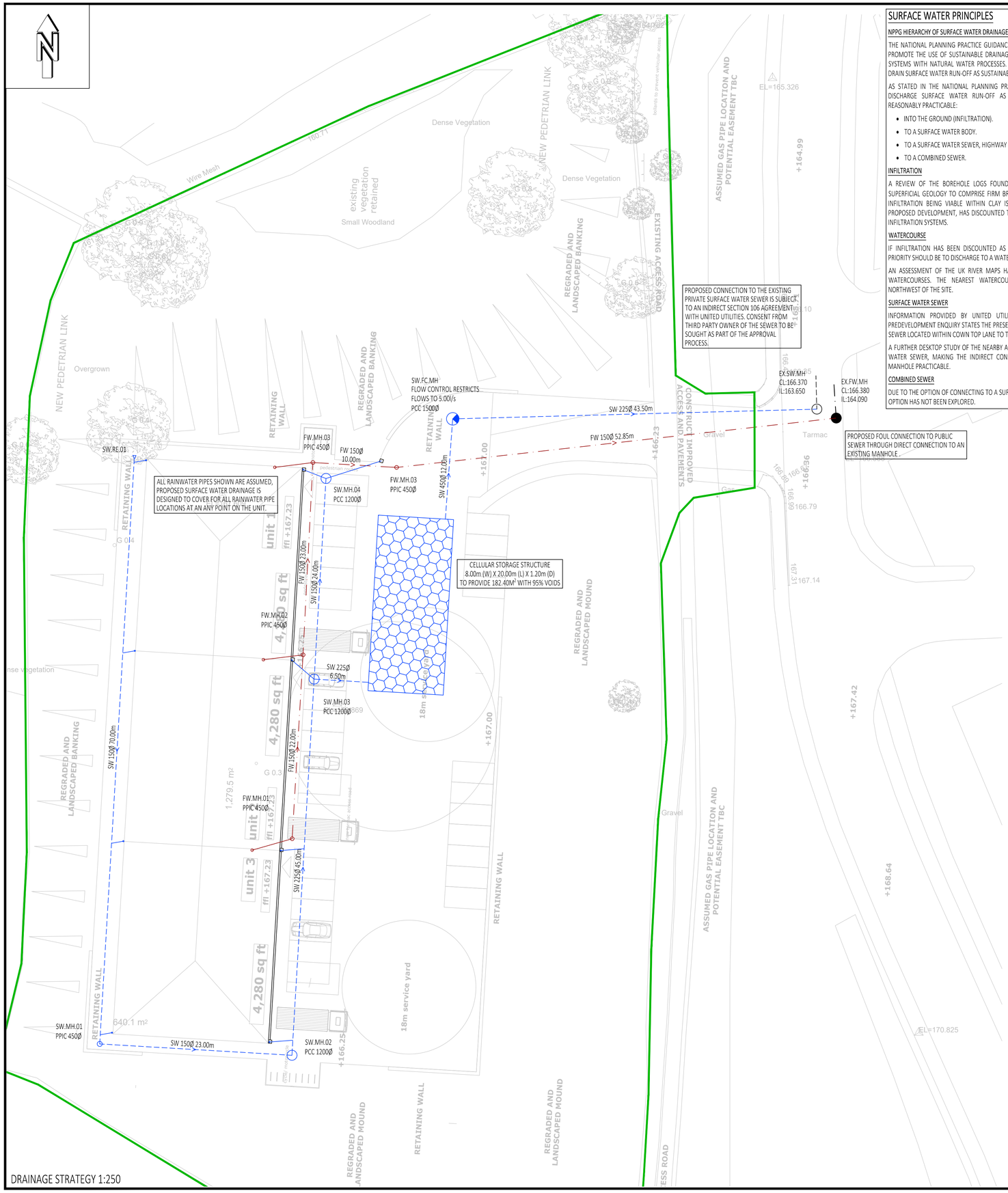


DRAINAGE STRATEGY 1:250

SURFACE WATER PRINCIPLES

NPPG HIERARCHY OF SURFACE WATER DRAINAGE

THE NATIONAL PLANNING PRACTICE GUIDANCE SETS OUT THE HIERARCHY OF DRAINAGE TO PROMOTE THE USE OF SUSTAINABLE DRAINAGE SYSTEMS, BY ALIGNING MODERN DRAINAGE SYSTEMS WITH NATURAL WATER PROCESSES. THE AIM OF HIERARCHY OF DRAINAGE IS TO DRAIN SURFACE WATER RUN-OFF AS SUSTAINABLE, AS REASONABLY PRACTICABLE.

