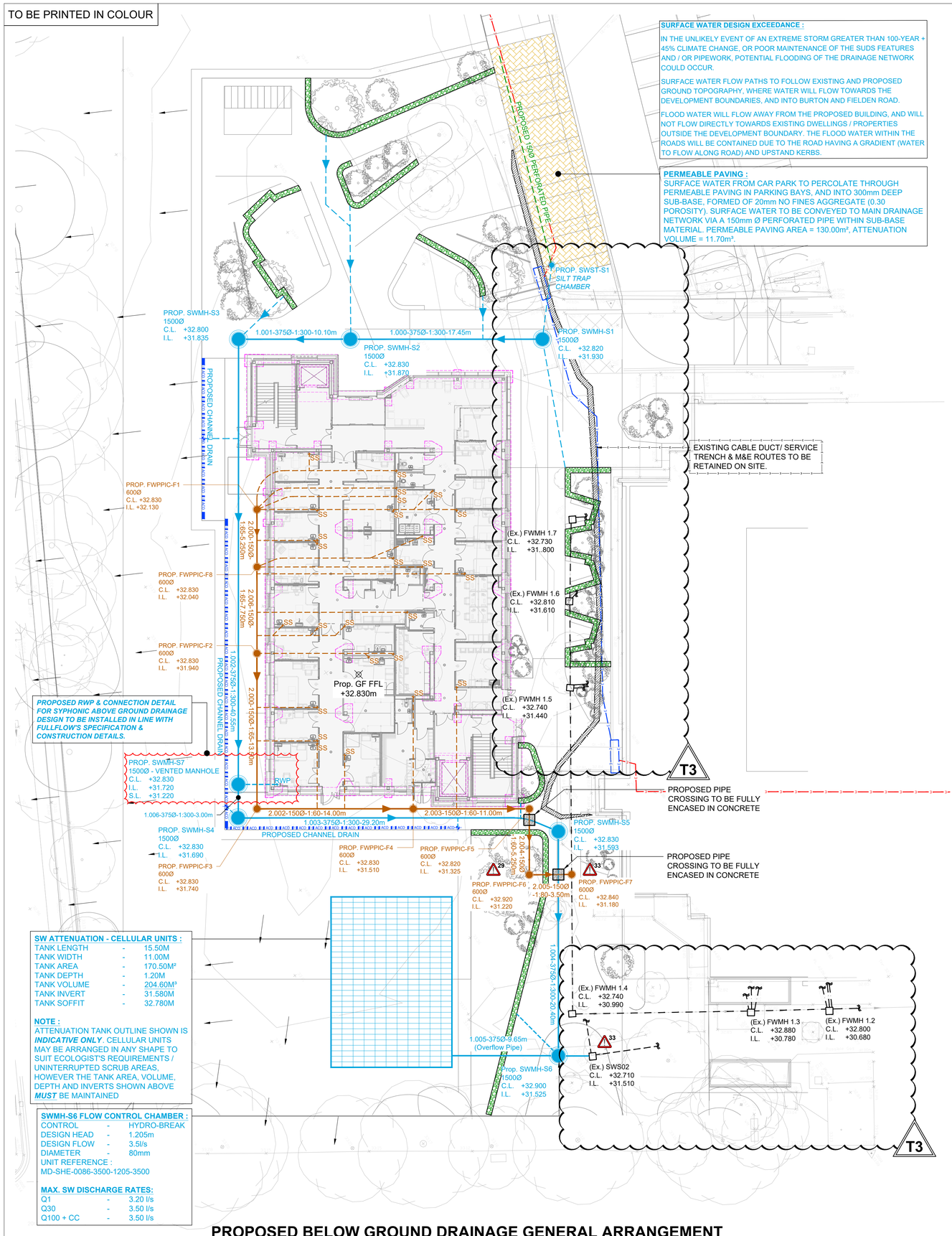
TO BE PRINTED IN COLOUR

A1



SURFACE WATER DESIGN EXCEEDANCE :

IN THE UNLIKELY EVENT OF AN EXTREME STORM GREATER THAN 100-YEAR + 45% CLIMATE CHANGE, OR POOR MAINTENANCE OF THE SUDS FEATURES AND / OR PIPEWORK, POTENTIAL FLOODING OF THE DRAINAGE NETWORK COULD OCCUR.

SURFACE WATER FLOW PATHS TO FOLLOW EXISTING AND PROPOSED GROUND TOPOGRAPHY, WHERE WATER WILL FLOW TOWARDS THE DEVELOPMENT BOUNDARIES, AND INTO BURTON AND FIELDEN ROAD.

FLOOD WATER WILL FLOW AWAY FROM THE PROPOSED BUILDING, AND WILL NOT FLOW DIRECTLY TOWARDS EXISTING DWELLINGS / PROPERTIES OUTSIDE THE DEVELOPMENT BOUNDARY. THE FLOOD WATER WITHIN THE ROADS WILL BE CONTAINED DUE TO THE ROAD HAVING A GRADIENT (WATER TO FLOW ALONG ROAD) AND UPSTAND KERBS.

