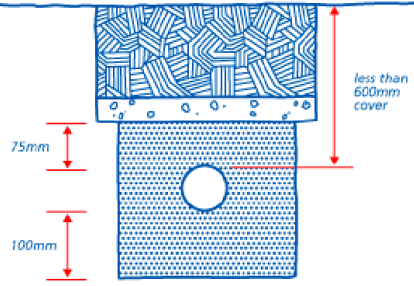


DETAIL 08

TYPICAL SECTION PIPE PROTECTION- PATHS/ GARDEN AREAS- NHBC STANDARDS 2011

N.T.S.

GARDEN AREAS
Where flexible pipes are not under a road and have less than 0.6m cover they should, where necessary, have concrete paving slabs laid as bridging above the pipes, with at least 75mm of granular material between the top of the pipe and underside of the slabs.



DETAIL 09

TYPICAL SECTION PIPE PROTECTION- DRIVEWAY- NHBC STANDARDS 2011

N.T.S.

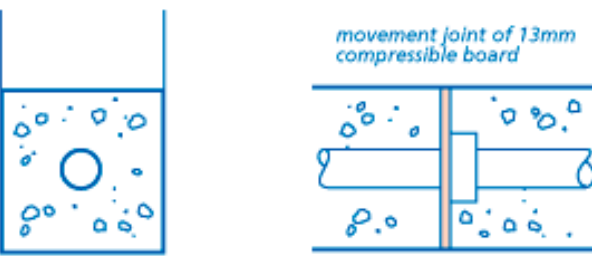
Where drains pass under roads and drives, the final compaction should be sufficient to prevent later settlement.

RIGID PIPES
Rigid pipes less than 1.2m below the road surface should, where necessary, be protected from damage by concrete encasement not less than 100mm thick, and having movement joints formed with compressible board at each socket or sleeve joint face.

Flexible joints should remain flexible.



movement joint of 13mm compressible board



pipe encased in concrete at least 100mm thick all round

DETAIL 10

TYPICAL SECTION- PIPE BEDDING NHBC STANDARDS 2011

N.T.S.

Pipework shall be laid to the designed lines and gradients

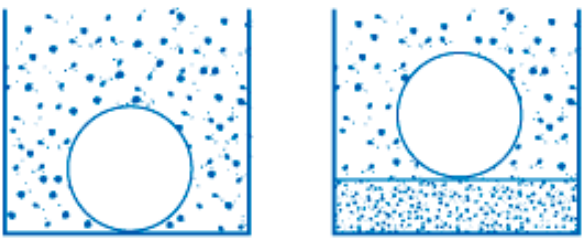
Items to be taken into account include:
(a)bedding

Pipes should be firmly supported throughout their length and bedded as specified in the design.

Bricks, blocks or other hard material should not be used as temporary supports to achieve the correct gradients, as they may create hard spots which can distort the completed pipe run.

Pipes should be either:
bedded on granular material, minimum 100mm deep or
laid directly on the trench bottom, where the trench bottom can be accurately hand trimmed with a shovel but is not so soft that it puddles when walked on.
Depressions should be formed where necessary in the trench bottom to accommodate pipe joints.

Pipe supported on trench bottom. Pipe supported on bed of granular material



Nominal pipe size [mm]
Granular material for bedding

rigid pipes	flexible pipes	Material (complying with BS EN 13242)
100	110	4/10mm pipe bedding gravel
150	160	2/14mm pipe bedding gravel

or
4/10mm pipe bedding gravel

Proprietary pipes should be supported in accordance with manufacturers' recommendations. Some proprietary systems permit a minimum of 50mm depth of bedding in certain circumstances.

Generally, for 150mm diameter and 100mm diameter drains, a bed and surround of 10mm pea gravel (to a thickness of 100mm all round the drain) will be acceptable for drains under gardens, paths and drives.

(b)jointing

Pipes should have flexible joints, installed in accordance with manufacturers' recommendations.

(c)sidefill and backfill

Sidefill and backfill should be placed as soon as the pipes have been bedded, jointed and inspected.

For proprietary systems, sidefilling and backfilling should be carried out in accordance with manufacturers' recommendations. Sidefill should be either:
granular material (see table to Clause S4(a)), or
selected backfill material from the trench excavation, ie free from:
stones larger than 40mm
clay lumps larger than 100mm
timber
frozen material
vegetable matter.

GENERAL BACKFILL
Normally the excavated material from the trench will be suitable for backfilling above the selected material. General backfill material should be free from:
boulders
building rubble
timber
vegetable matter.

PLACING BACKFILL
Backfill should be placed in layers not deeper than 300mm, and should be well compacted. Mechanical compacting should only be used when compacted backfill is at least 450mm above the crown of the pipe.

DETAIL 11

ELEVATION OF HEADWALL

N.T.S.

