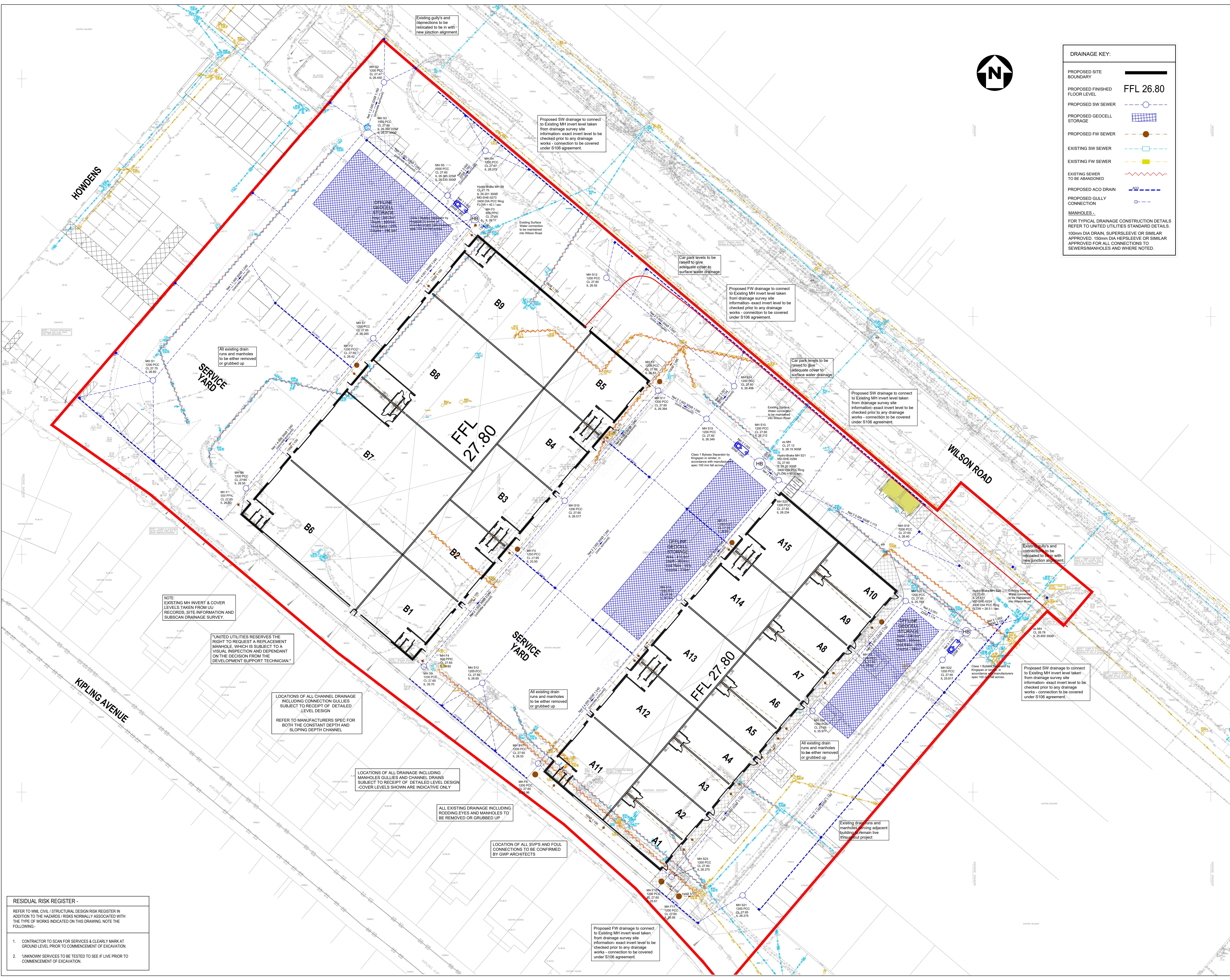




GENERAL NOTES

DO NOT SCALE FROM THIS DRAWING WORK TO FIGURED DIMENSIONS ONLY.
NO DEVIATION FROM THE DETAILS SHOWN ON THIS DRAWING IS ALLOWED WITHOUT PRIOR PERMISSION IN WRITING.
ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL ARCHITECTS, ENGINEERS AND SPECIALISTS DRAWINGS AND THE SPECIFICATION.
THE CONTRACTOR SHALL INCORPORATE ALL THE REQUIREMENTS OF THE PRE-TENDER STAGE HEALTH AND SAFETY PLAN.