PERMEABLE PAVING :

SURFACE WATER FROM CAR PARK TO PERCOLATE THROUGH PERMEABLE PAVING IN PARKING BAYS, AND INTO 300mm DEEP SUB-BASE, FORMED OF 20mm NO FINES AGGREGATE (0.30 POROSITY). SURFACE WATER TO BE CONVEYED TO MAIN DRAINAGE NETWORK VIA A 150mm Ø PERFORATED PIPE WITHIN SUB-BASE MATERIAL. PERMEABLE PAVING AREA = 130.00m², ATTENUATION VOLUME = 11.70m³.

PROPOSED RWP & CONNECTION DETAIL FOR SYPHONIC ABOVE GROUND DRAINAGE DESIGN TO BE INSTALLED IN LINE WITH FULLFLOW'S SPECIFICATION & CONSTRUCTION DETAILS.

SW ATTENUATION - CELLULAR UNITS :

TANK LENGTH	-	15.50M
TANK WIDTH	-	11.00M
TANK AREA	-	170.50M²
TANK DEPTH	-	1.20M
TANK VOLUME	-	204.60M³
TANK INVERT	-	31.580M
TANK SOFFIT	-	32.780M

NOTE :
ATTENUATION TANK OUTLINE SHOWN IS ***INDICATIVE ONLY***. CELLULAR UNITS MAY BE ARRANGED IN ANY SHAPE TO SUIT ECOLOGIST'S REQUIREMENTS / UNINTERRUPTED SCRUB AREAS, HOWEVER THE TANK AREA, VOLUME, DEPTH AND INVERTS SHOWN ABOVE ***MUST*** BE MAINTAINED

SWMH-S6 FLOW CONTROL CHAMBER :

CONTROL	-	HYDRO-BREAK
DESIGN HEAD	-	1.205m
DESIGN FLOW	-	3.5l/s
DIAMETER	-	80mm

UNIT REFERENCE :
MD-SHE-0086-3500-1205-3500

MAX. SW DISCHARGE RATES:

Q1	-	3.20 l/s
Q30	-	3.50 l/s
Q100 + CC	-	3.50 l/s

PROPOSED BELOW GROUND DRAINAGE GENERAL ARRANGEMENT

SCALE 1:200

POTENTIAL DESIGN HAZARDS: 00
REFER TO CCS CONSULTING DRAWING No. 22182-CCS-WCH-006-XX-DR-S-05000 FOR FULL TABLE OF HAZARDS & WARNINGS.

1. *EXCAVATION WORKS IN THE VICINITY OF EXISTING SERVICES. KNOWN BELOW GROUND SERVICES AND OBSTRUCTIONS.*
6. *DRAINAGE WORKS EXCAVATION. DURING THE INSTALLATION OF NEW DRAINAGE RUNS. POTENTIAL WORKS IN CONFINED SPACES. DANGER TO OPERATIVES WORKING ON SITE FROM SEWAGE.*
28. *EXISTING HV CABLE/ DUCT IDENTIFIED ON SITE. PROPOSED REROUTING WORKS (DESIGN & DETAILING) TO BE CONFIRMED BY ELECTRICITY NORTH WEST (ENW) PRIOR TO CONSTRUCTION. BELOW GROUND DRAINAGE DESIGN/ EXTERNAL WORKS SUBJECT TO CHANGE FOLLOW RECEIPT OF PROPOSALS.*
29. *ALL EXTERNAL WORKS LEVELS TO BE CONFIRMED BY LANDSCAPE ARCHITECT. PROPOSED BELOW GROUND DRAINAGE ARRANGEMENT SUBJECT TO CHANGE FOLLOW RECEIPT OF LEVELS & FURTHER COORDINATION WITH EXISTING INVERT LEVELS.*
33. *PLANNERS/ LOCAL AUTHORITY TO CONFIRM CCS PROPOSED BELOW GROUND DRAINAGE / FRA & SWMP / FOUL & SURFACE WATER DISCHARGE RATES*

Drainage Legend

- Denotes Development Boundary
- Denotes Existing Combined Drain
- Denotes Existing Foul Water Drain
- Denotes Existing Surface Water Drain
- Denotes Extent of Existing Surveyed Drainage Run. *End of Trace/ Survey Abandoned Due to Obstruction. Refer to CCTV Survey.*
- Denotes Redundant Drain - *To be Removed/ Capped - Usage as Per Existing Line Types*
- Denotes Proposed Combined Drain
- Denotes Proposed Primary Foul Water Drain
- Denotes Proposed Secondary Foul Water Drain - All Runs to be 100Ø U.N.O.
- Denotes Proposed Surface Water Drain
- Denotes Proposed Secondary Surface Water Drain - All Runs to be 100Ø U.N.O.
- Denotes Proposed Channel/ Slot Drain
- Denotes Proposed Foul Water Pump Rising Main
- Denotes Proposed Surface Water Pump Rising Main
- Denotes Proposed Foul Water Drain to be Installed & Capped to Allow for Future Connection
- Denotes Proposed Surface Water Drain to be Installed & Capped to Allow for Future Connection
- Denotes Proposed Filter Drain/ Rain Garden
- Denotes Exceedance Flow Routes
- Denotes Existing RWP/ SVP - As Noted ***(Shown Indicatively - Final Locations TBC on Site)***
- Denotes Proposed FW Ground Floor Penetration ***(Shown Indicatively - Final Locations as per Architects Set Out)***
- Denotes Proposed RWP Location As Provided by Architect ***(Shown Indicatively - Final Locations as per Architects Set Out)***
- Denotes Above Ground Foul Water Drain (Proposed) - ***Shown Indicatively Final Arrangement TBC by M&E Contractor***

