

DESIGNERS CDM NOTE - RESIDUAL RISKS IDENTIFIED

The Design Engineer(s) have analysed this design as the scheme has been developed, in order to identify if there are any significant residual risk hazards (i.e. unusual, unexpected, abnormal or difficult).

Residual risks **HAVE** been identified and are therefore shown on this drawing. These risks have not been possible to remove by design.

This statement assumes that a competent Contractor with the appropriate qualified staff will be employed for the works, and that they will be familiar with site wide construction risks and hazards that they can reasonably be expected to encounter as part of their work.

- CDM RESIDUAL RISK ITEM**
Drainage pipes, manhole rings covers and fittings.
Risk of Manual handling injury.
- CDM RESIDUAL RISK ITEM**
Contact with waste water when making drainage connections.
Risk of infection from Weils disease etc.
- CDM RESIDUAL RISK ITEM**
Above Ground activities.
Possibility of objects falling from operations at high level onto persons working or passing below.
- CDM RESIDUAL RISK ITEM**
Works within confined spaces.

BURIED UTILITIES RISK NOTE

- Buried utilities are present on and in the vicinity of the site.
- The Contractor must satisfy themselves that they have seen utility returns for the area and that appropriate Risk Assessment Method Statement (RAMS) are in place and implemented to ensure that buried and/or overhead services are located prior to any works taking place.
- Any RAMS shall address safe procedures for protection and working in the proximity of services.

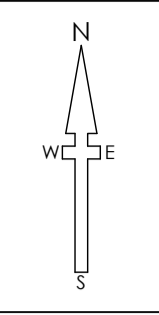
Construction Note

It is essential that new drainage associated with the development is laid from the outfall(s) into the site. This is essential to avoid unforeseen obstructions where encountered (such as services). If the drainage is laid from the site out to the outfall it can result in significant abortive works to relay and overcome such obstructions.

Location of Public Sewers have been taken from record drawings which should be fully substantiated by the contractor prior to commencing works on site

All manholes covers located within carriageways shall have no slip covers to prevent motorcycles/cycles losing control

Manhole schedules - Invert level shown related to the deepest pipe within the chamber



- NOTES**
1. All dimensions and levels are in metres unless otherwise noted
 2. This drawing is to be read in conjunction with the relevant Architect's/Engineer's drawings, specifications and CDM documentation
 3. This drawing has been produced electronically and may have been photo reduced or enlarged when copied. Work to figured dimensions only (DO NOT SCALE - EXCEPT FOR PLANNING PURPOSES). All dimensions to be checked on site. Any errors or omissions to be reported to the engineer immediately.
 4. This drawing contains coloured lines / information that may not be clear if reproduced in black and white.
 5. Digital copies of this plan can only be considered accurate if supplied directly by Infrastruct CS Ltd.

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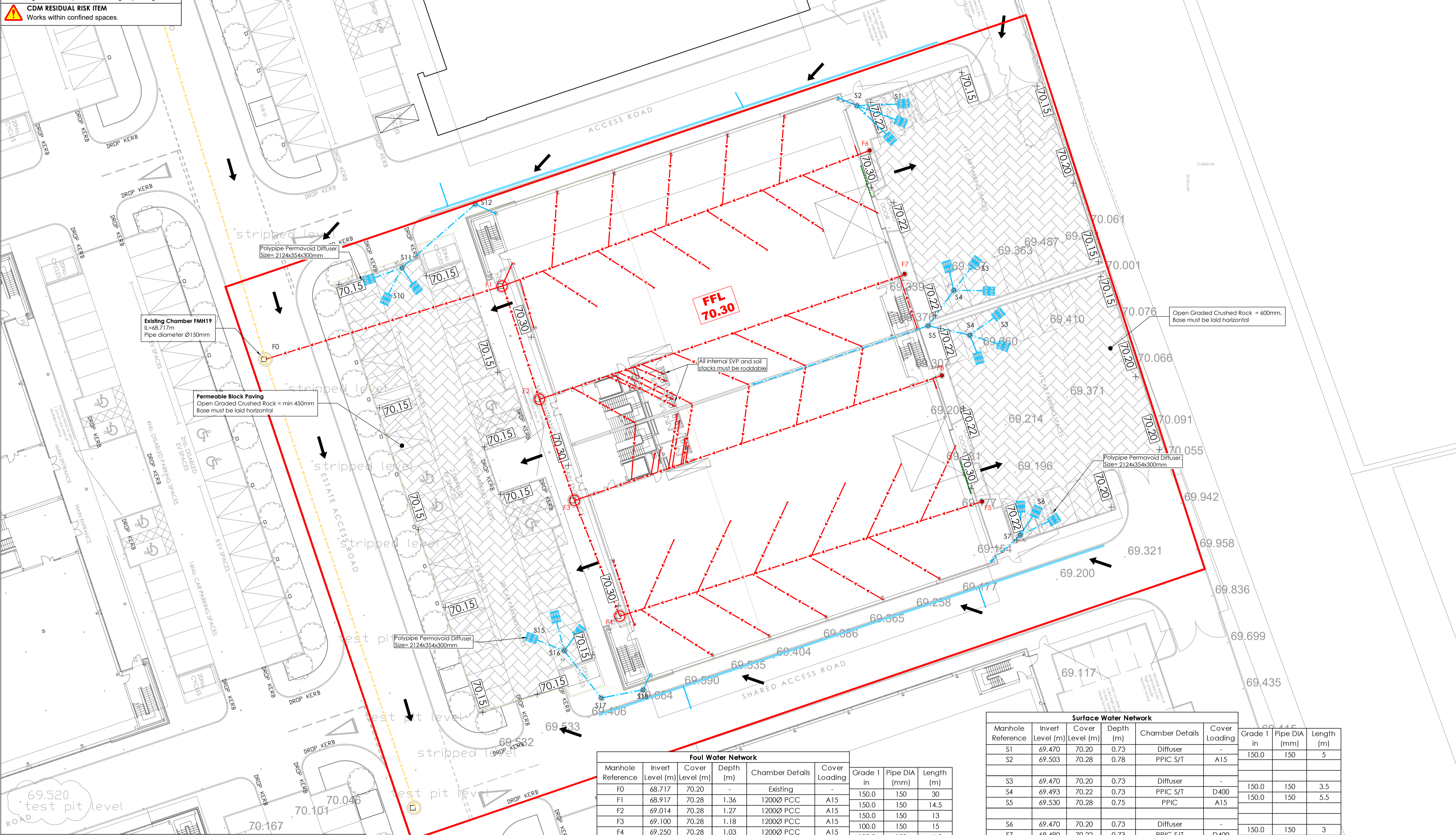
Drainage Key

