



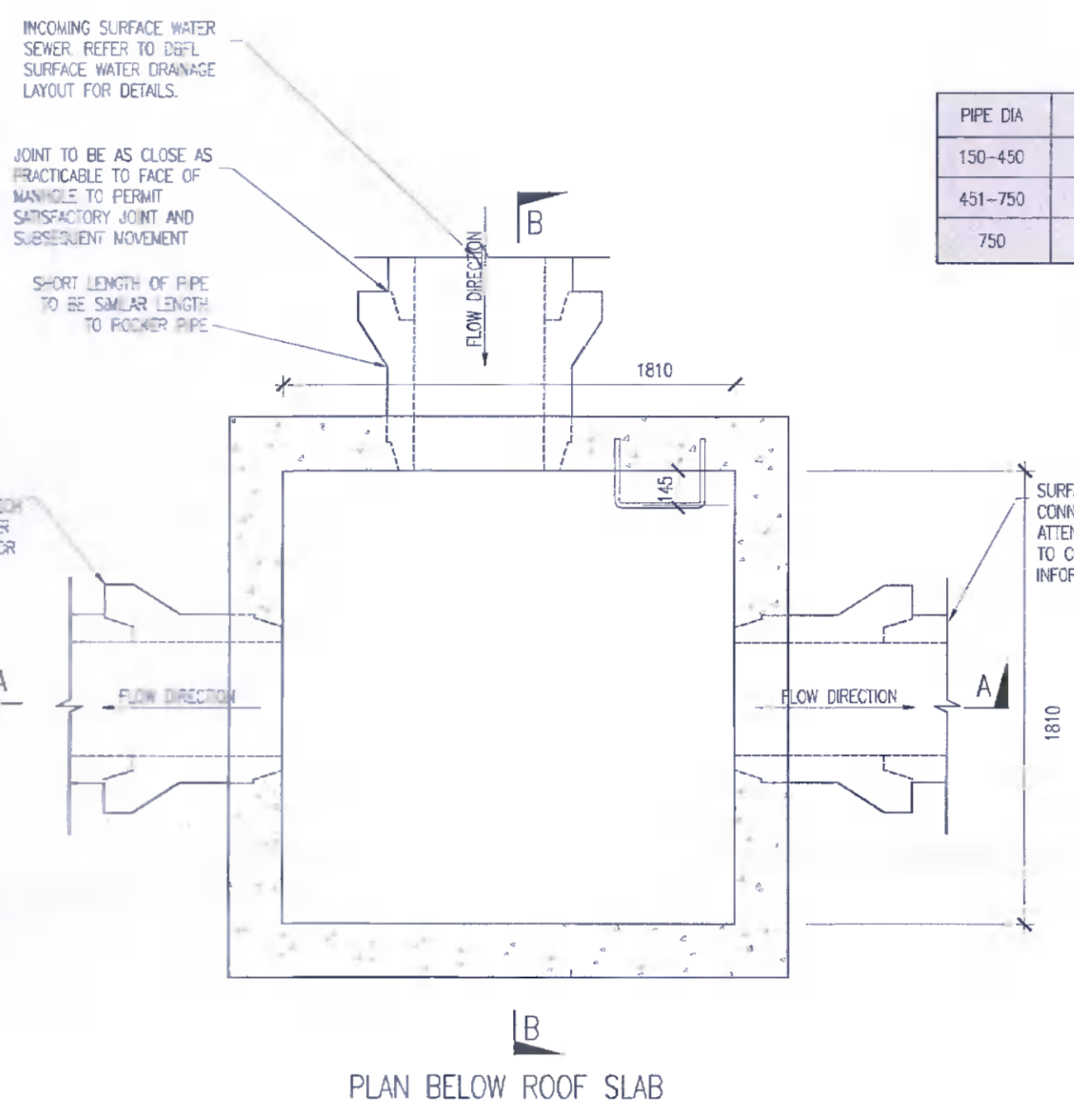
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