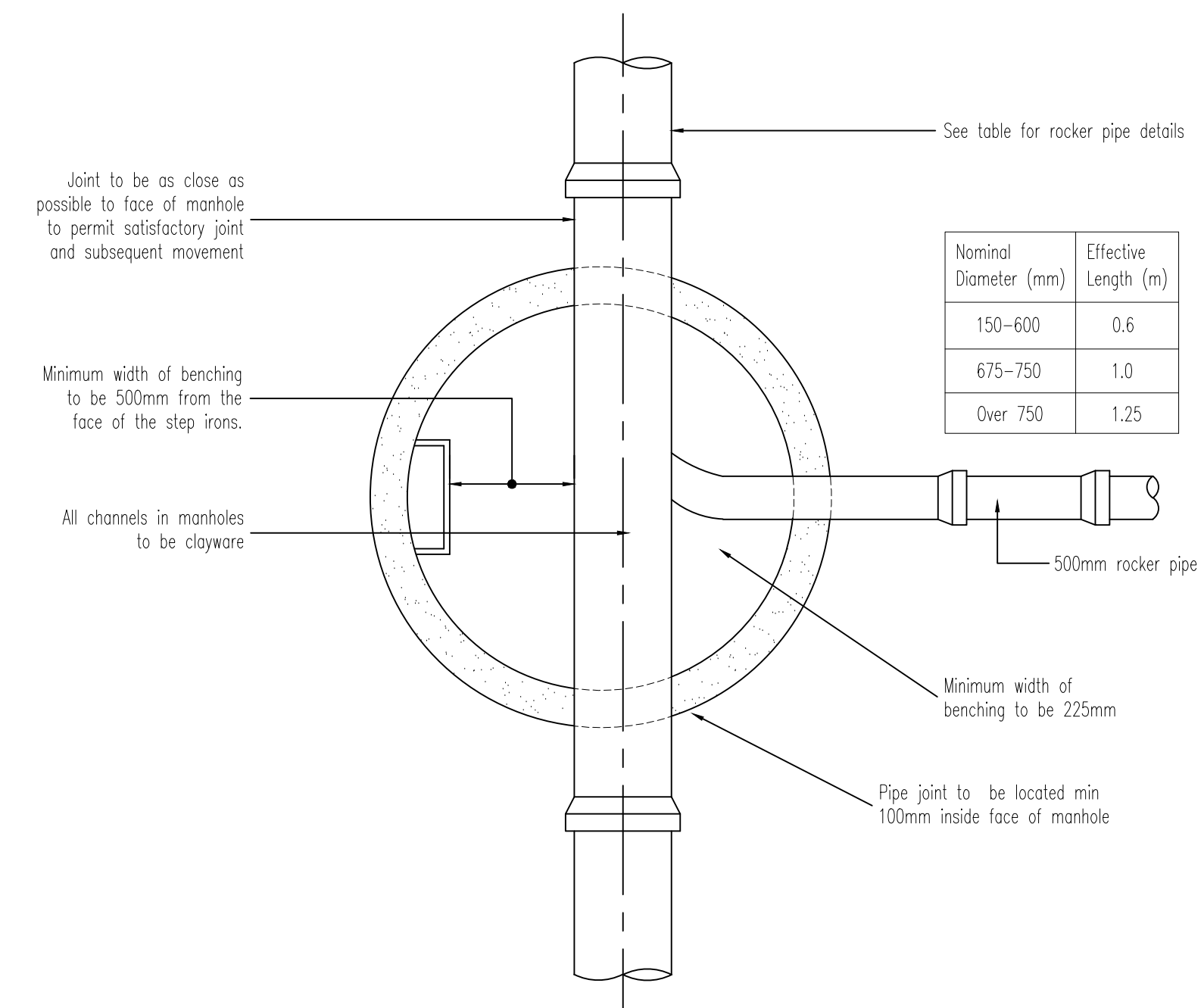
