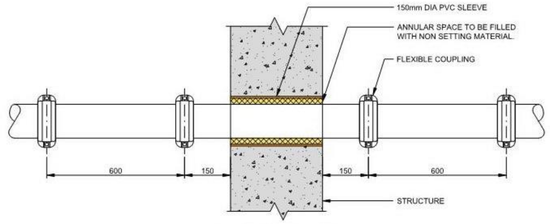
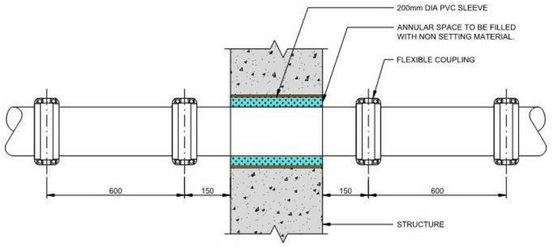


SECTION OF 100mm PIPE THROUGH STRUCTURE



SECTION OF 150mm PIPE THROUGH STRUCTURE

TYPICAL PIPE THROUGH STRUCTURE DETAIL No. PH-044

NOTES

1. FOR ALL CLASS " A " BEDDING

   THE CONCRETE (REINFORCED OR PLAIN) SHOULD BE IN ACCORDANCE WITH 'STANDARD CONCRETE MIXES FOR DRAINAGE WORK' DETAIL. THE CONCRETE MUST BE ALLOWED TIME TO GAIN STRENGTH BEFORE IT IS SUBJECTED TO VIBRATION FROM MECHANICAL RAMMERS OR TO LOADING FROM TRAFFIC OR CONSIDERABLE HEIGHTS OF BACKFILL. THE MINIMUM TIME ALLOWANCE WILL DEPEND ON THE MIX, THE TYPE OF CEMENT, THE TEMPERATURE AND THE DEGREE OF LOADING TO WHICH THE BEDDED PIPE IS LIKELY TO BE SUBJECTED. ALL FACTORS NEED TO BE TAKEN INTO ACCOUNT, BUT AS A GENERAL GUIDE IT IS SUGGESTED THAT, APART FROM PLACING AN INITIAL 150mm TO 300mm LAYER OF BACKFILL OVER THE PIPE, THE MAIN BACK FILLING SHOULD NOT BE COMMENCED UNTIL AT LEAST 24 HOURS AFTER PLACING OF THE CONCRETE HAS BEEN COMPLETED AND THE HEAVY RAMMER SHOULD NOT BE USED NOR TRAFFIC LOADS IMPOSED UNTIL 72 HOURS AFTER CONCRETING. WHERE IT IS ESSENTIAL TO REDUCE THE TIME ALLOWANCE TO A MINIMUM, ONE OR MORE OF THE FOLLOWING SPECIAL PRECAUTIONS CAN BE TAKEN:

   (A) RAPID HARDENING CEMENT (B) A STRONGER MIX (C) HEATING METHODS IN COLD WEATHER (D) STEEL BRIDGE PLATES WHERE TRAFFIC PASSES OVER TRENCH

   PRIOR TO USE OF ANY OF THESE METHODS, THE ENGINEERS APPROVAL SHALL BE OBTAINED.

2. GRANULAR BEDDING TYPE " A "

   FOR ROCK AND COURSE GRAINED SOILS - IDEALLY BROKEN STONE OR GRAVEL TO PREVENT THE INTRUSION OF FINE-GRAINED SOILS, SUCH AS CLAYS, SILTS OR FINE SANDS INTO THE BEDDING, ESPECIALLY UNDER WET CONDITIONS , ADD TO THE GRANULAR MATERIAL ABOUT ONE PART OF THE FREE-DRAINING COURSE SAND TO TWO PARTS OF MIXTURE OF SIMILAR PARTICLE SIZE. ALTERNATIVELY, A LAYER OF WELL COMPACTED SAND OR ALL IN MIXTURE OR WEAK CONCRETE MAY BE LAID ON THE TRENCH BOTTOM BEFORE PLACING THE DEPTH Y (SEE NOTE 4) OF TYPE " A " MATERIAL. IF A CONCRETE LAYER IS USED, INCREASE Y AS FOR ROCK. SANDS CONTAINING AN EXCESS OF FINE PARTICLES SHALL BE AVOIDED FOR THE TYPE " A " MATERIAL, SINCE THEY ARE DIFFICULT TO PLACE AND COMPACT PROPERLY.

