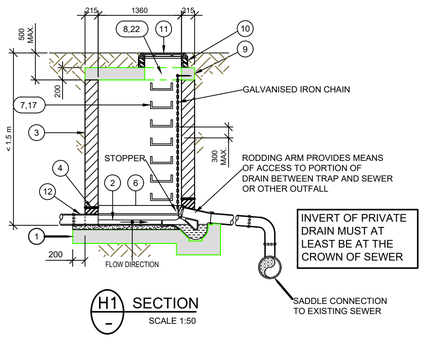
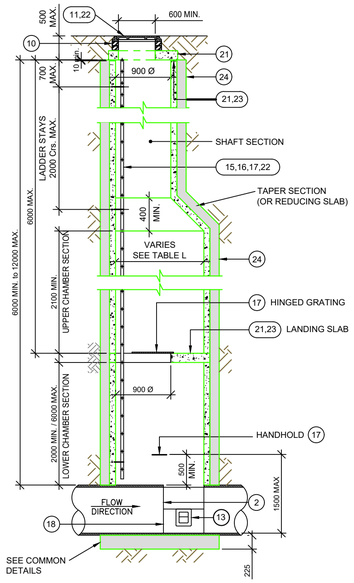


H1 SECTION
SCALE 1:50

MANHOLE TYPE H
INTERCEPTOR TRAP DETAILS

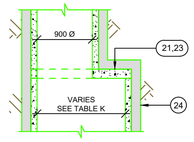
FOR OUTFALL MANHOLES AT SITE BOUNDARY PRIOR TO CONNECTING TO PUBLIC SYSTEM



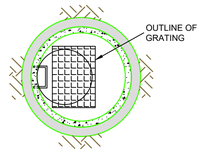
MANHOLE TYPE L

6m ≤ DEPTH TO INVERT < 12m

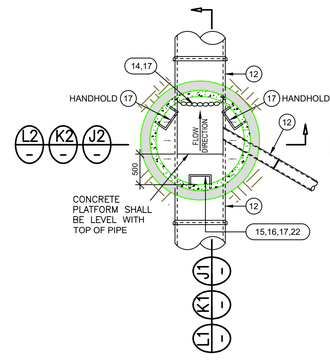
TABLE L	
MANHOLE PIPE DIAMETER A	CHAMBER INTERNAL DIAMETER B
225 - 900	1500
1050 - 1200	2100



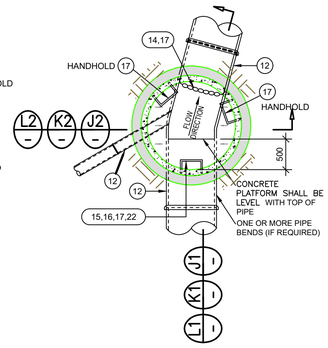
ALTERNATIVE DETAIL
(REDUCING SLAB INSTEAD OF TAPER SECTION)



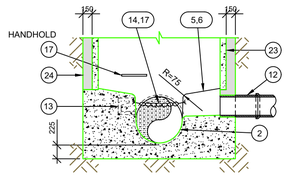
PLAN ON LANDING



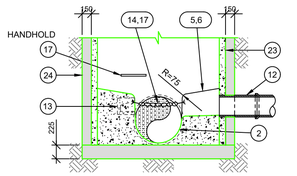
PLAN ON STRAIGHT INVERT
(WITHOUT COVER SLAB)



PLAN ON CURVED INVERT
(WITHOUT COVER SLAB)



SECTIONS L2, K2 & J2
THROUGH PRECAST BASE
1:50



SECTIONS L2, K2 & J2
THROUGH INSITU BASE
1:50

COMMON DETAILS

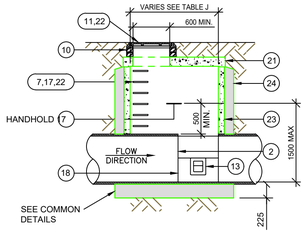
NOTES

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH RELVANT ARCHITECTS AND ENGINEERS DRAWINGS.
2. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING. ALL DIMENSIONS TO BE CHECKED ON SITE. ENGINEER TO BE INFORMED IMMEDIATELY OF ANY DISCREPANCIES BEFORE ANY WORK PROCEEDS.
3. REFER TO DRAWING **21208-DOW-0000** FOR PROJECT SPECIFICATION.

NOTES

1) 225mm THICK C30/37 MASS CONCRETE FOUNDATIONS.
2) PREFORMED HALF CIRCLE CHANNEL PIPES. THE PIPELINE MAY, WHERE PRACTICABLE, BE LAID THROUGH THE MANHOLE & THE CROWN CUT OUT TO HALF DIAMETER, PROVIDED FLEXIBLE JOINTS ARE SITUATED ON EACH SIDE NO FURTHER THAN 600mm FROM THE INNER FACE OF MANHOLE WALL.

