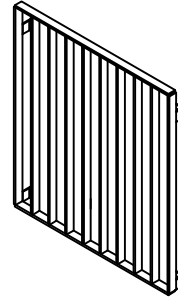
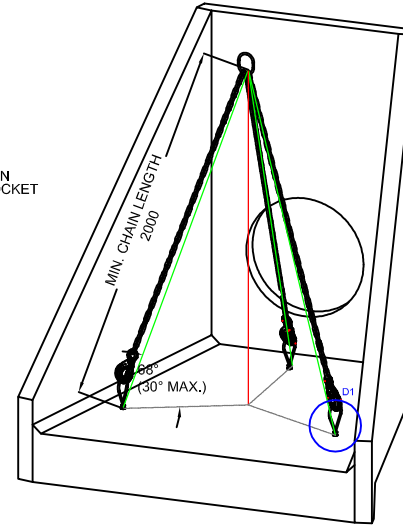
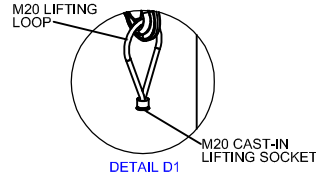
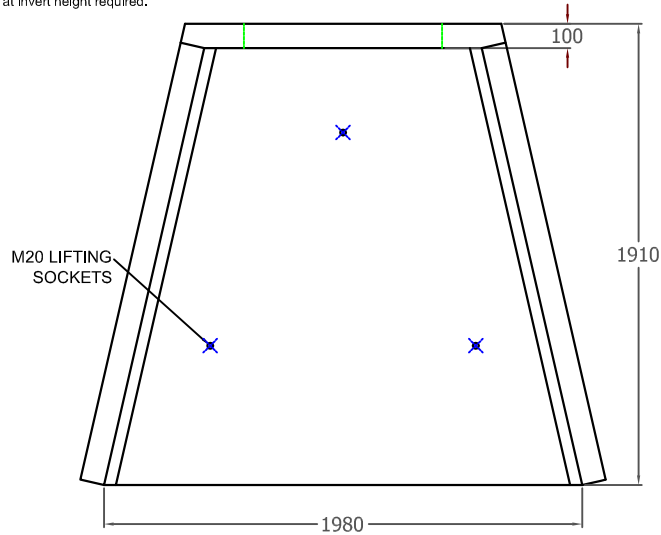
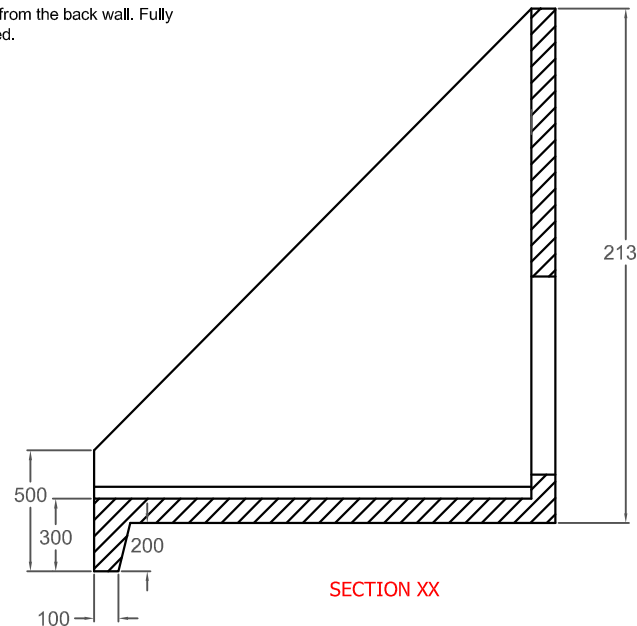
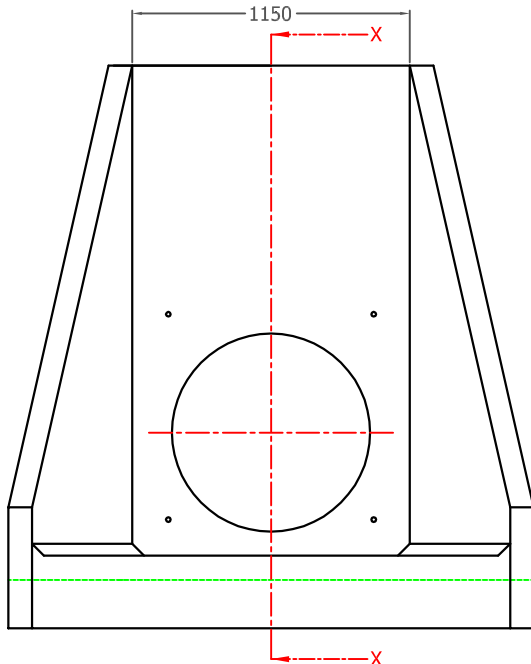


Opening in back wall cast to suit the outside diameter of the pipe at invert height required.



