Welded Outlets

McWane Ductile is able to offer welded outlets in a variety of configurations and sizes. The welded outlets are fabricated from centrifugally cast ductile iron pipe, manufactured and tested in accordance with ANSI/AWWA C151/A21.51. This is a shop fabrication only and is not intended for field fabrication.

The welded outlets on ductile iron pipe are produced using qualified procedures and welders as per guidelines in ANSI/AWS D11.2; Guide for Welding Iron Castings. Parent and outlet pipe are normally furnished cement lined in accordance with ANSI/AWWA C104/A21.4.

McWane Ductile is offering radial and tangential welded outlets that can be used as an alternative, when the application permits, to some fittings. These outlets can be furnished in a variety of custom configurations to satisfy many job requirements. Contact a McWane Ductile sales representative or customer service for more information.

QUALITY CONTROL

Welded outlets are produced using a qualified and certified welding procedure in accordance with ANSI/AWS D11.2. Procedure qualification information is recorded on a Procedure Qualification Record (PQR) form. This demonstrates that the procedure produces a sound weld with acceptable properties.

Welders producing welded outlets are qualified and have demonstrated their ability to deposit a sound weld as specified by the AWS.

Each weld shall be visually inspected as specified by the AWS.

Welded outlet will be subjected to a pneumatic pressure test.

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WELDED OUTLET/BOSS DESIGN GUIDELINES

I. Welded outlets are available with the following joint configurations:
   a. Mechanical Joint
   b. Push-on Joint
   c. Thrust-Lock Joint
   d. Plain End

II. A welded outlet may be supplied with a flange for limited applications such as an air release manhole. Consult a McWane Ductile sales representative for these applications.

III. Minimum wall thickness of pipe used in the fabrication of welded outlets shall be Class 53.

IV. Piping systems with welded outlets must be designed in a way that bending loads are not applied to the outlet. Any restraint joint connections must be fully extended, (all slack or pull out removed) to avoid unpredictable loading and stress on the welded outlet. This must be done prior to making final connections. Additionally, the design should avoid applications where frequent vibration is possible.

V. Unsupported cantilever loading is not allowed on welded outlets.

VI. Outlet shall be supported in accordance with attached Detail A installation or equivalent (provide detail to McWane Ductile).

VII. Outlets length and location will be fabricated in accordance with sketches shown.

VIII. Welded outlets shall not be subjected to impact or bending stresses during handling, storage, shipment, installation or operation.