   NOTE: WHERE PIPE DIAMETER CHANGES AT A MANHOLE PIPE CROWNS TO LINE UP
3) MANHOLE CONSTRUCTION:
   a. FOR SURFACE WATER MANHOLES HIGH-DENSITY BLOCKS 20N STRENGTH TO I.S. EN 771 OR C30/37 INSITU CONCRETE TO I.S. EN 206.
   b. BLOCK WORK SHALL BE BEDDED & JOINTED USING MORTAR TO I.S.406. BEDS & VERTICAL JOINTS SHALL BE COMPLETELY FILLED WITH MORTAR AS THE BLOCKS ARE LAID.
   c. JOINTS SHALL BE FLUSH POINTED AS THE WORK PROCEEDS.
   d. ALL FOUL MANHOLES MUST BE FACED IN SOLID ENGINEERING BRICK (MIN. CLASS 'A' OR 'B'), OR INSITU CONCRETE FOR 1m ABOVE BENCHING LEVEL. 4BRICK TO BE BONDED TO BLOCK WORK USING ENGLISH GARDEN WALL BOND.
   e. MAXIMUM DEPTH OF BLOCK WORK MANHOLE IS 1.20m (THE USE OF BLOCK WORK IN DEEPER MANHOLES WILL BE CONSIDERED BUT SUCH USE WILL REQUIRE DETAILED STRUCTURAL DESIGN AND WRITTEN APPROVAL FROM IRISH WATER).
4) RELIEVING ARCH FORMED BY 215 x 103 x 65 SOLID ENGINEERING BRICK CLASS 'A' OR 'B'. RELIEVING ARCHES USED IN BRICK OR BLOCK WORK MANHOLES EXTEND OVER FULL THICKNESS OF WALL.
   A DOUBLE ARCH IS TO BE FORMED FOR PIPE DIAMETERS GREATER THAN 600mm.
5) BENCHING & PIPE CHANNEL PIPE SURROUND - C25/30 CONCRETE
6) BENCHING FINISHED IN 2:1 SAND-CEMENT MORTAR WITH A SMOOTH TROWEL FINISH, AT 1 IN 30 SLOPE TOWARDS CHANNEL.
7) STANDARD RUNGS AT 300 C/C VERTICALLY & GALVANISED TO THE LATEST VERSION OF B.S. 729 OR EQUIVALENT. NOTE: STEP IRONS ARE NOT ACCEPTABLE.
8) 600mm SQUARE OPE IN ROOF SLAB.
9) PRECAST R.C. ROOF SLAB SHALL BE 200mm THICK IN GRADE C 30/37 , WITH 40mm COVER TO STEEL. DESIGNED TO BS 8100 TO TAKE FULL TRAFFIC LOADING.
10) 1 TO 3 COURSES OF SOLID ENGINEERING BRICKS CL. 'B' TO I.S. EN 998 SET IN M30 MORTAR
11) CLASS D400 OR E600 MANHOLE COVER & FRAME TO I.S./EN124. 150mm DEEP FRAME FOR ROADS & 100mm DEEP FOR FOOTPATHS & GREEN AREAS. NON-ROCK DESIGN CLOSED KEYWAYS, MANUFACTURED FROM SPHERICAL GRAPHITE CAST IRON (DUCTILE CAST IRON), 600 x 600 (600Ø) CLEAR OPENING, COVER & FRAME COATED IN BITUMEN OR OTHER APPROVED MATERIAL.COVER TO HAVE A MINIMUM MASS OF 140kg/m2. FRAME BEARING AREA SHALL BE 80,000mm² MIN., FRAMES SHALL BE DESIGNED TO PREVENT COVERS FALLING INTO MANHOLE. FRAMES SHALL BE BEDDED ON APPROVED MORTAR TO MANUFACTURERS INSTRUCTIONS.
12) SHORT LENGTH PIPE & PIPE JOINT EXTERNAL TO MANHOLE SHALL NOT EXCEED 600mm FROM THE INNER FACE OF MANHOLE WALL.
13) TOE HOLES OF 230mm MINIMUM DEPTH & GALVANISED STEEL SAFETY RAILINGS TO BE PROVIDED IN BENCHING OF SEWERS GREATER THAN 525mmØ & DEPTH TO INVERT >3m FOR ACCESS TO INVERT.
