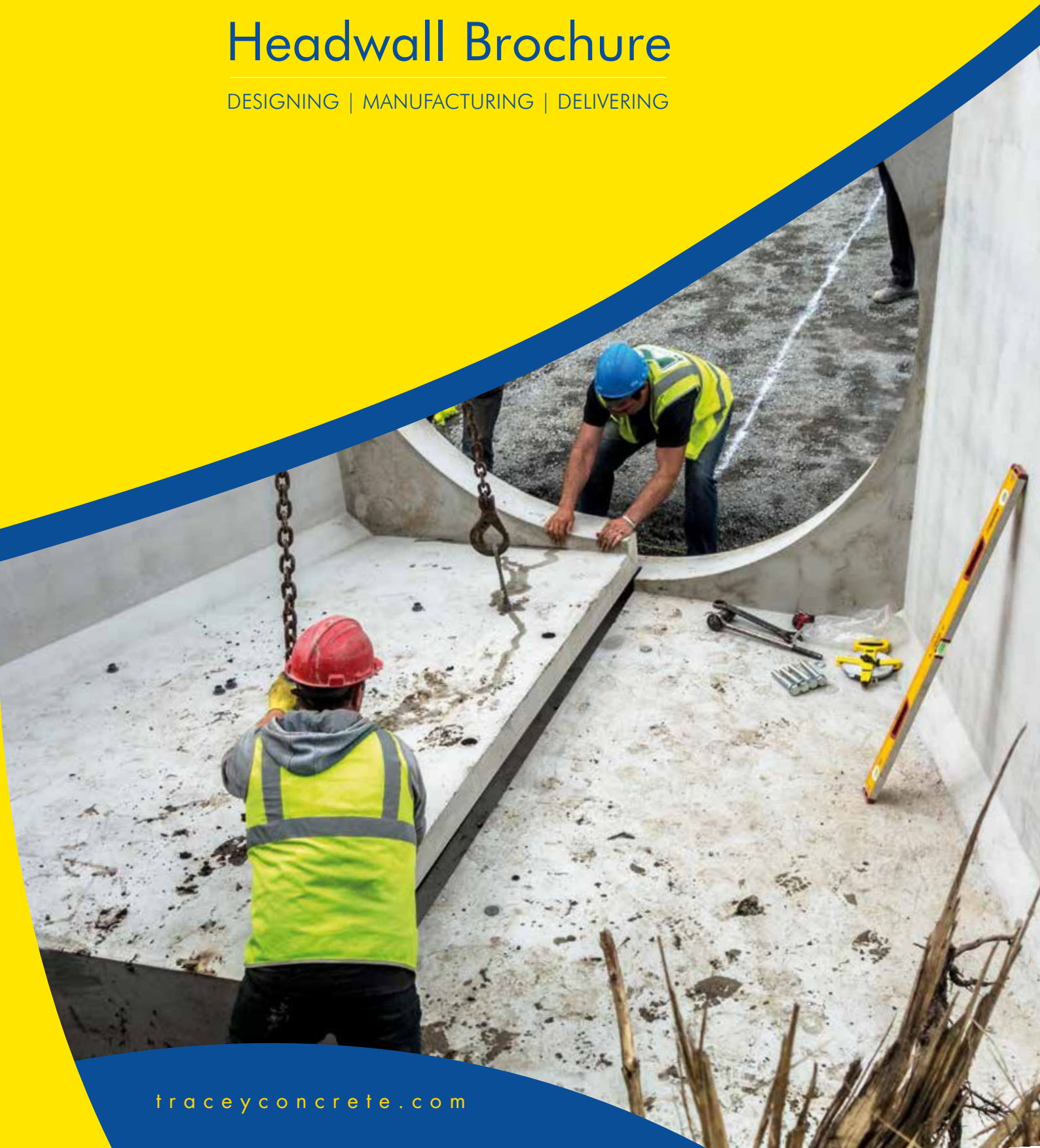




TRACEY
CONCRETE

Headwall Brochure

DESIGNING | MANUFACTURING | DELIVERING



traceyconcrete.com

Tracey Concrete is one of the largest precast concrete manufacturers in the UK and Ireland.

Tracey Concrete’s success has been built on the consistent quality of our products, efficient delivery and outstanding customer service. With our vast experience and expertise in the construction industry, we have been able to design and supply precast concrete products for some of the biggest projects in the UK and Ireland.

Our products comply with all necessary certifications and are accredited with the most up to date UK and European standards, with the relevant products being BSI kitemarked and CE marked.

WE SPECIALISE IN

- Precast Concrete Drainage Systems
- Precast Tunnelling Systems
- Infrastructure Precast
- Precast Concrete Fencing
- Agricultural Precast
- Ready-mix and Liquid Screed Concrete
- House Building Materials
- Quarry Products



Tracey Concrete's Precast Drainage Factory - Enniskillen

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Tracey Concrete's Production Facilities



1. ENNISKILLEN

Tracey Concrete Enniskillen is our head office and main production facility from where the business was founded. The company started back in the 1960's as a readymix plant supplying local construction & agri projects. Over the years it has grown in size and now the site spans over 50 acres which includes a state of the art precast concrete factory, precast stock and loading yard and readymix batching plant.



2. BELCOO



In 2018, Tracey Concrete acquired the expansive 200-acre Belcoo Quarry only 9 miles from Enniskillen. Our vision for the site has materialised into a thriving production factory producing precast drainage & fencing products. The quarry is our source of raw materials where we produce our sand & stone. We are committed to enhancing its sustainability by introducing renewable energy sources, such as a wind farm, to power our operations.

3. STANTON

Acquired recently in 2023, Tracey Concrete Stanton is strategically situated in the heart of England, nestled in Stanton by Dale, Derbyshire. This expansive production facility has effectively doubled our production capacity, enabling us to better cater to the UK drainage market through swifter deliveries and increased output capabilities. The site has space of expansion we hope to build new factories and add new modern machines and continue to expand and grow.



HEADWALLS DN150 - 2100

Designed in accordance with Eurocode 2 & Eurocode 7 we manufacture a wide range of precast concrete Headwalls in various sizes to suit any type of pipe connecting into open water areas including collection ponds and rivers. Concrete headwalls can preserve the surrounding environment by reducing erosion at the outfall connection.

HEADWALLS / DN150 - 2100

Sizes	Openings (mm)	To Suit Pipe Sizes (mm)	Wall Thickness (mm)	Approx Weight (KG)	Lifting Equipment	Product Code	Stock / Special
Small	190 - 640	150 - 450	150	1500	4No RD24 Lifting Loops	SMHW	Stock
Medium	640 - 990	450 - 750	150	2460	4No RD30 Lifting Loops	MEHW	Stock
Super Medium	640 - 990	450 - 750	150	3600	4No RD30 Lifting Loops	SUMH	Special
Super Medium (Ext)	640 - 990	450 - 750	150	5100	4No RD30 Lifting Loops	SUME	Special
Large	640 - 1320	450 - 1050	150	3460	4No RD30 Lifting Loops	LAHW	Stock
Super Large	640 - 1160	450 - 900	150	5300	4No RD30 Lifting Loops	SLHW	Special
Super Large 2 Piece	640 - 1160	450 - 900	150	Part A: 4650 Part B: 4650	4No RD30 Lifting Loops	SLHT	Special
XL	1320 - 1900	1050 - 1200	250	Part A: 6000 Part B: 6000	3No 10T Shackles	XLHW	Stock
XXL	1510 - 2500	1200 - 2100	250	Part A: 8000 Part B: 8000	3No 10T Shackles	XXHW	Special

Weights of headwall may vary depending on opening size
PDF and DWG drawings are available to download from www.traceyconcrete.com

OPTIONS AVAILABLE

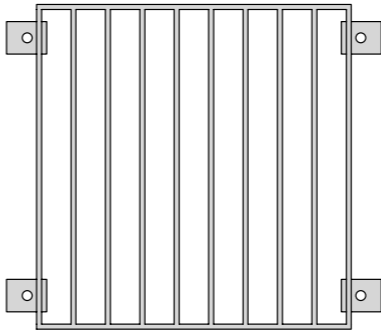
- Hand railings, gratings, flap valves and weir walls
- Special toe pieces
- Bespoke Headwalls manufactured on request
- Water proofing on request
- Box culvert headwalls
- Full drawing designs and calculations provided



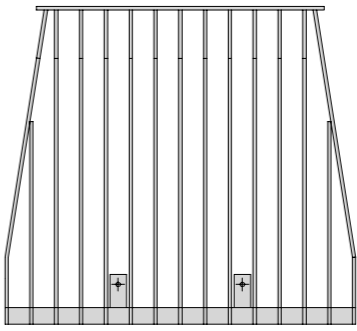
ADVANTAGES

- Simple & fast installation
- 120 year design life
- No on-site shuttering required
- Complete off-site solution
- No part-load charges for readymix concrete
- Prevents soil erosion

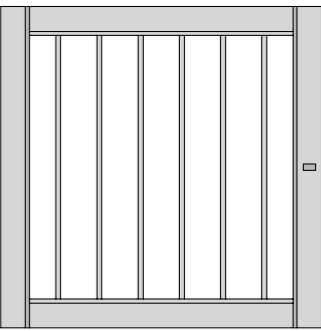
HEADWALL GRATINGS DN150 - 2100



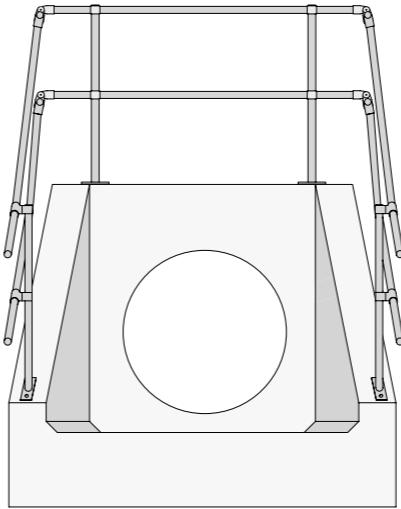
Standard Grate



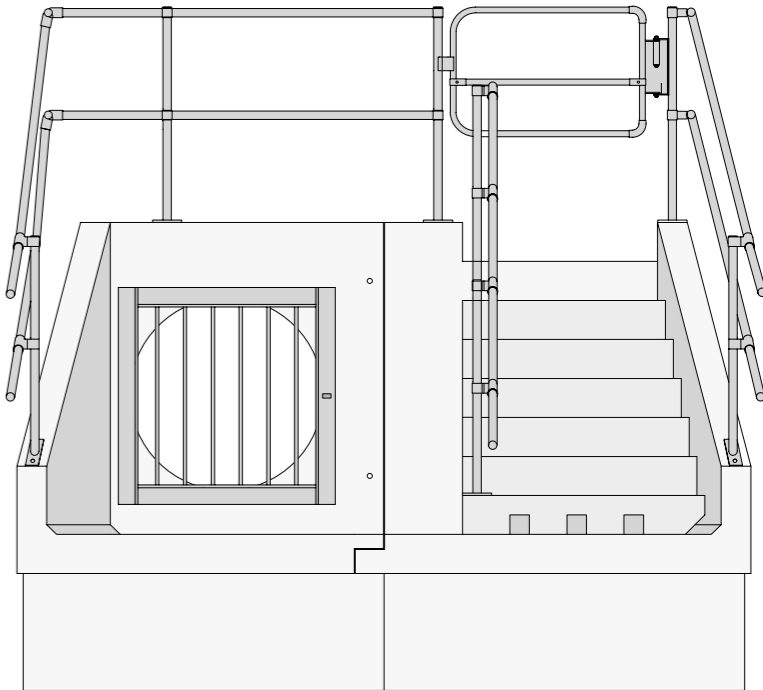
Cranked Grate



Hinged Grate



Handrails



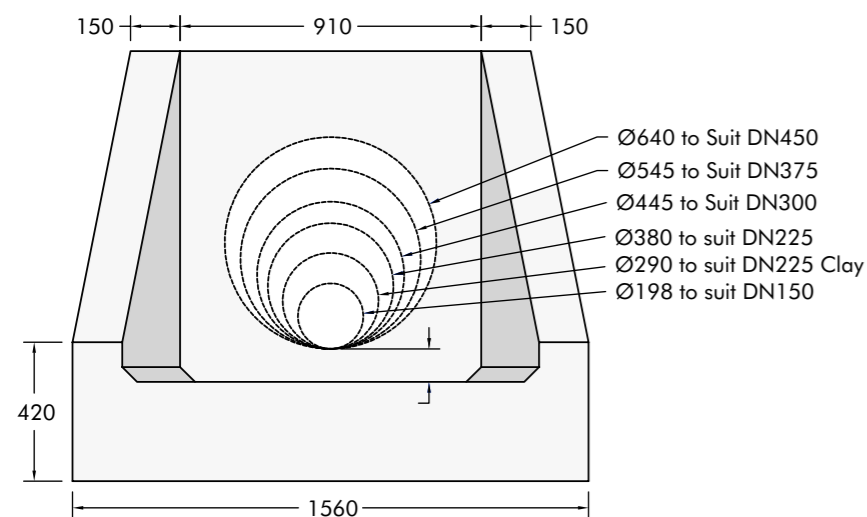
Steps & handrails & extended toe piece



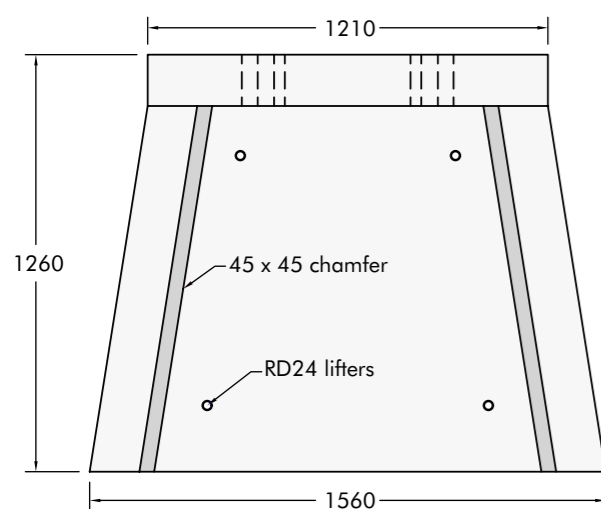
Tracey Concrete Sewers for Adoption precast headwalls should be used when part of a Section 104 Agreement and the sewers are to be adopted once completed by the local Water Company. The materials used and installation must comply with the 'Sewers for Adoption' guidelines. Adjustable options to meet SFA:

- Backwall heights
- Single or multiple pipe openings
- Specifiable pipe invert levels