SURFACE WATER DRAINAGE STRATEGY

THE SURFACE WATER DRAINAGE PROPOSALS HAVE BEEN DESIGNED IN ACCORDANCE WITH BS EN 752-4 AND THE BUILDING REGULATIONS APPROVED DOCUMENT H (2010), WHICH INDICATES THE FOLLOWING HIERARCHY FOR THE DISPOSAL OF SURFACE WATER DRAINAGE FROM DEVELOPMENT SITES:-

- DISCHARGE VIA INFILTRATION;
- DISCHARGE TO WATERCOURSE;
- DISCHARGE TO SEWER.

THESE OPTIONS ARE DISCUSSED IN FURTHER DETAIL BELOW.

SURFACE WATER DISCHARGE VIA INFILTRATION

ALTHOUGH THERE IS NO EXPLORATORY HOLE DATA AT THE MOMENT, THE BGS INDICATES THAT ANY MADE GROUND (PROBABLY COLLIERY SPILL) IS UNDERLAIN DIRECTLY BY THE PENNING COAL MEASURES STRATA. THESE ARE LIKELY TO BE MAINLY MUDSTONE. FROM THE INFORMATION AVAILABLE TO DATE, IT WOULD APPEAR THAT THE GROUND CONDITIONS ARE NOT SUITABLE FOR THE USE OF INFILTRATION/ SOAKAWAY TECHNIQUES IS CONSIDERED TO NOT BE FEASIBLE.

SURFACE WATER DISCHARGE VIA WATERCOURSE

THERE ARE NO EXISTING WATERCOURSES IN THE VICINITY OF THE SITE. ON THIS BASIS, IT IS CONSIDERED NOT FEASIBLE TO DISCHARGE THE SURFACE WATER RUNOFF FROM THE PROPOSED DEVELOPMENT TO AN EXISTING WATERCOURSE.

SURFACE WATER DISCHARGE TO EXISTING U/S SEWER

THERE IS AN EXISTING PRIVATE SURFACE WATER DRAINAGE SYSTEM ON SITE IN CLOSE PROXIMITY TO THE PROPOSED BUILDING FOOTPRINT. THE EXISTING SYSTEM HAS BEEN USED BY THE SITE, DISCHARGING INTO AN EXISTING UNITED UTILITIES SEWER WITHIN WILSON ROAD. AS PART OF THE DEVELOPMENT WORKS PARTS OF THE EXISTING DRAINAGE SYSTEM AND THE CONNECTION INTO THE PUBLIC SEWER SYSTEM WILL BE REUSED WHERE POSSIBLE.

AS THE SITE IS CLASSIFIED AS A BROWN FIELD SITE, THERE IS A REQUIREMENT UNDER THE SPRA FOR A REDUCTION IN SURFACE WATER RUNOFF OF 30%.

THE EXISTING SITE HAS A SURFACE WATER RUNOFF RATE THAT HAS BEEN ASSESSED AS 237.7 l/sec, BASED UPON A RAINFALL INTENSITY OF 50mm/hr AND A TOTAL IMPERMEABLE AREA OF 1.71ha. WHEN THE SPRA REDUCTION FACTOR IS APPLIED THIS IS FLOW RATE IS REDUCED TO 118.9 l/sec.

THE PROPOSED DEVELOPMENT INCREASES THE SITE IMPERMEABLE AREA FROM CIRCA 1.71ha TO CIRCA 1.84ha, EQUATING TO 256.7 l/sec, THUS INCREASING THE SITE RUNOFF RATE. IT IS PROPOSED TO RESTRICT SURFACE WATER FLOW FROM THE PROPOSED DEVELOPMENT TO 118.9 l/sec.

A PRELIMINARY ASSESSMENT BASED UPON AN IMPERMEABLE AREA OF 1.84ha AND AN ALLOWABLE RUNOFF RATE OF 118.9 l/sec FOR A 1:100 YEAR STORM EVENT PLUS 40% CLIMATE CHANGE. THIS EXERCISE INDICATES A REQUIRED ATTENUATION VOLUME OF AROUND 800 m³. THIS IS PROBABLY BEST PROVIDED IN GEO-CELLULAR STORAGE TANKS OR OVERSIZED PERFORM LOCATED BENEATH THE PROPOSED CAR PARK AREAS AND/ OR SERVICE YARD, AS THE PROPOSED SITE LAYOUT HAS LITTLE IN THE WAY OF SOFT LANDSCAPED AREAS WITHIN WHICH ABOVE GROUND ATTENUATION FEATURES COULD BE LOCATED.

THE DRAINAGE STRATEGY PUT FORWARD IN THIS DOCUMENT IS BASED ON THE ASSUMPTION THAT SURFACE WATER DISCHARGE IS ALLOWED TO PASS INTO THE EXISTING PUBLIC SURFACE WATER SEWER, AT 3 EXISTING LOCATIONS. THE STORAGE AND DISCHARGE RATE WILL BE SPLIT BETWEEN THESE 3 SW SYSTEMS.

