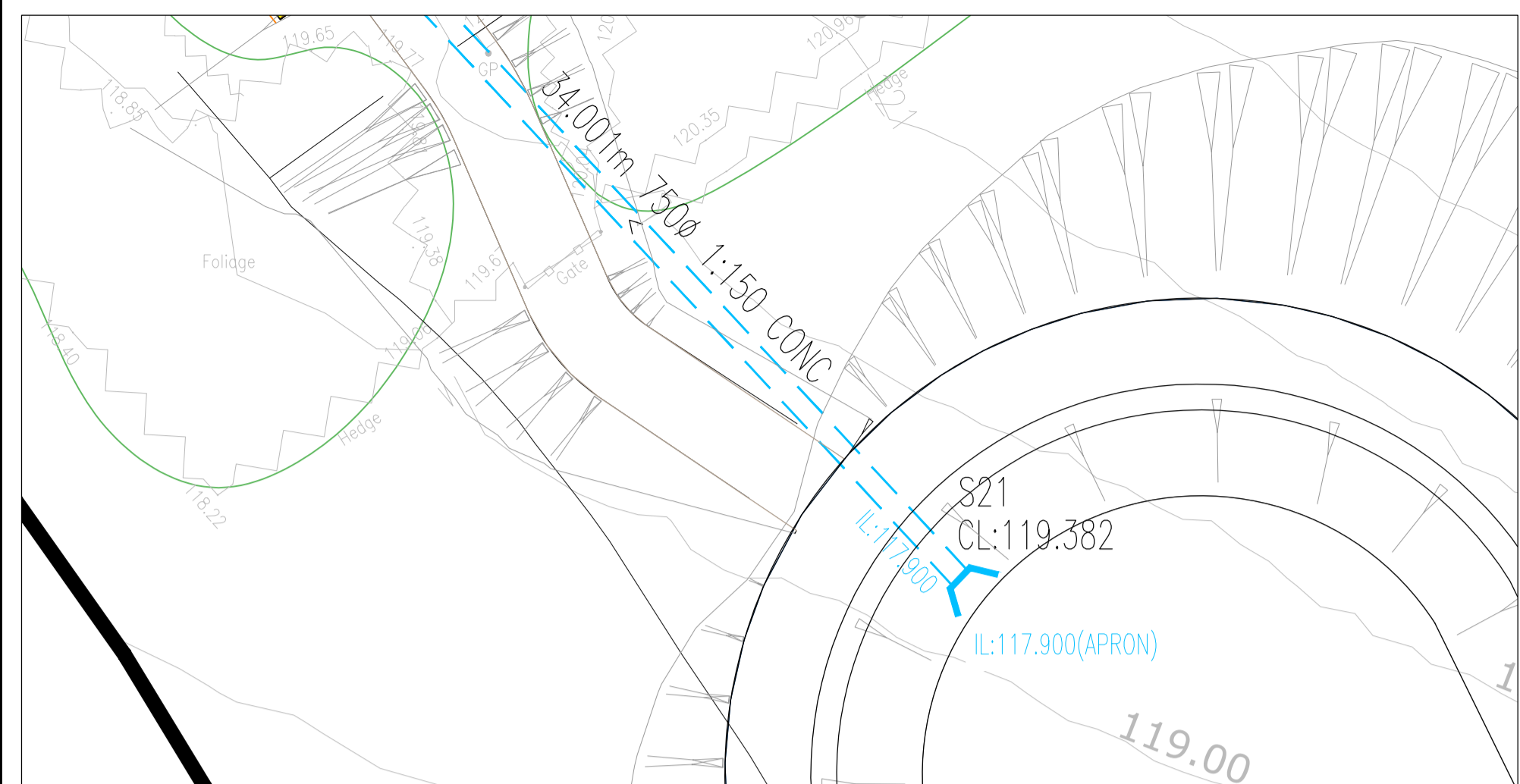


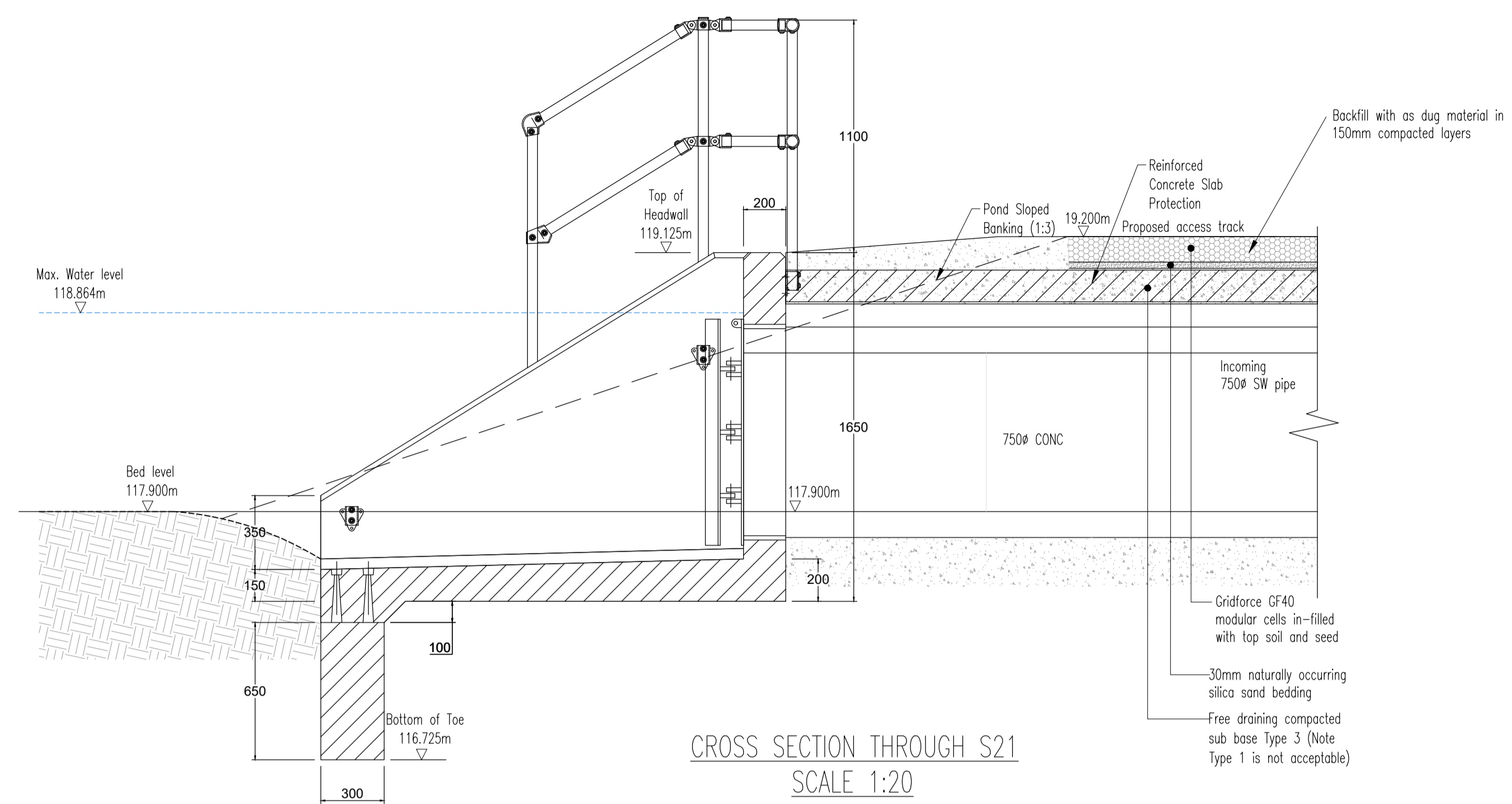
ATTENTION IS DRAWN TO THE REQUIREMENTS OF THE CONSTRUCTION DESIGN AND MANAGEMENT REGULATIONS 2015 AND THE DUTIES AND RESPONSIBILITIES CONTAINED THEREIN

