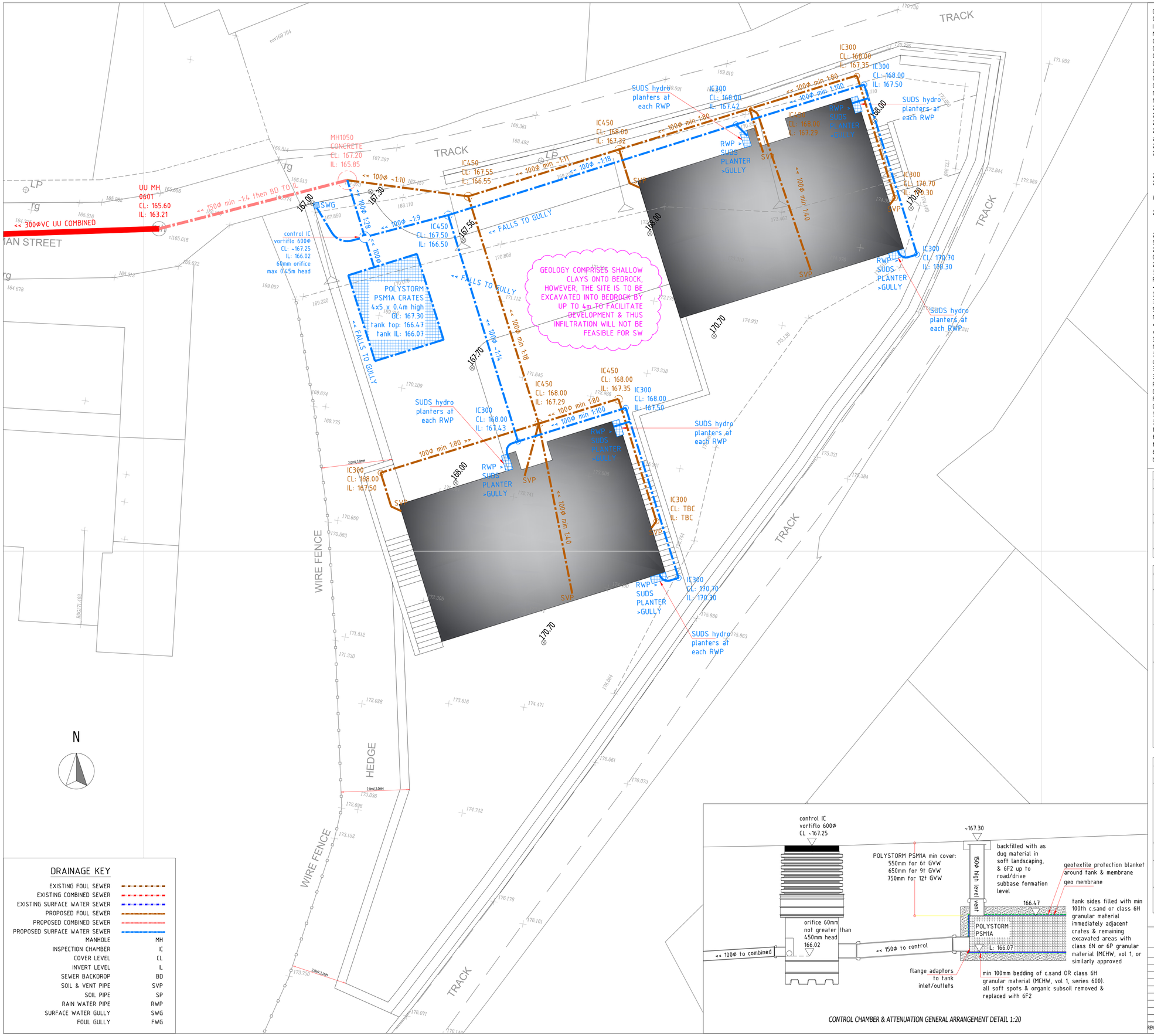


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DRAINAGE KEY

EXISTING FOUL SEWER	
EXISTING COMBINED SEWER	
EXISTING SURFACE WATER SEWER	
PROPOSED FOUL SEWER	
PROPOSED COMBINED SEWER	
PROPOSED SURFACE WATER SEWER	
MANHOLE	MH
INSPECTION CHAMBER	IC
COVER LEVEL	CL
INVERT LEVEL	IL
SEWER BACKDROP	BD
SOIL & VENT PIPE	SVP
SOIL PIPE	SP
RAIN WATER PIPE	RWP
SURFACE WATER GULLY	SWG
FOUL GULLY	FWG