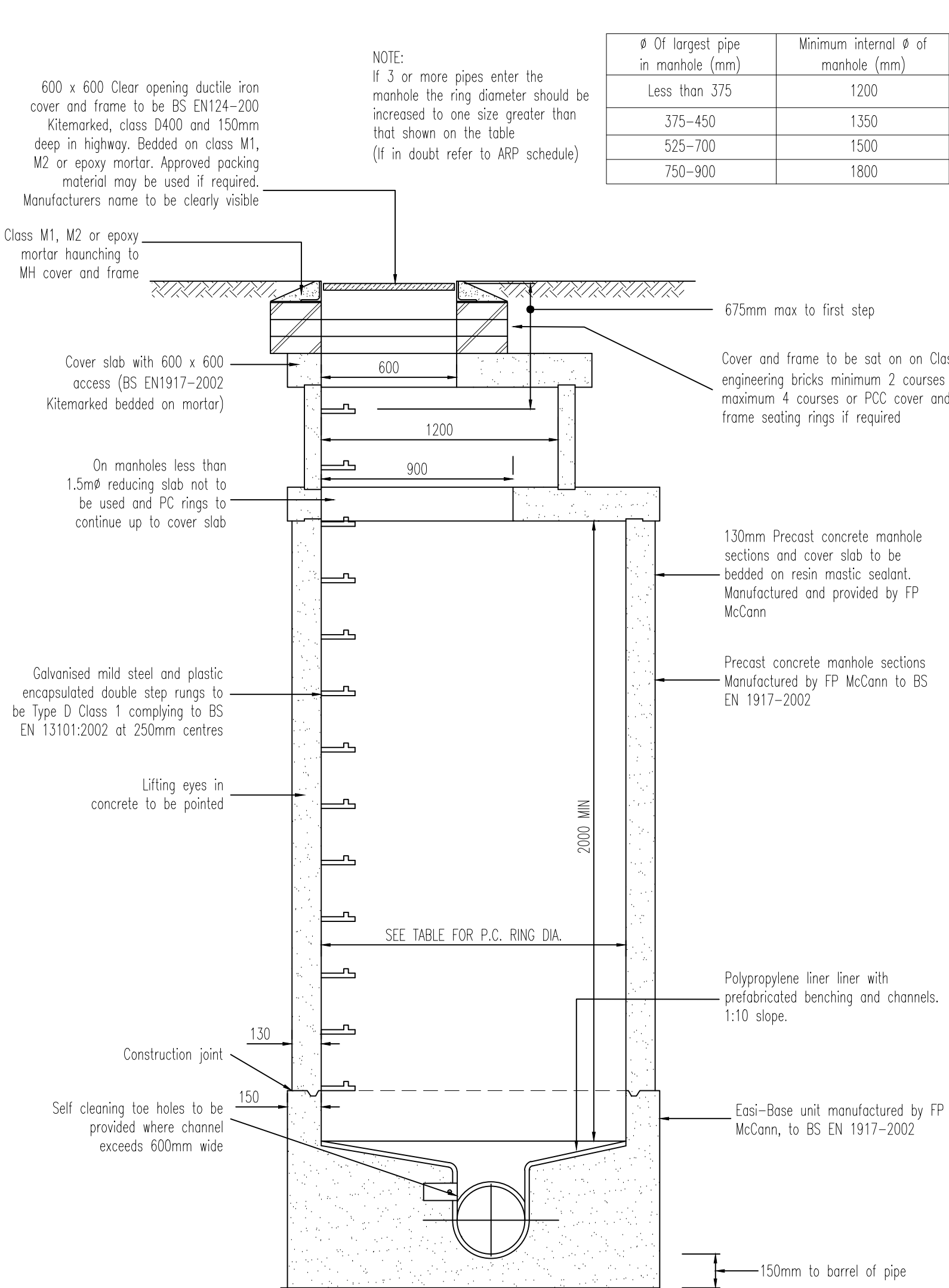
