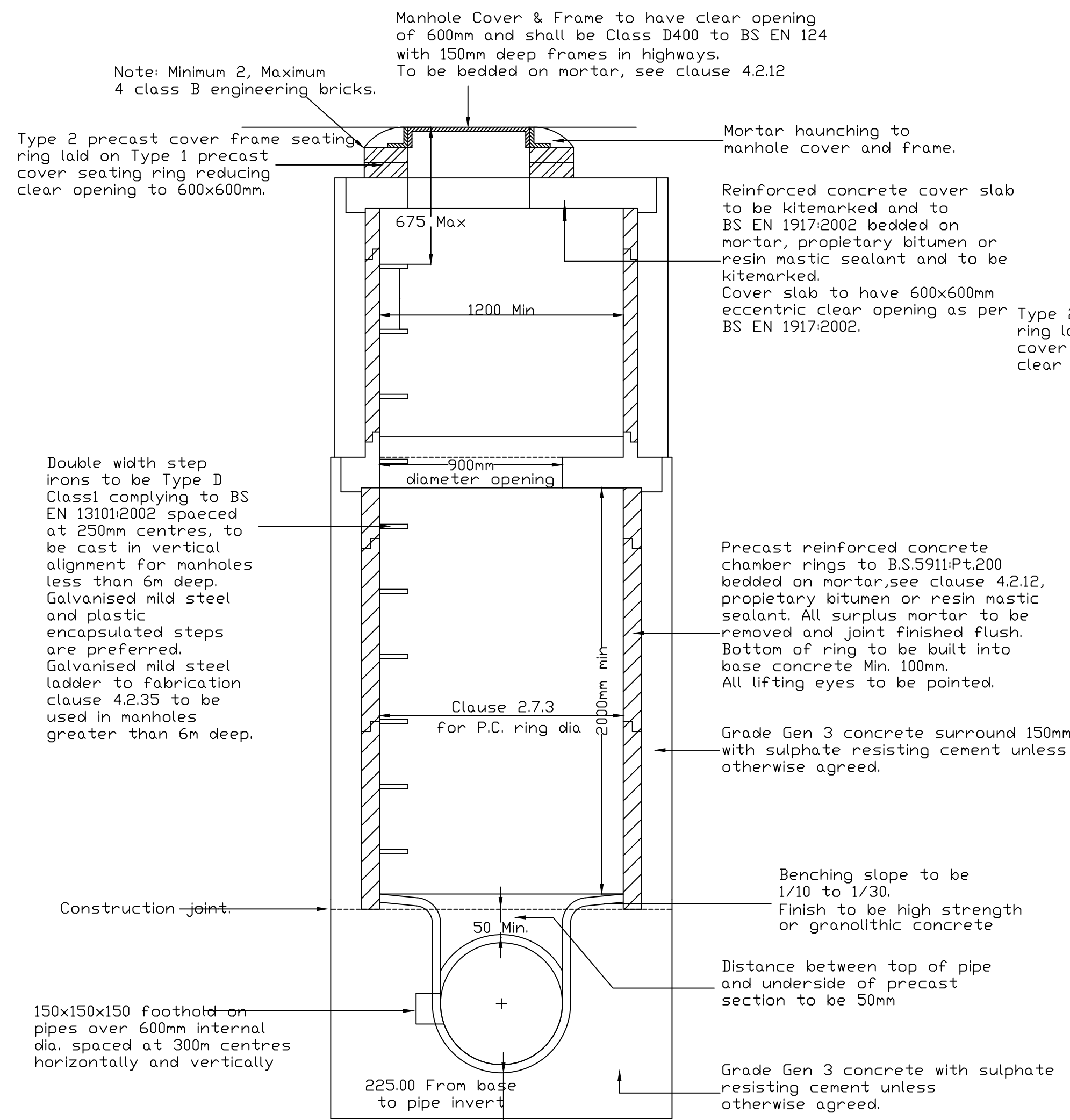
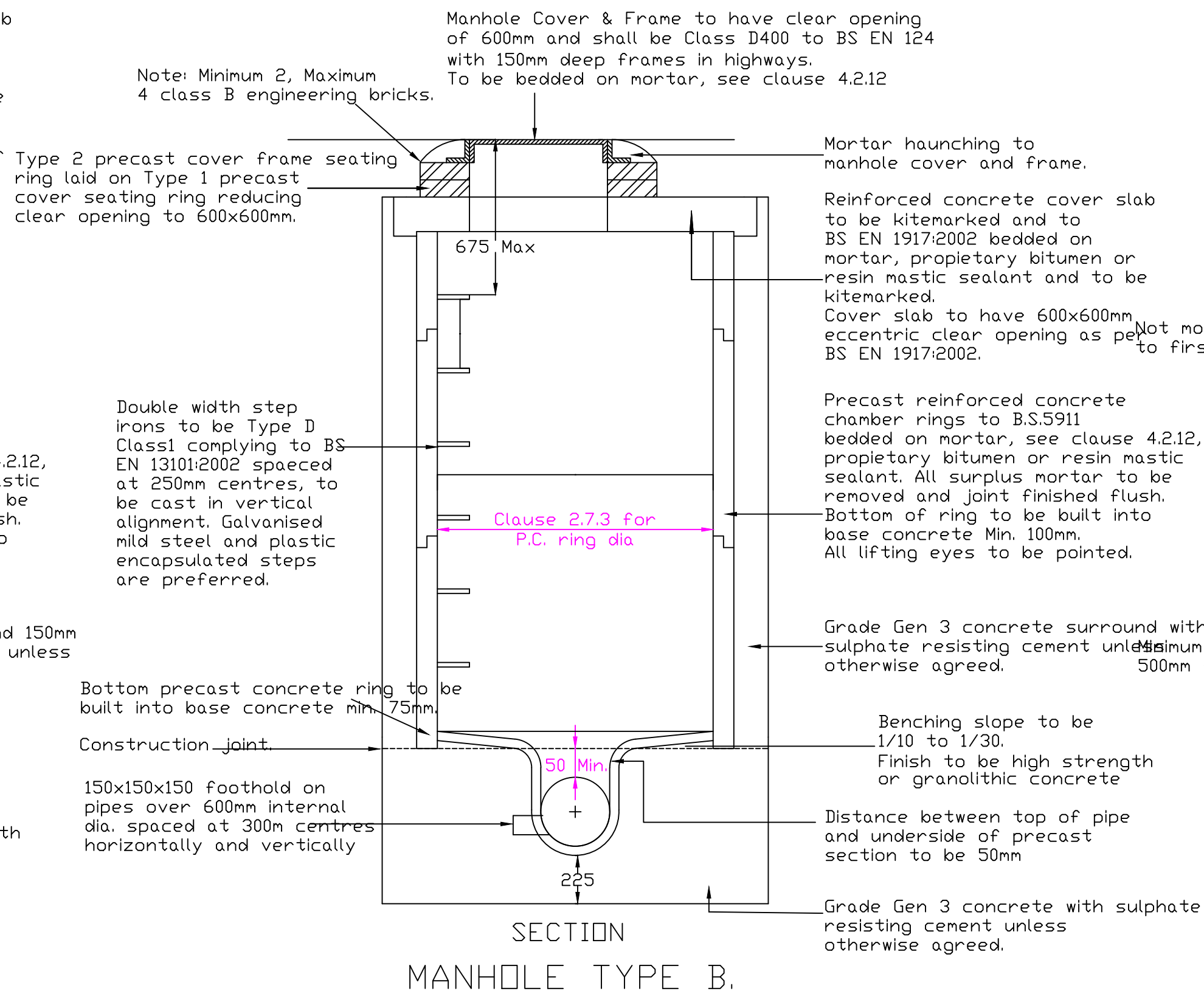


