

BENDS	"B"	"C"	"D"	"E"
6"-11 1/4"	8"	10"	12"	14"
6"-22 1/2"	8"	10"	12"	14"
6"-40"	8"	10"	12"	14"
6"-90"	8"	10"	12"	14"
8"-11 1/4"	8"	10"	12"	14"
8"-22 1/2"	8"	10"	12"	14"
8"-40"	8"	10"	12"	14"
8"-90"	8"	10"	12"	14"
12"-11 1/4"	8"	10"	12"	14"
12"-22 1/2"	8"	10"	12"	14"
12"-40"	8"	10"	12"	14"
12"-90"	8"	10"	12"	14"
16"-11 1/4"	11"	13"	15"	17"
16"-22 1/2"	11"	13"	15"	17"
16"-40"	11"	13"	15"	17"
16"-90"	11"	13"	15"	17"
20"-11 1/4"	14"	16"	18"	20"
20"-22 1/2"	14"	16"	18"	20"
20"-40"	14"	16"	18"	20"
20"-90"	14"	16"	18"	20"
24"-11 1/4"	17"	19"	21"	23"
24"-22 1/2"	17"	19"	21"	23"
24"-40"	17"	19"	21"	23"
24"-90"	17"	19"	21"	23"
30"-11 1/4"	20"	22"	24"	26"
30"-22 1/2"	20"	22"	24"	26"
30"-40"	20"	22"	24"	26"
30"-90"	20"	22"	24"	26"

TEES	"G"	"H"	"J"	"K"
6"X6"X6"	12"	24"	24"	18"
6"X6"X8"	12"	24"	24"	18"
6"X8"X8"	12"	24"	24"	18"
12"X12"X6"	12"	24"	24"	18"
12"X12"X8"	12"	24"	24"	18"
12"X12"X12"	12"	24"	24"	18"
24"X24"X12"	12"	24"	24"	18"
24"X24"X16"	16"	32"	28"	22"

- NOTES:
 1. 2 & 4" FITTINGS EQUIVALENT TO 6" FITTINGS.
 2. TAPPING SLEEVES TO HAVE BACKING BLOCKS SAME SIZE AS REQUIRED FOR TEES.
 3. "TL" - TOTAL LENGTH OF FITTING. MINUS CLEARANCE FOR BELLS.

INTERNAL WATER PRESSURE 6" through 12"-200 psi
 INTERNAL WATER PRESSURE 16" through 30"-310 psi
 BEARING PRESSURE OF SOIL=2000 psi

BACKING BLOCKS

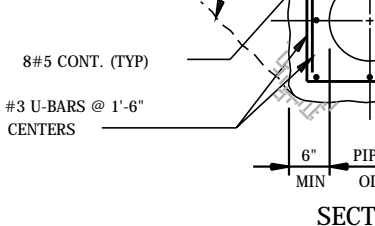
NOT TO SCALE

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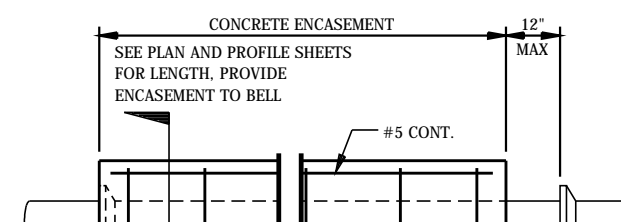
**BACKING BLOCK
 DETAILS AND LOCATIONS**

PLACE CONCRETE AGAINST UNDISTURBED EARTH (EXCEPT ACROSS NEW PIPELINE TRENCH WHEN EXIST SANITARY SEWER IS ENCASED)

ACTUAL TRENCH SIDE SLOPE TO BE DETERMINED BY CONTRACTOR IN ACCORDANCE WITH OSHA STANDARDS. CONCRETE MAY BE PLACED AGAINST PERMANENT STEEL SHEETING.