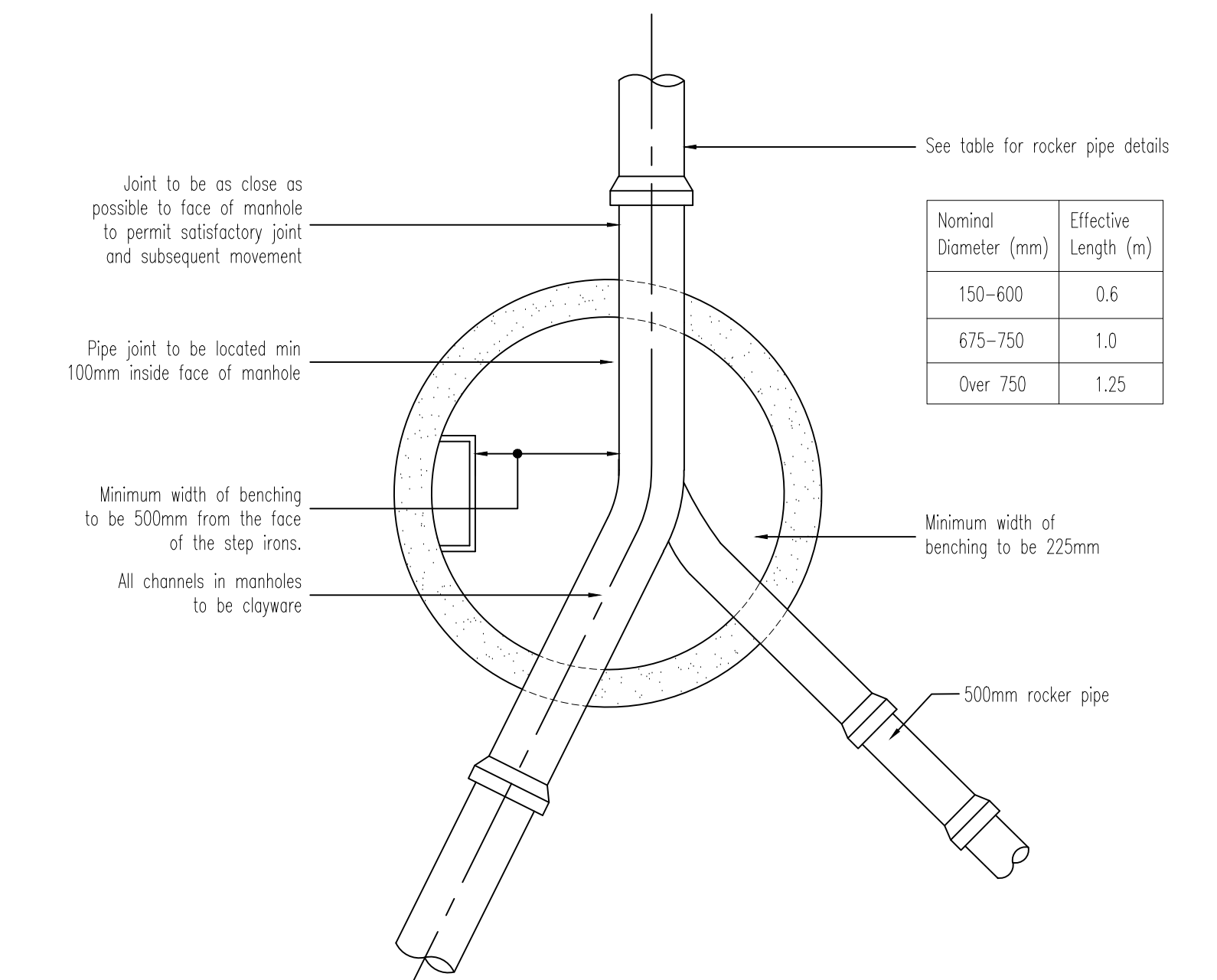