14) A STAINLESS STEEL SAFETY CHAIN IS TO BE PROVIDED ON PIPES THAT EXCEED 450mm IN DIAMETER, COMPLYING WITH ISO 1835 OR EQUIVALENT.
15) WHEN DEPTH OF MANHOLES TO INVERT IS GREATER THAN 3.0m LADDERS SHALL BE USED, INSTEAD OF RUNGS TO B.S-4211 OR EQUIVALENT EXCEPT THAT STRINGERS SHOULD BE NOT LESS THAN 65 x 12mm IN SECTION & RUNGS 25mm IN DIAMETER. FIXED LADDERS SHOULD MEET THE DIMENSIONAL REQUIREMENTS OF B.S-4211 OR EQUIVALENT. DISTANCE FROM THE TOP RUNG OF THE LADDER TO GROUND LEVEL SHOULD NOT EXCEED 500mm.
16) 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.
17) ALL LADDERS, RUNGS, H&RAILS, SAFETY CHAINS ETC. SHALL BE HOT DIP GALVANISED TO EN ISO 1461 OR EQUIVALENT.
18) PIPE SHOULD BE CUT FLUSH WITH THE INSIDE SURFACE OF THE MANHOLE WALL SO THAT THE CHANNEL EXTENDS THE FULL LENGTH OF THE MANHOLE (EXCEPT FOR PRECAST MANHOLES).
19) POSITION OF 910 SQUARE OPE IN INTERMEDIATE ROOF SLAB.
   a. ALL MANHOLES SHALL BE WATERTIGHT TO THE SATISFACTION OF THE ENGINEER.
   b. FORMWORK TO REINFORCED CONCRETE & MASS CONCRETE SHALL COMPLY WITH IS EN 1992-1-1
   c. FINISH TO THE TOP OF SLABS SHALL COMPLY WITH TYPE 'A', IS EN 1992-1-1
   d. PLAN DIMENSIONS OF MANHOLES ARE BASED ON BLOCK WORK HAVING A CO-ORDINATING SIZE OF 450 x 225 x 100. FOR PIPE DIAMETER >750mm USE MANHOLE WITH INTERNAL DIAMETER SIZE=PIPE SIZE +1m +300mm
   e. MANHOLES ARE DESIGNED TO IS EN 752 & WALL THICKNESS TO I.S.325 BLOCK WORK DESIGN CODE TAKING GRANULAR FILL PRESSURE & H.B. SURCHARGE.
   f. REINFORCEMENT TO SLABS TO ENGINEERS DETAILS.
20) FOR MANHOLES >3m DEPTH TO INVERT USE C 30/37 INSITU CONCRETE. REINFORCING MESH REF.. A393 TO BE FIXED AT MID POINT OF WALL. ADDITIONAL REINFORCEMENT TO BE SUPPLIED OVER PIPE CROWN.
21) PRECAST MANHOLES, CHAMBER WALLS & COVER SLAB TO BE CONSTRUCTED TO I.S. EN 1917 & I.S.420:2004
22) MANHOLE OPENINGS TO BE SITUATED FURTHEST FROM THE NEAREST CARRIAGEWAY. MANHOLE STEPS-ACCESS TO BE POSITIONED TO ALLOW VIEWING OF ONCOMING TRAFFIC.
23) FOR BEDDING & SEALING OF CHAMBER RINGS, THE TOP RING (TO PRECAST COVER SLAB) & BOTTOM RING TO BE BEDDED WITH CEMENT MORTAR. FOR INTERMEDIATE RINGS, JOINTS TO BE SEALED WITH APPROVED PRE-FORMED JOINTING STRIP.
24) PRECAST MANHOLES TO BE SURROUNDED WITH A MINIMUM OF 150mm THICK GRADE C20/25 CONCRETE.
25) FOR FOUL DRAINAGE TO BE TAKEN IN CHARGE BY IRISH WATER , MANHOLES ARE TO BE CONSTRUCTED STRICTLY IN ACCORDANCE WITH THE REQUIREMENTS OF IRISH WATER , WHICH MAY DIFFER FROM THE DETAILS PROVIDED . REFER TO IRISH WATER CODE OF PRACTICE FOR WASTEWATER INFRASTRUCTURE AND ASSOCIATED IRISH WATER STANDARD DETAILS , ALONG WITH ANY PARTICULAR REQUIREMENTS .



