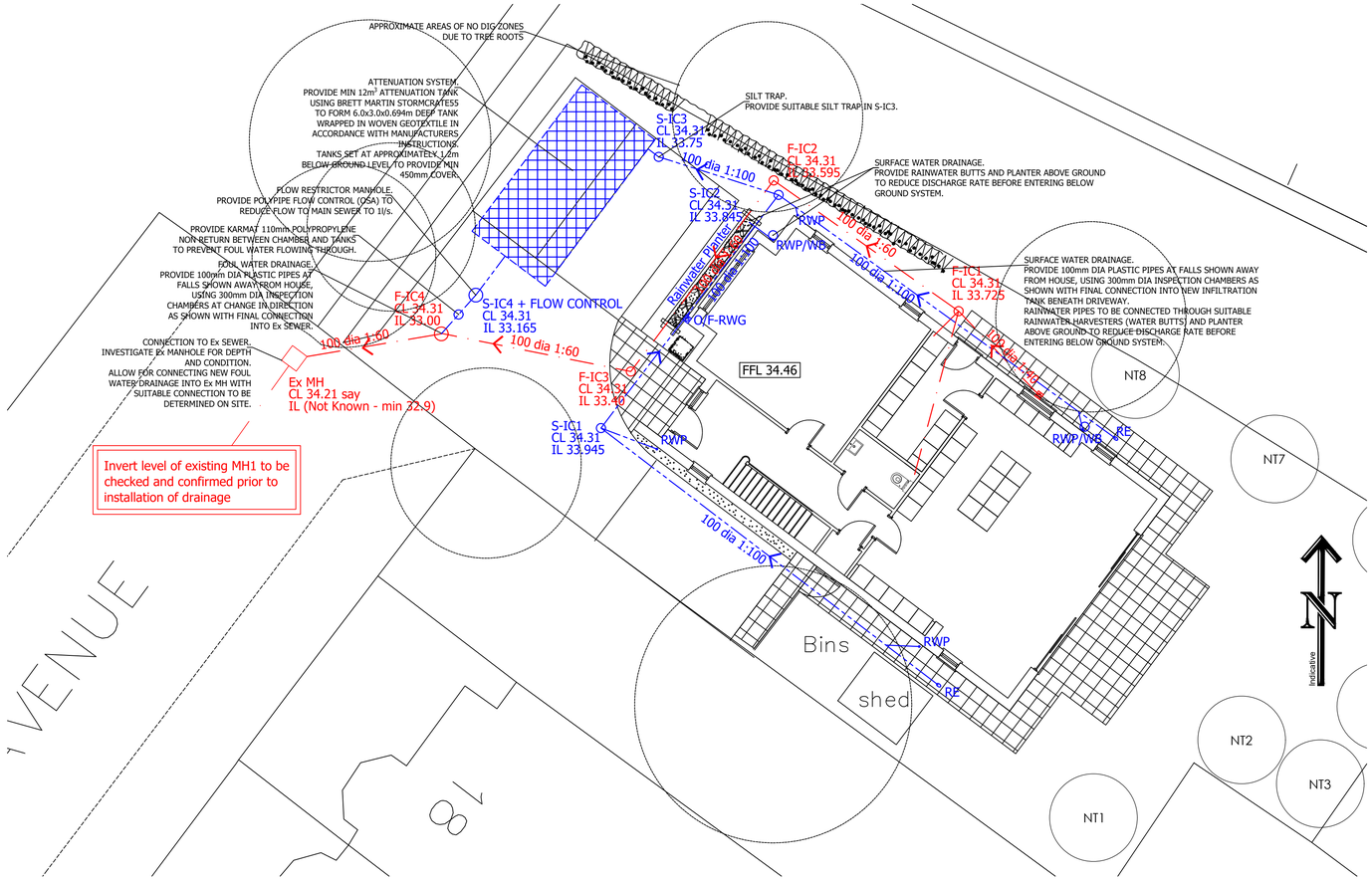


Drainage Maintenance and Management

Maintenance of the drainage will be undertaken by the Contractor until transferred to a the owner of the property.
Documents to be prepared when the legal papers are prepared for the sale of the properties.
The management document will include the following
1- All drainage on site to be maintained regularly with agreement written into the lease documents.
2- All costs associated with the maintenance of the drainage system to be borne by the owner.
The Drainage Maintenance Agreement to include and is not restricted to the following
1- Cleaning and checking gullies and silt trap manholes within the site boundaries at 6 month intervals,
2- Inspecting attenuation tanks and if required clearing silt from the tanks at 12 month intervals,
3- Defining responsibility for reporting defects or blockages and responsibility for arranging repairs accordingly,
4- Emergency procedures specified and set out to deal with spillages of hazardous liquids (petrol/ diesel/ turpentine etc).

DRAINAGE KEY

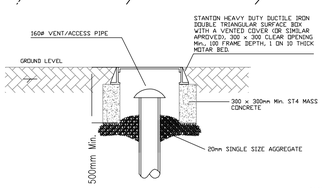
- EXISTING COMBINED SEWER
- EXISTING SURFACE WATER SEWER
- PROPOSED FOUL SEWER/DRAIN
- PROPOSED SURFACE WATER DRAINS
- DIRECTION OF FLOW
- S-MH SURFACE WATER MANHOLE
- S-IC SURFACE WATER INSPECTION CHAMBER
- F-MH FOUL WATER MANHOLE
- F-IC FOUL WATER INSPECTION CHAMBER
- RWP SEALED RAIN WATER PIPE WITH BACK INLET GULLY
- RE RODDING EYE
- WB 220l WATER BUTT