SECTION



ELEVATION

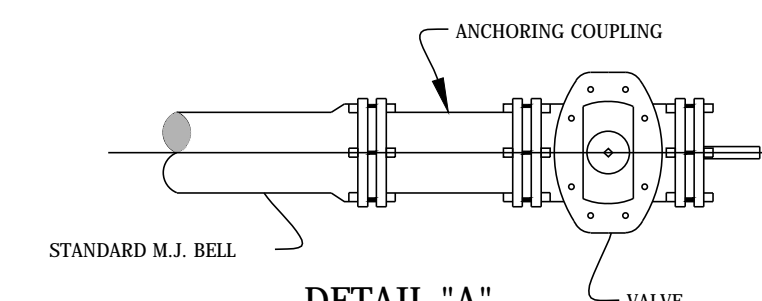
- NOTES:
 1. AT LOCATIONS WHERE THE TRANSMISSION MAIN CROSSES AN EXIST SANITARY SEWER, SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
 2. WHEN THE PIPELINE IS PROTECTED WITH POLYETHYLENE TUBE ENCASEMENT, THE CONCRETE ENCASEMENT IS TO COVER THE POLYETHYLENE ENCASEMENT.

CONCRETE ENCASEMENT

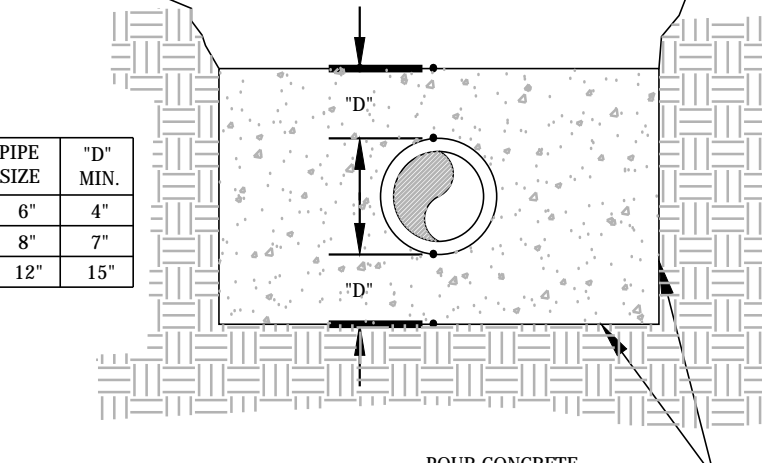
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**CONCRETE ENCASEMENT
 DETAILS**



DETAIL "A"