J1 SECTION
SCALE 1:50

MANHOLE TYPE J

1m ≤ DEPTH TO INVERT < 3m

TABLE J	
MAXIMUM PIPE DIAMETER A	CHAMBER INTERNAL DIAMETER B
225	1200
300	1200
375	1200
525	1200
600	1200
675	1350
750	1500
900	1500
1050	2100
1200	2100

CROWN REMOVED BY CUTTING TO HALF DIAMETER PROVIDED FLEXIBLE JOINTS ARE SITUATED ON EACH SIDE NO FURTHER THAN 600mm FROM INNER FACE OF MANHOLE WALLS (SEE NOTE 2).

ALTERNATIVE METHOD OF
FORMING CHANNEL THROUGH MANHOLE
SCALE 1:25

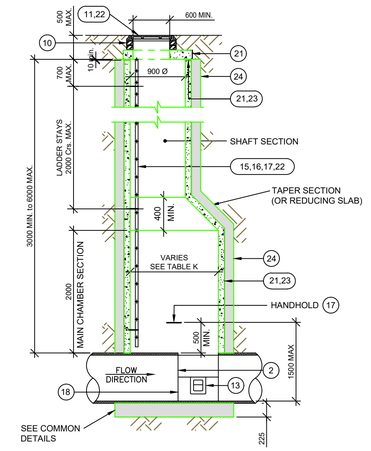
WHERE 'D' IS LESS THAN 1m
CONCRETE FILL TO LEVEL OF FOUNDATION BOTTOM)

NOTE: TRENCHES FOR PIPES NEAR FOUNDATIONS TO BE EXCAVATED IN SHORT SECTIONS TO AVOID UNDERMINING OF FOUNDATIONS. EXCAVATION, PIPELAYING AND CONCRETE BACKFILL TO BE CARRIED OUT ON THE SAME DAY. CONTRACTOR TO SUBMIT METHOD STATEMENT FOR REVIEW BY THE ENGINEER PRIOR TO EXCAVATION BEING CARRIED OUT.

WHERE 'D' IS 1m OR MORE
CONCRETE FILL TO WITHIN D −150mm OF LEVEL OF FOUNDATION BOTTOM

S1 SECTION
SCALE 1:50

CONCRETE PIPE LAID NEAR FOUNDATIONS

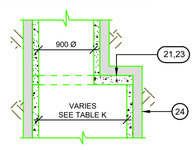


K1 SECTION
SCALE 1:50

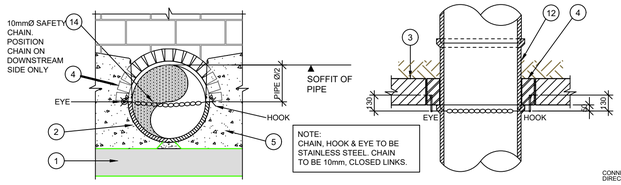
MANHOLE TYPE K

3m ≤ DEPTH TO INVERT < 6m

TABLE K	
MANHOLE PIPE Ø A	CHAMBER INTERNAL Ø B
225	1200
300	1200
375	1200
525	1200
600	1200
675	1350
750	1500
900	1500
1050	2100
1200	2100

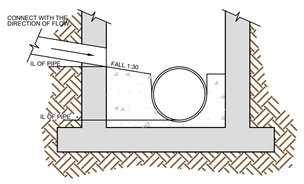


ALTERNATIVE DETAIL
(REDUCING SLAB INSTEAD OF TAPER SECTION)

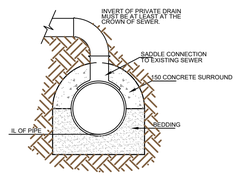


ELEVATION PLAN

SAFETY CHAIN, HOOK & EYE DETAIL
N.T.S.

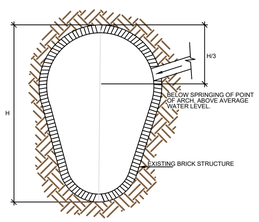


CONNECTION TO MANHOLE

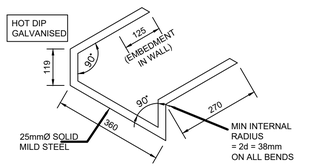


SADDLE CONNECTION

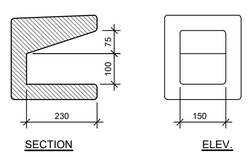
MANHOLE CONNECTIONS
(DCC AREA ONLY)



CONNECTION TO BRICK SEWER



STANDARD RUNG
(IRON STEPS NOT PERMITTED)
(SCALE 1:10)



DETAILS OF TOE HOLD
(SCALE 1:10)

MISCELLANEOUS MANHOLE DETAILS

Rev	Date	Amendments	by	chkd
P01	18.08.22	ISSUED FOR PLANNING	AG	AD

PROJECT
PROPOSED HOUSING DEVELOPMENT AT MAYESTON, POPPINTREE, DUBLIN 11

CLIENT
FINGAL COUNTY COUNCIL

DRAWING TITLE
MANHOLE DETAILS SHEET 2 OF 2

drawn by: AG	date: 18.08.22	scale: N.T.S	@ A1	chk: AD

MAYE - DOW - 00 - XX - DR - CE
Project | Originator | Volume | Level | Type | Role

21208	4001	P01
DOW Project No.	drg. no.	rev.

S4: SUITABLE FOR PLANNING
Suitability Status: Code - Description

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