Pell Frischmann

Revised Drainage Strategy Note

Camden Hostels - Chester Road

Pell Frischmann

Project	Camden Hostels, Chester Road
Document Title or Subject	Drainage Technical Note
Document Reference	123007-PEF-ZZ-XX-RP-CD-000002
Revision Reference	P01
Date	31.03.25

1 Introduction

1.1 Introduction and Purpose

1.1.1 Pell Frischmann have been commissioned by Morgan Sindall to prepare detailed drainage proposals for the proposed Camden Borough Council Hostel to be constructed at 2 Chester Road, London, N19 5BP.

1.1.2 This technical note aims to achieve the following;

- Provide general, and drainage related background for the site,
- Outline the key principles and outcomes of the documentation submitted as part of the original planning application for the site,
- Detail the proposals for the site and any required changes to the surface water strategy subsequent to the discharge of conditions application

1.2 Information Reviewed

1.2.1 The following information has been reviewed pertinent to the drainage of the site;

- Infrastruct CS Drainage Statement, 3489-CHES-ICS-XX-RP-C-07.001_Rev A
- Infrastruct CS Proposed Drainage (Layout), 1177-DR-050-P05
- Infrastruct CS SuDS Maintenance Guide, 3489-CHES-ICS-C-07.002-Rev A

1.3 Information Provided

1.3.1 The following information has been provided for the revised drainage strategy;

- CH0011-PEF-CH-XX-RP-C-0602 Chester LLFA response – **Appendix A**
- CH0011-PEF-CH-XX-RP-C-0601 Chester Road Maintenance Plan – **Appendix B**
- 123007-PEF-CH-XX-DR-C-0550 C06 Proposed Drainage Layout – **Appendix C**

2 Review of Outline Documentation

2.1 Summary of Approved Strategy

2.1.1 The approved surface water drainage strategy for the development makes use of a gravity drainage network on-site that outfalls to an existing Thames Water combined sewer via a new chamber.

2.1.2 The surface water discharge from the site is proposed to be restricted by use of a hydrobrake prior to connection to the constructed chamber on the existing sewer

2.2 Discharge Rates

2.2.1 The Infrastruct CS Drainage Statement describes the following decisions made surrounding the prescription of an offsite discharge rate.

- The site is approximately 2265m^2 in area and is calculated to have a QBAR greenfield runoff rate of 1.3l/s.
- A discharge rate of 2l/s is carried forward as a deliverable value

2.3 Attenuation Provision

2.3.1 The Drainage Statement shows that in order to store the 1 in 100 year + 40% Climate Change event for the impermeable area of the site, with a 2l/s discharge rate, 58.6m^3 of attenuation is required.

2.3.2 It is proposed that this attenuation requirement is provided within a cellular attenuation system in the western end of the site.

2.3.3 The Infrastruct drainage layout shows a tank of 64.3m^3 (60m^2 footprint, 1.2m depth and an assumed porosity).

2.4 Implications

2.4.1 The submitted documentation outlines a discharge rate restriction and the requirement for on-site attenuation.

2.4.2 Though the exact requirement in future applications for a restricted offsite discharge rate is subject to detailed design, the documentation reviewed has been listed as supporting documents within the decision notice and thus it is understood that the requirements will apply to any discharge of conditions application for the site.

3 Proposed Strategy

3.1 Adherence to Original Planning Strategy

3.1.1 It is proposed that the updated surface water drainage strategy submitted as part of discharge of conditions application, will adhere to the overarching principles agreed at the outline stage summarised as follows;

- Surface water will be discharged to an existing chamber on site, prior to the connection offsite to the public sewer network
- A restricted discharge rate will be implemented prior to discharge to this existing chamber, provided by use of a flow control device.
- Attenuation will be provided upstream of this flow control device, within the external areas in the site to provide storage for all events up to the 1 in 100 year + 40% climate change event.
- It should be noted that the original surface water calculations utilised FSR rainfall data and not FEH rainfall data which is now current standard to be used for calculations.

3.2 Site Constraints

3.2.1 Since the original planning application, the design for all aspects has progressed and further information on site constraints is identified below:

- The location of piles, pile caps, ground beams and floor slabs for both ground and basement level is now available which imposes constraints on drainage design.
- Tree root protection zones have been considered which highlight areas to reduce dig for drainage where possible to do so.
- Crane base and hoist locations have been identified which further restricts space available for drainage.

3.3 Change of Discharge Rate

3.3.1 Due to the assessment of more appropriate rainfall data in the design, consideration of further design constraints, and more accurate assessment of impermeable catchment on the development, the discharge rate has been reviewed as part of this detailed design.

