

PRODUCT CATALOGUE
Manitoba

2021

INLAND PIPE





ABOUT INLAND

Inland roots in the Winnipeg area date back to the early 1960's. Over time, through a number of mergers and acquisitions Inland Pipe is now part of the Lehigh Hanson group in North America and part of the world-wide HeidelbergCement Group.

HeidelbergCement is the global market leader in aggregates and a prominent player in the fields of cement, concrete and other downstream activities, making it one of the world's largest manufacturers of building materials. The company employs some 52,000 people at 2,500 locations in more than 40 countries.

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Notes:

- All concrete products within this catalogue are manufactured using sulphate resistant (HS or HSb) cement as per CSA A3000.
- Applicable taxes and freight charges are extra.
- Prices effective April 1, 2021.
- Restocking fees are 15% for returned undamaged stock items. Cancelled orders may be subject to 100% restocking charges.
- Listed product weights are approximate and intended for shipping purposes. Exact weights can be calculated upon request.
- Prices shown in this catalogue are intended as an estimating guide and are subject to change. Detailed quotations are available upon request.
- Cast-in fixtures and appurtenances, other than swift lifts, are subject to approval by design Engineer and extra costs will apply.



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Terms & Conditions

TERMS AND CONDITIONS OF SALE

This price list supercedes all previous lists.

1. Definitions.

- (a) "Products" means concrete pipe, manholes and associated products.
 (b) "Purchaser" means the individual or company placing an order to purchase Products.
 2. **Purchase of Products.** The Quotation and these Terms and Conditions shall together constitute the purchase agreement ("Agreement"). The Agreement is the only agreement between the parties and supersedes all other agreements, representations, correspondence, undertakings or communications between the parties regarding the purchase of Products.

3. Payment Terms.

- (a) Full payment is due on the 25th day of the month following the Purchaser pick-up or delivery of Products.
 (b) Prices exclude applicable taxes, fees, duties and surcharges. Purchaser is solely responsible for the payment of such amounts.
 (c) Unless otherwise stated, prices are in Canadian Dollars.
 (d) Purchaser shall pay all fees, expenses and disbursements (including legal fees on a solicitor and his own client basis) incurred by Seller in connection with collecting any overdue accounts
 (e) Seller reserves the right at any time to require the Purchaser to post adequate security, and to discontinue the supply of Products in the absence of such security, in its sole discretion.
 (f) All purchases by Purchaser pursuant to this Quotation require payment in advance unless Seller has entered into a written credit agreement with Purchaser. In the event Purchaser makes payment with a cheque, and such cheque, upon presentation, is not promptly negotiated by Purchaser's bank, Purchaser shall immediately make payment using a certified cheque. Purchaser shall also pay a service charge of \$25.00 for any cheque that is not negotiated by Purchaser's bank promptly upon presentation. Purchaser shall pay Seller interest on all amounts not paid when due at a rate of 2.0% per month (24% per annum). Invoice shall be deemed correct unless Purchaser notifies Seller in writing of any errors within 30 days from the date of such invoice. Purchaser's payments shall be applied first against any outstanding interest charges, next against any service charges and then to the outstanding principle in the invoice.
 (g) If Purchaser defaults or if Seller considers Purchaser's financial responsibility impaired or unsatisfactory, Seller shall be entitled to suspend or terminate, in whole or in part, any order or agreement until all outstanding payments are made and/or acceptable assurances or security is provided by Purchaser.
 (h) All Products approved for fabrication must be taken no later than January 31 of the following year. Products NOT taken prior to the due date will be subject to per diem storage charges.

4. Additional Surcharges.

- (a) A surcharge will be added for a delivery requiring a wide load permit and pilot vehicles.
 (b) A surcharge of \$100/hour will be added if the Purchaser has not unloaded the truck within one hour of the truck's arrival at the destination specified.
 (c) A surcharge will be added if the Purchaser does not unload a delivery in its entirety at the destination specified.

5. Availability of Products.

- The quantities of the Products stated in this Quotation are for the sole purpose of identifying the estimated total quantities and price of the Products expected to be delivered by Seller to Purchaser and are not intended to constitute a commitment by Purchaser to purchase, or Seller to deliver, the stated quantities of the Products (or another quantity or Products sufficient to meet Purchaser's requirements) to Purchaser. Although Seller will make reasonable efforts to deliver Products in accordance with Purchaser's schedule, Seller's ability to actually deliver the amount of the Products stated in Seller's invoices to Purchaser is subject to the availability of the Products (which availability might be limited for reasons both within and outside of Seller's control, including, without limitation, those set forth in Section 6).

6. Force Majeure.

- Seller shall not be considered in default in the performance of its obligations hereunder if such performance is prevented or delayed because of an act of God, lack of availability of raw materials or Products, equipment or facility failures, war, blockade, embargo, hostilities, revolution, civil commotion, strike or lockout, labor dispute, epidemic, fire, wind, earthquake or flood, severe weather, traffic delays, delays of third parties or because of any law, order, proclamation, regulation or ordinance of any government, or for any other cause, whether similar or dissimilar to those enumerated, beyond the reasonable control of Seller. If Seller's performance is prevented or delayed Seller shall have the right to prorate among its various customers such Products as it may be able to manufacture and deliver.

7. Delivery Conditions.

- (a) Purchaser shall schedule all deliveries directly with the Seller. Purchaser shall provide a minimum of 24 hours' notice.
 (b) Purchaser is responsible to provide Seller with safe and reasonable access for Seller's delivery truck to deliver Products. Seller reserves the right to stop deliveries until Purchaser provides such access.
 (c) Delivered prices are for delivery to the destination specified.
 (d) Purchaser shall be responsible to provide suitable access roads to destination specified as well as equipment to unload the Products.
 (e) In the event Seller requires access over curbs, sidewalks, driveways or other property, Seller shall not be responsible for any loss, cost or damage in connection therewith. Purchaser waives all claims against Seller and shall indemnify and save the Seller harmless and against any and all losses, damages, expenses, liabilities, claims, suits and demands

of whatever nature (including legal fees on a solicitor and client basis) suffered or incurred by Seller and resulting from such access.

8. Unloading.

Purchaser will be responsible for unloading the Products at the destination specified.

9. Products Specifications and Warranty.

Products shall conform to present standard specifications (for the respective Products) of CSA and/or ASTM. Seller expressly warrants the title to the Products and, except as provided in this section, Seller makes no representation or warranty whatsoever with respect to the Products, express or implied (whether written, oral, statutory or arising by previous course of dealing or usage of trade) including merchantability and fitness for a particular purpose, and Seller hereby disclaims all such other representations and warranties to the maximum extent permitted by applicable law.

10. Indemnity.

The Purchaser shall indemnify, hold harmless and defend Seller, its employees, contractors, and representatives from and against any and all losses, damages, expenses, liabilities, claims, suits and demands of whatever nature (including legal fees and expenses on a solicitor and client basis) suffered or incurred by Seller and resulting from any and all claims, suits or demands made against Seller by any other person arising out of or in connection with Purchaser's resale of the Products purchased from Seller, unless and to the extent attributable to any negligence or breach of this Agreement by Seller of the terms and conditions herein.

11. Limitation of Liability.

Notwithstanding any other provisions of this Agreement, Seller shall not be liable to the Purchaser whether due to breach of contract, negligence, warranty, strict liability or otherwise, for any special, indirect or consequential damages, or for any loss of profits, loss of revenue or loss of anticipated business suffered or incurred by the Purchaser. Seller's liability to a Purchaser in relation to this Agreement, whether due to breach of contract, negligence, warranty, strict liability or otherwise, is strictly limited to the replacement of the Products or a refund of the purchase price for the order of Products in question. Seller having no control over the use of the Products will not guarantee finished work, nor shall Seller be responsible for the condition of the Products after delivery to Purchaser.

12. Limitation of Actions.

Purchaser is responsible for inspection of the Products upon delivery. Notwithstanding any other provisions in this Agreement, no suit or claim based on any cause of action whatsoever arising out of or in any way connected with this Agreement or the Products may be brought by the Purchaser, or any party claiming through the Purchaser, more than 60 days after receipt of the Products. Claims for loss or damage in transit must be reported to Seller within 24 hours of delivery of Product to the destination specified and must be supported by customer's notation on truck delivery receipt and/or bill of lading.

13. Use of Products.

Purchaser's use of the Products is at its own risk and the Purchaser shall indemnify and save Seller harmless from any and all losses, damages, expenses, liabilities, claims, suits and demands of whatever nature (including legal fees and expenses on a solicitor and client basis) suffered or incurred by Seller arising out of, or relating to the Purchaser's control, use, possession, transportation or ownership of the Products.

14. Title and Risk of Loss.

Title and risk of loss to the Products shall pass to Purchaser on Purchaser's pick-up at Seller's premises. Title and risk of loss to Products delivered shall pass to Purchaser on delivery at the destination specified.

15. Waiver.

No waiver of any provision of the Agreement shall be binding unless given in writing and signed by an authorized officer of the party to be bound thereby.

16. Governing Law.

This Agreement shall be interpreted under and governed by the laws of the Province where the Products are delivered and the federal laws of Canada applicable therein.

17. Arbitration.

If any dispute arises between the parties pursuant to this Agreement such dispute shall be resolved by a sole arbitrator pursuant to the provisions of the Arbitration Act of the Province where the Products is delivered.

18. Term of Agreement.

Unless otherwise agreed to by the parties in writing, the prices in the Quotation are valid for the period of time set out in the Quotation from the date of the Quotation. Seller may, in its sole discretion, increase the price of, or decline to deliver, the Products identified in this Quotation after such date.

19. Builder's Lien.

For the purposes of the Builder's Lien Act Products not herein quoted but delivered or supplied to the same project shall be considered part of the same contract until last date of delivery or supply notwithstanding separate purchase orders.

20. Product Return.

Purchaser may return any standard Product to Seller's premises provided:

- (a) such Product is in good condition;
 (b) Purchaser pays Seller a restocking fee of 15% of the price of the Product; and
 (c) such Product is returned to Seller on or before six months from the date of the original pick-up from Seller's premises or delivery to the destination specified. Custom and non-standard Products including but not limited to manhole and catch basin barrels with custom holes, radius pipe, pipe larger than 1200mm, custom slab tops, bends, wyes, tees and specialty cast in components will not be refunded. Custom or nonstandard Products returned will not receive credit and be subject to a disposal fee of \$20.00 per tonne charged by Seller to Purchaser. Custom and non-standard Products remaining on completed orders will be invoiced to the Purchaser and can either be picked-up by Purchaser (FOB Seller's Plant) or will be subject to a disposal fee of \$20.00 per tonne.

21. Freight Rates.

Freight rates are based on a minimum truck load of 27,000 kilograms and do not apply during periods of road restrictions. Delivery charges for truckloads of less than 27,000 kilograms shall be calculated at an hourly rate as described in the Freight Guidelines outlined in Seller's catalogue and shall include loading, traveling and unloading time.

Canadian Precast Concrete Quality Assurance Certification (CPCQA Certification)



This stamp means **Quality**. It signifies that your precast concrete drainage product has met the stringent demands of the **CPCQA Certification**.

The **INLAND PIPE LIMITED** Winnipeg Plant has achieved and maintained its Prequalification since 2002. Inland Pipe is currently certified to provide precast concrete pipe, manholes and box sections under the program.

What does Prequalification mean?

Owners of infrastructure projects, who purchase precast concrete drainage products from prequalified plants, receive products that have been tested for quality through the manufacturing process and inspected upon completion. Concrete drainage products supplied from a prequalified plant comply with the requirements of the latest editions of CSA standards for concrete pipe, CAN/CSA A257.1, A257.2, A257.3, A257.4, ASTM C507M, and OPSS 1351.

ACHIEVING AND MAINTAINING PREQUALIFICATION:

A consultant engineer is retained to carry out an independent inspection of the applicant's plant and product. Samples of products are tested and the engineer submits a detailed report to the third party consultant. The report to the Chair states a compliance, or noncompliance with the prequalification requirements, together with a recommendation. The Chair issues the Prequalification Certificate.

The Certificate states the Product to which the prequalification applies and is normally valid for 12 months after the date of issue.

Each year, plants are inspected by the engineer who checks and tests to ascertain whether or not quality control and the standard of workmanship is being maintained at a satisfactory level. Every third year, the engineer undertakes detailed inspection and testing, and submits a report comparable to the original inspection for prequalification.

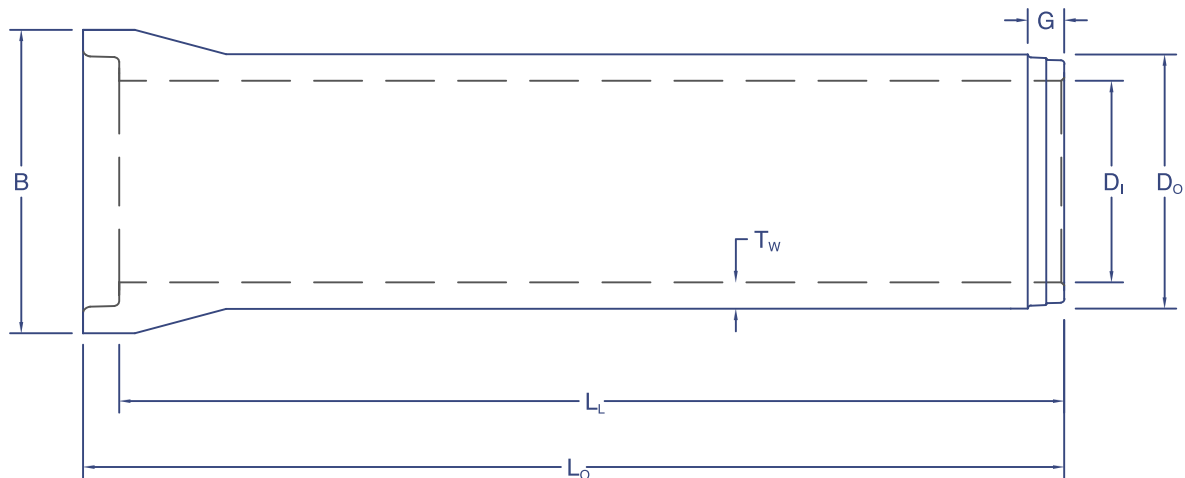
Quality control personnel within the precast concrete manufacturing facilities receive regular training, provided by the manufacturer, to ensure the quality control processes are performed correctly by the staff, and the information gathered is analyzed and maintained in accordance with the program.

