

**TABLE OF MANHOLE/INSPECTION CHAMBER COVER GRADES AND AREAS OF USE**

COVER GRADE TO BS EN 124	LOCATION
D400	FOR USE IN INDUSTRIAL ROADS AND PARKING AREAS ACCESSIBLE TO ALL TYPES OF ROAD VEHICLES INCLUDING HGV'S.
C250*	FOR USE IN PRIVATE ROADS OR PARKING AREAS eg CAR PARKS AND MINOR PRIVATE ROADS. ACCESSIBLE TO RECREATIONAL VEHICLES, FIRE APPLIANCES ETC WITH POSSIBLE OCCASIONAL HGV USE.
B125	FOR USE IN FOOTWAYS, PEDESTRIAN AREAS, DRIVEWAYS AND CAR PARKS ACCESSIBLE BY LIGHT VEHICLES ONLY.
A15	FOR USE IN AREAS WHICH CAN ONLY BE USED BY PEDESTRIANS AND PEDAL CYCLISTS.

\* D400 MAY BE USED IN LIEU OF C250 IF PREFERRED.

NOTE: SULPHATE RESISTING PORTLAND CEMENT SHALL BE USED IN ALL CONCRETE (INCLUDING PRECAST CONCRETE PRODUCTS), IN ACCORDANCE WITH CLAUSE 4.2.9 OF "SEWERS FOR ADOPTION" 7TH EDITION.

ALL PIPES LEAVING OR ENTERING MANHOLES SHALL HAVE A FLEXIBLE JOINT WITHIN 600mm OF THE INSIDE FACE OF THE MANHOLE. THE NEXT PIPE SHALL BE A SHORT "ROCKER PIPE" 600mm LONG.

NOTE: ALL PIPE BEDDING MATERIAL TO BE IMPORTED GRANULAR MATERIAL.

CHAMBERS WITH OUTGOING PIPES GREATER THAN 600mm DIAMETER SHALL BE FITTED WITH REMOVABLE STAINLESS STEEL (GRADE 316) SAFETY CHAINS OR POLYPROPYLENE ROPE. MANHOLES GREATER THAN 6m DEPTH SHALL BE SUBJECT TO SPECIFIC DESIGN.

ALL MANHOLE COVERS AND FRAMES ARE TO BE DUCTILE IRON (CLASS D400 FOR CARRIAGEWAYS, HARD SHOULDERS AND PARKING AREAS; CLASS B125 FOR PEDESTRIAN AREAS, SOFT LANDSCAPED AREAS ETC) COMPLYING WITH BS EN 124:1994 AND BADGED 'FW' OR 'SW' AS APPROPRIATE.

**SHAFT DIAMETERS TABLE A**

DIAMETER OF LARGEST PIPE IN MH (mm)	MINIMUM INTERNAL DIAMETER OF MH (mm)
Less than 375	1200
375 TO 700	1500
750 TO 900	1800

**MINIMUM DIMENSIONS FOR ACCESS FITTINGS AND INSPECTION CHAMBERS**

TYPE OF ACCESS	DEPTH TO INVERT FROM COVER LEVEL (m)	MINIMUM INTERNAL DIMENSIONS <sup>1)</sup>		MINIMUM CLEAR OPENING SIZE <sup>2)</sup>		
		LENGTH x WIDTH (mm x mm)	CIRCULAR (mm)	LENGTH x WIDTH (mm x mm)	CIRCULAR (mm)	
RODDING EYE		AS DRAIN BUT MINIMUM 100mm			SAME SIZE AS PIPEWORK	
ACCESS FITTING		0.6m OR LESS EXCEPT WHERE SITUATED IN A CHAMBER	150 x 100 225 x 100	150 225	150 x 100 (1) 225 x 100 (1)	SAME SIZE AS ACCESS FITTING
INSPECTION CHAMBER						
SHALLOW	0.6m OR LESS	225 x 100	150 (2)		150 (1)	
MEDIUM	1.2m OR LESS	450 x 450	450	MIN 430 x 430	430	
DEEP	GREATER THAN 1.2m	450 x 450	450	MIN 300 x 300 (3)	ACCESS RESTRICTED TO MAX 350 (3)	

NOTES:

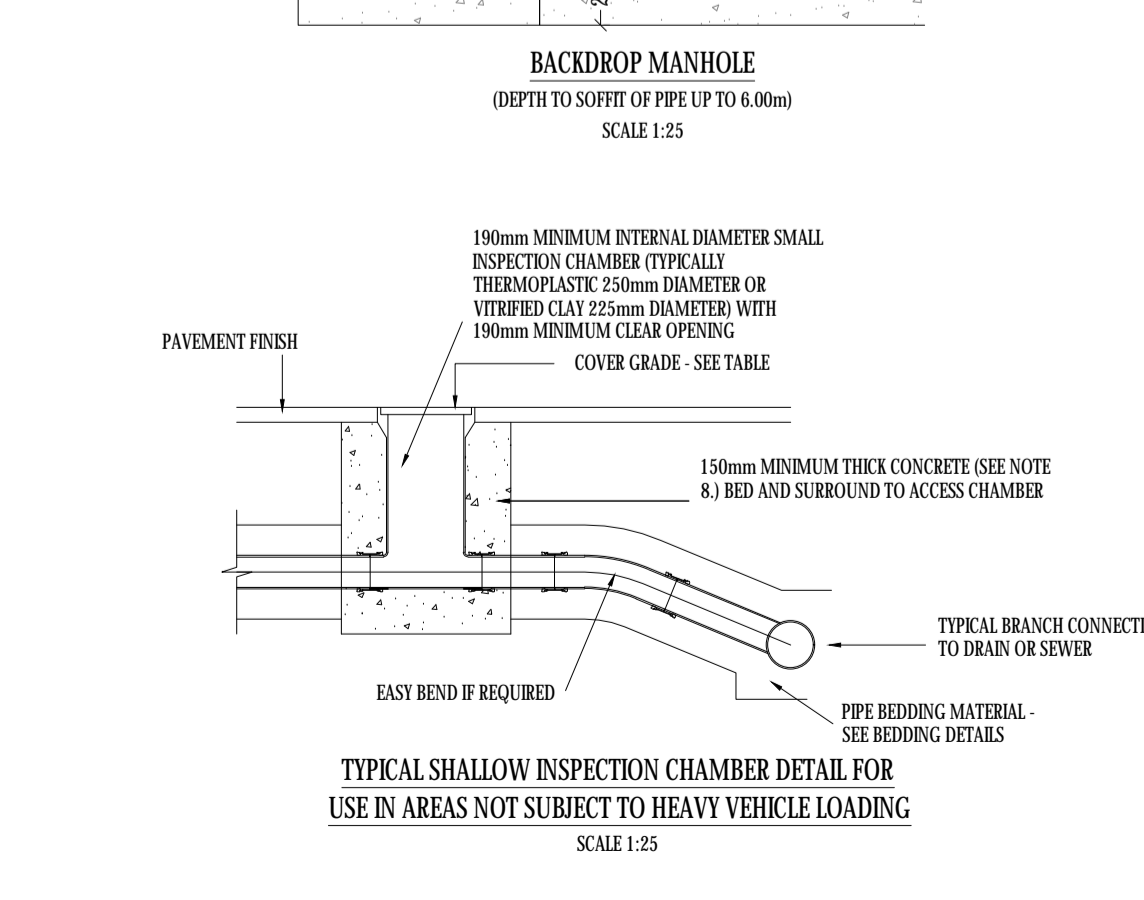
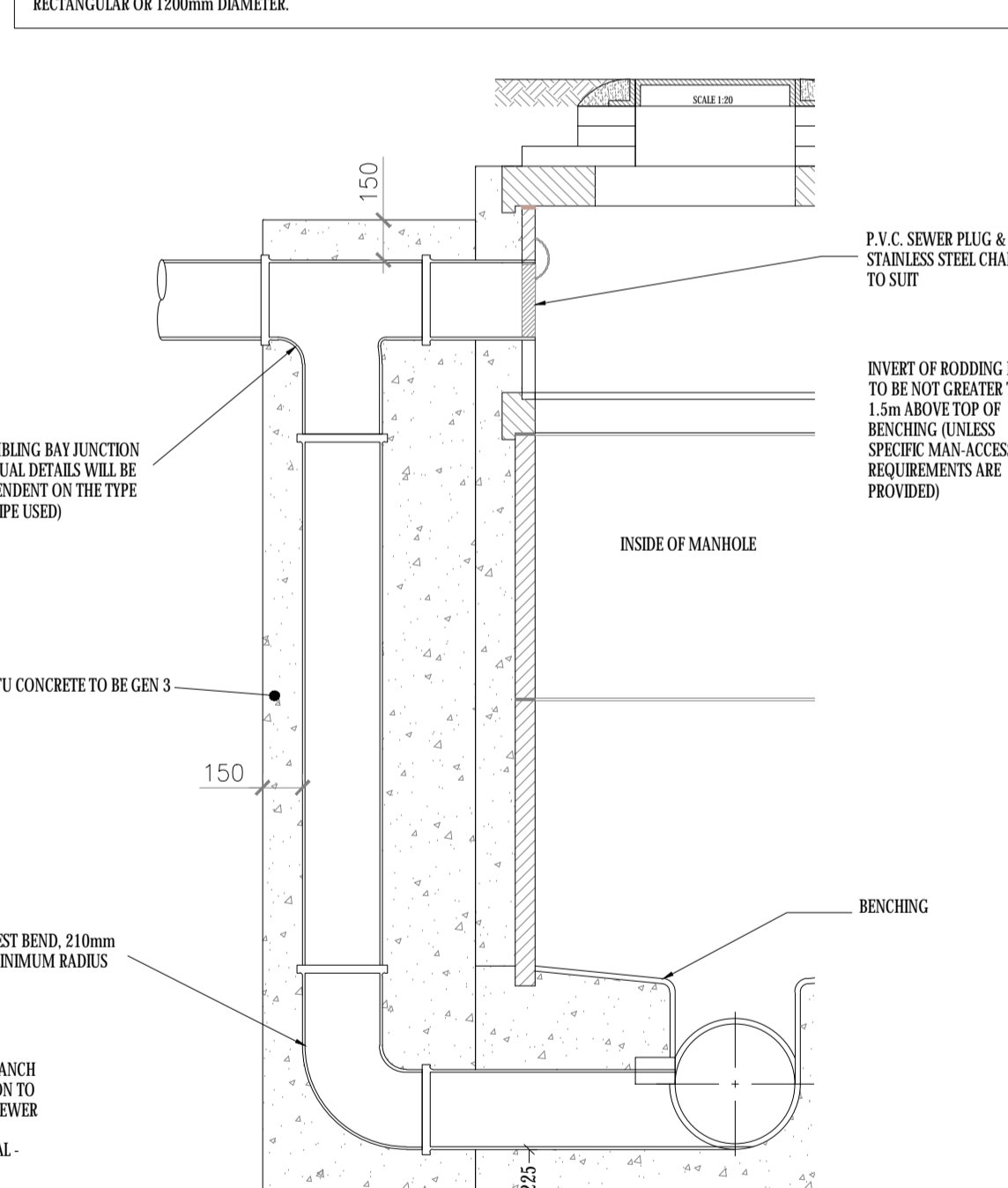
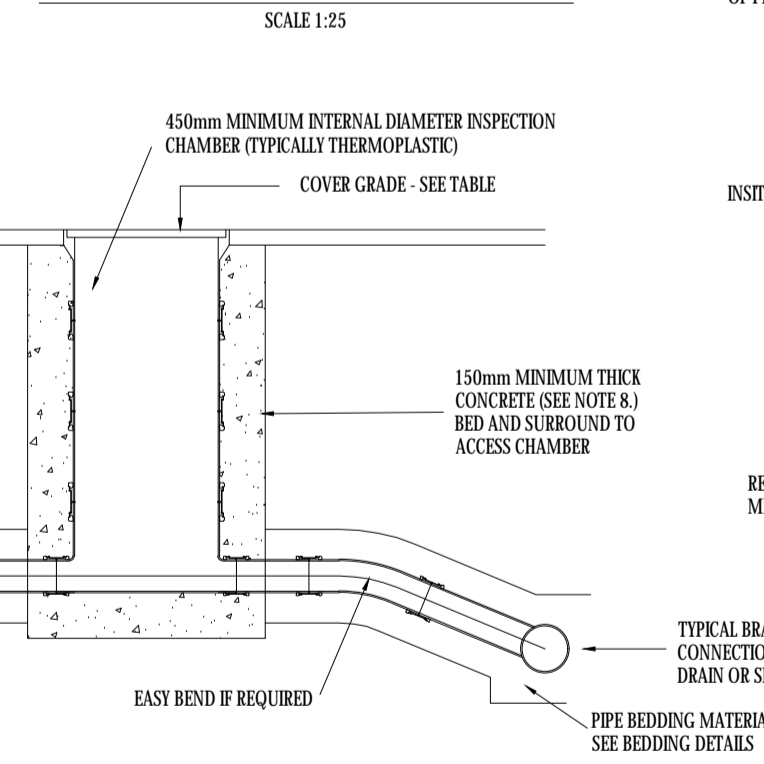
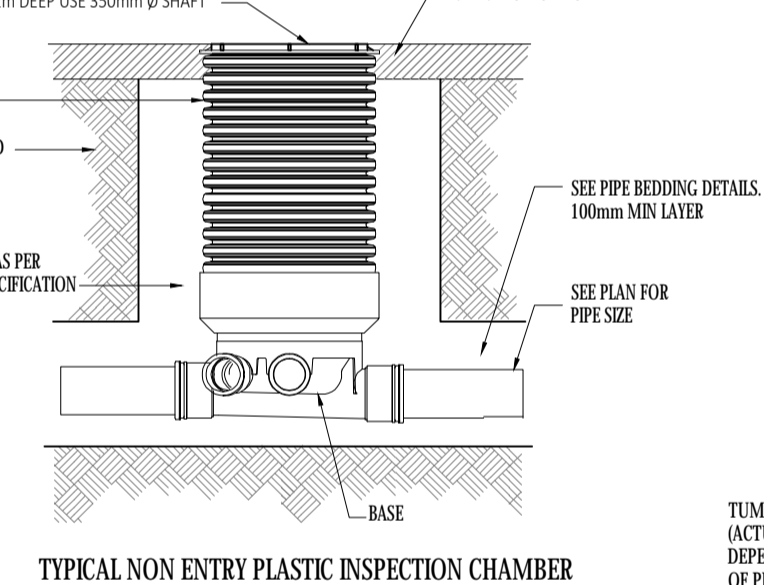
- (1) THE CLEAR OPENING MAY BE REDUCED BY 20mm IN ORDER TO PROVIDE PROPER SUPPORT FOR THE COVER AND FRAME.
- (2) DRAINS UP TO 150mm DIAMETER.
- (3) A LARGER CLEAR OPENING COVER MAY BE USED IN CONJUNCTION WITH A RESTRICTED ACCESS. THE SIZE IS RESTRICTED FOR HEALTH AND SAFETY REASONS TO DETER ENTRY.