Adoption General Notes

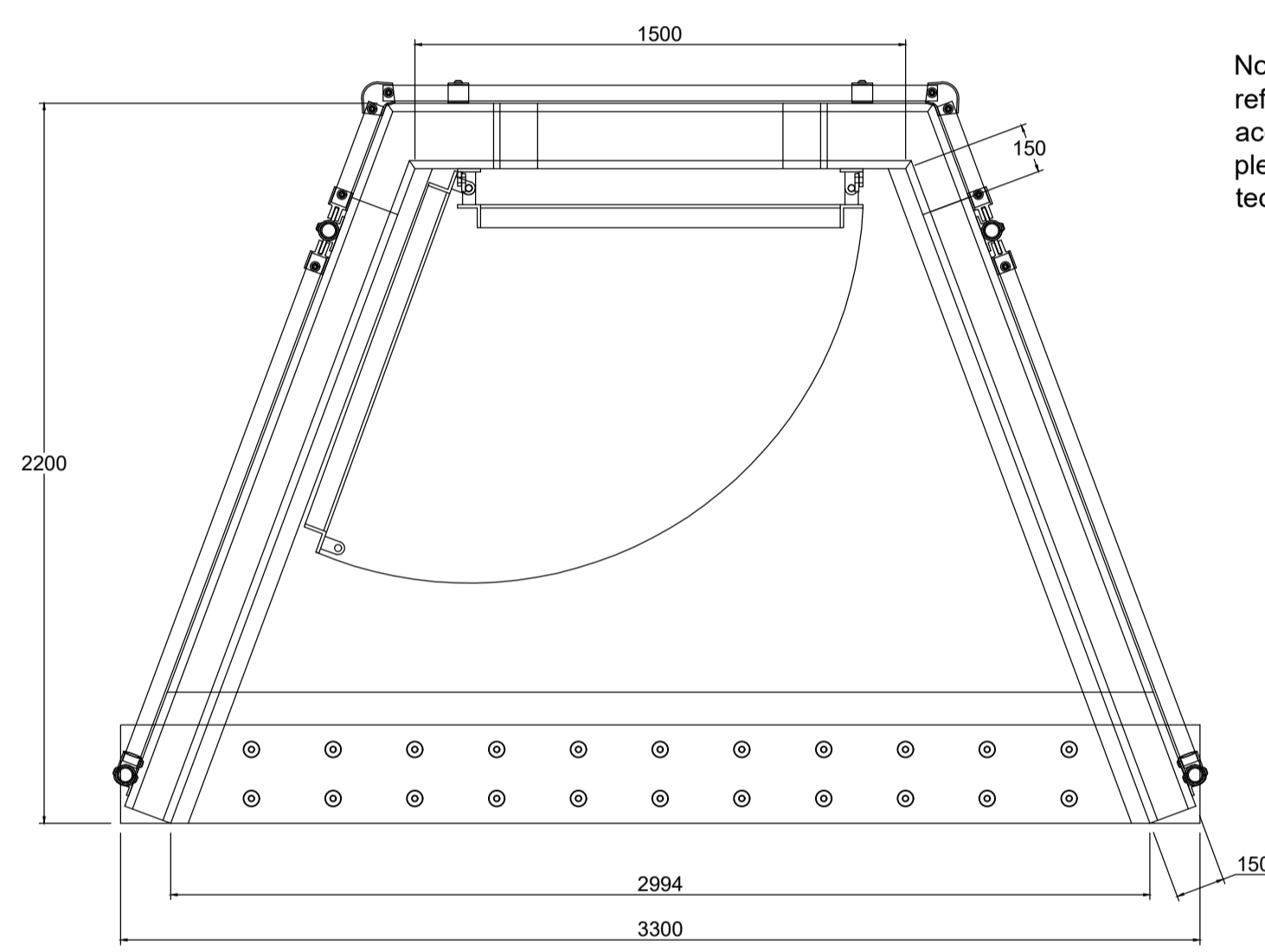
- All adoptable sewer works and materials to be in accordance with "Design and Construction Guidance (DCG)", Code for Adoption, the relevant British/European and the adopting Water Authority standards/Requirements/Addendum to the Mechanical and Electrical Specification and Kitemarked.
- Manhole covers shall/must have a clear opening of 600mm and shall be Class D400 to BS EN 124 with 150mm deep frames in highways.
- Filled ground must be filled and consolidated under the supervision, and to the satisfaction, of the adopting Water Authority before any sewer works are carried out.
- Cover slabs must carry the BS Kitemark or may be rejected by the adopting Water Authority inspector. Where the clear opening of the Kitemarked product is different to that of the cover and frame, a loading bearing slab should be fitted above the cover slab to bring the size down to 600x600mm for the adopting Water Authority specified cover size. Please refer to the Concrete Pipe Systems Association (CPSA), "Technical Bulletin" issued autumn 2004 for kitemarked cover slab opening sizes.
- The adoptable sewers should be a minimum of 1m and manholes 0.5m from kerb faces and service margins.
- Sewers must have 5 metres clearance from trees and hedges, (please also refer to Figure 2.3 on page 33 in "Sewers for Adoption" 6th Edition for restrictions on tree planting adjacent to Sewers).
- Sewers to be laid in Class "S" bedding (150mm granular bed and surround). Where depth of cover to top of the sewer is less than 1.2m in highways and verges (or less than 900mm in non-vehicular access areas) then a concrete slab should be provided above the granular bed and surround.
- Adoptable plastic sewer pipes to be BS Kitemarked (Certified to WIS 4-35-01 and BS/EN13476). Adoptable sewer pipes to be laid in maximum 3 metre lengths unless there is a specific operational need to lay longer.
- Plastic channel sections in manholes are not acceptable and clayware is preferable. Plastic channels are difficult to set in concrete and a satisfactory finish cannot be obtained on the benching.
- The chamber size of manholes with more than one connection in them may need to be increased an increment to accommodate the connections and bends.
- The adopting Water Authority policy is not generally to accept Type "C" brick manhole and 1050mm dia manhole rings. Instead it is preferred that you use a type "B" manhole with 1200mm dia or 1500mm dia rings, with the opening sited over the channel where depth of cover to pipe soffit is 1-1.5m.