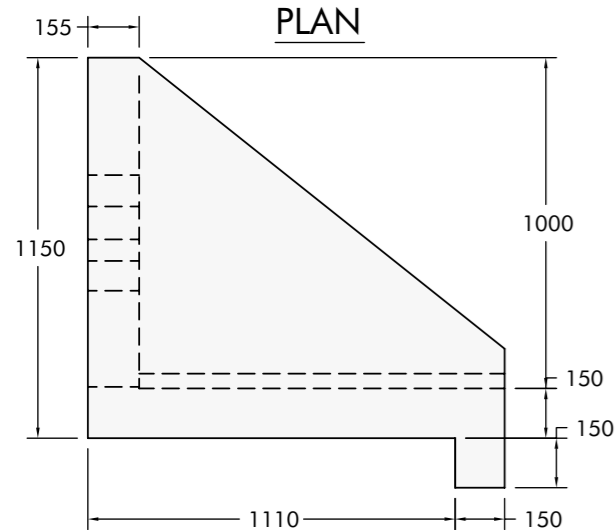
SMALL HEADWALL DN150 - 450



FRONT ELEVATION



PLAN



SIDE ELEVATION

Opening	Approx Weight	Product Code
DN150	1430KG	SMHW0150
DN225	1418KG	SMHW0225
DN300	1404KG	SMHW0300
DN375	1375KG	SMHW0375
DN450	1344KG	SMHW0450

Lifting Equipment



4No RD24 Lifters Required



Small Headwall, hand railings & grate installed

Opening	Approx Weight	Product Code
DN450	2556KG	MEHW0450
DN525	2530KG	MEHW0525
DN600	2479KG	MEHW0600
DN675	2446KG	MEHW0675
DN750	2430KG	MEHW0750

Lifting Equipment



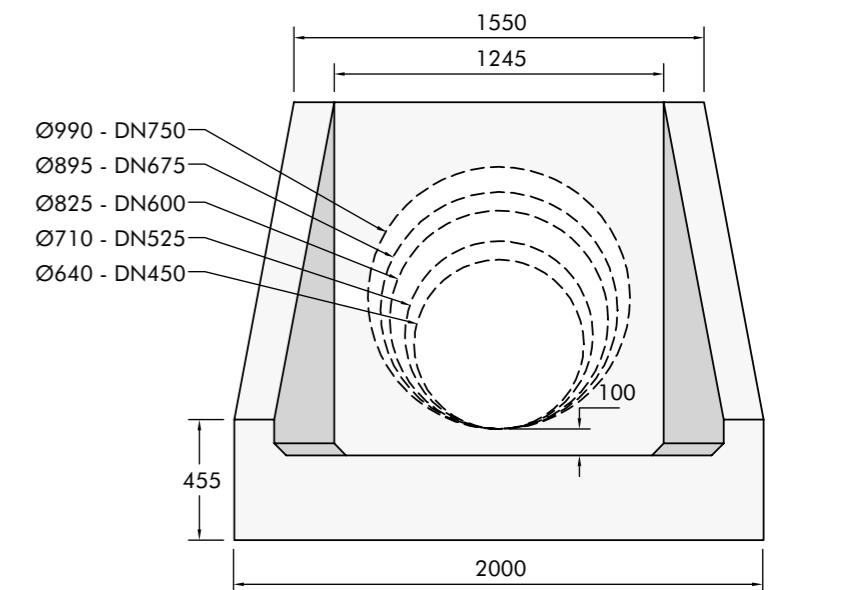
4No RD30 Lifters Required

Bespoke headwalls from DN150 - DN750 can be manufactured

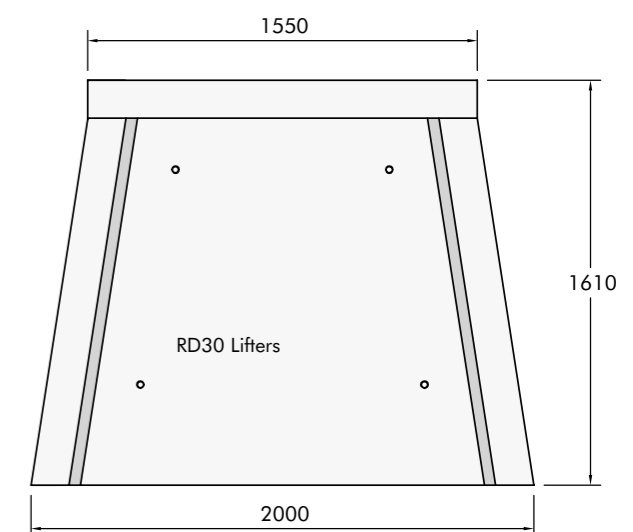


Medium Headwall installed with hand railings fitted

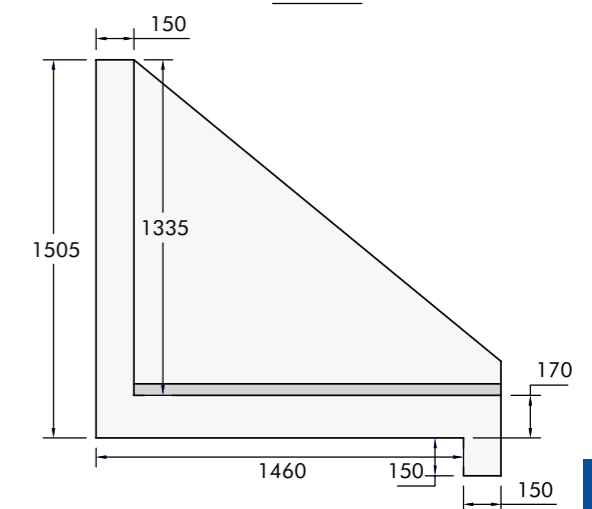
MEDIUM HEADWALL DN450 - 675



FRONT ELEVATION

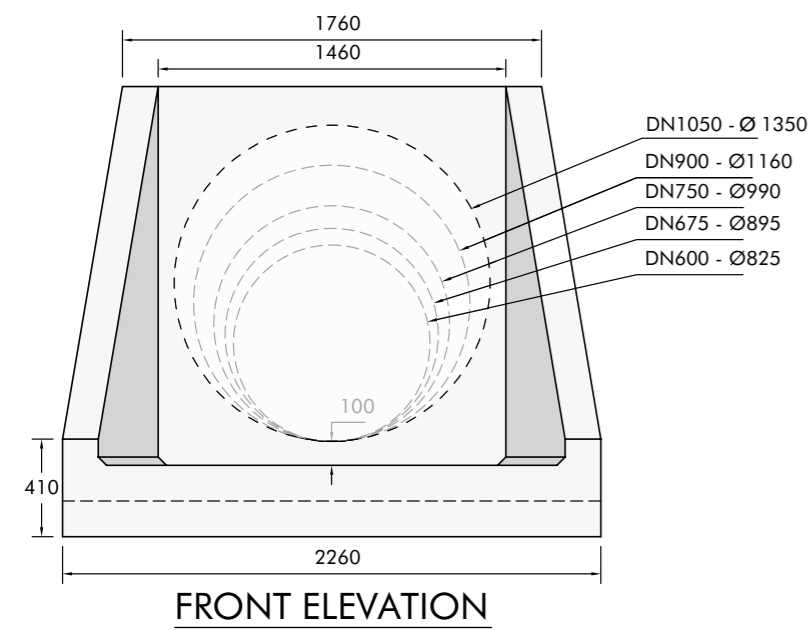


PLAN



SIDE ELEVATION

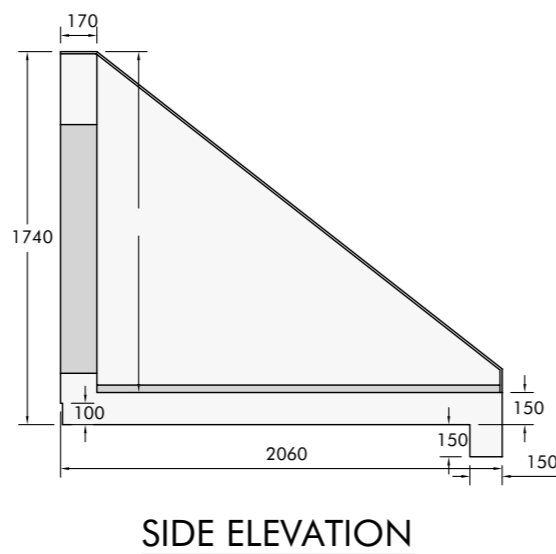
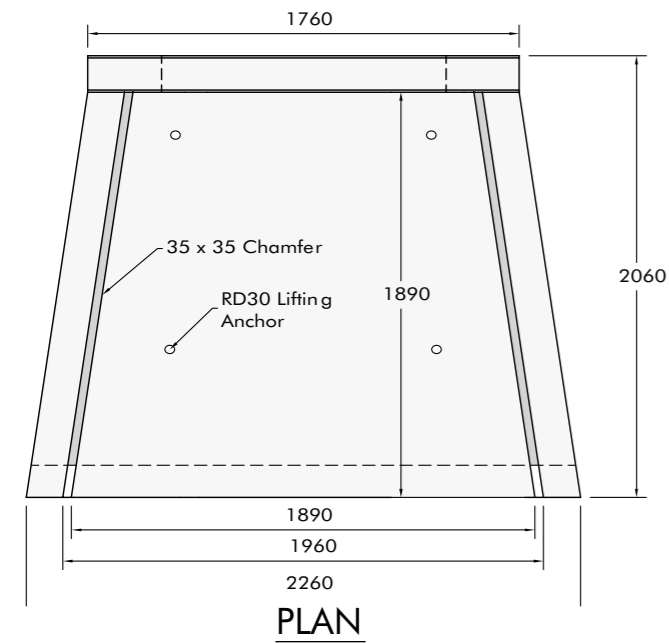
LARGE HEADWALL DN600 - 1050



Opening	Approx Weight	Product Code
DN600	3590KG	LAHW0600
DN675	3560KG	LAHW0675
DN750	3500KG	LAHW0750
DN900	3400KG	LAHW0900
DN1050	3280KG	LAHW1050

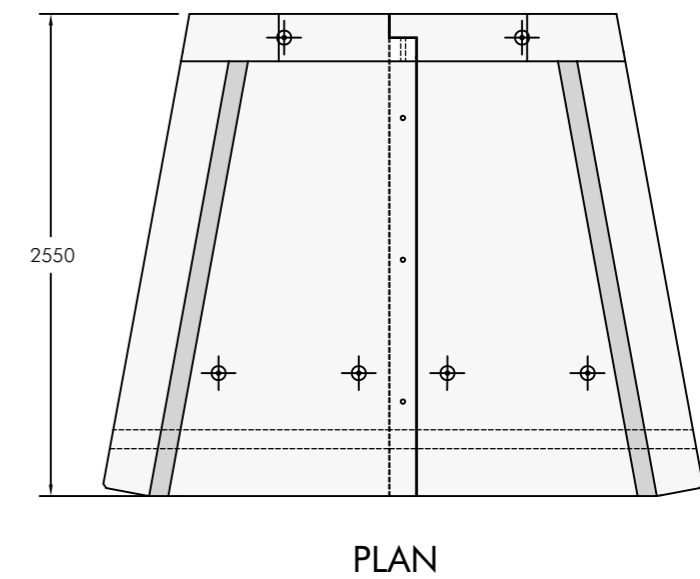
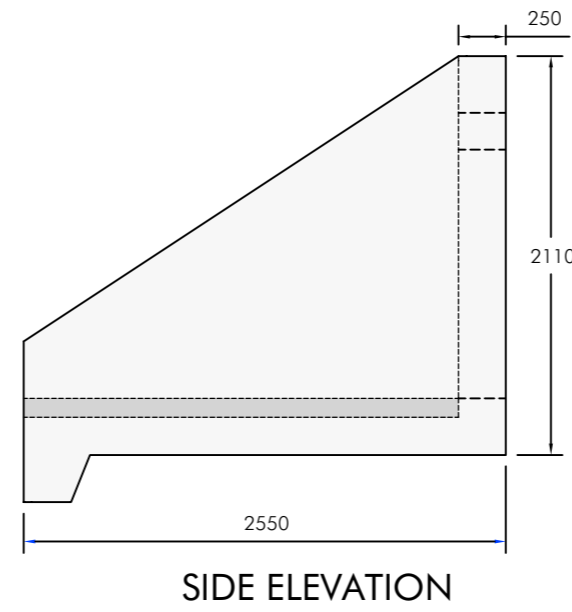
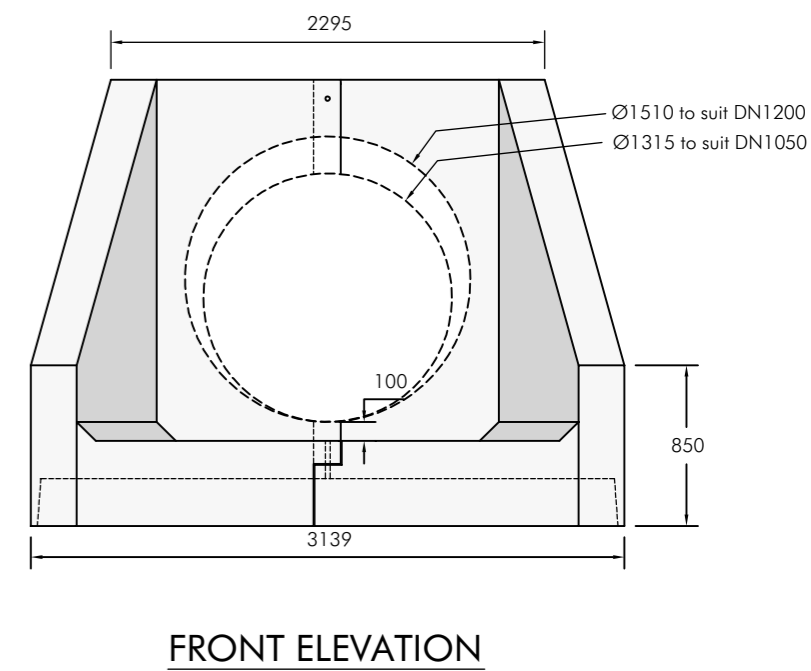


Bespoke headwalls from DN150 - DN1050 can be manufactured



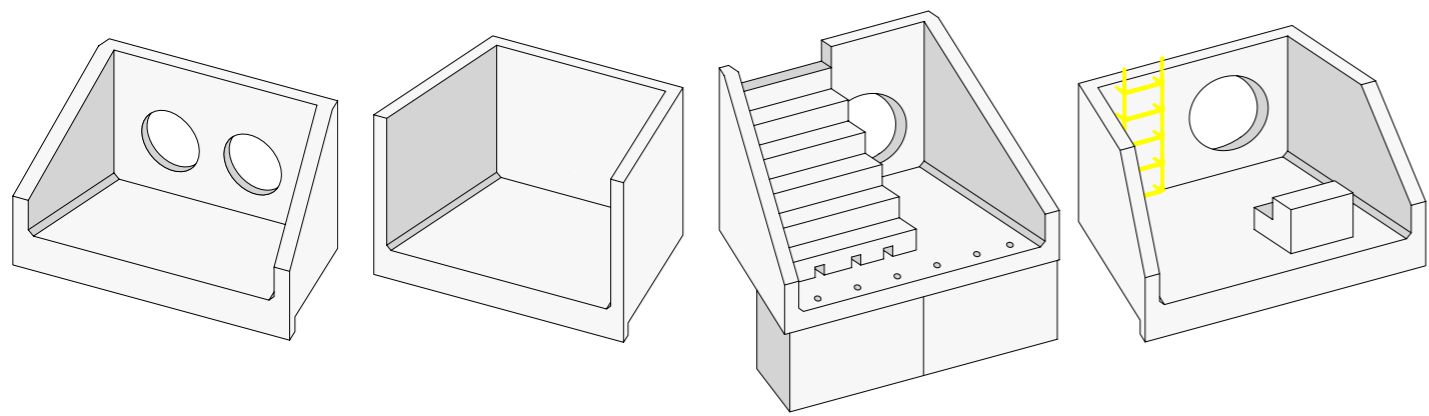
XL HEADWALL DN1050 - 1200

Opening	Approx Weight
1050	12350KG
1200	12140KG



INTRODUCING OUR SUPER HEADWALL RANGE

Introducing our exclusive Super Headwall Range, crafted with precision for the diverse needs of the UK market. Our bespoke headwalls are designed to accommodate a wide range of configurations, featuring openings, steps, ladders, and railings tailored to your exact specifications. Manufactured individually from approved drawings, our Super Headwalls meet the stringent requirements set by water agencies and sewers for adoption across the UK.

