DRAINAGE IMPACT ASSESSMENT

LNT Care Home Development
Mendalgief Road
Newport

Reference	**6375-JPG-XX-XX-RP-D-0622-S2-P03**
Date	**August 2023**
Author	**SMS**

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CONTENTS

APPENDICES

CONFIDENTIALITY STATEMENT

This report is addressed to and may be relied upon by the following:

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This report has been prepared for the sole use and reliance of the above-named party. This report shall not be relied upon or transferred to any other parties without the express written authorisation of JPG (Leeds) Limited. No responsibility will be accepted where this report is used, either in its entirety or in part, by any other party.

DOCUMENT HISTORY

Revision	Date	Revision Details	Status	Author(s)	Approved
P01	07.08.2024	First Issue	Preliminary	SMS	RMR
P02	13.05.2025	Updated to Suit Development	Preliminary	SMS	RMR
P03	14.05.2025	Updated Drainage Layout	Preliminary	SMS	RMR

1.0 INTRODUCTION

JPG (Leeds) Limited (JPG) has been instructed by LNT Care Developments to prepare a Drainage Impact Assessment for a proposed new 66-bedroom care home and associated carpark. The report will detail the drainage strategy associated with the proposed development.

2.0 THE SITE

2.1 Location

The site is located approximately 3km east of the M4 and 1km southwest of Newport centre. The site forms part of the wider Royal Victoria Court residential estate. The approximate centre of the site is located at NGR ST309869 / ST3090386920.

A location plan is provided in Appendix A.

2.2 Site Description

The site for the new care home is located on the eastern part of the existing residential development. It is irregular in shape and occupies a total area of approximately 0.652 hectares (ha).

The current site is accessed off Mendalgeif Road via an existing entrance which is to the east for the development plot.

Existing third-party development lies immediately to the south and west of the site.

Mendalgeif Road is located immediately to the southwest of the development plot.

To the north of the site is an existing rail way line.

2.3 Site Topography

The existing site is generally flat with a gradual fall from north to south. The existing levels range between 7.763m A.O.D and 10.574m A.O.D.

A copy of the topographical survey is provided in Appendix B.

3.0 EXISTING DRAINAGE NETWORK

3.1 Watercourses and Land Drainage

There are no known or visible existing water courses or land drainage system located within the site boundary or immediately outside the site adjacent to the boundary.

The River Usk is located approximately 1.00 km to the east of the site.

There is no direct access to these watercourses from the site without passing through third party.

3.2 Public Sewer Network

Sewer records obtained from Welsh Water, along with drainage design information from the adjacent development (by Cambria), indicate the presence of two sewer connection stubs located within the public open space (POS) area at the southern end of the site. Although these stubs are technically outside the red-line boundary, they remain accessible for connection.

The Cambria drawings show:

- A 150mm dia. surface water stub at an invert level of 6.883m.
- A 150mm dia. foul water stub at an invert level of 6.646m.

These positions are noted as "installed positions to be confirmed" due to the presence of a stockpile at the time of survey. However, a later topographical survey by Quickdraw confirms updated inverts of:

- 6.940m (SW - 150mm dia.)
- 6.560m (FW - 150mm dia.)

In addition, the previous note regarding a foul water rising main remains relevant. It runs along the western and northern boundaries of the site, providing discharge for the adjacent housing development into the combined system.

It is also important to note that the legislation introduced on 1 October 2011 transferred ownership and maintenance responsibility of most shared and external sewers to the statutory water companies. As a result, some public sewers may not yet be shown on the current records.

An extract from the updated Welsh Water sewer record plan is provided in Appendix C.

The relevant Cambria drainage arrangement has been included in Appendix D.

4.0 DEVELOPMENT PROPOSALS

It is proposed to construct a new care home comprising approximately 66 bedrooms within the footprint of a recently developed residential scheme.

The proposed development layout is shown on the LNT Construction drawing NP20 2NW - CP-10, titled "WIP Site Plan", dated April 2025, and included in Appendix E.

5.0 PROPOSED SURFACE WATER DRAINAGE

5.1 Proposed Surface Water Drainage & Disposal Hierarchy

The proposed on-site plot drainage will consist of a separate surface and foul water drainage system and will remain in private ownership. Any off-site infrastructure drainage maybe put forward to the local Water Company (Welsh Water) for adoption via a Section 104 agreement should the developer want to go down this route and the design meets with the Water Company criteria.

SuDS features employed as part of the drainage infrastructure on the development will be maintained by either the Water Company, Local Authority or private management company.

The features could be either adopted or remain private and further discussion at detailed design will be required with the various stakeholders to agree and establish the maintenance strategy.

The adoption/maintenance of SuDS features are outside the scope of this report.

The LLFA, Newport Council, have been consulted regarding the proposed discharge methods. However, at the time of writing this report, JPG have not received any feedback.

The following assessment summarises the disposal of surface water from the site.

As detailed in Building regulation Document H the hierarchy for surface water drainage disposal is as follows:

- Discharge to ground (infiltration).
- Discharge to a surface water body (Land drainage Ditch, Water Body or Watercourse).
- Discharge to a surface water sewer.
- Discharge to a combined water sewer.
- Discharge to a foul water sewer.

All options for the disposal of the surface water have been considered in accordance with current legislation, recommendation, and good practice. Refer to Section 5.3 of this report for more details.

Operation and maintenance of the proposed drainage system is covered in a separate report reference 6375-JPG-XX-XX-RP-D-0601 Drainage Maintenance and Management Plan (DMMP). This report should be read in conjunction with the Drainage Impact Assessment Report.

5.2 Sustainable Urban Drainage Systems (SuDS)

Sustainable Urban Drainage System (SuDS) may be used in conjunction with conventional drainage systems to improve water quality as well as manage surface water discharge. Incorporation of SuDS should be considered at and early design stage of the project.

National and local guidance require developers to consider the utilisation of SuDS features as part of new development. This is to be detailed under a SuDS Approving Body (SAB) application.

At the time of writing this report, JPG does not have access to ground investigation or infiltration test results. However, based on existing drainage information for adjacent properties and British Geological Society borehole records, it is assumed that infiltration will not be suitable for the proposed development. The nearest boreholes to the site, located 0.40km south, indicate firm clay ground strata, which is unsuitable for infiltration.

A copy of local borehole records can be found in Appendix F.

Given the requirement to consider SuDS drainage features and the unsuitability of infiltration drainage methods at the site, the following audit has been conducted to evaluate the suitability of SuDS features/systems for the proposed development.

While the audit outlines drainage features that could be considered ultimately the proposed layout and levels of the development will dictate what can be reasonably incorporated.