- Surface water and foul rising mains to be provided with marker tape above the rising mains.
- If plastic pipes are to be used then the following should apply:
 - All adoptable sewers to be BS Kitemark (Certified to WIS 4-35-01).
 - Bedding and backfill material to conform to the requirements of Water Industry Specification 4-08-02 (Table A2)
- Where plastic pipes are proposed for adoptable sewers, structural calculations for the plastic pipes and a site investigation report to prove that the ground condition is suitable for the plastic pipes are to be produced.
- Where plastic pipes are installed into the ground prior to getting full technical approval, the developer must provide a CCTV survey of the prospectively adoptable sewers and a deformation test (Light-Line test) of the plastic pipes.
- Demarcation chambers to be a min. 450mm dia chamber for 100mm dia foul & 150mm dia surface water pipes up to 1.2m deep. For depths greater than 1.2m, restricted access opening to 350mm is required for safety reasons.
- Maximum depth of demarcation chamber to be 2m, where depth exceeds 2m, manhole to be constructed as type B manhole.
- Where a B125 cover and frame has been approved, this must not be coated in plastic and must have lifting eyes suitable sizes to accommodate standard lifting keys. Screw down covers are not acceptable.
- The adopting Water Authority is not obliged to accept filter drain/land drainage runoff into the public sewer network or adoptable drainage system (directly or indirectly). An alternative method of disposal of the land drainage runoff will therefore be required and you will have to liaise with the Land Drainage Authority/Land Drainage Section with regard to the disposal of the filter drain/land drainage runoff is required.
- Sulphate resisting cement (C20-DC2) and precast concrete products must be used or a laboratory report provided proving that such precautions are not necessary.
- Strength of vitrified clay pipes (if used) to be 40kN/m for 1000, 40kN/m for 1500, 45kN/m for 2250 and 72kN/m for 3000. All concrete pipes to be Class 120 concrete to EN 1916/BS 5911-1:2002.
- All levels of existing drainage to be confirmed prior to work commencing on site.
- The contractor must allow for any fees required for road and sewer opening permits, sewer connections and make the appropriate applications.
- There should be enough clearance to accommodate the bedding for both pipes, approx 300mm: If crossover is near rocker then the clearance needed may be increased.