3. SELECTED FILL TYPE " B "

   UNIFORM READILY COMPACTABLE MATERIAL FREE FROM TREE ROOTS, VEGETABLE MATTER, BUILDING RUBBISH AND FROZEN SOIL AND EXCLUDING CLAY LUMPS RETAINED ON A 75mm (3 INCH) SIEVE AND STONES RETAINED ON A 25mm (1 INCH) SIEVE. REFER ALSO TO THE DRAINAGE SPECIFICATION.

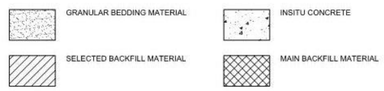
4. DIMENSION Y

   IS EQUAL TO 1/6th Bc OR MINIMUM OF 100mm UNDER BARRELS AND 50mm MINIMUM UNDER SOCKETS, WHICHEVER IS GREATER (400mm MAX.)

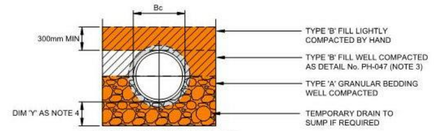
5. DIMENSION Bc

   IS EQUAL TO THE OUTSIDE DIAMETER OF THE PIPE

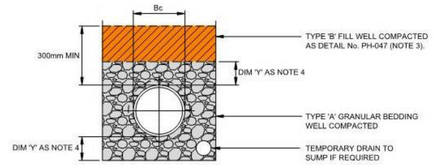
IN ROCK OR MIXED SOILS CONTAINING ROCKS BANDS, BOULDER, LARGE FLINTS OR STONES OR OTHER IRREGULAR HARD SPOTS DIM Y = .25 Bc AND 150mm MINIMUM UNDER SOCKETS (400mm MAX)



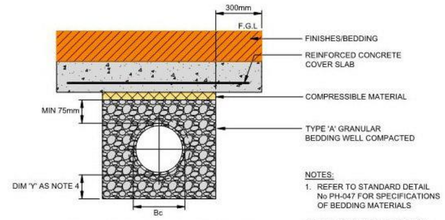
PIPE BEDDING NOTES DETAIL No. PH-047



CLASS 'B' GRANULAR BEDDING. BEDDING FACTOR 1.9



CLASS 'S' GRANULAR BEDDING. BEDDING FACTOR 2.2

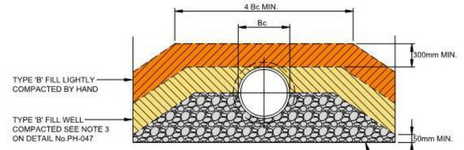


PROTECTION FOR SHALLOW PIPES WITH CONCRETE COVER SLAB

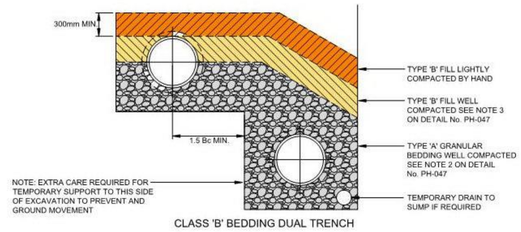
NOTES:

1. REFER TO STANDARD DETAIL No PH-047 FOR SPECIFICATIONS OF BEDDING MATERIALS
2. REFER TO STANDARD DETAIL No PH-046 FOR CONCRETE MIXES
3. Bc = OUTSIDE DIAMETER OF PIPE
4. Y = ⅙Bc OR 100mm WHICHEVER IS THE GREATER