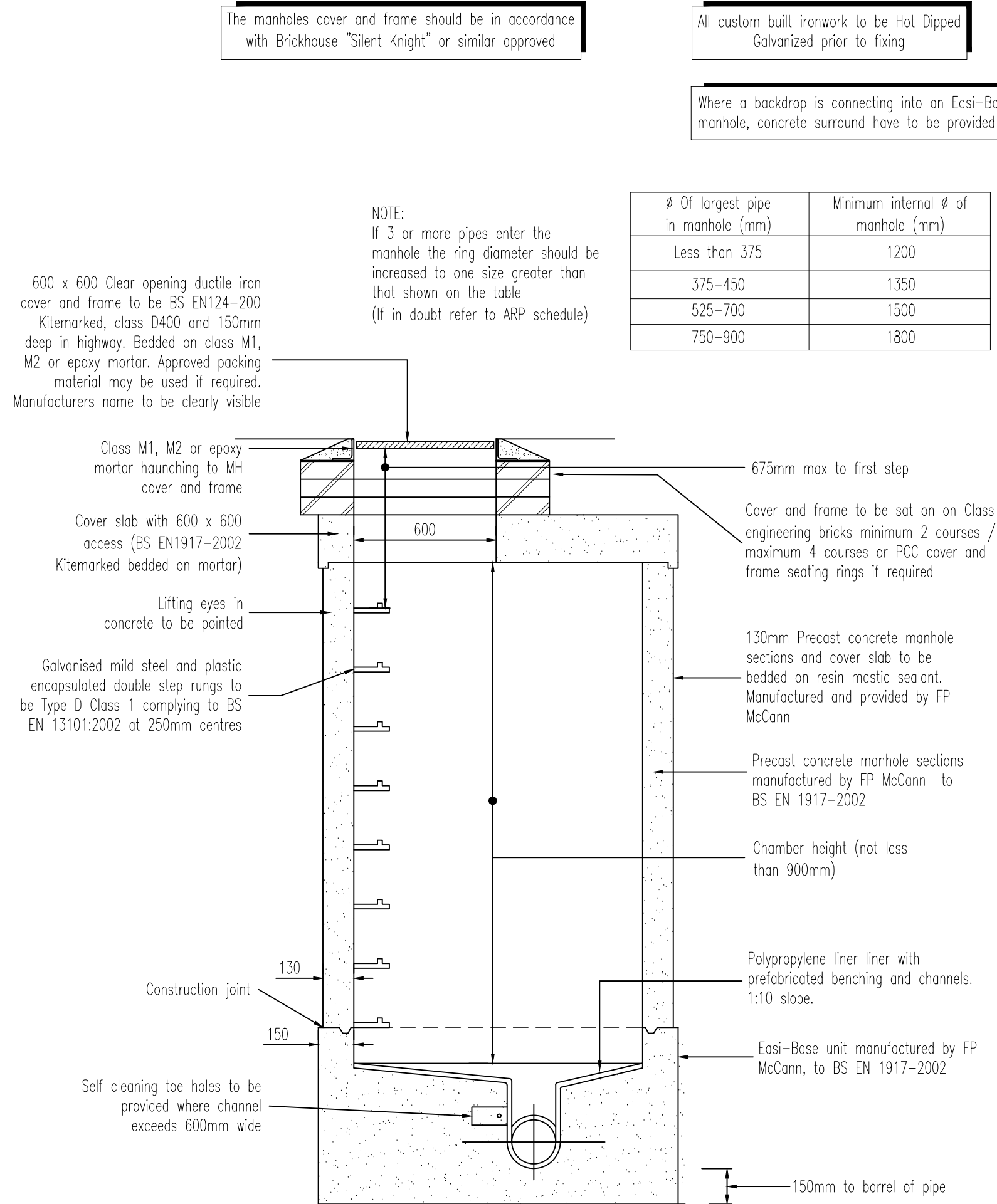