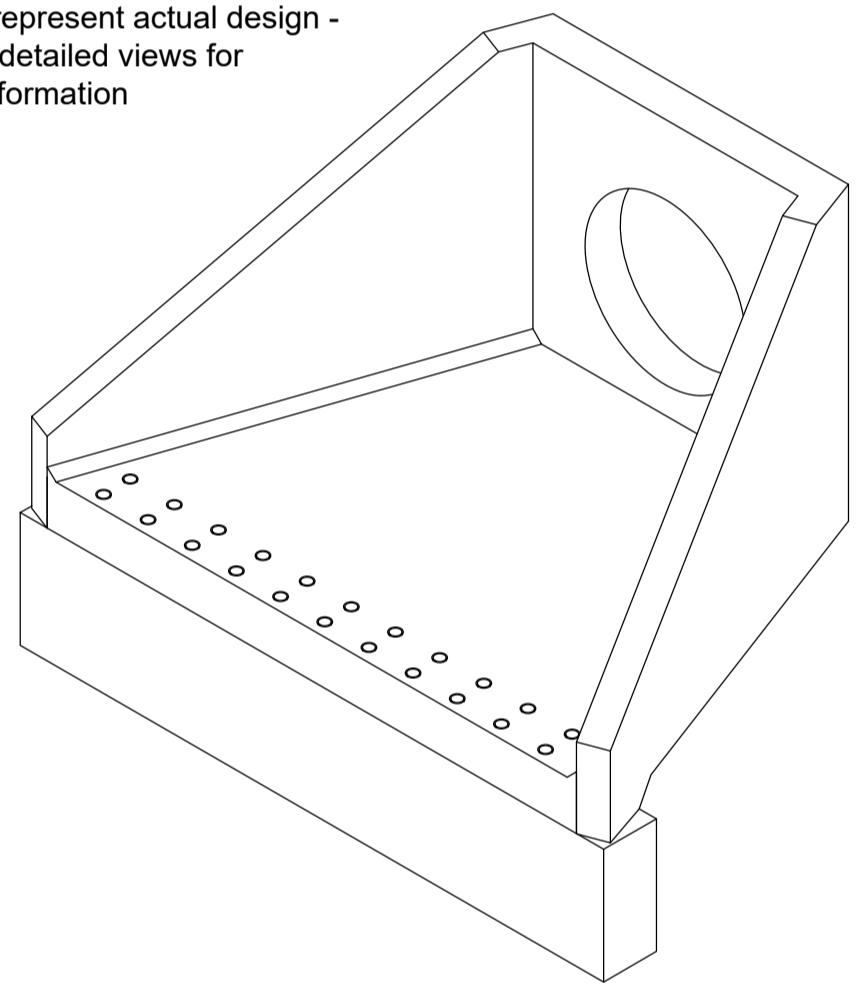
PLAN OF HEADWALL S21
SCALE 1:200



CROSS SECTION THROUGH S21
SCALE 1:20



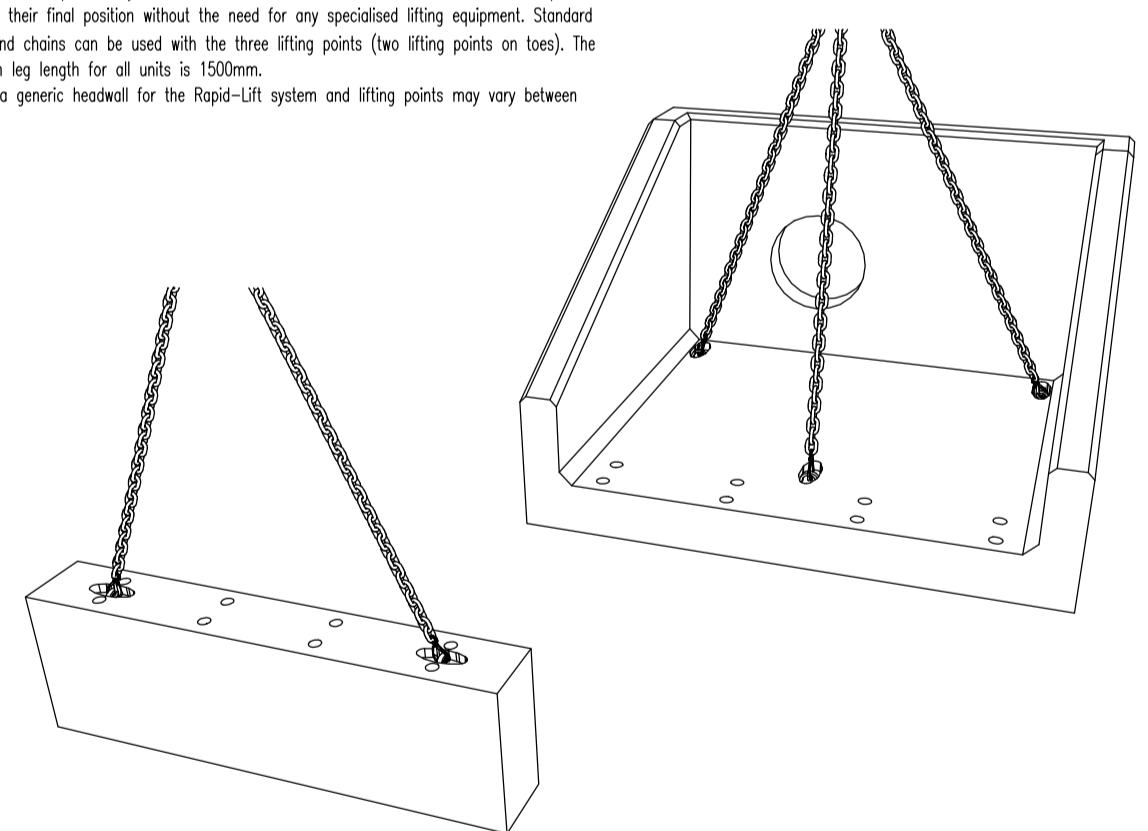
Note: Isometric drawing is for reference only, details may not accurately represent actual design - please see detailed views for technical information