Site specific SuDS Audit below:

Drainage Method	Description/Suitability	Proposal/Feasibility
1. Infiltration.	Site ground conditions unsuitable for infiltration.	Not Applicable.
2. Ponds and wetlands.	May be utilised – subject to detailed design.	Applicable (non-infiltration method).
3. Infiltration Basins.	Site ground conditions unsuitable for infiltration.	Not Applicable
4. Detention Basins.	May be utilised – subject to detailed design.	Applicable (non-infiltration method).
5. Swale.	May be utilised – subject to detailed design.	Applicable (non-infiltration method).
6. French/Filter drain.	May be utilised to convey water.	Applicable (non-infiltration method).
7. Pervious/Permeable Pavement.	May be utilised - subject to detailed design.	Applicable (non-infiltration method).
8. Geocellular Systems/Tank systems.	May be utilised – subject to detailed design.	Applicable.
9. Oversized pipes.	May be used as surface water attenuation.	Applicable.
10. Box culverts.	May be used as surface water attenuation.	Applicable.
11. Proprietary tanks systems.	May be used as surface water attenuation.	Applicable.

5.3 Surface Water Drainage

h Water has been consulted via their pre-planning enquiry service. Their response, included in Appendix G, confirms that the developer must explore and fully exhaust all surface water disposal options in line with this hierarchy.

Sewer record drawings provided by Welsh Water are included in Appendix C.

As previously noted, infiltration was considered unlikely. This has now been confirmed by the findings of the site-specific ground investigation undertaken by Lithos Consulting (report ref. 5088/1, January 2025). The report concludes that soakaways are not a viable surface water disposal method due to the site's underlying cohesive tidal flat deposits and shallow groundwater, which inhibit infiltration.

In line with the drainage hierarchy, discharge to a watercourse was next considered; however, no suitable watercourses or land drainage systems exist in the vicinity of the site.

Accordingly, the most feasible point of discharge for surface water from the development is into the 150mm diameter surface water stub located within the public open space (POS) area to the south of the site, as indicated on the drainage drawings prepared for the adjacent development. Although the stub lies outside the site boundary, it remains accessible and has a confirmed invert level of 6.940m, based on a recent topographical survey by Quickdraw.

Informed by the findings of the Lithos ground investigation (report ref. 5088/1), potential consolidation settlement of up to 30mm has been identified due to soft underlying soils and proposed site regrading. Accordingly, surface water pipework has been laid with steeper gradients where possible to accommodate any post-construction settlement and maintain self-cleansing and effective drainage performance.

5.4 Runoff and Restricted Discharge

The proposed site of the new car park is currently undeveloped and is believed to comprise of spoil heaps.

A greenfield surface water runoff rate has been calculated for the site. The pre-development greenfield runoff rate must be calculated only from the post development impermeable and drained areas and NOT the whole site.

To support any existing site run-off assessment, a topographic survey shall be provided.

The topographical survey is in Appendix B.

The assessment of pre-development greenfield runoff shall be based on either the IH 124, ICP-SuDS or FEH 2013 method.

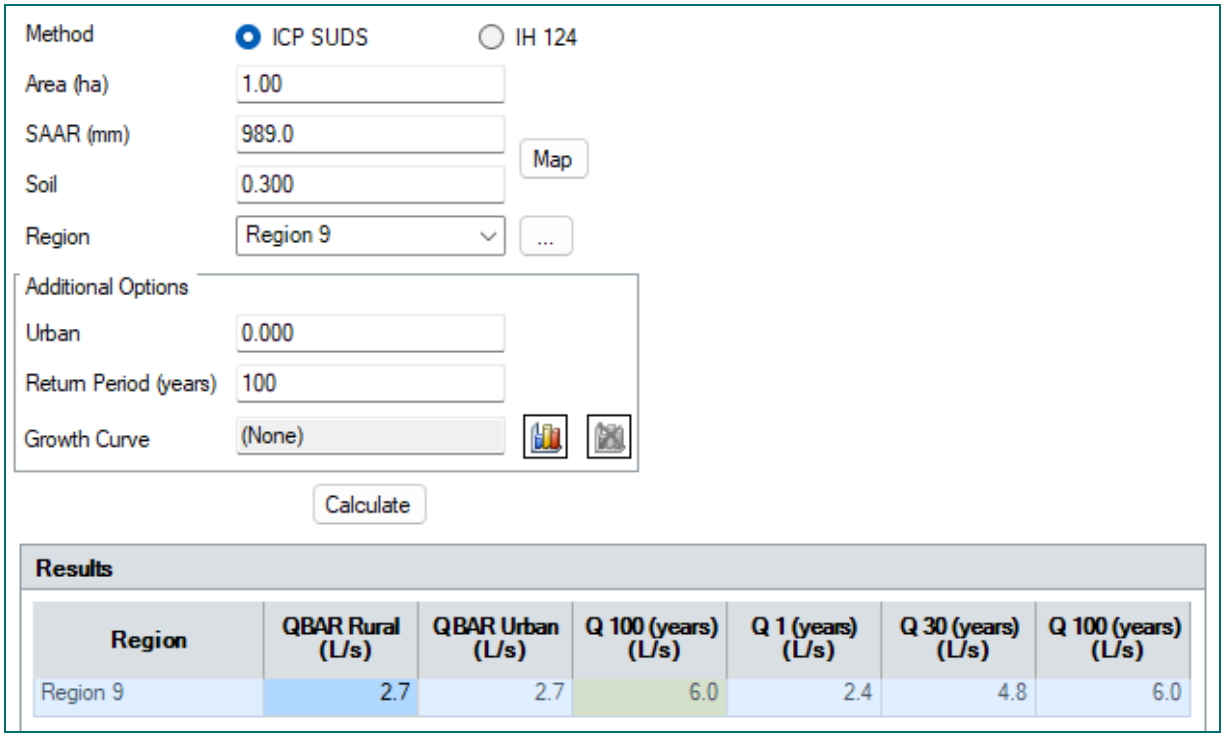
For sites less than 1 ha, then a maximum allowable discharge rate of 2.5 l/s shall be applied for all storms up to the 1% AEP (1 in 100) + CC storm event. For larger sites, the above criteria can be adopted.

For all Major development, to minimise any increase in flood volumes off site, the peak flow rate shall be capped at Qbar to conform to the requirement for no increase of the 1% AEP (100 year) 6-hour event volume.

The proposed development plot impermeable area is 0.238 Ha. The proposed impermeable area plan 6091-JPG-ZZ-ZZ-R-D-1450 is in **Appendix H**.

Greenfield run off has been calculated using the ICP-SUD methodology and generated a discharge rate of QBAR 2.7 l/s per Ha.

The ICP-SUDs calculation is shown below:



Region	QBAR Rural (L/s)	QBAR Urban (L/s)	Q 100 (years) (L/s)	Q 1 (years) (L/s)	Q 30 (years) (L/s)	Q 100 (years) (L/s)
Region 9	2.7	2.7	6.0	2.4	4.8	6.0

The surface water discharge rate has been set at 3.5l/s to ensure efficient and reliable operation of the proposed pump, which serves as the flow control device. This rate has been selected to meet SuDS best practice while aligning with the pump's performance characteristics and ensuring consistent discharge to the receiving drainage system.