Bell & Spigot Pipe

ASTM C76

INSIDE DIA. mm	LENGTH m	WEIGHT kg/m	PRICE \$ PER METRE				ACTUAL PIPE DIMENSIONS (mm)						
			REINFORCED PIPE ASTM C76, CSA 257.2				Di	Do	L _L	L _O	T _w	B	G
			CL-2 50-D	CL-3 65-D	CL-4 100-D	CL-5 140-D							
300	2.50	220					305	445	2500	2590	70	500	90
375	2.50	275					381	533	2500	2590	76	611	90
450	2.50	284					457	583	2500	2590	63	700	95
525	2.50	380					533	673	2500	2595	70	795	95
600	2.50	461					610	762	2500	2598	76	902	98
750	2.50	655					762	940	2500	2598	89	1060	98
900	2.50	880					914	1116	2500	2598	101	1260	98

- Notes:**
- 1) All prices shown are \$ per metre.
 - 2) To convert to \$ per foot, multiply \$ per metre by 0.305
 - 3) 750mm & 900mm diameter pipe are not stocked items.
 - 4) All pipe manufactured with Type HS(50) high sulphate-resistant hydraulic cement.
 - 5) Gaskets / Kent seal not included.
 - 6) Pricing for bends and junctions available upon request.
 - 7) Prices are provided as a guide for estimating and are subject to change without notice.
 - 8) All products are prequalified under the CPCQA Certification.



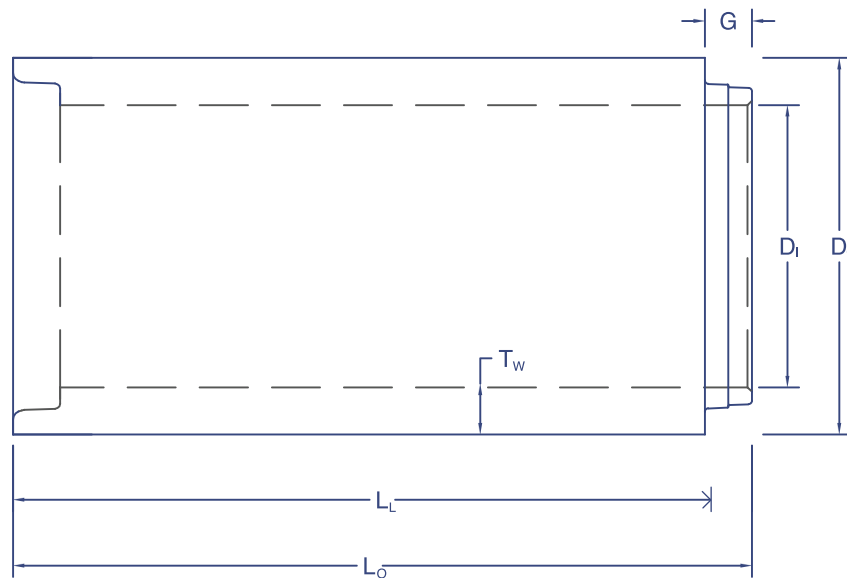
Straight Wall Pipe

ASTM C76

Straight Wall Pipe

INSIDE DIA. mm	LENGTH m	WEIGHT kg/m	PRICE \$ PER METRE				ACTUAL PIPE DIMENSIONS (mm)					
			REINFORCED PIPE ASTM C76, CSA 257.2				Di	Do	L _L	L _O	T _w	G
			CL-2 50-D	CL-3 65-D	CL-4 100-D	CL-5 140-D						
300	1.25	200					305	444	1250	1326	70	76
375	1.25	262					381	533	1250	1326	76	76
450	1.25	330					457	622	1250	1326	83	76
525	1.25	416					533	711	1250	1339	89	89
600	1.25	520					610	800	1250	1339	95	89
750	1.22/1.83	609					762	940	1219/1829	1308/1918	89	89
900	1.22/1.83	850					914	1118	1219/1829	1308/1918	102	89
1050	1.22/2.44	1066					1067	1295	1219/2438	1308/2527	114	89
1200	1.22/2.44	1346					1219	1473	1219/2438	1327/2546	127	108
1350	2.44	1639					1372	1651	2438	2548	140	108
1500	2.44	2005					1524	1829	2438	2559	153	121
1650	2.44	2442					1676	2007	2438	2565	165	127
1800	2.44	3100					1829	2222	2438	2565	197	127
2100	2.44	4175					2134	2578	2438	2565	222	127
2400	2.44	4737					2438	2934	2438	2565	248	127
2700	2.44	6302					2743	3289	2500	2652	273	127
3000	2.50	6934					3048	3607	2500	2652	279	152

- Notes:
- 1) All prices shown are \$ per metre.
 - 2) To convert to \$ per foot, multiply \$ per metre by 0.305
 - 3) 750mm & larger diameter pipe are not stocked items.
 - 4) All pipe manufactured with Type HS(50) high sulphate-resistant hydraulic cement.
 - 5) Gaskets / Kent seal not included.
 - 6) Pricing for bends and junctions available upon request.
 - 7) Prices are provided as a guide for estimating and are subject to change without notice.
 - 8) All products are prequalified under the CPCQA Certification.
 - 9) Pipe 1050mm & larger come with swift lift.
 - 10) Banding prices are available upon request.
 - 11) Pricing for pipe larger than 2700mm available upon request.



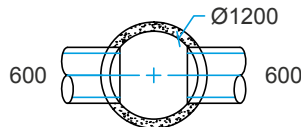
Manhole Sizing

Manhole Sizing

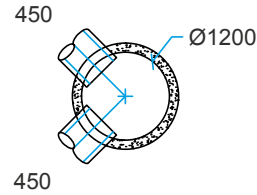
MAXIMUM PIPE SIZE FOR STRAIGHT THROUGH INSTALLATION

MAXIMUM PIPE SIZE FOR RIGHT ANGLE INSTALLATION

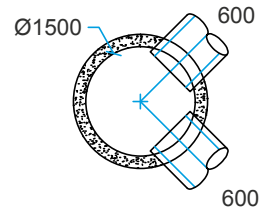
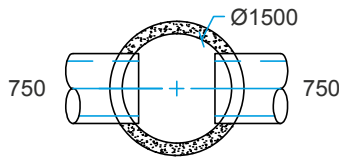
1200



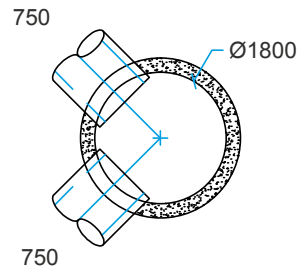
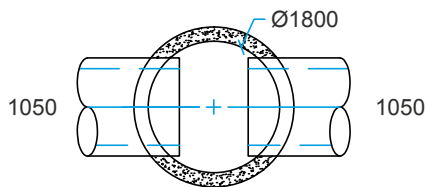
COW spec max for 1200mm - 525 mm pipe



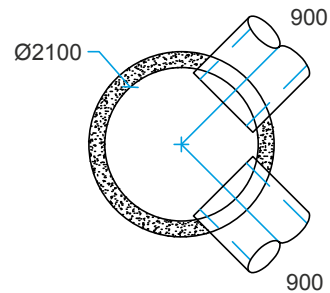
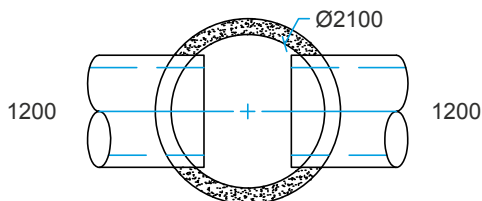
1500



1800



2100

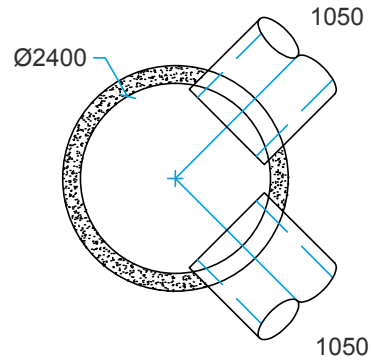
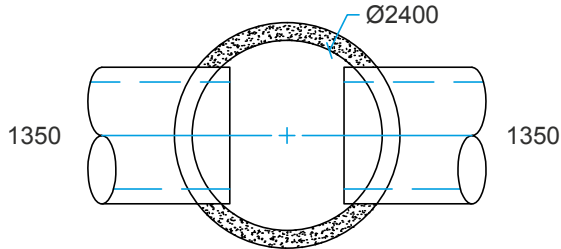


Manhole Sizing

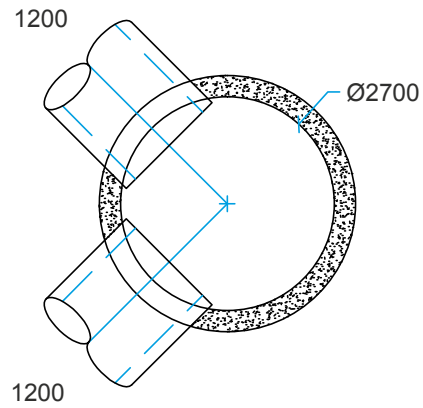
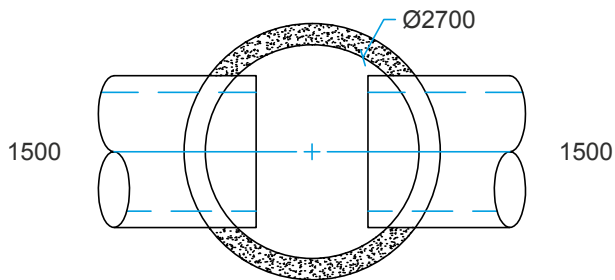
MAXIMUM PIPE SIZE FOR STRAIGHT THROUGH INSTALLATION

MAXIMUM PIPE SIZE FOR RIGHT ANGLE INSTALLATION

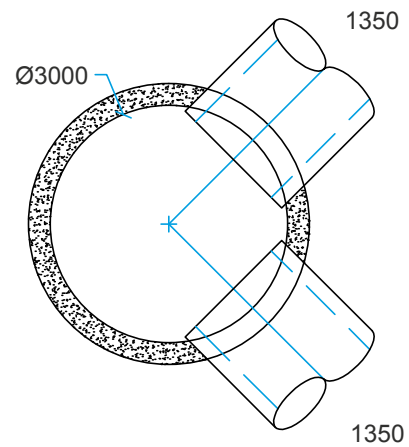
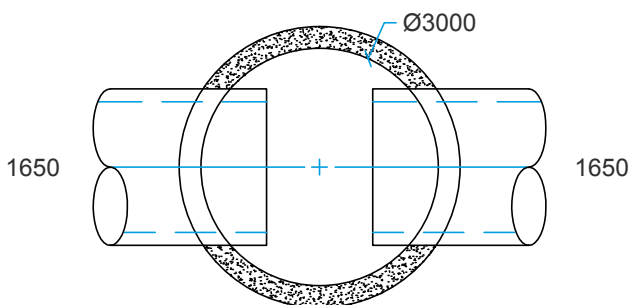
2400



2700



3000



Manhole Material

BASE SECTIONS FOR JUNCTIONS UP TO 525mm	TYPE	WEIGHT kg/ea	PRICE per section \$
1200mm x 1.83m Riser	A	2408	
1200mm x 1.83m Base	A1	2979	
1200mm x 1.22m Riser	A	1605	
1200mm x 1.22m Base	A1	2176	
1200mm x 0.92m Riser	A	1210	
1200mm x 0.92m Base	A1	1781	
1200mm x 0.61m Riser	A	803	
1200mm x 0.61m Base	A1	1374	
1200mm x 0.46 Riser	A	605	
1200mm x 0.46m Base	A1	1176	
1200mm x 0.31 Riser	A	408	

REDUCERS	WEIGHT kg/ea	PRICE \$/ea
1200mm/750mm x 0.31m Reducer	690	
1200mm/900mm x 0.31m Reducer	740	

PIPE MANHOLES FOR 600mm to 2100mm DIAMETER PIPE	TYPE	WEIGHT kg/ea	
1200mm X 1.83m Pipe Manhole	B	3540	Call for pricing
1500mm X 1.83m Pipe Manhole	B	4570	Call for pricing
1800mm X 1.83m Pipe Manhole	C	5870	Call for pricing
2100mm X 1.83m Pipe Manhole	C	7840	Call for pricing

MANHOLE RISER SECTIONS	WEIGHT kg/ea	PRICE \$/ea
750mm x 1.83m Riser	1067	
750mm x 1.22m Riser	711	
750mm x 0.92m Riser	536	
750mm x 0.61m Riser	356	
750mm x 0.46m Riser	268	
750mm x 0.31m Riser	181	
750mm x 0.15m Riser	87	
900mm x 1.83m Riser	1460	
900mm x 1.22m Riser	973	
900mm x 0.92m Riser	734	
900mm x 0.61m Riser	487	
900mm x 0.46m Riser	367	
900mm x 0.31m Riser	247	
900mm x 0.15m Riser	120	

Notes: 1) SPECIAL MH'S AND / OR COMPONENTS AVAILABLE UPON REQUEST

- 2) Gaskets / kent seal NOT included.
- 3) Precast MH's manufactured to ASTM C478.
- 4) Prices are provided as a guide for estimating and are subject to change without notice.
- 5) All manholes and components are manufactured with Type HS(50) high sulphate-resistant hydraulic cement.

Manhole Material Estimation Table

1200mm STANDARD MH TYPE A1 c/w 1200 RISERS					BASE SECTIONS WITH FLOOR		RISERS & REDUCER							
					PRICE \$/EA									n/a
					HEIGHT (m)	1.22	1.83	1.22	0.92	0.61	0.46	0.31	0.31	0.15
DEPTH m	RISER m	BASE COST	RISER COST	TOTAL COST	1200 x	1200 x	1200 x	1200 x	1200 x	1200 x	1200 x	1200/750 x	750 x	FRAME & COVER
1.910	0.310	\$1,412.06	\$971.79	\$2,383.85	1							1	1	1
2.070	0.610	\$1,412.06	\$1,119.46	\$2,531.52	1							1	2	1
2.220	0.770	\$1,412.06	\$1,452.46	\$2,864.52	1						1	1	1	1
2.370	0.920	\$1,412.06	\$1,648.68	\$3,060.74	1					1		1	1	1
2.520	1.070	\$1,412.06	\$1,844.19	\$3,256.25	1				1			1	1	1
2.680	1.230	\$1,412.06	\$1,991.86	\$3,403.92	1				1			1	2	1
2.830	1.380	\$1,412.06	\$1,950.33	\$3,362.39	1			1				1	1	1
2.980	1.530	\$1,412.06	\$2,098.00	\$3,510.06	1			1				1	2	1
3.130	1.680	\$1,412.06	\$2,194.50	\$3,606.56	1		1					1	1	1
3.290	1.840	\$1,412.06	\$2,342.17	\$3,754.23	1		1					1	2	1
3.440	1.990	\$1,412.06	\$2,675.17	\$4,087.23	1		1				1	1	1	1
3.590	2.140	\$1,412.06	\$2,871.39	\$4,283.45	1		1			1		1	1	1
3.740	2.290	\$1,412.06	\$2,808.52	\$4,220.58	1	1						1	1	1
3.900	2.450	\$1,412.06	\$2,956.19	\$4,368.25	1	1						1	2	1
4.050	2.600	\$1,412.06	\$3,289.19	\$4,701.25	1	1					1	1	1	1
4.210	2.760	\$1,412.06	\$3,485.41	\$4,897.47	1	1				1		1	1	1
4.350	2.900	\$1,412.06	\$3,680.92	\$5,092.98	1	1			1			1	1	1
4.510	3.060	\$1,412.06	\$3,828.59	\$5,240.65	1	1			1			1	2	1
4.660	3.210	\$1,412.06	\$3,787.06	\$5,199.12	1	1		1				1	1	1
4.810	3.360	\$1,412.06	\$3,934.73	\$5,346.79	1	1		1				1	2	1
4.970	3.520	\$1,412.06	\$4,031.23	\$5,443.29	1	1	1					1	1	1
5.120	3.670	\$1,412.06	\$4,178.90	\$5,590.96	1	1	1					1	2	1
5.270	3.820	\$1,412.06	\$4,511.90	\$5,923.96	1	1	1				1	1	1	1
5.420	3.970	\$1,412.06	\$4,708.12	\$6,120.18	1	1	1			1		1	1	1
5.570	4.120	\$1,412.06	\$4,645.25	\$6,057.31	1	2						1	1	1
5.730	4.280	\$1,412.06	\$4,792.92	\$6,204.98	1	2						1	2	1
5.880	4.430	\$1,412.06	\$5,125.92	\$6,537.98	1	2					1	1	1	1

Notes: 1) Total cost does not include kent seal, gaskets or the frame and cover.
 2) Prices are provided as a guide for estimating and are subject to change without notice. ALL TAXES ARE EXTRA.