- WG SEALED WASTE GULLY
- SVP SOIL WASTE & VENT PIPE
- S/S STUB STACK/ SOIL PIPE POP UP

Drainage Strategy

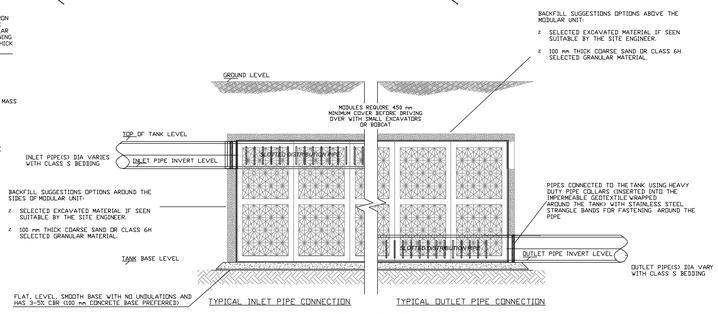
- The existing site is a greenfield site previously used as gardens for the houses on Cranmer Road.
- The proposed development is to have a separate foul and surface water drainage system on site for the new house.
- There is an existing combined sewer in Essex Ave.
- Site Investigations from an adjacent property revealed the underlying soils to be of a poorly drained granular material with a relatively high water table, from which a controlled discharge into the combined sewer was accepted. As similar soils are expected for this site we propose a similar solution.
- Additional rain water harvesters are proposed to the side and front of the property consisting a planter and min 220l water butts connected to the rain water pipes with overflows into the below ground drainage system.
- The new house is to include a drive and parking bays constructed with permeable parking, with paved areas directly around the with the remainder laid with grass.
- The surface water drainage discharge is based on 50% of the current rate of discharge from the existing site, from which the flow into the existing sewer is to be restricted to 1.0l/sec using a suitable proprietary flow control mechanism.
- The surface water attenuation tanks and flow control have been designed for a max 1in100 year storm with an climate increase of 45%.