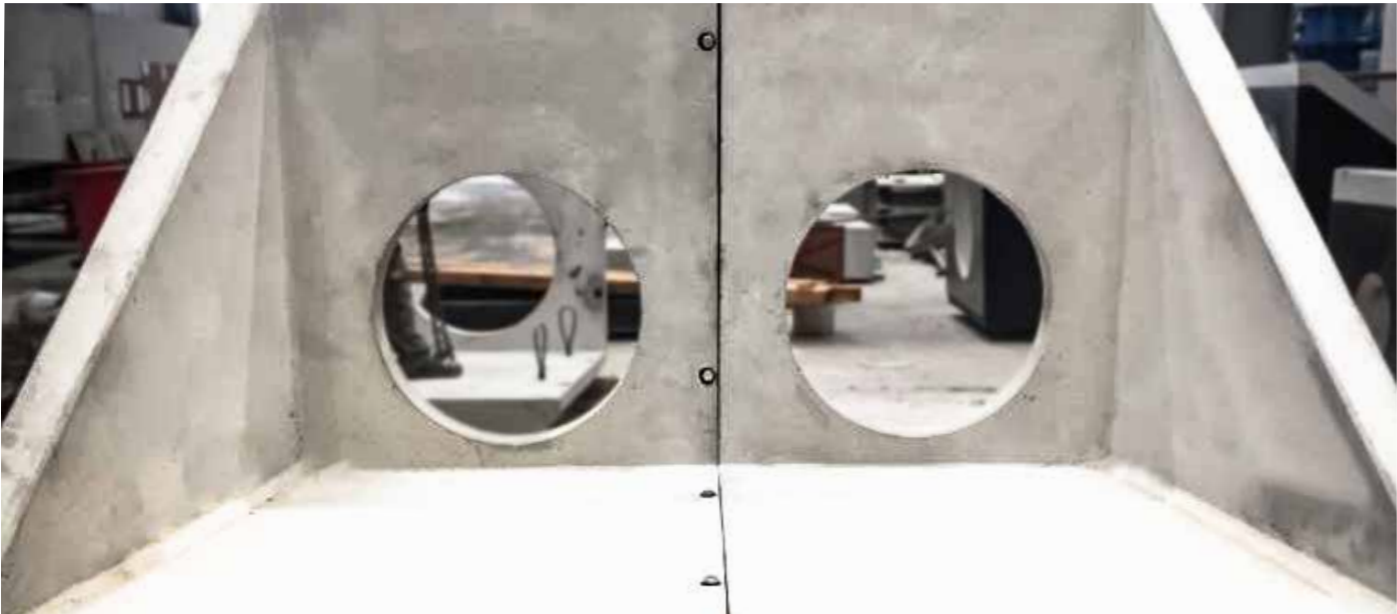


OPTIONS AVAILABLE

- Hand railings, gratings, flap valves & baffle blocks
- Precast stairs, ladder & rung options
- Special toe pieces
- Multiple wing wall options
- Multiple openings cast in single headwall
- Full drawing designs and calculations provided

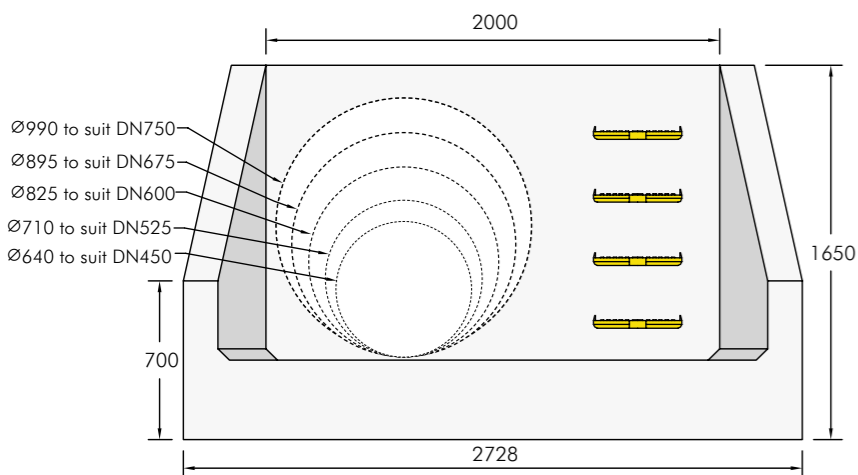
ADVANTAGES

- Simple & fast installation
- 120 year design life
- No on-site shuttering required
- Complete off-site solution
- No part-load charges for readymix concrete
- Prevents soil erosion

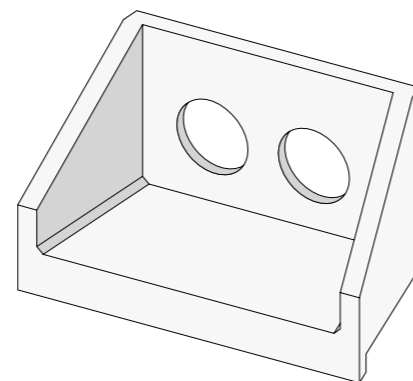


SUPER MEDIUM HEADWALL

Super Medium Headwalls are bespoke, they can be manufactured up to 2m in width. Made to order they can be customised so suit many multiple options and configurations as shown below. Made in one piece they do not have to be fitted / bolted together on-site saving time and costs.



Opening	Product Code
DN450	SUMH0450
DN525	SUMH0525
DN600	SUMH0600
DN675	SUMH0675
DN750	SUMH0750
Lifting Equipment	

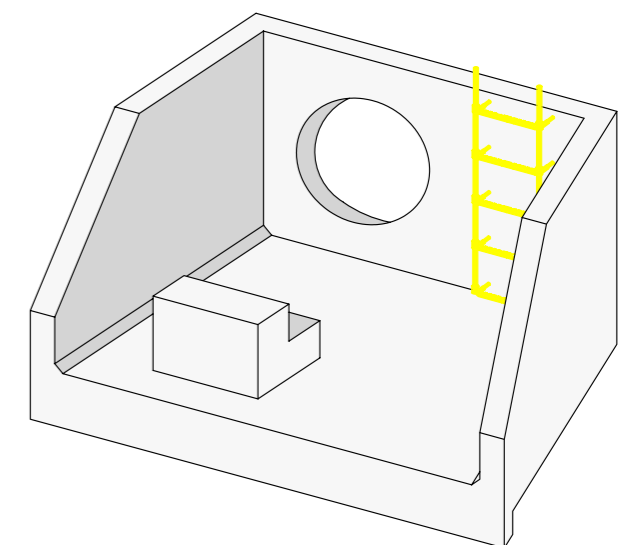
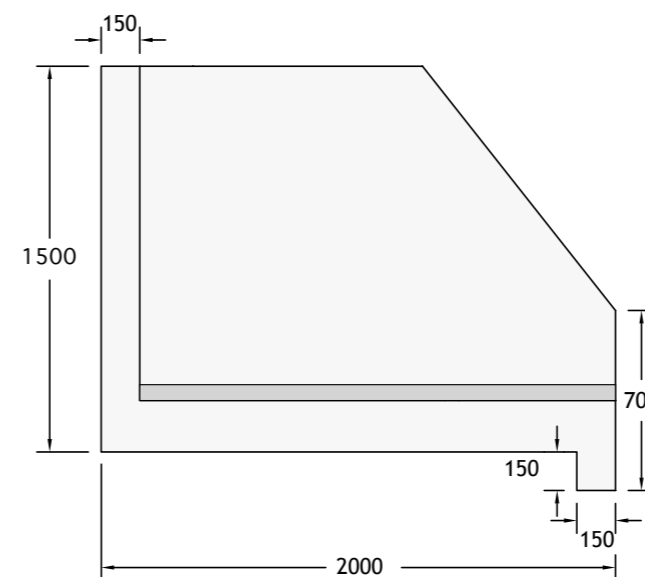
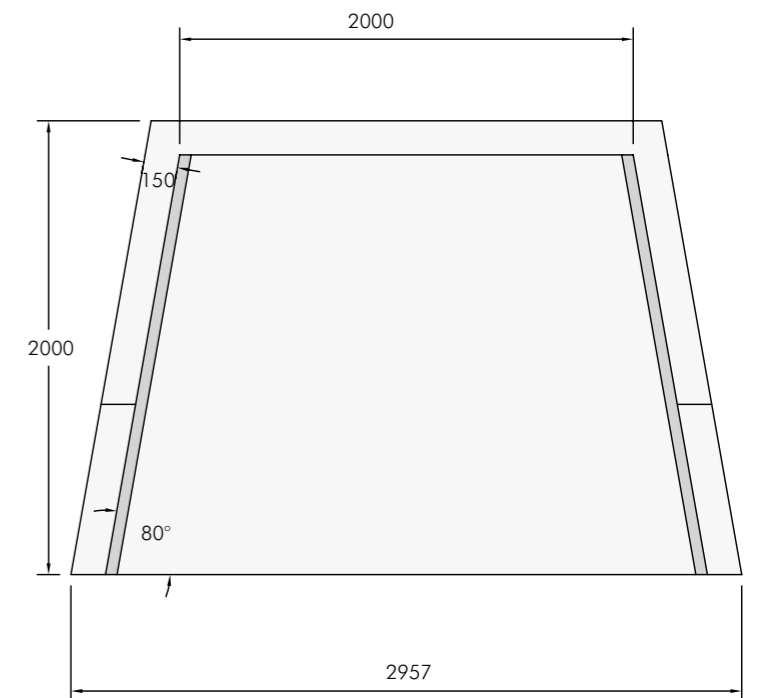


Special configurations are available

SUPER MEDIUM HEADWALL EXTENDED FLOOR

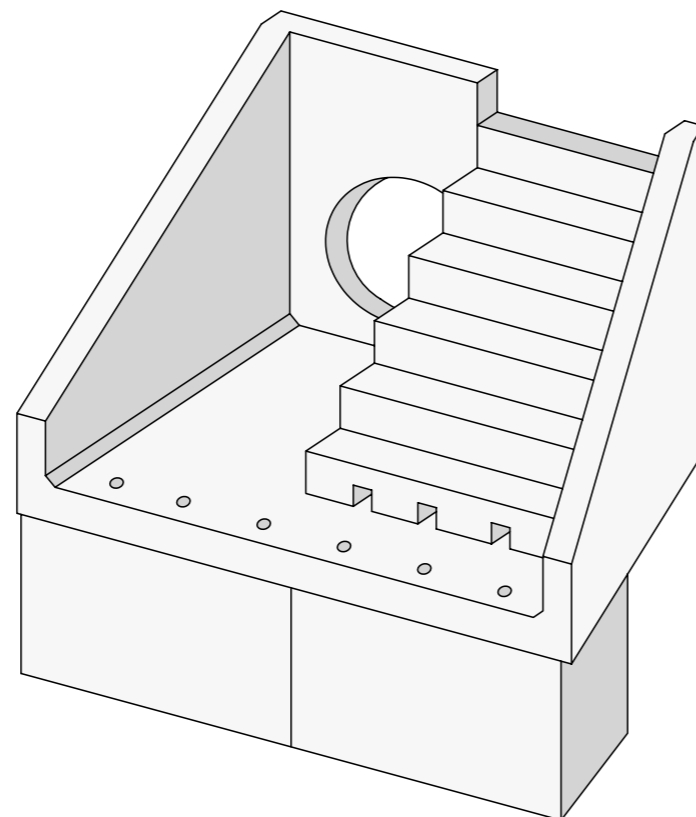
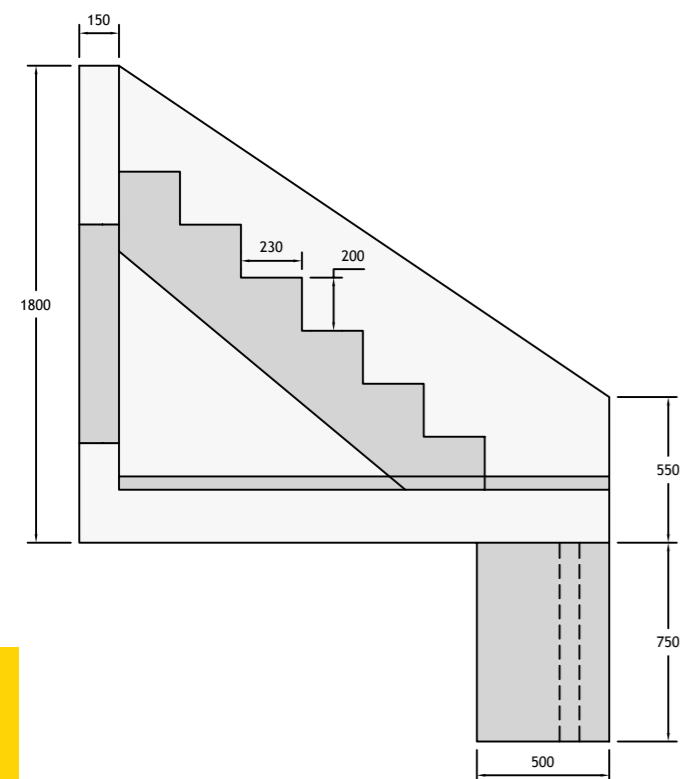
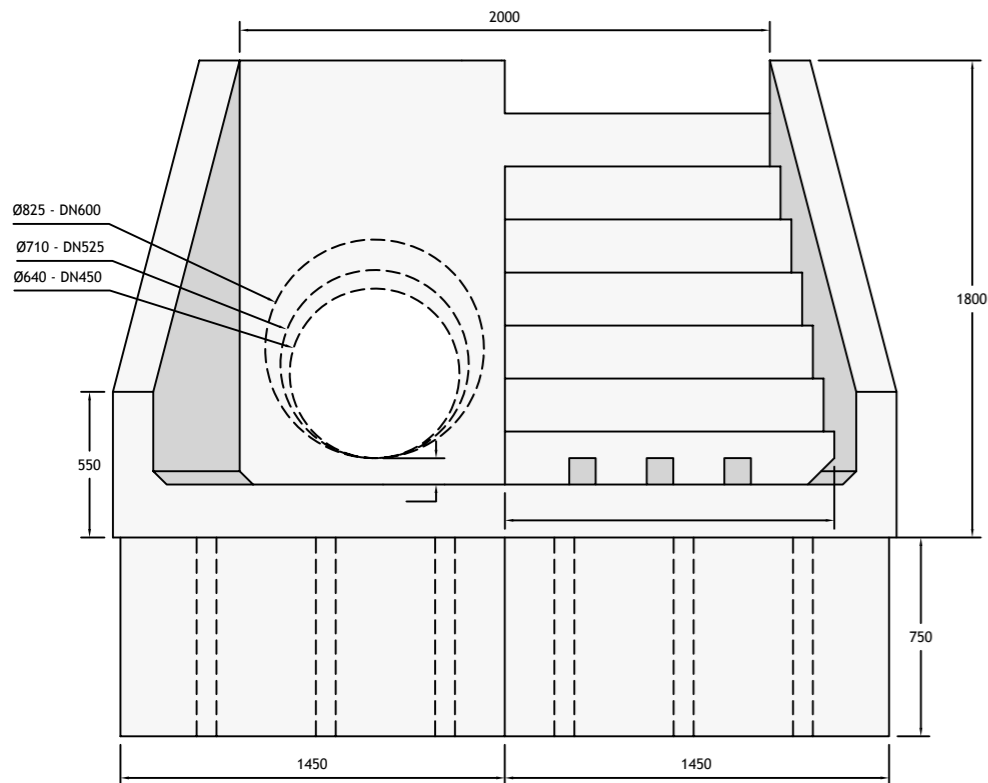
Super Medium Headwalls can be manufactured with an extended floor up to 2m in length. Extended floors are required for baffle blocks & diffuser blocks reduce the velocity of water discharging through the connecting pipework into the watercourse.