3.3.2 As a result of this review the discharge rate has been increased from 2l/s to 5l/s to provide sufficient discharge to prevent flooding up to and including the 1:100 year storm event +40% climate change.

3.3.3 It should be noted that the existing site catchment allows for a 1:2 year discharge rate of 23.9l/s which is unrestricted. The proposed restricted discharge rate of 5l/s for all storm events would present a minimum reduction of 79% in flow rate to public sewer.

3.3.4 In relation to higher storm intensity events the reduction in flows are even greater The existing 1:30 year discharge rate is 71.7l/s and 1:100 year is 227.1l/s. Therefore the proposed 5l/s restriction presents a 30 year reduction of 93% and a 100 year reduction of 98% compared to existing.

3.4 Attenuation Provision

3.4.1 The surface water calculations have been remodelled utilising FEH rainfall data not considered as part of the outline strategy.

3.4.2 Attenuation in the form of underground box crates has been provided in the external courtyard area to maximise the space available between foundations and crane base. Due to the level difference (3m) between upper courtyard and lower courtyard areas, the attenuation has been split into two separate units.

3.4.3 The upper courtyard will have a restricted discharge of 4.5l/s and will provide an attenuation volume of 34.5m3 utilising a 1.6m deep box crate system.

3.4.4 The lower courtyard will have a restricted discharge of 0.5l/s and will provide an attenuation volume of 7.68m3 utilising a 0.8m deep box crate system.

3.4.5 Further attenuation volume is provided in the upstream pipework (34.71m3) and manholes (32.31m3) which is total 67.02m^3.

3.4.6 As a result, total volume provided is circa 109.2 m^3 .

4 Conclusions

4.1 Summary

4.1.1 An original drainage strategy was proposed that showed an attenuation requirement of 52.46m^3 based on an impermeable area of 987m^2 and an allowable minimum discharge rate of 1.3l/s.

4.1.2 The design has progressed since original planning application and now presents further constraints for foundations, crane bases and tree root protection zones.

4.1.3 Mitigation for this is provided by increasing the discharge rate offsite, allowing the attenuation requirement, and therefore on site infrastructure to remain unchanged.

4.1.4 The upper courtyard will have a restricted discharge of 4.5l/s and will provide an attenuation volume of 34.5m3 utilising a 1.6m deep box crate system.

4.1.5 The lower courtyard will have a restricted discharge of 0.5l/s and will provide an attenuation volume of 7.68m3 utilising a 0.8m deep box crate system.

4.1.6 Further attenuation volume is provided in the upstream pipework (34.71m3) and manholes (32.31m3) which is total 67.02m^3.

4.1.7 As a result, total volume provided is circa 109.2 m^3 .

Report Ref.	123007-PEF-ZZ-XX-RP-CD-000002-S2-P01
File Path	

Rev	Suit	Description	Date	Originator	Checker	Approver
P01	S2	Initial Issue	31/03/2025	H. McColl	R. Holmes	M. Fox

Ref. reference. Rev revision. Suit suitability.

Appendix A

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Chester Road Hostel

Our ref: CH0011-PEF-CH-XX-RP-C-0600
Planning ref: 2024/3737/P

This note has been written in response to the initial LLFA response provided by Camden Council in relation to the planning application for a site at Chester Road Hostel. The response has been provided in email format, dated 04 June 2024.

Review Summary:

This proposal is proposing the following key items:

- **Type of development:** Demolition of the existing single person hostel at 2 Chester Road and construction of new family hostel facility to provide 50 homes in three blocks ranging between three and four storeys in height with associated courtyard, external landscaping and ancillary works.
- **Flood risk:** The site is not in an area of flood risk.
- **Types of conveyance / attenuation features**: Attenuation tanks, flow control device.
- **Greenfield runoff rate**: 2.6 l/s
- **Runoff rate restriction (l/s)**: 5 l/s
- **Runoff attenuation volume (m3)**: 109.2
- **Maintenance plan**: N/A

Recommendation and requests:

Further information is required for this site for the following reasons:

Camden Council – Requested Information	Pell Frischmann - Response
1. The applicant has not provided information to confirm that permeable paving and a green roof is proposed, as was in the approved full application.	Green roofs are proposed please refer to WGI Architects roof plan dwgs for details. Permeable tarmac is proposed for external areas please refer to Terrafirma landscape dwgs for details.
2. The applicant should provide the remodelled calculations which should also confirm the required storage for the site to meet greenfield runoff rates. As previous	- It should be noted that the original surface water calculations utilised FSR rainfall data and not FEH rainfall data which is now current standard to be used for calculations. -

