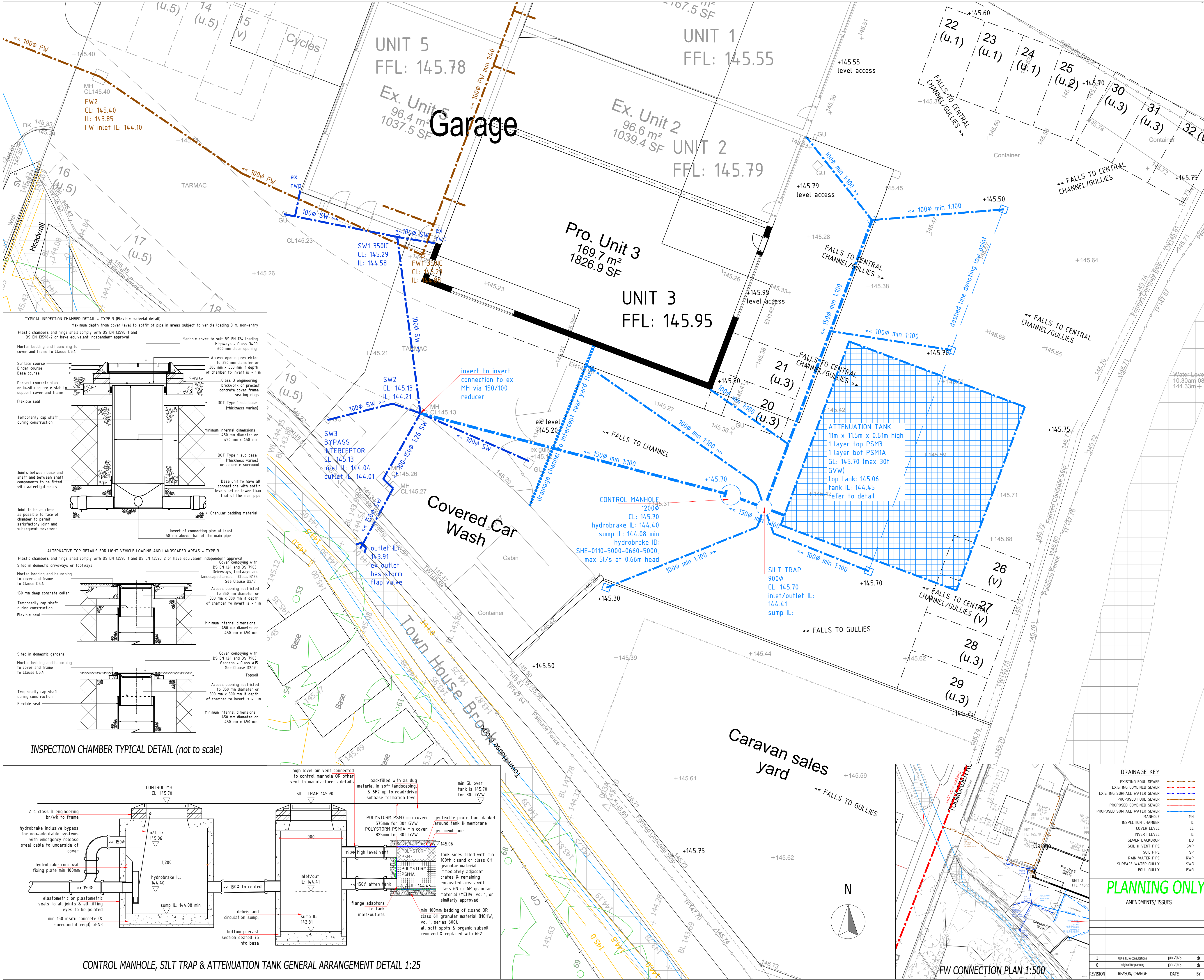




GENERAL NOTES

0.0 THIS DRAWING IS COPYRIGHT & IS SENT TO YOU IN CONFIDENCE IT MUST NOT BE COPIED, USED OR DISCLOSED, IN WHOLE OR IN PART, TO THIRD PARTIES WITHOUT WRITTEN PERMISSION. IT REMAINS THE PROPERTY OF TJA AND MUST BE RETURNED ON REQUEST.

