KUBRICKY CONSTRUCTION CORP.
269 BALLARD ROAD

WILTON, NY 12831
518 792-5864

KUBRICKY CONSTRUCTION CORP.
A PROUD MEMBER OF THE D.A. COLLINS™ COMPANIES

Rutland City BRF 3000 (2014036)
SUBMITTAL 30

Issued 03/16/15
Respond by 03/30/15

To

Timothy Pockette, PE

Topic	900.620 Special Provision, Sanitary Manhole, 4' Dia.
Status	For Approval
Spec section	900.620
Responsibility	(16) River Street
Sent to approver	3/16/15
Required from approver	3/30/15

From

Volker H.D. Burkowski

Signed by _____ Date 3/16/15

Proceed as Indicated _____ Date _____
Owner Authorized Representative

S.D. IRELAND CONCRETE CONST CORP

Up to Bottom

Job: **15790** Customer: **CHAMPLAIN CONST INC** Structure Code: **smh-1** Type: **Sanitary**

Job Name **Rutland City BRF 3000 (16) River** Station: Description: **48" I.D. Sanitary Manhole**

Structure Product Detail

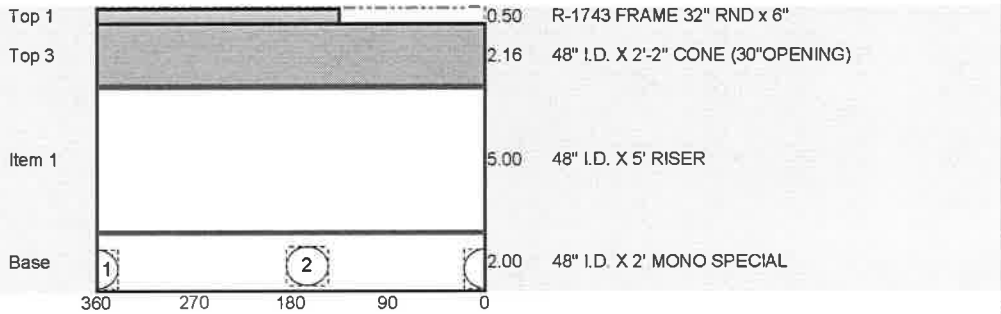
Item	Product	Qty	Product Description	Yards	Weight
	2000000	0.7	TRUCKING, FLAT BED	0.00	0
Rim	N174350	1	R-1743 LID 32" "SEWER" heat dates	0.00	198
Top 3	0548472	1	48" I.D. X 2'-2" CONE (30"OPENING)	0.45	1,800
Top 1	N174320	1	R-1743 FRAME 32" RND x 6"	0.00	137
Item 1	0548485	1	48" I.D. X 5' RISER	1.08	4,335
Base	0548020	1	48" I.D. X 2' MONO SPECIAL	0.85	3,401
Misc 1	1403100	4	MASTIC,CON-SEAL, 1" X 14 1/2' (8 ROLLS/BOX) CS-102	0.00	5
Misc 2	1600013	9	LADDER RUNG,PS2-PFSL 13 3/4"(1 1/4" DIA) (500/P)	0.00	9
Acces	10616B	2	BOOT,KOR-N-SEAL 16B (1-I190 BAND)C16-2-10 IPS	0.00	20
	1614801	10	Coating for 48"ID	0.00	0
	0930002	1	INVERT,SLOPED FOR 2 LINES	0.57	2,300
	121I190	2	BAND,KOR-N-SEAL I-190	0.00	0
			Structure Totals	2.95	12,205

Elevations

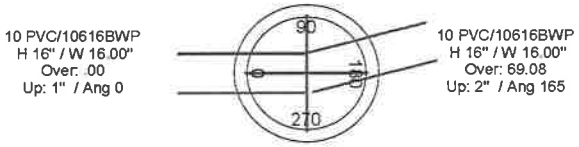
	Elev	Angle	Pipe	Hole Type	Hole" Height	Hole" Width	Up"	Item
Rim	532.86							
(1)	523.49	0	10 PVC	10616BWP	16	16	1	Base
(2)	523.59	165	10 PVC	10616BWP	16	16	2	Base
(3)		0			0	0	0	
(4)		0			0	0	0	
(5)		0			0	0	0	
(6)		0			0	0	0	
(7)		0			0	0	0	
(8)		0			0	0	0	

Inside Area View

Rim to Invert	9.37 '	Precast Height	9.66 '	Wall	5.00 "
Less Casting	9.37 '	Floor	8.00 "	Sump	0.33 '
Invert to Floor	0.33 '	Plus Floor	10.33 '		
Adjustment (Brick/Mort.)	0.04				



Description: **48" I.D. X 2' MONO SPECIAL**
Product ID: **0548020S**
Item: **Base** Step Location: **90**



S.D. IRELAND CONCRETE CONST CORP

Up to Bottom

Job: **15790** Customer: **CHAMPLAIN CONST INC**

Job Name **Rutland City BRF 3000 (16) River**

Structure Code: **smh-2**

Station:

Type: **Sanitary**

Description: **48" I.D. Sanitary Manhole**

Structure Product Detail

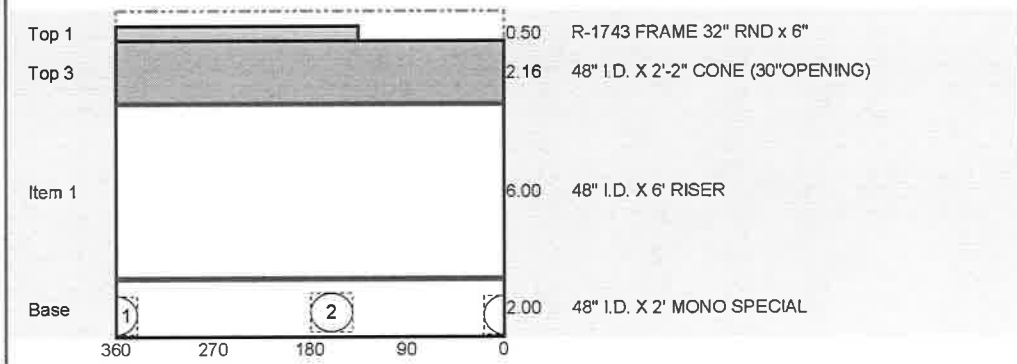
Item	Product	Qty	Product Description	Yards	Weight
	1900000	1	need heat dates	0.00	0
	2000000	0.7	TRUCKING, FLAT BED	0.00	0
Rim	N174350	1	R-1743 LID 32" "SEWER"	0.00	198
Top 3	0548472	1	48" I.D. X 2'-2" CONE (30"OPENING)	0.45	1,800
Top 1	N174320	1	R-1743 FRAME 32" RND x 6"	0.00	137
Item 1	0548486	1	48" I.D. X 6' RISER	1.30	5,202
Base	0548020	1	48" I.D. X 2' MONO SPECIAL	0.85	3,401
Misc 2	1600013	10	LADDER RUNG,PS2-PFSL 13 3/4"(1 1/4" DIA) (500/P)	0.00	10
Misc 1	1403100	4	MASTIC,CON-SEAL, 1" X 14 1/2' (8 ROLLS/BOX) CS-102	0.00	5
Acces	10616W	1	BOOT,KOR-N-SEAL 16W (1-I242 BAND)C16-2-14	0.00	10
Acces	10616B	1	BOOT,KOR-N-SEAL 16B (1-I190 BAND)C16-2-10 IPS	0.00	10
	1614801	11	Coating for 48"ID	0.00	0
	0930002	1	INVERT,SLOPED FOR 2 LINES	0.57	2,300

Elevations

	Elev	Angle	Pipe	Hole Type	Hole" Height	Hole" Width	Up"	Item
Rim	533.71							
(1)	522.85	0	10 DUCTILE	10616WP	16	16	1	Base
(2)	522.95	160	10 PVC	10616BWP	16	16	2	Base
(3)		0			0	0	0	
(4)		0			0	0	0	
(5)		0			0	0	0	
(6)		0			0	0	0	
(7)		0			0	0	0	
(8)		0			0	0	0	

Inside Area View

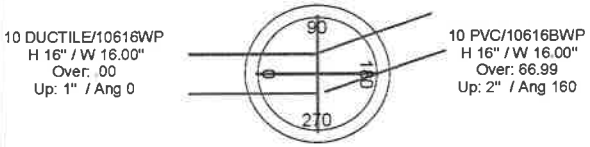
Rim to Invert	10.86 '	Precast Height	10.66 '	Wall	5.00 "
Less Casting	10.86 '	Floor	8.00 "	Sump	0.33 '
Invert to Floor	0.33 '	Plus Floor	11.33 '		
Adjustment (Brick/Mort.)	0.53				



Description: **48" I.D. X 2' MONO SPECIAL**

Product ID: **0548020S**

Item: **Base** Step Location: **90**



S.D. IRELAND CONCRETE CONST CORP — **Up to Bottom**

Job: **15790** Customer: **CHAMPLAIN CONST INC** Structure Code: **smh-3** Type: **Sanitary**

Job Name **Rutland City BRF 3000 (16) River** Station: Description: **48" I.D. Sanitary Manhole**

Structure Product Detail

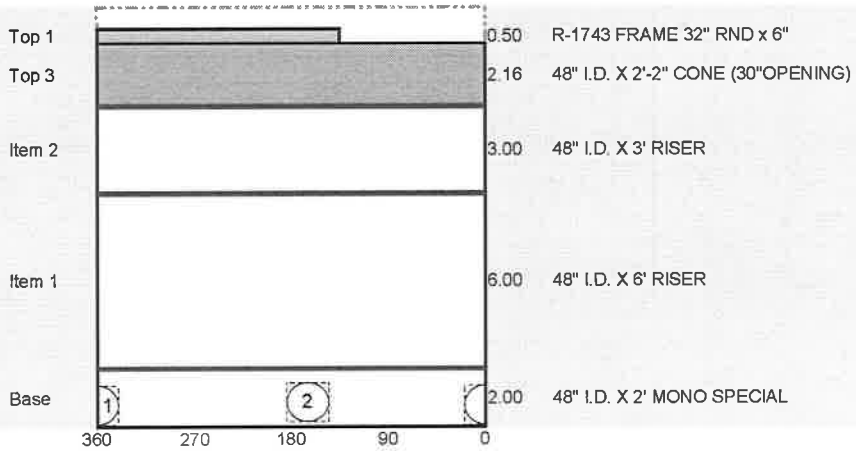
Item	Product	Qty	Product Description	Yards	Weight
	1900000	1	need heat dates	0.00	0
Rim	N174350	1	R-1743 LID 32" "SEWER"	0.00	198
	2000000	0.7	TRUCKING, FLAT BED	0.00	0
Top 3	0548472	1	48" I.D. X 2'-2" CONE (30"OPENING)	0.45	1,800
Top 1	N174320	1	R-1743 FRAME 32" RND x 6"	0.00	137
Item 2	0548483	1	48" I.D. X 3' RISER	0.65	2,601
Item 1	0548486	1	48" I.D. X 6' RISER	1.30	5,202
Base	0548020	1	48" I.D. X 2' MONO SPECIAL	0.85	3,401
Misc 2	1600013	14	LADDER RUNG,PS2-PFSL 13 3/4"(1 1/4" DIA) (500/P)	0.00	14
Misc 1	1403100	6	MASTIC,CON-SEAL, 1" X 14 1/2' (8 ROLLS/BOX) CS-102	0.00	7
Acces	10616W	2	BOOT,KOR-N-SEAL 16W (1-I242 BAND)C16-2-14	0.00	20
	0930002	1	INVERT,SLOPED FOR 2 LINES	0.57	2,300
	1614801	13	Coating for 48"ID	0.00	0

