

Mortar bedding and haunching
to cover and frame
to Clause E6.7

Minimum 2 courses of Class B engineering bricks or precast concrete cover frame seating
675 mm maximum to first step rung from cover level

Lifting eyes in concrete rings to be pointed

In-situ concrete to be GEN3 (designed to BRE Special Digest 1 Concrete in Aggressive Ground)

High-strength concrete topping to be brought up to a dense, smooth face, neatly shaped and finished to all branch connections (minimum thickness 20 mm)

Construction joint

Self-cleaning toe holes to be provided where channel exceeds 600 mm wide

Inverts to be formed using channel pipes

Joint to be as close as possible to face of manhole to permit satisfactory joint and subsequent movement

Pipe joint with channel to be located minimum 100 mm inside face of manhole

Double step rungs in accordance with BS EN 13101 See Clause E2.33 for double step details

600 mm x 600 mm clear opening cover complying with BS EN 124 and BS 7903 See Clause E2.32

Precast concrete manhole sections and cover slab to bedded with mortar, plasticomeric or elastomeric seal conforming to BS EN 1917 and BS S911-3 See Clause E2.29

150 mm concrete surround

Chamber height (not less than 900 mm)

Benching slope to be 1:10 to 1:30

The bottom precast manhole ring to be built into base concrete minimum 75 mm

Distance between top of pipe and underside of precast section to be minimum 50 mm to maximum 300 mm

225 mm to underside of channel

See Figure B.14 and Clause E.6.2 for rocker pipe details

Minimum width of benching to be 225 mm

500 mm minimum from edge of stepping

Technical drawing of a manhole structure, showing internal and external components. The drawing includes the following annotations:

- Mortar bedding and haunching to cover and frame to Clause E6.7
- 1-4 precast concrete cover frame seating rings with 350 mm diameter or 300 mm x 300 mm opening or class B engineering bricks
- Temporarily cap manhole shaft during construction
- DOT Type 1 sub base (thickness varies)
- Manhole cover to suit BS EN 124 loading minimum 300 mm x 300 mm clear opening
- Surface course
- Base course
- Cover slab with access opening restricted to 350 mm diameter or 300 mm x 300 mm if depth of chamber to invert is > 1 m
- Precast concrete sections to be jointed with elastomeric or plasticomeric seals
- Minimum internal dimensions 450 mm diameter or 450 mm x 450 mm
- DOT Type 1 sub base (thickness varies) or concrete surround
- Pipes built into chamber wall or joint formed with watertight seals
- Granular bedding material
- Base unit to have all connections with soffit levels set no lower than that of the main pipe
- 100 mm precast base or 150 mm in-situ formed
- Joint to be as close as possible to face of chamber to permit satisfactory joint and subsequent movement
- See Figure B.14 and Clause E6.6.2 for rocker pipe details
- Invert of connecting pipe at least 50 mm above that of the main pipe

Ground Level

Minimum 200mm topsoil to landscape architects details

450mm x 600mm deep French

High standard of workmanship not to be used unless accurate trimming by shovel is possible

Where accurate hand trimming
class N is an alternative to class

Technical drawing of a cross-section of a wall with a window. The wall has a total height of 150 units. The window opening is 150 units high. The wall thickness is indicated as $x + 600 \text{ max}$ and $x + 300 \text{ min}$. The window is centered horizontally.



Detail

PIPE BEDDING DETAILS
(NON ADOPTABLE DRAINS)
(Not To Scale)

PE BEDDING FOR RIGID APPLIES (NON ADOPTIVE DRAINS)

	Selected fill: free from stones larger than 40mm, lumps of clay over 100mm, timber frozen granular and vegetable matter
	Granular material: should conform to BS 882:1983 table 4 or BS8301:1985 Appendix D. Compaction fraction > 0.3 for class N > 0.2 for class F and B.
	Selected fill or granular fill free from stones larger than 40mm

'x' - Denotes external pipe diameter.

Top of Bank 4.860

0.2

1:2.5 bank

Maintained Reservoir Water Level 3.850

1:100yr storm + Climate change Water Level 4.557

See Headwall Detail

Top of Bank 4.860

150mmØ Overflow Pipe

150mmØ

To existing ditch

Reservoir Bed 1.500

0.75mm thick butyl rubber reservoir liner on 30mm sand bed
Formation to be compacted and
Protrusion objects removed

Reservoir liner to be stepped at
top of bank and backfilled with
large stones and 200mm topsoil
to entire perimeter of pond.

SW-07
Hydrobrake 20 i/s
CL 4.800
IL pipe out 3.557
Base 3.057

The diagram illustrates a trench box cross-section. Key features include:

- Dimensions:**
 - Top width: Min 1500 or Pipe Ø + 1200mm
 - Internal width: 800 Max Centres
 - Wall thickness: Nominal 125mm x 500mm
 - Height: Staked with hooks 12mm reinforcing l (See GA for height)
- Components:**
 - Outlet pipe (See GA for diameter)
 - Dashed lines indicating internal bracing or reinforcement.