Opening	Product Code
DN450	SUME0450
DN525	SUME0525
DN600	SUME0600
DN675	SUME0675
DN750	SUME0750
Lifting Equipment	



SUPER LARGE HEADWALL ONE PIECE

Super Large Headwalls are bespoke, they can be manufactured up to 2m in width. Made to order they can be customised so suit many multiple options and configurations as shown below. Made in one piece they do not have to be fitted / bolted together on-site saving time and costs.



Opening	Approx Weight
DN450	5300KG
DN525	5200KG
DN600	5100KG
DN675	5000KG
DN750	5000KG
DN900	4900KG

Lifting Equipment



4No RD30 Lifters Required

SUPER LARGE HEADWALL TWO PIECE

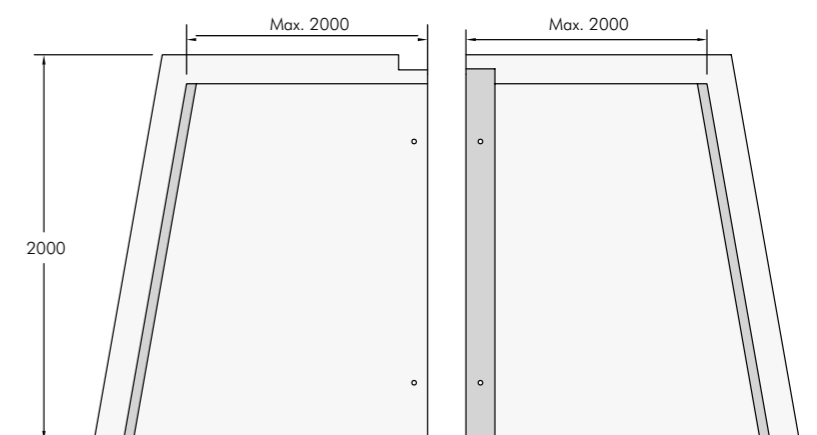
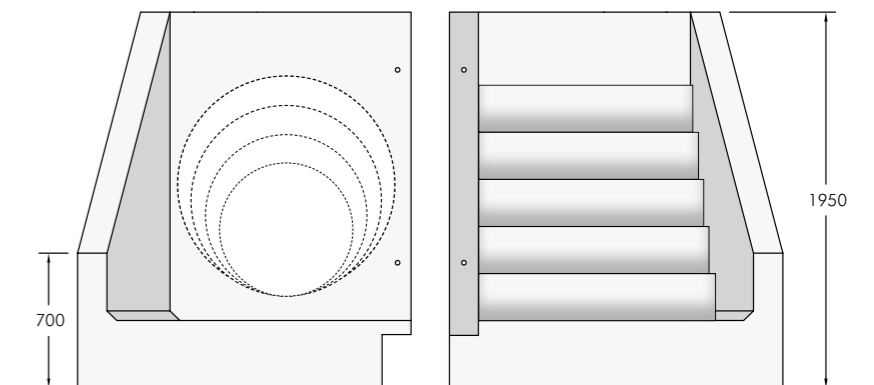
Super Large Two Piece Headwalls are bespoke, they can be manufactured up to a total width of 4m. Made to order they can be customised so suit many multiple options and configurations as shown below.

Opening	Approx Weight
DN450	Part A: 4650 Part B: 4650
DN525	Part A: 4550 Part B: 4550
DN600	Part A: 4450 Part B: 4450
DN675	Part A: 4350 Part B: 4350
DN750	Part A: 4250 Part B: 4250
DN900	Part A: 4050 Part B: 4050

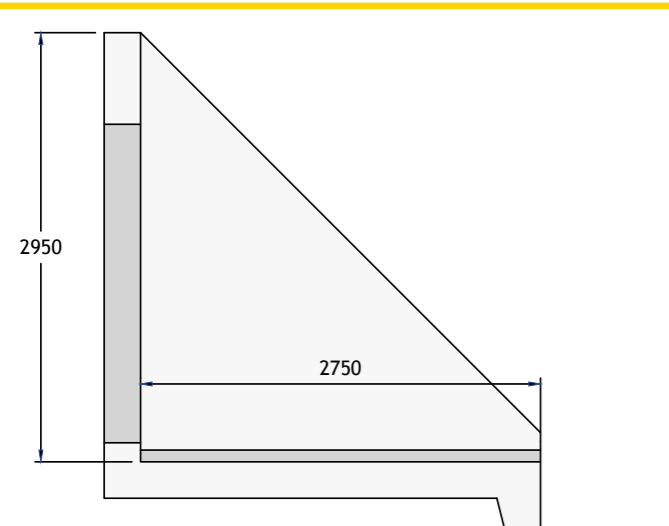
Lifting Equipment



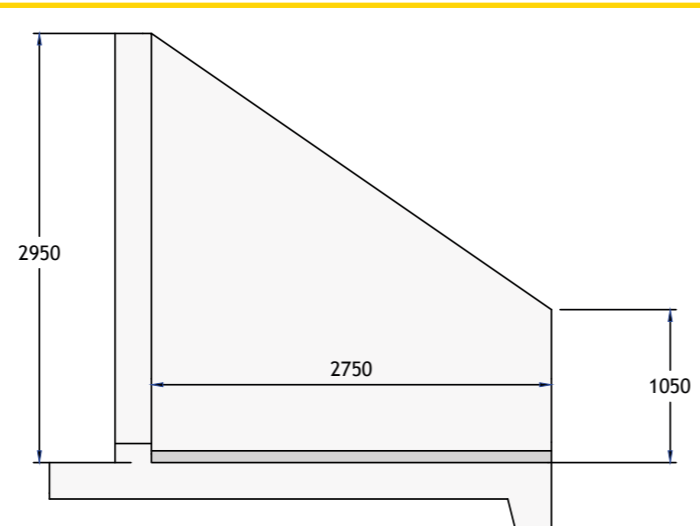
4No RD30 Lifters Required



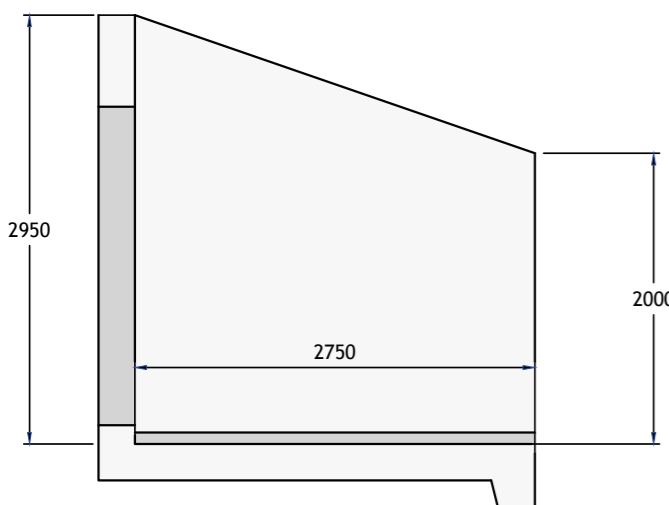
INTRODUCTION TO XXL HEADWALLS



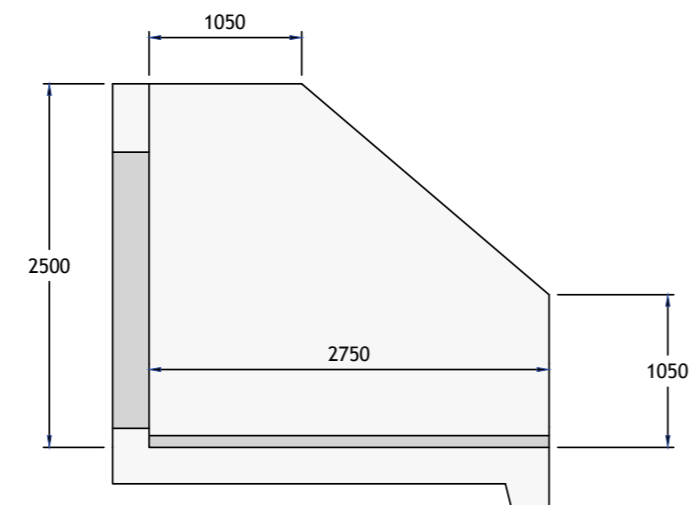
TYPE A



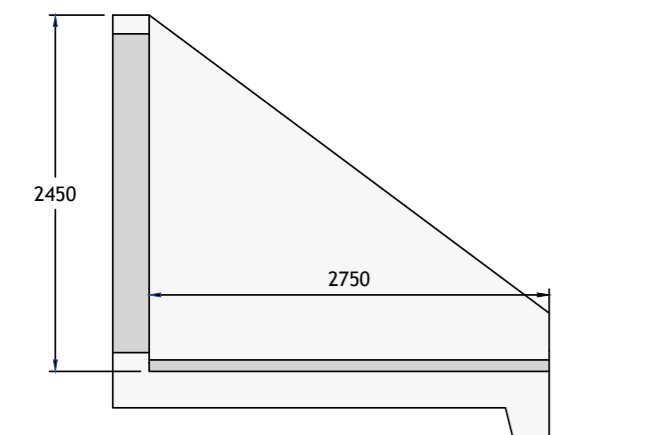
TYPE B



TYPE C



TYPE D



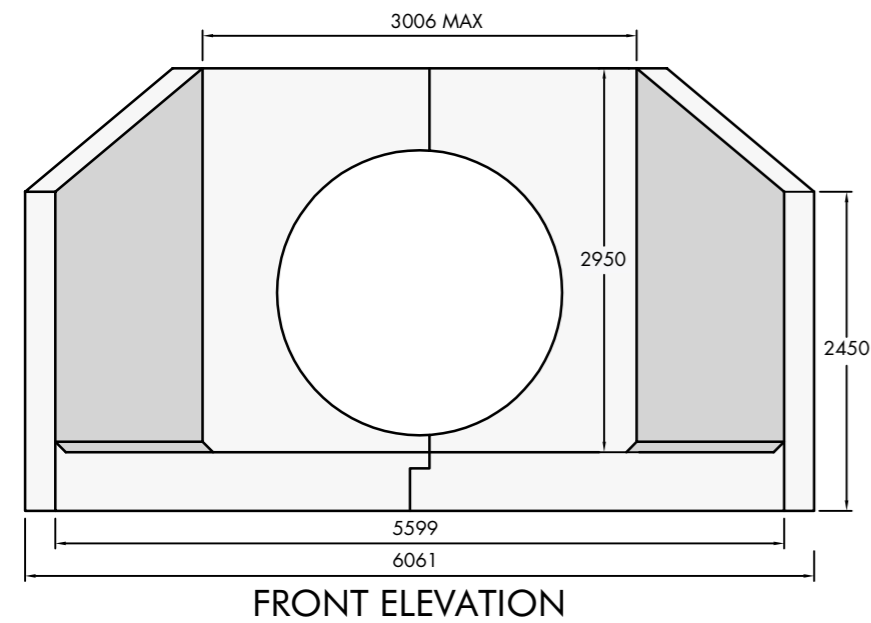
TYPE E

We understand that the needs of each water authority are unique, which is why we offer a range of sizes and options to suit every requirement. Our selection includes headwalls with different sizes of wingwalls, back walls and floors, so you can pick and choose the features you need. Technical drawings accompany every headwall, and we can provide bespoke drawings for more specific requirements.

Our experienced team is on hand to provide technical specifications and advice to ensure you get the right product for the job. Plus, if you need any further information or support, you can contact our technical team at headoffice@traceyconcrete.com



XXL HEADWALL TYPE C

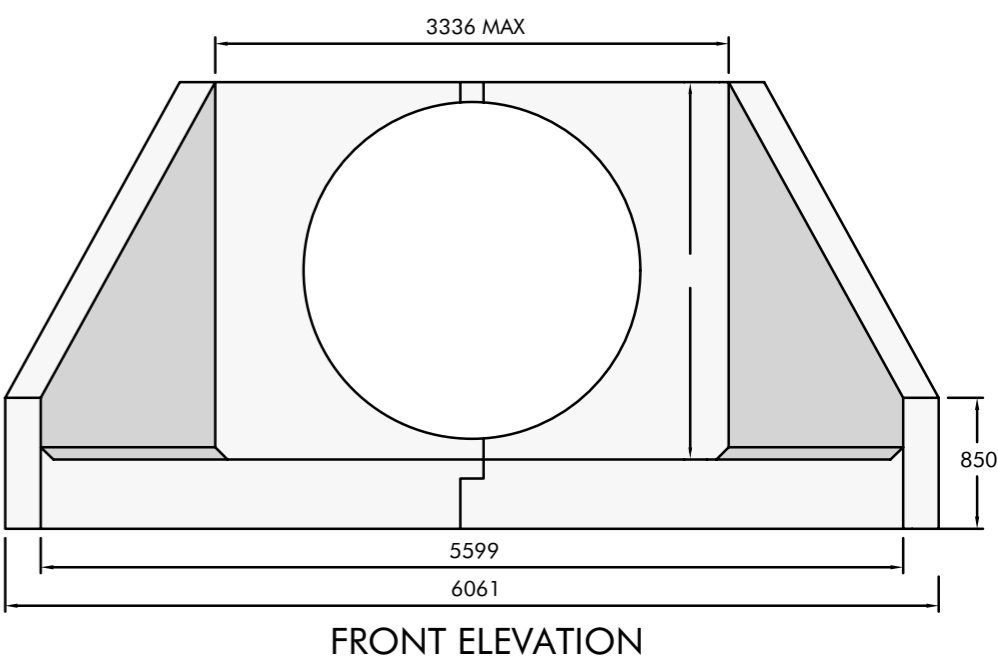


Opening	Approx Weight
DN1200	Part A: 8000 Part B: 8000
DN1350	Part A: 8000 Part B: 8000
DN1500	Part A: 8000 Part B: 8000
DN1800	Part A: 8000 Part B: 8000
DN2100	Part A: 8000 Part B: 8000
Lifting Equipment	



