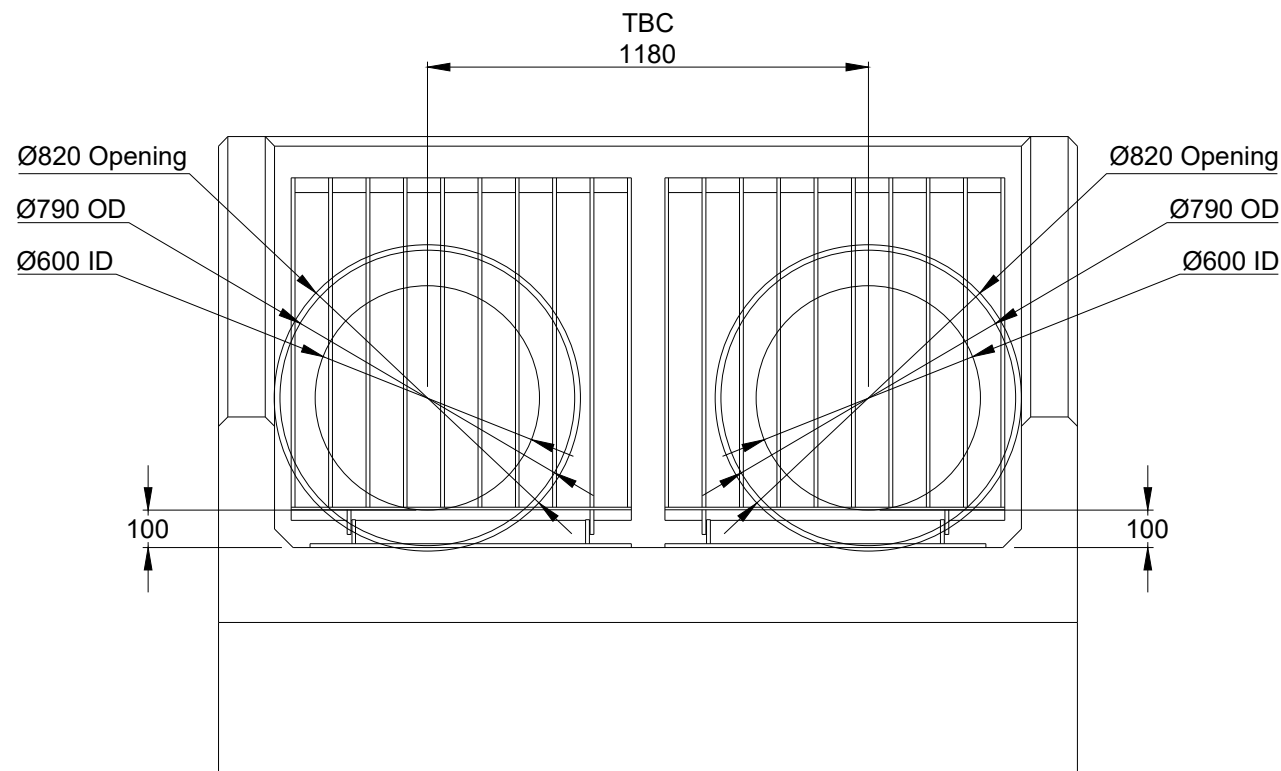
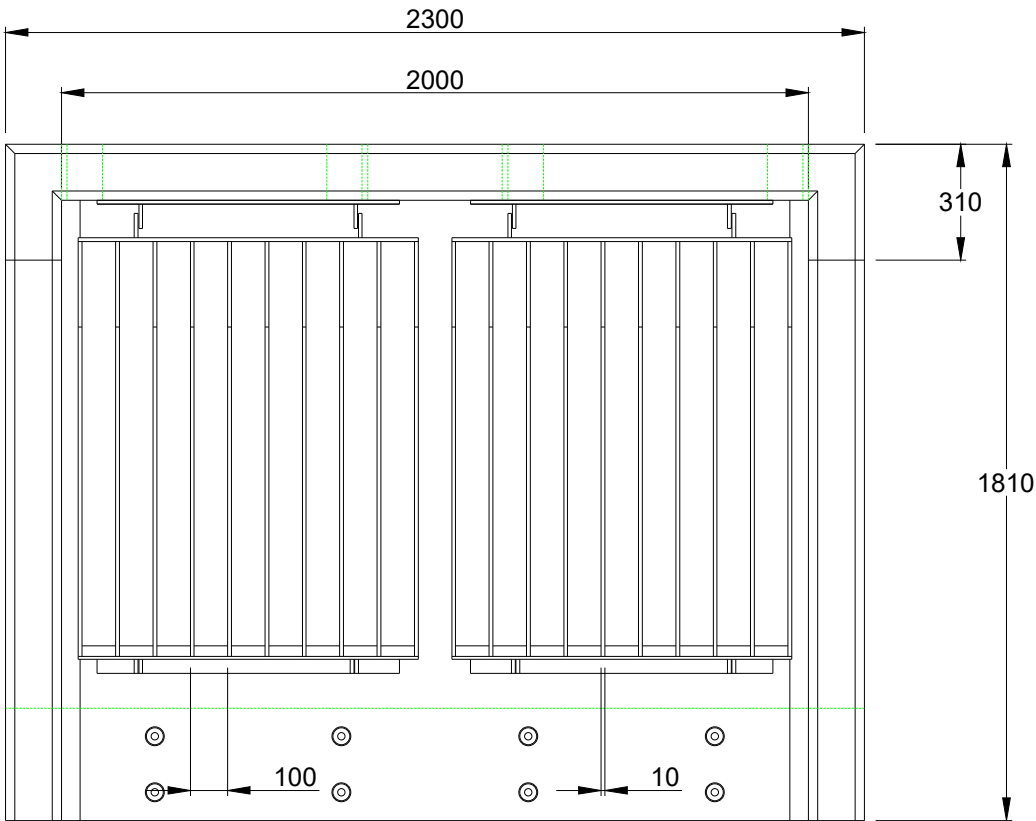