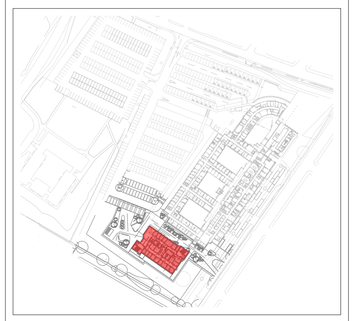
MH	Denotes Manhole Location
PPIC	Denotes Inspection Chamber Location
FG	Denotes Foul Water Gully Location
SVP	Denotes Soil Vent Pipe Location
SS	Denotes Stub Stack Location
G	Denotes Gully
RE	Denotes Rodding Eye Location
BIG	Denotes Back Inlet Gully
BD	Denotes Back Drop Location
WB	Denotes Proposed Water Butt
F.A.	Denotes Pipe/ Penetration From Above.
A.G.	Denotes Pipe Run Above Ground Floor Level
AAV	Denotes Air Admittance Valve - ***Final Spec. / Details TBC by M&E Contractor.***

- Denotes Existing Below Ground LV Cable/ Ducting
- Denotes Proposed LV M&E Cable/ Ducting - *Details as per M&E Contractors Specification.*
- Denotes Existing Below Ground HV Cable/ Ducting
- Denotes As-Installed Below Ground HV Cable/ Ducting as per Received ENW Survey Drawing. *Refer to ENW Drawing No. C.053707-ENW-LO-SD-001-AL01-Withington Hospital*

notes :

1. IF THIS DRAWING HAS BEEN RECEIVED ELECTRONICALLY IT IS THE RECIPIENTS RESPONSIBILITY TO PRINT THE DOCUMENT TO THE CORRECT SCALE
2. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS STATED OTHERWISE. IT IS RECOMMENDED THAT INFORMATION IS NOT SCALED OFF THIS DRAWING
3. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS AND SPECIFICATIONS
4. ANY DISCREPANCIES NOTED ON SITE ARE TO BE REPORTED TO THE ENGINEER IMMEDIATELY.
5. REFER TO FOLLOWING CCS CONSULTING DRAWINGS FOR EXTERNAL WORKS & BELOW GROUND DRAINAGE PLANS AND TYPICAL DETAILS:
   - 22182-CCS-WCH006-ZZ-DR-S-05000 (CONSTRUCTION NOTES)
   - 22182-CCS-WCH006-XX-DR-S-90000 (EXT. WORKS PLAN)
   - 22182-CCS-WCH006-XX-DR-S-90001 (EXT. WORKS DETAILS)
   - 22182-CCS-WCH006-XX-DR-S-93001 (BGD TYPICAL DETAILS)
   - 22182-CCS-WCH006-XX-DR-S-93002 (BGD TYPICAL DETAILS)
   - 22182-CCS-WCH006-XX-DR-S-93002 (MANHOLE SCHEDULE)
6. REFER TO FOLLOWING SQUAREYARD DRAWINGS FOR LANDSCAPING GENERAL ARRANGEMENT & DETAILS:
   - 2301-SQU-XX-00-DR-L-001

KEYPLAN



REV.	DESCRIPTION	DATE	DRW.	CHK.
T3	EXISTING MANHOLE REFERENCES UPDATED TO SUIT CCTV SURVEY. AS-INSTALLED HV CABLE ADDED.	28.08.24	JF	KLE
T2	COVER LEVEL NOTATIONS UPDATED.	19.07.24	JF	KLE
T1	STAGE 04 ISSUE. UPDATED TO SUIT LATEST RECEIVED EXTERNAL LEVELS, ARCHITECTURAL & M&E LAYOUTS.	31.05.24	JF	KLE
P1	PRELIMINARY ISSUE	26.04.24	JF	KLE

Tender Issue - For Costing Purposes Only

NHS Manchester University NHS Foundation Trust

APPOINTED PARTY LOGO/INFORMATION

ccs consulting MANCHESTER • LONDON • LEEDS

PROJECT
CDC - CARDIORESPIRATORY, WITHINGTON COMMUNITY HOSPITAL

TITLE
PROPOSED BELOW GROUND DRAINAGE PLAN

STATUS	PURPOSE OF ISSUE
D2	FOR COSTINGS

DRAWN BY	CHECKED BY	DATE
JF	KLE	APRIL '24

SCALE (@A1)	PROJECT NUMBER
AS SHOWN	HE-014

FILE DRAWING NUMBER
22182- CCS - WCH006- XX- DR - S - 93000

REV. T3