3No 10T Shackles Required
Contact our technical team or visit our website for information on all XXL Headwall options

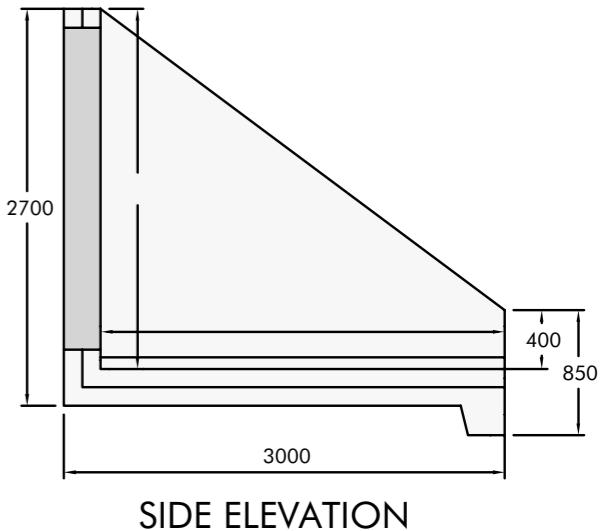
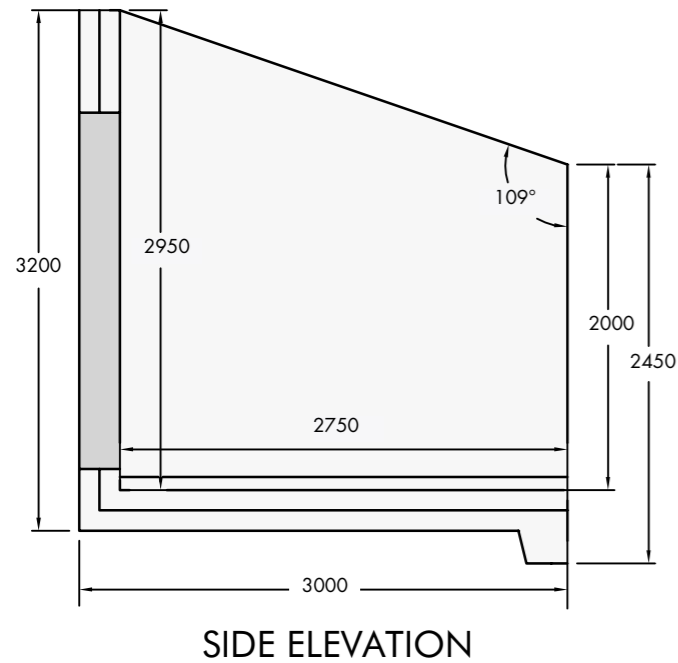
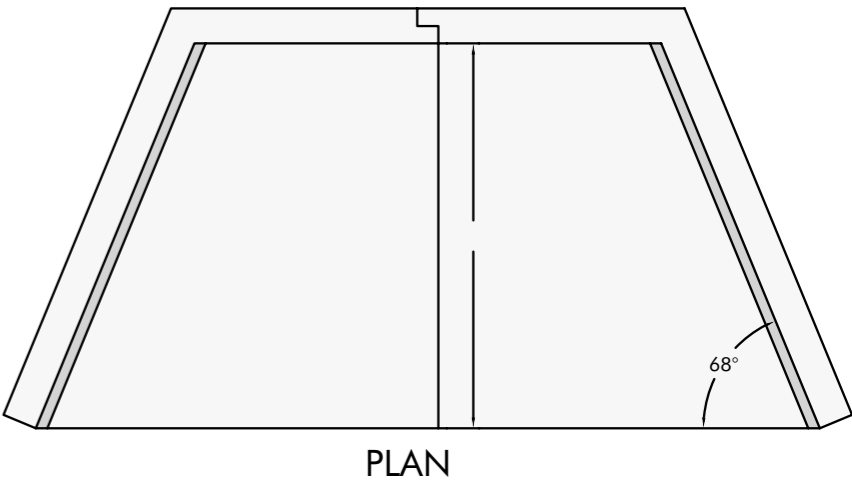
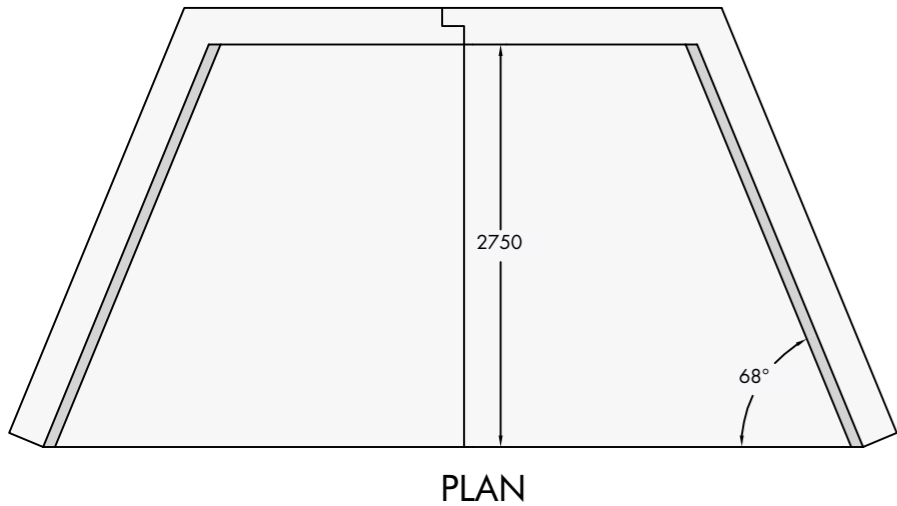
XXL HEADWALLS TYPE E



Opening	Approx Weight
DN1200	Part A: 8000 Part B: 8000
DN1350	Part A: 8000 Part B: 8000
DN1500	Part A: 8000 Part B: 8000
DN1800	Part A: 8000 Part B: 8000
DN2100	Part A: 8000 Part B: 8000
Lifting Equipment	



3No 10T Shackles Required
Contact our technical team or visit our website for information on all XXL Headwall options

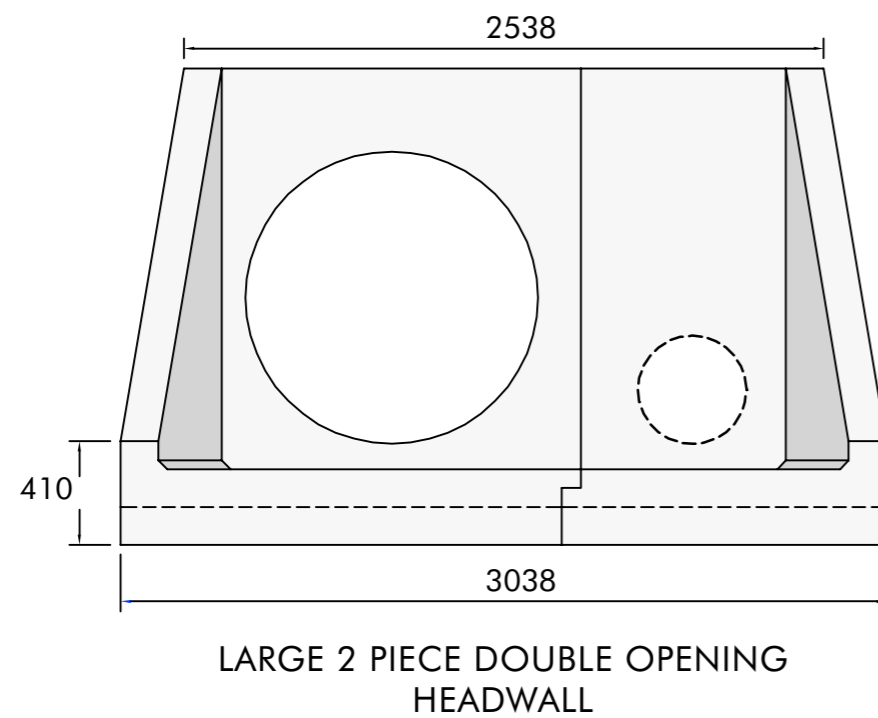
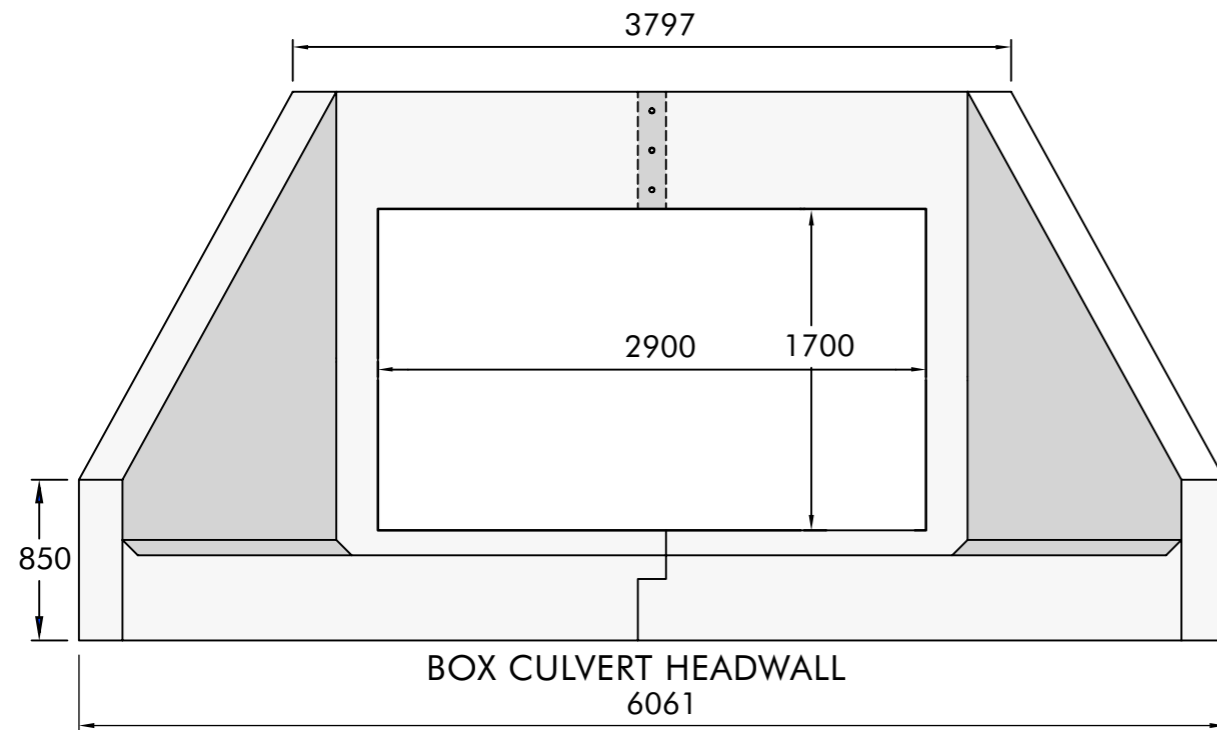


XXL Headwall lift during install



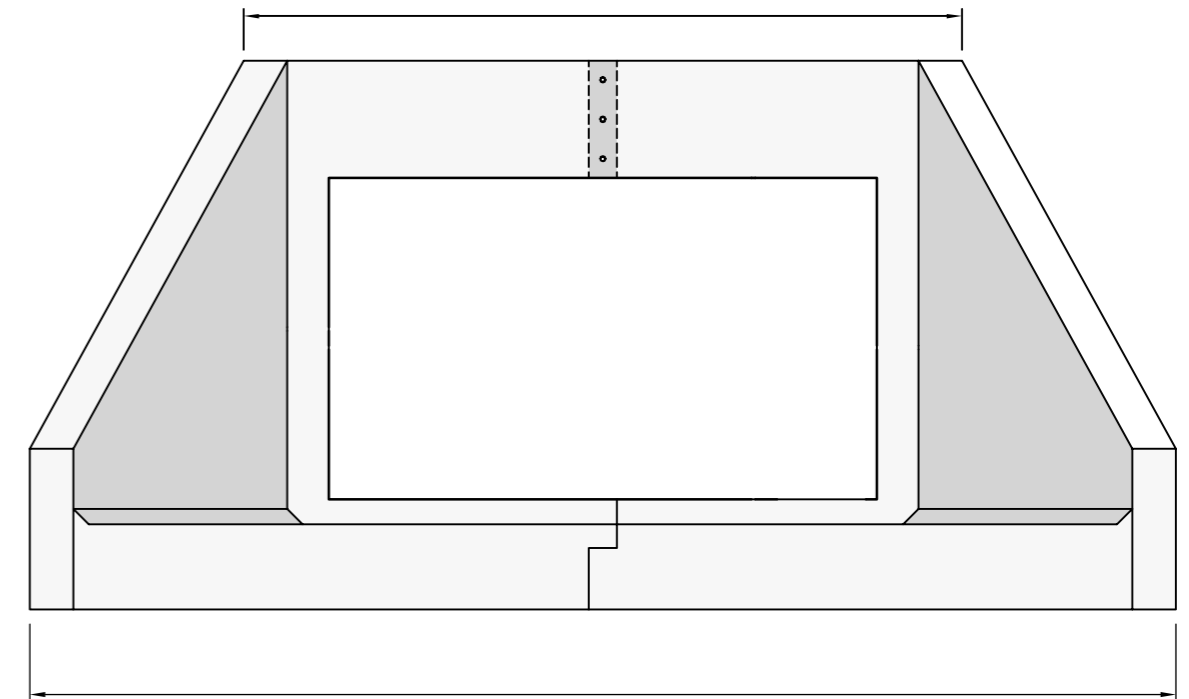
XXL Headwall install completed

EXAMPLES OF BESPOKE HEADWALLS



BOX CULVERT HEADWALLS

Tracey Concrete also manufactures, as standard, precast wingwalls and headwalls used at the ends of the box culvert run that ensure effective flow into and out of the culvert and retain the embankments associated with the same.



Precast headwalls are perfect alternative to in-situ inlet and outfall structures for the start and end of box culvert runs. Tracey Concrete culvert headwall units can be factory with flap valves, penstocks, mammal shelves/ledges, handrails and a selection of gratings dependant on application



HEADWALL GRATES SPEC

Tracey Concrete can supply a wide variety of gratings to suit our headwalls. We have ranges of Sewers for Adoption complaint outfall safety grilles for headwalls, Sewers for Scotland complaint grates for headwalls and UU (United Utilities) specification outfall grilles for headwalls.