Manhole Material

Manhole Material

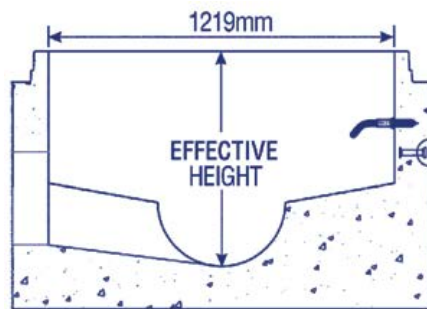
ASTM C478 - Prebench

Manhole
Material

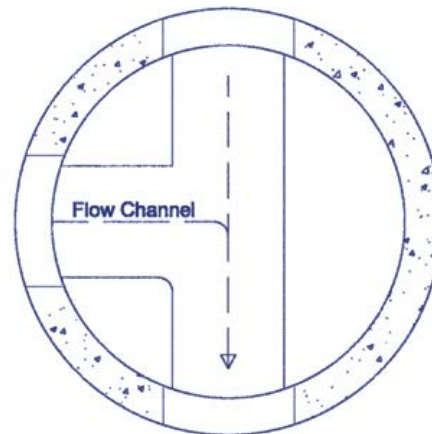
LARGEST NOMINAL PIPE DIAMETER (mm)	EFFECTIVE HEIGHT ABOVE LOW INVERT (mm)	PRODUCT DESCRIPTION	WEIGHT kg/ea	PRICE PER SECTION
150	670	1200mm x 150mm Prebench	2230	
200	690	1200mm x 200mm Prebench	2230	
250	720	1200mm x 250mm Prebench	2230	
300	745	1200mm x 300mm Prebench	2360	
375	780	1200mm x 375mm Prebench	2360	
450	820	1200mm x 450mm Prebench	3325	
525	860	1200mm x 525mm Prebench	3325	
600	900	1200mm x 600mm Prebench	3400	

DESCRIPTION	PRICE PER SECTION
150mm KWIK Seal Boot	
200mm KWIK Seal Boot	
250mm KWIK Seal Boot	
300mm KWIK Seal Boot	
375mm KWIK Seal Boot	
450mm KWIK Seal Boot	

- Prebenched bases are made to order and require approved drawings or manhole order forms before manufacturing.
- Standard Base: Four (4) pipe penetrations or less and standard 1% slope.
- Special Base: Five (5) or more pipe penetrations, or not standard slope, or special pipe holes required.
- 600mm Prebenched base only available for straight through configurations
- Monobases are available and come without any pipe openings.
- Weights given in this table are conservative estimates
- Prebench pricing does not include boots.



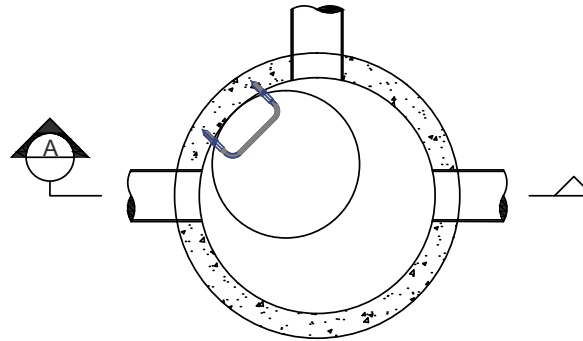
SECTION VIEW



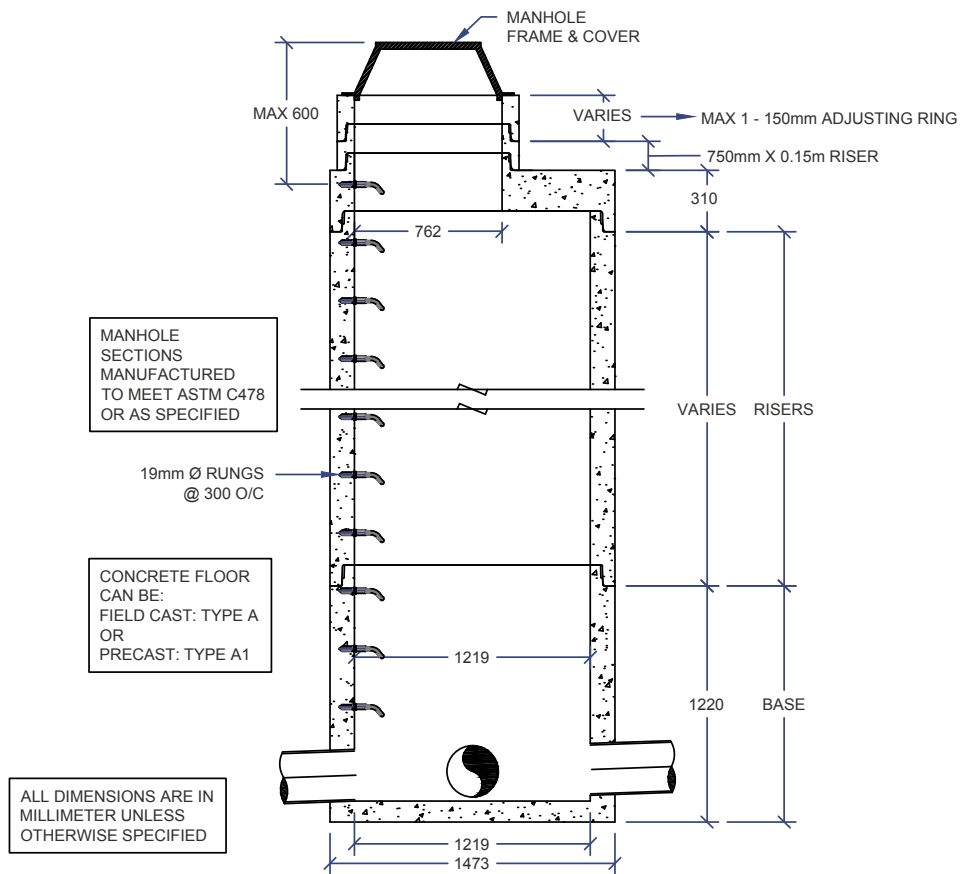
TOP VIEW

Manhole Material

Type A Manhole



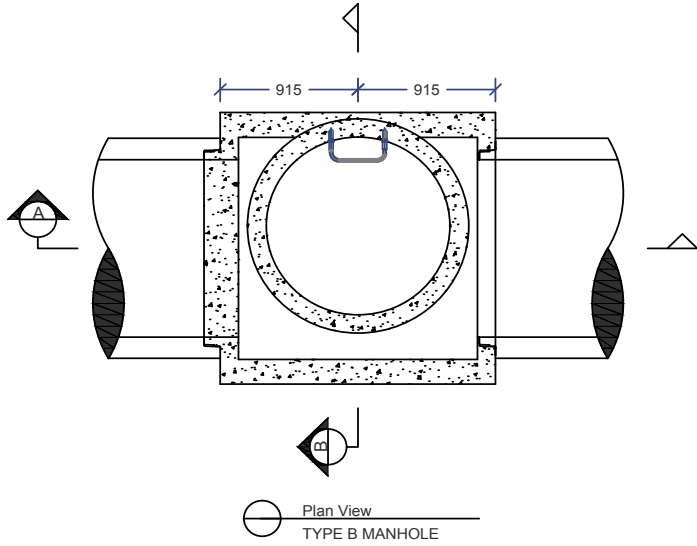
PLAN VIEW
TYPE A MANHOLE



ELEVATION VIEW
TYPE A AND A1
STANDARD PRECAST MANHOLE
SD - 010
(FOR UP TO 525 DIAMETER PIPE)

Manhole Material

Type B Manhole

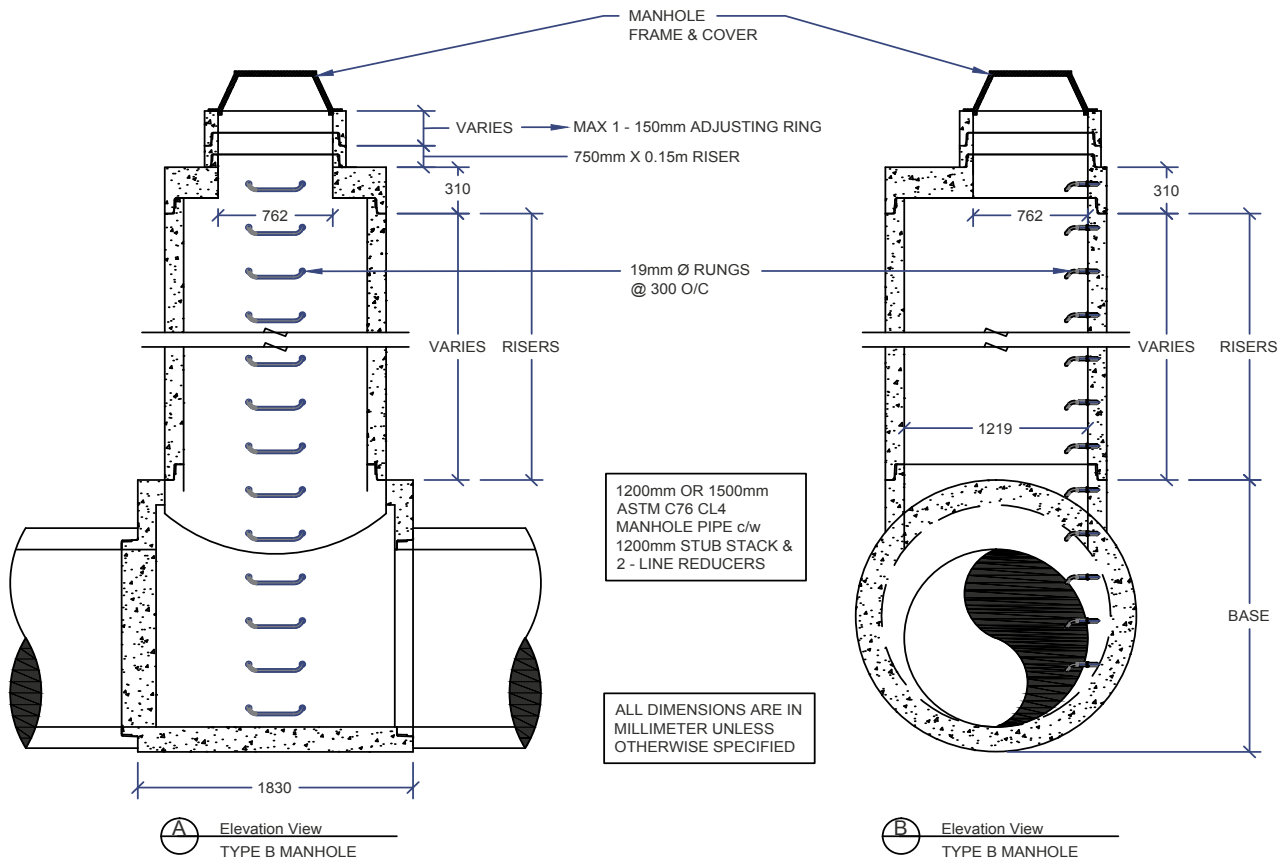


NOTES :

FOR 600 TO 900 DIAMETER SEWERS, USE A 1200 DIAMETER X 1800 LONG MANHOLE BASE

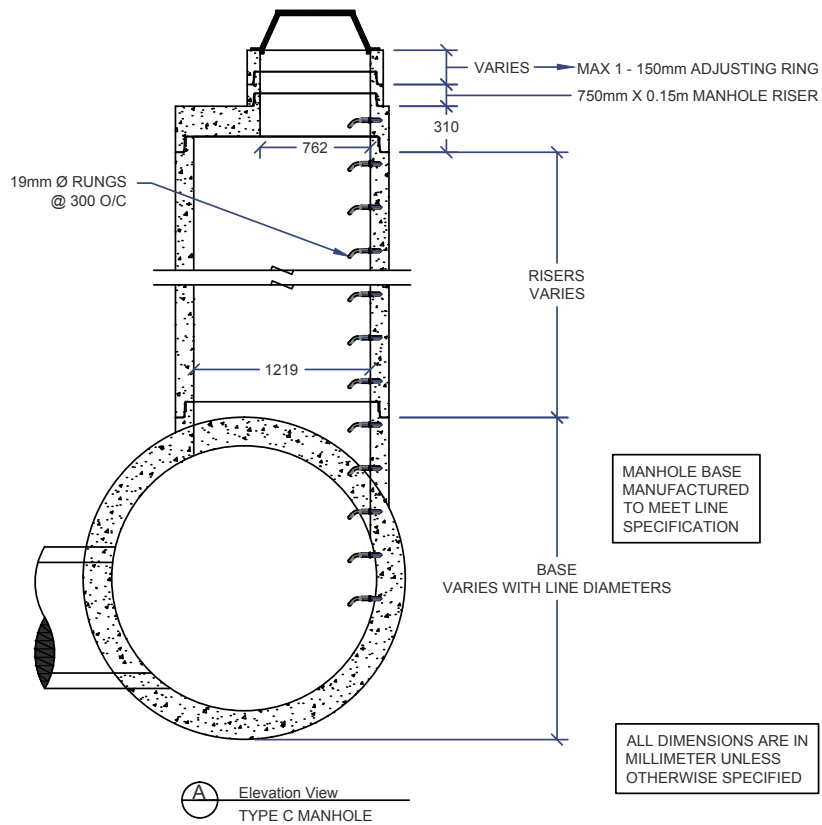
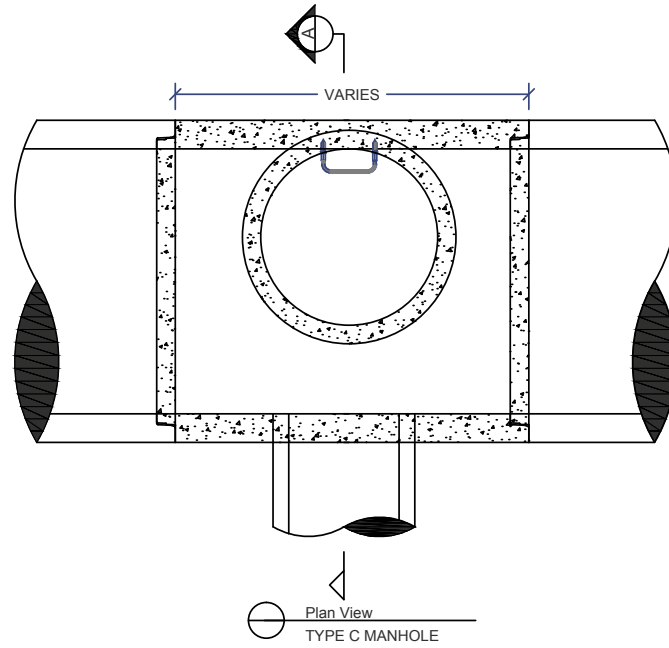
FOR 1050 TO 1500 DIAMETER SEWERS, USE A 1500 DIAMETER X 1800 LONG MANHOLE BASE