Refer to Section 5.6 of this report, which will provide further detail on the proposed restricted discharge rate.

5.5 Climate Change Allowance

As part of the SuDS Approving Body application, it is a requirement to provide climate change allowance in a 1 in 100-year storm event. As the hydraulic model is using the FSR rainfall theory, it is advised that a 50% climate change allowance is used during calculations.

5.6 Surface Water Attenuation

Due to the restricted discharge on-plot surface water attenuation will be required.

Based on the assumed discharge rate, proposed impermeable areas and allowance for climate change, the following attenuation volumes have been calculated using Info drainage design software.

The Design Parameters for the proposed care home are below:

- Rainfall FSR.
- Proposed Impermeable area = 0.238ha.
- Pipe capacity discharge rate = 3.50 l/s.
- Uplift for climate change 50%.

The following surface water attenuation volumes have been calculated and are detailed below:

- 1:100 Year Return Period (+50% cc) = 236m^3.

The proposed on-site drainage system shall be designed in accordance with the requirements of Codes for Adoption, Sewers for Adoption, national non-statutory technical SuDS standards, British Standards and Building Regulations and industry best practice and shall demonstrate that:

- No surcharge of pipes occurs in the 1 in 2-year rainfall event.
- No surface flooding occurs in 1 in 30-year rainfall event.
- No flooding to buildings and adjacent properties occurs in 1 in 100-year rainfall event (including an allowance of for the effects of future climate change), as defined in NPPF Technical Guidance. The climate change allowance shall be 50%.

The drainage system will be a gravity system via pipes and manholes to the attenuation tank and flow controlled by a package pump system.

Surface water from the proposed development is to be pumped to a new on-plot surface water manhole, which will discharge via the existing 150mm diameter surface water stub located within the adjacent public open space (POS) area at the southern boundary of the site. This stub forms part of the surface water drainage network serving the adjacent development.

Surface water attenuation will be provided within a below-ground geocellular crate tank system, designed to accommodate the required volume for the critical storm events in accordance with greenfield runoff rate requirements.

In addition, a Type C permeable paving system, designed in accordance with CIRIA C753, will be installed within the car park area. This SuDS feature will:

- Collect runoff directly from the surface.
- Provide primary treatment through filtration.
- Convey flows to the piped network for attenuation.

Restricted discharge will be achieved via a package pumping station limiting flow to the required discharge rate.

A copy of the Surface Water Drainage strategy has been included in Appendix I and the Hydraulic Calculations are included in Appendix J.

5.7 Water Quality and Pollution Control

It is a requirement to ensure that the quality of any receiving water body is not adversely affected by the development.

Both SuDS and proprietary treatment systems can be incorporated into the drainage design to assist with cleaning of the surface water runoff.

Clean roof water drainage will discharge directly into the sealed drainage network (i.e., not via gullies) and will then discharge into the off-site private drainage network. Treatment will be provided in the SuDS features located in the private drainage system.

Runoff from the parking areas will be routed through an appropriately designed permeable paving system, including a granular sub-base, to provide primary treatment of surface water prior to its discharge off-site.

The pollution hazard level of surface water runoff from the development is detailed in Chapter 26 of the SuDS Manual.

The proposed development site is classified as low risk according to Table 26.2 of the CIRIA SuDS Manual.

Table 26.3 of the CIRIA SuDS Manual details SuDS mitigation indices for Total Suspended Solids (TSS), metals and hydrocarbons for a range of SuDS devices.

The pollution hazard indices for the development have been compared against the mitigation indices of the proposed SuDS devices and are tabulated below.

Pollution Hazard Indices and SuDS mitigation is as follows:

Residential Carparking

	TSS	Metals	Hydrocarbons
Hazard Indices Low.	0.50	0.40	0.40
1st Mitigation Permeable Paving.	0.70	0.60	0.70
Total Mitigation.	0.70	0.60	0.60

The SuDS Mitigation Indices has been included within Appendix K.

5.8 Exceedance Event

For storm events above the design event of 1 in 100-year event plus climate change run off would be managed so that it would not affect the existing buildings and third-party property.

The surface water network and attenuation have been designed to contain all surface water without flooding. However, precautions have been made for events exceeding the design criteria. The design has been produced to ensure flows are to be kept on-site as to not increase flood risk to adjacent plots or the highway.

A Drainage Overland Flow Plan drawing 6375-JPG-ZZ-ZZ-DR-D-1455 has been produced to demonstrate the flood routing.

A copy of the overland flow plan is in Appendix L.

5.9 Foul Water Drainage

On-plot foul water drainage will be conveyed in a separate system from the surface water drainage. The foul flows will discharge by gravity to the existing 150mm diameter foul water stub located within the adjacent public open space area at the southern boundary of the site. This stub forms part of the existing foul water drainage system serving the adjacent development.

Welsh Water have been consulted through their pre-planning enquiry service and confirmed that a gravity connection to the local network is acceptable, provided all discharge options are fully explored in line with national drainage policy.

Based on findings from the site-specific ground investigation (Lithos report ref. 5088/1, January 2025), ground consolidation settlement of up to 30mm could occur because of site regrading. To account for this potential movement, foul water drainage runs have been designed with steeper pipe gradients than the minimum recommended values. This ensures that adequate fall and flow performance is maintained even in the event of post-construction settlement.

The proposed foul water drainage layout reflecting this strategy is included in Appendix M of this report.

6.0 CONCLUSIONS

The report has been prepared to assess the drainage impact for a proposed development for a new care home development located off Mendalgeif Road, Newport.

This report shall be read in conjunction with the corresponding drainage Maintenance and Management Plan 6375-JPG-XX-XX-RP-D-0601.

The on-site private surface water drainage system will be design and constructed in accordance with Building Regulations, all national and local standards and best practice.

Hierarchy for discharge of surface water has been considered as detailed in building regulations document H3. Consideration should firstly be given to soakaway, infiltration, watercourse, and sewer in that priority order.

The LLFA has not confirmed the preferred method of discharge, although infiltration drainage techniques will unlikely be suitable on this site due to the topography and adjacent drainage systems.

There are no watercourses or land drainage systems in the vicinity of the site for direct connection.

As such, the most feasible means of surface water disposal is via the existing 150mm diameter surface water stub located within the adjacent public open space at the southern boundary of the site. This stub forms part of the approved drainage system for the adjacent development.

Foul water will be conveyed through a separate drainage system within the development plot and will also discharge by gravity to a 150mm diameter foul water stub within the POS, which connects to the wider public sewer network.

Restricted discharge rate has been calculated at 3.50 l/s.

