



Laying Schedule

Job No.: 080110

**Oak Creek, WI
30" Water Transmission Main - Priority Pipe
Chicago Road**

Unit No.: 1
Date: 1/10/2009
Rev: D

Miscellaneous Materials Shipping List

Quantity		Revisions
18	30" LCP Laying Gaskets **** VITON ****	Rev 0 1/3/2008
11	30" LCP Restrained or Bonded Foam Lined Diapers	Original Issue
2	Joint Stops	Rev A 1/4/2008
2	Internal/External Feeler Gauges	Revise Scope of Material Add Viton Gaskets
1	Installation Kit (Invoice at \$310.00 each)	Rev B 1/7/2008 Revised
1	25lb Pail Joint Lubricant (Invoiced at \$45.00 each)	Rev C 1/9/2008 Revised
		Rev D 1/10/2008 Assign Project Number

NOTES ON PIPE LAYING SCHEDULE

Abbreviations generally used on Price Brothers Laying Schedule and on detail drawings

ADPT	Adapter	FSB	Flat Side Bottom	OD	Outside Diameter
AMJS	Anchored Mechanical Joint Spigot	FSL	Flat Side Left	OJ	Open Joint
AN	Anchored	FSR	Flat Side Right	OL	Outlet
B or BOT	Bottom	FST	Flat Side Top	PB	Price Bell
BL	Bottom Left	FSE	From Spigot End	PE	Plain End
BR	Bottom Right	FWB	Field Welded Bell	PL	Plate
BA	Ball Joint	FWS	Field Welded Spigot	PI	Point of Intersection
BE	Bell End	G or GA	Cylinder Gauge	PS	Price Spigot
BEV	Beveled	(H)	Horizontal	PT	Paint
BH	Bulkhead	HB	Half Bevel	RT	Right
BLD FLG	Blind Flange	HC	Harness Clamp Joint	RMC	Raised Mortar Coating
BN	Bonded Joint	HHB	Heavy Harness Bell	RED	Reducer
BO	Blowoff	HHC	Heavy Harness Clamp Joint	RFG	Rotate For Grade
CIB	Cast Iron Bell	HHS	Heavy Harness Spigot	RMCS	Raised Mortar Coat Skids
CIS	Cast Iron Spigot	HPB	Harnessed Price Bell	SE	Spigot End
CL	Centerline	HPS	Harnessed Price Spigot	SH	Short
CLOS	Closure	HW	Heavy Wall Pipe	SL	Springline
CML	Cement Lined	HW BAR	Hardway Bar	SR	Snap Ring Joint
CONC	Concentric	ICTE	Internal Coal Tar Epoxy Paint	SRw/NB	Snap Ring w/Nose Bar
CTE	Coal Tar Epoxy INT & EXT	ID	Inside Diameter	SRB	Snap Ring Bell
C300	AWWA C300 Pipe	ISC	Internal Seal Coat Paint	SRS	Snap Ring Spigot
C302	AWWA C302 Pipe	INV	Invert	SS	Short Side
D or DEG	Degrees	ITST	Internal Testable Joint	STA	Station
DP	Deep Joint	IWHE	Internal White Epoxy Paint	STR	Straight (Standard Pipe Length)
DHPB	Deep Harness Price Bell	JT	Joint	SUB	Subaqueous Joint
DHPS	Deep Harness Price Spigot	LT	Left	SWJ	Shop Welded Joint
DPB	Deep Price Bell	LCP	Lined Cylinder Pipe	T	Top
DPS	Deep Price Spigot	LGTH	Length	TL	Top Left
DWC	Double Wrap & Coat	LPE	Lugged Plain End	TR	Top Right
EBC	Exterior Bitumastic Coating	LS	Long Side	TN or TAN	Tangent
ECC	Eccentric	LSB	Long Side Bottom	TBO	Tangent Blowoff
ECP	Embedded Cylinder Pipe	LSL	Long Side Left	TST	Testable Joint
ECTE	External Coal Tar Epoxy Paint	LSR	Long Side Right	TFO	Tangent Flange Outlet
EDP	Extra Deep Joint	LST	Long Side Top	(V)	Vertical
EL or ELB	Elbow	MC	Mechanical Coupling	VICT	Victaulic
ETST	Exterior Testable Joint	MH	Manhole	WHE	White Epoxy Paint INT & EXT
EW BAR	Easyway Bar	MJB	Mechanical Joint Bell	WP	Wallpiece
EWHE	External White Epoxy Paint	MJS	Mechanical Joint Spigot	WPB	Welded Price Bell
EXT	Extended	*MK	Mark Number	WPS	Welded Price Spigot
FB	Full Bevel	MOPB	Mortared Over Price Bell	WSP	Welded Steel Pipe
FBE	From Bell End	MOPS	Mortared Over Price Spigot	90TLK	90 Degree T-Lock
FFE	From Flange End	MTO	Mueller Threaded Outlet	180TLK	180 Degree T-Lock
FLG	Flange	MU	Mueller	270TLK	270 Degree T-Lock
FO	Flange Outlet	NPTO	National Pipe Threaded Outlet (tapered iron pipe threads)	360TLK	360 Degree T-Lock
FOLL/RING					
or FR	Follower Ring				

*Mark No. is the Price Brothers code which identifies the pipe with the pipe Design Sheet. A pipe of higher Mark No. may be substituted for the Mark No. shown on the Laying Schedule, but a lower Mark No. may not be used without the Engineers and Price Brothers prior approval.