Elevations

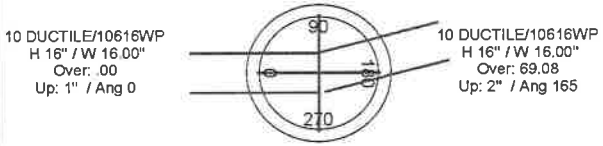
	Elev	Angle	Pipe	Hole Type	Hole" Height	Hole" Width	Up"	Item
Rim	536							
(1)	521.95	0	10 DUCTILE	10616WP	16	16	1	Base
(2)	522.05	165	10 DUCTILE	10616WP	16	16	2	Base
(3)		0			0	0	0	
(4)		0			0	0	0	
(5)		0			0	0	0	
(6)		0			0	0	0	
(7)		0			0	0	0	
(8)		0			0	0	0	

Inside Area View

Rim to Invert	14.05 '	Precast Height	13.66 '	Wall	5.00 "
Less Casting	14.05 '	Floor	8.00 "	Sump	0.33 '
Invert to Floor	0.33 '	Plus Floor	14.33 '		
Adjustment (Brick/Mort.)	0.72				



Description: **48" I.D. X 2' MONO SPECIAL**
Product ID: **0548020S**
Item: **Base** Step Location: **90**



S.D. IRELAND CONCRETE CONST CORP

Up to Bottom

Job: **15790** Customer: **CHAMPLAIN CONST INC** Structure Code: **smh-4** Type: **Sanitary**

Job Name **Rutland City BRF 3000 (16) River** Station: Description: **48" I.D. Sanitary Manhole**

Structure Product Detail

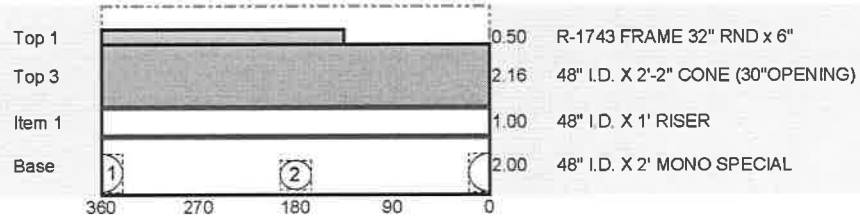
Item	Product	Qty	Product Description	Yards	Weight
	1900000	1	need heat dates	0.00	0
	2000000	0.7	TRUCKING, FLAT BED	0.00	0
Rim	N174350	1	R-1743 LID 32" "SEWER"	0.00	198
Top 1	N174320	1	R-1743 FRAME 32" RND x 6"	0.00	137
Top 3	0548472	1	48" I.D. X 2'-2" CONE (30"OPENING)	0.45	1,800
Item 1	0548481	1	48" I.D. X 1' RISER	0.22	867
Base	0548020	1	48" I.D. X 2' MONO SPECIAL	0.86	3,439
Misc 2	1600013	5	LADDER RUNG,PS2-PFSL 13 3/4"(1 1/4" DIA) (500/P)	0.00	5
Misc 1	1403100	4	MASTIC,CON-SEAL, 1" X 14 1/2' (8 ROLLS/BOX) CS-102	0.00	5
Acces	10616B	1	BOOT,KOR-N-SEAL 16B (1-I190 BAND)C16-2-10 IPS	0.00	10
Acces	40612B	1	BOOT, KOR N SEAL 12B-(1-128 BAND)	0.00	7
	1614801	6	Coating for 48"ID	0.00	0
	0930002	1	INVERT,SLOPED FOR 2 LINES	0.57	2,300

Elevations

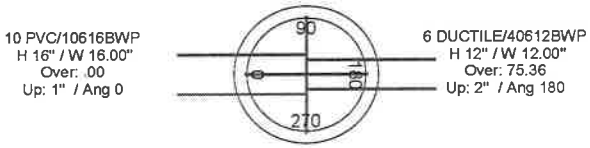
	Elev	Angle	Pipe	Hole Type	Hole" Height	Hole" Width	Up"	Item
Rim	539.65							
(1)	533.5	0	10 PVC	10616BWP	16	16	1	Base
(2)	533.6	180	6 DUCTILE	40612BWP	12	12	2	Base
(3)		0			0	0	0	
(4)		0			0	0	0	
(5)		0			0	0	0	
(6)		0			0	0	0	
(7)		0			0	0	0	
(8)		0			0	0	0	

Inside Area View

Rim to Invert	6.15 '	Precast Height	5.66 '	Wall	5.00 "
Less Casting	6.15 '	Floor	8.00 "	Sump	0.33 '
Invert to Floor	0.33 '	Plus Floor	6.33 '		
Adjustment (Brick/Mort.)	0.82				



Description: **48" I.D. X 2' MONO SPECIAL**
Product ID: **0548020S**
Item: **Base** Step Location: **90**



S.D. IRELAND CONCRETE CONST CORP

Up to Bottom

Job: **15790** Customer: **CHAMPLAIN CONST INC**

Job Name **Rutland City BRF 3000 (16) River**

Structure Code: **smh-5**

Station:

Type: **Sanitary**

Description: **48" I.D. Sanitary Manhole**

Structure Product Detail

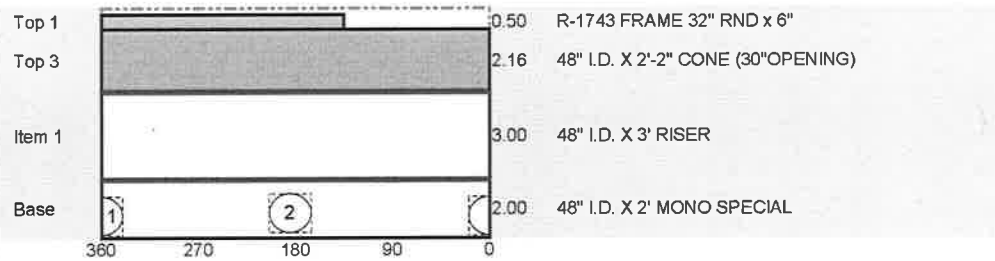
Item	Product	Qty	Product Description	Yards	Weight
	1900000	1	need heat dates	0.00	0
	2000000	0.7	TRUCKING, FLAT BED	0.00	0
Rim	N174350	1	R-1743 LID 32" "SEWER"	0.00	198
Top 1	N174320	1	R-1743 FRAME 32" RND x 6"	0.00	137
Top 3	0548472	1	48" I.D. X 2'-2" CONE (30"OPENING)	0.45	1,800
Item 1	0548483	1	48" I.D. X 3' RISER	0.65	2,601
Base	0548020	1	48" I.D. X 2' MONO SPECIAL	0.85	3,401
Misc 2	1600013	7	LADDER RUNG,PS2-PFSL 13 3/4"(1 1/4" DIA) (500/P)	0.00	7
Misc 1	1403100	4	MASTIC,CON-SEAL, 1" X 14 1/2' (8 ROLLS/BOX) CS-102	0.00	5
Acces	10616B	2	BOOT,KOR-N-SEAL 16B (1-I190 BAND)C16-2-10 IPS	0.00	20
	1614801	8	Coating for 48"ID	0.00	0
	0930002	1	INVERT,SLOPED FOR 2 LINES	0.57	2.300
	121I190	2	BAND,KOR-N-SEAL I-190	0.00	0
			Structure Totals	2.52	10,469

Elevations

	Elev	Angle	Pipe	Hole Type	Hole" Height	Hole" Width	Up"	Item
Rim	531.55							
(1)	524	0	10 PVC	10616BWP	16	16	1	Base
(2)	524.1	185	10 PVC	10616BWP	16	16	2	Base
(3)		0			0	0	0	
(4)		0			0	0	0	
(5)		0			0	0	0	
(6)		0			0	0	0	
(7)		0			0	0	0	
(8)		0			0	0	0	

Inside Area View

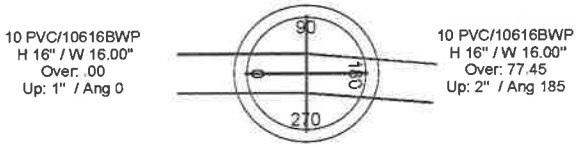
Rim to Invert	7.55 '	Precast Height	7.66 '	Wall	5.00 "
Less Casting	7.55 '	Floor	8.00 "	Sump	0.33 '
Invert to Floor	0.33 '	Plus Floor	8.33 '		
Adjustment (Brick/Mort.)	0.22				