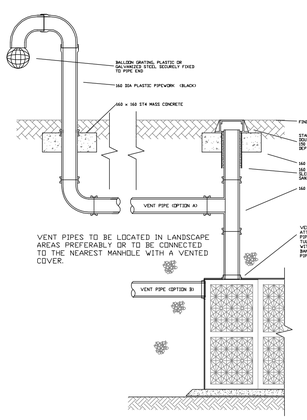
Below Ground Drainage

1. All below ground drainage to be in accordance with Sewers For Adoption 7.
2. All proposed drainage levels shown on the drawings are taken from the levels provided on the Architects/Survey drawings and **must** be confirmed by the contractor on site **prior** to excavating trenches etc. All invert levels are to the underside of any pipes, inspection chambers, manholes or tanks and it is the contractors responsibility to check these prior to commencing works. Any discrepancies are to be reported to STL Projects Ltd as soon as possible to allow for re-assessment where necessary.
3. All new below ground drainage is to be of min 100mm diameter, unless noted otherwise, platic pipework to BSEN 13476 laid and bedded to manufacturer's instructions to sizes dependant upon loading conditions and gradients within their recommendations, to comply with BS 8301:1985 together with parts H1, 2 & 3 of the Building Regulations.
4. Jointing shall be either u.p.v.c pushfit cuplings or by sealing rubber "o" rings in polyester mouldings.
5. Drains to be laid in suitable trench bedding classes for the specific application and accordance with all relevant British Standards and Building Regulations at the time of installation.
6. Where pipes run beneath solid floors, roads or are close to the surface then these should be encased in minimum 150mm concrete.
7. Where pipes run through walls then suitable precast concrete lintels are to be installed over the line of the pipe and the voids filled with gravel to prevent loading from the walls to the pipes.
8. No drainage pipes are to be laid beneath or within 45 degrees of the underside of a foundation. Where this occurs - foundations to extend down below invert.
9. Pipes are to be laid on a gradual fall as shown on the drawings to suit invert levels shown, although minimum falls of 1:40 for 100mm diameter foul sewers and 1:100 for 100mm diameter surface water pipes are used unless calculated otherwise.
10. Wherever possible, surface water should be discharged into suitable water storage units or directly into a soakaway positioned at least 5m from any structure.
11. Where drainage runs exceed 20m in length then intermediate rodding access/inspection chambers should be installed.
12. All new gullies should be back inlet gullies, BIG's, for rodding purposes. All new soil waste pipes should have roddable access covers.
13. All new manholes are to be of suitable design for the application and in accordance with all relevant British Standards and Building Regulations at the time of installation.
14. Proprietary plastic inspection chambers are required at a change in direction upto 1.0m deep, whilst masonry or precast concrete ring chambers are required below this depth.
15. Brickwork manhole construction to be of 225mm class "B" engineering brickwork in 1:3 cement/mortar
16. Brick or concrete ring manholes to be built up off minimum 150mm thick concrete base. Benching of concrete base to be formed around drainage channels to a smooth finish and fall to outlet.
17. Cast iron steps to BS1247:1975 shall be provided where depth of chamber exceeds 1000mm. All external MH covers shall be medium duty galv. steel to BS497 unless located within carriageways or car parks where heavy duty cast iron are to be used.
18. Manhole cover to be seated in rebated steel frames and sealed with grease on 100mm thk concrete frame base with 600x600mm min opening.
19. Any internal chambers shall be fitted with a double seal bolt down cover with an "inlay" recess for finishes and set in greased frame.
20. Proprietary u.p.v.c inspection chambers to have 150mm min sulphate resisting conc base.



VENT BOX DETAIL BY OTHERS (OPTIONAL)



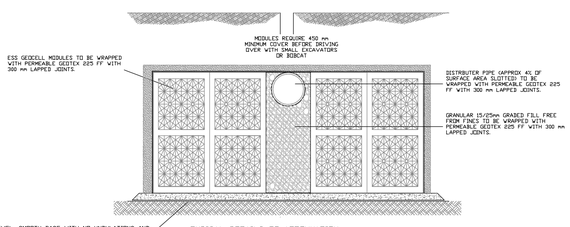


VENT PIPES TO BE LOCATED IN LANDSCAPE AREAS PREFERABLY OR TO BE CONNECTED TO THE NEAREST MANHOLE WITH A VENTED COVER.