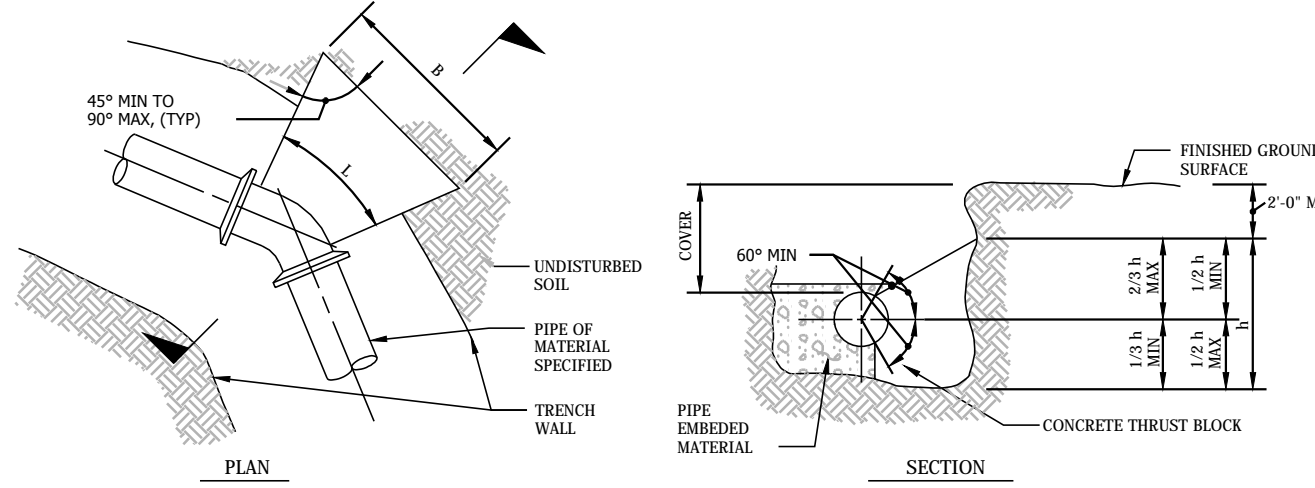


STRADDLE BLOCK DETAIL

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**STRADDLE BLOCK
 DETAILS**



- NOTES:
 1. AREA OF BLOCK A - BxH. BLOCK AREAS ARE SHOWN ON GENERAL LAYOUT OR TABLE.
 2. B x H = A x DCEPT WHERE TOP OF BLOCK IS WITHIN 2 FEET FROM GROUND SURFACE. THIS B x H.
 3. MINIMUM BLOCK DIMENSION (B & H) SHALL BE AT LEAST 60 OF PIPE OR 1 FOOT FOR PIPE 12" OR LESS.
 4. THE BOTTOM OF THE BLOCK SHALL EXTEND AT LEAST TO THE BOTTOM OF THE TRENCH IN ALL CASES.
 5. L-FITTING LENGTH MINUS CLEARANCE FOR BELLS.
 6. DETAIL IS SHOWN FOR CAST IRON PIPE. DETAIL IS SIMILAR FOR OTHER TYPES OF PIPE.
 7. DIMENSIONS FOR THRUST BLOCKS FOR FIRE HYDRANT ASSEMBLY ARE SHOWN FIRE HYDRANT ASSEMBLY DETAIL.

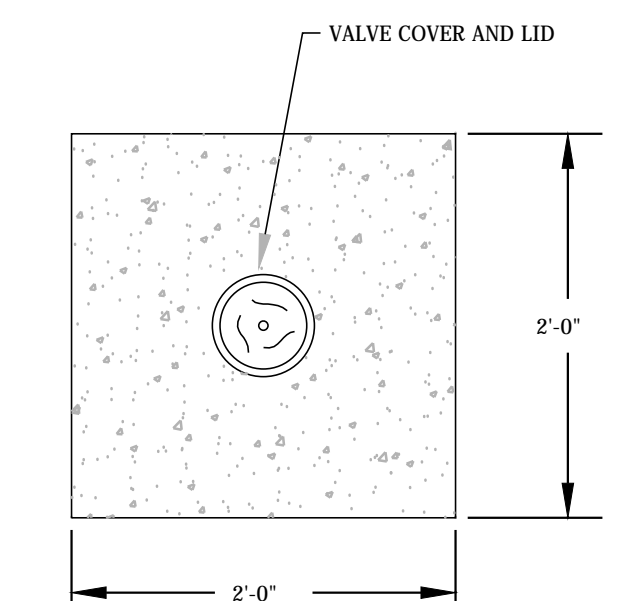
SIZE	BEND	THRUST AREA	B	H
16"	11 1/4"	4 SF	2'	2'
16"	22 1/2"	8 SF	2.8'	2.8'

CONCRETE THRUST BLOCKING

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**CONCRETE THRUST
 BLOCKING DETAILS**