PIPE BEDDING DETAILS DETAIL No. PH-049



CLASS 'B' BEDDING. BEDDING FACTOR 1.5 WIDE TRENCH CONDITION (TO BE USED WITH ENGINEERS APPROVAL ONLY)

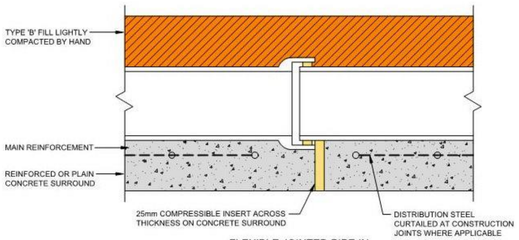


CLASS 'B' BEDDING DUAL TRENCH

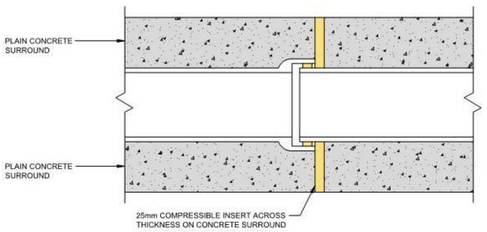
NOTES:

1. REFER TO STANDARD DETAIL No PH-047 FOR SPECIFICATIONS OF BEDDING MATERIALS
2. REFER TO STANDARD DETAIL No PH-046 FOR CONCRETE MIXES
3. Bc = OUTSIDE DIAMETER OF PIPE

PIPE BEDDING DETAILS DETAIL No. PH-050



FLEXIBLE JOINTED PIPE IN CONCRETE BEDDING



FLEXIBLE JOINTED PIPE IN CONCRETE SURROUND

NOTES

1. REFER TO STANDARD DETAIL No PH-047 FOR SPECIFICATIONS OF BEDDING MATERIALS

2. REFER TO STANDARD DETAIL No PH-046 FOR CONCRETE MIXES.

PIPE BEDDING DETAILS DETAIL No. PH-051

MANHOLE COVER SPECIFICATION

COVER TYPE 'A1'
INTERNAL USE SOLID BOTTOM DOUBLE SEAL & LOCKING INFILL COVER & FRAME WITH 900x750 CLEAR OPENING STAINLESS STEEL EDGED, AND FILLED WITH C25 CONCRETE & FLOOR FINISH
FACTA CLASS A - EN124 CLASS A15

COVER TYPE 'B1'
EXTERNAL USE SOLID TOP COVER & FRAME WITH 900x600 CLEAR OPENING
FACTA CLASS B - EN124 CLASS B125

COVER TYPE 'B2'
EXTERNAL USE SOLID TOP COVER & FRAME WITH 600x600 CLEAR OPENING
FACTA CLASS B - EN124 CLASS B125

COVER TYPE 'B3'
EXTERNAL USE SOLID TOP COVER & FRAME WITH 450x450 CLEAR OPENING
FACTA CLASS B - EN124 CLASS B125

COVER TYPE 'B4'
EXTERNAL USE SOLID TOP COVER & FRAME WITH 600x600 CLEAR OPENING, DOUBLE SEAL & LOCKING
FACTA CLASS B - EN124 CLASS B125

COVER TYPE 'C1'
EXTERNAL USE INFILL COVER & FRAME FOR BLOCK PAVING WITH 750x600 CLEAR OPENING
FACTA CLASS C - EN124 CLASS C250

COVER TYPE 'C2'
EXTERNAL USE INFILL COVER & FRAME FOR BLOCK PAVING WITH 600x600 CLEAR OPENING
FACTA CLASS C - EN124 CLASS C250

COVER TYPE 'C3'
EXTERNAL USE INFILL COVER & FRAME FOR BLOCK PAVING WITH 450x450 CLEAR OPENING
FACTA CLASS C - EN124 CLASS C250