Fittings and specials are identified by Job No. (top left hand corner of Laying Schedule), piece code (left hand column of Laying Schedule) and color code as follows:

Stripes around pipe barrel:

Red = Outlet in pipe
 Yellow = Restrained joint pipe
 Blue = Bevel pipe

Color Patch on Spigot Ring:

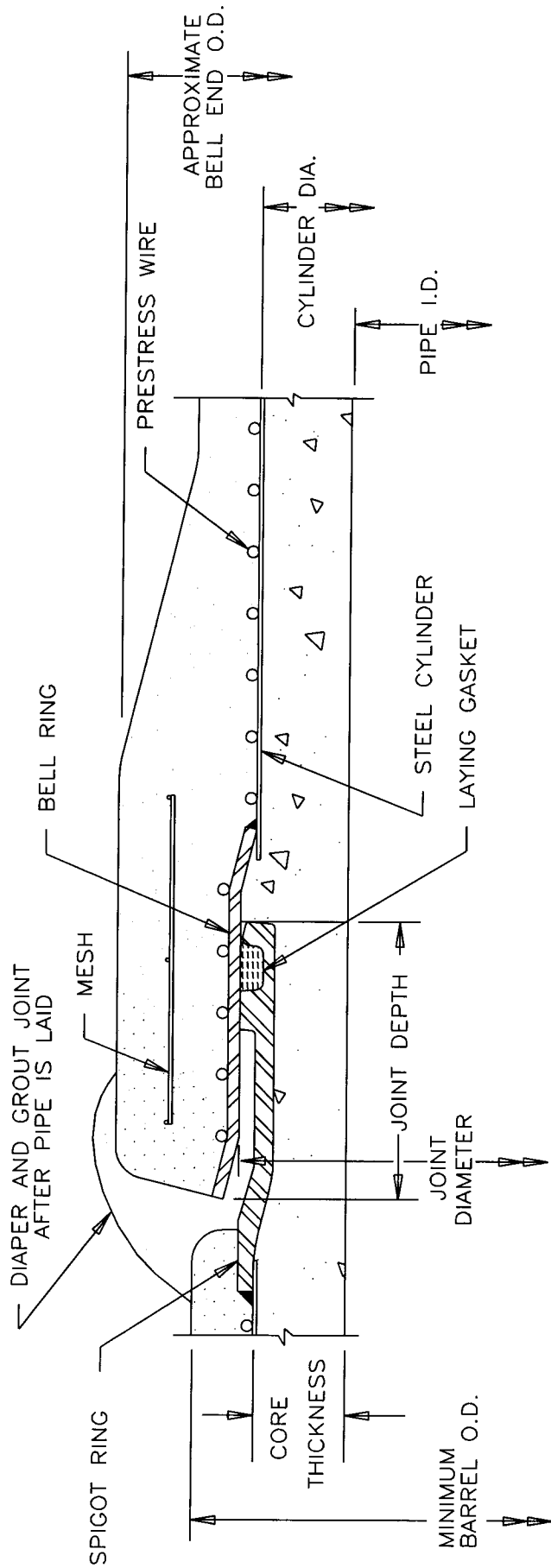
None = 16 Ga Cylinder
 Yellow = 14 Ga Cylinder
 Red = 12 Ga Cylinder
 Orange = 10 Ga Cylinder
 Brown = 8 Ga Cylinder
 White = 3/16" Cylinder
 Green = 1/4" Cylinder
 Blue = 3/8" Cylinder

The left hand column of the Laying Schedule lists the fittings and specials code number. When calling for deliveries or to discuss pieces, please refer to them by JOB NO., UNIT NO., PIECE DESCRIPTION OR CODE NO.

HANSON PIPE AND PRECAST * LAYING SCHEDULE

Code	Quantity	Description	Laying Length	Station	Grade %	Invert Elevation
Project Number: 080110		Oak Creek, Wisconsin	Page 1 of 1			
Unit Number: 1		30" Water Transmission Main - Priority	Date: 1/10/2008			
Designed By: RWK		Chicago Road 30" Trans Main	Rev: D			
		BEGIN BY CUTTING IN NEW 30" TEE AND VALVES. LAY FROM PI OF TEE NORTH BELLS AHEAD. BEGINNING STATION AND ELEVATION - PI OF TEE			0.80	
				7491.26		119.19
	1	PI OF TEE TO 30" AMJS BRANCH	2.08		0.80	
				7493.34		119.21
	1	30" MJS X MJS SPOOL (BY OTHERS)	2.00		0.80	
				7495.34		119.22
	1	30" MJB X MJB VALVE (BY OTHERS) - ASSUMED LAYING LENGTH	1.50		0.80	
				7496.84		119.23
F-1	1	30"LCP AMJS X SRB ADAPTER	1.29		0.80	
				7498.13		119.25
		***** ALL LAYING GASKETS ARE VITON *****				
	1	30" LCP SR STR MK124 12GA	19.93		0.80	
				7518.06		119.40
S-2	1	30" LCP SR SH MK124 14GA	4.99		0.80	
				7523.05		119.44
F-3	1	30"LCP SRS X SRB 45.0D ELB 1/4PL LSR	1.63		0.80	
				7524.68		119.46
		PI to JOINT	1.24		0.80	
				7525.92		119.47
	1	30" LCP SR STR MK124 16GA	19.93		0.80	
				7545.85		119.63
S-4	1	30" LCP SR SH MK124 16GA	6.10		0.80	
				7551.95		119.68
F-5	1	30"LCP SRS X SRS 27.0D ELB 1/4PL LSR	1.14		0.80	
				7553.09		119.68
		PI to JOINT	1.14		0.80	
				7554.23		119.69
		LAY PIPE SPIGOTS AHEAD				
	2	30" LCP SR STR MK124 16GA	39.86		0.80	
				7594.09		120.01
F-600	1	30"LCP NITE CAP - USE STANDARD LAYING GASKET, DO NOT USE VITON. INSTALL TEMPORARY NITE CAP. SEE UNIT 3 FOR CONTINUATION.	0.00		0.80	
				7594.09		120.01
		THE FOLLOWING BEVEL ADAPTER IS INCLUDED WITH THE ORDER TO BE USED IF REQUIRED. BEVEL ADAPTER IS NOT IN THE LAYOUT.			0.00	0.00
F-601	1	30"LCP SRS X SRB HB ADAPTER 3/16PL LSR	0.73		0.00	
				0.73		0.00

This schedule is furnished for your assistance and information only. It is not a substitute for the engineer's plans which govern and control the work.