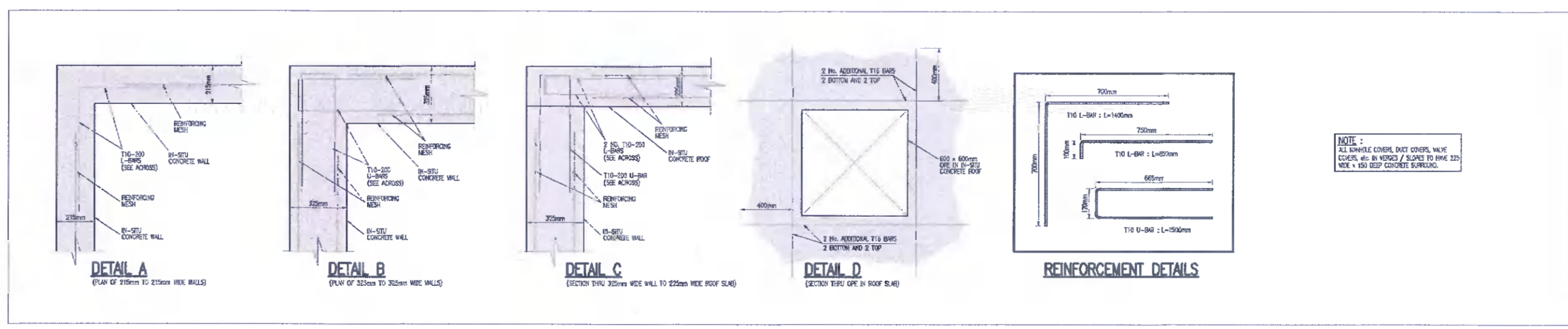