**MINIMUM DIMENSIONS FOR MANHOLES**

TYPE OF ACCESS	SIZE OF LARGEST PIPE (DN)	MINIMUM INTERNAL DIMENSIONS <sup>1)</sup>		MINIMUM CLEAR OPENING SIZE <sup>2)</sup>	
		RECTANGULAR LENGTH x WIDTH (mm x mm)	CIRCULAR (mm)	RECTANGULAR LENGTH x WIDTH (mm x mm)	CIRCULAR DIAMETER (mm)
MANHOLE LESS THAN 1.5m DEEP TO SOFFIT	LESS THAN OR EQUAL TO 225	750 x 675 (7)	1000 (7)	750 x 675 (2)	N/A (5)
	225	1200 x 675	1200	1200 x 675 (2)	
	300	1200 x 750	1200		
MANHOLE GREATER THAN 1.5m DEEP TO SOFFIT	GREATER THAN 300	1800 x (DN+450)	THE LARGER OF 1800 OR (DN+450)		
	LESS THAN OR EQUAL TO 225	1200 x 1000	1200	600 x 600	600
	300	1200 x 1075	1200		
MANHOLE SHAFT (4) GREATER THAN 3.0m DEEP TO SOFFIT OF PIPE	375-450	1350 x 1225	1200		
	GREATER THAN 450	1800 x (DN+775)	THE LARGER OF 1800 OR (DN+775)		
	STEPS (5)	1050 x 800	1050	600 x 600	600
LADDER (5)		1200 x 800	1200		
	WINCH (6)	900 x 800	900		

NOTES:

- (1) LARGER SIZES MAY BE REQUIRED FOR MANHOLES ON BENDS OR WHERE THERE ARE JUNCTIONS.
- (2) MAY BE REDUCED TO 600x600mm WHERE REQUIRED BY HIGHWAY LOADING CONSIDERATIONS, SUBJECT TO A SAFE SYSTEM OF WORK BEING SPECIFIED.
- (3) NOT APPLICABLE DUE TO WORKING SPACE NEEDED.
- (4) MINIMUM HEIGHT OF CHAMBER IN SLOTTED MANHOLE 2m FROM BENCHING TO UNDERSIDE OF BENCHING SLAB.
- (5) MINIMUM CLEAR SPACE BETWEEN LADDER OR STEPS AND THE OPPOSITE FACE OF THE SHAFT SHOULD BE APPROXIMATELY 900mm.
- (6) WINCH ONLY - NO STEPS OR LADDERS. PERMANENT OR REMOVABLE.
- (7) THE MINIMUM SIZE OF ANY MANHOLE SERVING A SEWER (i.e. ANY DRAIN SERVING MORE THAN ONE PROPERTY) SHOULD BE 1200x750mm RECTANGULAR OR 1200mm DIAMETER.



**DRAWING NOTES:**

1. This Drawing is to be read in conjunction with the relevant Specifications & other Architectural & Engineering Drawings. Engineers to be informed immediately of any discrepancies before work proceeds.
2. Do Not Scale from this Drawing - Metric Figured Dimensions only are to be used.
3. It is the Contractors' responsibility to ensure that all works are carried out in accordance with the requirements of the current Building Regulations and all other statutory documents relevant to this project including the grant of planning permission, Fire Safety Certificate and Disability Access Certificate.
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**DRAINAGE NOTES:**

- 1) ALL BUILDING DRAINAGE TO BE INSTALLED AND TESTED IN COMPLIANCE WITH THE CURRENT BUILDING REGULATIONS FOR DRAINAGE AND WASTE DISPOSAL.
- 2) ALL COMPONENTS AND MATERIALS ARE TO BE MANUFACTURED AND SUPPLIED IN ACCORDANCE WITH THE RELEVANT BS. AND LAID AND BACKFILLED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.
- 3) THE CONTRACTOR SHALL, BEFORE COMMENCING THE WORKS, VERIFY ALL SITE AND SETTING OUT DIMENSIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE TRUE AND PROPER SETTING OUT OF THE WORKS AND FOR THE CORRECTNESS OF THE POSITION, LEVELS, DIMENSIONS, AND ALIGNMENT OF ALL PARTS OF THE WORKS.
- 4) SMALL LIGHTWEIGHT ACCESS COVERS SHOULD BE SECURED (FOR EXAMPLE WITH SCREWS) TO DETER UNAUTHORIZED ACCESS.
- 5) INSPECTION CHAMBERS AND MANHOLES IN BUILDINGS TO HAVE MECHANICALLY FITTED AIRTIGHT COVERS UNLESS THE DRAIN ITSELF HAS WATER TIGHT ACCESS COVERS.
- 6) MANHOLES DEEPER THAN 1m TO HAVE GALVANISED STEEL STEP BOONS OR FIXED LADDERS PROVIDED.
- 7) ALL ABOVE GROUND DRAINAGE TO INCORPORATE APPROPRIATE RODDING ACCESS FACILITIES.
- 8) IN SITU CONCRETE FOR USE IN GENERAL DRAINAGE WORKS SHALL BE IN ACCORDANCE WITH BS 8500, AND IN ACCORDANCE WITH THE DIGEST 7 CONCRETE IN AGGRESSIVE GROUND TO MEET ANY EXPECTED SULPHATE CONDITIONS.
- 9) MANHOLE COVERS WITHIN BLOCK PAVED AREAS SHALL BE RECESSED WITH INFILL TO MATCH ADJACENT SURFACE FINISHES.

PL1	05.12.2020	CD	ISSUED FOR PLANNING
REV.	DATE	BY	DESCRIPTION

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Structural Design Solutions Ltd

Client:  
**SLIGO COUNTY COUNCIL**

Project Title:  
**HOUSING DEVELOPMENT AT ROBBERS LANE, MAUGHERBOY, SLIGO.**

Drawing Title:  
**SURFACE WATER INFRASTRUCTURE - TYPICAL DETAILS**

Scale: 1:200, 1:10 | Paper Size: A1 | Status: PLANNING

Drw By: CR | Checked: CD | Date: November 2020

Project No: 20218 | Drawing No: 1031 | Rev: PL1