CONTROL CHAMBER & ATTENUATION GENERAL ARRANGEMENT DETAIL 1:20

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 TJBA 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 SOP/SOL's prior to ordering material/ construction.
0.6 Do 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 CDM 2015.

1.0 HIGHWAYS/ACCESS ROADS & PRIVATE DRIVES.
1.1 N/A.

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. Regs. Approved Doc. H, and BS EN 752-4.
2.4 Class S granular bed and surround to all new sewers.
2.5 Sewers must have min 150th concrete surround if:
-adoptable assets with less than 1.2m of cover under highways or driveways;
-private assets with less than 900mm of cover under private driveways.
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 b.regs and Sewers For Adoption:
-100Φ 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.
-150Φ 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 b.regs:
-100Φ at gradients not less than 1:100.
-150Φ foul gradients to be not less than 1:150.
2.9 No construction work to be undertaken on the United Utilities network unless approval granted under either S106 or S104 as appropriate.
2.10 Proposed works on the United Utilities network, S106 or S104 to be in strict accordance with UNITED UTILITIES CONNECTION DETAILS or UNITED UTILITIES DEVELOPER CONSTRUCTION DETAILS only when approved.

23.0 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
<375	1200;
375-700	1500;
750-900	1800.

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

150-600Φ:	0.6m;
>600-700Φ:	1.0m;
>750Φ:	1.25m.

3.2 Inspection chambers/manholes to have min 150granular 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-rocking design which does not rely on the use of cushion inserts.
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 seated 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 chamfered and the brickwork is not flush with the edges of the opening.

NPPF HIERARCHY OF SURFACE WATER DISCHARGE OPTIONS

DISCHARGE TYPE	METHOD ADOPTED	REASONING
1. into the ground (infiltration)	NO	Site levels are to be reduced to facilitate development. Finish levels will be in bedrock, and therefore infiltration will not be feasible.
2. to a surface water body	NO	Not identified locally.
3. to a SW sewer, highway drain, or another drainage system	NO	Not identified locally.
4. to a combined sewer	YES	Combined sewers available in Rudman St.

IMPLEMENTATION SCHEDULE FOR DRAINAGE SYSTEMS, ATTENUATION TANKS & SOAKAWAYS

IMPLEMENTATION 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/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 overloaded with silt/debris which could damage or reduce long ferm storage capacity.
	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.

CIRIA C753 TABLE 13.1 OPERATION & MAINTENANCE REQUIREMENTS FOR SOAKAWAYS

MAINTENANCE SCHEDULE	REQUIRED ACTION	TYPICAL FREQUENCY
Regular maintenance	Inspect for sediment and debris in pre-treatment components and floor of inspection tube or chamber and inside of concrete manhole rings	Annually
	Cleaning of gutters and any filters on downpipes	Annually (or as required based on inspections)
	Trimming any roots that may be causing blockages	Annually (or as required)
Occasional maintenance	Remove sediment and debris from pre-treatment components and floor of inspection tube or chamber and inside of concrete manhole rings	As required, based on inspections
Remedial actions	Reconstruct soakaway and/or replace or clean void fill, if performance deteriorates or failure occurs	As required
	Replacement of clogged geotextile (will require reconstruction of soakaway)	As required
Monitoring	Inspect silt traps and note rate of sediment accumulation	Monthly in the first year and then annually
	Check soakaway to ensure emptying is occurring	Annually

PLANNING

AMENDMENTS/ ISSUES

REVISION	REASON/ CHANGE	DATE	BY
0	original	Jun 2026	ds

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DRAINAGE
PLAN & DETAILS

FILE NAME: dwg-tjba-guardian-rudman st-220823

SCALE: 1 : 100 & as indicated @ A1