AS STATED IN THE NATIONAL PLANNING PRACTICE GUIDANCE, THE AIM SHOULD BE TO DISCHARGE SURFACE WATER RUN-OFF AS HIGH UP THE DRAINAGE HIERARCHY, AS REASONABLY PRACTICABLE:

- INTO THE GROUND (INFILTRATION).
- TO A SURFACE WATER BODY.
- TO A SURFACE WATER SEWER, HIGHWAY DRAIN, OR ANOTHER DRAINAGE SYSTEM.
- TO A COMBINED SEWER.

INFILTRATION

A REVIEW OF THE BOREHOLE LOGS FOUND ON BGS GEOLOGICAL MAPPING INDICATES SUPERFICIAL GEOLOGY TO COMPRISE FIRM BROWN/GREY SANDY CLAY. THE LIKELIHOOD OF INFILTRATION BEING VIABLE WITHIN CLAY IS UNLIKELY AND FOR THE PURPOSE OF THE PROPOSED DEVELOPMENT, HAS DISCOUNTED THE DISPOSAL OF SURFACE WATER FLOWS VIA INFILTRATION SYSTEMS.

WATERCOURSE

IF INFILTRATION HAS BEEN DISCOUNTED AS A VIABLE SOLUTION, THE NEXT METHOD IN PRIORITY SHOULD BE TO DISCHARGE TO A WATERCOURSE OR SURFACE WATER BODY.

AN ASSESSMENT OF THE UK RIVER MAPS HAS IDENTIFIED THAT THERE ARE NO NEARBY WATERCOURSES. THE NEAREST WATERCOURSE BEING THE ROCHDALE CANAL 390m NORTHWEST OF THE SITE.

SURFACE WATER SEWER

INFORMATION PROVIDED BY UNITED UTILITIES FOLLOWING THE SUBMISSION OF A PREDEVELOPMENT ENQUIRY STATES THE PRESENCE OF AN EXISTING PRIVATE SURFACE WATER SEWER LOCATED WITHIN COWN TOP LANE TO THE EAST OF THE SITE.

A FURTHER DESKTOP STUDY OF THE NEARBY AREA DISPLAYS THE LOCATION OF THE SURFACE WATER SEWER, MAKING THE INDIRECT CONNECTION TO THE EXISTING SURFACE WATER MANHOLE PRACTICABLE.

COMBINED SEWER

DUE TO THE OPTION OF CONNECTING TO A SURFACE WATER SEWER BEING PRACTICABLE, THIS OPTION HAS NOT BEEN EXPLORED.

SURFACE WATER DESIGN

RUN-OFF RATES

A REVIEW OF THE EXISTING TOPOGRAPHICAL SURVEY HAS IDENTIFIED THE SITE TO BE 100% GREENFIELD, MEANING WE ARE TO USE EXISTING GREENFIELD RUN-OFF RATES. HOWEVER, UNITED UTILITIES CURRENT GUIDANCE STATES THE MINIMUM DISCHARGE INTO A PUBLIC SEWER SHOULD BE 5.00l/s. AFTER UNDERTAKING A PREDEVELOPMENT ENQUIRY TO UNITED UTILITIES, A PROPOSED DISCHARGE RATE OF 5.00l/s WAS AGREED; SEE REFERENCE NUMBER 02943583. THE PROPOSED DISCHARGE RATE FOR THE DEVELOPMENT SHOULD BE RESTRICTED TO 5.00l/s.

* REFER TO PWA CALCULATIONS 22228-PWA-00-XX-CA-C-1000 FOR GREENFIELD RUN-OFF CALCULATIONS
* REFER TO PWA DRAWING 22228-PWA-00-XX-DR-C-1000 FOR EXISTING GREENFIELD AREA PLAN

PROPOSED DRAINAGE SYSTEM

TO RESTRICT PROPOSED FLOWS TO A RATE OF 5.00 L/S, THE PROPOSED DRAINAGE SYSTEM SHOULD SEEK TO IMPLEMENT SOURCE CONTROL SUDS METHODS WHERE POSSIBLE AND AN ATTENUATION SYSTEM TO STORE THE RESTRICTED FLOWS.

BASED ON THE PROPOSED IMPERMEABLE AREAS, THE REQUIRED ATTENUATION FOR A 1 IN 100-YEAR STORM EVENT + 30% CLIMATE CHANGE IS CALCULATED AT 208.0m^3.

* REFER TO PWA DRAWING 22228-PWA-00-XX-DR-C-1001 FOR IMPERMEABLE AREA PLAN.
* REFER TO PWA CALCULATIONS 22228-PWA-00-XX-CA-C-3000 FOR SURFACE WATER CALCULATIONS.