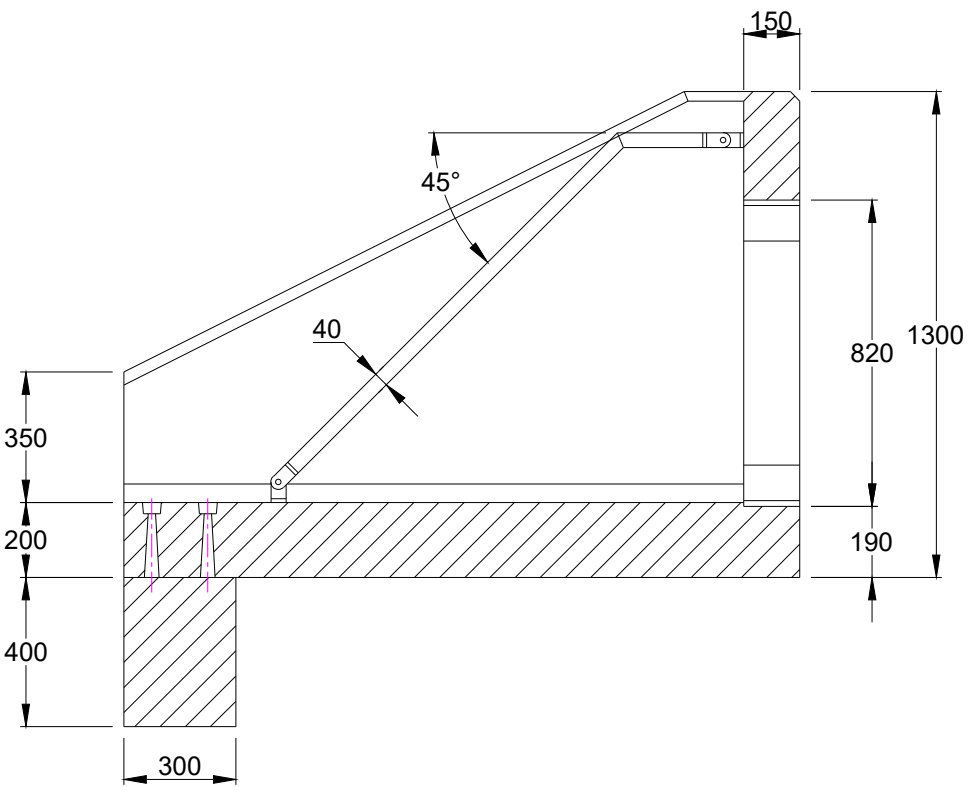
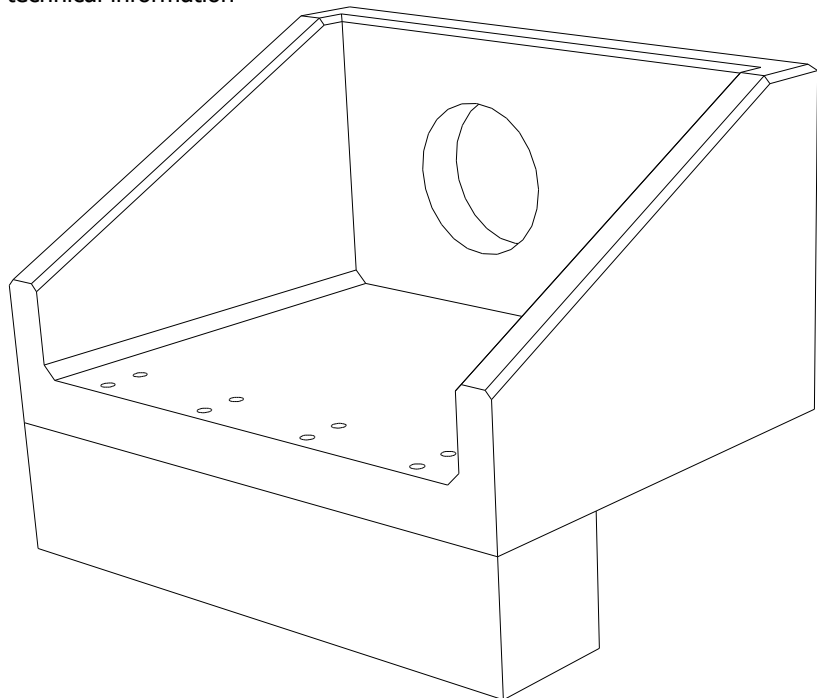