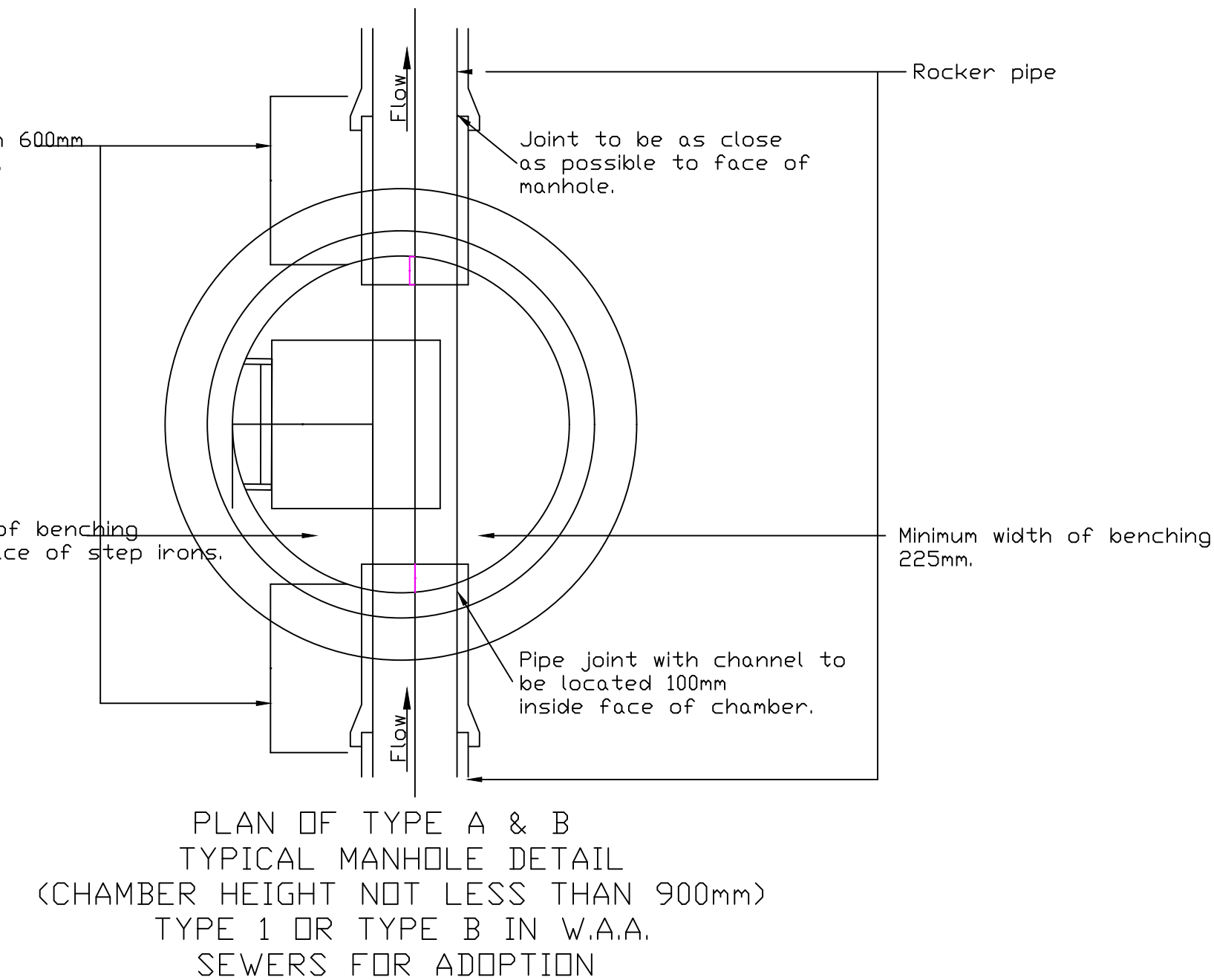
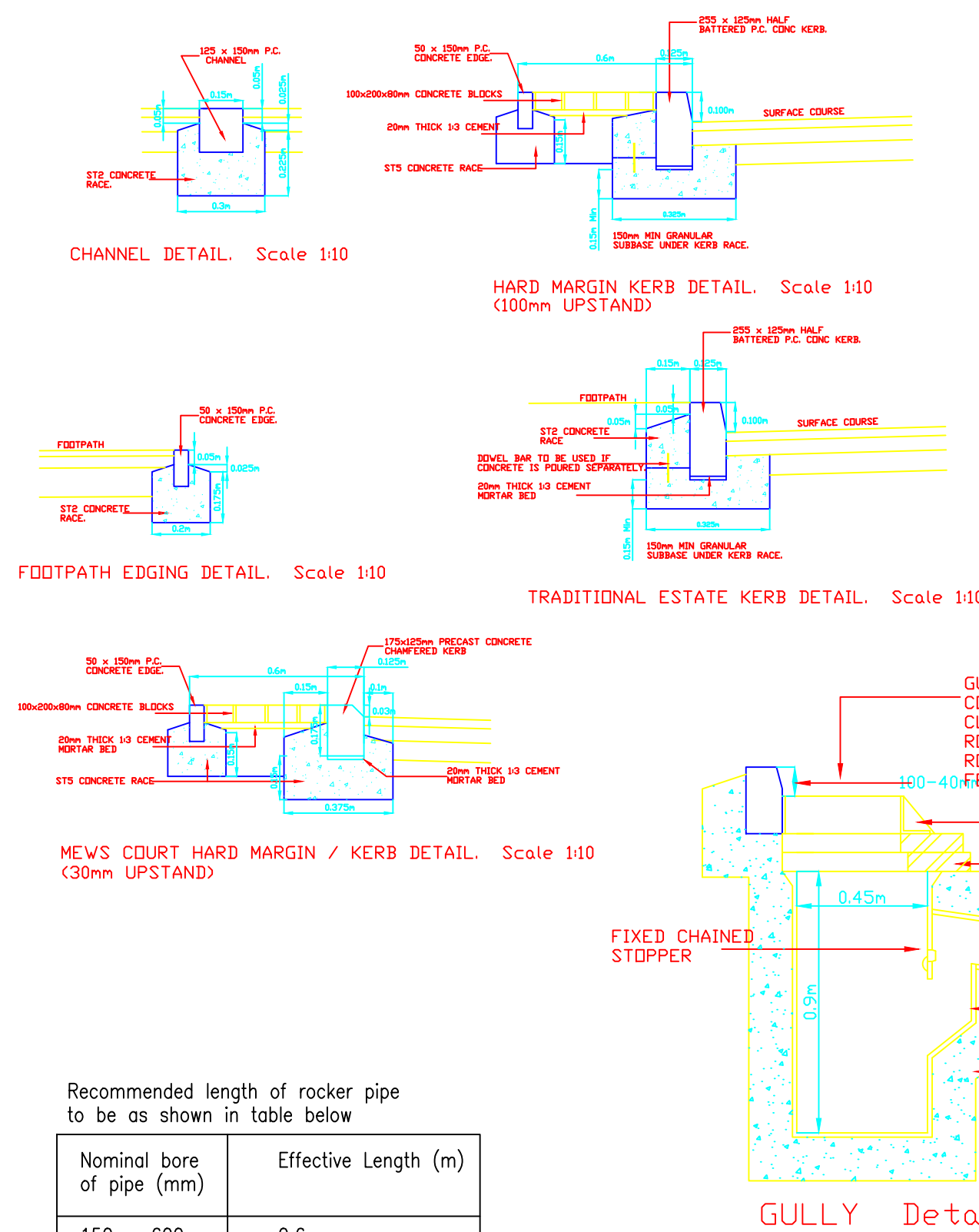