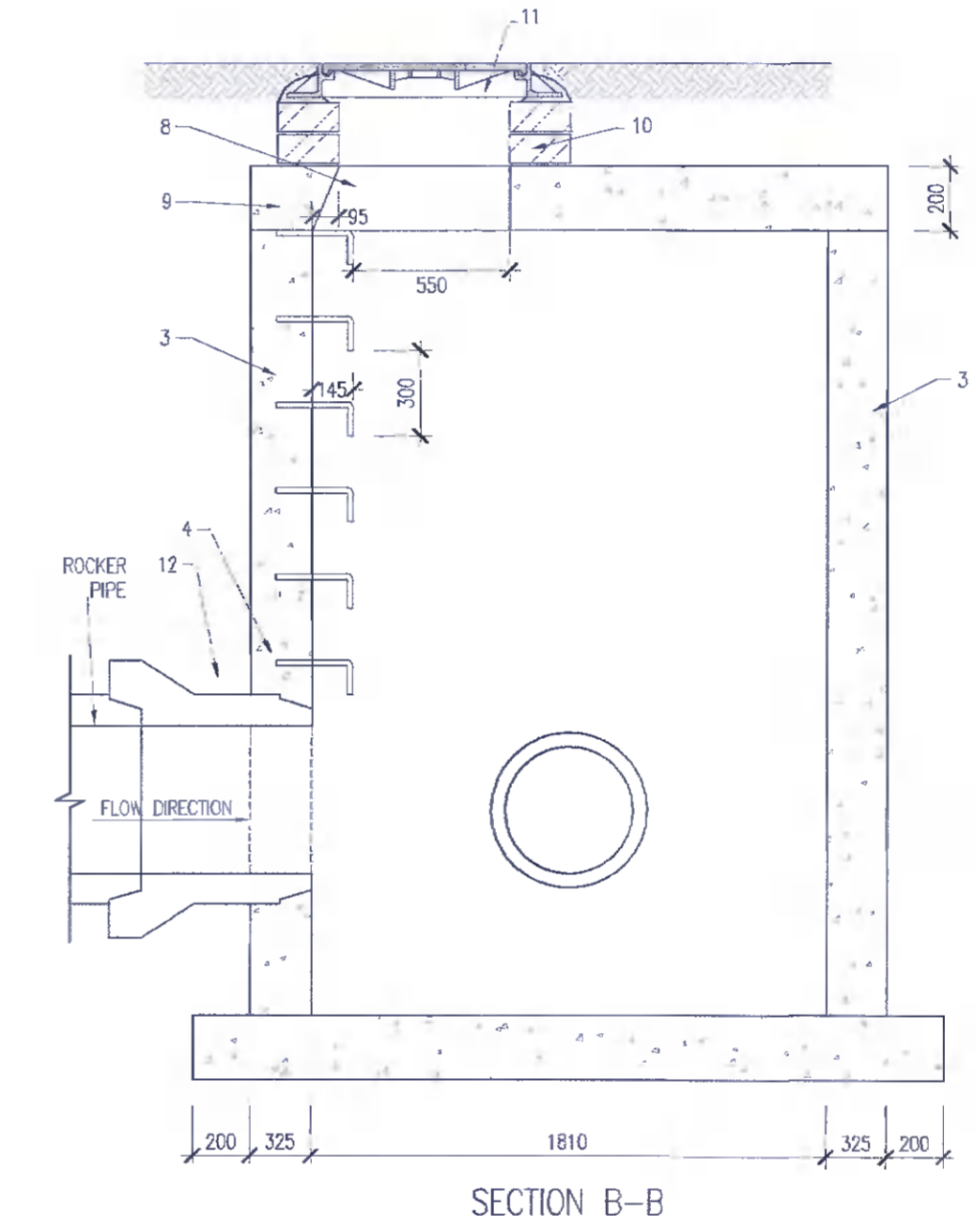
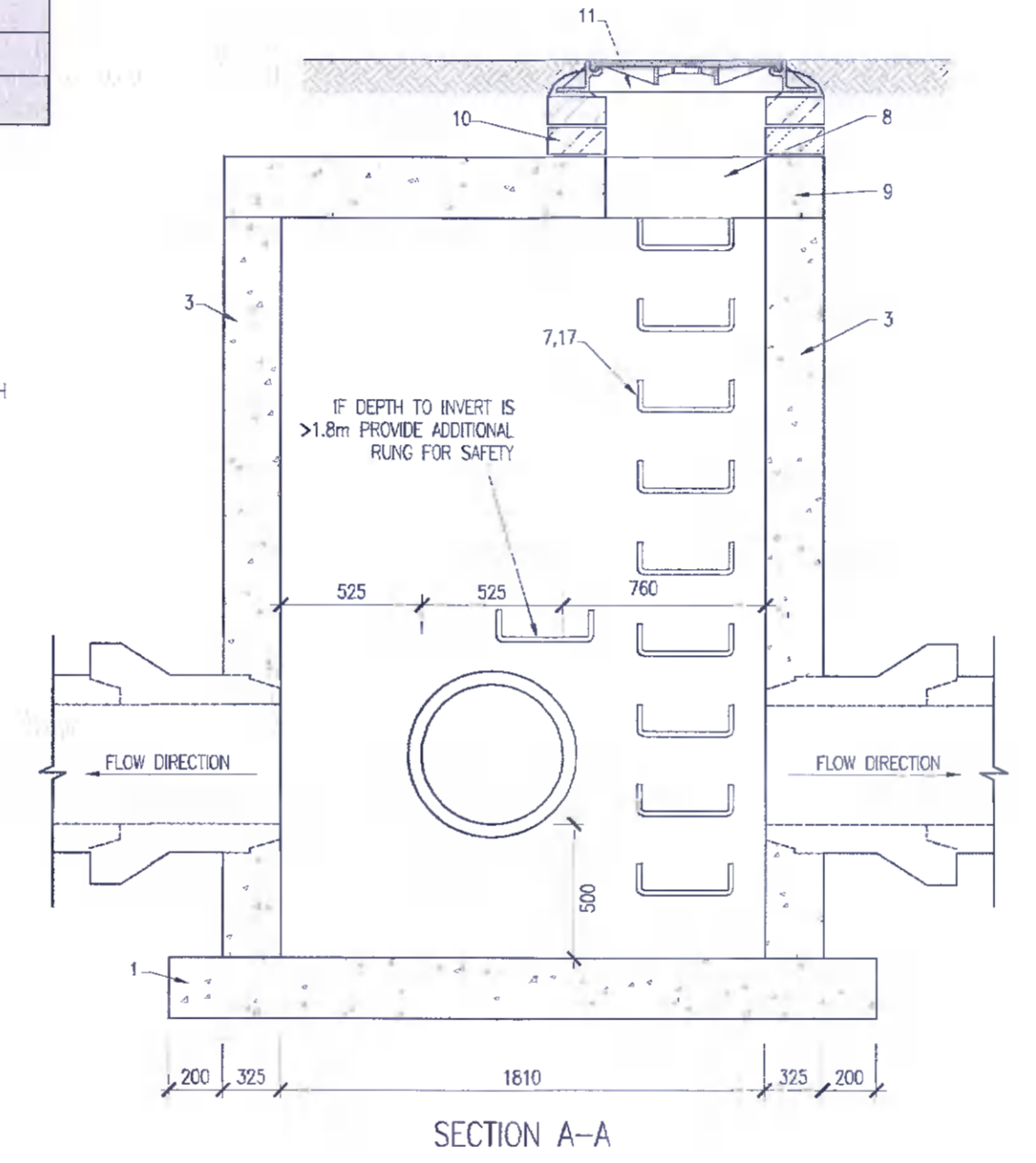
NOTES:

- SOURCE = GREATER DUBLIN REGIONAL CODE OF PRACTICE V6.0
- 225mm THK CL 30K/20mm CONCRETE FOUNDATIONS WITH 1 NO. LAYER OF A303 REINFORCING MESH.
 - PRE-FORMED HALF-CIRCLE CHANNEL PIPES: THE PIPELINE MAY, WHERE PRACTICABLE, BE LAD THROUGH THE MANHOLE AND THE CROWN CUT TO HALF DIAMETER. PROVIDED FLEXIBLE JOINTS ARE INSTALLED ON EACH SIDE NO FURTHER THAN 600mm FROM THE INNER FACE OF THE MANHOLE WALL.
 - MANHOLE CONSTRUCTION:
 - FOR SURFACE WATER MANHOLES HIGH-DENSITY BLOCKS TO CLASS 2 OF S.20 PART 1: 1987 OR CL.30K/20mm INSITU REINFORCED CONCRETE.
 - BLOCKWORK SHALL BE BEDDED AND JOINTED USING MORTAR TO S.16.6. BEDS AND VERTICAL JOINTS SHALL BE COMPLETELY FILLED WITH MORTAR AS THE BLOCKS ARE LAD.
 - JOINTS SHALL BE FLUSH POINTED AS THE WORK PROCEEDS.
 - ALL FULL MANHOLES MUST BE FINISHED IN SOLID ENGINEERING BRICK (MIN. CLASS A OR B) OR INSITU CONCRETE FOR 1 METRE ABOVE FINISH LEVEL TO RUSH WATER DETAILS.
 - BRICK TO BE BONDED TO BLOCKWORK USING ENGLISH GARDEN WALL BOND.
 - WHERE BRICK IS BONDED TO BLOCKWORK, INTERNAL MANHOLE DIMENSIONS SHOWN ARE MEASURED FROM THE INSIDE FACE OF BRICKWORK.
 - WHERE MANHOLES ARE CONSTRUCTED OF IN-SITU CONCRETE A MINIMUM OF 1 NO. LAYER OF A303 REINFORCING MESH TO BE PROVIDED IN WALLS AND SLABS UNLESS OTHERWISE SPECIFIED.
 - REINFORCING ARCH FORMED BY 215x100x65 SOLID ENGINEERING BRICK CLASS A OR B AS PER DRAWING. RELIEVING ARCHES USED IN BRICK OR BLOCK WORK MANHOLES TO EXTEND OVER FULL THICKNESS OF WALL. A DOUBLE ARCH IS TO BE FORMED FOR PIPE DIAMETERS GREATER THAN 300mm.
 - REINFORCING AND PIPE CHANNEL PIPE SURROUND - CLASS 2/0 CONCRETE.
 - REINFORCING FINISHED IN 2:1 SAND-CEMENT MORTAR WITH A SMOOTH TROWEL FINISH AT 1 IN 30 SLOPE TOWARDS CHANNEL.
 - STANDARD RINGS AT 300mm VERTICALLY AND GALVANIZED TO LATEST VERSION OF BS 729 OR EQUIVALENT. NOTE: STEP RINGS ARE NOT ACCEPTABLE.
 - 600mm SQUARE OPE IN ROOF SLAB.
 - PRECAST R/C ROOF SLAB SHALL BE 200mm THICK CLASS 30K/20mm WITH 40mm COVER TO STEEL.
 - ROOF SLAB - 35N/20mm INSITU CONCRETE, CEMENT CONTENT 300kg/m³, WATER/CEMENT RATIO 0.6. PROVIDE 2 LAYERS OF REINFORCING MESH REF: A303 @ 6.10kg/m WITH MIN. 50mm COVER.
 - ENGINEERING OR SPECIAL PURPOSE CONCRETE BRICKWORK, CLASS B TO BS 45 AND TO SERIES 2400, 4 COURSE (MIN.) 2 COURSE (MAX) AND/OR PRECAST CONCRETE COVER FRAME SEATING FRAMES.