VENT PIPES CONNECTED TO THE ATTENUATION TANK USING HEAVY DUTY PIPE COLLARS (SEAT WELDED TO TANK) (WRAPPED IN GEOMEMBRANE) WITH STAINLESS STEEL STRANGLE BANDS FOR FASTENING AROUND THE PIPE.

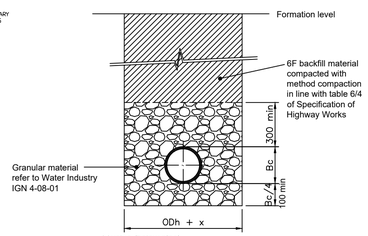
TYPICAL 160Ø DIP / VENT PIPE CONNECTION

A 3 - 5% CBR HAS BEEN ASSUMED AT SUB-BASE LEVEL. SHOULD THE CBR BE TESTED AND FOUND TO BE LESS THAN 3%, THEN THE ENGINEER SHALL BE NOTIFIED. ALSO, ANY SOFT SPOTS FOUND AT SUB-BASE LEVEL SHALL BE REPORTED TO THE ENGINEER.



TYPICAL DETAILS OF ATTENUATION TANK USING MODULAR UNITS

THE CONTRACTOR SHALL PROHIBIT THE MOVEMENT OF CONSTRUCTION PLANT ACROSS THE STORAGE TANK AND WHERE NECESSARY PROVIDE ADDITIONAL SUPPORT AND PROTECTION TO THE STRUCTURE. PARTICULARLY POST CONSTRUCTION. TEMPORARY FENCING CAN BE USED TO PROHIBIT TRADE STOCKS, PILLING MATERIALS, HEAVY PLANTS ETC.,

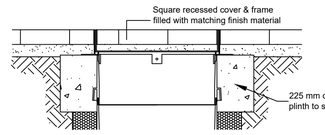


Y value (below pipe)
Hard spots/irregular trench bottom Bc/4 (200mm min)
Even trench bottom Bc/6 (100mm min)

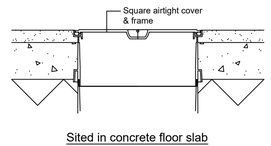
Bc = Outside diameter

Class S Bedding Detail

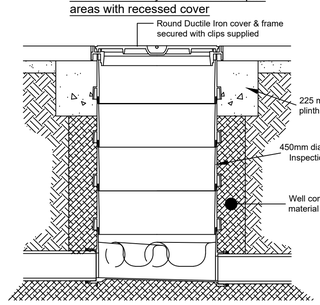
(Excavation and backfill material to be wrapped with Geotextile)



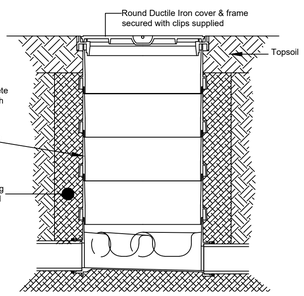
Sited in driveways / hard landscaped areas with recessed cover



Sited in concrete floor slab



Sited in driveways / hard landscaped areas With standard round cover



Sited in soft landscaped areas With standard round cover

POLYPROPYLENE INSPECTION CHAMBER INSTALLATION DETAIL
DEPTH FROM COVER LEVEL TO INVERT LEVEL < 1.2m

NB - Universal Product - Adaptor to pvc-u pipe included

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Details

0 500 1000 mm

Plans

0 1 2 3 4 5 m

Revisions:

	Date	Revision Details
H		
G		
F		
E		
D		
C		
B		
A		

Preliminary

- ISSUED AS WORKING DRAWING
- CLIENT APPROVED
- PRELIMINARY

Client: Heneghan

Project: Land off Essex Ave Didsbury

Title:

PROPOSED DWELLING

BELOW GROUND DRAINAGE LAYOUT & DETAILS

Drawn:	**Scale:** As shown @ A1
Checked by:	**Date:** Mar 2025

Drawing No. 25-6387 DR01 P2