- Sewers**
- Foul water drain (private/non adoptable)
 - Surface water drain (private/non adoptable)
 - Existing foul water sewer (Adopted)

- Chamber Key**
- FW/SW**
- Mini access chamber (mac) - 300mmØ
 - PPIC - 475mmØ*
 - P.C.C. units/brick*
 - Adaptable demarcation manhole within 1m of boundary
 - Manhole
Depth: 1.25m to 1.5m*
Depth: 1.55m to 3.0m*

* General note
(Refer to standard details & longitudinal sections for chamber sizes. Size may need to increase dependant on number of incoming pipes/size of incoming pipes)

- Rain water down pipe (roddable access)
- Soil vent pipe/soil stack
- Silt Trap (ST) with removable silt bucket
- Manhole reference number
- Linear drainage channel
- RWP cellular discharge/collection unit (DU) (Permavoid or similar)
- Finished Floor Level (FFL)
- Block paving - permeable
- Flood exceedance routing
- Impermeable barrier to stop lateral movement of water



Manhole Reference	Invert Level (m)	Cover Level (m)	Depth (m)	Chamber Details	Cover Loading	Grade I in	Pipe DIA (mm)	Length (m)
F0	68.717	70.20	-	Existing	-	150.0	150	30
F1	68.917	70.28	1.36	1200Ø PCC	A15	150.0	150	14.5
F2	69.014	70.28	1.27	1200Ø PCC	A15	150.0	150	13
F3	69.100	70.28	1.18	1200Ø PCC	A15	100.0	150	15
F4	69.250	70.28	1.03	1200Ø PCC	A15	100.0	150	46.5
F5	69.715	70.28	0.56	PPIC	A15	60.0	150	47
F6	69.700	70.28	0.58	PPIC	A15	70.0	150	47
F7	69.685	70.28	0.59	PPIC	A15	80.0	150	46.5
F8	69.682	70.28	0.60	PPIC	A15			

Manhole Reference	Invert Level (m)	Cover Level (m)	Depth (m)	Chamber Details	Cover Loading	Grade I in	Pipe DIA (mm)	Length (m)
S1	69.470	70.20	0.73	Diffuser	-	150.0	150	5
S2	69.503	70.28	0.78	PPIC S/T	A15			
S3	69.470	70.20	0.73	Diffuser	-	150.0	150	3.5
S4	69.493	70.22	0.73	PPIC S/T	D400	150.0	150	5.5
S5	69.530	70.28	0.75	PPIC	A15			
S6	69.470	70.20	0.73	Diffuser	-	150.0	150	3
S7	69.490	70.22	0.73	PPIC S/T	D400			
S10	69.570	70.15	0.58	Diffuser	-	150.0	150	3.5
S11	69.593	70.15	0.56	PPIC S/T	D400	150.0	150	10.5
S12	69.663	70.28	0.62	PPIC	A15			
S15	69.570	70.15	0.58	Diffuser	-	150.0	150	3.5
S16	69.593	70.15	0.56	PPIC S/T	D400	150.0	150	7.5
S17	69.643	70.25	0.61	PPIC	A15	150.0	150	6
S18	69.683	70.28	0.60	PPIC	A15			

- DESIGNER NOTE**
Rainwater pipe locations to be confirmed
- DESIGNER NOTE**
Soakage rate used = 1.89x10⁻⁵ m/s, the worst result of the tree tests to BRE365 carried out on site in October 2022 (0.06624 m/s)
- DESIGNER NOTE**
Monitoring wells recorded groundwater levels between 0.9m and 2.5m bgl during investigation for Unit 1, to the north of this site. See report SHF.1733.001.GE.R.002.A. prepared by Enzygo in June 2020. To be further investigated with groundwater monitoring in winter within the site boundary.

P02	SNN	APL	New Site Layout	19/04/23			
P01	RSI	MBD	Initial Issue	16/11/22			
REV	DRAWN	CHECK	REVISION COMMENTS	ISSUE DATE			
DRAWING TITLE				SHEET NO.			
Drainage Design				1/1			
PROJECT							
Building 9 Oxford Technology Park Killingdon, Oxon							
CLIENT							
HILL STREET HOLDINGS		Infrastruct CS Ltd					
SCALE @ A1							
1:250							
ENGINEER MBD							
PROJECT NUMBER STATUS ISSUE PURPOSE							
5214		S2 INFORMATION					
APPROVED SNN							
APPROVED RJW							
PROJECT	ORIGN	PHASE	LEVEL	TYPE	ROLE	NO.	REVISION
OTP	ICS	09	XX	DR	C	0200	P02