Attenuation storage will be provided on-site within the provided geocellular create tank system, refer to the strategy drawing.

Proposed allowance for climate change for this development is 50%, in relation to the SAB's requirements.

The reports supporting calculations and drawings provide a robust case for justifying the means of surface water drainage and that the site can be suitably, safely, and sustainably drained.

Overall, this report demonstrates that the surface water drainage systems reasonable and acceptable for the proposed development.

Appendix A Site Location Plan

DO NOT SCALE (A1)

NOTES

GENERAL NOTES

1. ALL MATERIALS AND WORKMANSHIP IS TO COMPLY WITH JPG CONSULTANTS STANDARD SPECIFICATION & ALL RELEVANT BRITISH & EUROPEAN STANDARDS.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, M & E CONSULTANTS AND JPG CONSULTANTS DRAWINGS.
3. ANY DISCREPANCIES SHOULD BE REPORTED TO THE ENGINEER IMMEDIATELY SO THAT CLARIFICATION CAN BE SOUGHT PRIOR TO COMMENCEMENT OF WORKS.

SITE ADDRESS
MENDALGIEF ROAD, NEWPORT,
NP20 2NW

APPROXIMATE CO-ORDINATES
ORDINANCE SURVEY
EASTINGS 330903, NORTHINGS 186920
NATIONAL GRID
ST309869 / ST3090386920

SITE AREA
TOTAL SITE AREA = **6892.357m²/0.689Ha**

0m 6.25m 12.5m
SCALE 1:250

SITE LOCATION
SCALE 1:1250

REV	DESCRIPTION	DATE	CHK	BY
P01	ISSUED FOR INFORMAOTION	03.06.24		SMS

Project
MANDALGIEF ROAD
NEWPORT

Drawing Title
SITE LOCATION PLAN

INFORMATION

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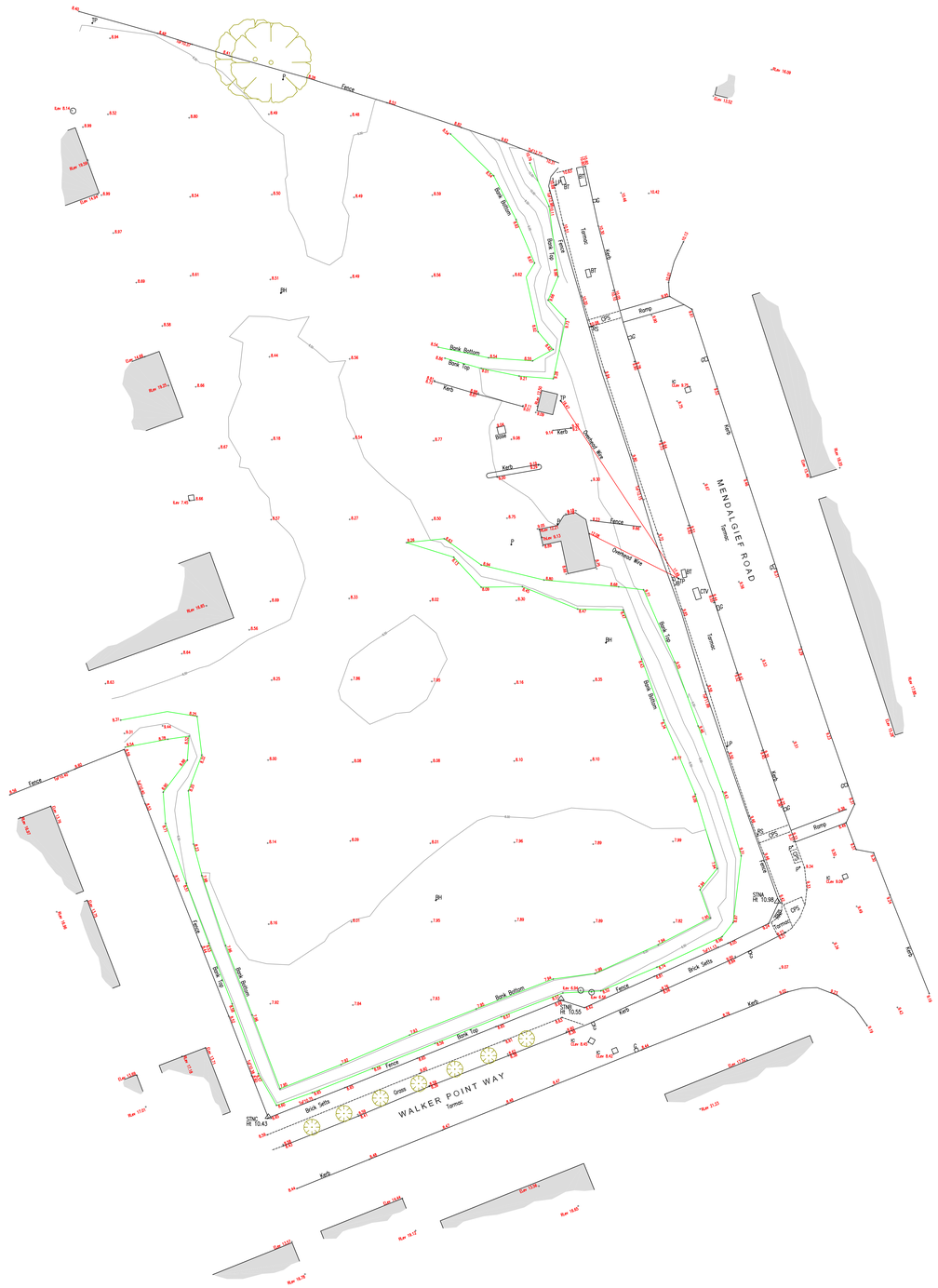
6375-JPG-ZZ-ZZ-DR-C-1001 | S2 | **P01**

Appendix B Topographic Survey



Quickdraw SURVEYS LTD.

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Coppull, Lancashire, PR7 5AF

Telephone: 01257 795111

E-mail: admin@QuickdrawSurveys.co.uk
Web Site: www.QuickdrawSurveys.co.uk

Notes:

The survey has been related to the Ordnance Survey National Grid and level datum using Leica GPS SmartNet data.

The extent of tree canopies and tree bole sizes are estimated.

Only features that are accessible/visible at the time of survey can be detailed.

There are no gaurantees offered on the drainage information supplied.

Before commencing works please check important dimensions on-site.

Should there be any discrepencies, inconsistencies,omissions or queries please contact Quickdraw Surveys Ltd as soon as possible for a resolution.