Description: **48" I.D. X 2' MONO SPECIAL**

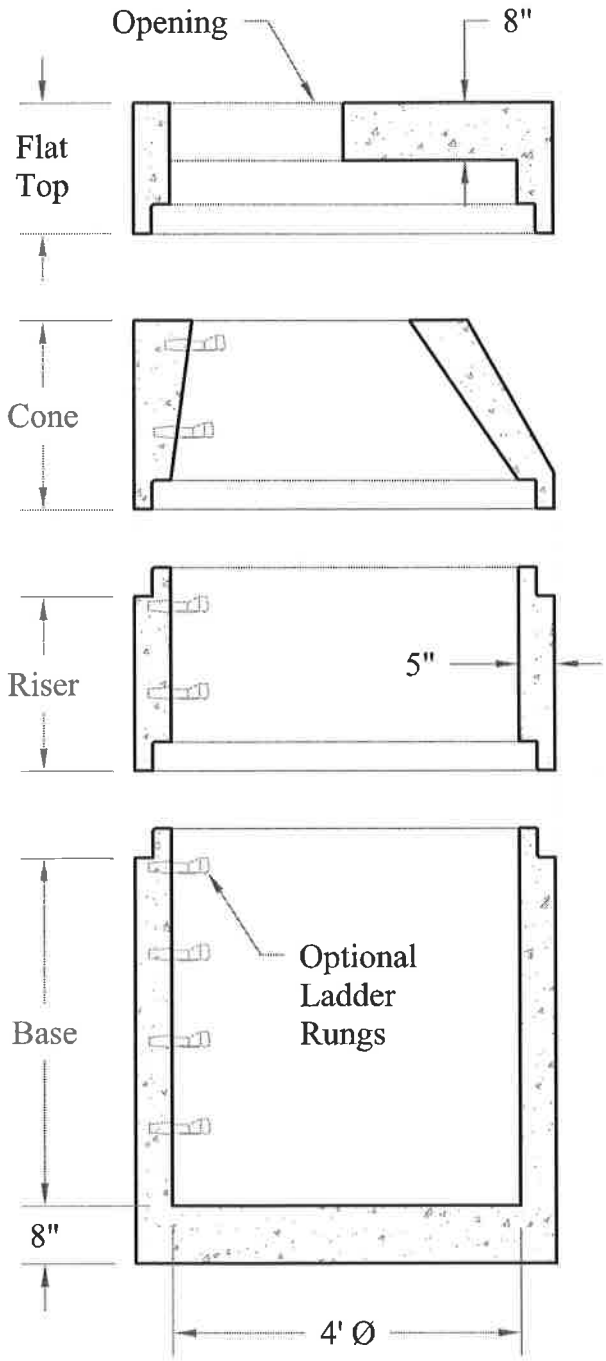
Product ID: **0548020S**

Item: **Base** Step Location: **90**



48" Diameter Structure

94 Gallons Per Vertical Foot



Section View

Standard Sizes

Flat Top

Height	Weight
1'-0"	1,620 lb
1'-6"	2,040 lb

Opening

Size	Shape
24"	Square
24"	Round
30"	Square
30"	Round

Cone

Height	Hole	Weight
2'-2"	30"Ø	1,620 lb
2'-4"	24"Ø	2,040 lb
3'-2"	24"Ø	2,040 lb

as needed

Riser

Height	Weight
1'-0"	845 lb
2'-0"	1,690 lb
3'-0"	2,535 lb
4'-0"	3,380 lb
5'-0"	4,225 lb

Base

Height	Weight
1'-0"	2,770 lb
2'-0"	3,615 lb
3'-0"	4,460 lb
4'-0"	5,305 lb
5'-0"	6,150 lb
6'-0"	6,995 lb

Custom Heights & Openings Available

Design Notes:

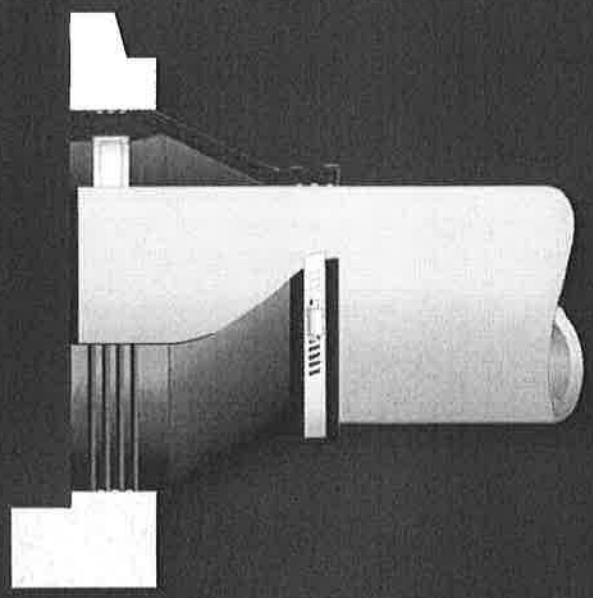
- -Concrete Minimum 5000 psi at 28 days
- -Cut Outs for Pipe Entries or Flexible Sleeves as Required
- -Optional Steel Reinforced Copolymer Polypropolene Ladder Rungs at 12" O.C. or as Required
- -Meets AASHTO H-20 Loading
- -Meets ASTM C-478 Specifications
- -Weights May Vary

CD

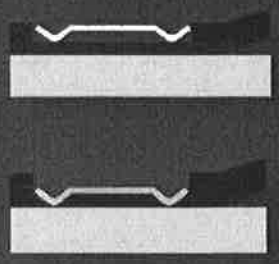
193 Industrial Ave, Williston, VT 05495 PO Box 2286, South Burlington, VT 05407 Phone: (802) 658-0201 www.SDIreland.com 04/07/10

TRELLEBORG

Kor-N-Seal® I
106/406 Series Pipe-to-Manhole Connector



- *Most widely used flexible connector in sanitary sewer applications throughout the world*
- *Easy-to-Install*
- *Meets the specifications of ASTM C923*



Patented Waveband technology creates a more effective seal by concentrating the compressive force of the expansion band. The rubber is "captured" between the band and the concrete.

npc

Kor-N-Seal I
106/406 Series Pipe-to-Manhole Connector

Wedge Style Connectors
EX Series Plastic or Stainless Steel

Installation requires a ½" socket wrench & preset torque limiter.

PIPE O.D. RANGE	MODEL NUMBER	NOMINAL HOLE SIZE
1.80 - 4.80	S106-7SW	7"
3.50 - 4.50	S106-7W	7"
4.20 - 6.40	S106-8SW	8"
1.70 - 4.80	S106-8M	8"
6.00 - 6.75	S406-10AW	10"
7.50 - 8.20	S406-10W	10"
6.00 - 6.75	S406-10.5AW	10½"
7.50 - 8.70	S406-10.5W	10½"
6.00 - 7.00	S406-11BW	11"
7.50 - 9.00	S406-11AW	11"
6.00 - 7.00	S406-12CW	12"
6.25 - 7.50	S406-12BW	12"
7.50 - 9.00	S406-12AW	12"
9.00 - 10.20	S406-12W	12"
5.75 - 7.00	S106-12BW	12"
7.00 - 8.50	S106-12AW	12"
8.25 - 9.75	S106-12W	12"
9.50 - 11.25	S106-14AW	14"
9.50 - 11.25	S106-16BW	16"
11.25 - 13.00	S106-16AW	16"
13.00 - 14.20	S106-16W	16"
14.00 - 15.50	S106-20BWS	20"
15.50 - 17.00	S106-20AWS	20"
17.00 - 18.15	S106-20WS	20"

Refer to Recommended Installation Instructions.