 - CHANNEL BRICKS LOCKED OR SIMILAR APPROVED CLASS D/20 OF E600 CIRCULAR MANHOLE COVER AND FRAME TO IS/EN 124. 150mm DEEP FRAME FOR ROADS AND 100mm DEEP FOR FOOTPATHS AND GREEN AREAS. NON-HOOK DESIGN. 2 CLOSED REINFORCING ARCHES MANUFACTURED FROM SPHERICAL GRANITE CAST IRON (DUTILE CAST IRON), 650 x 650 (600 DIA) CLEAR OPENING. COVER AND FRAME COATED IN BITUMEN OR OTHER APPROVED MATERIAL. COVER TO HAVE A MINIMUM MASS OF 14kg/m². FRAME REINFORCING AREA SHALL BE 800mm² MIN. FRAMES SHALL BE DESIGNED TO PREVENT CONCRETE FALLING INTO MANHOLE. FRAMES SHALL BE SET ON APPROVED MORTAR TO MANUFACTURERS' INSTRUCTIONS.
 - SHORT LENGTH PIPE AND JOINT EXTERNAL TO MANHOLE TO BE 400mm LONG.
 - THE HOLES OF 230mm MINIMUM DEPTH AND GALVANIZED STEEL SAFETY CHAINS TO BE PROVIDED IN REINFORCING OF SEWERS GREATER THAN 500mm DIA AND DEPTH TO INVERT 2.0m FOR ACCESS TO INVERT.
 - A SAFETY CHAIN IS TO BE PROVIDED ON PIPES THAT EXCEED 450mm IN DIAMETER. MILD STEEL SAFETY CHAIN SHALL BE 10mm NOMINAL SIZE GRADE M16 NON-CALCULATED CHAIN, TYPE 1, COMPLYING WITH BS 688, PART 2 OR EQUIVALENT.
 - WHEN DEPTH OF MANHOLES TO INVERT IS GREATER THAN 3m, LADDERS SHALL BE USED INSTEAD OF RINGS TO BS 4211 OR EQUIVALENT EXCEPT THAT STRINGERS SHOULD BE NOT LESS THAN 65mm x 12mm IN SECTION AND RINGS 23mm IN DIAMETER. RING LADDERS SHOULD MEET THE DIMENSIONAL REQUIREMENTS OF BS 4211 OR EQUIVALENT.
 - LADDER STRINGERS SHOULD BE ADEQUATELY SUPPORTED FROM THE MANHOLE WALL AT INTERVALS OF NOT MORE THAN 2.0m. STRINGERS SHOULD BE BOLTED TO CLEATS TO FACILITATE RENEWAL.
 - ALL LADDERS, RINGS, MANHOLES, SAFETY CHAINS ETC. SHALL BE MADE OF GALVANIZED TO BS 729 OR EQUIVALENT.
 - PIPE SHOULD BE CUT FLUSH WITH THE INSIDE SURFACE OF THE MANHOLE WALL SO THAT THE CHANNEL EXTENDS THE FULL LENGTH OF THE MANHOLE.
 - POSITION OF 510 SQUARE OPE IN INTERMEDIATE ROOF SLAB:
 - FORMWORK TO REINFORCED CONCRETE AND MASS CONCRETE SHALL COMPLY WITH CLASS 2, SECTION 6.2.7, BS 8110: PART 1: 1997.
 - FINISH TO THE TOP OF THE SLAB SHALL COMPLY WITH PIPE A, SECTION 6.2.7, BS 8110: PART 1: 1997.
 - PLAN DIMENSIONS OF MANHOLES ARE BASED ON BLOCK WORK HAVING A CO-ORDINATING SIZE OF 450 X 225 X 100. MANHOLES ARE DESIGNED TO BS 800 AND WALL THICKNESS TO S.16.6 BLOCK WORK DESIGN CODE TAKING GRAVITY-FILL PRESSURE AND H.B. SURCHARGE.
 - REINFORCEMENT TO SLABS TO ENGINEERS' DETAILS.
 - FOR MANHOLES 3.0m DEPTH TO INVERT USE 35N/20mm INSITU CONCRETE. PROVIDE 2 LAYERS OF REINFORCING MESH REF: A303 @ 6.10kg/m WITH MIN. 50mm COVER. ADDITIONAL REINFORCEMENT TO BE SUPPLIED OVER PIPE CROWN.
 - MANHOLE OPENINGS TO BE SITUATED FURTHEST FROM THE NEAREST DRIVEWAY. MANHOLE SITES / ACCESS TO BE POSITIONED TO ALLOW VIEWING OF INCOMING TRAFFIC.
 - PROVIDE 2 NO. 300mm LONG T10 DOWELS @ 200mm c/c FROM FOUNDATIONS TO WALLS.
 - PROVIDE REINFORCEMENT AT WALL INTERSECTIONS TO DETAIL SHOWN.
 - WHERE IN-SITU ROOF SLAB IS PROVIDED USE REINFORCEMENT TO WALLS TO DETAIL SHOWN.

