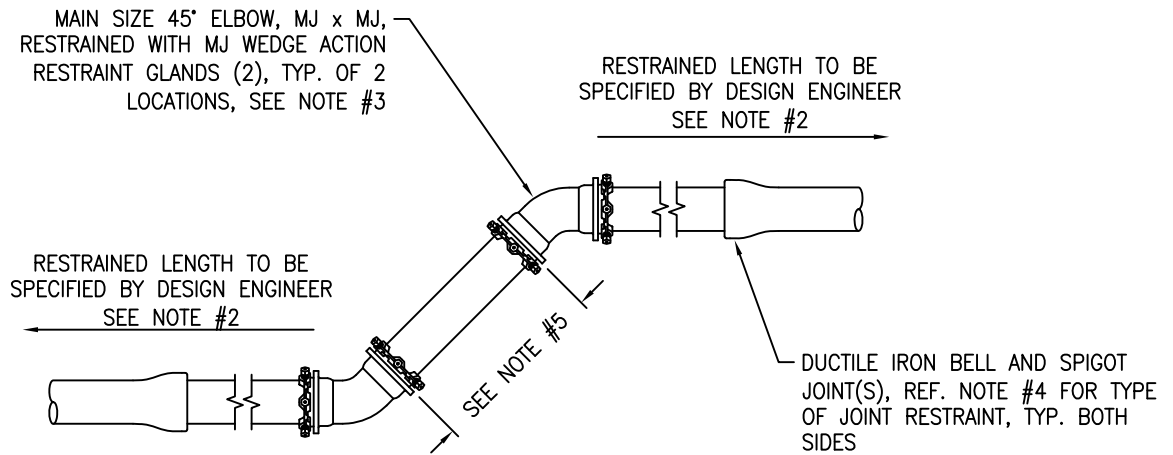
APPENDIX 10I
 VERTICAL ELBOW INSTALLATION
 DOMESTIC USE REDUCED PRESSURE PRINCIPLE
 RESTRAINED JOINT VERTICAL OFFSET
 OVER UTILITY/OBJECT

DRAWING NUMBER

10I-3

NOTES:

1. REFERENCE TMWA ENGINEERING & CONSTRUCTION STANDARDS SECTIONS 7, 8, AND/OR 8A FOR UTILITY SEPARATION REQUIREMENTS.
2. ALL RESTRAINED JOINT PIPING SHALL BE DUCTILE IRON PIPE (RJ-DIP). RESTRAINED LENGTHS OUTSIDE OUTERMOST ELBOWS SHALL BE CALCULATED BY THE DESIGN ENGINEER AND SPECIFIED ON THE WATER IMPROVEMENT PLANS.
3. RESTRAINED JOINT FITTINGS SHALL BE MECHANICAL JOINT (MJ) DUCTILE IRON RESTRAINED WITH MECHANICAL JOINT WEDGE ACTION RESTRAINT GLANDS.
4. BELL AND SPIGOT PUSH-ON JOINTS SHALL BE RESTRAINED USING RUBBER GASKETS WITH STAINLESS STEEL LOCKING SEGMENTS VULCANIZED INTO THE RUBBER GASKET.
5. PIPING BETWEEN ELBOWS MUST ALSO BE RESTRAINED.
6. ALL BOLTS AND EXPOSED METAL SHALL BE COATED WITH BRUSHED-ON MASTIC.
7. FITTINGS, DUCTILE IRON PIPE, AND OTHER METAL PARTS SHALL BE ENCASED WITH POLYETHYLENE WRAP PER AWWA C105.



DATE

7/2001

REV

7/2011

APPENDIX 10I
VERTICAL ELBOW INSTALLATION

RESTRAINED JOINT SINGLE OFFSET
FOR MAINS 6" TO 12"

DRAWING NUMBER

10I-4