Toggle Style Connectors
(Jack-In Style)

Installation requires a hydraulic jack assembly

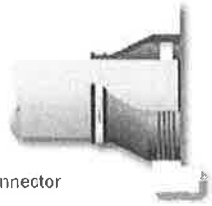
PIPE O.D. RANGE	MODEL NUMBER	NOMINAL HOLE SIZE
1.80 - 4.80	S106-7ST	7"
3.50 - 4.50	S106-7T	7"
4.20 - 6.40	S106-8ST	8"
5.10 - 5.90	S106-8T	8"
6.00 - 6.75	S406-10AT	10"
7.50 - 8.40	S406-10T	10"
6.00 - 6.75	S406-10.5AT	10½"
7.50 - 8.90	S406-10.5T	10½"
6.00 - 7.00	S406-11BT	11"
7.50 - 9.00	S406-11AT	11"
6.00 - 7.00	S406-12CT	12"
6.25 - 7.50	S406-12BT	12"
7.50 - 9.00	S406-12AT	12"
9.00 - 10.50	S406-12T	12"
5.75 - 7.00	S106-12BT	12"
7.00 - 8.50	S106-12AT	12"
8.25 - 9.75	S106-12T	12"
9.50 - 11.25	S106-14AT	14"
9.50 - 11.25	S106-16BT	16"
11.25 - 13.00	S106-16AT	16"
13.00 - 14.50	S106-16T	16"

Refer to Recommended Installation Instructions.

To Install 7" & 8" Toggle Style Connectors:

Expander Assembly (p/n 90225)
8" Extension (p/n 13808)

Ordering Information



Kor-N-Seal I:
106/406 Series
Pipe-to-Manhole Connector

The 106 Series connector is 8 inches long, the 406 Series connector is 6 inches long. The number following the hyphen in our model numbers is the required hole size. The S106-20 Series is available in Stainless Steel Wedge only.

Recommended Torque Values:

Connectors with 8" hole size and smaller:

Plastic Wedge - 3/16" Hex Head Torque Wrench - 5 ft. lbs.
Steel Wedge - 1/2" Socket Wrench - 8 ft. lbs.

Connectors with 10 - 20" hole sizes:

EX Series - 1/2" Socket Wrench – 12 - 20 ft. lbs.
Steel Wedge - 1/2" Socket Wrench - 12 ft. lbs.

Preset torque limiters are available. Contact Customer Service at 1-800-626-2180 for more information.

For larger pipe sizes refer to Kor-N-Seal II Series Connectors

206 Series - For pipe sizes 15" - 51" in diameter.

306 Series - To fit larger pipe into smaller diameter manholes.

506 Series - Designed specifically for stormwater applications.

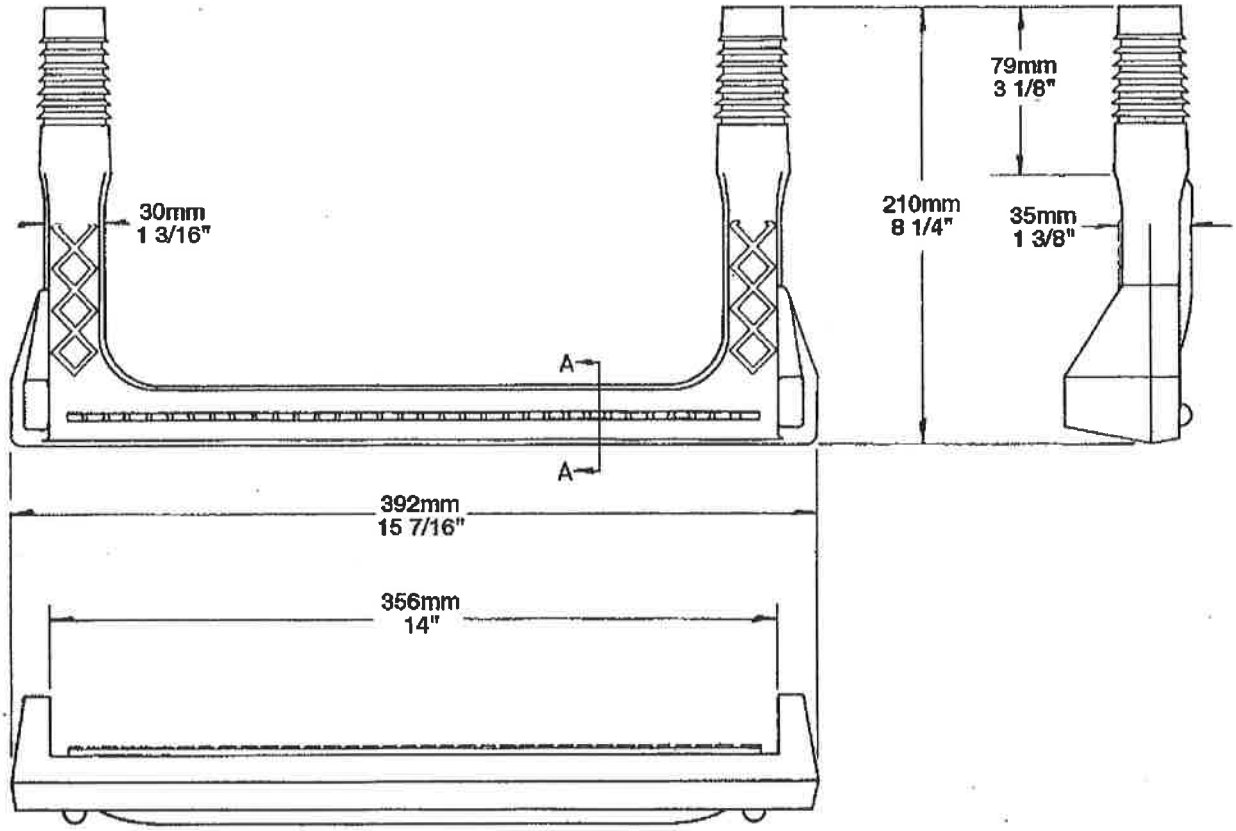
Using Corrugated Pipe

Adapters are required when using Corrugated Pipe. Refer to the Corrugated Pipe Adapter Data Sheet for details.