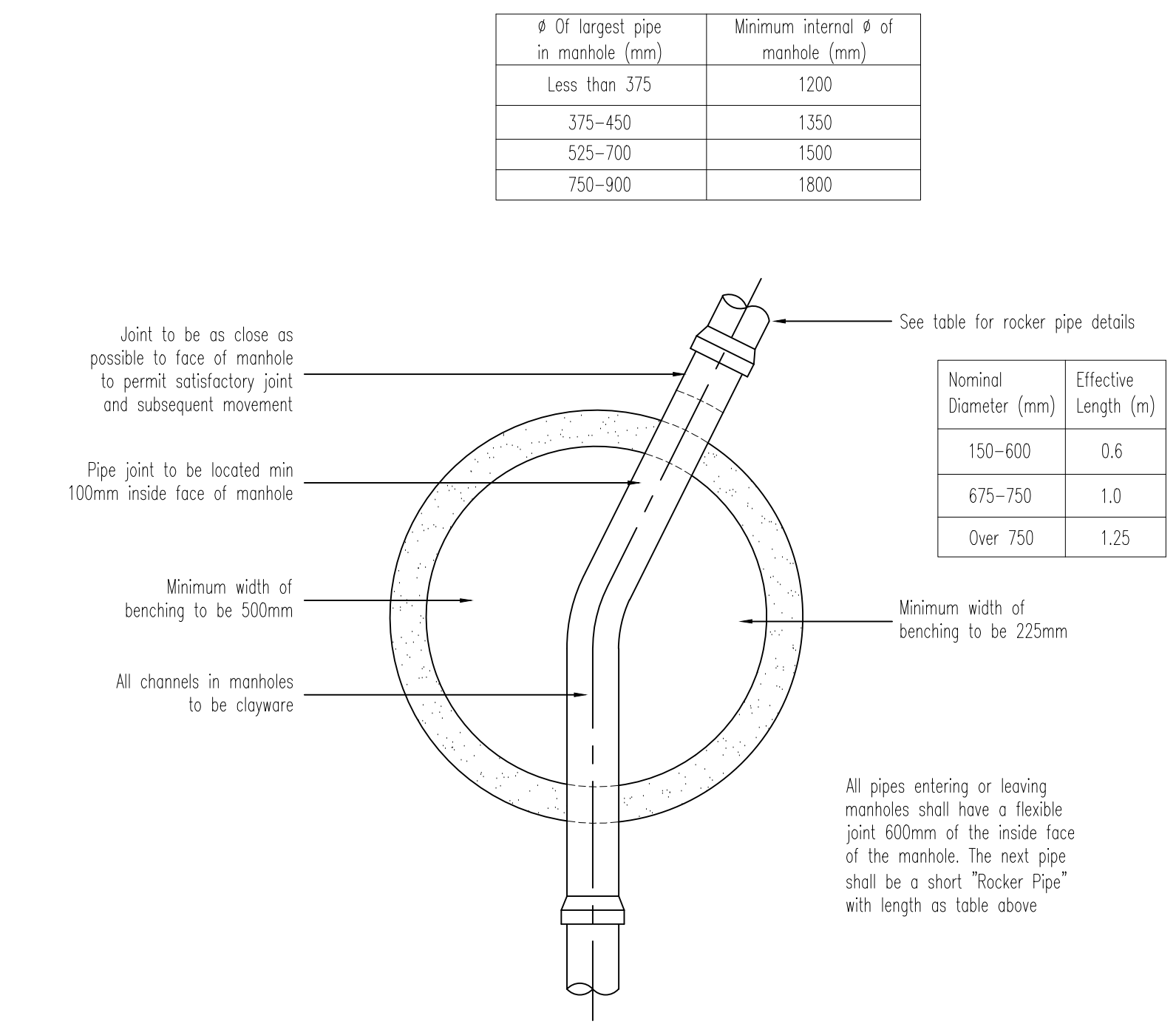