Flat mid steel, hot dip galvanized, long life, toughness and protects externally / internally

STANDARD GRATE

Sizes	Spec	A	B	C
-	mm	mm	mm	mm
Small	40 x 10	650	650	59
Medium	40 x 10	870	920	68
Large	40 x 10	1180	1250	68
Large*	40 x 10	1340	1360	68
XL	40 x 10	2044	2100	68

Bespoke standard gratings are available to order

GRANKED GRATE

Sizes	Spec	A	B	C	D
-	mm	mm	mm	mm	mm
Small	40 x 10	870	960	1060	75
Medium	40 x 10	1140	1675	1410	100
Large	40 x 10	1378	1900	1720	100
XL	50 x 12	1600	2235	2304	-

Bespoke cranked gratings are available to order

HINGED GRATE

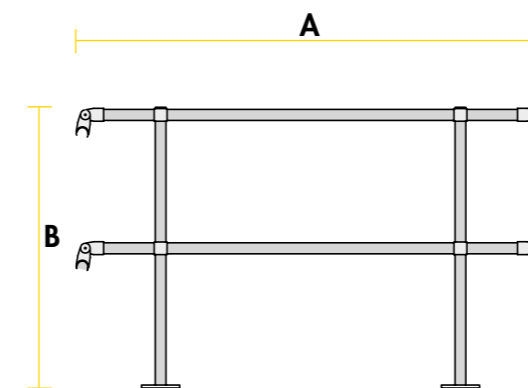
Sizes	Spec	A	B	C
-	mm	mm	mm	mm
Small	50 x 12	780	780	88
Medium	50 x 12	1035	1035	88
Large	50 x 12	1300	1300	100
XL	60 x 20	1650	1650	100

Bespoke hinged gratings are available to order

Tracey Concrete manufacture a comprehensive range of trash screens, gratings and safety grilles. Our range includes Sewers for Adoption compliant gratings, pipe mounted gratings, cage, cranked and sloped trash screens as well as raked trash screens and weed screens. Our gratings and trash screens are available in galvanised steel as well as stainless steel.

HEADWALL HAND RAILINGS

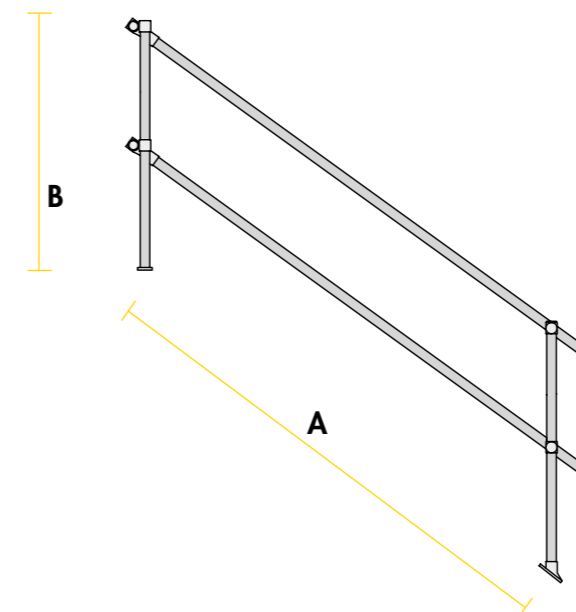
Tracey Concrete can supply handrails fitted with our headwalls in galvanised steel. The headwalls will be delivered without the handrail attached for ease of delivery and installation. Galvanised cast iron to BS EN ISO 1461 Fitted with corrosion protected grub screws and thread coat recess protection TÜV certified for strength, manufacturing quality and consistency and meets specified loadings up to 1500 N/m.



TOP HANDRAIL

Sizes	A	B
-	mm	mm
Small	1200	1100
Medium	1500	1100
Large	1700	1100
XL	2100	1100

Bespoke handrails are available to order



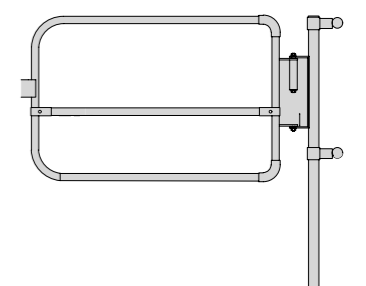
SIDE HAND RAIL

Sizes	A	B
-	mm	mm
Small	1400	1100
Medium	1900	1100
Large	2400	1100
XL	2750	1100

Bespoke handrails are available to order



HANDRAIL GATE

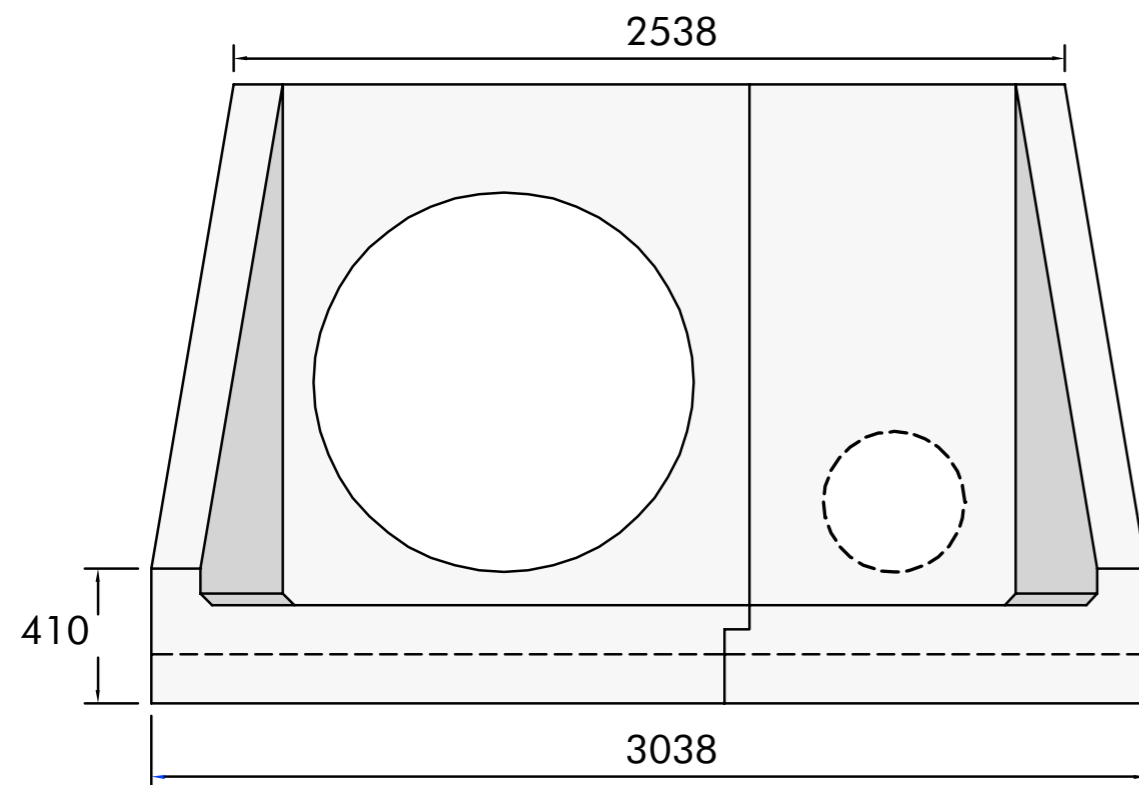


Bespoke gates are available to order

Tracey Concrete offer a full range of hand-railings and gates which are all Sewers for Adoption compliant. Our railings are available galvanised steel as standard. Stainless steel is available on request.

DOUBLE OPENINGS

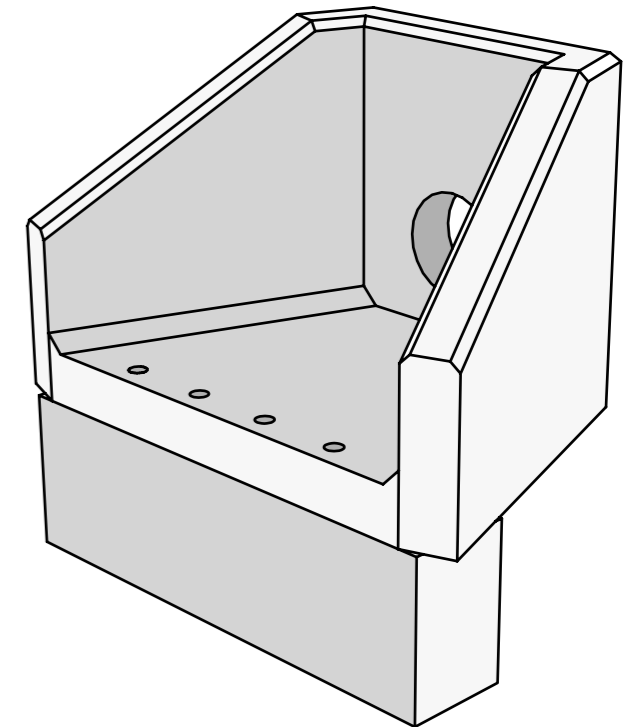
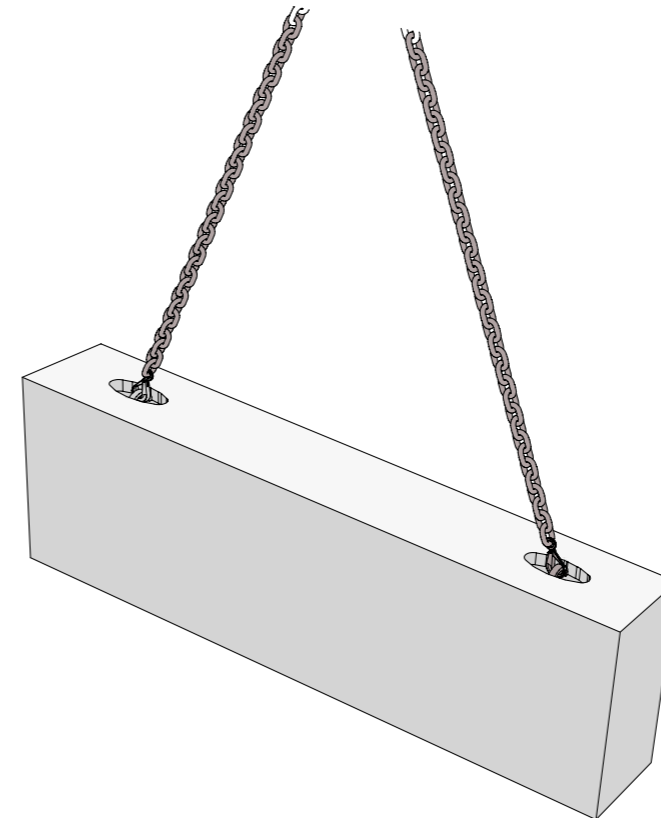
Tracey Concrete can manufacture concrete headwalls with multiple pipe openings. We can cast more than one pipe opening into any of our headwalls. The only restriction is the space on the headwall for more than one pipe opening. Pipe openings can be set at any invert level anywhere on the back wall of the headwall. We can also cast openings into the side wing walls of a headwall. We are able to cast several openings into one headwall means that you can have more than one pipe discharging out of a single precast headwall unit.



Double Opening

TOE PIECES

Extended headwall toe pieces are designed to secure the headwall in position for challenging ground conditions. We can design and manufacture any specified design of a toe piece. Standard lengths are 250mm, 500mm, 750mm and 1000mm.



Toe Piece

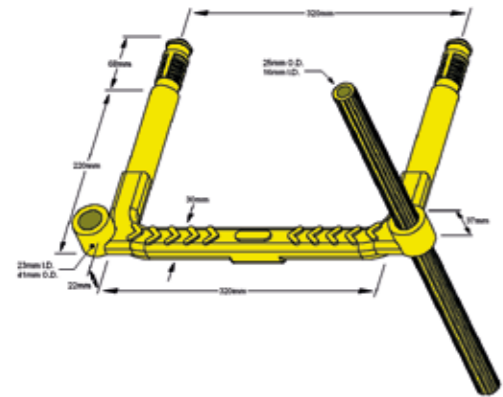


Installed Toe Piece

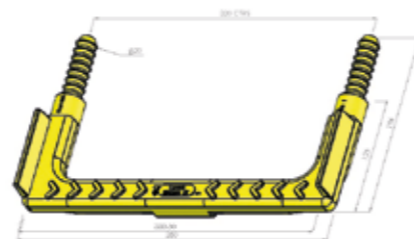
CAST IN LADDERS & STEPS

Tracey Concrete can cast in Ladder steps to headwalls for safe access. The rungs meet the relevant requirements for both steps and ladders and can be used with or without the stringers. The incorporation of the rung in the manhole automatically takes account of variation in depth to design.

Manufactured to BS EN 14396: 2004



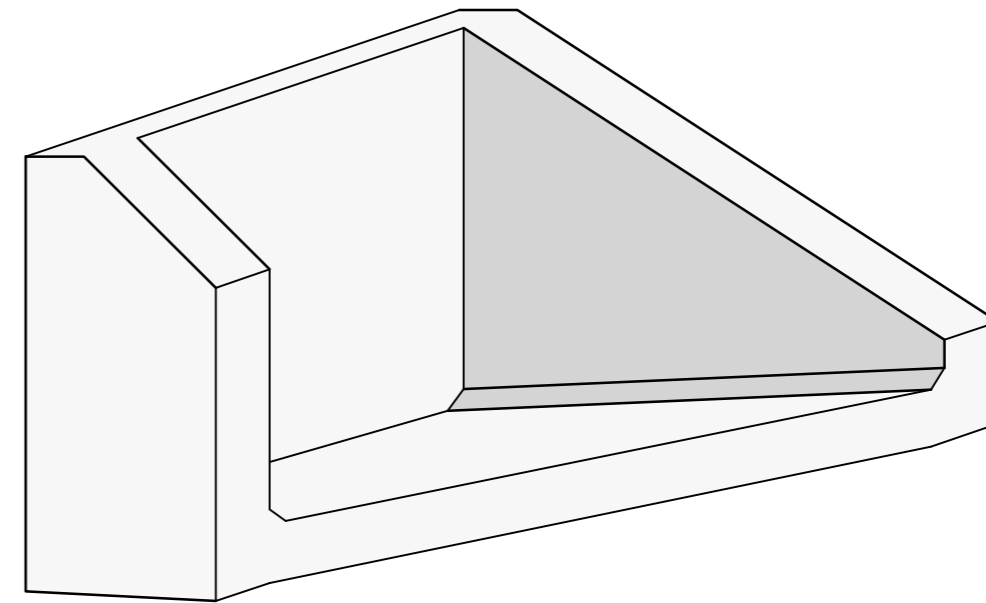
Steps are manufactured using virgin polypropylene copolymer plastic encapsulating structural carbon steel. The main advantages of these plastic encapsulated steps are their high visibility (due to bright colours), they have no sharp edges and they are extremely corrosion resistant. Polypropylene is used in the manufacture of vehicle battery cases, which gives an indication of its resistance to concentrated sulphuric acid. BS EN 13101: 2002



ANGLED HEADWALLS

Angled precast headwalls allow pipework entering a watercourse at an angle to be accommodated or for an outfall to be situated on a bend in a river.