IX. All lining and coating damage must be repaired prior to installation.

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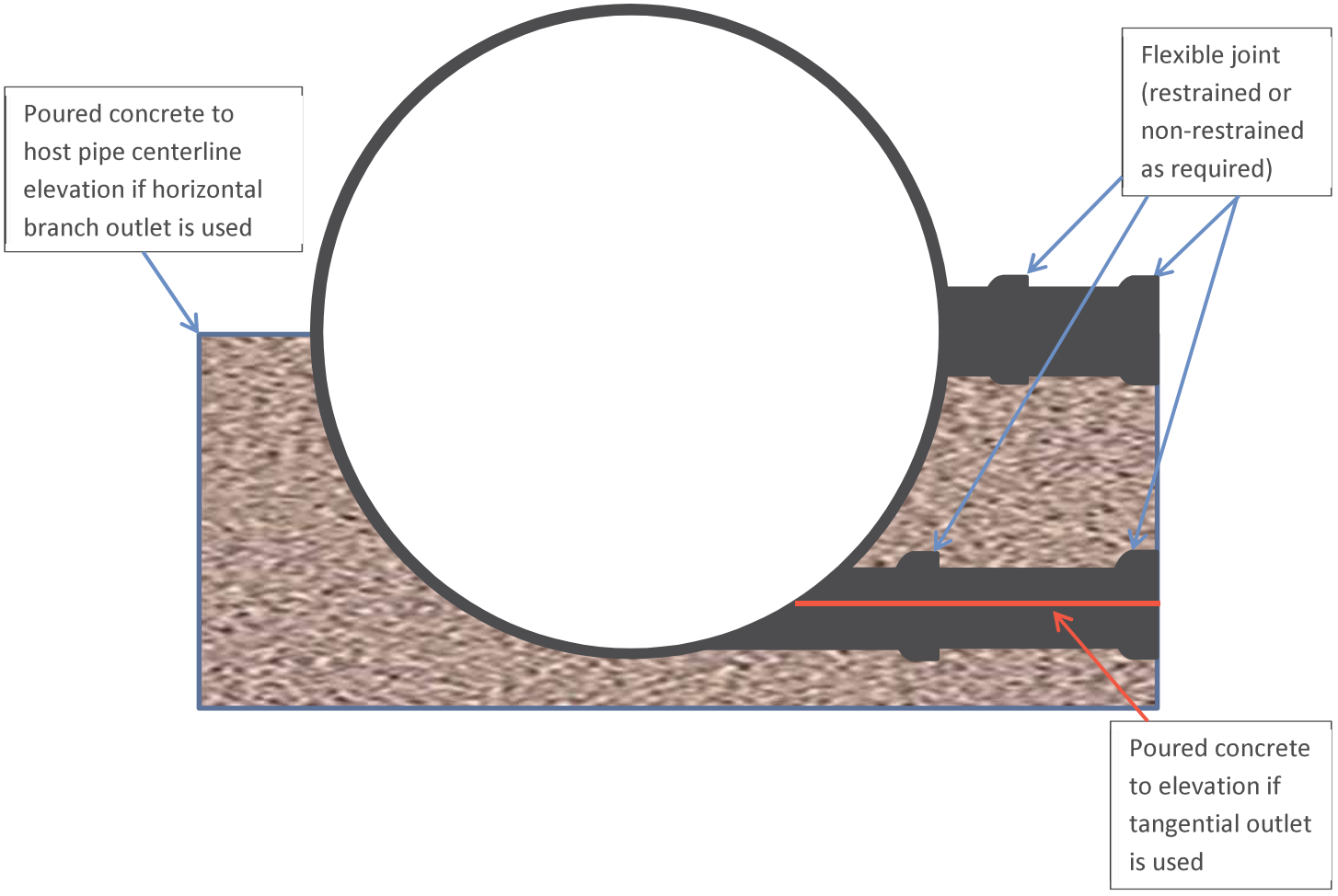
Detail A