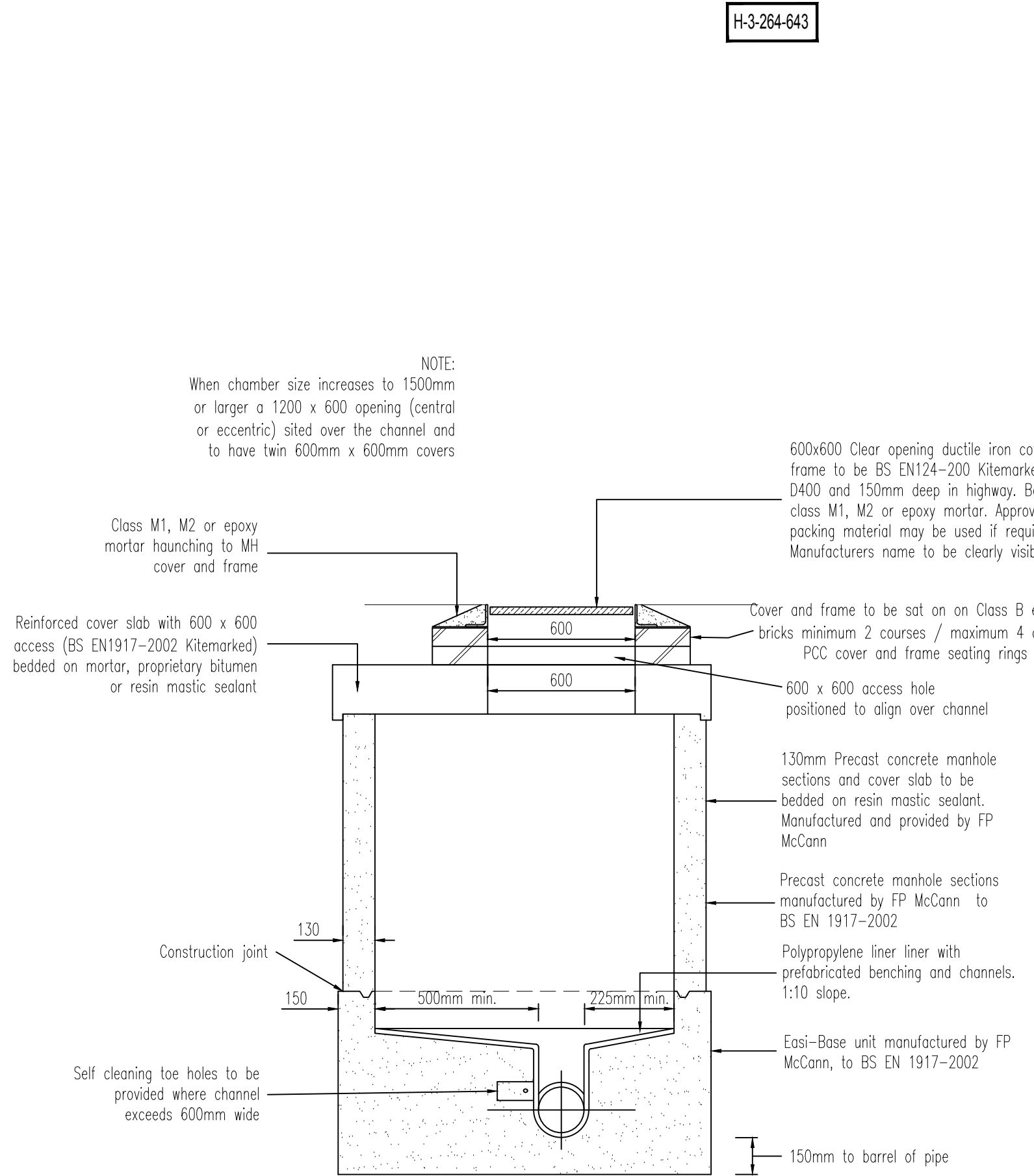
TYPICAL MANHOLE DETAIL-TYPE A