calculations demonstrated that 58.6m3 of storage was required for the site to discharge at a rate of 2 l/s, and the new proposed storage volume is greater than this at 109.2m3.	- Due to the assessment of more appropriate rainfall data in the design, consideration of further design constraints, and more accurate assessment of impermeable catchment on the development, the discharge rate has been reviewed as part of this detailed design. - As a result of this review the discharge rate has been increased from 2l/s to 5l/s to provide sufficient discharge to prevent flooding up to and including the 1:100 year storm event +40% climate change. - It should be noted that the existing site catchment allows for a 1:2 year discharge rate of 23.9l/s which is unrestricted. The proposed restricted discharge rate of 5l/s for all storm events would present a minimum reduction of 79% in flow rate to public sewer. - In relation to higher storm intensity events the reduction in flows are even greater The existing 1:30 year discharge rate is 71.7l/s and 1:100 year is 227.1l/s. Therefore the proposed 5l/s restriction presents a 30 year reduction of 93% and a 100 year reduction of 98% compared to existing. - The surface water calculations have been remodelled utilising FEH rainfall data not considered as part of the outline strategy. - Attenuation in the form of underground box crates has been provided in the external courtyard area to maximise the space available between foundations and crane base. Due to the level difference (3m) between upper courtyard and lower courtyard areas, the attenuation has been split into two separate units. - The upper courtyard will have a restricted discharge of 4.5l/s and will provide an attenuation volume of 34.5m3 utilising a 1.6m deep box crate system. - The lower courtyard will have a restricted discharge of 0.5l/s and will provide an attenuation volume of 7.68m3 utilising a 0.8m deep box crate system.

	- Further attenuation volume is provided in the upstream pipework (34.71m3) and manholes (32.31m3) which is total 67.02m3. - As a result, total volume provided is circa 109.2 m3 .
3. The applicant should provide a site constraints plan to confirm that there is no further space available for storage on site to reduce runoff rates further.	The constraints are shown on dwg CH0011-PEF-CH-XX-DR-C-0550 Proposed Drainage Layout attached to covering email. Since the original RM application, the design for all aspects has progressed and further information on site constraints is identified below: - The location of piles, pile caps, ground beams and floor slabs for both ground and basement level is now available which imposes constraints on drainage design. - Tree root protection zones have been considered which highlight areas to reduce dig for drainage where possible to do so. - Crane base and hoist locations have been identified which further restricts space available for drainage. - Utilities will also be required to utilise the same corridors to service the building.
4. As stated by condition 19, the applicant should identify the potential for including blue/green roofs at the site which would provide additional storage volume.	- Green roofs are proposed as per original planning dwgs.
5. Updated calculations must be provided once the proposed runoff rate has agreed, and updated storage volumes to confirm that these are sufficient to manage runoff from the site and conform to Defra's Non-Statutory Standards for SuDS.	- See 1 & 2 above.

To address the above, please can the applicant submit information which:

Camden Council – Requested Information	Pell Frischmann - Response
6. Confirms that the permeable paving and green roof included in the approved full application is still proposed.	- Permeable paving and green roofs are proposed.
7. Demonstrates the remodelled calculations, and confirms the required storage to meet greenfield runoff rates.	- See 1 & 2 above.
8. Shows in a drawing where the constraints are on site in terms of providing additional storage, and confirms that all options have been explored.	- See 2 above. - Blue roofs have been explored but discounted to below conclusions which is not exhaustive: a) additional loads b) additional buildup depths c) maintenance issues and safe working platforms. d) Green roofs provide a better aesthetically pleasing appearance and better biodiversity amenity than a covered blue roof.
9. Confirms the potential for including blue/green roofs on site, and how much storage this may provide.	- See 4 & 8 above.
10. Shows finalised calculations once the proposed runoff rate has been agreed following confirmation of the above points, which shows the updated storage volumes provided and demonstrates that the application conforms to Defra's Non-Statutory Standards for SuDS.	- See 1 & 2 above.

The response requests more information before recommending approval for the following reasons:

Camden Council – Requested Information	Pell Frischmann - Response
11. The proposed discharge rate does not achieve the required greenfield runoff rate and does not prove that it is not possible to achieve greenfield run off rates.	- See 1 & 2 above.
12. The drainage layouts provided do not include the outfalls and levels of all the drainage features proposed. Details of the green and blue roofs should be submitted, showing the 150mm substrate.	- See 2 above.
13. The application does not comply with Defra's Non-Statutory Technical Standards for Sustainable Drainage.	- See 1 & 2 above
14. No maintenance plan has been submitted.	- A Maintenance plan is now attached to covering email for review.
15. Consent for the proposed discharge point connection has not been provided and this is required.	- The site already benefits from an existing connection to the public combined sewer for both foul and surface water. - A S106 connection application will be submitted to Thames Water for approval in due course. - Based on point 1. Above, it is anticipated that TW will have no objection to providing lower runoff rates for all storm events to the public sewer compared to existing flow rates. - Furthermore, TW have previously stated sufficient capacity for the development plans via pre planning enquiry.