0.1 THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT CONTRACTUAL DOCUMENTS.

0.2 All dims in mm unless o/w stated.

0.3 All levels to SITE DATUM.

0.4 Refer to architects details for SBM.

0.5 Contractor to confirm SDF/SOL's prior to ordering material/ construction.

0.6 To not scale, the contractor must verify all dims prior to commencing shop drawings or work on site.

0.7 All work to be carried out in accordance with COM 2015.

10 HIGHWAYS/ACCESS ROADS & PRIVATE DRIVES.

11 yard areas to comprise macadam - by others.

2.0 DRAINAGE

2.1 To be read in conjunction with T J Booth Associates drainage calculations.

2.2 Manhole cover levels indicative only, to be adjusted to suit final finish site levels.

2.3 Sewers/manholes to be constructed in accordance with the water authorities sewers for adoption (edition as applicable), B. Reg. Approved Doc. H, and BS EN 752-4.

2.4 Class S granular bed and surround to all sewers.

2.5 Sewers must have min 150th concrete surround IL.

2.6 All conc including pipes and manholes to be sulphate resisting unless otherwise agreed in writing by eng.

2.7 foul water must be to the following gradients in accordance with brpgs and Sewers for Adoption.

-1000 of gradients not less than 1:80 where at least 1 WC is connected and not less than 1:40 where no WC is connected.

-1500 foul gradients to be not less than 1:50 with at least 5 WCs connected.

2.8 Surface water must be to the following gradients in accordance with brpgs.

-1000 at gradients not less than 1:300.

-1500 foul gradients to be not less than 1:50.

2.8 Adoptable surface water must be to the following gradients in accordance with Sewers for Adoption.

-1000 of gradients not less than 1:40.

-1500 foul gradients to be not less than 1:300.

2.9 No construction work to be undertaken on the United Utilities network unless approval granted under either S106 or S108 as appropriate.

2.10 Proposed construction works on the United Utilities network, S106 or S108 to be in strict accordance with UNITED UTILITIES CONNECTION DETAILS or UNITED UTILITIES DEVELOPER CONSTRUCTION DETAILS as approved.

2.11 All pipes bedded in accords with United Utilities DETAIL 8, PIPE BEDDING DETAILS, STD/19/008.

3.0 MANHOLES

3.1 Manhole diameters to be in accordance with SFA clause 2.9.3, and according to largest manhole pipe diameter:

Pipe dia	MH dia
<275	1200
375-700	1500
750-900	1800
>900	1800

5.2 Rocker pipes (clause 5.6.6.2) to be the following lengths:

150-600mm	0.6m
600-700mm	1.0m
>700mm	1.25m

3.2 Inspection chambers/manholes to have min 750mm surround in soft landscaping areas and not less than 150 conc surround to driveways/car parks.

3.3 Manhole covers and frames shall comply with the relevant provisions of bs. en 124 and shall be of non-rising design which does not rely on the use of cushion insert's.

3.4 Cover sizes to be in strict accordance with adoptive undertakers standard requirements.

3.5 Cover strength (clause 5.7.1.1) comprising minimum strength for location as follows:

Roads/Highways	D400 Vehicle Impact
Car Parks	C250 Light Vehicle loading
Footway/Driveway	B125 Occasional vehicle loading
Gardens	A15 Pedestrian & cyclist ONLY

3.6 All manhole covers shall be the non-venting type (unless indicated otherwise) and shall have closed keyways.

3.7 Manhole frames (clause 5.6.7) to be set to level, bedded and haunched externally over the base and sides of the frame in mortar, in accordance with the manufacturers instructions. The frame shall be sealed on not less than 2 courses of class B engineering brick, on precast concrete masonry units or on precast concrete cover frame seating rings to regulate the distance between the top of the cover and the top rung to no greater than 675mm. A mortar fillet shall be provided where the corners to an opening in a slab are chattered and the brickwork is not flush with the edges of the opening.