Opening in back wall cast to suit the outside diameter of the pipe at invert height required.



Note: Isometric drawing is for reference only, details may not accurately represent actual design - please see detailed views for technical information



NOTES:

- All dimensions in mm
- All measurements ± 1 mm

Specification Information

- Opening in back wall cast to suit outside diameter of the pipework
- Invert level of pipe can be set to your specification

Headwall Installation

Units should be bedded on minimum 150mm thick well compacted Class 6N or 6K* well graded granular material with a 50mm topping of fine material (Class 6L*) to ensure units are level and stable.

*Manual of contract documents for Highway Works: Volume (MCHW1) specification for Highway Works, Series 600 (Nov 09).

Handling

- Weight of concrete is based on 2.4 tonne/m³+5% is recommended for sizing lifting equipment.
- All lifting points shall be used as specified below
- Unit to be lifted as per lifting diagram

Concrete

- Mix ref: Self-compacting DC4/DS4 Mix
- Lifting strength based on 2 cubes = 20N/mm²
- Characteristic 28 day cube strength = 50N/mm²
- Concrete provides Design Chemical Class 4 (DC4) to special Digest 1, Table F2.

Reinforcement

- Reinforcement to BS EN 13369
- Scheduling, dimensioning, bending & cutting to BS8666
- Cage to be machine tied with steel wire

Manufacture

- Manufacture to BS EN 15258:2008 precast concrete products - Retaining wall elements, Factory Production Control certificate number: 0086-CPR-650448 & BS EN 13369

- Tolerances to BS EN 13369 clause 4.3.1.1

Finishing:

Class	Top	Sides	Base	Rear of back wall
A	A	A	A	Self - Levelled

- Marking: Units shall be indelibly marked to show:

- Mould reference code
- De-mould date
- Job reference number & unique product number
- Unit weight (kg)

Design

- Concrete design to EC2
- Althon have designed the concrete units only, the site conditions should be assessed for suitability by the scheme designer
- Units are designed to withstand a vertical live load surcharge of 10kN/m²
- Weight of soil = 18kN/m²
- Angle of internal friction = 30 Deg.
- Design Life: >120 years

Min Cover	Cover Block Size (mm)	Min Cover Size (mm)	Max Cover Size (mm)
All Faces	55	50	60

Exposure Classification	Exposure induced by Carbonation	Corrosion induced by Chloride	Freeze/thaw attack	Chemical attack
All Faces	XC3/4	XD3	XF4	XA3

Fabrication Specification

- Manufacture IAW EN 1090-2 EXC CLASS 1
- Material grade is to be: BS EN 10025 S275
- Welding carried out IAW EN 1090-2 PARA 7.5.4 - 7.5.18
- All fillet and butt welds to have a minimum throat thickness of 6mm & joints to be fully welded where possible.
- Ensure vertical flats are fully welded both sides where possible.
- All sharp edges and burrs are to be removed.
- Remove all weld splatter.
- Holes by punching are permitted with reaming.
- Galvanising is carried out after fabrication to BS EN ISO 1461

Handrail Specification

- Kee Klamp® Galvanised Size 8 Fittings
- Size 8 48.3mm OD 3.2mm Wall Thickness Galvanised Medium Duty Tube to BS EN 10255
- 360N/m Design Load at stated in BS 8118, BS 6180, BS 6399 & BS 7818, Civil Engineering Specification for the Water Industry (CESWI) 7th Edition Clause 2.60 Handrails & Balusters & The Engineering Equipment and Materials Users' Association (EEMUA) Publication 105 7th Edition Factory Stairways, Ladders and Handrails
- Other design loads available on request
- GRP/FRP Handrails also available

REV NO	DATE	DESCRIPTION
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DRAWING TITLE / PROJECT:

R20B 05 1810 Headwall
400 x 300mm Toe
Cranked Grating

CLIENT:

SCALE:	PAPER:	SHEET NO:	DATE:
NTS	A3	01 OF 01	21 - 08 - 20

HEADWALL WEIGHT:	TOE WEIGHT:	GRATING WEIGHT:
3620kg	665kg	TBC

PRODUCT NAME:	R20B 05 1810
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DRAWING No:	ALT-210820-100-01
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DO NOT SCALE DRAWING