PRECAST MANHOLE BASES TO ASTM C78 C IV MINIMUM COMPLETE WITH 1200 DIAMETER STUB RISER AND MONOLITHIC ENDS TO SUIT SEWER SIZES



Manhole Material

Type C Manhole



Manhole Material

Manhole Material

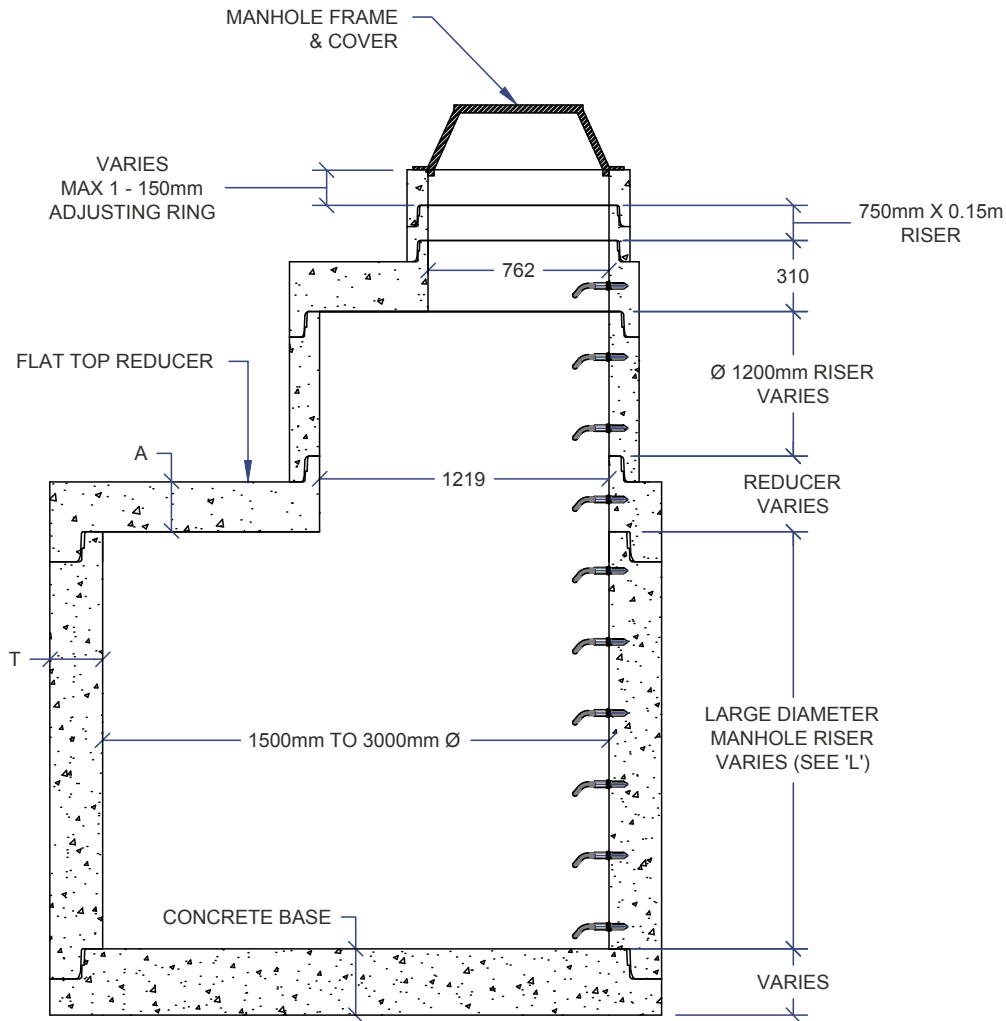
ASTM C478 - Large Diameter

DESCRIPTION OF ITEMS (NOMINAL DIAMETER)	VOLUME (L/barrel)	WEIGHT (kg)	PRICE
1350mm DIAMETER MATERIAL			
1350mm x 2.44m M.H. Riser	3610	3960	
1350mm x 1.83m M.H. Riser	2707	2970	
1350mm x 1.22m M.H. Riser	1804	1980	
1350mm x 0.92m M.H. Riser	1360	1493	
1350mm x 0.61m M.H. Riser	902	990	
1350mm x 0.46m M.H. Riser	680	747	
1350mm x Slab Top (1200mm Opening)	-	780	
1350mm Base	-	879	
1500mm DIAMETER MATERIAL			
1500mm x 2.44m M.H. Riser	4377	4801	
1500mm x 1.83m M.H. Riser	3283	3601	
1500mm x 1.22m M.H. Riser	2189	2401	
1500mm x 0.92m M.H. Riser	1650	1810	
1500mm x 0.61m M.H. Riser	1094	1200	
1500mm x 0.46m M.H. Riser	825	905	
1500mm x Slab Top (1200mm Opening)	-	1525	
1500mm Base	-	1685	
1650mm DIAMETER MATERIAL			
1650mm x 2.44m M.H. Riser	4311	7029	
1650mm x 1.83m M.H. Riser	3233	4293	
1650mm x 1.22m M.H. Riser	2155	2862	
1650mm x 0.92m M.H. Riser	1624	2158	
1650mm x 0.61m M.H. Riser	1077	1500	
1650mm x 0.46m M.H. Riser	802	1100	
1650mm x Slab Top (1200mm Opening)	-	1717	
1650mm Base	-	1305	
1800mm DIAMETER MATERIAL			
1800mm x 2.44m M.H. Riser	6304	7474	
1800mm x 1.83m M.H. Riser	4729	5606	
1800mm x 1.22m M.H. Riser	3153	3737	
1800mm x 0.92m M.H. Riser	2377	2187	
1800mm x 0.61m M.H. Riser	1576	1868	
1800mm x 0.46m M.H. Riser	1188	1409	
1800mm x Slab Top (1200mm Opening)	-	2270	
1800mm Base	-	2405	
2100mm DIAMETER MATERIAL			
2100mm x 2.44m M.H. Riser	8584	8910	
2100mm x 1.83m M.H. Riser	6438	6682	
2100mm x 1.22m M.H. Riser	4292	4455	
2100mm x 0.92m M.H. Riser	3236	3359	
2100mm x 0.61m M.H. Riser	2145	2227	
2100mm x 0.46m M.H. Riser	1618	1619	
2100mm x Slab Top (1200mm Opening)	-	3155	
2100mm Base	-	3225	
2400mm DIAMETER MATERIAL			
2400mm x 2.44m M.H. Riser	11390	12101	
2400mm x 1.83m M.H. Riser	8543	9076	
2400mm x 1.22m M.H. Riser	5602	5779	
2400mm x Slab Top (1200mm Opening)	-	4165	
2400mm Base	-	4185	
2700mm DIAMETER MATERIAL			
2700mm x 2.5m M.H. Riser	14773	15758	
2700mm x 2.0m M.H. Riser	11819	12606	
2700mm x Slab Top (1200mm Opening)	-	5300	
2700mm Base	-	5270	
3000mm DIAMETER MATERIAL			
3000mm x 2.5m M.H. Riser	18241	17797	
3000mm x 2.0m M.H. Riser	14593	14238	
3000mm x Slab Top (1200mm Opening)	-	6575	
3000mm Base	-	6480	

- Product available in custom heights.
- Product is not stock, call to order.

Manhole Material

Large Diameter



ALL DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE SPECIFIED

MANHOLE DIAMETER	STANDARD HEIGHT (m) "L"	WALL THICKNESS (mm) "T"	FLAT TOP REDUCER (mm)	CONCRETE BASE (mm)	REDUCER HEIGHT (mm)
1350	1.83	140	210	200	310
1500	1.83	153	210	200	310
1650	1.83	166	210	200	310
1800	1.83	197	210	200	310
2100	1.83	203	210	200	310
2400	1.80	248	280	280	407
2700	1.80	273	280	280	429
3000	1.80	279	270	280	422

Large Diameter
Manhole Material

Rubber Gaskets & Kent Seal

DIAMETER (mm)	RUBBER GASKET		KENT SEAL	
	TYPE	PRICE \$/Gasket	SIZE & LENGTH Required per Joint	PRICE per Joint \$/ea
300	SS 135		25mm x 1.31m	
375	SS 135		25mm x 1.55m	
450	SS 135		25mm x 1.83m	
525	SS 135		25mm x 2.13m	
600	SS 135		25mm x 2.44m	
750	SS 135		25mm x 2.96m	
900	SS 135		25mm x 3.48m	
1050	SS 135		25mm x 4.00m	
1200	SS 185		25mm x 4.45m	
1350	SS 185		38mm x 5.12m	
1500	SS 185		38mm x 5.61m	
1650	CR5861 185		38mm x 6.10m	
1800	SS 185		38mm x 6.40m	
2100	SS 185		38mm x 7.38m	
2400	SS 185		38mm x 8.41m	
2700	n/a		38mm x 9.45m	
3000	n/a		38mm x 11.35m	

- Notes:** 1) Superseal gaskets require no lube (sizes from 300mm to 1500mm, 1800mm & 2100mm).
2) Prices are provided as a guide for estimating and are subject to change without notice.

GASKET LUBRICANT

DESCRIPTION	SIZE	PRICE
Tylox Pipe Lube	13.6 kg Pail	

KENT-SEAL BUTYL RUBBER GASKETS

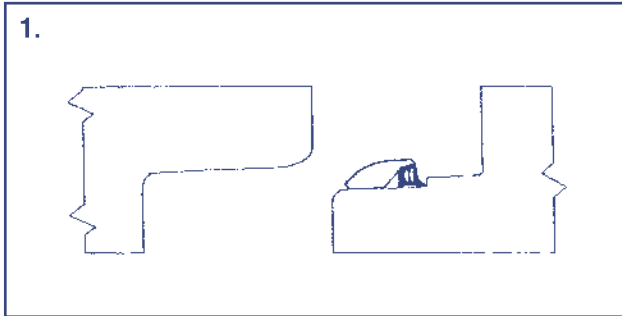
DESCRIPTION	PRICE \$/CARTON
25.0mm (1") WIDE x 4.45m LONG - 6 pieces / carton (for joints 1200mm and smaller)	
38.0mm (1 1/2") WIDE x 3.31m LONG - 4 pieces / carton (for joints 1350mm and larger)	

- Notes:** 1) Prices are provided as a guide for estimating and are subject to change without notice.

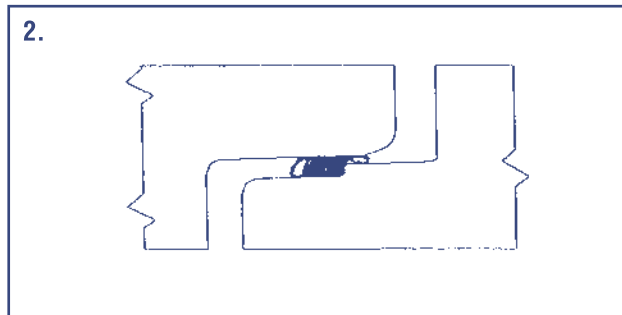
Superseal Gaskets Installation

1. Ensure Bell, Spigot and Gasket are free from loose debris or foreign material.

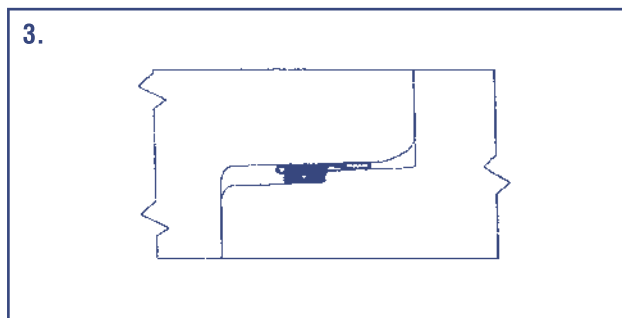
Stretch the gasket around the spigot, with the nose against the step, and the tube laying flat against the spigot. **DO NOT LUBRICATE.**



2. Align the spigot with the bell, and thrust the spigot home using suitable mechanical means. The homing process will cause the lubricated tube to “roll” over itself, above the compression section, allowing the pipe to slide forward.



3. Once fully homed, the compression section seals the total annular space; the rolling tube comes to rest within the small annular space acting as a cushion against side loads, and the serrations act to resist pipe pull-out



MATERIALS

Tylox® SuperSeal gaskets* are available in the following materials:

- Isoprene

Optional Materials

- Nitrite (Oil Resistant)
- Isoprene / EPDM blend (Green Book & C425)
- Neoprene (Oil and Ozone Resistant)

Other materials may be available as special order.