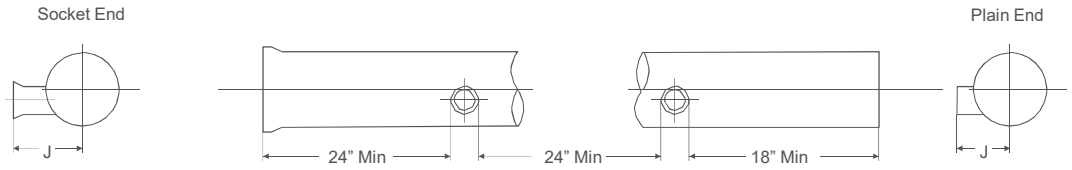
Welded Outlet/Boss Installation



McWANE DUCTILE

TANGENTIAL WELDED-ON OUTLETS LAYING LENGTHS

Tangential Welded-on Outlets Laying Lengths

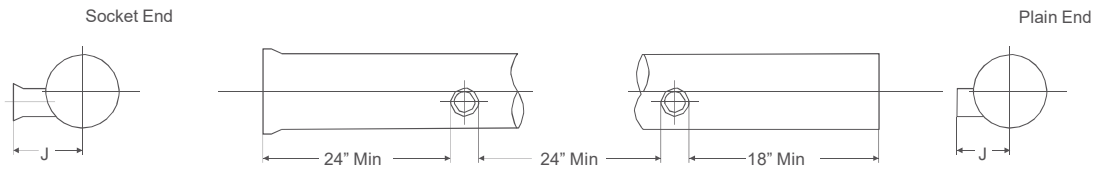


Parent Pipe Diameter Inches	*Outlet Diameter Inches*	*Standard J Dimension Socket End*	*Standard J Dimension Plain End*
16	6	15.5	19
16	8	15.5	20
16	10	15	20
18	6	16.5	20
18	8	16.5	21
18	10	16.5	21
18	12	16	21
20	6	17	20
20	8	17.5	22
20	10	17.5	22
20	12	17.5	22
24	6	18.5	22
24	8	19.5	24
24	10	19.5	24
24	12	20	24.5
24	14	20	25.5
24	16	21	26
30	6	20.5	24
30	8	21.5	26
30	10	22.5	27
30	12	23	28
30	14	24	29
30	16	24	30
30	18	24	30
30	20	24	30

McWANE DUCTILE

TANGENTIAL WELDED-ON OUTLETS LAYING LENGTHS

Tangential Welded-on Outlets Laying Lengths

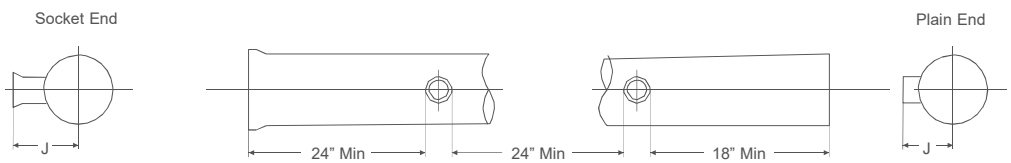


Parent Pipe Diameter Inches	*Outlet Diameter Inches*	*Standard J Dimension Socket End*	*Standard J Dimension Plain End*
36	4	22	24
36	6	22	24
36	8	24	28
36	10	25	29
36	12	26	30
36	14	27	32
36	16	27	33
36	18	27	33
36	20	27	34
36	24	27	34

McWANE DUCTILE

RADIAL WELDED-ON OUTLETS LAYING LENGTHS

Welded-on Outlets Laying Lengths

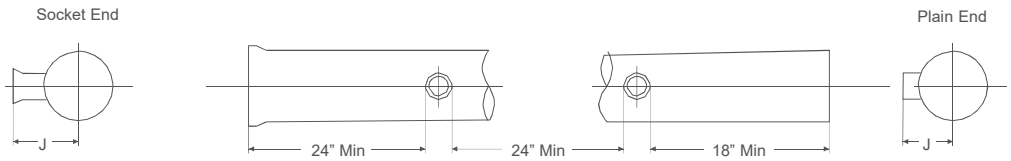


Parent Pipe Diameter Inches	*Outlet Diameter Inches*	*Standard J Dimension Socket End*	*Standard J Dimension Plain End*
10	6	11	17
12	6	12	18
12	8	12	18
14	6	14	19
14	8	14	20
14	10	14	20
16	6	15	20
16	8	15	21
16	10	15	21
16	12	15	21
18	6	15.5	21
18	8	15.5	22
18	10	15.5	22
18	12	15.5	22
18	14	16.5	24
20	6	17	22
20	8	17	23
20	10	17	23
20	12	17	23
20	14	17	25
20	16	18	26
24	6	19	24
24	8	19	25
24	10	19	25
24	12	19	26
24	14	19	27
24	16	19	28
24	18	22	28
30	6	23	27
30	8	23	28
30	10	23	28
30	12	23	29
30	14	23	30
30	16	23	31
30	18	23	31
30	20	23	33