COVER TYPE 'C4'
EXTERNAL USE SOLID TOP COVER & FRAME WITH 600x600 CLEAR OPENING
FACTA CLASS C - EN124 CLASS C250

COVER TYPE 'C5'
EXTERNAL USE INFILL COVER & FRAME FOR BLOCK PAVING WITH 300x300 CLEAR OPENING
FACTA CLASS C - EN124 CLASS C250

COVER TYPE 'D1'
EXTERNAL USE SOLID TOP COVER & FRAME WITH 600x600 CLEAR OPENING
FACTA CLASS D - EN124 CLASS D400

COVER TYPE 'D2'
EXTERNAL USE SOLID TOP COVER & FRAME WITH 600 DIA CLEAR OPENING
FACTA CLASS D - EN124 CLASS D400

COVER TYPE 'D3'
EXTERNAL USE SOLID TOP COVER & FRAME WITH 900x600 CLEAR OPENING
FACTA CLASS D - EN124 CLASS D400

COVER TYPE 'D4'
EXTERNAL USE ' OPEN MESH' TOP COVER & FRAME WITH 600x600 CLEAR OPENING
FACTA CLASS D - EN124 CLASS D400

COVER TYPE 'D5'
EXTERNAL USE SOLID TOP COVER & FRAME WITH 450x450 CLEAR OPENING
FACTA CLASS D - EN124 CLASS D400

MANHOLE COVER SPECIFICATION DETAIL No. PH-056

COVER SPECIFICATION

COVER TYPE 'A15-IN'
INTERNAL USE SOLID BOTTOM DOUBLE SEAL & LOCKING INFILL COVER & FRAME, STAINLESS STEEL EDGED, AND FILLED WITH C25 CONCRETE & FLOOR FINISH
FACTA CLASS A - EN124 CLASS A15
REFER TO MANHOLE TAG FOR COVER SIZE

COVER TYPE 'B125-ST'
EXTERNAL USE SOLID TOP COVER & FRAME
FACTA CLASS B - EN124 CLASS B125
REFER TO MANHOLE TAG FOR COVER SIZE

COVER TYPE 'B125-IN'
EXTERNAL USE INFILL COVER & FRAME FOR BLOCK PAVING
FACTA CLASS B - EN124 CLASS B125
REFER TO MANHOLE TAG FOR COVER SIZE

COVER TYPE 'C250-ST'
EXTERNAL USE SOLID TOP COVER & FRAME
FACTA CLASS C - EN124 CLASS C250
REFER TO MANHOLE TAG FOR COVER SIZE

COVER TYPE 'C250-IN'
EXTERNAL USE INFILL COVER & FRAME FOR BLOCK PAVING
FACTA CLASS C - EN124 CLASS C250
REFER TO MANHOLE TAG FOR COVER SIZE

COVER TYPE 'D400-ST'
EXTERNAL USE SOLID TOP COVER & FRAME
FACTA CLASS D - EN124 CLASS D400
REFER TO MANHOLE TAG FOR COVER SIZE

COVER TYPE 'D400-OM'
EXTERNAL USE 'OPEN MESH' TOP COVER & FRAME
FACTA CLASS D - EN124 CLASS D400
REFER TO MANHOLE TAG FOR COVER SIZE

ST - SOLID TOP COVER
IN - INFILL TYPE COVER
OM - OPEN MESH TYPE COVER

SOAKAWAY	
No	
SIZE	
C.L.	
I.L. (IN)	
I.L. (OUT)	N/A
BASE LEVEL	
B125-ST - 450x450	

SILT TRAP MANHOLE	
No	
SIZE	
C.L.	
I.L. (IN)	
I.L. (OUT)	
BASE LEVEL	
B125-ST - 450x450	

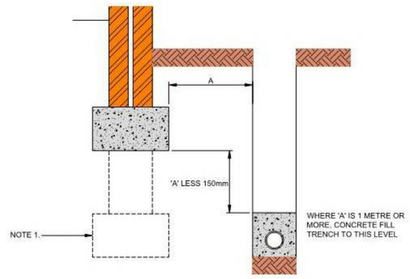
PETROL INTERCEPTOR	
No	
REF	
C.L.	
I.L. (IN)	
I.L. (OUT)	
BASE LEVEL	
D400-ST - 600dia	