**TOP VIEW
 CONCRETE COLLAR**

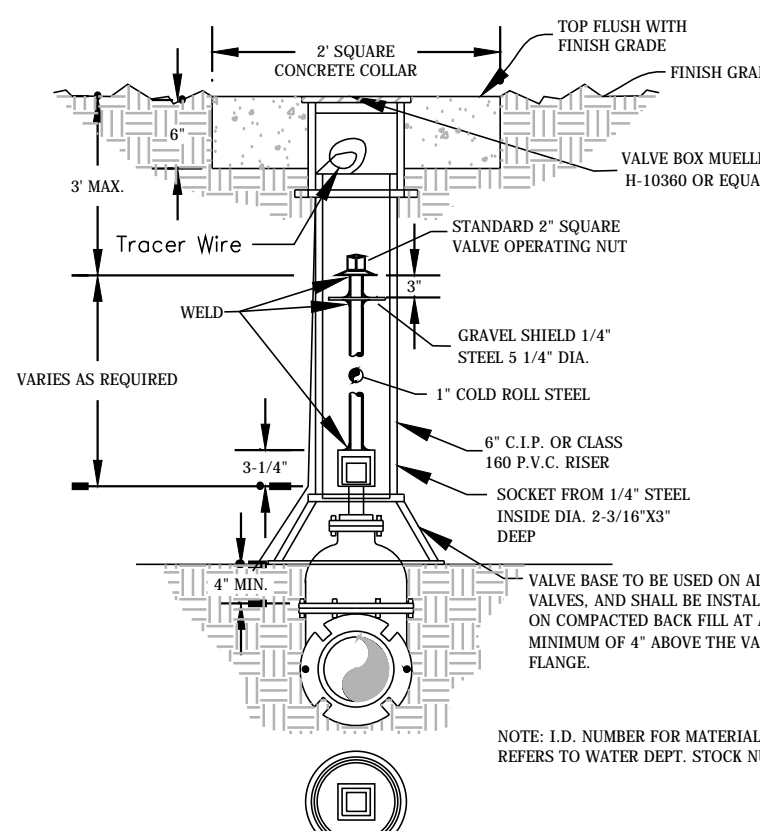
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- Note : 1. Concrete collar joint pattern is required in paved areas such as roadways, driveways, sidewalks or other areas of paved surfaces.
 2. Concrete collars are optional in other non-paved areas.

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**CONCRETE
 COLLAR DETAIL**

Concrete collar will be in accordance with the Concrete collar detail.

