



Precast **Headwall**

Installation Guide



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I. General

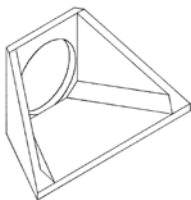
The Pre-Cast Headwall System is a monolithic reinforced concrete structure designed to be mechanically fastened to the pipe. The pre-cast Headwall is available in three sizes, 1500mm, 1900mm, and 2400mm and can accommodate reinforced concrete pipe (RCP) sizes from 300mm to 1500mm (See Table 1)

Table 1

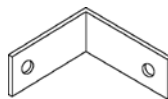
Headwall Size	RCP Size	Headwall Weight
1500 mm	600 mm	4700 kg
	750 mm	4550 kg
	900 mm	4400 kg
1900 mm	1050 mm	6300 kg
	1200 mm	6100 kg
2400 mm	1350 mm	8800 kg
	1500 mm	8500 kg

C O M P O N E N T S

- 1) Pre-Cast Headwall



- 2) Stainless Steel Connection Brackets (3 Required)



- 3) 1/2" – 2-1/2" UNC Stainless Steel Bolts (6 Required)

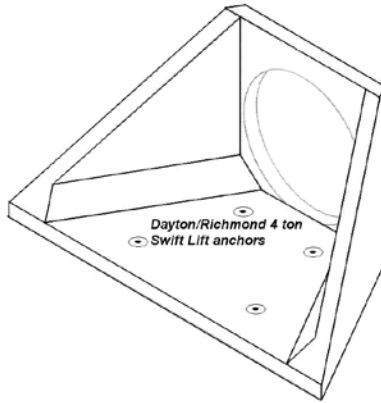


- 4) 1/2" Ø Stainless Steel Drop-In Anchor (6 Required)

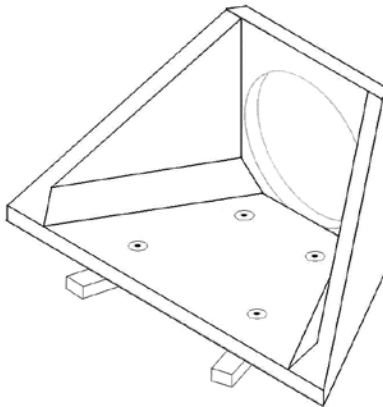


2. Handling, Storage & Transportation

Care must be exercised when handling and moving Pre-cast units. These units are heavy and their momentum is not easily restrained. The Pre-Cast Headwall is equipped with four “cast in” 4 Ton Dayton/Richmond Swift Lift Anchors that must **all** be utilized when handling.

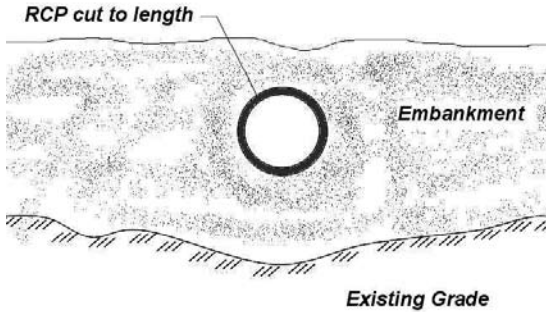


The pre-cast headwall unit must have at least two (2) pieces of dunnage under the width of the unit when stored or transported. This dunnage should be located under the lift anchor locations to minimize stresses on the structure.

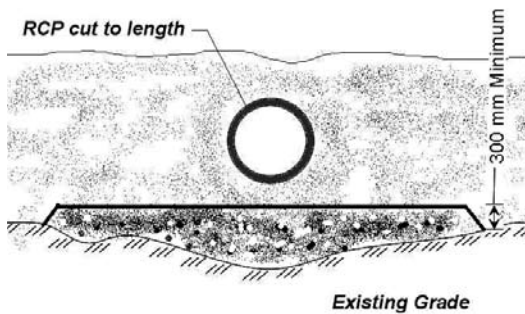


3. Construction and Installation

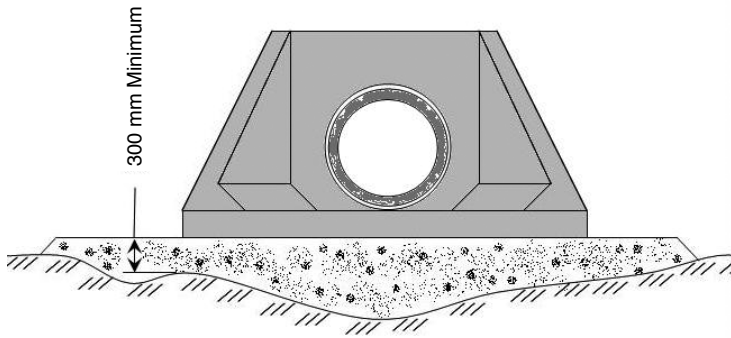
Cut and install the section of pipe that the headwall will encompass. Leave this last (or first) section of pipe free from backfill.



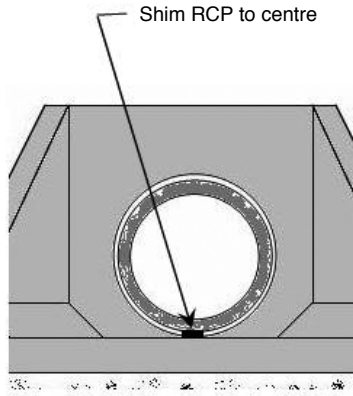
Place and compact a 300mm thick bed of free draining structural fill to the underside of the headwall elevation. Compact to a minimum allowable bearing capacity of 100 kPa.



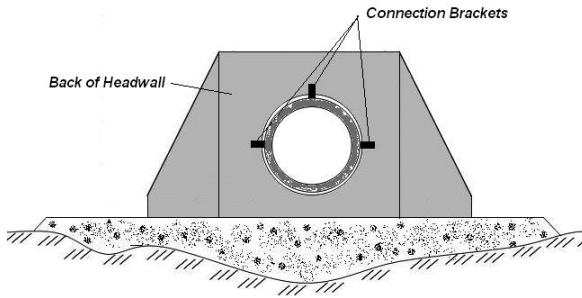
- Install Headwall onto end of RCP.



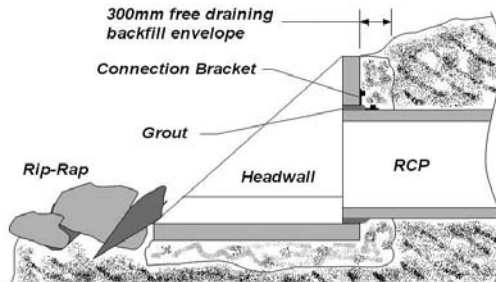
- Shim the bottom of the pipe so the pipe is centred in the headwall opening.



Using the Shaw supplied connection brackets, drop-in anchors and bolts, mechanically fasten the headwall to the pipe in three locations from the back of the headwall. These locations are the crown and the spring-line on each side of the pipe. **It is imperative that these brackets are installed as they are an integral part of the Shaw Pre-Cast Headwall System.**



- Using appropriate grout, fill in void between reinforced concrete pipe and headwall and also fill in lift anchor pockets.
- Backfill pipe section first and then proceed to backfill headwall. Maintain a 300mm wide envelope of free draining fill around headwall to drain groundwater.
- Place Rip-Rap around or in Headwall to provide adequate scour protection.
- Do not exceed a 1:2 slope (1, vertical : 2, horizontal) at the top of the headwall.
- If required, the galvanized grate is fastened to the Headwall with the appropriate hardware.





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