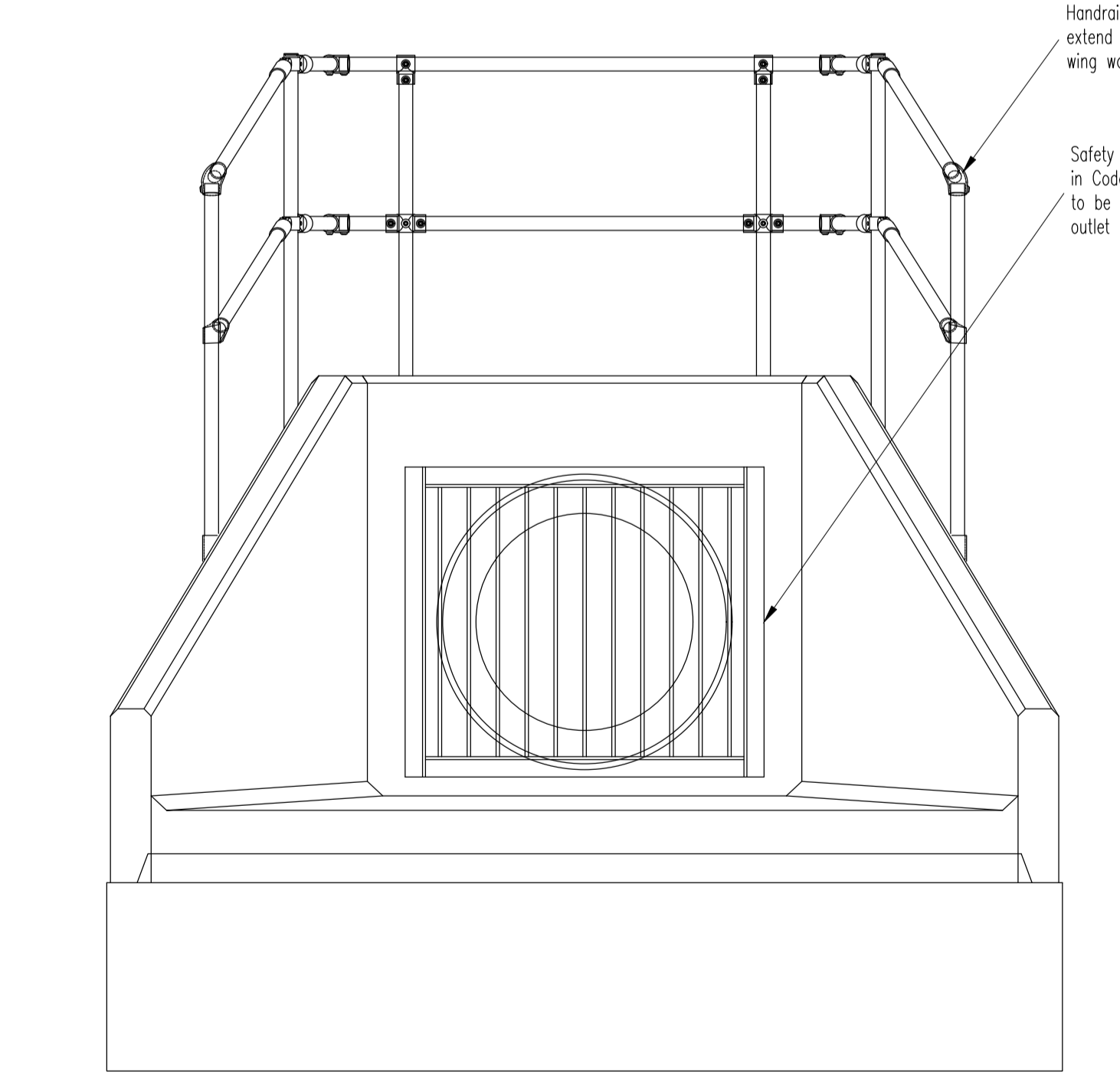
REFER TO HEADWALL MANUFACTURER GUIDANCE AND TECHNICAL DETAILS FOR INSTALLATION AND CONSTRUCTION DETAILS.