PIPE I.D.	CORE THICKNESS	JOINT DIAMETER	CYLINDER O.D.	APPROXIMATE WEIGHT (#/L.F.)	APPROXIMATE BELL OUTSIDE DIA.	MINIMUM BARREL OUTSIDE DIA.
16	1	18 1/2	18	140	22 1/2	20
18	1 1/8	20 3/4	20 1/4	155	24 3/4	22 1/4
20	1 1/4	23	22 1/2	185	27	24 1/2
24	1 1/2	27 1/2	27	240	31 1/2	29
30	1 7/8	34 1/4	33 3/4	350	38 1/4	35 3/4
36	2 1/4	41	40 1/2	475	45	42 1/2
42	2 5/8	47 1/4	47 1/4	590	51 1/4	49 1/4
48	3	54	54	760	58	56

ALL DIMENSIONS IN INCHES EXCEPT AS SHOWN

NOTE: JOINT RINGS SHOWN IN THIS DRAWING ARE JUST FOR ILLUSTRATION PURPOSES AND MAY NOT REFLECT THE ACTUAL JOINT USED ON A PARTICULAR PROJECT. PLEASE REFER TO THE JOINT DETAIL DRAWING FOR JOINTS USED ON A SPECIFIC PROJECT.

49552-A REV.B

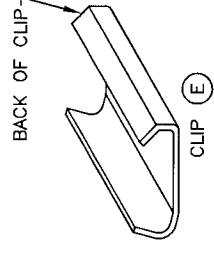
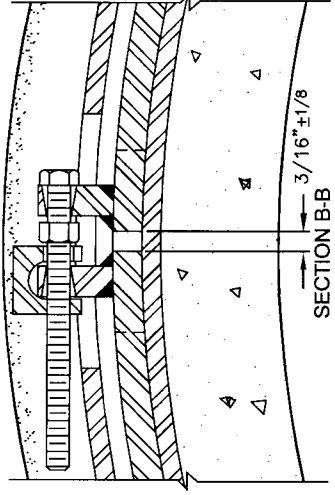
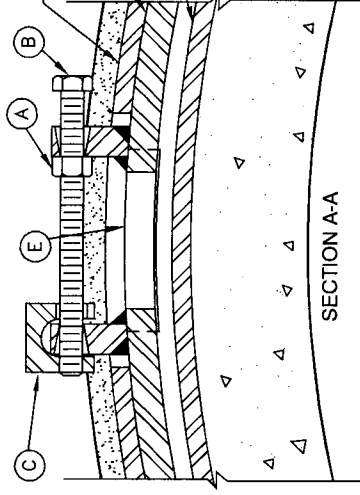
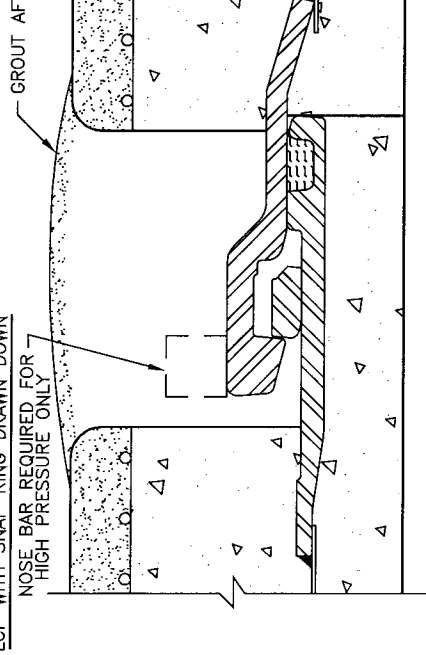
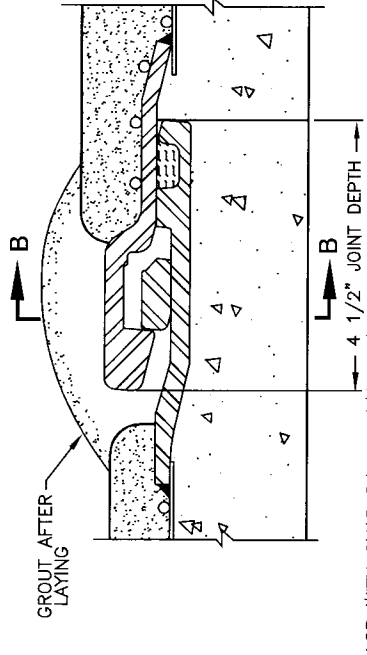
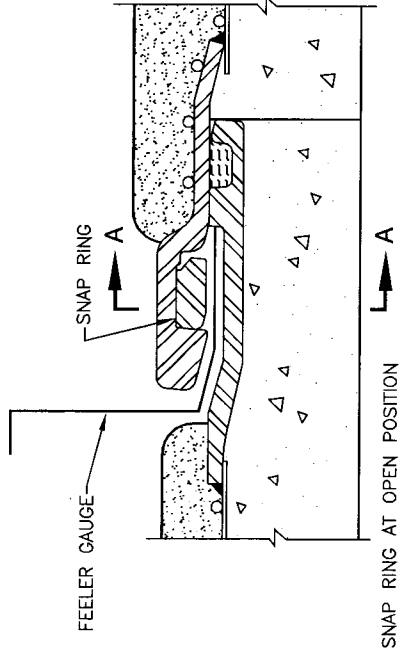
PRICE BROTHERS