RRPP HIERARCHY OF SURFACE WATER DISCHARGE OPTIONS

DISCHARGE TYPE	REASONING
1. Into the ground (infiltration)	NO S1 confirmed CLAY's at shallow depth. Site was also a former petrol station with significant contamination potential. (Drainage strategy submitted with the planning application was approved for attenuation and flow control to the watercourse as per planning condition No.5 on 23/01/24/FUL)
2. To a surface water body	NO Not required but identified within 100m SE
3. To a SW sewer, highway drain, or another drainage system	NO Combined sewers available on site for FW only
4. To a combined sewer	NO

IMPLEMENTATION SCHEDULE FOR DRAINAGE SYSTEMS, ATTENUATION TANKS & SOAKAWAYS

PHASE	ACTION	REASON
Construction phase	To ensure construction debris does not enter the system while allowing general construction of the drainage system ready for plot completion	
Pre-habilitation phase	Only finished plots & associated drainage pipes, manholes & gullies may be brought online as long as they will not be subject to further construction flows & debris from upstream works.	To ensure adequate drainage of completed parts of the site, while protecting the wider drainage system to parts of the site still under construction from potential blockages.
Post Construction Phase	Site attenuation tank, control chamber/hydrobrake or soakaways may only be brought online after construction of the site has finished, and construction debris and silt entering the system is mitigated.	To ensure protection of the attenuation tank & hydrobrake, and to ensure they are not subject to SW flow overlaid with silt/debris which could damage or reduce long term storage capacity.
Monitoring	All silt traps, control chambers and accessible soakaways to be checked for silt/debris, and cleaned accordingly	To ensure the system is free from silt/debris accumulation prior to sign off.

CRIBA CP3 TABLE 21.3 OPERATION & MAINTENANCE REQUIREMENTS FOR ATTENUATION STORAGE TANKS

MAINTENANCE SCHEDULE	REQUIRED ACTION	TYPICAL FREQUENCY
Regular maintenance	Inspect and identify any areas that are not operating correctly. If required, take remedial action. Remove debris from the catchment surface where it may cause risks to performance. For systems where rainfall infiltrates into the tank from above, check surface of filter for blockage by sediment, algae or other matter; remove and replace surface infiltration medium as necessary. Remove sediment from pre-treatment structures and/or internal forebays.	Monthly for 3 months then annually Monthly Annually
Remedial actions	Repair/rehabilitate inlets, outlet, overflows and vents	As required
Monitoring	Inspect/check all inlets, outlets, vents and overflows to ensure that they are in good condition and operating as designed	Annually
	Survey inside of tank for sediment build-up and remove if necessary	Every 5 years or as required

EXISTING AREA 8 BUSINESSES SERVED BY EXISTING DRAINAGE SYSTEM

PROPOSED AREA 10 ATTENUATION TANK AS PER APPROVED DRAINAGE STRATEGY & CONDITION 5 23/01/24/FUL

DRAINAGE AREA PLAN 1:1000

T J BOOTH ASSOCIATES 20A Eastgate Street Rochdale Lancashire OL16 1DH Tel:01706 866288

Green / Riverside Business Park, Littleborough

DRAINAGE PLAN & DETAILS

PLANNING ONLY

AMENDMENTS/ ISSUES

NO	DATE	REASON/ CHANGE	BY
1	01/04/24	Initial L&L&A consultation	ds
2	01/04/24	original for planning	ds

FILE NAME: dwg-tja-green-riverside business park-151221

REVISION

NO	DATE	REASON/ CHANGE	BY
1	01/04/24	Initial L&L&A consultation	ds
2	01/04/24	original for planning	ds

SCALE: 1:100 & as indicated @ A1