Covered under U.S. Patent No. 5,738,359

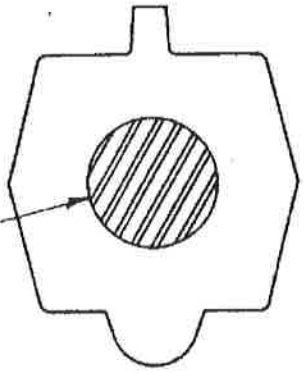
TRELLEBORG
ENGINEERED SYSTEMS

Trelleborg Pipe Seals Milford, Inc.
P.O. Box 301, 250 Elm Street, Milford, New Hampshire 03055 U.S.A.
Tel: 800-626-2180 603-673-8680 Fax: 603-673-7271 www.trelleborg.com/npc

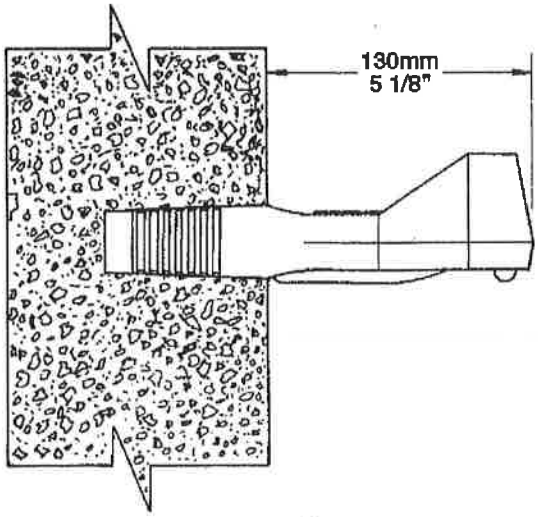


Copolymer Polypropylene Plastic

13mm 1/2" GRADE 60 STEEL REINFORCEMENT



SECTION-A



MEETS: ASTM-C-478
ASTM-D-4101
ASTM-A-615
AASHTO-M-199

M.A. INDUSTRIES, INC.

P.O. Box 2322, 303 Dividend Dr. • Peachtree City, GA 30269 • Phone: (770) 487-7761 • Molding Sales Fax: (770) 487-1482 • Corporate Fax: (770) 631-4679

Bay Oil Company
38 Plainfield Street
Chicopee, MA 01013

Telephone: (413) 737-7728
FAX: (413) 737 7730

Ebony
Waterproof and concrete sealer

DESCRIPTIONS

- EBONY is a general purpose waterproof and concrete sealer
- Water and polymer based
- Manufactured from environmentally friendly, low VOC components

FEATURES

- For use on all types of concrete structures
- Non-Toxic environmentally friendly
- Extremely low VOC - meets requirements ASTM D 3792
- Creates a smooth, hard polymer film that protects the structure from water intrusions and chemical attack
- Quick fast drying 5-10 min. @ 72 F allowing rapid transportation of parts
- Roll on, spray, brush, 300-350 sq.ft./gallon
- Quick clean up, just soap and water removes from parts and skin
- No dangerous solvents
- Fire safe, water based
- Superior to asphalt based sealers, fast drying and cleanup, better coverage
- Graco Sprayer, .011"-.013" tip (Graco 1-800-328-0211)

PRODUCT USES

- Designed as a waterproof on;
- Manholes
- Septic tanks
- Utility vaults
- Concrete pipe
- Burial vaults

PHYSICAL AND CHEMICAL PROPERTIES

VOC	96.25 grams/liter
Density @ 77 F	8.25-8.45 lb/gal
Percent Solids (ASTM D 1644.75)	By weight 35%
Viscosity	25 sec . Zahn #2 @ 77 F
PH	8.5
Dry Time	5-10 minutes @ 77 F
Film Thickness	1.5 mils per coat
Coverage	275-350 sq.ft./gal.

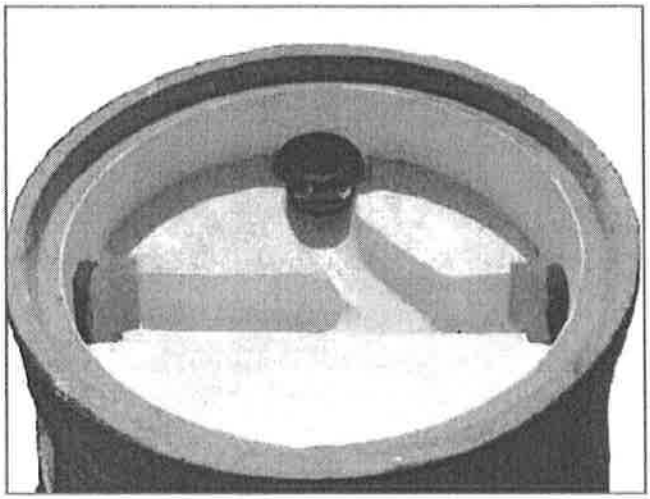
A-LOK PRODUCTS, INC.

The Company With Connections®

SECONDARY INVERT FORMING SYSTEM

TRU-CONTOUR

TRU-CONTOUR



A-LOK Products, Inc. and Tru-Contour have joined forces to bring together the best in secondary precast inverts available today. The Tru-Contour Invert Forming System offers the manhole producer a very durable, systematic and versatile method of forming all invert configurations from 4" through 48" diameter.

