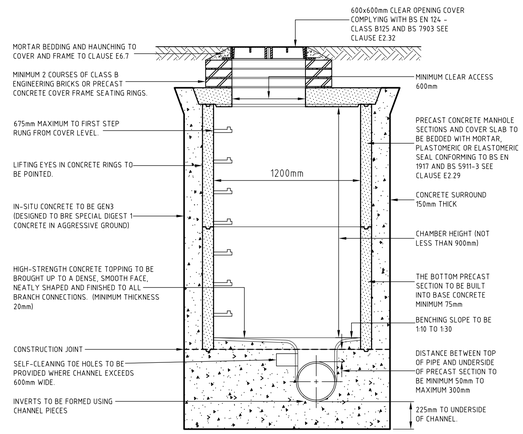
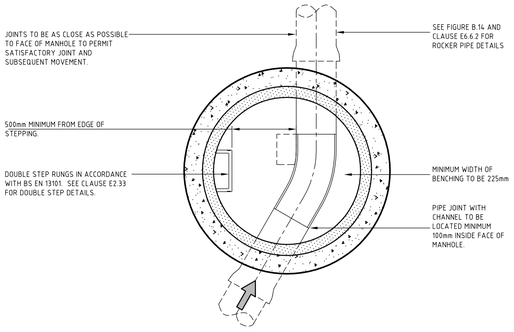
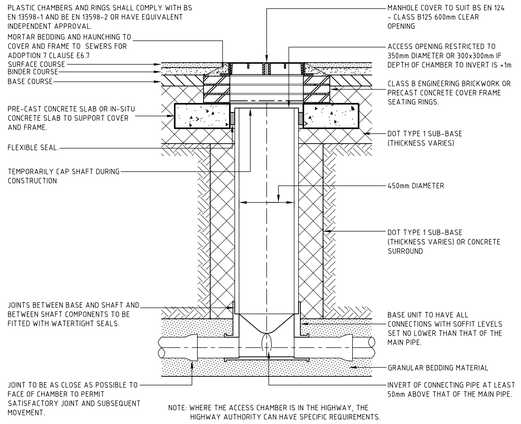




TYPICAL MANHOLE DETAIL - TYPE 2

Max depth from cover level to soffit of pipe 3.0m.

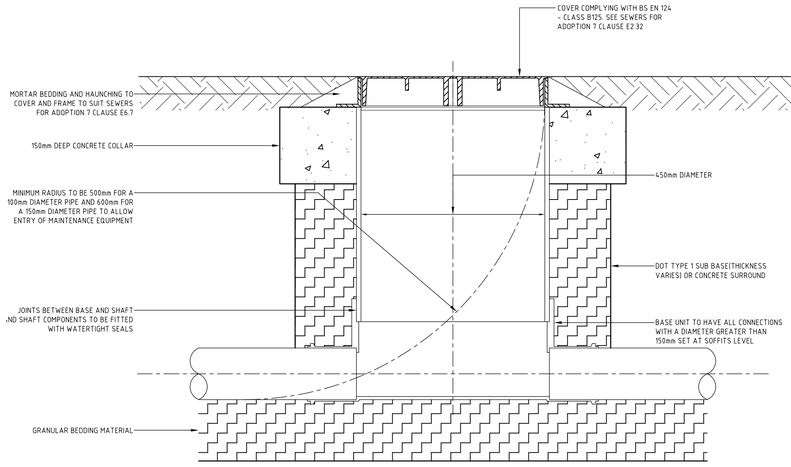
SCALE 1:25



TYPICAL INSPECTION CHAMBER DETAIL - TYPE 3

Maximum depth from cover level to soffit of pipe in areas subject to vehicle loading 3m, non-entry.

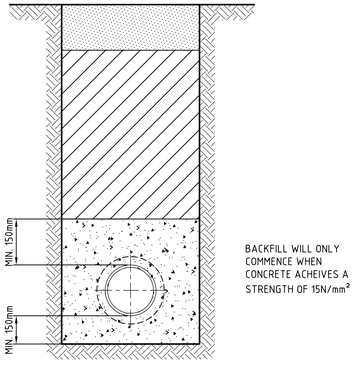
SCALE 1:25



TYPICAL INSPECTION CHAMBER DETAIL - TYPE 4

Maximum depth from cover level to soffit of pipe 2m.

SCALE 1:10

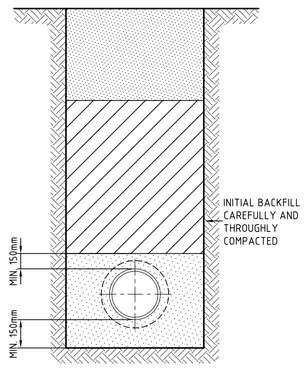


VERGE/LANDSCAPED AREAS REINSTATED TO MATCH EXISTING . PREPARE AND SEED GROUND TO BE REINSTATED AS SPECIFIED.

DRAINAGE CONSTRUCTION DETAIL

CLASS Z BEDDING-RIGID PIPE-VERGE/FOOTPATH

(FOR DEPTHS TO SOFFITS OF LESS THAN 900mm)



VERGE/LANDSCAPED AREAS REINSTATED TO MATCH EXISTING . PREPARE AND SEED GROUND TO BE REINSTATED AS SPECIFIED.