Abbreviations:

Topographical Surveys

BT	British Telecom Cover	FPR	Post & Rail	RS	Road Sign
Bin	Litter Bin	FPW	Post & Wire	RWP	Rain water pipe
BS	Bus Stop	FSF	Safety Barrier	SV	Stop Valve
BT	British Telecom Cover	FWM	Wire Mesh	Stay	Cable Stay
CPS	Conc Paving Slabs	FT	Floodlight	TB	Telephone Box
CTV	Cable Television Cover	FP	Flagpole	TL	Traffic Light
Elec	Electric Cover	G	Gully	TP	Telegraph Pole
EP	Electric Pole	GV	Gas Valve	VP	Vent Pipe
ER	Earthing Rod	Hyd	Hydrant	WM	Water Meter
Fence	Mixed Fencing	IC	Inspection Cover	WO	Water Outlet
FBW	Barbed Wire	JB	Junction box	UTL	Unable to Lift
FCB	Close Board	KO	Kerb Outlet		
FCI	Corrugated Iron	LB	Letter Box		
FCL	Chain Link	LP	Lamp Post		
FCP	Conc Panel	Mkr	Utility marker		
F(DIL)	Dilapidated Fence	PM	Parking Meter		
FIR	Iron Railings	P	Post		
FOB	Open Board	RE	Rodding Eye		
FPC	Post & Chain	RNP	Road Name Plate		

ALev	Arch Level	ILev	Invert Level	ThLev	Threshold Level
BLev	Bed Level	PLev	Parapet Level	ToF	Top of Fence Level
CLev	Cover Level	RLev	Ridge Level	ToW	Top of Wall Level
ELev	Eaves Level	SLev	Soffit Level	WLev	Water Level

Station Co-ordinates:

Station	Easting	Northing	Level
STN1	330899.401	186984.691	8.554
STN2	330878.450	186959.802	11.447
STN3	330946.046	186919.099	11.817
STN4	330924.790	186902.378	10.781
STN5	330956.849	186890.557	10.549
STN6	330899.753	186865.897	10.433

A0 Plot @ 1:250

Client: LNT Construction Ltd.

Date: March 2025

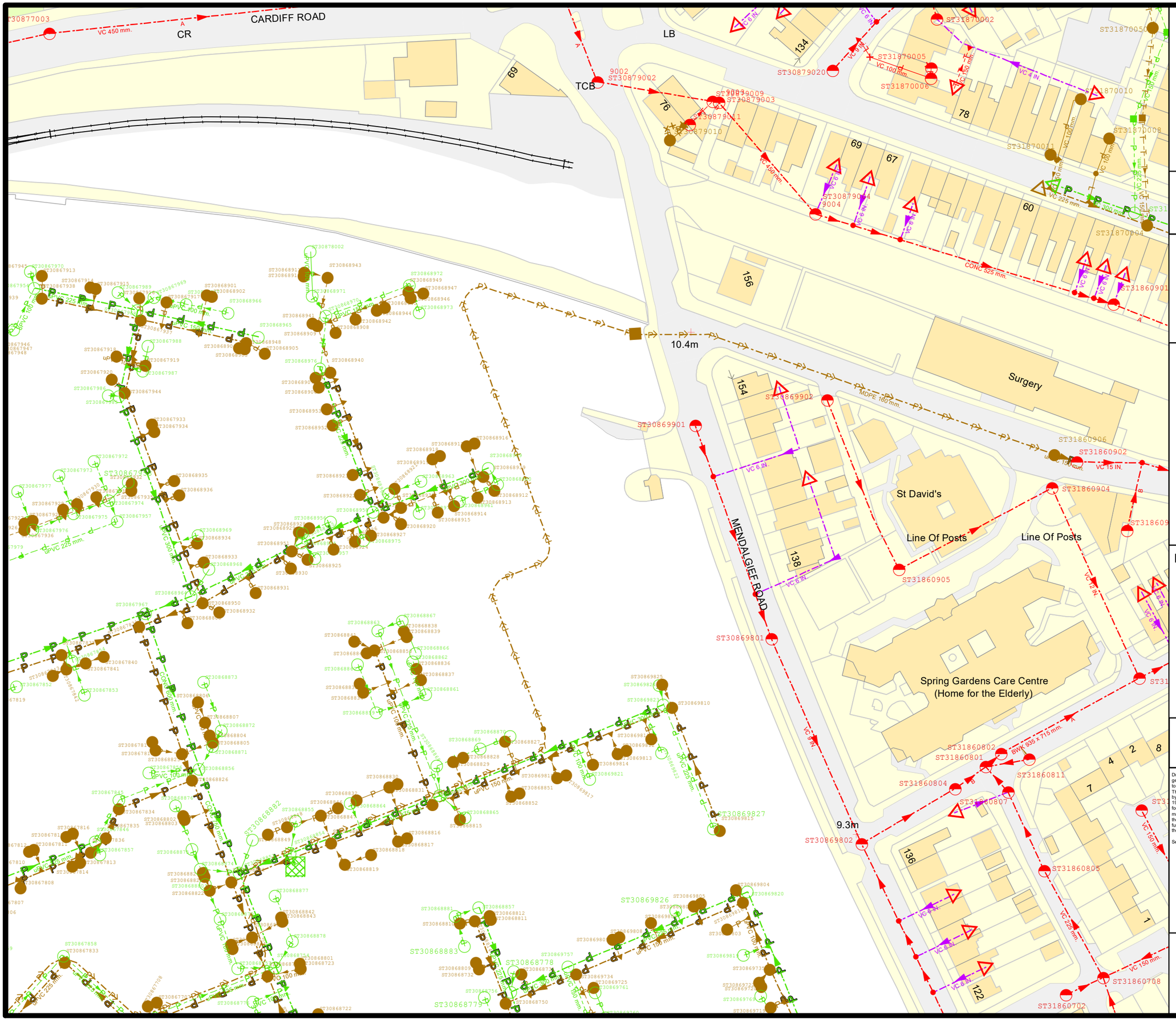
Project: Topographical Survey
Royal Victoria Court, Mendalgief Road,
Newport, NP20 2NW.

Scale: 1:250

Drawing Number: QDS/ 350/1404/TOP

Revision: A

Appendix C Welsh Water Sewer Record Plans



Dŵr Cymru
Welsh Water

Land at Royal Victoria Court Mendalgief Road
Newport NP20 2NW

N
W E
S

LEGEND(Representative of most common features)

Waste network:

	Foul chamber		Outfall
	Surface water chamber	LH	Lamphole
	Combined chamber		Storm Overflow
C O	Combined sewer overflow		Rising main
SPC	Special purpose chamber		Gravity sewer
	Treatment works	P	Private sewer
	Pumping station	S 104 P	Private sewer subject to Sect. 104 adoption agreement
		T	Private Sewer Transfer
		L	Lateral Drain
			Inspection Chamber

NB: Sewer symbol colour indicates the type.
RED - Combined
GREEN - Surface Water
BROWN - Foul
Purple - Former S24 sewers (for indicative purposes only)