DETAIL D2

Grating manufactured from 40 x 10 flat at 100mm centres spaced 50mm away from the back wall. Fully Welded and hot dip galvanised.



SECTION XX

**NOTES:**

- All dimensions in mm U.O.S
- All measurements ± 1mm

**Specification Information**

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

**Headwall Installation**

Units should be bedded on minimum 100mm thick well compacted Class 6A\* selected well graded granular material.  
\*Manual of contract documents for Highway Works: Volume (MCHW1) specification for Highway Works, Series 600 (Nov.09).  
Sit the headwall level or with a slight fall 1:50 from pipe to spill mouth.

**Handling**

- A. Weight of concrete is based on 2.4 tonne/m<sup>3</sup>+5% is recommended for string lifting equipment.
- B. All lifting points shall be used as specified below.
- C. Unit to be lifted as per lifting diagram.

**Concrete**

- A. Mix ref: Self-Compacting DC4/DS4 Mix
- B. Lifting strength based on 2 cubes = 20N/mm<sup>2</sup>
- C. Characteristic 28 day cube strength = 50N/mm<sup>2</sup>
- D. Concrete provides Design Chemical Class 4 (DC4) to special Digest 1, Table F2.

**Reinforcement**

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

**Manufacture**

Manufacture to BS EN 15268:2008 precast concrete products - Retaining wall elements, Factory Production Control Certificate number: 0386-CPN6-65046 & BS EN 13369.

Tolerances to BS EN 13369 clause 4.3.1.1

**Finishing:**

	Top	Sides	Rear	Rear of back wall
Class	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**

- A. Concrete design to EC2.
- B. JKH have designed the concrete units only, the site conditions should be assessed for suitability by the scheme designer.
- C. Units are designed to withstand a vertical live load surcharge of 10kN/M<sup>2</sup>.
- D. Weight of soil = 18kN/M<sup>2</sup>.
- E. Angle of internal friction = 30°
- F. Design Life: 50 years

Min Cover	Cover Block		15th Cover		Max Cover
	Size (mm)	Size (mm)	Size (mm)	Size (mm)	
All faces	31	28	31	38	

Exposure	Exposure Index	Designation	Restrictions	Overall
SI 1	SI 1	SI 1	SI 1	SI 1

**Fabrication Specification**

- A. Manufacture IAW EN 1090-2 EXC CLASS 1
- B. Material grade is to be: BS EN 10025 S275
- C. Welding carried out IAW EN 1090-2 PARA 7.5.4 - 7.5.18
- D. All fillet and butt welds to have a minimum throat thickness of 6mm & joints to be fully welded where possible.
- E. Ensure vertical flats are fully welded both sides where possible.
- F. All sharp edges and burrs are to be removed.
- G. Remove all weld spatter.
- H. Holes by punching are permitted without reaming.
- I. Galvanising is carried out after fabrication to BS EN: ISO 1461.

**Handrail Specification**

- A. Kee Klamp Galvanised Size 8 Fittings.
- B. Size & 48.3mm OD 3.2mm Wall Thickness Galvanised Medium Duty Tube to BS EN 10225.
- C. 360Nm Design Load as stated in BS 8118, BS 6180, BS 6399 & BS 7818, Civil Engineering Specification for the Water Industry (CESWI).
- D. Other design loads available on request
- E. GRP/FRP Handrails also available.



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DRAWING TITLE / PROJECT:

1000-2130 + close coupled grating

CLIENT:	Client		
SCALE:	NTS	DRAWING DATE:	18/12/2019
HEADWALL WEIGHT:	2500kg	GRATING WEIGHT:	38kg
TOTAL WEIGHT:	2538kg		
DRAWN BY:	LC	CHECKED BY:	-
DRAWING NO:			

1000-2130 Headwall



DO NOT SCALE DRAWING