Contact Inland Pipe for your specific requirements

SPECIFICATIONS

Tylox SuperSeal gaskets* are manufactured to meet material requirements of the following specifications:

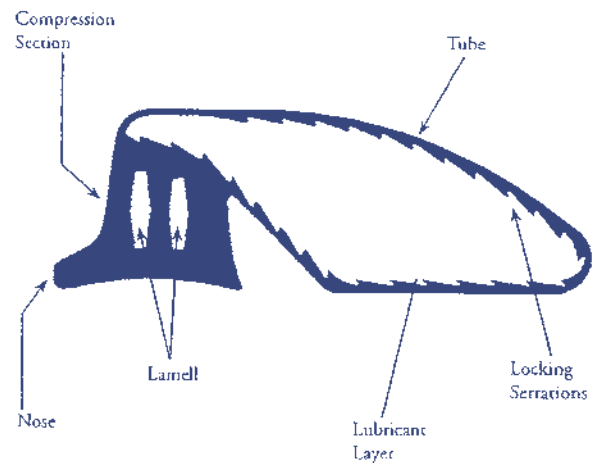
- ASTM C361, C425, & C443
- AASHTO M198.4
- CSA A257
- “Green Book”

Other specifications may be available as special order.

Contact Inland Pipe for your specific requirements

*Tylox SuperSeal Gaskets are patented under US Patent 4934716

...in Round Pipe & Manholes



Catch Basin Material

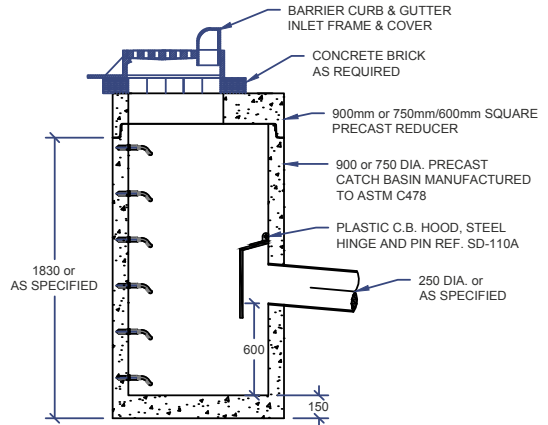
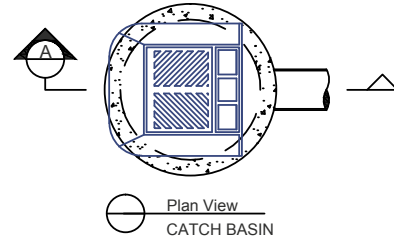
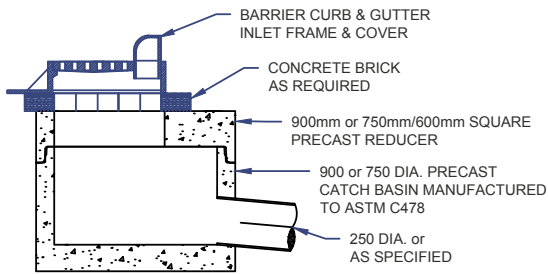
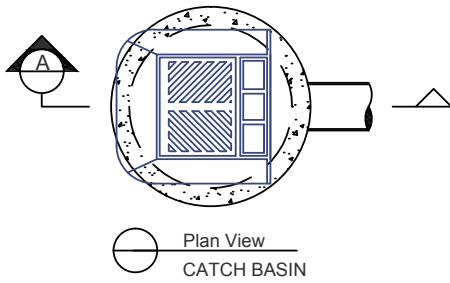
DESCRIPTION	SUMP (mm)	WEIGHT kg/ea	PRICE \$/ea
750mm X 1.83m Catch Basin	600	1235	
750mm X 1.22m Catch Basin	600	879	
750mm X 0.92m Catch Basin	75	704	
750mm X 0.61m Catch Basin	75	524	
750mm X 0.46m Catch Basin	0	436	
750mm X 0.31m Catch Basin	0	349	
750mm/600mm X 0.20m RTS Flat Reducer	-	245	
900mm X 1.83m Catch Basin	600	1701	
900mm X 1.22m Catch Basin	600	1214	
900mm X 0.92m Catch Basin	75	975	
900mm X 0.61m Catch Basin	75	728	
900mm X 0.46m Catch Basin	0	608	
900mm X 0.31m Catch Basin	0	488	
900mm/750mm X 0.15m RTR Flat Reducer	-	200	
900mm/600mm X 0.20m RTS Flat Reducer	-	305	

- Notes:**
- 1) Kent seal NOT included.
 - 2) Catch basin hood and pin NOT included.
 - 3) Prices are provided as a guide for estimating and are subject to change without notice.
 - 4) Catch basins are prequalified under the Plant Prequalification Program.
 - 5) All catch basins manufactured with Type HS(50) high sulphate-resistant hydraulic cement.

MANHOLE & CATCH BASIN ADJUSTING RINGS	WEIGHT kg/ea	TYPE	PRICE \$/ea
750mm x 50mm (2")	56	with groove	
750mm x 75mm (3")	71	with groove	
750mm x 100mm (4")	86	with groove	
750mm x 125mm (5")	100	with groove	
750mm x 150mm (6")	115	with groove	

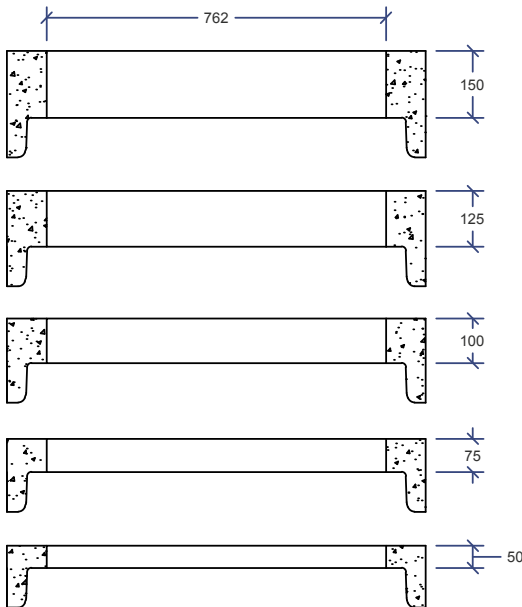
- Notes:** 1) Prices are provided as a guide for estimating and are subject to change without notice.

Catch Basin Material

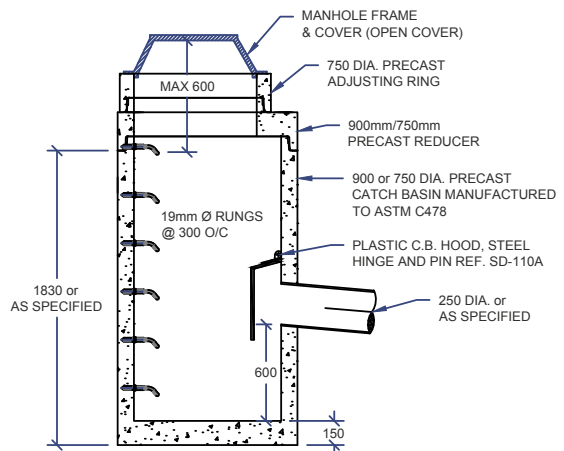
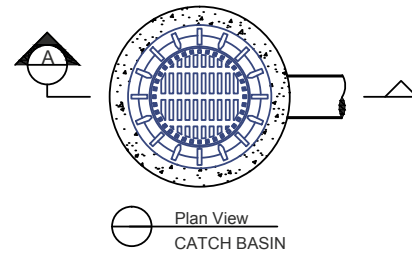


Cross Section View
CATCH BASIN w/CURB & GUTTER INLET (SD - 023)

Cross Section View
CATCH BASIN w/CURB & GUTTER INLET (SD - 024)



750mm ADJUSTING RINGS W/ GROOVES



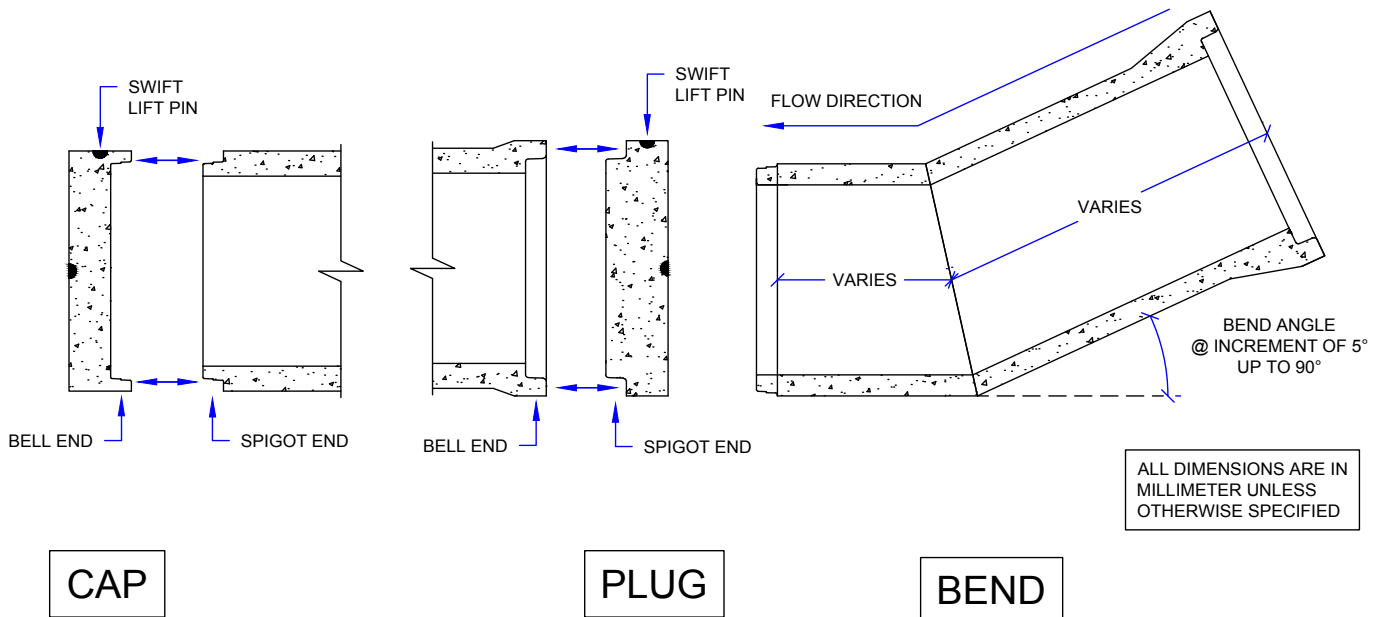
Cross Section View
CATCH BASIN w/MANHOLE COVER (SD - 025)

Plugs & Caps

PRECAST CONCRETE PLUGS

PLUG DIAMETER mm	WEIGHT kg/ea	PRICE \$/ea
300	20	
375	30	
450	57	
525	68	
600	93	
750	179	
900	219	
1050	327	
1200	419	
1350	540	
1500	660	
1650	940	
1800	1120	

- Notes:**
- 1) All plugs have a shoulder to accept rubber gaskets.
 - 2) Gaskets NOT included.
 - 3) Prices are provided as a guide for estimating and are subject to change without notice.
 - 4) All plugs and blocks manufactured with Type HS(50) high sulphate-resistant hydraulic cement.
 - 5) Pricing for bends available upon request.

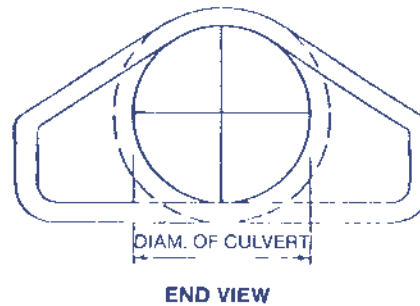
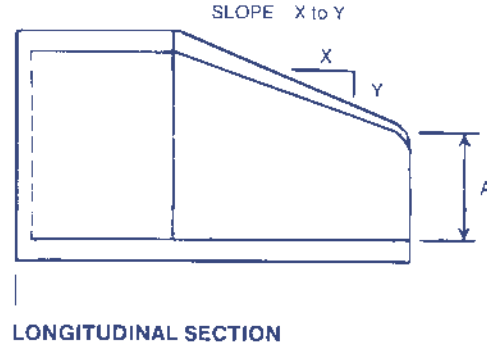
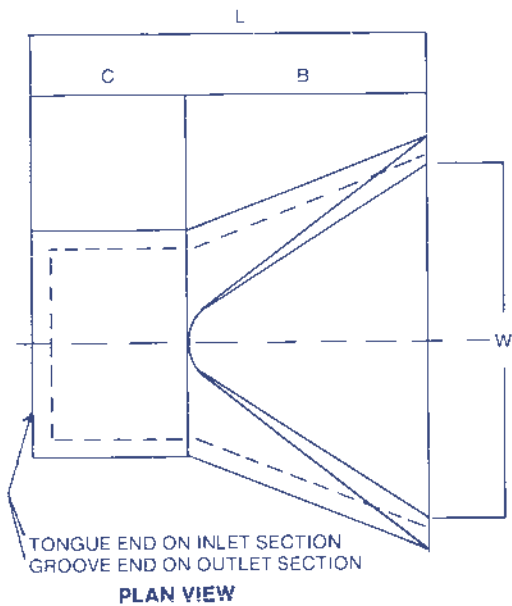


Plugs & Caps

Flared Ends

DIAMETER mm	SLOPE	A mm	B mm	C mm	L mm	W mm	WEIGHT kg/ea	PRICE \$/ea
300	VARIES	102	610	1245	1854	610	570	
375	VARIES	152	686	1168	1854	762	780	
450	3 TO 1	300	670	555	1225	935	430	
525	VARIES	241	1105	762	1867	1219	1465	
600	3 TO 1	225	1055	725	1780	1200	858	
750	3 TO 1	300	1325	525	1850	1500	995	
900	3 TO 1	375	1590	860	2450	1800	1865	
1050	VARIES	533	1600	889	2489	1981	4660	
1200	VARIES	610	1829	660	2489	2134	4490	
1350	VARIES	685	1650	895	2540	2545	3665	
1500	VARIES	760	1525	820	2450	2740	3980	

- Notes**
- 1) Flared ends are non stock items - contact INLAND for availability.
 - 2) Gaskets NOT included.
 - 3) All flared end sections manufactured with Type HS(50) high sulphate-resistant hydraulic cement.
 - 4) The following flared ends are produced in Calgary, please allow for extra lead time: 300mm, 375mm, 525mm, 1050mm, 1200mm, 1350mm, and 1500mm.