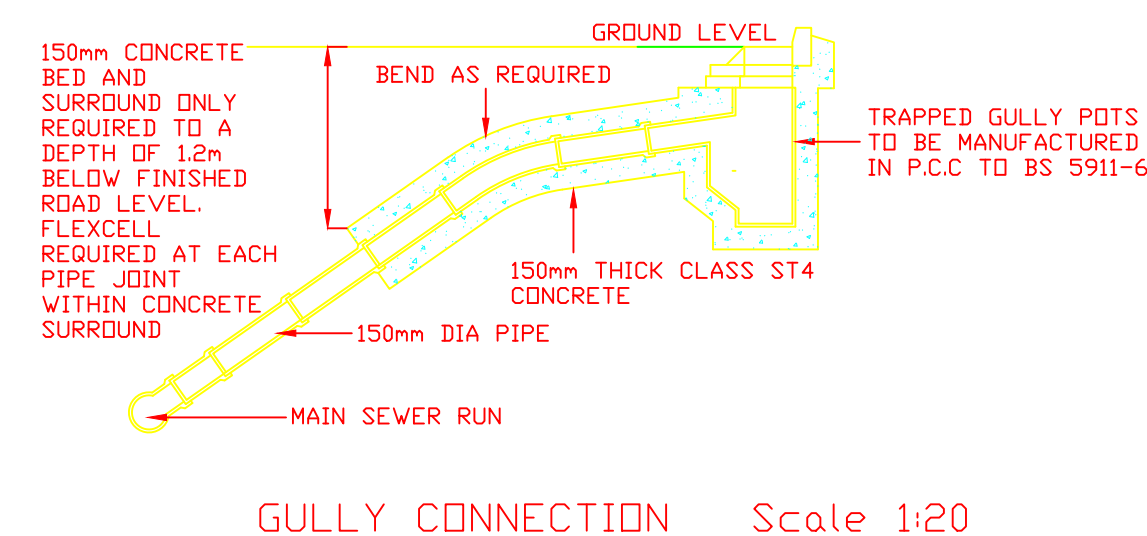