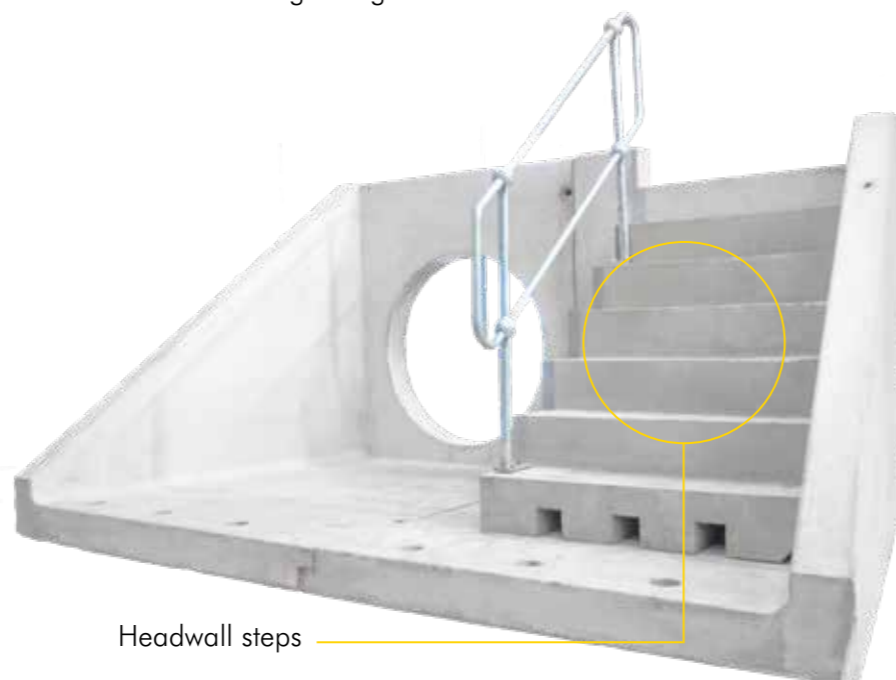
Tracey Concrete's angled headwalls fully meet the Environment Agency's 'Standard rules SR2015 No 27 – Constructing an outfall pipe of 300mm diameter through a headwall into a main river' & Exempt flood risk activities: environmental permits section FRA12 'Outfall pipes less than 300mm diameter through a headwall' Angled headwalls are available with three different back wall-heights and three different toe depths for Twin Wall or Clay Pipes up to & including 300mm ID. Having a separate toe makes it easier to handle and more importantly ensures the foundation around the toe and beneath the Headwall structure can be well compacted.



PRECAST STEPS

Tracey Concrete offer precast concrete Sewers for Adoption compliant headwalls complete with precast concrete steps. Typically our precast headwalls with steps will be supplied with an appropriate Sewers for Adoption compliant outfall safety grille and galvanised steel hand-railing with gated access.

Sewers for Adoption precast headwalls should be used when a concrete headwall is part of a Section 104 Agreement and the sewers are to be adopted once completed by the local Water Company. The materials used and installation must comply with the 'Sewers for Adoption' guidelines. Tracey Concrete SFA precast concrete headwalls offer a cost effective alternative to in-situ structures for connecting pipework discharging into open watercourses.



Tracey Concrete Sewers for Adoption precast concrete headwalls with steps are cast to suit the diameter and type of pipe being used and can be provided with fixings cast in at the time of manufacture to accommodate gratings, trash screens, flap valves, ladders, guardrails and flow and depth monitoring equipment.



Precast steps

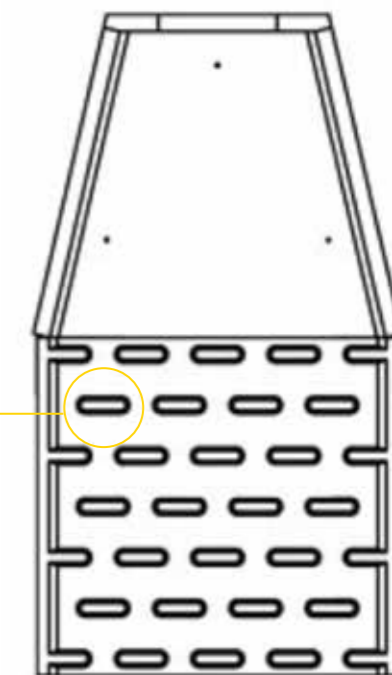
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DIFFUSER BLOCKS

Tracey Concrete can produce when required precast headwalls with diffuser blocks on the spillway of the headwall. Diffuser blocks reduce the velocity of water discharging through the connecting pipework into the watercourse.



Different to baffle blocks diffuser blocks are more frequent and smaller in design. We can design and manufacture different types and styles of diffuser blocks to suit any water authority specification. We can extend our floor length and thickness to suit all requirements.



SIDE OPENINGS

We cast the opening in the back wall to suit the pipe diameter and material of the pipe being used. We can cast multiple pipe openings, elliptical, square or rectangular culvert openings into any of our headwalls. We can also cast pipe openings into the wing walls.

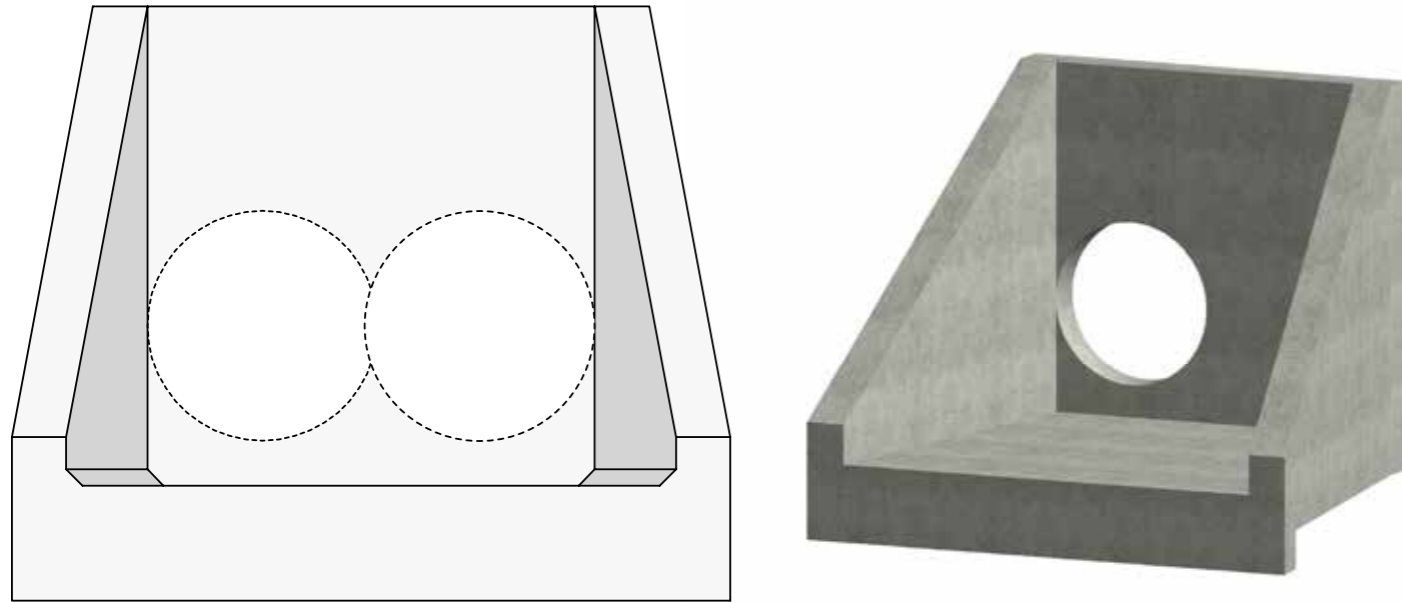


Side opening

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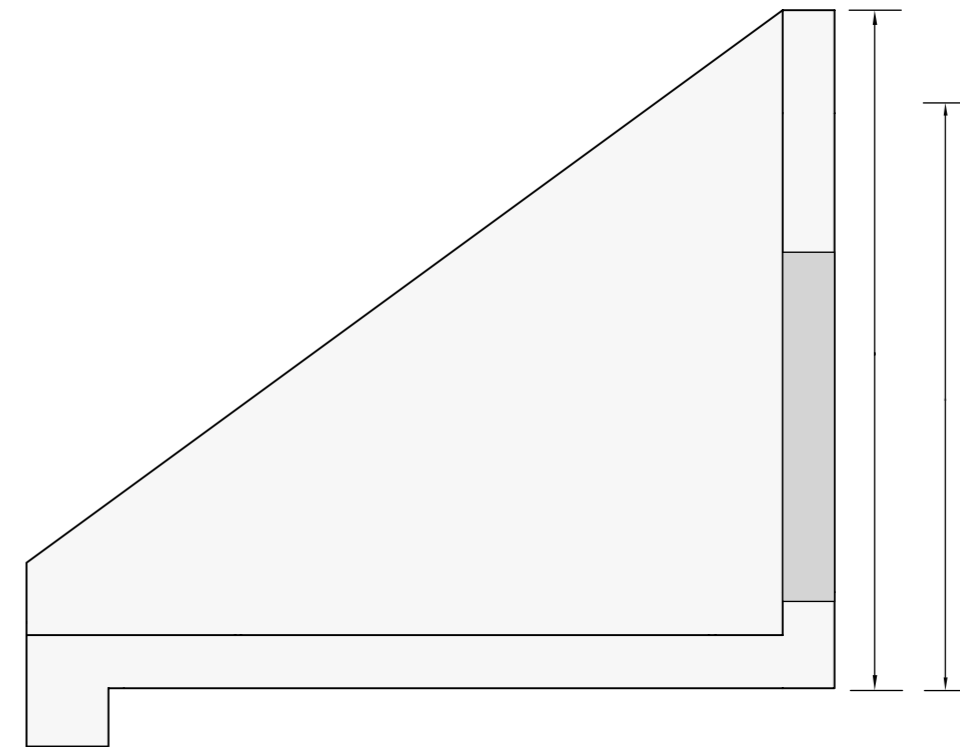
ADJUSTABLE OPENING POSITIONS

Tracey Concrete can produce headwalls with adjustable opening positions. If you require a bespoke headwall opening please submit a drawing to our technical team to produce.



ADJUSTABLE BACK WALL HEIGHTS

Tracey Concrete can cast the headwalls with multiple back wall heights. Bespoke heights are also available.



Small: Max - 1.1m

Med: Max - 1.5m

Large: Max - 1.7m

XL: Max - 2.1m

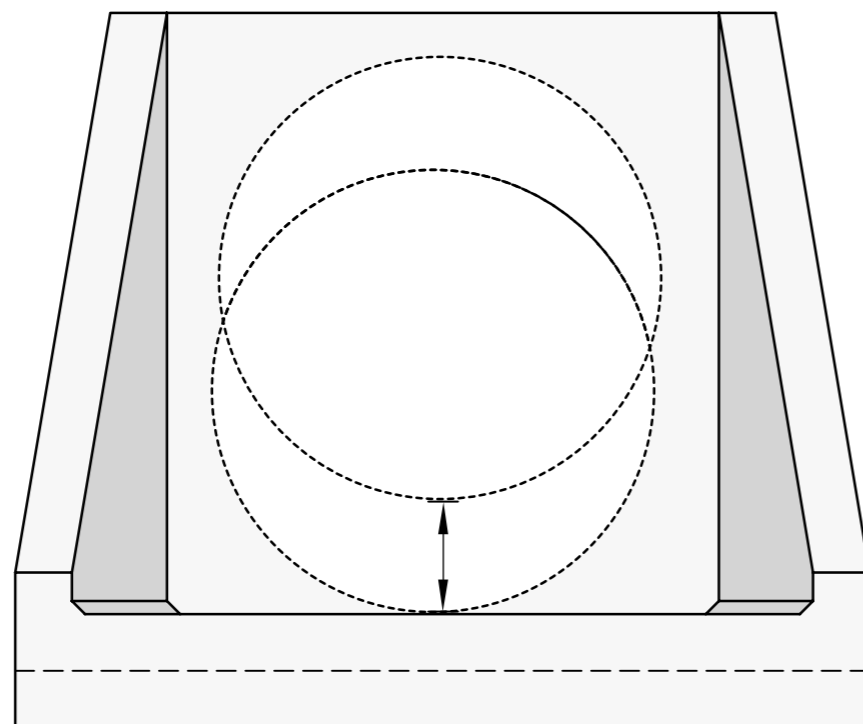
XXL: Max - 2.9m

SPECIFIABLE PIPE INVERT LEVELS

Tracey Concrete can produce headwalls with specifiable pipe invert levels. If you require a bespoke invert level headwall please submit a drawing to our technical team to produce.

ADVANTAGES

- Headwall designed to suit specific project
- Drawing confirmation before order
- Bespoke opening to suit non standard pipe



BITUMEN COATING



Tracey Concrete can produce headwalls with a bitumen paint coat for added waterproofing. The bitumen extends the life of the headwall weatherproofing properties.

The headwall is coated after production under factory conditions and can be installed on arrival to site saving time.

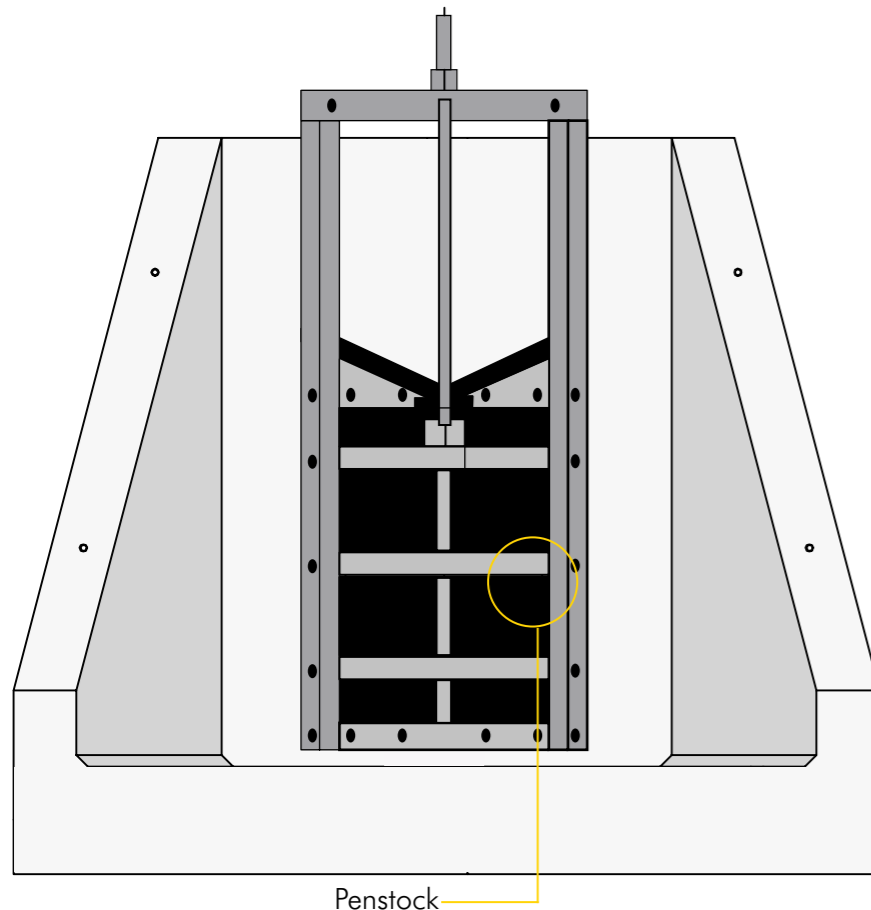
PENSTOCKS 100MM - 1500MM

Tracey Concrete manufacture concrete headwalls with penstocks. We can factory fit penstocks to our headwall range which can reduce installation time on site. Factory fitting penstocks to headwalls means the headwalls do not have to be drilled once on site. We can fit multiple penstocks to a single headwall and offer penstocks fitted to concrete headwalls in HDPE & stainless steel grade 316L.