GENERAL NOTES:
 1) ALL BRICK TO BE SOLID ENGINEERING BRICK CLASS A OR B.
 2) DISTANCE FROM THE TOP RING OF THE LADDER TO GROUND LEVEL MUST BE MAXIMUM OF 500mm.



PIPE DIA	ROCKER PIPE LENGTH
150-450	0.5-0.75
451-750	0.75-1.0
750	SEEK GUIDANCE



TYPICAL CATCHPIT/SILT TRAP MANHOLE DETAIL (GREATER THAN 1m DEPTH)

NOTE:
 ALL WORKS & SPECIFICATIONS TO BE UNDERTAKEN IN ACCORDANCE WITH:
 • '11' SPECIFICATION FOR ROADWORKS
 • RECOMMENDATIONS FOR SITE DEVELOPMENT WORKS

rev	date	description	by	checked
P01	31/03/22	ISSUED FOR PLANNING	KJ/E	RTM

client approval: A - Approved, B - Approved with comments, C - Do not use.

S2 - INFORMATION PLANNING

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WAREHOUSING / LOGISTICS & OFFICES AT CALMOUNT ROAD, BALLYMOUNT

SURFACE WATER STANDARD DETAILS - SHEET 6

BLACKWIN LIMITED

designed by	author	scale	sheet size
RTM	KJ/E	1:25	A1

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