OAK CREEK, WISCONSIN
30" TRANSMISSION MAIN
CHICAGO ROAD

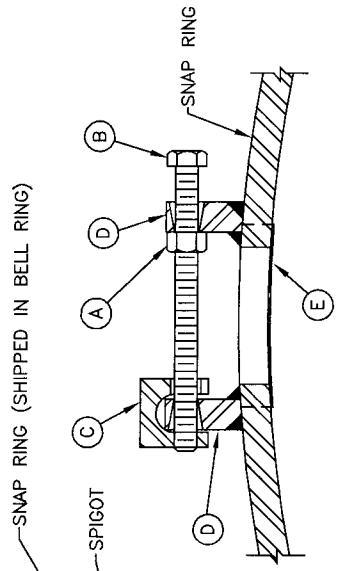
16"-48" LCP
TYPICAL PIPE DIMENSIONS

DRAWN BY: RWK
APPR. BY:
DATE: 01/10/08

DWG. NO.
080110-DR01
REV.



- (A) 3/8"-16 HEX NUT
- (B) 3/8"-16 x 4 1/2" LONG HEX HEAD BOLT
- (C) U-NUT
- (D) SNAP RING LUG
- (E) CLIP



MAKING JOINT

- 1) MAKE SURE CLIP (E) IS APPROXIMATELY CENTERED BETWEEN SNAP RING ENDS.
- 2) "HOME" JOINT AS WITH STANDARD JOINT AND CHECK GASKET LOCATION.
- 3) IF GASKET CAN BE FELT ANYWHERE AROUND THE CIRCUMFERENCE, THE JOINT MUST BE DISASSEMBLED. REPLACE THE GASKET IF IT HAS BEEN CUT OR DAMAGED. REPEAT STEP 2.
- 4) TIGHTEN BOLT (B) TO DRAW SNAP RING DOWN. BE SURE THAT CENTER NUT (A) IS NOT PRESSED AGAINST U-NUT AND PREVENTING SNAP RING FROM BEING FULLY TIGHTENED AGAINST SPIGOT.
- 5) CHECK GAP BETWEEN ENDS OF SNAP RING (3/16" ±1/8). ENSURE THAT SNAP RING IS IN CLOSED POSITION BY CHECKING THRU GROUT HOLES AROUND THE CIRCUMFERENCE OF THE BELL.
- 6) PLACE GROUT BAND AROUND JOINT AND POUR FULL WITH FLUID GROUT.
- 7) JOINT MUST BE GROUTED BEFORE LINE IS PRESSURIZED.

ECP WITH SNAP RING DRAWN DOWN

62460-A REV.C

PRICE BROTHERS

OAK CREEK, WISCONSIN
30" TRANSMISSION MAIN
CHICAGO ROAD

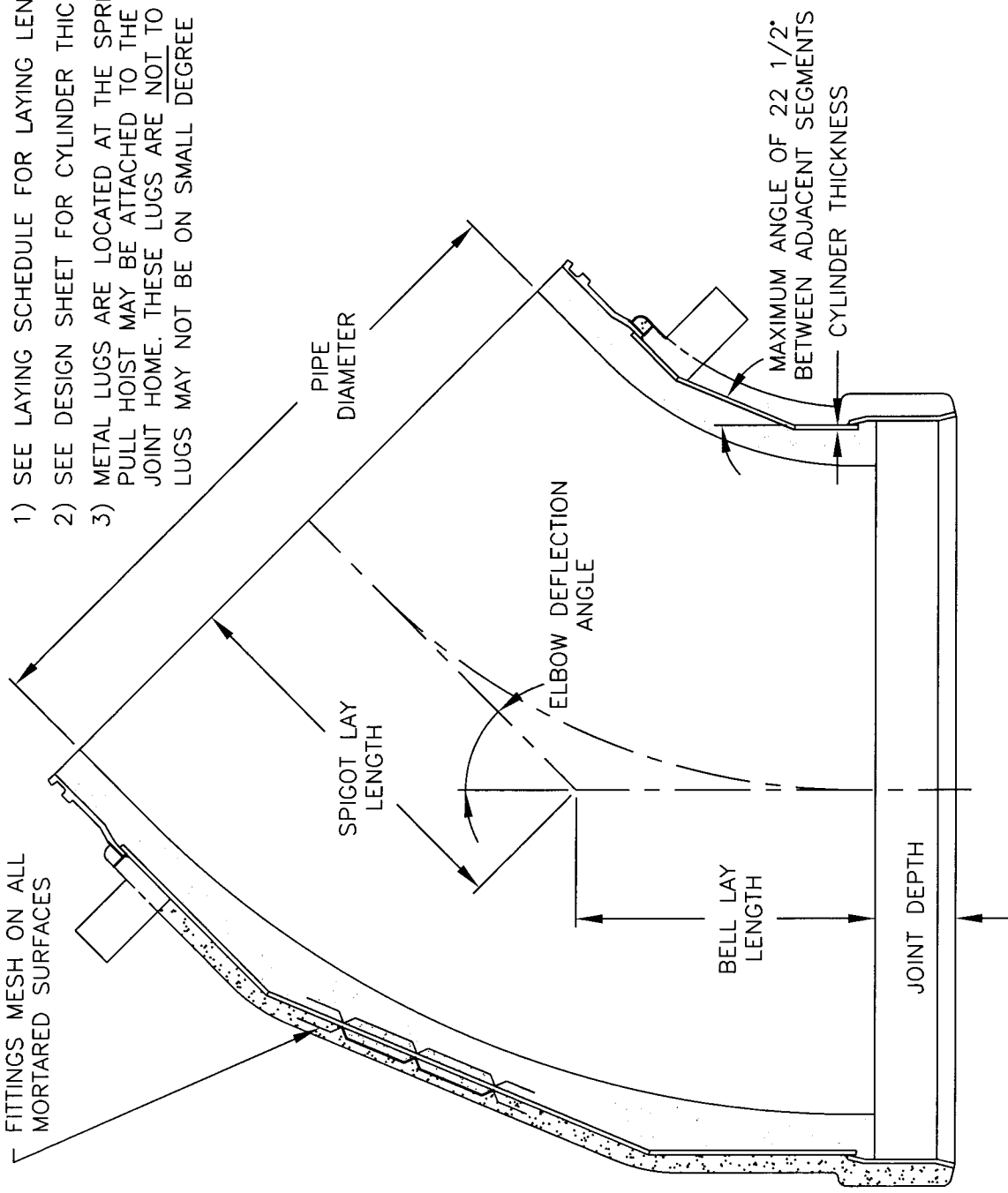
HOW TO MAKE A SNAP RING RESTRAINED JOINT