DRAINAGE CONSTRUCTION DETAIL

CLASS S BEDDING - FLEXIBLE PIPE - VERGE/FOOTPATH

(FOR DEPTHS TO SOFFITS GREATER THAN 900mm)

BEDDING DETAIL KEY

SOFT LANDSCAPING/PATH CONSTRUCTION

GRANULAR BEDDING MATERIAL
TO BS 882

PIPE SIZE (DN)	NOMINAL SINGLE SIZE (mm)	GRADED SIZE (mm)
100/150	10	NOT PERMITTED
225/300	10 or 20	20 to 5

GRANULAR BACKFILL MATERIAL
GRANULAR BACKFILL MATERIAL DTp TYPE 1 OR TYPE 2 (IF GROUND CONDITIONS SUITABLE) DTp CLAUSES 803 OR 804 RESPECTIVELY OR SUITABLE APPROVED EQUIVALENT.
COMPACTED IN LAYERS OF 150mm.

GEN3 MASS CONCRETE
CONCRETE BED AND SURROUND TO BE GEN3 SULPHATE RESISTING WITH FLEXIBLE JOINTS 18mm THICK, AT ALTERNATE PIPE JOINTS. BACKFILL WILL ONLY COMMENCE WHEN CONCRETE ACHEIVES A STRENGTH OF 15N/mm²

NOTE: TRENCH WIDTH GENERALLY 150mm EITHER SIDE OF PIPE BARREL UNLESS SPECIFIED OTHERWISE

NO DIMENSIONS TO BE SCALED FROM THIS DRAWING

CDM - RESIDUAL HAZARDS The following are considered to be significant risks relevant to this drawing, which could not be fully mitigated or removed through design:

CDM - RESIDUAL HAZARDS	
1	N/A

Further possible control measures have been identified within the Design Risk Assessments which may help to mitigate these and other identified risks further during the construction / maintenance process.

DRAINAGE NOTES:

- The system shall comply with the recommendations contained in BS EN 752, BS EN 12056 and Sewers for Adoption Edition 7.
- Drainage with less than 900mm cover will have a concrete bed and surround as detailed. Where required, pipework will be protected in accordance with the 'Simplified Tables of External Loads on Buried Pipelines'.
- In any circumstances where pipes are bedded and surrounded in concrete flexible joints should be provided. Compressible boards (fibreboard 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 18m for pipes up to 450mm nominal diameter and 36mm for pipes over 450mm nominal diameter.
- Where existing pipes are to be abandoned they shall be either dug out together with any abandoned manholes or backfilled with concrete. Covers/gratings of existing manholes, gullies and other chambers within new or resurfaced areas of paving are to be re-set to suit the new paving level on engineering brickwork and Class 1 mortar bed and haunching.
- New gullies will generally be precast concrete or plastic road gullies 150mm outlet, trapped with rodding eye to BS.3911 fitted with heavy duty cast iron gully grate and frame to BS.497: Part 1. Connections to the existing drainage system are to be made at existing manholes or to existing pipe runs using junction insertions or saddles as required. All new areas of paving shall be given suitable falls to direct surface water to existing and new gullies.
- For cover dimension & type, see individual manhole schedules.
- All drainage shall be installed to true and even gradients and shall be laid in straight lines between each manhole.
- Where drainage is required to pass beneath sub-structural perimeter beams, the pipework shall have a minimum of a 50mm space above the pipe which shall be filled with polystyrene, if clistance to pipe crown is less then 300mm.
- All connections to manholes shall be swept in the direction of the flow and no swept bend shall be greater than 100 degrees.
- All backdrops to manholes shall be formed externally to the manhole with a horizontal rodding eye taken though the wall.
- All branch connections to manholes shall be made at a level soffit with the outfall drain.
- Inlet and outlet connections to manholes on the main drain shall be at level soffit. Every drain connection to a manhole or inspection chamber shall be via a short length of rocker pipe to enable settlement to take place without damaging the pipe.
- Benching to manholes shall be trowelled to a smooth finish at a gradient of 1 in 12 to the horizontal.
- Channel bends shall be used in all manholes.
- Manhole covers shall be installed on the upstream end of manholes, over the step irons or the access ladder and shall be flush with the internal face of the manhole wall; there shall be no overhang of the manhole cover, which obscures access onto the step irons or the ladder.
- Bends at the base of soil stacks shall be long radius.
- Rodding access should be provided on all soil stacks for maintenance, testing and removal of debris.
- All redundant manholes and pipework to be broken out/ grouted up as appropriate.
- Generally, step irons are to be included in all manholes deeper than 1m. The distance to the first step should be no more then 675mm from cover level.

Revision		Date	Drn	Chk
C02	Type 2 Manhole Width Added	21.04.17	OSF	GAT
C01	Construction Issue	20.04.17	OSF	GAT
P01	First Issue	31.03.17	OSF	GAT

Client
KENT COUNTY COUNCIL

Project
LADDESFIELD SITE REDEVELOPMENT
VULCAN CLOSE

Drawing Title
VULCAN CLOSE EXTENSION
DRAINAGE CONSTRUCTION DETAILS

Suitability Status
A1 - Approved and accepted as stage complete

Job No.	Scale	Size	Rev
161562	AS INDICATED	@ A1	C02

Drawing Number
KEN003-PEV-XX-ZZ-DR-C-0900
Project Code - Originator - Zone - Level - Type - Role - Number

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