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Our ref: CH0011-PEF-CH-XX-RP-C-000602
Planning ref: 2020/3461/P

This note has been written in response to the LLFA response provided by London Borough of Camden in relation to condition 19 (SuDS) of the planning application for a site at Chester Road Hostel dated 15th November 2024.

London Borough of Lewisham – Requested Information	**Pell Frischmann - Response**
1. Confirms the costing details for the proposed green roof.	MS to confirm?
2. Demonstrates the location of the green roof in the Drainage Layout.	The drainage layout shows ground floor and basement level floor plans to pick up the SVPs and RWPs and no roof plan is shown. For details of the green roof please refer to WGI drawings for green roof location and specification.
3. Justifies why permeable paving is no longer proposed.	The site investigation report highlighted the following reasons for permeable paving not to be a viable option: A) Made ground encountered overlaying London clay formation. B) Soils categorised as 'High volume change potential' and requiring anti-heave measures. C) High groundwater at 1.8 to 2.2m BGL in summer which is expected to rise in winter. D) The results of the in-situ permeability test indicated an apparent permeability or soil infiltration rate of between 1.68 x 10-8 m/sec and 1.02 x 10-8 m/sec within the boreholes. This soil infiltration rates lie within the range of published data on the border of fissured and weather clays to intact clays and are classed as being of very low permeability material with poor to practically impervious drainage characteristics. This information was provided in 2a of the SuDS proforma.

4. Shows within the calculations that FEH 2022 rainfall data has been used, that the full site area has been included (2282m^2), and that the attenuation tanks and green roof have been modelled.	The planning approved scheme was based on FSR rainfall data and accepted by LLFA May 2021. The updated drainage strategy utilises FEH 2013 data within MicroDrainage software which is accepted industry wide. This is an overall improvement to the planning approved scheme. The total impermeable area has been included in the calculations. There are permeable landscape areas and tree pits etc which are not included in the calculations as these areas will percolate at surface level soils and irrigate the landscape. Attenuation tanks have been included in the model calculations. Green roofs have not been modelled as the design process for green roofs is the ability to slow down runoff to surface water network but for the storm calculations all green roofs must be treated as saturated as to ensure no flooding in the network for the 1:100 year storm event +40% CC.
5. Shows that the proposed attenuation volumes are reflective across the SuDS Proforma, Drainage Layout and calculations.	The volumes of attenuation are reflective on all formats: **SuDS Proforma** – 109.2m3 **Drainage Layout** – Attenuation tanks = 42.18m3, pipework = 34.71m3, Manholes = 32.31m3 Total = 109.2m3. **Calculations** - Attenuation tanks = 42.18m3, pipework = 34.71m3, Manholes = 32.31m3 Total = 109.2m3.
6. Demonstrates that detailed maintenance tasks and frequencies have been provided for the green roof, attenuation tanks, and Hydro-Brakes.	Details for maintenance of attenuation tanks and Hydrobrakes provided in CH0011-PEF-CH-XX-RP-C-0601 Chester Road Maintenance Plan previously issued. The green roof is not specified by Pell Frischmann and therefore all maintenance requirements will need to be provided by WGI / green roof supplier.
7. Names the management company responsible for maintenance of the SuDS components.	MS to confirm who will be responsible for maintenance after building handover?

Appendix B

Pell Frischmann

Chester Road Hostel

Drainage Maintenance Plan

Report Ref.	**CH0011-PEF-CH-XX-RP-C-0601**
File Path	

Suit	Rev	Description	Date	Originator	Checker	Approver
S2	P01	Preliminary Issue	17/06/2024	J. Nicholson	R. Holmes	R. Holmes

Ref. reference. Rev revision. Suit suitability.

Prepared for

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MORGAN SINDALL CONSTRUCTION

Pell Frischmann

Contents

1.1 Maintenance and Adoption

1.1.1 For the proposed surface and foul water drainage system to function correctly, it will need to be appropriately maintained. It is proposed that the drainage features on site are to remain private and to be maintained by a management company.

1.1.2 The maintenance schedule for the drainage network serving the redevelopment must be comprehensive and detail the specific maintenance requirements for each element of the drainage system. The CIRIA SuDS Manual has extensive information relating to the maintenance of SuDS which should be consulted when specifying the requirements.

1.1.3 For pipes, manholes and gullies, both general best practice and specific manufacturer maintenance protocols should be followed.