DRAWN BY: RWK
APPR. BY:
DATE: 01/08/08

DWG. NO.
08110-DR02
REV.

NOTES:

- 1) SEE LAYING SCHEDULE FOR LAYING LENGTH AND TYPE OF JOINT RINGS.
- 2) SEE DESIGN SHEET FOR CYLINDER THICKNESS.
- 3) METAL LUGS ARE LOCATED AT THE SPRINGLINE OF THE SPIGOT END. PULL HOIST MAY BE ATTACHED TO THE LUGS TO AID IN SNUGGING THE JOINT HOME. THESE LUGS ARE NOT TO BE USED TO LIFT THE ELBOW. LUGS MAY NOT BE ON SMALL DEGREE ELBOWS.



48683-A REV.F



OAK CREEK, WISCONSIN
30" TRANSMISSION MAIN
CHICAGO ROAD

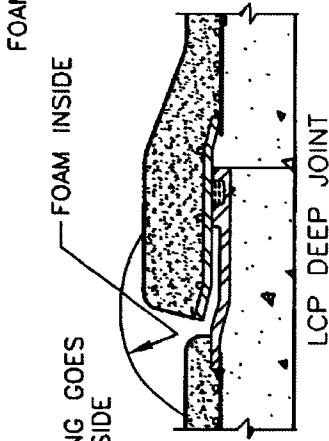
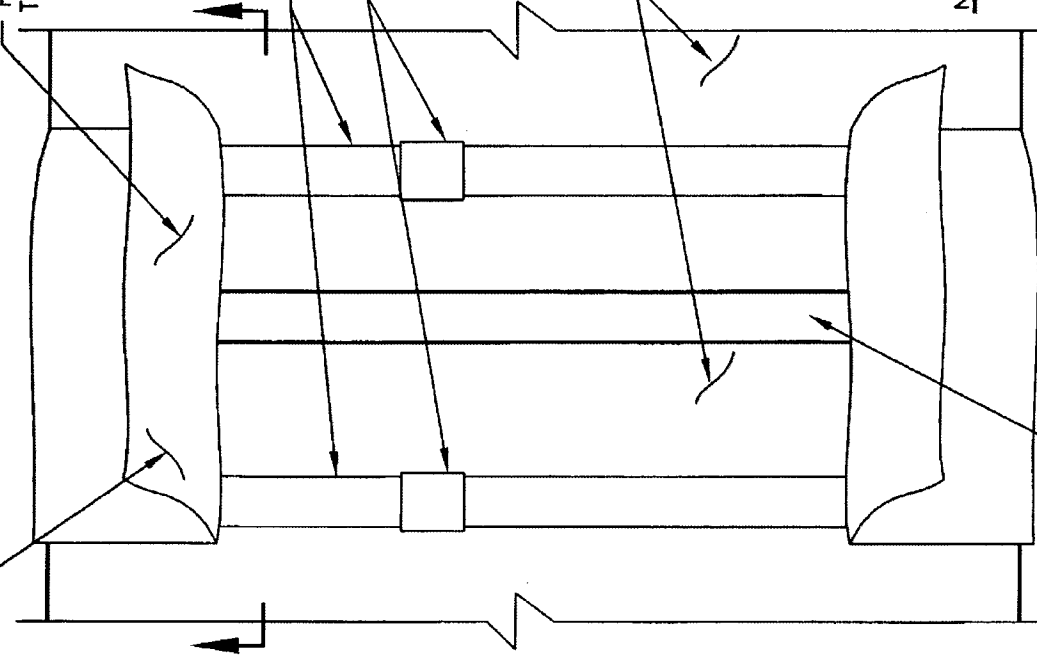
16"-36" LCP & 36" ECP TYPICAL ELBOW

DRAWN BY: RWK
APPR. BY:
DATE: 01/10/08

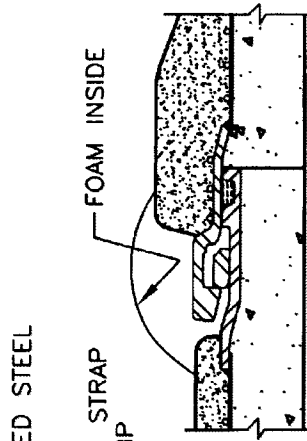
DWG. NO.
080110-DR03
REV.