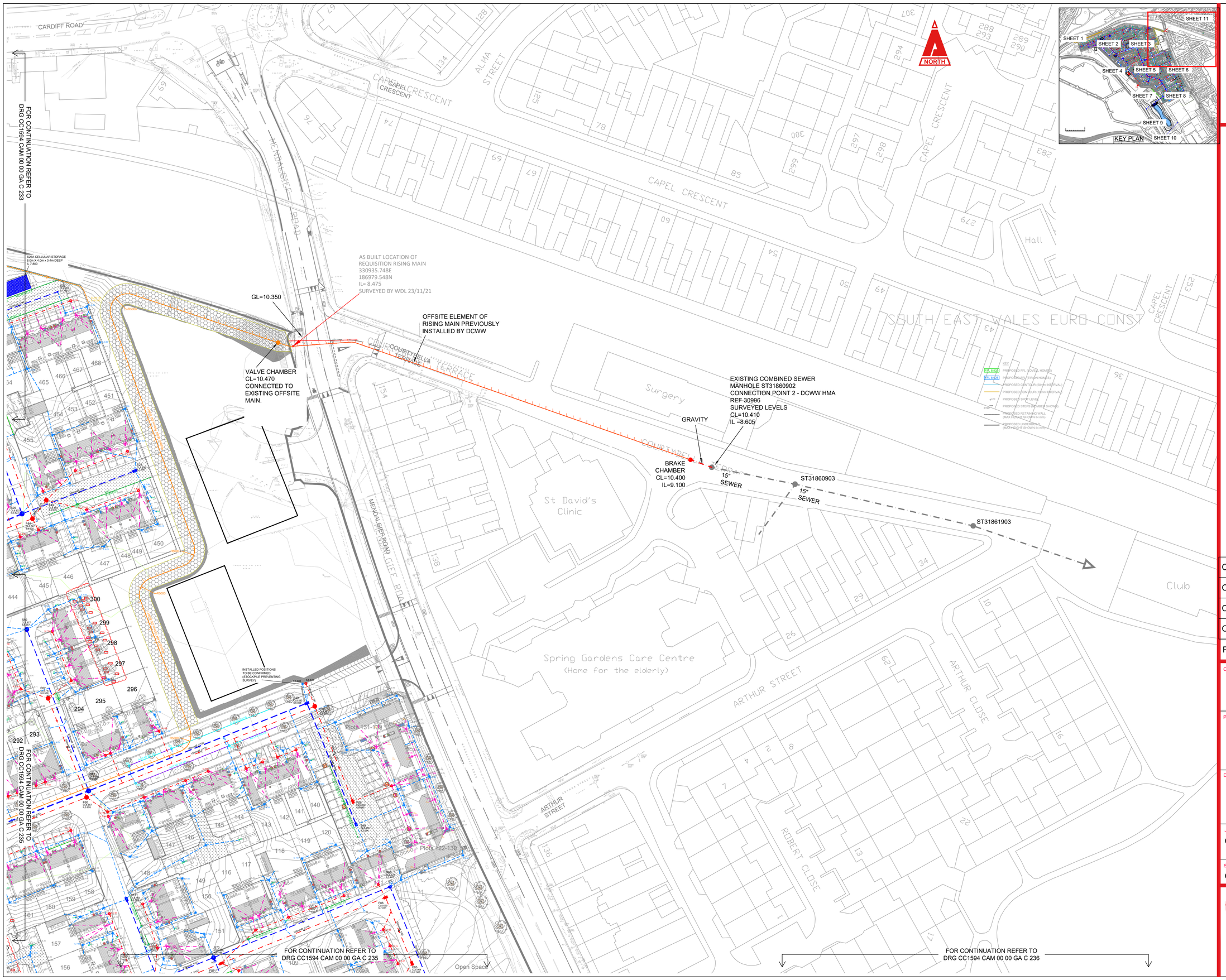
Notes:

Whilst every reasonable effort has been taken to correctly record the pipe material of DCWW assets, there is a possibility that in some cases pipe material (other than Asbestos Cement or Pitch Fibre) may be found to be asbestos cement (AC) or Pitch Fibre (PF) . It is therefore advisable that the possible presence of AC or PF pipes be anticipated and considered as part of any risk assessment prior to excavation

EXACT LOCATIONS OF ALL APPARATUS TO BE DETERMINED ON SITE.

Map Ref:	330918,186930
Map scale:	1:1000
Printed by:	Zara Howells
Printed on:	16 Apr 2024

Appendix D Adjacent Cambria Drainage Arrangement



KEY

- PROPOSED FW SEWER
- PROPOSED FW DRAIN (PLOT)
- PROPOSED SW DRAINAGE
- PROPOSED SW DRAIN (PLOT)
- RAINWATER PIPE
- PROPOSED KERB DRAIN
- PROPOSED KERB DRAIN (FLUSH CHANNEL)
- PROPOSED LINEAR DRAIN (TYPE AS SHOWN)
- PROPOSED LINEAR DRAIN ACO RAINDRAIN B125
- PROPOSED ACO S100 CHANNEL DRAIN B125
- PROPOSED RISING MAIN
- EXISTING DCWW FW SEWER
- KERB DRAIN / LINEAR DRAINSUMP OUTLET
- PROPOSED YARD GULLY
- ROAD GULLY AND 150mm DIA PIPE CONNECTION
- LOCATION OF HISTORICAL UNDERGROUND OBSTRUCTION
- DITCH DIVERSION

NOTE

1. ALL PLOT FW AND SW DRAINAGE PIPEWORK TO BE 100mm DIAMETER UNLESS SHOWN OTHERWISE.
2. PHASE 1 PLOTS ARE DENOTED THUS (PLOTS 103-108, 96-102, 140-148, 158-161, 116-120, 109-113,131-139,151-157. 324-384, 287-304,241-247, 162, 163.)
3. FOR ALL PILED FOUNDATION BLOCKS, UNDERSLAB DRAINAGE TO BE SUSPENDED FROM BEAM AND BLOCK FLOOR WITH PROPRIETARY BRACKETS AT 900MM CENTRES AND ROCKER PIPES PROVIDED AT OUTSIDE FACE OF FOUNDATION AT BUILDING PERIMETER. REFER TO DRAWING 205.

C7	SPUR DETAILS ADDED TO S49 & F59.	LW	BW
		12/06/24	
C6	RWP LOCATIONS UPDATED	EH	EH
		05/05/23	
C5	PLOT DRAINAGE UPDATE TO SUIT PILED FOUNDATION DETAILS.	EH	EH
		06/02/22	
C4	PLOT DRAINAGE COMPLETED.	GVT	EH
		09/07/21	
P1	CONSTRUCTION ISSUE.	GVT	EH
		28/01/21	

Client: LOVELL

Project: WHITEHEADS NEWPORT

Drawing Title: PROPOSED DRAINAGE LAYOUT (SHEET 11 OF 11)

Job No:	Drg. No.					
CC1594	CAM	XX	XX	GA	C	241
	Org.	Vol.	Lev.	Type	Dis.	No.