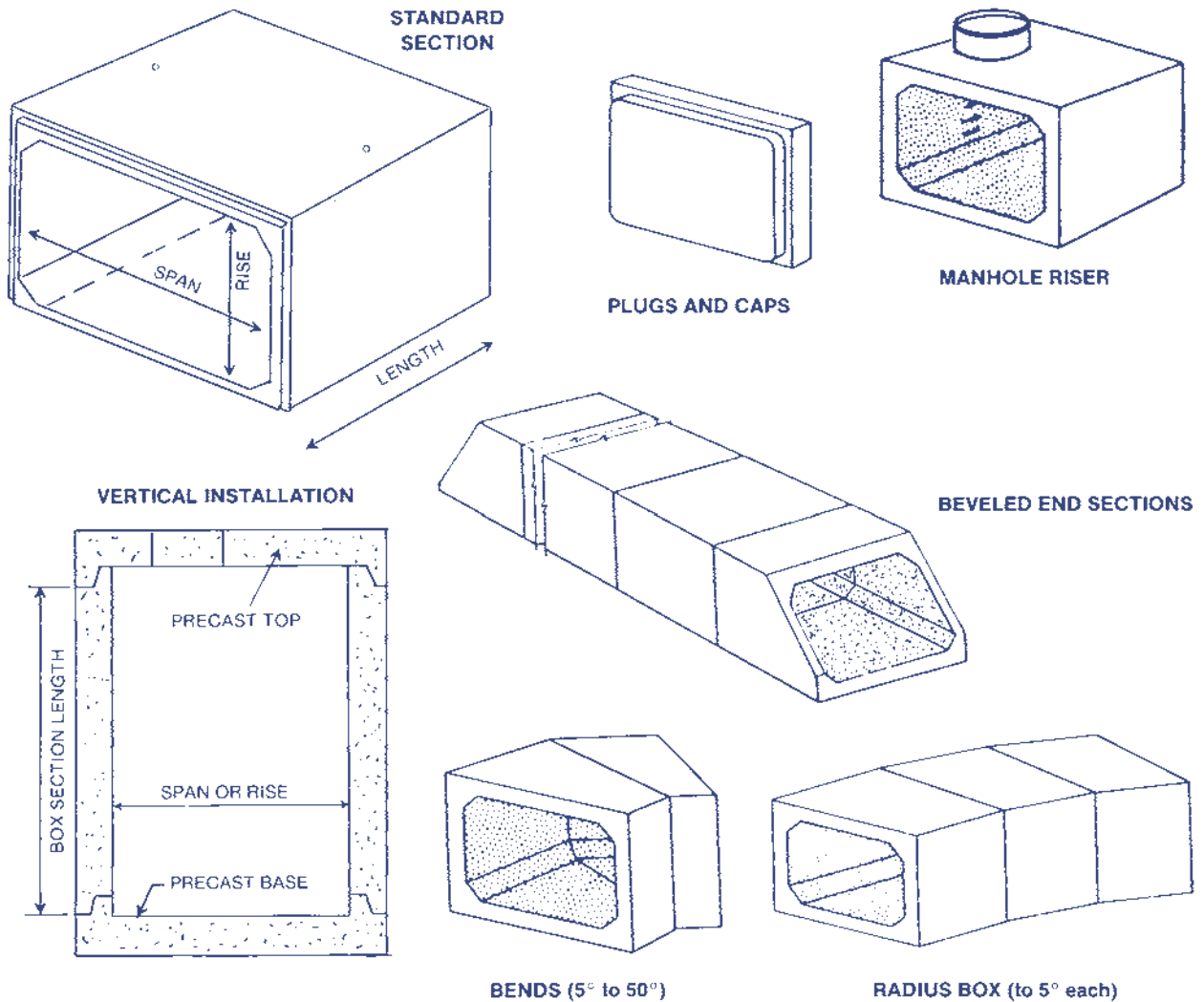


Box Sections

One of the advantages of the vibration method of manufacture is the variety of shapes which can be produced to meet almost any pipe requirement. Precast concrete box sections are now available from **INLAND PIPE** in the sizes indicated in the following literature.

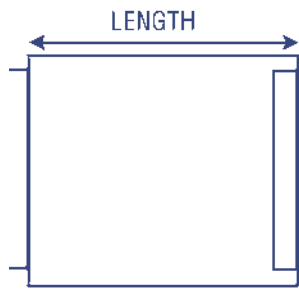
Box sections are advantageous in situations where it is desirable to minimize the vertical pipe dimension without reducing the total pipe area or having to use twin pipes. Ditch and creek replacements, storm sewers and highway culverts are examples of typical applications where restricted overhead clearance, shallow pipe depth or high water table make this section very useful. The designer may find many other uses for this shape such as pedestrian underpasses, chambers, etc.

The precast section compares favourably with the cost of cast-in-place concrete boxes, but gives the additional advantage of a much faster installation time. This reduces overall costs, the interference due to construction activities and possible dewatering problems.

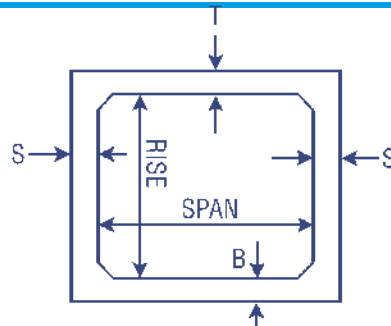


Box Sections

Box Sections



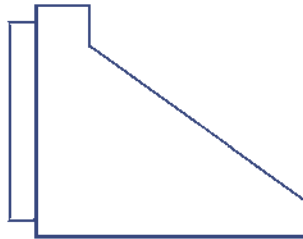
SIDE VIEW



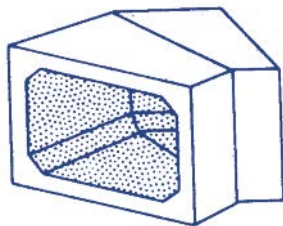
FRONT VIEW

APPLICATIONS

- Ditch and Creek Replacements
- Storm Sewers
- Highway Culverts
- Pedestrian Underpasses
- Lift Station
- Utility Vaults



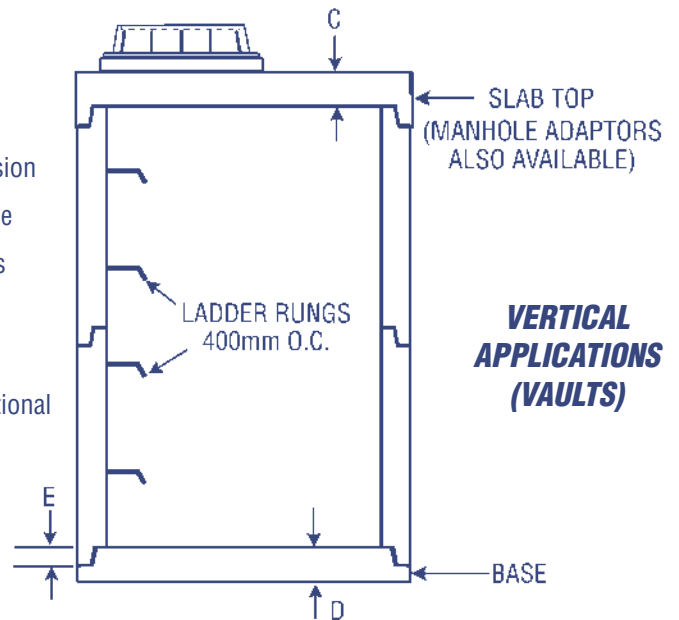
BEVELED END SECTIONS



BENDS (5° to 50°)

ADVANTAGES

- Cost Effective
- Reduced Vertical Dimension
- Reduced Installation Time
- Low Cover Requirements
- Reduced Dewatering Requirements
- Manufactured to International Specifications



VERTICAL APPLICATIONS (VAULTS)

BOX SECTION DIMENSION DETAIL

DESCRIPTION NOMINAL SPAN x RISE	ACTUAL INSIDE DIMENSIONS SPAN x RISE	SIDE WALL THICKNESS (mm)	TOP WALL THICKNESS (mm)	BOTTOM WALL THICKNESS (mm)	SLAB TOP THICKNESS (mm)	BASE THICKNESS (mm)	SPIGOT LENGTH (mm)
1800mm x 900mm	1829mm x 914mm	178	178	178	203	203	102
1800mm x 1200mm	1829mm x 1219mm	178	178	178	203	203	102
2400mm x 1200mm	2439mm x 1219mm	203	203	203	305	305	127
2400mm x 1500mm	2439mm x 1524mm	203	203	203	254	254	108
2400mm x 1800mm	2439mm x 1829mm	203	203	203	305	305	127
2400mm x 2400mm	2439mm x 2439mm	203	203	203	305	305	127
3000mm x 1500mm	3049mm x 1524mm	254	254	254	254	254	108
3000mm x 2400mm	3049mm x 2439mm	254	254	254	305	305	127
3600mm x 3600mm	3658mm x 3658mm	305	305	305	400	400	127

Box Sections

ASTM C1433

DESCRIPTION OF ITEMS (SPAN x RISE x LENGTH)	VOLUME (L/box)	WEIGHT (kg)	PRICES		
			COVER RANGE 1.0 - 3.5m (HORIZONTAL INSTALL)	COVER RANGE 3.5m - 7.0m (HORIZONTAL INSTALL)	COVER RANGE 7.0m - 9.0m (HORIZONTAL INSTALL) 0.0m - 1.0m (HORIZONTAL INSTALL & MANHOLES)
1829mm x 914mm (6'x3')					
2.5m BOX LENGTH	4021	7500			
2.0m BOX LENGTH	3217	6000			
1.8m BOX LENGTH	2895	5400			
1.5m BOX LENGTH	2413	4500			
1.2m BOX LENGTH	1930	3600			
0.6m BOX LENGTH	965	1800			
BASE / SLAB TOP	-	1450			
2.5m BEND	-	7500			
2.5m BEVELED END	-	3750			
1829mm x 1219mm (6'x4')					
2.5m BOX LENGTH	5415	7825			
2.0m BOX LENGTH	4332	6260			
1.8m BOX LENGTH	3899	5634			
1.5m BOX LENGTH	3249	4695			
1.2m BOX LENGTH	2599	3756			
0.6m BOX LENGTH	1300	1878			
BASE / SLAB TOP	-	1620			
2.5m BEND	-	7825			
2.5m BEVELED END	-	3913			
2439mm x 914mm (8' x 3')					
2.5m Box Length	4030	9924			
2.0m Box Length	3220	7939			
1.8m Box Length	2900	7145			
1.5m Box Length	2420	5954			
1.2m Box Length	1930	4764			
0.6m Box Length	970	2382			
Base/Slabtop	-	2825/3304			
Bend	-	10122			
1.8m Bevel End	-	5441			
2439mm x 1219mm (8'x4')					
2.5m BOX LENGTH	6994	10253			
2.0m BOX LENGTH	5595	8202			
1.8m BOX LENGTH	5036	7382			
1.5m BOX LENGTH	4196	6152			
1.2m BOX LENGTH	3357	4921			
0.6m BOX LENGTH	1679	2461			
BASE / SLAB TOP	-	3012/3586			
2.5m BEND	-	10253			
2.5m BEVELED END	-	5126			
2439mm x 1524mm (8'x5')					
2.5m BOX LENGTH	9087	11450			
2.0m BOX LENGTH	7269	9400			
1.8m BOX LENGTH	6542	8460			
1.5m BOX LENGTH	5452	7050			
1.2m BOX LENGTH	4362	5640			
0.6m BOX LENGTH	2181	2820			
BASE / SLAB TOP	-	3330			
2.5m BEND	-	11750			
2.5m BEVELED END	-	5875			

- Additional box sizes are available. Please call for details.
- Cover ranges indicate height between the top of the box and the ground surface (rim elevation).
- Boxes can be fabricated to comply with the CHBDC CSA S6-06 with CL-800 loading. For other loading conditions, call for estimate.
- Slab tops include 710mm formed opening.
- Box material is NOT stock; call for availability
- Horizontal installation indicates the longer dimension (span) of the box is parallel with the ground. Vertical installation indicates the span is perpendicular to the ground.
- Boxes may be stacked and used as manholes; call for details. Approved drawings are required before manufacture.
- All rough cut, cored or formed holes, rake out sections, wiers or cast in baffles are extra; call for pricing. Approved drawings are required before manufacture.
- Box bends are available up to 50° in 5° increments and have a 2.5m length.
- Minimum fill height (over top of box) is 1.2m. Shallower burials are possible but extra charges may apply and are subject to approval by design engineer. Call for details.
- City of Calgary requires Sikaflex to be used to seal joints in box culverts. This is not supplied by Inland Pipe.
- Butyl joint sealant may be used in manhole applications. Extra measures by the contractor may be necessary to achieve water tightness in the joints.

Box Sections

ASTM C1433

DESCRIPTION OF ITEMS (SPAN x RISE x LENGTH)	VOLUME (L/box)	WEIGHT (kg)	PRICES		
			COVER RANGE 1.0 - 3.5m (HORIZONTAL INSTALL)	COVER RANGE 3.5m - 7.0m (HORIZONTAL INSTALL)	COVER RANGE 7.0m - 9.0m (HORIZONTAL INSTALL) 0.0m - 1.0m (HORIZONTAL INSTALL & MANHOLES)
2439mm x 1829mm (8'x6')					
2.5m BOX LENGTH	10594	11715			
2.0m BOX LENGTH	8475	9372			
1.8m BOX LENGTH	7628	8435			
1.5m BOX LENGTH	6356	7029			
1.2m BOX LENGTH	5085	5623			
0.6m BOX LENGTH	2543	2812			
BASE / SLAB TOP	-	4203/4859			
2.5m BEND	-	9372			
2.5m BEVELED END	-	8904			
2439mm x 2439mm (8'x8')					
2.5m BOX LENGTH	14666	13368			
2.0m BOX LENGTH	11733	10694			
1.8m BOX LENGTH	10559	9625			
1.5m BOX LENGTH	8799	8021			
1.2m BOX LENGTH	7040	6416			
0.6m BOX LENGTH	3520	3208			
BASE / SLAB TOP	-	5636/6214			
2.5m BEND	-	13368			
2.5m BEVELED END	-	10160			
3049mm x 2439mm (10'x8')					
2.5m BOX LENGTH	18269	19050			
2.0m BOX LENGTH	14615	15240			
1.8m BOX LENGTH	13153	13716			
1.5m BOX LENGTH	10961	11430			
1.2m BOX LENGTH	8769	9144			
0.6m BOX LENGTH	4385	4572			
BASE / SLAB TOP	-	7262/8085			
2.5m BEND	-	15240			
2.5m BEVELED END	-	14478			
3658mm x 3099mm (12' x 10')					
2.0m Box Length	9290	2290			
1.8m Box Length	8360	20610			
1.5m Box Length	6970	17175			
1.2m Box Length	5570	13740		Call for Pricing	
0.6m Box Length	2790	6870			
Base/Slabtop	-	15394/16790			
Bend	-	23473			
1.5m Bevel End	-	12847			
3658mm x 3658mm (12' x 12')					
1.8m BOX LENGTH	23751	22000			
1.5m BOX LENGTH	19793	19000			
1.2m BOX LENGTH	15834	15000		Call for Pricing	
BASE / SLAB TOP	-	16700/18300			
1.8m BEND	-	21686			
1.8m BEVELED END	-	10843			

- Pricing does not include freight.
- Cover ranges indicate height between the top of the box and the ground surface (rim elevation).
- Boxes can be fabricated to comply with the CHBDC CSA S6-06 with CL-625 loading. For other loading conditions, call for estimate.
- Slab tops include 750mm formed opening. Add 10% to this price for a slab top adaptor (1200mm opening).
- Box material is NOT stock; call for availability
- Horizontal installation indicates the longer dimension (span) of the box is parallel with the ground. Vertical installation indicates the span is perpendicular to the ground.
- Boxes may be stacked and used as manholes; call for details. Approved drawings are required before manufacture.
- All rough cut, cored or formed holes, rake out sections, wiers or cast in baffles are extra; call for pricing. Approved drawings are required before manufacture.
- Minimum fill height (over top of box) is 1.2m. Shallower burials are possible but extra charges may apply and are subject to approval by design engineer. Call for details.
- Butyl joint sealant may be used in manhole applications. Extra measures by the contractor may be necessary to achieve water tightness in the joints.