FOLD FLAPS BACK FOR GROUTING THEN EXTEND OVER POURING GAP AFTER GROUTING IS COMPLETE

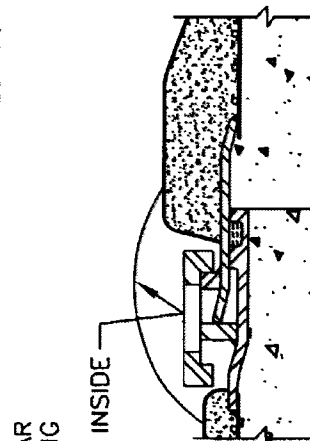
FOAM LINING GOES TO THE INSIDE



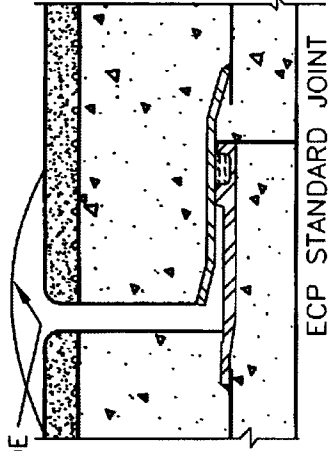
LCP DEEP JOINT



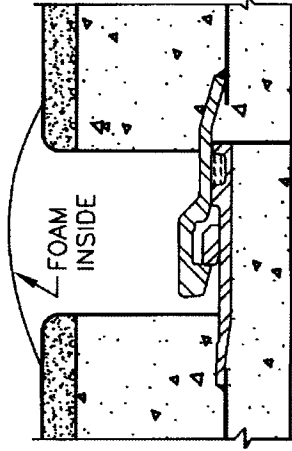
LCP SNAP RING RESTRAINED JOINT



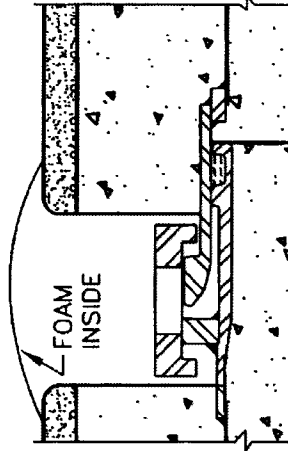
LCP HARNESSSED RESTRAINED JOINT



ECP STANDARD JOINT



ECP SNAP RING RESTRAINED JOINT



ECP HARNESSSED RESTRAINED JOINT

NOTES:

- 1) FOAM LINING STITCHED IN PLACE AT MANUFACTURING PLANT.
- 2) INSTALL DIAPER WITH FOAM LINING TO INSIDE.
- 3) WHILE PLACING THE DIAPER AROUND THE PIPE, INSURE THAT THE FOAM LINING IS IN CLOSE CONTACT WITH THE MORTAR COATING ALL AROUND ESPECIALLY AT THE BOTTOM OF THE PIPE. THIS WILL AVOID "BUNCHING" OR SAGGING OF THE DIAPER RESULTING IN LEAKS.
- 4) GROUT DIAPERS FOR UNRESTRAINED JOINTS ARE NARROWER IN WIDTH THAN FOR RESTRAINED JOINTS. INSURE THAT THE CORRECT WIDTH DIAPER IS BEING USED.