NOTE
Double width step irons required to all manholes up to 6m deep.



RISK ASSESSMENT	LEVEL OF RISK	SUGGESTED ACTION
DEEP EXCAVATIONS ASSOCIATED WITH NEW DRAINAGE WORKS	HIGH	ENSURE ALL EXCAVATIONS HAVE ADEQUATE TRENCH SUPPORTS
HANDLING LARGE DIAMETER MANHOLE RINGS AND CIRCULAR PIPES	HIGH	USE CORRECT LIFTING EQUIPMENT AND INSURE OPERATORS WEAR APPROPRIATE PROTECTIVE CLOTHING AND FOLLOW CORRECT PPE
CONTACT WITH SERVICES	MED	OPERATIVES TO USE CORRECT BREAKING EQUIPMENT/CORRECT PPE
NOISE	MED	OPERATIVES TO USE CORRECT EAR PROTECTION/CORRECT PPE
DRAINAGE EXCAVATIONS ADJACENT EXISTING BOUNDARY STRUCTURES	HIGH	ENSURE TRENCH SHUTTERING ARE PROVIDED TO PROTECT AND BULKHEADS WHERE REQUIRED
DRAINAGE EXCAVATION IN PUBLIC HIGHWAYS	HIGH	ENSURE CORRECT USE OF TRAFFIC SUPPORTS IN EXCAVATION AND SLOTTED BARRIERS TO PROTECT PEDESTALS OF THE JUNCTION
MAINTAIN ACCESS TO ADJACENT PROPERTIES AND OCCUPANTS	HIGH	ENSURE WORK ARE PROTECTED WITH BARRIERS AND SIGNS TO GUIDE THE TRAFFIC AWAY FROM THE WORKS
DRAINAGE EXCAVATIONS NEAR TO EXISTING SERVICES	HIGH	ENSURE WORK ARE AT THE END OF THE TRENCH WITH BARRIERS AND SIGNS
WORKING IN CONFINED SPACES, WORKING IN DRAINS AND MANHOLES	HIGH	CONFINED SPACES WORKING TRAINER PERSONNEL ONLY TO CARRY OUT WORKS. UNDER NO CIRCUMSTANCES TO ENTER CONFINED SPACES WITHOUT TESTING TO TAKE PLACE BEFORE ALL ENTRIES
WORKING IN HIGHWAYS / RISKS FROM VEHICLE AND PLANT	HIGH	ALL EXCAVATIONS TO BE ADEQUATELY PROTECTED BY AND SUPPORTED. SLOTTED BARRIERS TO BE USED TO PROTECT PEDESTALS OF THE JUNCTION. ALL EXCAVATIONS TO BE ADEQUATELY PROTECTED BY AND SUPPORTED. SLOTTED BARRIERS TO BE USED TO PROTECT PEDESTALS OF THE JUNCTION. ALL EXCAVATIONS TO BE ADEQUATELY PROTECTED BY AND SUPPORTED. SLOTTED BARRIERS TO BE USED TO PROTECT PEDESTALS OF THE JUNCTION.
ROAD AND DRAINAGE CONSTRUCTION	HIGH	ALL EXCAVATIONS TO BE ADEQUATELY PROTECTED BY AND SUPPORTED. SLOTTED BARRIERS TO BE USED TO PROTECT PEDESTALS OF THE JUNCTION. ALL EXCAVATIONS TO BE ADEQUATELY PROTECTED BY AND SUPPORTED. SLOTTED BARRIERS TO BE USED TO PROTECT PEDESTALS OF THE JUNCTION.
OPEN WATERCOURSE ON SITE	LOW	ALL EXCAVATIONS TO BE ADEQUATELY PROTECTED BY AND SUPPORTED. SLOTTED BARRIERS TO BE USED TO PROTECT PEDESTALS OF THE JUNCTION. ALL EXCAVATIONS TO BE ADEQUATELY PROTECTED BY AND SUPPORTED. SLOTTED BARRIERS TO BE USED TO PROTECT PEDESTALS OF THE JUNCTION.