1.1.4 Requirements for the ongoing maintenance of the infrastructure should form part of the Operation and Maintenance (O&M) manual for the site, clearly detailing the extent of responsibility and features to be maintained. Any specialist or proprietary products specified should have a manufacturer specific maintenance regime which should be included. It is envisaged that the O&M manual will be developed at the detailed design stage. A summary of general best practice maintenance is given in the table below:

Drainage Item	General Requirements	Frequency
Channel Drains	Clean litter/debris from surface	3 Monthly
	Clean and jet as required	12 Monthly
Hydrobrake Manholes	Check of all inlets, outlets, vents and overflows to ensure that they are in good condition and operating as designed.	12 Monthly
Gullies	Clean litter/debris from surface	3 Monthly
	Clean and jet as required	12 Monthly
Drainage pipework	Clean and jet as required	12-18 Monthly
Inspection Chambers / Catchpits / Manholes / Rodding Eyes	Remove cover to check for any sign of blockage and clean/jet as required. Empty sumps of all sediment / debris.	12 Monthly
Attenuation Tank Systems	Check of all inlets, outlets, vents and overflows to ensure that they are in good condition and operating as designed.	12-18 Monthly
Internal Floor Gullies (bin stores)	Clean litter/debris from surface	Monthly
	Clean and jet as required	12 Monthly

1.1.5 The drainage design is currently at stage 3 and the full specification of all drainage elements from the chosen manufacturers is unknown. This will be confirmed in due course and the maintenance schedule updated to suit particular requirements of manufacturers. This will be developed through RIBA stages 5 & 6 for full AS BUILT drawings and updated maintenance manual to management company.

1.1.6 All drainage elements on site will remain a private network and therefore no easements are required.

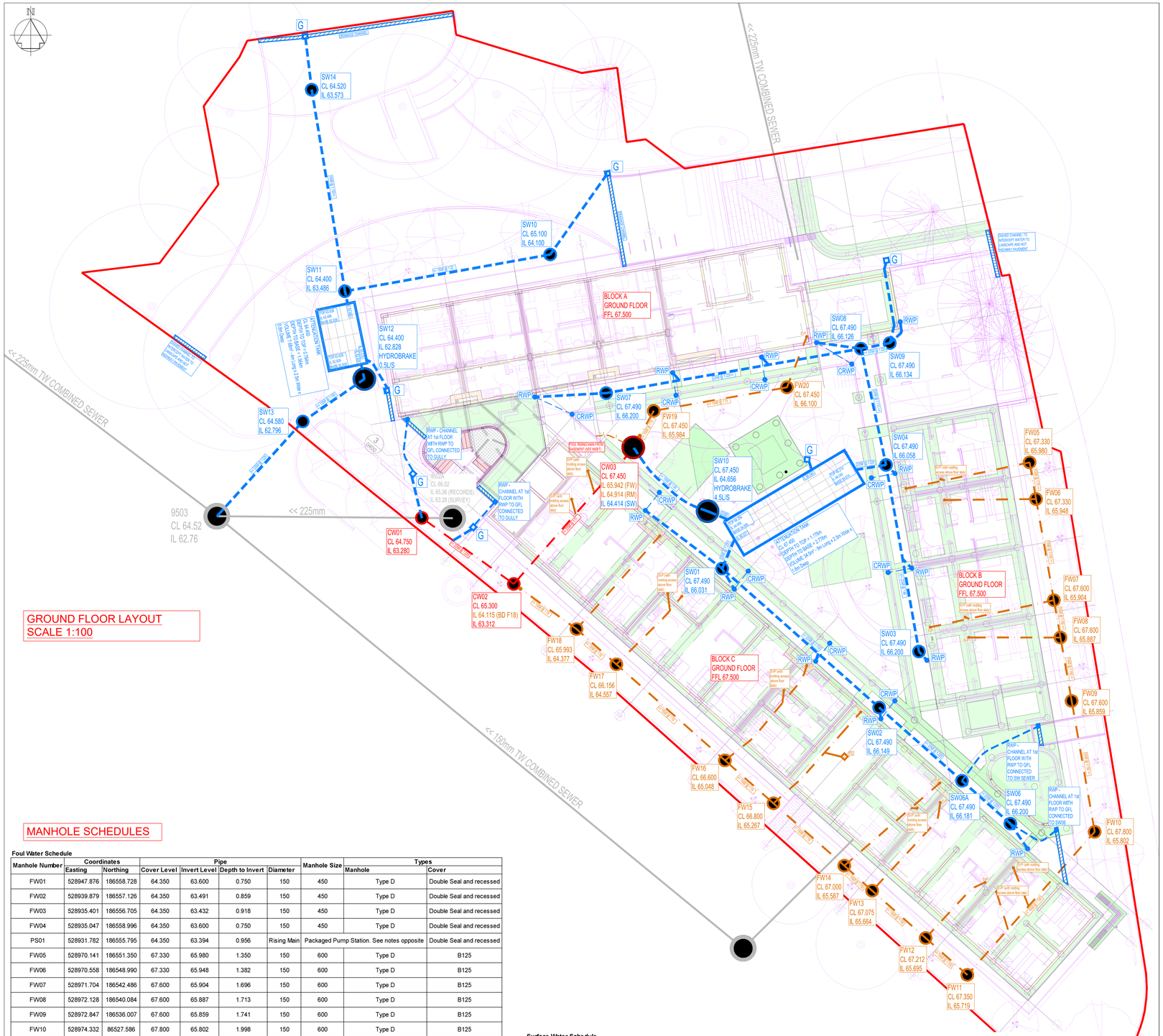
1.1.7 The majority of the drainage networks are located within external areas with ease of access provided to the maintenance team. The attenuation storage units are located in landscaped areas for ease of access and maintenance.