63081-A



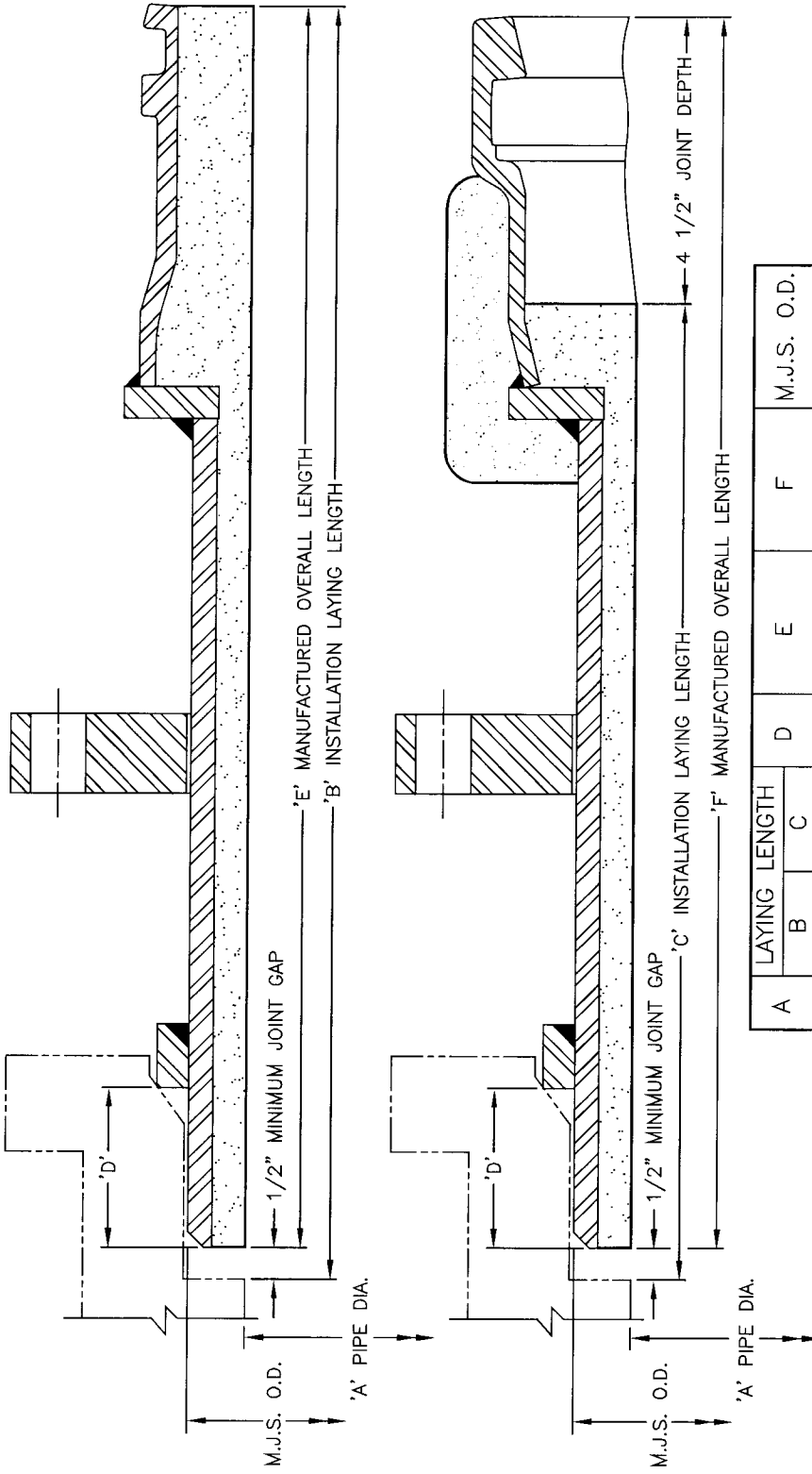
OAK CREEK, WISCONSIN
30" TRANSMISSION MAIN
CHICAGO ROAD

FOAM LINED JOINT DIAPERS
INSTALLATION PROCEDURE

DRAWN BY: RWK
APPR. BY:
DATE: 01/10/08

DWG. NO.
080110-DR04

REV.



A	LAYING LENGTH		D	E	F	M.J.S. O.D.
	B	C				
16"	1.67'	1.27'	2.50"	19 1/2"	19 1/4"	17.40"
18"	1.67'	1.27'	2.50"	19 1/2"	19 1/4"	19.50"
20"	1.67'	1.27'	2.50"	19 1/2"	19 1/4"	21.60"
24"	1.67'	1.27'	2.50"	19 1/2"	19 1/4"	25.80"
30"	1.69'	1.29'	3.00"	19 3/4"	19 1/2"	32.00"
36"	1.69'	1.29'	3.00"	19 3/4"	19 1/2"	38.30"

NOTES:

- 1) WELDED WIRE REINFORCED MORTAR AS SHOWN.
- 2) ALL EXPOSED STEEL PAINTED WITH PROTECTIVE COATING.
- 3) M.J.S. NUTS, BOLTS AND GASKET NOT SUPPLIED BY P.B.C.
- 4) INSTALLATION LAYING LENGTH INCLUDES A MINIMUM JOINT GAP OF APPROXIMATELY 1/2".