ADVANTAGES

- Simple operation
- Spindle type - various lengths and sizes
- Little to no maintenance required
- Available – wall, side wall or channel mounted
- Materials are corrosion resistant
- Robust and rigid construction



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ORIFICE PLATES DN100MM - DN1000MM

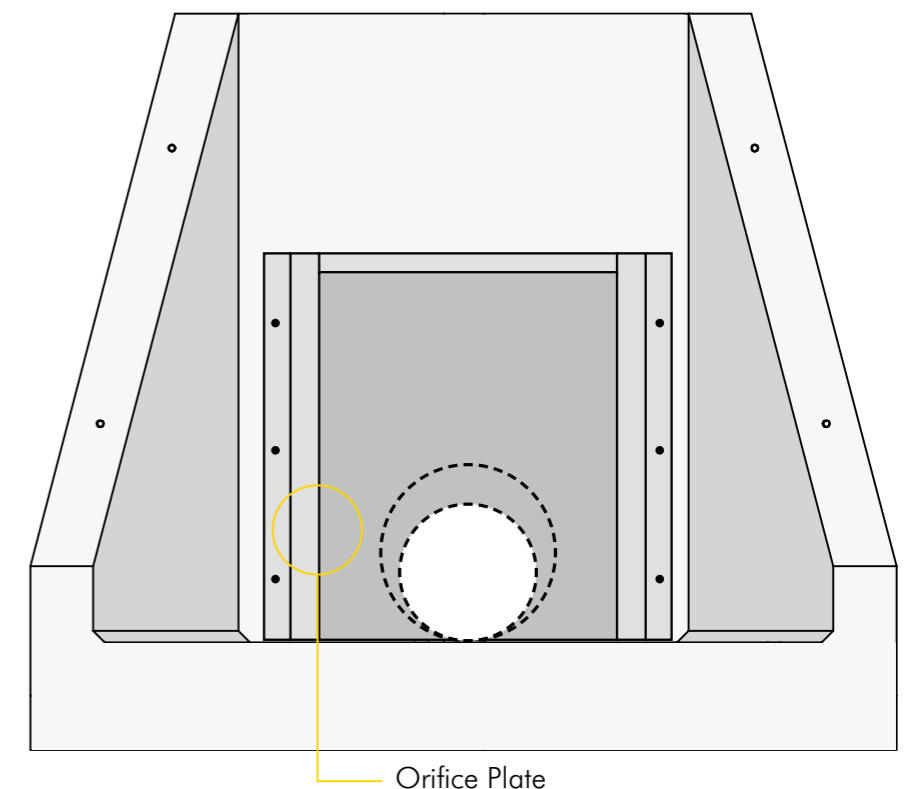
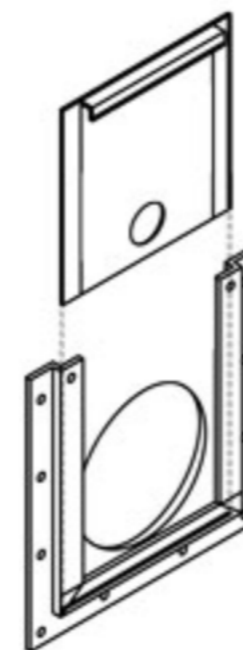
Tracey Concrete manufacture orifice plates in galvanised or stainless steel to restrict and regulate the flow of water. We manufacture orifice plates to suit all pipe sizes and provide the opening in the plate to your specified dimension and position required. We typically provide flat orifice plates to bolt directly onto a flat surface or wall. We will send out all necessary fixing materials and an EPDM seal with every orifice plate.



ADVANTAGES

- Simple operation
- Little to no maintenance required
- Available – wall, side wall or channel mounted
- Materials are corrosion resistant
- Robust and rigid construction

Tracey Concrete can supply a manufacture curved manhole orifice plates to fit directly onto the wall of manhole chambers. Alongside our standard range of manhole orifice plates we also manufacture orifice weir plates for manholes in galvanised or stainless steel.



Orifice Plate
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FLAP VALVES 100MM - 1500MM

Tracey Concrete manufacture and distribute flap valves in HDPE, cast iron and stainless steel. Flap valves and flap gates are a type of non-return valve (NRV) used to prevent flooding and to stop water back-flowing up pipework connecting into ponds, ditches, rivers and marine or tidal environments.

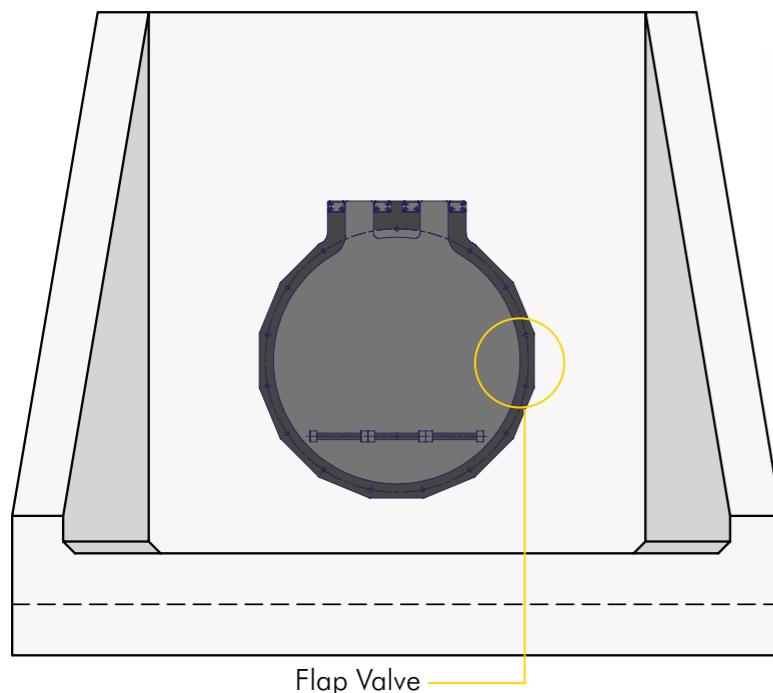
Our range of flap valves and flap gates includes wall mounted flap valves, tidal flap valves, flange mounted flap valves as well as push fit and pipe mounted flap valves. As standard our HDPE flap valves have a 50 year design life. Tracey Concrete HDPE flap valves can be manufactured to suit site specific installation requirements and operating water pressures.



ADVANTAGES

- Simple operation
- Little to no maintenance required
- HDPE, cast iron and stainless steel available
- Robust and rigid construction
- Bespoke solutions are available

We are able to design and manufacture bespoke flap valves for square, rectangular or elliptical openings or provide additionally reinforced ballast flap valves for when the valve is subject to wave action.



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BAFFLE BLOCKS DN100MM - DN 1000MM

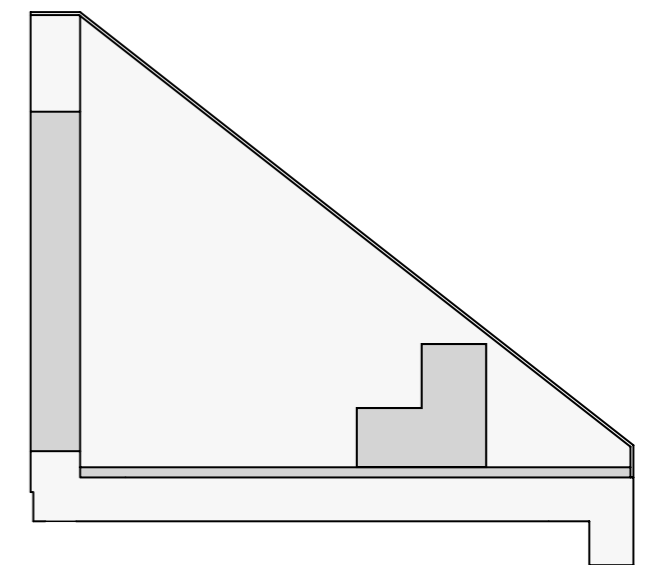
Tracey Concrete manufacture concrete headwalls with precast baffle blocks on the spillway. We factory fit the baffle blocks to our precast headwalls ensuring they fit properly every time and reducing installation time on site. Baffle blocks slow down the flow of water discharging from the pipe across the spillway of the headwall before entering the watercourse.

We can fit baffle blocks to the spillway of a headwall in any arrangement required, space permitting. Usually we supply stepped baffle blocks sized based on the connecting pipe diameter.



ADVANTAGES

- Can be fitted in factory or onsite
- Multiple designs & finishes available
- Robust and rigid construction
- Bespoke solutions are available



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INSTALLATION GUIDE S,M & L

Tracey Concrete's one piece Headwalls come in three sizes – Small, Medium and Large. This guide is to aid contractors in the installation of Precast Headwalls. It is the contractor's responsibility to ensure that the installation is carried out in accordance with the design specification on site. It is the contractors responsibility to install the precast headwall safely in accordance with site conditions.

1. The Time and location of off-loading should be agreed before units arrive on site.
2. Off-loading should take place at the nearest hard standing area to the point of installation
3. Off-loading must be carried out using appropriate lifting equipment. Supplied on request only
4. Carefully inspect units during off-loading to verify that products are undamaged & comply with order placed.

1. Cut and install the last section of pipe that the headwall will cover. Ensure that the pipe is fully fitted leaving either the first (or last) section of pipe free from backfill to attach to the headwall.

2. Excavate to formation level, place and compact a 300mm bed of 50mm clean drainage stone or similar free drainage aggregate.

3. Check that the correct Headwall has been brought to the installation point. Cross reference and check pipe connection diameter to that of the Headwall. The movement of the Headwall on site must be undertaken in a manner that is safe and will not cause any damage to the unit in any way – the use of the cast in lifting anchors fitted with loops and connected to equal length 3/4 legged chains is recommended.

4. If an extended toe piece is specified place extended toe for headwall unit on a hard standing level surface (ensuring that it is the correct toe for the headwall unit). Lower the headwall unit onto the toe to allow it to rest lightly on it. Then secure the rebar through the joint locations in the toes, starting with the side nearest the headwall joint and finishing with the middle Use sikadur 31, or similar approved grout, as per joint detail between the headwall and the extended toe.



INSTALLATION GUIDE S,M & L



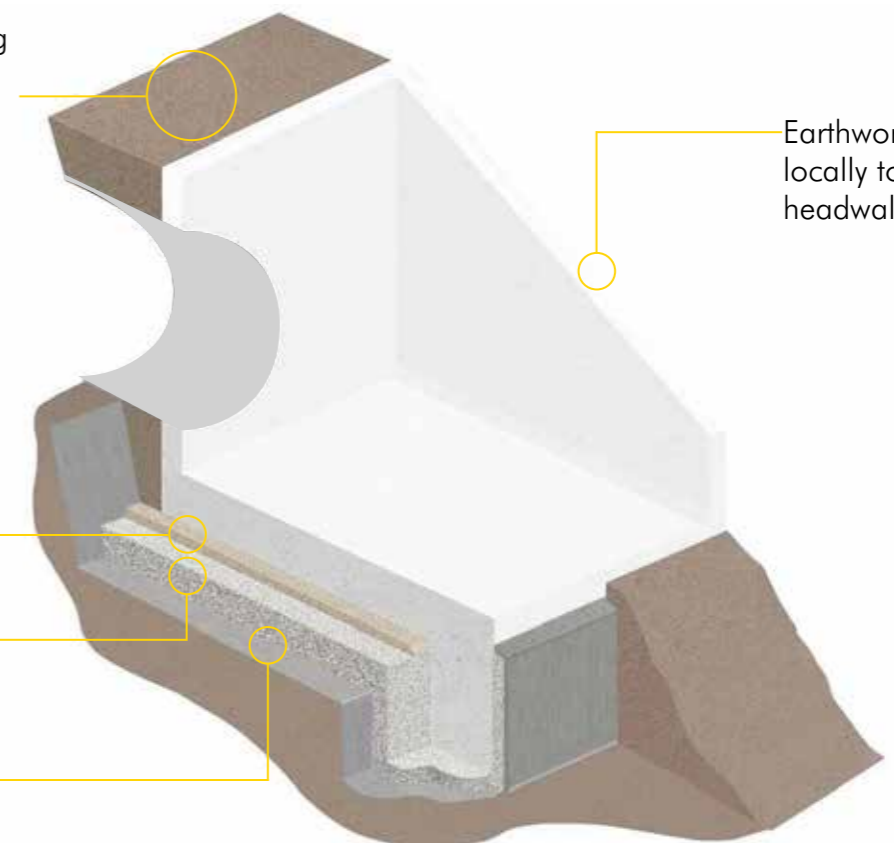
Back fill with as dug material in 150mm compacted layers

50mm sand binding layer

Min 150mm well compacted selected uniformly graded granular fill

Geotextile

Earthworks adjusted locally to match headwall slope

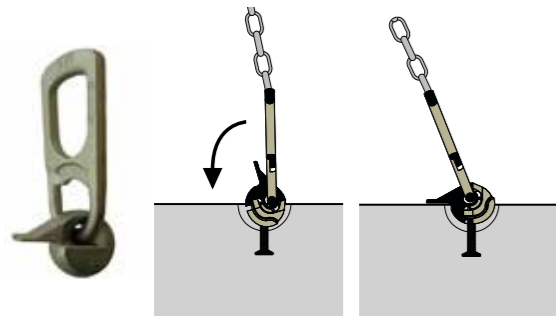


XL & XL INSTALLATION GUIDE (TWO PIECE)

Headwalls can be manufactured as a two piece precast concrete unit; to be joined on site.

OFFLOADING

1. 3No 7.5 - 10T Spherical Lift Shackles
Hook the Shackle on to the 3 cast in anchors on the headwall.



2. Check certified chains are secure – then begin to lift the headwall
3. Lift Headwall slowly with a machine capable of lifting the specified weight
4. Place headwall on a safe hard surface



INSTALLATION

1. Cut and install the last section of pipe that the headwall will cover. Ensure that the pipe is fully fitted leaving a section of the pipe free from backfill to accept the headwall.

2. Excavate to formation level; this should be approx. 750mm below the floor level of the Headwall. Place and compact approx. 300mm of 50mm clean drainage stone or similar free drainage aggregate, then place approx. 200mm of lean mix concrete ensuring a level surface.



XL & XL INSTALLATION GUIDE (TWO PIECE)



3. Check that the correct Headwall has been brought to the installation point. Cross reference and check pipe connection diameter to that of the Headwall.

The movement of the Headwall on site must be undertaken in a manner that is safe and will not cause any damage to the unit in any way – the use of the cast in lifting anchors spherical lift shackles fitted and connected to 3 legged chains is recommended.



4. Place Part A of the Headwall unit onto the bedded surface. It is essential that the Headwall is positioned in the centre of the pipe and is levelled. Placing a shim at the bottom of the pipe to position is recommended.

5. Clean the receiving joint groove of Part A and the corresponding jointing surface of Part B and lift Part B into position.



6. Using the appropriate grout or an epoxy resin fill in the void between the reinforced concrete headwall and the pipe and the joint. This will ensure a firm fit. Backfill the pipe section between the headwall and embankment. It is recommended that 300mm surround of 50mm or similar free drainage aggregate is used to surround the headwall to ensure good groundwater drainage.



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