SEWERS FOR ADOPTION - 6TH EDITION
Max depth from ground level to soffit of pipe 3.0m to 6.0
The design of the manhole will need to comply with the undertakers safety policy



TYPICAL MANHOLE DETAIL-TYPE B

SEWERS FOR ADOPTION - 6TH EDITION
Max depth from ground level to soffit of pipe 1.0m to 3.0m
The design of the manhole will need to comply with the undertakers safety policy



TYPICAL MANHOLE DETAIL-TYPE B1 SHALLOW MANHOLE

SEWERS FOR ADOPTION - 6TH EDITION
Max depth from ground level to soffit of pipe 1.0m to 1.5m
The design of the manhole will need to comply with the undertakers safety policy

SUBJECT TO THE APPROVAL OF ALL RELEVANT AUTHORITIES

N O T E S

- Yorkshire Water notes:**
- All adoptable sewer works and material to be in accordance with "Code for Adoption". The Relevant British/European and Yorkshire Water's 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 Yorkshire Water before any sewer works are carried out.
 - Yorkshire Water is not obliged to accept filter drain/land drainage run-off into the public sewer network or adoptable drainage system (directly or in-directly). An alternative method of disposal of the land drainage run-off will therefore be required and you will have to liaise with the Local Authority, Land Drainage
 - Cover slabs must carry the BSI Kitemark or will be rejected by Yorkshire Water 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 600mm x 600mm for the Yorkshire Water specified cover size. Please refer to Concrete Pipe Systems Association (CPSA), "Technical Bulletin" issued Autumn 2004 for Kitemarked cover slab opening sizes
 - Sulphate resistant cement (C20-DC2) and precast concrete products must be used or a laboratory report provided proving that such precautions are not necessary.
 - 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.
 - 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 none vehicular access areas) then a concrete slab should be provide above granular bed and surround.
 - Bedding and backfill material to conform to the requirement of Water Industry Specification 4-08-02 (Table A2).
 - The chamber size of manholes with more than one connection in them may need to be increased on increment to accommodate the connections and bends.
 - Yorkshire Water policy is that Type "C" brick manholes and 1050mm dia manhole rings are not preferred. 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.
 - Adoptable plastic sewer pipes to be BSI Kitemarked (certified to WS 4-35-01 and BS EN13476) Adoptable plastic sewer pipes to be laid in maximum 3 metre lengths unless there is a specific operational need to lay longer lengths. Plastic channel sections in manholes are not acceptable and Yorkshire Water would prefer clayware channel in manholes. We have found that plastic channels are difficult to set in concrete because they float and a satisfactory finish cannot be obtained on the benching.
 - The minimum crushing strength for clay pipes should be as follows : 100mm dia. 40KN/m, 150mm dia. 40KN/m, 225mm dia. 45KN/m and 300mm dia. 72KN/m. The minimum crushing strength for concrete pipes should be - (Class 120 to EN 1916/BS5911-1 2002). Plastic pipes should conform to WIS 4-35-01 and BS EN13476.
 - Where a B125 cover and frame has been approved, this must not be coated in plastic and must have lifting eyes suitably sized to accommodate standard lifting keys. Screw down covers are not acceptable.

KMC Structures AP - For MH chambers of 1500mm diameter and above.

Technical approval for the design of circular RC cover slabs up to and including 3.0m (internal diameter) will not be required subject to the following conditions:

- Proof that the circular RC cover slabs units to be used at this site are marked with "BS EN 1917" & "BS 5911-3" R to confirm that the product represents a manufacturer's declaration that the product meets the requirement of the standards.
- Confirmation of Design Chemical Class (DC-Class) of concrete in the cover slab units.
- Submission of a satisfactory Design & Check Certificate (Category 0) in compliance with BD2/12-Technical Approval of Highway Structures.
- Submission of a satisfactory Construction Compliance Certificate in accordance with BD2/12 upon the completion of works.

A	MB	04.11.21	REVISED TO SUIT SECTION 104 COMMENTS	RJ	RJ
/	BHB	13.04.21	PRELIMINARY	MI	MI
Rev	By	Date	Revision	Chk	Apvd.

ARP ARP ASSOCIATES
Chartered Consulting Engineers

Northwest House • 5 & 6 Northwest Business Park • Servia Hill, Leeds. • LS6 2QH
☎ 0113 245 8498 ☎ 0113 244 3864 ✉ leeds@arpassociates.co.uk ✉ www.arpassociates.co.uk

ARP Associates is a trading division of ARP Geotechnical Ltd, a company registered in England and Wales with company number 3773833, whose registered office is at 5/6 Northwest Business Park, Servia Hill, Leeds LS6 2QH

TITLE				
TYPICAL DRAINAGE DETAILS SHEET 1 OF 3				
PROJECT				
PLANE STREET, HUDDERSFIELD				
CLIENT				
UNITY HOUSING ASSOCIATION				
DRAWING STATUS				
APPROVAL				
Scale	Date		Drawn	BHB
AS SHOWN © A1	APR 21		Chk.	RJ
Drg. No.				Rev
257/05/07.01				A