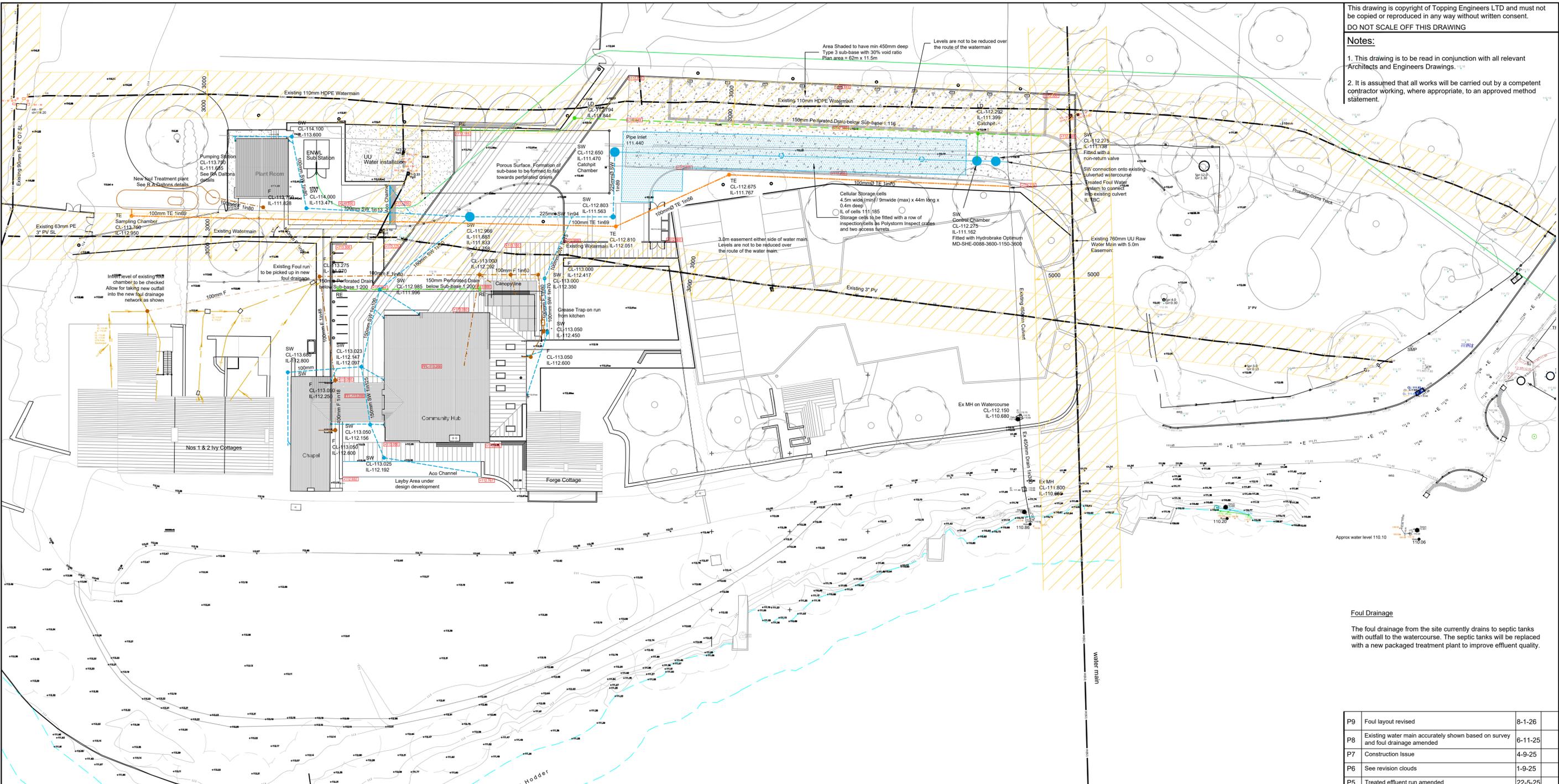


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Notes:

1. This drawing is to be read in conjunction with all relevant Architects and Engineers Drawings.
2. It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement.



Proposed Drainage Plan (1:250)



Catchment Area Plan (1:1000) Roof Area = 729m²
Hardstanding Areas = 1451m²

KEY

- Proposed Surface Water
- Proposed Foul
- Proposed Treated Effluent
- Existing Foul
- Existing Water Main
- New Electric Supply
- Cellular Storage
- Area of Storage in Sub-Base Type 3 stone 450mm thick
- 3.0m Easement on Water Main

Drainage Strategy

Surface Water

The drainage design follows the principals of the Drainage Strategy prepared by R.G. Parkins ref K39763.DS/001 which formed part of the original approved application for the site.

The site is brownfield and was formally a petrol filling station.

The site overlies a major aquifer with a medium risk vulnerability

A 450mm culverted watercourse runs through the site, outfalling into the River Dunsop to the south of the site.

NPPF guidelines require that surface water arising from a developed site should as far as practicable be managed in a sustainable manner to mimic the surface water flows arising from the site prior to development.

The national planning policy guidance sets out the hierarchy of drainage to promote the use of sustainable drainage systems. The aim of the hierarchy is to drain surface water run-off as high up the drainage hierarchy as reasonably practical.

1. Into the ground (infiltration).
2. A surface water body.
3. To a surface water sewer.
4. To a combined sewer.

Consideration has been given to the use of infiltration as a drainage solution. Trial Holes have been excavated on the site which have shown there to be elevated levels of ground water. This combined with the former use of the site (petrol filling station) and the vulnerability of the underlying aquifer, has ruled out the use of infiltration as a drainage solution.

The nearest watercourse is the River Dunsop to the south of the site. A 450mm diam culverted watercourse runs through the site outfalling into the River Dunsop. Draining to this watercourse in a similar manner to how it currently drains appears to be the most appropriate means of draining the site.

The proposed impermeable area totals 2180m². The drainage strategy was to attenuate the flows from this area to greenfield run off rates. Based on the IH124 method the QBar run off rate would be 3.6L/sec.

The site falls in the Ribble Management Catchment with the anticipated design life of the development a 50% allowance for climate change needs to be allowed for.

The parking areas and access road will drain to porous paving with an impermeable liner, the sub-base will capture any contaminants prior to draining to the attenuation tank.

The flows will be attenuated to the greenfield run off rate of 3.6L/sec in a 1in100 year storm with a 50% allowance for climate change. This can be achieved using an 88mm Hydrobrake and underground storage cells measuring 4.5m wide min/9m wide max x 44m long x 0.4m deep. See microdrainage calculations.

Foul Drainage

The foul drainage from the site currently drains to septic tanks with outfall to the watercourse. The septic tanks will be replaced with a new packaged treatment plant to improve effluent quality.

P9	Foul layout revised	8-1-26
P8	Existing water main accurately shown based on survey and foul drainage amended	6-11-25
P7	Construction Issue	4-9-25
P6	See revision clouds	1-9-25
P5	Treated effluent run amended	22-5-25
P4	Strategy notes added	15-4-25
P3	SW drainage connection amended	24-3-25
P2	Gradient on pipe crossing highway added	14-3-25
P1	Foul drainage details added and options for SW outfall	9-1-25
No.	Revision	Date

Status **CONSTRUCTION**

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Client		The Duchy of Lancaster	
Project		Old Garage Site Dunsop Bridge	
Drawing title		Drainage Proposals	
Drawn	PB	Chkd	Date
Sheet Size	A1	Drawing No.	23120-DR-C-0120
Scale	var	Revision	P9