Miscellaneous

DESCRIPTION	WEIGHT kg/ea	PRICE \$/ea
Straps (Straight & Bent)	2	
Anchors	1	
8 Ton Clutch	3	
4 Ton Clutch	3	
Aluminum Ladder Rungs		
Catch Basin Hood (plastic) c/w pin	1	
Sulphate Resistant Cement (bag)	40	

Notes: 1) Prices are provided as a guide for estimating and are subject to change without notice.

PRECAST HYDRANT BLOCKS

HYDRANT BLOCK DIMENSIONS	WEIGHT kg/ea	PRICE PER BLOCK \$/ea
450mm x 450mm x 150mm	72	

Notes: 1) Prices are provided as a guide for estimating and are subject to change without notice.
2) Hydrant blocks manufactured with Type HS(50) high sulphate-resistant hydraulic cement.



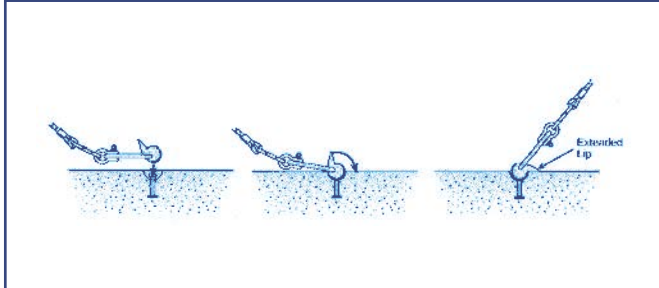
THE **NEW** CONCRETE PIPE

Strong. Durable. Versatile.

And now we're even better. Our advanced manufacturing methods, concrete mix designs, and vastly improved joint designs and gaskets provide superior products for wastewater collection systems and underground utility installations.

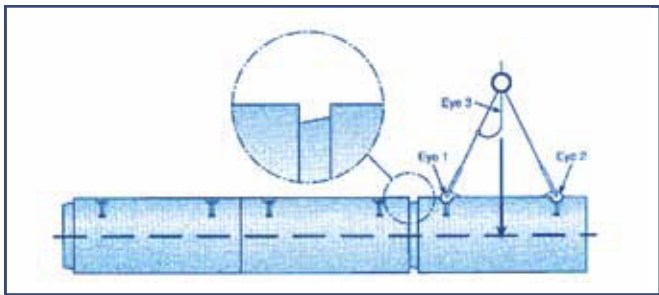
Swift Lift Pipe

How to Use the Swift Lift Universal Lifting Eye



1. To install the P-50 Universal Lifting Eye, hold the unit upside down with the T-shaped slot of the body directly over the head of the swift lift anchor.
2. Lower the body of the lifting eye until the T-shaped slot engages the head of the anchor.
3. Rotate the body until the extended lip of the body touches the concrete surface.

How to Lift Pipe Using Swift Lift

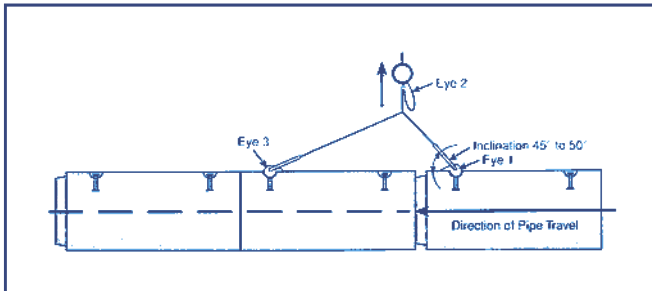


1. The pipe is first transported to the installation site with the symmetrical sling and lowered close to the already placed pipe .

Note: a) As with lifting any concrete element, special care should be taken by the driver of the placement vehicle to ensure that the impact or dynamic loads are reduced to a minimum. Because these loads can greatly increase the weight of the element, this safety note should not be overlooked.

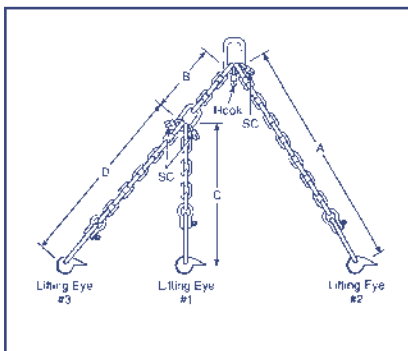
b) Load must be applied simultaneously to all Swift Lift Anchors in order to safely lift product.

Correct Method for Homing the Pipe Together



1. To pull the pipe into position, the long leg of the hoisting gear is coupled to the previously placed pipe.
2. Eye 2 is disconnected from the swift lift anchor and attached to master link.
3. Eye 3 is then connected to the pipe you will be homing to.
4. Crane or backhoe operator must ensure the lifting point is over the outer lifting anchor of the previously placed pipe so that the direction of pull is slightly inclined toward placed pipe.
5. Operator must then lift up on the hoisting gear until pipe is homed together.

Hoisting Gear Information



HOISTING GEAR LEG DIMENSIONS			
A	B	C	D
1440mm	400mm	1040mm	1940mm
(57")	(16")	(41")	(76")

• The measurements listed above are for pipe 1.5m to 2.5m in length.

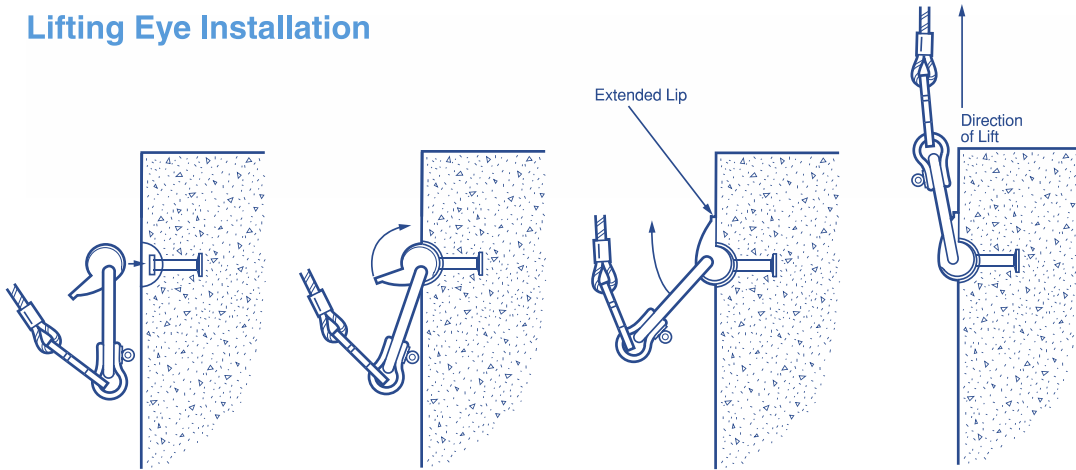
Notes:

1. Swift Lift anchors are available in pipe sizes 1050mm and larger.
2. Pipe 1050mm to 1650mm use the 4 ton lifting eye and pipe 1800mm and larger use the 8 ton lifting eye.
3. Manholes 1200mm to 1800mm use 4 ton lifting eye and Manholes 2100mm and larger use the 8 ton lifting eye.

Swift Lift

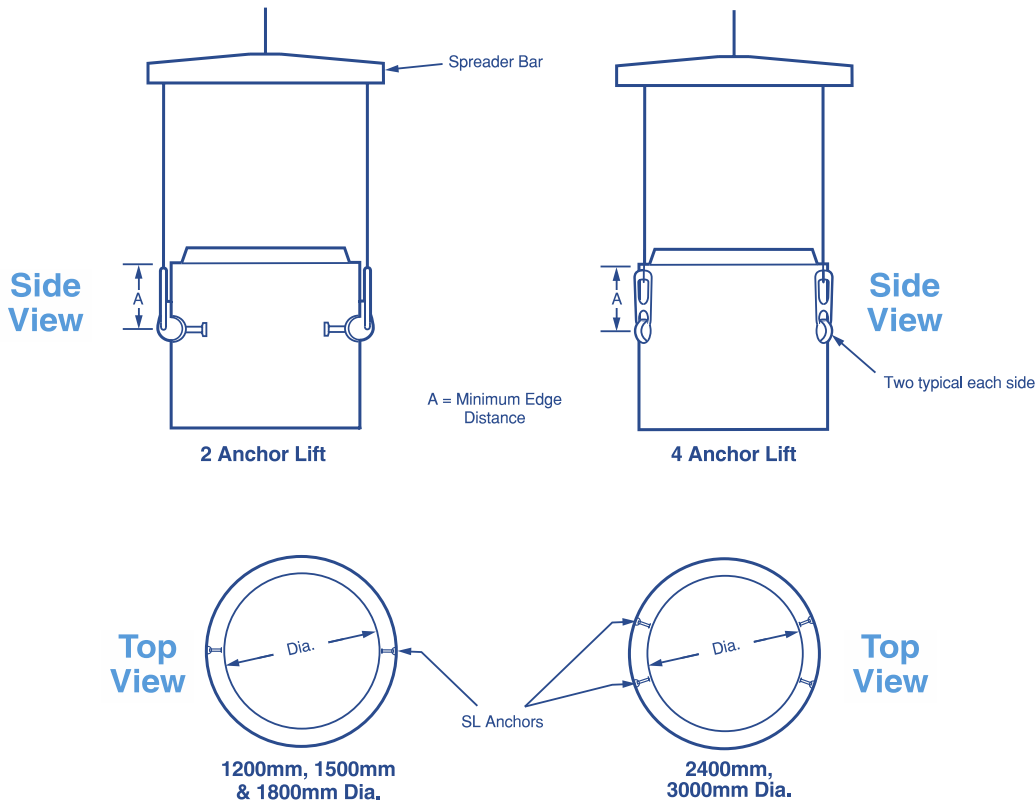
Manhole / Riser Material

Lifting Eye Installation



Note: Direction of extended lip should be in the direction of lift.

How to Use the SL Universal Lifting Eye



Note: Load must be applied simultaneous to all Swift Lift Anchors in order to safely lift product.
Contact INLAND for more information.

Standard Installations

TECHNOLOGY LEADS TO STATE-OF-THE-ART BEDDINGS

These four new Standard Installations represent the first major change in the recommended installation of concrete pipe in over 70 years. Many changes have taken place in the design, manufacture and construction method over the years, but none regarding recommended beddings for concrete pipe. The new beddings are state of the art installations based on over 20 years of comprehensive research and analysis of the factors which affect field performance.

The four new installations reflect the many factors affecting the pipe-soil system. The research recognized the difficulty in obtaining good compaction in the haunch area below the pipe and assumed poorly compacted material in this area. One of the key factors affecting performance, identified by the research, is the support provided by the haunch and lower side area adjacent to the pipe. Because of its importance, the new beddings quantify the required compaction levels in this area. Improved backfilling procedures, compaction methods and introduction of modern testing equipment provide engineers the opportunity to use these new state of the art installations.

A bedding constructable in the underground utility environment is a necessity. There are more reasons for the new standard beddings. They are verifiable and quantifiable. The means to construct the beddings and the technology to measure the compaction levels are readily available.

If the pipe is installed in a trench or in a sub-trench within an embankment, the soils in the walls of the trench should have a firmness equivalent to the stiffness of the placed soils. This provision may require removal of soft soil, or soil with inadequate stiffness in the walls or foundation of the trench adjacent to the pipe.

STANDARD INSTALLATIONS

These new Standard installations identify four principal zones surrounding the lower half of the pipe, which are critical to the pipe-soil system. The four zones are the middle bedding, the outer bedding, the haunch and the lower side. The type of material (based on soil characteristics) and level of compaction varies with the installation type, i.e., 1,2,3 or 4, and the material utilized in construction of these important zones.

Installation - Type 4 Type 4 is intended for installations where the most cost effective design approach is to specify the minimal requirements for soil type and compaction, together with a pipe having sufficient strength to safely resist the increased structural effects that result from using low quality soils. Thus, Type 4 has little or no requirement for control of compaction and type of placed soil used in the bedding and haunch areas, except if silty clay soils are used in the haunch and outer bedding zones, they must be compacted. It is desirable to scarify (loosen) hard native soils before placing the pipe.

Installation - Type 3 Type 3 permits the use of soils in the haunch and bedding zones having easily attained compaction requirements, justifying less stringent inspection requirements with granular and some native soils. Silty clays may be used in the haunch zone if adequately compacted. In addition to the foundation similar to Type 4, a bedding layer with a minimum thickness of 75 millimeters is required to avoid placing the pipe directly on hard or variable subgrade.

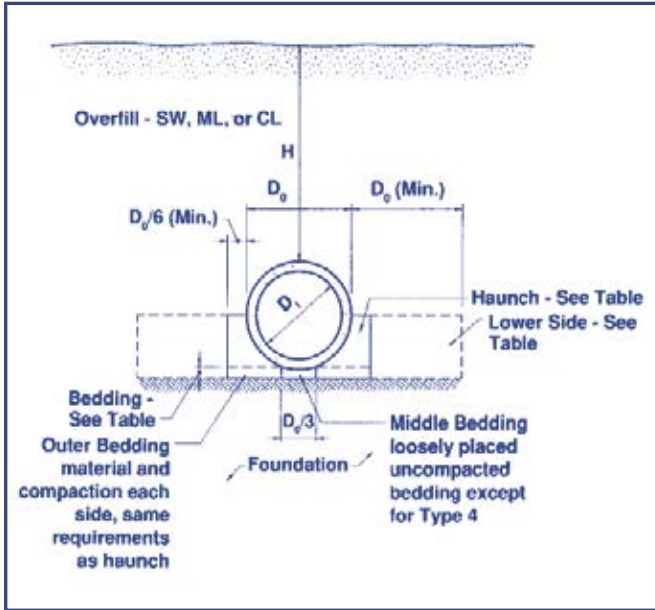
Installation - Type 2 Type 2 is a standard installation where certain native soils are permitted to be used with proper compaction in the haunch and bedding zones. Adequately compacted native silty granular soils or select granular soils may be used in the haunch and outer bedding zones. This is intended to allow the use of soil frequently found at the site. Any natural soil adjacent to the pipe should have a firmness equivalent to the placed soils. Foundation and bedding requirements are similar to Type 3.