KEY ADVANTAGES

Two, three, and four way configurations including dead end combinations with a standard .2 ft. of elevation difference (fall) can be made easy and rapidly without the need for skilled labor.

Greater fall can be obtained based on the operators' ability to experiment. The system's versatility is due to an unlimited combination of
four basic wedges. With the combination of one or more of these wedges, any angle can be obtained within 1.5 degrees. This allows enough flexibility to effectively form an invert which aligns perfectly with the entering pipeline.

System also available in Single Piece construction.

The Tru-Contour system cuts costly labor both in set-up and concrete finishing time. A basic three way can be set up in approximately fifteen minutes and depending on pouring procedures, can allow an average of four inverts per day to be formed from a single system. Finishing time is kept to a minimum due to the accuracy of flows the forms create. Each invert in regard to channel width, depth and radial turn is form finished.

The Tru-Contour standard system allows for 2/3 invert depth and is compatible with a variety of flexible pipe to manhole connectors. Full depth systems are also available.

The Tru-Contour assembly consists of:

1) A hole adapter which is designed to align the invert assembly with the flexible pipe to manhole connector. This insures pipe to invert compatibility.

2) A series of 4 wedges and straight sections which when combined provides an unlimited selection of angles to create enough flexibility to form an in invert within 1.5 degrees.

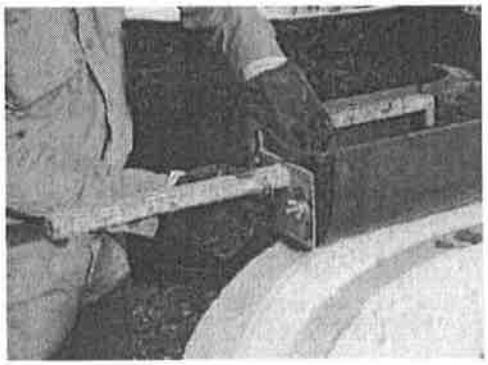
3) A stabilizing jack which prevents from floatation during casting operations. This insures that correct fall is maintained across the manhole base.

AVAILABILITY CHART

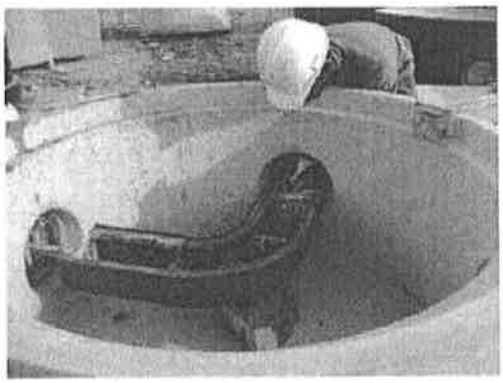
SIZE (IN/DIA.)	2-WAY	3-WAY	4-WAY
4"	•	•	•
6"	•	•	•
8"	•	•	•
10"	•	•	•
12"	•	•	•
15"	•	•	•
18"	•	•	•
21"	•		
24"	•		
27"	•		
30"	•		
36"	•		
42"	•		
48"	•		

INSTALLATION INSTRUCTIONS

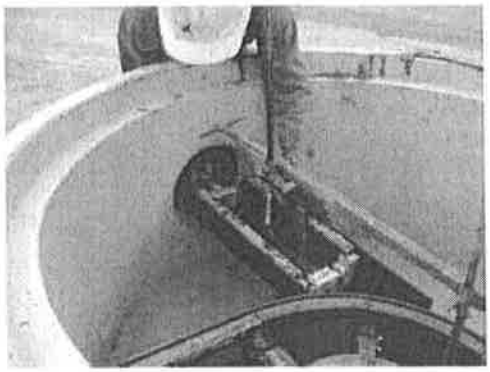
#1 ASSEMBLY STARTS WITH CENTERING TRIANGLE IN LOW HOLE



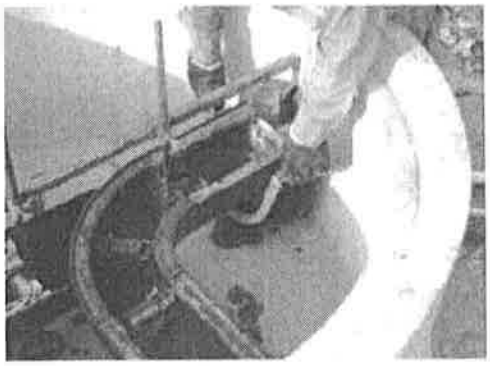
#2 ASSEMBLE SMALLEST ANGLE WITH CENTERING ADAPTOR



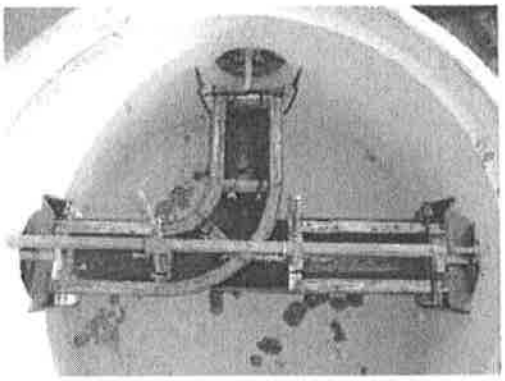
#3 SMALLEST ANGLE ASSEMBLE IN LOW HOLE AND UPSTREAM SIDE.



#4 POSITION ANTI FLOTATION BAR AND ADDITIONAL CHANNEL



#5 POSITION HUBS



#6 COMPLETED THREE-WAY ASSEMBLY READY TO POUR

ANY QUESTIONS REGARDING TRU-CONTOUR INSTALLATION, PLEASE CALL 1-800-822-2565