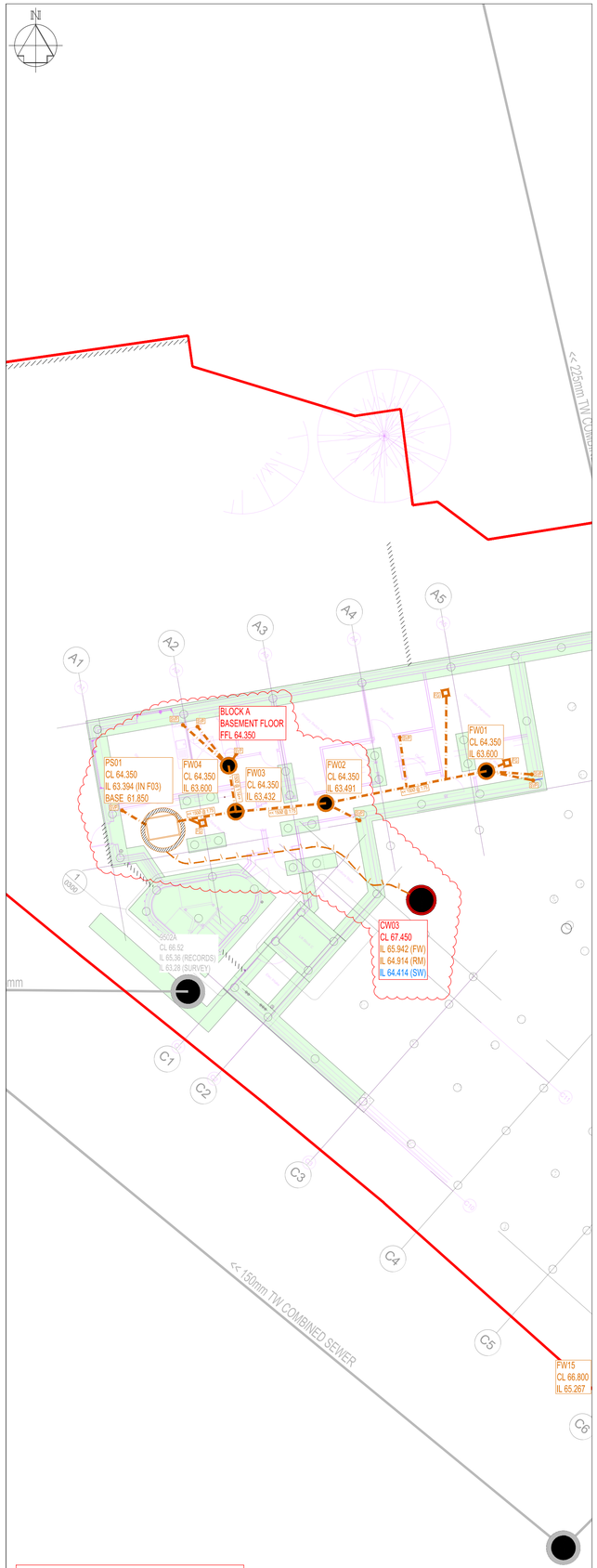
1.1.8 All surface water manholes and access points are external to the building. Some RWPs are located internally from the flat roof areas which will be in accessible locations for rodding.

1.1.9 A small number of foul water manholes will need to be located internally due the location of SVPs and to avoid the piled foundations and ground beams. These manholes will be in common areas such as plant rooms, bin stores etc. which will be accessible to the maintenance team. The covers for these manholes will be double sealed recessed covers to allow for floor finishes.

1.1.10 The removal transport and disposal of this waste should comply with Section 34 of the Environmental Protection Act (1990) (as amended), the statutory guidance ‘Waste Duty of Care: Code of Practice 2018’ and Environment Agency guidance on the ‘Classification and the Assessment of Waste’ (October 2021).