Rapid-Lift Lifting Anchors

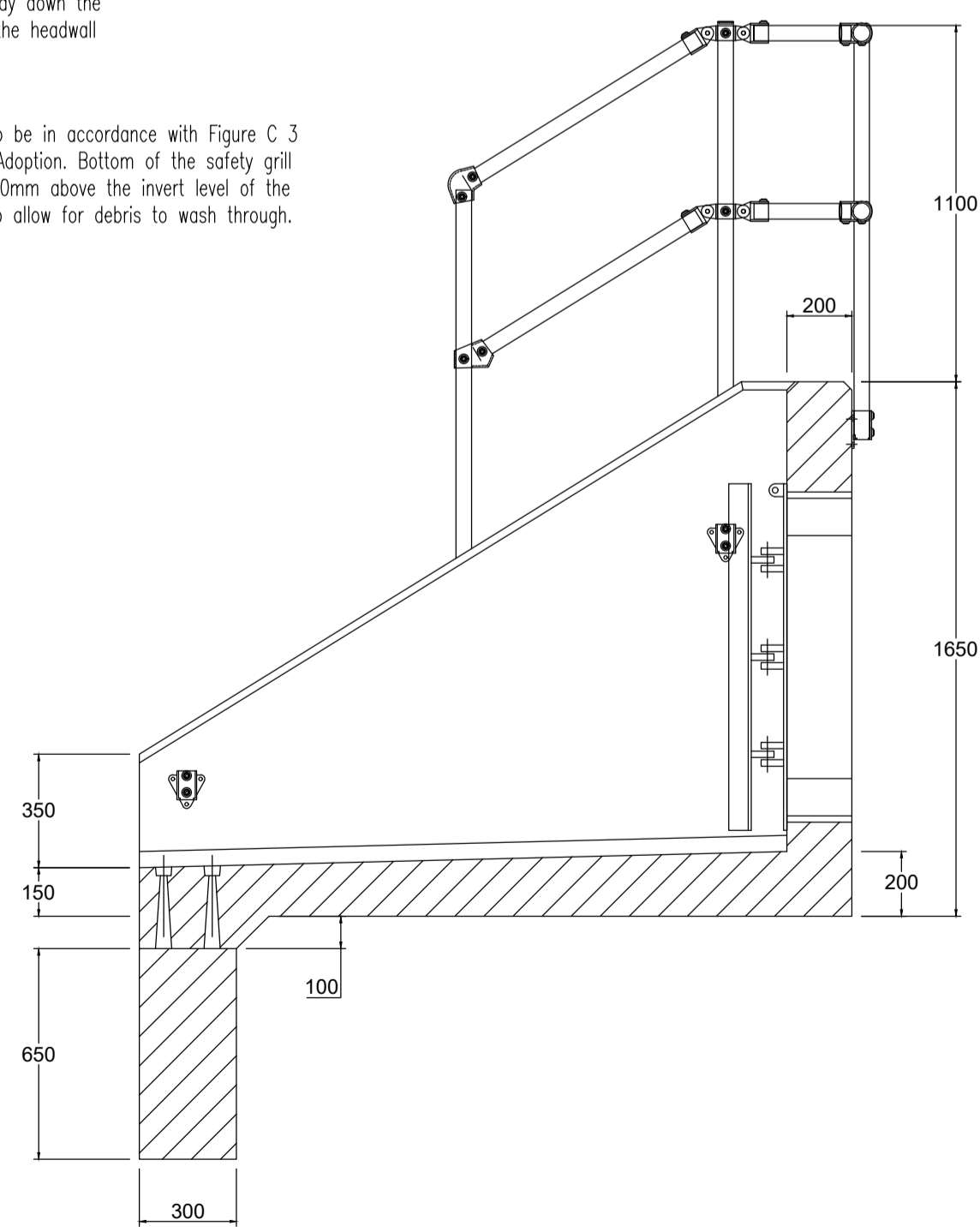
All Althon SFA, RSFA, R, SP and AH12C Headwalls and toes are fitted with Rapid-Lift lifting anchors. The Althon Rapid-Lift system allows the Headwalls and toes to be offloaded, transported and located in their final position without the need for any specialised lifting equipment. Standard lifting hooks and chains can be used with the three lifting points (two lifting points on toes). The minimum chain leg length for all units is 1500mm. Drawing is of a generic headwall for the Rapid-Lift system and lifting points may vary between headwalls.



SCALE 1:50



Handrails are to only extend half way down the wing wall of the headwall
Safety grille to be in accordance with Figure C.3 in Code for Adoption. Bottom of the safety grille to be set 150mm above the invert level of the outlet pipe to allow for debris to wash through.



ALTHON SFA15B HEADWALL + 650 X 300MM TOE + SFA1
750 OUTFALL SAFETY GRILLE + 3 SIDED KEE KLAMP
SCALE 1:20

SUBJECT TO THE APPROVAL OF ALL RELEVANT AUTHORITIES

A	IC	26.02.26	Updated to suit new layout 1187-EA-A-C30	MI	MI
/	IC	14.11.25	Issued for approval	MI	MI
Rev	By	Date	Revision	Chk	Appd.

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ARP Associates is a trading division of ARP Geotechnical Ltd, a company registered in England and Wales with company number 3773831, whose registered office is at 5/6 Northwest Business Park, Servia Hill, Leeds LS6 2QH

TITLE	
PROPOSED HEADWALL DETAIL S21	
PROJECT	
COCKLEY HILL, KIRKHEATON	
CLIENT	
GLEESON HOMES	
DRAWING STATUS	
PRELIMINARY	
Scale	Date
AS SHOWN @ A1	NOV 25
Drawn	IC
Chk.	MI
Org. No.	Rev
2298/03/13.02	A