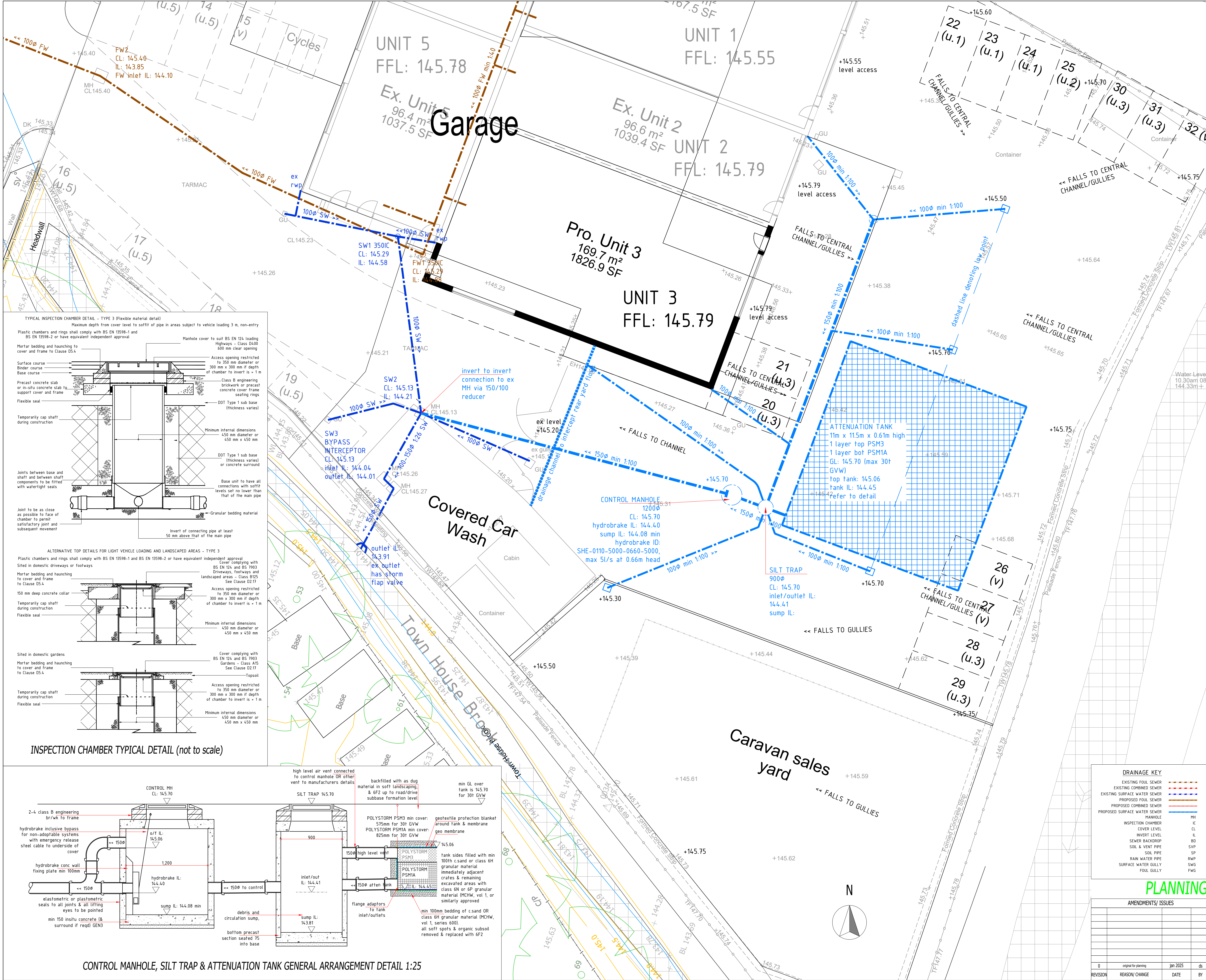




GENERAL NOTES

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 dimensions in mm unless stated.

0.3 All levels to SITE DATUM.

0.4 Refer to architects details for SBM.

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

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

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

1.0 HIGHWAYS/ACCESS ROADS & PRIVATE DRIVES.

1.1 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 (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 150mm concrete surround IL.

– adoptable assets with less than 12m of cover under highways or driveways;

– private assets with less than 100mm of cover under private highways.

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 Brigs and Sewers for Adoption.

– 1000 at 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 1:150 with at least 5 WCs connected.

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

– 1000 at gradients not less than 1:100.

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

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

– 1000 at gradients not less than 1:40.

– 1500 foul gradients to be not less than 1:100.

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:

Manhole dia

225 1200

375 1500

750 1800

1500 2400

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

150-6000 0.6m

600-7000 1.0m

7000-12500 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 or 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 [Si 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 in 23/01374/FUL]
2. To a surface water body	NO
3. To a SW sewer, highway drain, or another drainage system	NO Not required but identified within 100m SE
4. To a combined sewer	NO Combined sewers available on site for FW only

IMPLEMENTATION SCHEDULE FOR DRAINAGE SYSTEMS, ATTENUATION TANKS & SOAKAWAYS

PHASE	ACTION	REASON
Construction phase	All drainage pipes, gullies & manholes installed must be either covered, plugged or connections capped to isolate from construction SW flows.	To ensure construction debris does not enter the system while allowing general construction of the drainage system ready for plot completion.
Pre-habitation 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/hydrabrace or soakaways may only be brought online after construction of the site has finished, and construction debris and silt entering the system is mitigated. All silt traps, control chambers and accessible soakaways to be checked for silt/debris, and cleaned accordingly.	To ensure protection of the attenuation tank & hydrabrace, and to ensure they are not subject to SW flow overloaded with silt/debris which could damage or reduce long term storage capacity.
		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

SCHEDULE	REQUIRED ACTION	TYPICAL FREQUENCY
Regular maintenance	Inspect and identify any areas that are not operating correctly. If required, take remedial action (e.g. 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, outlets, vents and 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 BUSINESSSES SERVED BY EXISTING DRAINAGE SYSTEM

PROPOSED AREA 10 ATTENUATION TANK AS PER APPROVED DRAINAGE STRATEGY & CONDITION 5 23/01374/FUL

DRAINAGE KEY

EXISTING FOUL SEWER
EXISTING COMBINED SEWER
EXISTING SURFACE WATER SEWER
PROPOSED FOUL SEWER
PROPOSED COMBINED SEWER
PROPOSED SURFACE WATER SEWER

MANHOLE
INSPECTION CHAMBER
COVER LEVEL
INVERT LEVEL
SEWER BACKDROP
SOIL & VENT PIPE
SOL PIPE
RAIN WATER PIPE
SURFACE WATER GULLY
FOUL GULLY

MH
IC
CL
IL
BD
SVP
SP
RWP
SWG
FWG

PLANNING

AMENDMENTS/ ISSUES

REVISION	REASON/ CHANGE	DATE	BY
0	original for planning	Jan 2025	ds

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

SCALE: 1 : 100 & as indicated @ A1

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Green / Riverside Business Park, Littleborough

DRAINAGE PLAN & DETAILS