Appendix C





MANHOLE SCHEDULES

Foul Water Schedule

Manhole Number	Coordinates		Pipe				Manhole Size	Types	
	Easting	Northing	Cover Level	Invert Level	Depth to Invert	Diameter		Manhole	Cover
FW01	528947.876	186558.728	64.350	63.600	0.750	150	450	Type D	Double Seal and recessed
FW02	528939.879	186557.126	64.350	63.491	0.859	150	450	Type D	Double Seal and recessed
FW03	528935.401	186556.705	64.350	63.432	0.918	150	450	Type D	Double Seal and recessed
FW04	528935.047	186558.996	64.350	63.600	0.750	150	450	Type D	Double Seal and recessed
PS01	528931.782	186555.795	64.350	63.394	0.956	Rising Main		Packaged Pump Station. See notes opposite	Double Seal and recessed
FW05	528970.141	186551.350	67.330	65.980	1.350	150	600	Type D	B125
FW06	528970.558	186548.990	67.330	65.948	1.382	150	600	Type D	B125
FW07	528971.704	186542.486	67.600	65.904	1.696	150	600	Type D	B125
FW08	528972.128	186540.084	67.600	65.887	1.713	150	600	Type D	B125
FW09	528972.847	186536.007	67.600	65.859	1.741	150	600	Type D	B125
FW10	528974.332	86527.586	67.800	65.802	1.998	150	600	Type D	B125
FW11	28966.135	186518.382	67.350	65.719	1.631	150	600	Type D	B125
FW12	528963.454	186520.754	67.212	65.695	1.517	150	600	Type D	B125
FW13	528960.013	186523.798	67.075	65.664	1.411	150	600	Type D	B125
FW14	528958.220	186525.409	67.000	65.587	1.413	150	600	Type D	B125
FW15	528953.660	186529.419	66.800	65.267	1.533	150	600	Type D	B125
FW16	528950.540	186532.179	66.600	65.048	1.552	150	600	Type D	B125
FW17	528943.553	186538.360	66.156	64.557	1.599	150	600	Type D	B125
FW18	528940.991	186540.628	65.993	64.377	1.616	150	600	Type D	B125
FW19	528945.956	186554.664	67.450	65.984	1.466	150	600	Type D	B125
FW20	528954.527	186556.174	67.450	66.100	1.350	150	600	Type D	B125
CW01	528931.035	186547.776	64.750	63.280	1.470	225	600	Type D	B125
CW02	528936.949	186543.530	65.300	63.312	1.988	225	600	Type D	B125
CW03	528944.638	186552.310	67.450	64.414	3.036	225	1200	Type B	B125

Surface Water Schedule

Manhole Number	Coordinates		Pipe				Manhole Size	Types	
	Easting	Northing	Cover Level	Invert Level	Depth to Invert	Diameter		Manhole	Cover
SW01	528950.359	186544.519	67.490	66.031	1.459	225	600	Type D - Catchpit	B125
SW02	528961.060	186535.051	67.490	66.149	1.341	225	600	Type D	B125
SW03	528963.023	186539.181	67.490	66.200	1.290	225	600	Type D	B125
SW04	528960.907	186551.183	67.490	66.058	1.432	225	600	Type D - Catchpit	B125
SW06	528968.902	186528.114	67.490	66.200	1.290	225	600	Type D	B125
SW06A	528965.788	186530.868	67.490	66.181	1.309	225	600	Type D	B125
SW08	528959.289	186558.665	67.490	66.126	1.364	225	600	Type D	B125
SW09	528961.148	186559.025	67.490	66.200	1.290	225	600	Type D	B125
SW10	528939.297	186564.720	67.450	64.656	2.794	150	1200	Type B - Hydrobrake Manhole	B125
SW11	528926.088	186562.356	64.400	63.486	0.914	150	450	Type D - Catchpit	B125
SW12	528927.339	186556.713	64.400	62.828	1.572	150	1200	Type B - Hydrobrake Manhole	B125
SW13	528923.371	186553.981	64.580	62.796	1.784	225	450	Type D	B125
SW14	528923.950	186575.319	64.520	63.573	0.947	150	600	Type D	D400

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G1. DO NOT SCALE THIS DRAWING.