Installation - Type 1 Type 1 requires well compacted, select granular soil to be placed in the haunch and bedding zones. The structural design of the pipe section then takes advantage of the support provided by this high quality soil envelope, making this installation often cost effective for deep bury applications and for pipe 600 millimeters and larger.

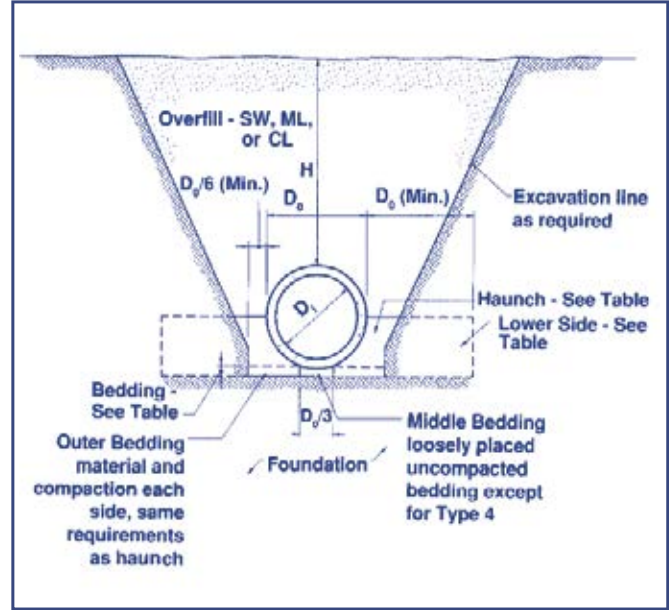
Reprinted with the permission of the American Concrete Pipe Association, © 1999, ACPA.

Standard Installations

EMBANKMENT



TRENCH



INSTALLATION TYPE	Standard Installation Soil Types and Minimum Compaction Requirements		
	Bedding Thickness	Haunch	Lower Side
TYPE 1	$D_o/24$ minimum, not less than 75 mm (3 in). If rock foundation use $D_o/12$ minimum, not less than 150 mm (6 in).	95% SW, SP, GW, GP	90% SW, SP, GW, GP 95% GM, SM, ML, GC, SC* 100% CL, MH, GC, SC
TYPE 2	$D_o/24$ minimum, not less than 75 mm (3 in). If rock foundation, use $D_o/12$ minimum, not less than 150 mm (6 in).	90% SW, SP, GW, GP 95% GM, SM, ML, GC, SC*	85% SW, SP, GW, GP 90% GM, SM, ML, GC, SC* 95% CL, MH, GC, SC
TYPE 3	$D_o/24$ minimum, not less than 75 mm (3 in). If rock foundation, use $D_o/12$ minimum, not less than 150 mm (6 in).	85% SW, SP, GW, GP 90% GM, SM, ML, GC, SC* 95% CL, MH, GC, SC	85% SW, SP, GW, GP 90% GM, SM, ML, GC, SC* 95% CL, MH, GC, SC
TYPE 4	No bedding required, except if rock foundation, use $D_o/12$ minimum, not less than 150 mm (6 in).	No compaction required, except when CL, MH, GC, or SC soil types are used to compact to 85%	No Compaction required, except when CL, MH, GC, or SC soil types are used compact to 85%

- The percentages listed above refer to standard proctor compaction levels
- The soil types above (ie. SW, GM) are taken from the Unified Soil Classification System (USCS)
- SC* indicates SC type soil with less than 20% passing the #200 sieve

Figure 2

Standard Installations

RESEARCH PRODUCES NEW INSTALLATIONS

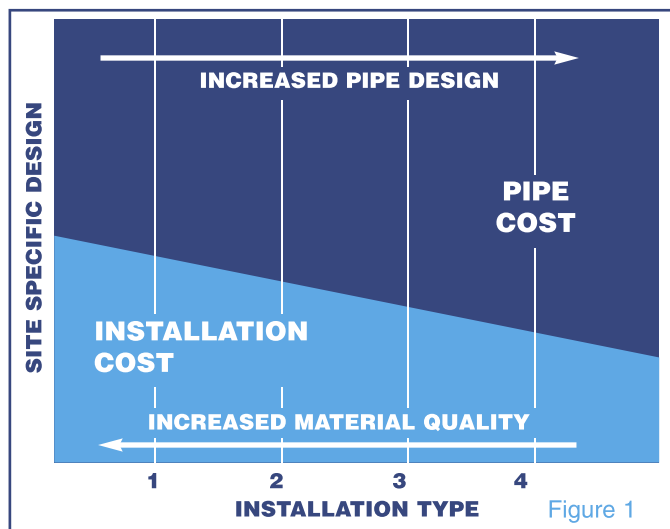
This foldout presents new installation technology with respect to concrete pipe through four unique standard installations developed over 20 years of investigation and research into the behavior of concrete pipe in the buried condition. The Standard Installations provide both the designer and the installer with measurable and verifiable soil types and compaction levels for the material used in the installation. These new installations facilitate the design of a rational and cost-effective concrete pipe soil system by providing an optimum range of installation characteristics.

Versatile: There is one word to describe the new standard installations, and that word is **VERSATILITY**. The range of installation types from 1 through 4 offer a concrete pipe designer the ability to tailor any individual project to suit specific site conditions and budgetary constraints.

In a Type 1 installation for example, the soil zone adjacent to the pipe and below the springline requires select materials with specified compaction limits. Through the use of this controlled soil envelope, a wide load distribution is achieved. In other words, a Type 1 installation uses this select material as an advantage in the design of the whole system—a situation which translates to a lesser dependence on inherent pipe strength, and therefore lower pipe material costs when compared to the same site with a lower quality installation.

On the other end of the spectrum, in areas where native material is suitable, but perhaps not of the highest grade (silts and low plasticity clays), a Type 4 installation can be chosen by the designer. This installation type requires little or no inspection, almost no compaction requirements on the material, and the versatility to use almost any type of native soil as backfill in the trench. The trade-off here is reduced backfill material costs, and greatly reduced installation costs in terms of manpower required, but greater dependence on inherent pipe strength.

Figure 1 illustrates this versatility in a graphical manner. Looking at a Type 1 installation, it can be seen that the dependence on installation is significant in comparison to the dependency on the pipe section.



Conversely, in a Type 4 installation, a greater percentage of total dependency resides in the pipe section, while very little dependency is associated with material and installation. This graph is not meant to say that all four installation types are equivalent in terms of the total costs. By evaluating the ratio of pipe cost to backfill material cost, the four new standard installations can be used to optimize total expenditure by balancing the performance of the pipe-soil system.

Conservative: The design associated with the Standard Installations is founded in conservatism. The loads and pressures experienced by the pipe in the installed condition have been analyzed in depth and modeled through the use of the finite element analysis computer program, SPIDA (Soil-Pipe Interaction Design and Analysis). The SPIDA analyses are based on several key assumptions:

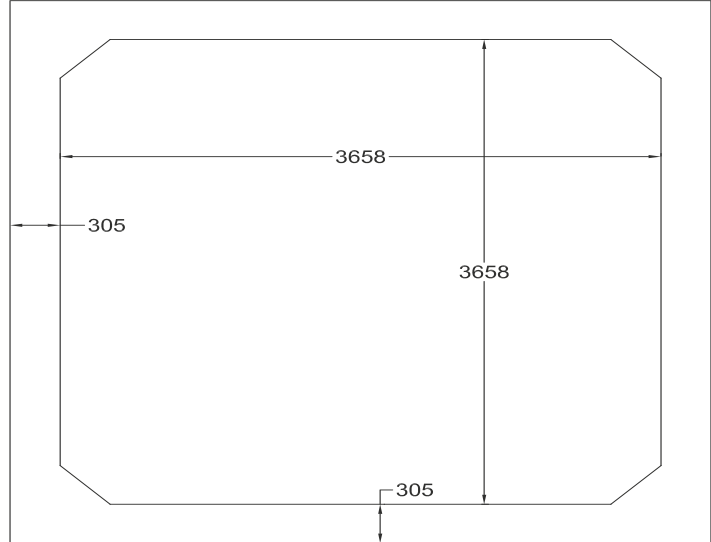
1. The worst case (embankment) loadings are used, and the same load factors used in the traditional AASHTO direct design procedure are still employed.
2. Voids are assumed to exist in the haunch zone of all four installation types. These voids are modeled into the SPIDA computer simulations used in the development of the design procedure.
3. In recognition of the variability of the loading characteristics, the new installations are based on the greatest predicted loads for design. Typical loads would likely be 10-20 percent less.
4. Through quantification of material and compaction requirements, a degree of uncertainty has been eliminated from the design assumptions – the new installations can, therefore, more accurately assess long-term performance of the system.

The new installations allow for better prediction of the loads and pressures which a pipe may experience during its life.

Quantifiable: One of the greatest benefits of the new installation types is that they are quantifiable, that is, they prescribe definite and measurable levels of acceptance. As is indicated in Figure 2, each of the new installations has specific materials requirements, and accompanying compaction levels, making them uniquely different, and prescribing clear and defined direction to the installer as to the requirements of a particular installation. These definitions provide direction to the engineer, owner, and contractor as to the installation factors impacting pipe performance.

New Product Applications

3660 x 3660mm Box Culvert

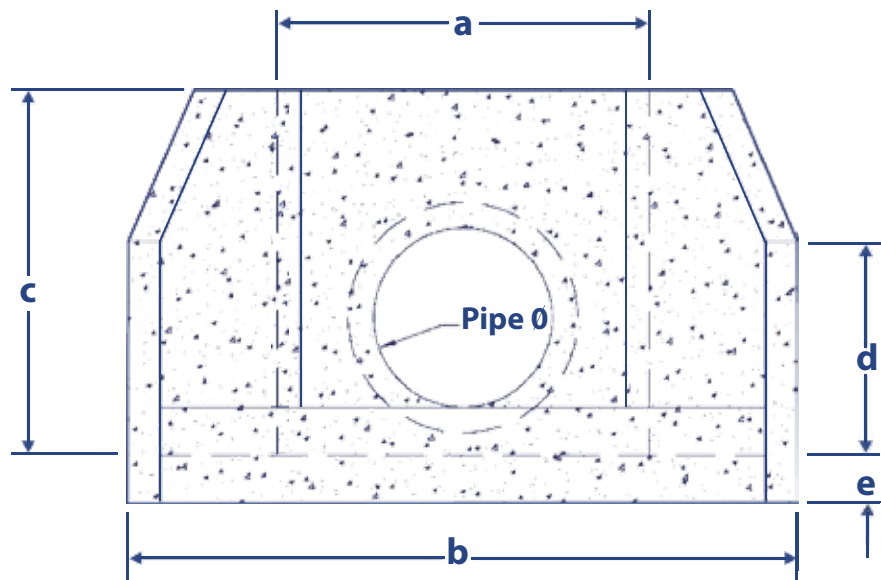


Inland Pipe’s 3660 x 3660mm box culvert can be used for a number of applications. Box sections can be used horizontally for culverts or storm water detention tanks and vertically for manholes, control structures and lift stations. See our box culvert section for more details.

Headwalls

Inland Pipe can now provide Headwall structures for large diameter pipe.

Please contact your Inland Pipe representative for more information.



TYPE	PIPE DIAMETER (mm)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
26-28	1500 - 1800	2955	4186	2540	1421	406
26-28	1950 - 2400	2955	4186	3226	2107	406

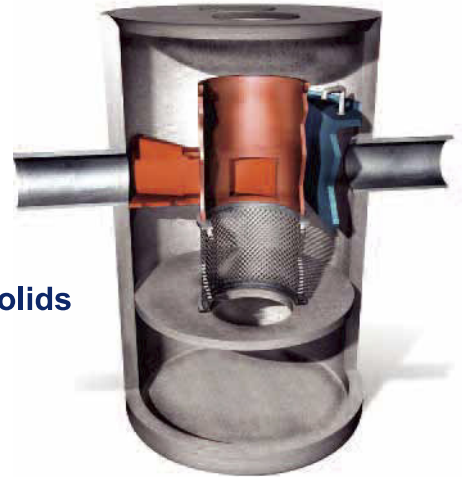
Storm Water Treatment CDS



THE SOLUTION TO WET WEATHER POLLUTION

Storm Water Treatment

- Utilizes a patented swirl concentrating, non-blocking, non-mechanical, screening process.
- Demonstrated ability to meet and exceed storm water treatment criteria implemented in North America.
- Captures and retains:
 - Suspended solids
 - Oil and grease
 - Floatables, neutrally buoyant debris and solids
- Comprehensive treatment flow range from 20 to 8490 L/s (0.7 to 300 cfs).
- No moving parts or power requirements.
- Small foot print.
- Easy annual maintenance.



Inland Pipe is proud to supply the **Continuous Deflective Separation (CDS) technology**. This swirl concentrating, non-blocking, non-mechanical screening process is uniquely suited to treat storm water runoff. It is entirely gravity driven, using the hydraulic energy available within the storm water flow. Through research and field application, this technology has been refined to successfully capture total suspended solids (TSS), sediments, oils and greases and trash and debris (including floatables and neutrally buoyant debris) under very high flow rate conditions. Once pollutants are captured within a CDS unit, they cannot escape. Clean-out maintenance is easily done on an annual basis.

For Specific drawings and more information, please visit our website or call your Technical Sales Representative.

With proven success and innovation, CDS has raised the standard of Storm Water, SSO & CSO Treatment around the world!

INLAND PIPE Spyhill Facility



The **most advanced** precast drainage material production facility in North America

In December of 2011 **Inland Pipe** completed the expansion of the Spyhill Pipe Production Facility located in Calgary. The Spyhill Plant is the most advanced precast drainage material production facility in North America.

The plant features:

- 127,000 sq.ft. of production area + offices
- High capacity pipe and manhole production equipment
- State of the art robotic pipe handling equipment
- Advanced concrete mixing systems
- Flying bucket concrete delivery system
- Large wetcast area
- Moving floor kiln system
- Capable of producing pipe, boxes and manholes up to 3600 mm



State of the art robotic pipe handling



High capacity automated production

INLAND PIPE

Working together to build our communities

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Vancouver, BC, V6P 4B8
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Office tel: 604 269 6700
Fax: 604 261 6751

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Fax: 306 789 7499

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2494 Ferrier St.
Winnipeg, MB, R2V 4P6
Toll Free tel: 1 877 WPG PIPE (974 7473)
Office tel: 204 334 4300
Fax: 204 334 7957