PRELIMINARY ATTENUATION DESIGNS ARE BELOW:

CELLULAR STORAGE STRUCTURE

8.0m(W) x 20.0m(L) x 1.2m(D) = 182.40m^3 OF ATTENUATION.

WITH 95% VOID RATIO

FOUL WATER DESIGN

FOUL WATER STRATEGY

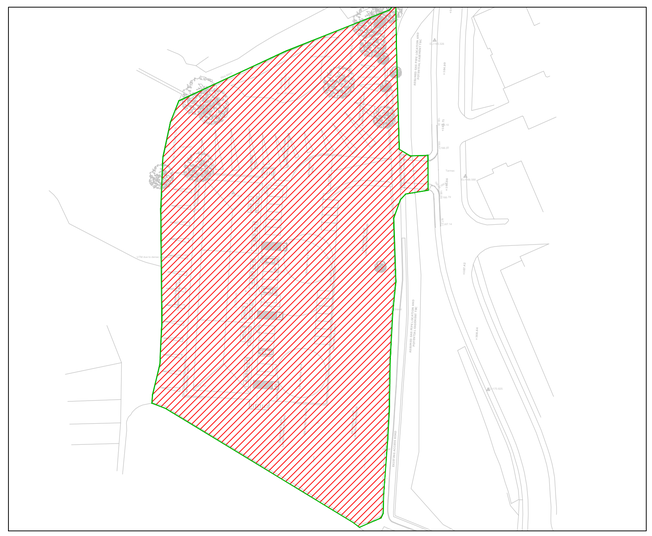
A DESKTOP STUDY OF THE SURROUNDING AREA SHOW THAT THERE IS AN ADOPTED FOUL SEWER LOCATED WITHIN COWN TOP LANE TO EAST OF THE DEVELOPMENT.

BASED ON THE ABOVE, ALL FOUL WATER FROM THE DEVELOPMENT WILL BE DISCHARGED TO THE PUBLIC FOUL SEWER BY A DIRECT CONNECTION TO AN EXISTING MANHOLE FOUND WITHIN COWN TOP LANE.

GREENFIELD RUNOFF.	
STORM EVENT	DISCHARGE RATE
AGREED DISCHARGE RATE	5.00 l/s

PROPOSED DRAINAGE IS PRELIMINARY ONLY AND IS SUBJECT TO DETAILED DESIGN.

PROPOSED IMPERMEABLE AREA 1:1000



EXISTING GREENFIELD AREA 1:1000

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KEY

- EXISTING SURFACE WATER SEWER
- EXISTING SURFACE WATER MANHOLE
- EXISTING FOUL WATER SEWER
- EXISTING FOUL WATER MANHOLE
- PROPOSED SURFACE WATER SEWER
- PROPOSED SURFACE WATER MANHOLE
- PROPOSED SURFACE WATER INSPECTION CHAMBER
- PROPOSED RODDING EYE
- PROPOSED SURFACE WATER FLOW CONTROL MANHOLE
- PROPOSED FOUL WATER SEWER
- PROPOSED FOUL WATER MANHOLE
- PROPOSED FOUL WATER INSPECTION CHAMBER
- PROPOSED CHANNEL
- PROPOSED GULLY
- SITE BOUNDARY

KEY PLAN - 1:2500

AREA	EXISTING GREENFIELD AREA, m² (ha)
EXISTING GREENFIELD	10423m² (1.042ha)

AREA	IMPERMEABLE CATCHMENT AREA, m² (ha)
PROPOSED IMPERMEABLE	3635m² (0.364ha)

*TOTALS FOR HECTARES (ha) AND METERS SQUARED (m²) DIFFER SLIGHTLY DUE TO ROUNDING AND ACCUMULATION OF INDIVIDUAL AREAS.

Rev	Date	Remarks	Drawn	Chk'd
P02	02/03/2023	REVISED TO SUIT UPDATED TANK SIZE	IB	LS
P01	25/10/22	FIRST ISSUE	IB	LS

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Client: CAMPBELL DRIVER PARTNERSHIP

Project: GENESIS BUSINESS PARK COWN TOP LANE ROCHDALE

Title: PROPOSED DRIANGE STRATEGY

Size	Scale	Designed	Checked	Date
A1	AS SHOWN	IB	LS	OCT 22

Drawing Status: PRELIMINARY

Job Number	Originator	Zone	Level	Type	Role	Drawing No.	Rev
22228	PWA	00	XX	DR	C	1002	P02