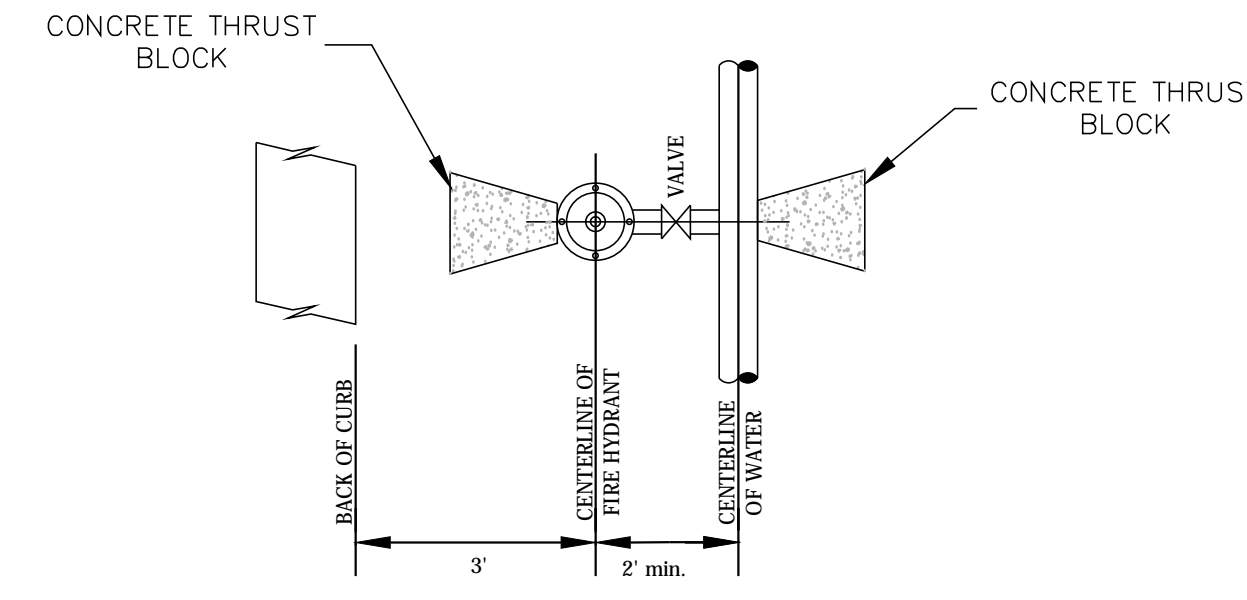


WATER VALVE DETAIL

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**WATER
 VALVE DETAIL**



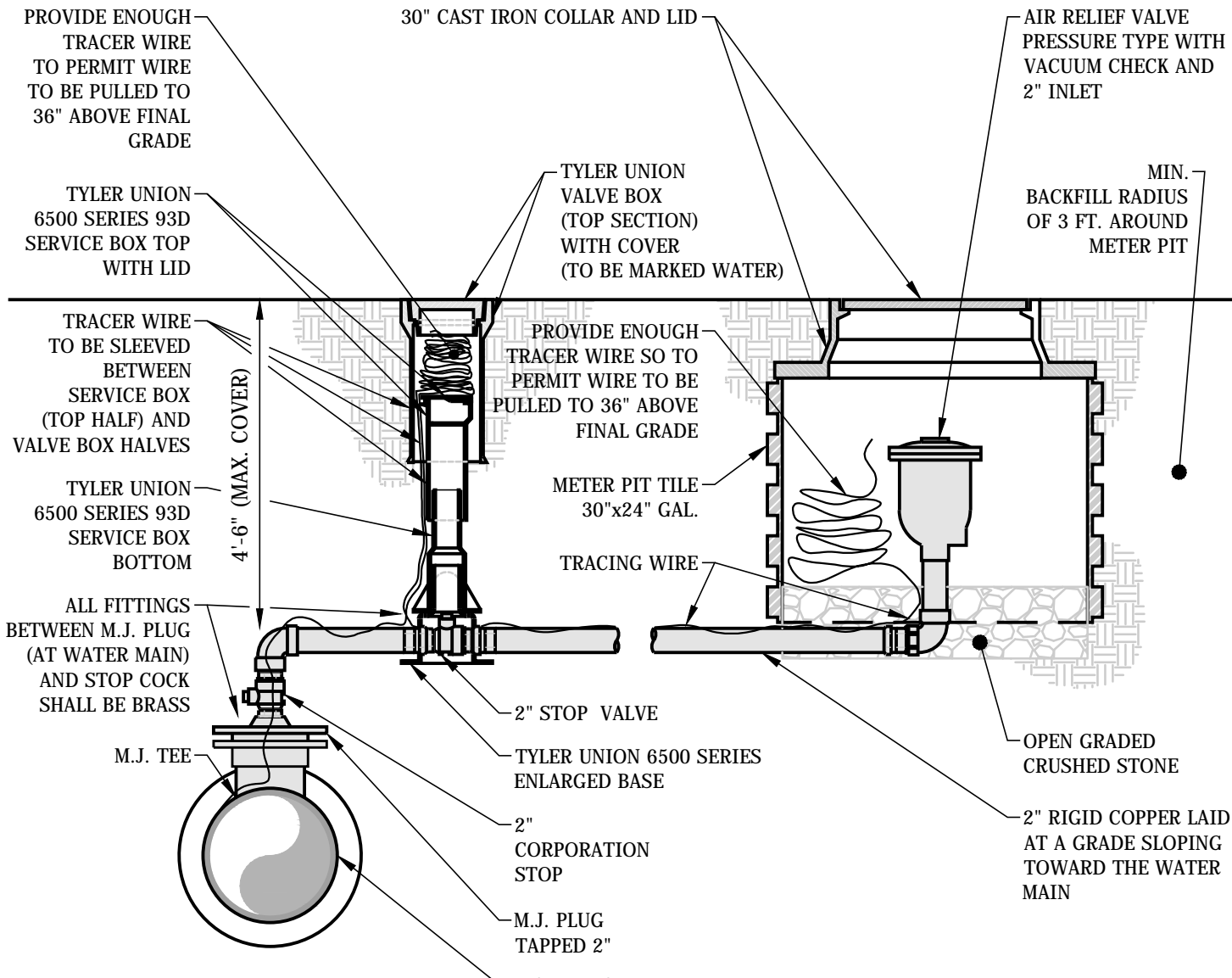
ALL FIRE HYDRANTS SHALL BE 3' OFF BACK OF CURB
 ALL WATER MAINS SHALL BE A MIN. OF 5' OFF BACK OF CURB