McWANE DUCTILE

RADIAL WELDED-ON OUTLETS LAYING LENGTHS

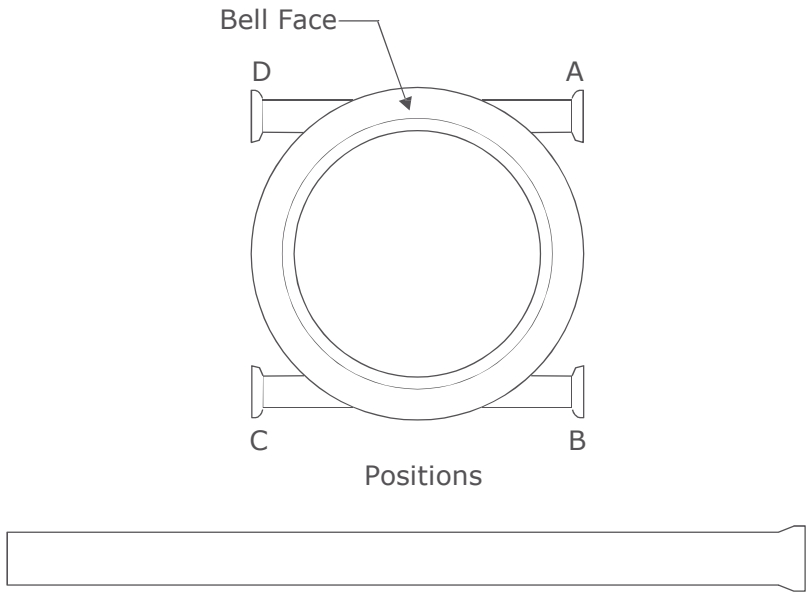
Welded-on Outlets Laying Lengths



Parent Pipe Diameter Inches	*Outlet Diameter Inches*	*Standard J Dimension Socket End*	*Standard J Dimension Plain End*
36	4	26	29
36	6	26	30
36	8	26	31
36	10	26	31
36	12	26	32
36	14	26	33
36	16	26	34
36	18	26	34
36	20	26	36
36	24	26	37

McWANE DUCTILE

TANGENTIAL OUTLET LOCATIONS



PO#: _____ Order#: _____ Marking: _____

Carrier Pipe

Size: _____ Joint: _____ Spigot: _____

Outlet Pipe

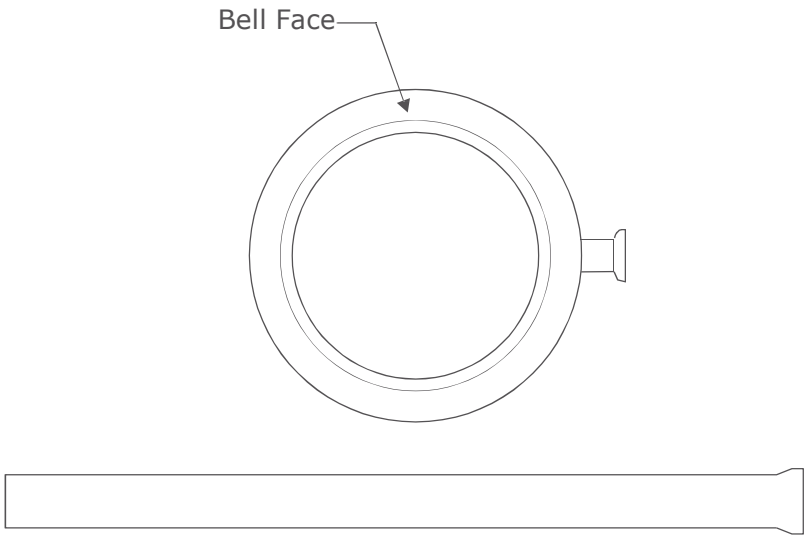
Size: _____ Joint: _____ Position: _____

Location: _____ ft. _____ in. Centered from spigot end of pipe

Drawn By: _____ Approved by: _____

McWANE DUCTILE

RADIAL OUTLET LOCATIONS



PO#: _____ Order#: _____ Marking: _____

Carrier Pipe

Size: _____ Joint: _____ Spigot: _____

Outlet Pipe

Size: _____ Joint: _____ Position: _____

Location _____ ft. _____ in. Centered from spigot end of pipe

Drawn By: _____ Approved by: _____