IT IS PROPOSED TO COLLECT HANDSTANDING SURFACE WATER RUNOFF FROM THE FRONT OF THE DEVELOPMENT VIA TRADITIONAL CHANNELS, DRAINS AND GULLIES PRIOR TO DISCHARGING INTO A GEO CELLULAR STORAGE TANKS LOCATED WITHIN THE CAR PARK AREA.

FULL RETENTION SEPARATORS WILL BE USED TO TRAP SILT AND CONTAMINANTS PRIOR UPSTREAM OF THE GEO CELLULAR STORAGE TANKS.

ROOF WATER, COLLECTED AT THE REAR OF THE PROPOSED BUILDING. DUE TO THE ABSENCE OF VEHICULAR TRAFFIC, IT IS CONSIDERED THAT SURFACE WATER TREATMENT WILL NOT BE REQUIRED FOR THE BUILDING AND WILL DISCHARGE DIRECTLY INTO THE HYDROBRAKE.

THE HYDROBRAKE FLOW CONTROL UNIT WILL RESTRICT ALL FLOWS FROM THE DEVELOPMENT TO 118.9 l/sec. WITH THE GEOCELL STORAGE CRATES PROVIDING ATTENUATION TO ACCOMMODATE THE 1 in 100yr + 40% CC STORM EVENT.

ALL MANHOLE CONNECTION INVERT LEVEL IS TO BE IDENTIFIED PRIOR TO DETAILED DESIGN.

FOUL WATER DESIGN

SIMILAR TO THE SURFACE WATER DRAINAGE PROPOSALS, THERE IS AN EXISTING PRIVATE FOUL WATER DRAINAGE SYSTEM ON SITE IN CLOSE PROXIMITY TO THE PROPOSED BUILDING FOOTPRINT. THE EXISTING SYSTEM HAS BEEN USED BY THE SITE, DISCHARGING INTO AN EXISTING UNITED UTILITIES SEWER WITHIN WILSON ROAD. AS PART OF THE DEVELOPMENT WORKS PARTS OF THE EXISTING DRAINAGE SYSTEM AND THE CONNECTION INTO THE PUBLIC SEWER SYSTEM WILL BE REUSED WHERE POSSIBLE.

DRAINAGE NOTES

R/WP AND SUP LOCATIONS ARE INDICATIVE ONLY AND ARE TO BE CONFIRMED BY THE ARCHITECT PRIOR TO DETAILED DESIGN.

FINAL FOUL WASTE WATER CONNECTION POINT IS TO BE CONFIRMED BY OTHERS PRIOR TO DETAILED DESIGN.

ASSUME ALL EXISTING BELOW GROUND DRAINAGE WITHIN THE SITE IS ABANDONED.

PRELIMINARY DRAWING

P04	PLANNING ISSUE, UPDATED SITE LAYOUT ADDED	08/09/22	RH	LoG
P03	PLANNING ISSUE, UPDATED SITE LAYOUT ADDED	13/07/22	RH	LoG
P02	PLANNING ISSUE, UPDATED SITE LAYOUT ADDED	16/06/22	RH	LoG
P01	PRELIMINARY ISSUE	13/05/21	RH	LoG
Rev	Amendment	Date	By	Chkd

Project

HUYTON TRADE INDUSTRIAL ESTATE

Client

DERWENT ESTATES LTD

Title

PROPOSED SITE DRAINAGE APPRAISAL

WML Job No.	Drawn	Checked	Date	Scale
9333	RH	LOG	MAY 2021	1:250 @ A0

WML CONSULTING
Civil, Structural & Geotechnical Engineers

No 8 Oak Green
East Road
Sharncliffe Business Park
Chester CH66 6JL
Tel 0161 462 0000
Fax 0161 468 9210
email info@wmlconsulting.com
www.wmlconsulting.com

Drawing No.	Project	Originator	Volume	Level	Type	Role	Number	Rev
	9333	- WML -	- ZZ -	- XX -	- DR -	- C -	1001	P04

RESIDUAL RISK REGISTER -	
REFER TO WML CIVIL / STRUCTURAL DESIGN RISK REGISTER IN ADDITION TO THE HAZARDS / RISKS NORMALLY ASSOCIATED WITH THE TYPE OF WORKS INDICATED ON THIS DRAWING. NOTE THE FOLLOWING:-	
1.	CONTRACTOR TO SCAN FOR SERVICES & CLEARLY MARK AT GROUND LEVEL PRIOR TO COMMENCEMENT OF EXCAVATION.
2.	'UNKNOWN' SERVICES TO BE TESTED TO SEE IF LIVE PRIOR TO COMMENCEMENT OF EXCAVATION.