**TYPICAL WATER MAIN AND FIRE
 HYDRANT LOCATIONS**

NOT TO SCALE

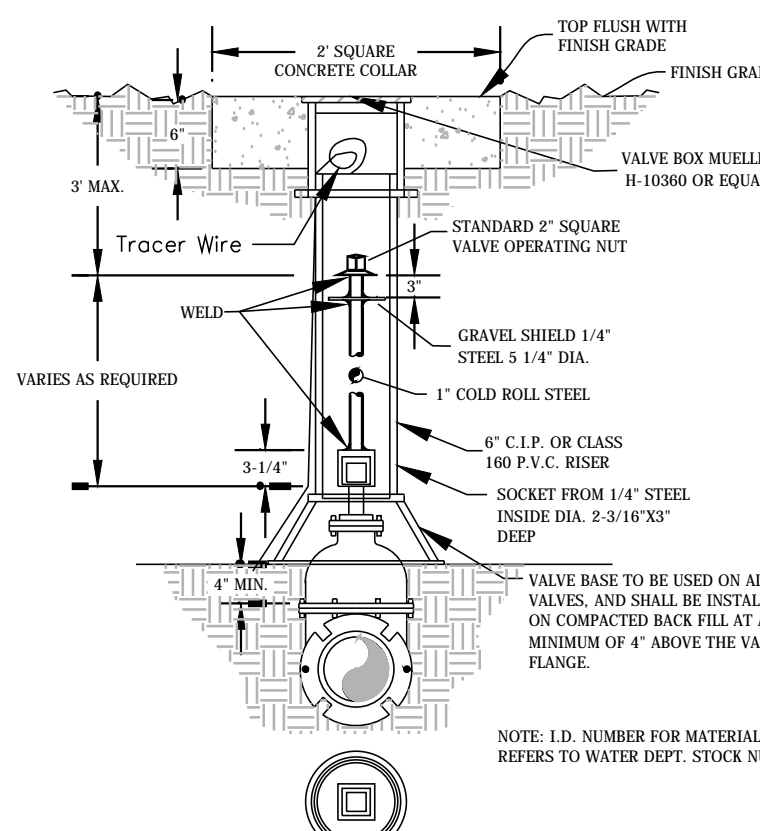
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**WATER MAIN
 FIRE HYDRANT DETAIL**



**AIR RELIEF ASSEMBLY
 (NON-TRAFFIC RATED)**

Concrete collar will be in accordance with the Concrete collar detail.



WATER VALVE DETAIL

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**WATER
 VALVE DETAIL**

**WATER MAIN DETAILS
 SHEET 1 OF 2**

CITY OF OFALLON WATER DISTRIBUTION

Page No.

9

**ENGINEER SIGNATURE
 BLOCK**

STATE OF MISSOURI
**JARED SHANE
 LESSER**
 NUMBER
 FE-2016015699
 PROFESSIONAL ENGINEER

12/22/2016