Status:	Scale @A1:	Rev:
CONSTRUCTION	1:500	C7

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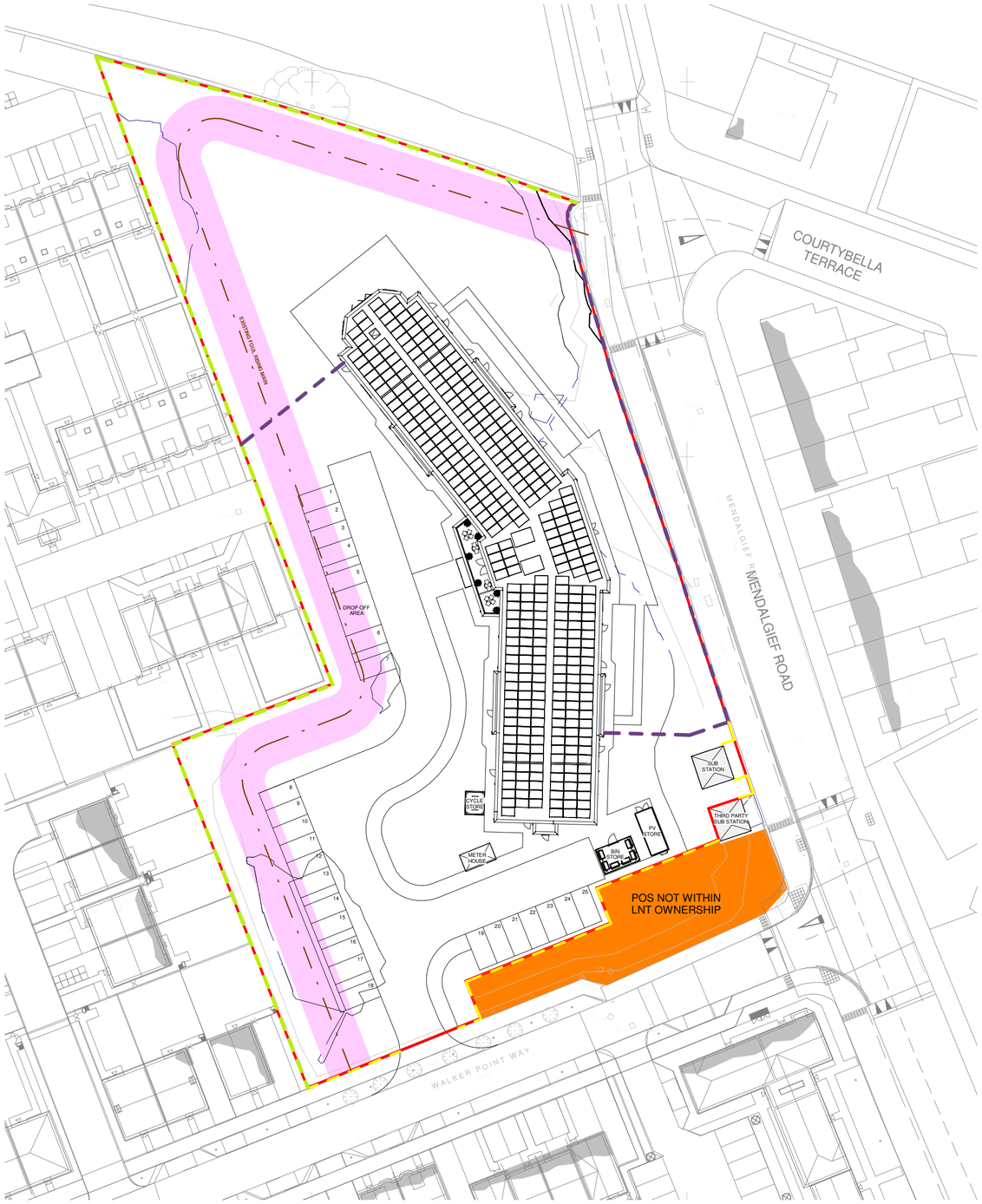
Appendix E Proposed LNT Site Layout Plan

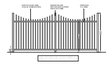


WIP SITE PLAN

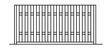
1 : 500

LEGEND 1:200

BOUNDARY TREATMENTS



1800H RAILINGS



1800H HIT & MISS FENCE

550H TIMBER KNEE RAIL

REV	DATE	DETAILS OF AMENDMENTS	DRAWN

REVISIONS

LNT CONSTRUCTION LTD
UNIT 2, HELIOS 47
ISABELLA ROAD
GARFORTH
LS25 2DY
Tel: 0113 385 3858
Fax: 0113 385 3859

CLIENT

LNT CARE DEVELOPMENTS

SITE

MENDALGIEF ROAD
NEWPORT
NP20 2NW

TITLE

WIP SITE PLAN

SCALE @A2	As indicated	DATE	27/04/2025 22:56:28
DRAWN	L-JL	DWG NO.	NP20 2NW CP-10