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EXISTING DRAINAGE KEY:

- THAMES WATER COMBINED WATER SEWER

PROPOSED DRAINAGE KEY:

- PROPOSED SURFACE WATER SEWER
- PROPOSED FOUL WATER SEWER
- PUMPED MAIN BY OTHERS
- PROPOSED COMBINED WATER SEWER
- EXISTING SEWER TO BE ABANDONED
- PROPOSED RWP
- PROPOSED CANOPY RWP (connected to main rwp at high level)
- PROPOSED SVP
- PROPOSED SURFACE WATER ATTENUATION
- PROPOSED DRAINAGE CHANNEL
- PROPOSED GULLY

PROPOSED SURFACE WATER DESIGN

- SURFACE WATER DESIGN BASED ON RESTRICTED DISCHARGE OF 5 L/S. SPLIT 4.5L/S FOR HIGH LEVEL AND 0.5L/S FOR LOW LEVEL.

- ATTENUATION PROVIDED TO ENSURE NO FLOODING FOR 1:100 YEAR EVENT +40% CLIMATE CHANGE.

- STORAGE PROVIDED IN UNDERGROUND BOX CRATES FOR A VOLUME OF 42.18m3.

PROPOSED FOUL WATER DESIGN

- FOUL WATER DESIGN BASED ON GRAVITY NETWORK AT GF LEVEL AND A PUMPED OUTFALL FROM BASEMENT LEVEL.

- BASED ON 14 No. DOUBLE OCCUPANCY ROOMS @ 150L/H/D WILL REQUIRE 4,200 L/D EMERGENCY STORAGE IN ACCORDANCE WITH BUILDING REGS PART H. PACKAGE PUMP STATION TO BE MAXI TWIN SERIES 1.5m Ø BY 2.5m DEEP TP PROVIDE 4,400 LTRS STORAGE SUPPLIED BY DIRECT PUMPS AND TANKS LTD. PUMP TO BE FITTED WITH DUAL PUMPS AND HIGH LEVEL ALARM. CONTRACTOR TO CONFIRM ACTUAL PUMP SPECIFICATION WITH MANUFACTURER.

- CONTRACTOR CAN SOURCE OWN PACKAGED PUMP STATION TO BE SPECIFIED BY MANUFACTURER AND WILL NEED TO PROVIDE 24 HR EMERGENCY STORAGE IN ACCORDANCE WITH PARA. 2.3 BUILDING REGS PART H. PF WILL NEED TO APPROVE PUMP SPECIFICATION.

- PUMP STATION WILL NEED VENTING. M&E / PUMP MANUFACTURER TO CONFIRM IF THE CHAMBER NEEDS A SEPARATE VENT OR IF THE VENTING CAN BE ACHIEVED THROUGH THE CONNECTED SVP's.

EXISTING DRAINAGE SHOWN HAS BEEN PLOTTED AND INTERPOLATED FROM THAMES WATER SEWER RECORDS, TOPOGRAPHICAL SURVEY AND CCTV SURVEY (WHERE AVAILABLE). CONTRACTOR TO VERIFY ALL DRAINAGE ON SITE PRIOR TO COMMENCEMENT OF WORKS.

THIS DRAWING IS NOT TO BE USED FOR SETTING OUT OF RWPs & SVPs. FOR SETTING OUT PLEASE REFER TO ARCHITECTS AND M&E DRAWINGS. FOR EXTERNAL GULLY SETTING OUT PLEASE REFER TO LATEST LANDSCAPE DWGS.

REV	DESCRIPTION	DRN	CHK	APP	DATE
C06	Basement drainage amended as clouded	RH	MF	MF	17.02.25
C05	Pump station location amended & further co-ordination	RH	MF	MF	07.02.25
C04	SW manhole schedule updated	RH	MF	MF	21.01.25
C03	Updated to show frozen MH text	RH	MF	MF	14.01.25
C02	Updated to suit co-ordination	RH	MF	MF	10.01.25
C01	CONSTRUCTION ISSUE	RH	MF	MF	03.01.25
P07	Basement drainage amended + SW in courtyard lifted	SP	RH	RH	05.08.24
P06	SW10, CW03 and attenuation levels amended	RH	MF	MF	03.07.24
P05	Update to suit Arboriculturalist comments	RH	MF	MF	02.07.24
P04	Update to suit Arboriculturalist comments	RH	MF	MF	17.05.24
P03	Updated to suit crane base location	RH	MF	MF	25.04.24
P02	Updated to suit latest building and landscape layouts	SP	MF	MF	22.03.24
P01	DRAFT ISSUE - For Co-ordination	SP	MF	MF	21.12.23

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Architect/Client/Contractor

MORGAN SINDALL

Project

CAMDEN HOSTEL

CHESTER ROAD

Drawing Title

PROPOSED DRAINAGE LAYOUT

Drawing Status

CONSTRUCTION

	Name	Date	Status Code
Drawn	JN	15.12.23	A4
Designed	JN	15.12.23	Scale 1:100
Eng Chk	RH	15.12.23	Revision C06
Approved	RH	15.12.23	

Drawing No.

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