63049-A REV.B

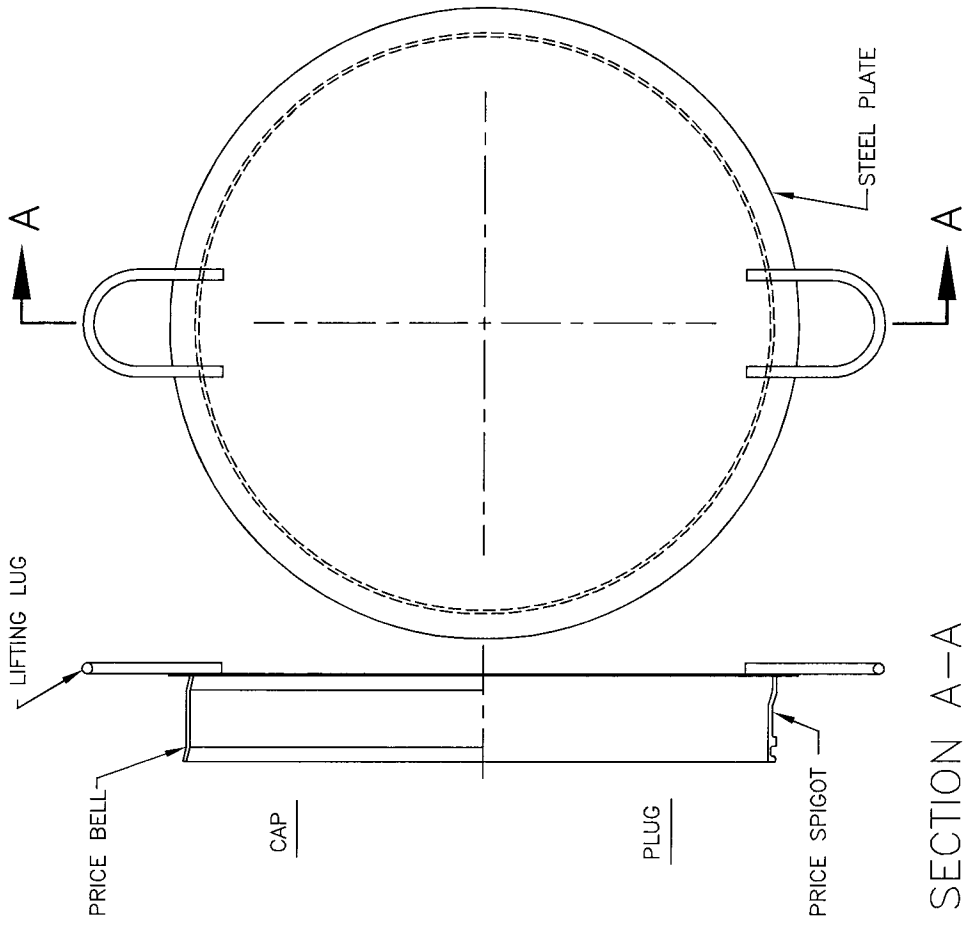


OAK CREEK, WISCONSIN
30" TRANSMISSION MAIN
CHICAGO ROAD

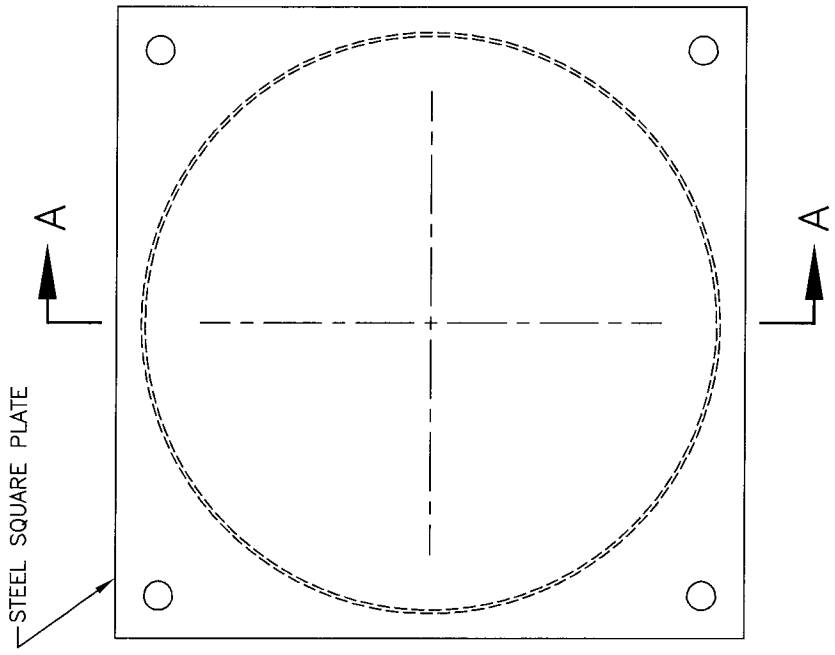
16"-36" LCP & 36" ECP
SNAP RING JOINT x ANCHORED M.J.S.
ADAPTER

DRAWN BY: RWK
APPR. BY:
DATE: 01/10/08

DWG. NO.
080110-DR05
REV.



SECTION A-A



ALTERNATE DETAIL

NOTE:
NOT FOR PERMANENT INSTALLATION OR TESTING.

47819-A REV.J



OAK CREEK, WISCONSIN
30" TRANSMISSION MAIN
CHICAGO ROAD

16"-66" NIGHT PLUG OR CAP

DRAWN BY: RWK

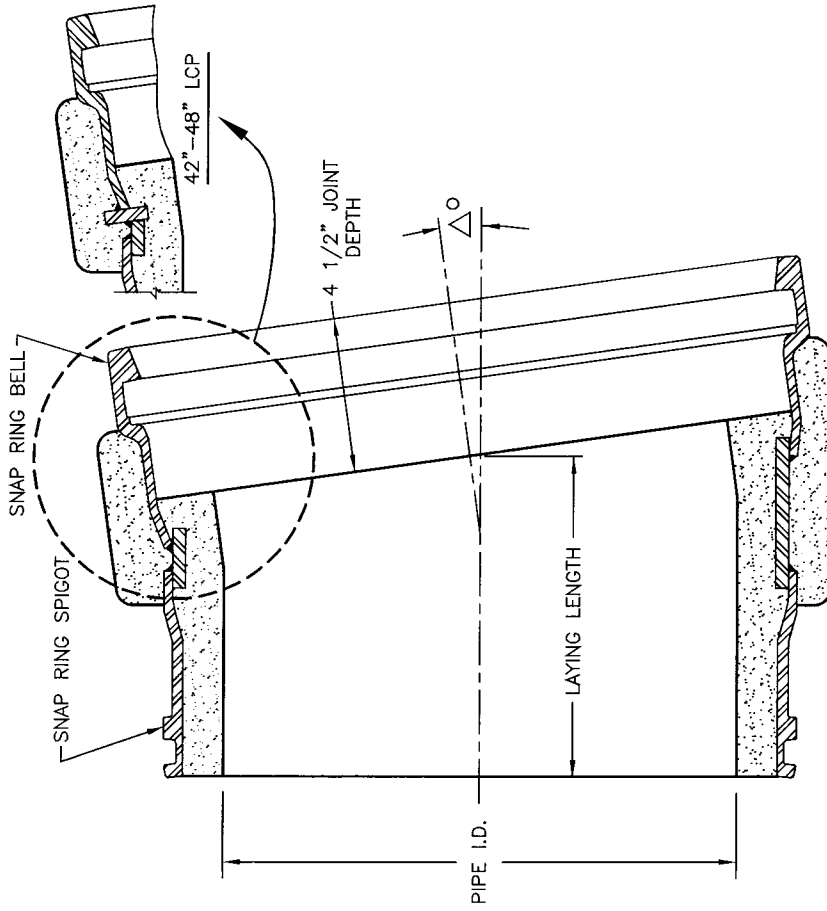
APPR. BY:

DATE: 01/10/08

DWG. NO.

080110-DR06

REV.



PIPE I.D.	HALF BEVEL		FULL BEVEL	
	DEFLECTION Δ°	LAYING LENGTH	DEFLECTION Δ°	LAYING LENGTH
16"			3.87	0.74'
18"			4.13	0.75'
20"	2.18	0.72'	4.35	0.76'
24"	2.08	0.73'	4.16	0.77'
30"	2.09	0.74'	4.17	0.79'
36"	2.10	0.75'	4.18	0.81'
42"	2.12	0.81'	4.24	0.89'
48"	2.12	0.82'	4.24	0.91'

NOTES:

- 1) WELDED WIRE REINFORCEMENT AND MORTAR AS SHOWN.

62425-A REV.B



OAK CREEK, WISCONSIN
30" TRANSMISSION MAIN
CHICAGO ROAD

16"-48" LCP SNAP RING JOINT
HALF AND FULL BEVEL ADAPTER

DRAWN BY: **RWK**
APPR. BY:
DATE: 01/10/08

DWG. NO.
080110-DR07
REV.