150mm Pipes

800 Max Centres

Staked with hooked 12mm reinforcing bar

Nominal 125mm x 500mm

1:2

50-100mm thick PCC paving slab laid on 50mm class 1 mortar bed

Outlet pipe
See GA for diameter

Steel Spikes to hook over top of bagwork

1:2 Bank

Outlet pipe See GA for diameter

100mm

50-100mm thick PCC paving slab laid on class 1 mortar bed

Paving slabs to extend 750mm either side of centre of outlet pipe to prevent scouring

Unsuitable material in foundation to be excavated and backfilled with ST4 concrete

Hessian or Canvas shall be provided to provide a wall thickness of 500mm. The work shall be to Clause 519 and shall be drilled with 25mm slump ST4 immediately prior to placing with the

and depth of swale 1m of discharge above shall be dependant upon location. See GA

Backfill behind bagwork to be placed and tamped as work proceeds

HEADWALL SECTION

Level and depth of swale and point of discharge above will be dependant upon location. See GA

Steel Spikes to hook over top of bagwork

1:2 Bank

Outlet pipe See GA for diameter

100mm

Pipe cut to profile of ditch

Bagwork to extend 1.5m from outlet

Backfill behind bagwork to be placed and tamped as work proceeds

Unsuitable material in foundation

See Figure B.12 for construction of manhole above pipe

Incoming / Outgoing pipe

500mm Sump

The bottom precast manhole ring to be built into base concrete minimum 75 mm

Construction joint

225 mm concrete base

[illegible]

1. All dimensions to be checked on site. All details and dimensions relating to sub-Contractors work must be checked and agreed between the sub-Contractor or supplier and the general Contractor.
2. This drawing is to be read in conjunction with all relevant Architect's and Engineer's drawings and specification.
3. The main Contractor is responsible for ensuring the stability of the structure whilst the works are in progress.
4. Any information given regarding existing underground services is given in good faith after consultation with the relevant authority. No liability is accepted by the Consultant and the main Contractor is responsible for obtaining and checking all information and taking due care and attention whilst undertaking the works.

DRAINAGE NOTES:

1. All adoptable pipes, bends and junctions shall be vitrified clay in accordance with the current version of BS EN 295-1, with flexible joints and kitemark certified.

15. 100mm diameter and shall be laid in a class B bedding. Where the depth to soil is less than 1.2m under a public highway or 0.9m elsewhere the pipe shall be laid with a class Z bedding.
16. All private building drainage shall be constructed in strict accordance with the current version of BS EN 752:2017. Unless otherwise specified, building drainage shall be 100mm diameter and shall be laid at a minimum depth of 1m in 40 for floor drains and 1m 60 for surface water drains. All building drains shall be laid in class B bedding unless otherwise specified.
17. Where a pipe is within 1m of a foundation the trench shall be filled with class GEN 3 concrete up to the lowest level of the foundation. Where the trench is further than 1m from the foundation, the trench shall be filled with class GEN 3 concrete to a level below the lowest level for the foundation equal to the distance from the foundation less 150mm. In both cases the pipe shall be bedded and surrounded in 150mm thick class GEN 3 concrete.
18. Where pipes, external to the structures, have a depth to soil from ground level of less than 450mm they shall have a class GEN 3 concrete encasement (150mm thick). In all other cases the pipes shall be bedded and surrounded with 100mm thick granular material.
19. In any circumstances where pipes are bedded and surrounded in concrete flexible joints should be provided. Compressible boots (fibreglass or polystyrene) shall be provided at a maximum of 8m centres (coinciding with pipe joints). The boards shall be pre-cut to pipe diameter and to a height and width equal to the concrete cross section. A board thickness of 15mm for pipes up to 450mm nominal diameter and 30mm for pipes over 450mm nominal diameter.
20. All sumps shall have rodding access plates fitted at their bases (ground floor level).
21. Where existing pipes are to be abandoned they shall be dug out together with any abandoned manholes.
22. Any discrepancy between the drawing and site should be reported immediately to the Engineer.
23. All manhole and chamber sizes are given as a minimum to meet the 7th edition of Sewers For Adoption

REV	DATE	INT	DESCRIPTION	CHK
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PRELIMINARY



DPS Limited

PROJECT
Wicks Farm
Polytunnel
Ford

TITLE	Construction Details Sheet 1 of 2
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DRAWN P Reynolds		DATE Mar 2020	PROJECT NO. 23314	
ENGINEER S Burgess		CHECKED SB	DWG. No. 51	REV. B
SCALE As shown @ A1				