IT IS ASSUMED THAT WORKS ASSOCIATED WITH THIS DESIGN WILL BE UNDERTAKEN BY A PERSON OR PERSONS WHO ARE COMPETENT AND HAVE THE REQUIRED LEVEL OF EXPERIENCE AND EXPERTISE.



Trench fill under roads to conform with highway requirements recorded greater material may be feasible. Otherwise Type 2 granular fill may be used. Selected material to be tightly compacted by hand.

Single-size granular material.

Nominal bore of pipe (mm)	Size mm Single sized	Size mm Graded
100-125	10	-
150-200	10 or 14	14 to 5
225-300	10, 14 or 20	14 to 5 or 20 to 5
375-500	14 or 20	14 to 5 or 20 to 5
Exceeding 500	14, 20 or 40	14 to 5, 20 to 5 or 40 to 5

All granular material to be single sized or graded in accordance with BS 882: 1983, intended subgrade material to BS 3797: Part 2: 1976 and air-cooled steel furnace slag to BS 1047: 1983 are suitable.

Class S Bedding Factor 2.5 Scale 1:10

Recommended length of rocker pipe to be as shown in table below

Nominal bore of pipe (mm)	Effective Length (m)
150 - 600	0.6
675 - 750	1.0
Exceeding 750	1.25