PUMP CHAMBER	
No	
SIZE	
C.L.	
I.L. (IN)	
I.L. (OUT)	
BASE LEVEL	
BY PUMP SPECIALIST	

PUMP CHAMBER COVER TO BE SPECIFIED BY PUMP CHAMBER MANUFACTURER. SUITABLE LOAD CLASS & TYPE TO SUIT SITE LOCATION.

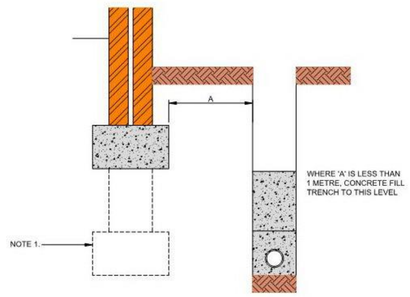
MH No	
SIZE	
C.L.	
I.L.	
A15-IN - 900x600	

COVER SPECIFICATION DETAIL No. PH-056A



NOTE 1.
IN NEW WORK IT IS NORMALLY PREFERABLE TO ARRANGE FOR FOUNDATIONS TO BE LOWERED

NOTE 2.
IN EXISTING FOUNDATIONS SITUATIONS, TEMPORARY WORKS INVOLVING EXCAVATION IN SHORT LENGTHS AND FULL TRENCH SUPPORT WILL BE REQUIRED



DRAINS LAID NEAR TO FOUNDATIONS DETAIL No. PH-057

Suitability Code (as defined in BS1192)

Work In Progress (WIP)

S0 - Initial Status or WIP

Shared (Non- Contractual)

S1 - Suitable for Co-ordination
S3 - Suitable for Review & comment
S5 - Not Used
S7 - Suitable for AIM Authorisation
S2 - Suitable for Information
S4 - Suitable for Stage Approval
S6 - Suitable for PIM Authorisation

WIP to Published (Non-Contractual)

D1 - Suitable for Costing
D3 - Suitable for Contractor Design
D2 - Suitable for Tender
D4 - Suitable for manufacture/procurement

Published Documentation (Contractual)

A1, A2, A3, Etc. - Approved and accepted as stage complete
B1,B2,B3, Etc. - Partially signed off with minor comments from the Client

Published for AIM Acceptance

CR - As Construction Record Documentation

DO NOT SCALE FROM THIS DRAWING.

ALL DIMENSIONS TO BE CHECKED ON SITE.

FOR REFERENCED VIEWS REFER TO SERIES OF DRAWINGS

rev	by	chkd	date	description
P01	LSB		22/10/20	ISSUED FOR PRICING

Portsmouth CITY COUNCIL

bam
BAM Design
An operating company of BAM Construct UK Ltd

Architecture
Interior Design
3D Visualisation
Feasibility Studies
Structural Engineering
Environmental Services
Building Information Modelling

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Griffiths Way, St Albans
Hertfordshire, AL1 2RD

01727 894200
design@bam.co.uk
www.bam.co.uk

project: Dunsbury Hill Farm Plot 4A

title: Below Ground Drainage Strategy Sheet 1

purpose of issue: Issued for Pricing

scale: 1:200 @ A1
date: October.2020
drawn: LSB
ch:
BAM job no.: [redacted]4330 Z4A
drg. status: D1
project code / originator / volume / level / type / role / number / rev
drg / doc ref.: DHF-BMD-Z4A-ZZ-DR-P-58003-P01