DRAWING STATUS

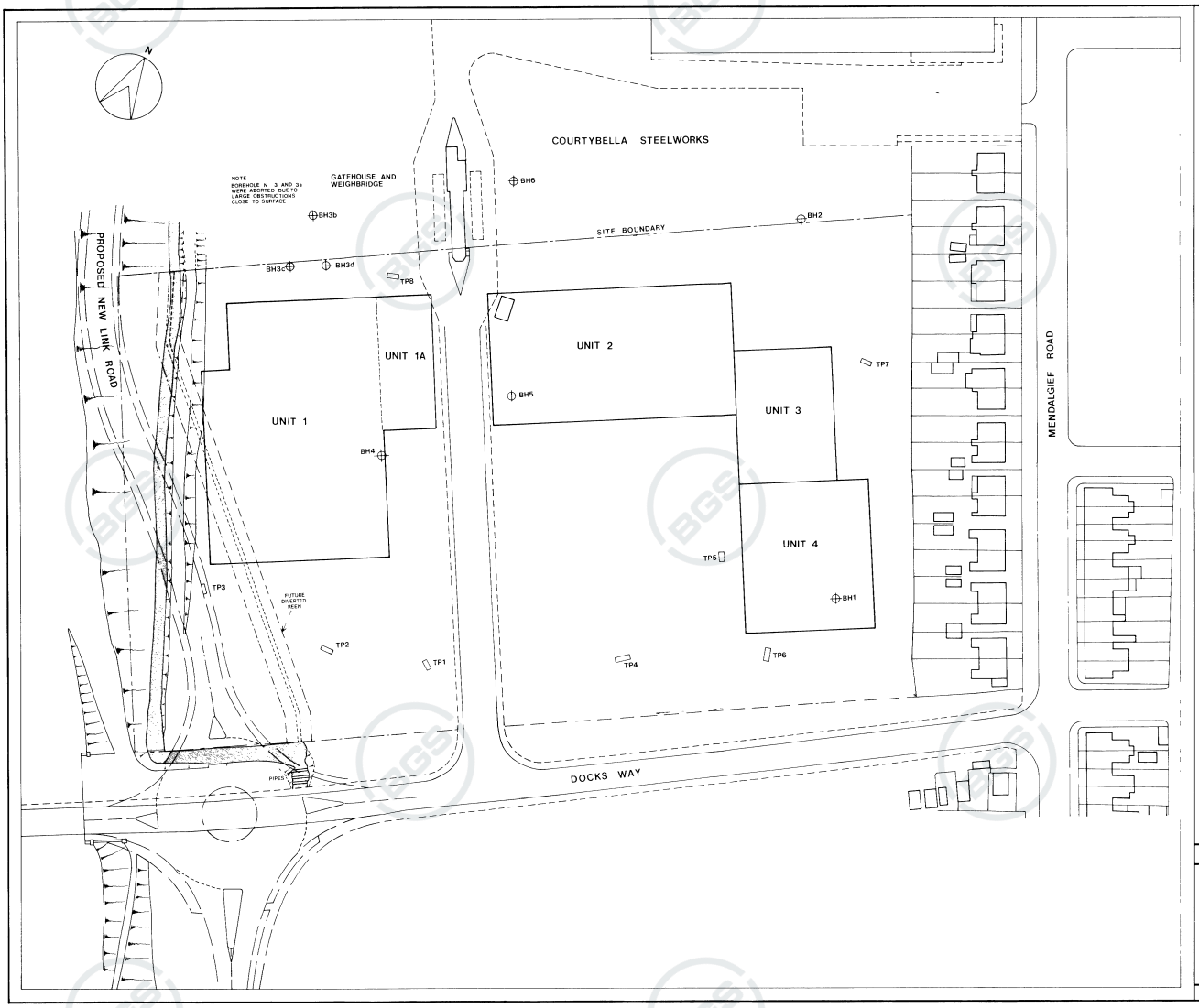
FOR INFORMATION ONLY

CHECKED BY		DATE	
APPROVED BY		DATE	

Appendix F BGS Borehole Records

BGS ID: 385187 : BGS Reference: ST38NW116
British National Grid (27700) : 331074,186538

ST38NW/115-122.



LONGCROFT ESTATES LIMITED
PROPOSED RETAIL DEVELOPMENT,
DOCKS WAY, NEWPORT

Proposed Site layout with Borehole and Trial Pit locations

REFERENCE

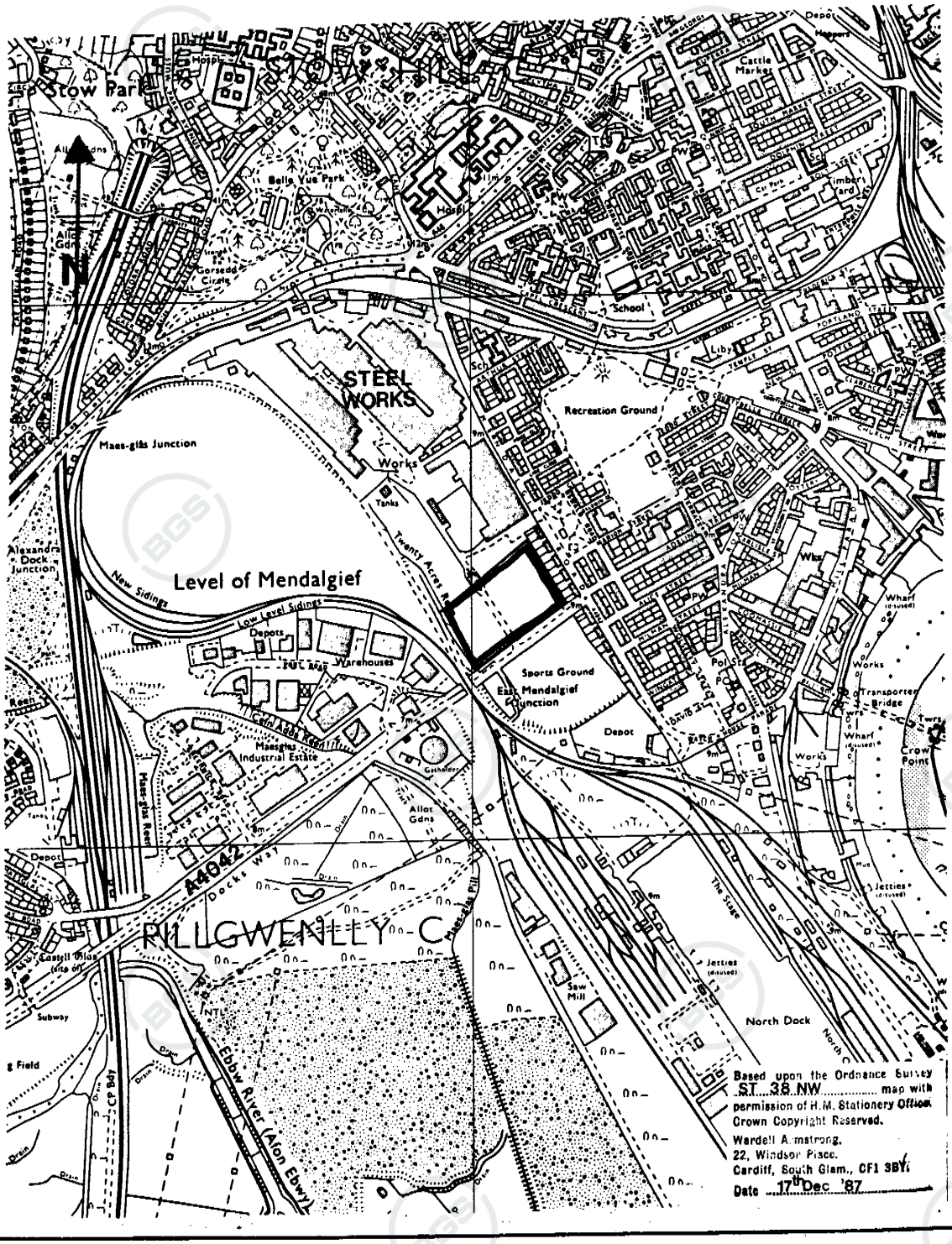
Site Boundary	edged blue
Proposed location of retail units	edged yellow
Borehole locations	⊕
Trial Pit locations	▯
Line of 20 Acres Reen shown	

DRG No 7 W3202	SCALE 1 500

WARDELL ARMSTRONG
22 WINDSOR PLACE CARDIFF
SOUTH GLAMORGAN CF1 3BY
Telephone 0222 382465

DECEMBER 1987

ST 38 NW/115 – 122



LONGCROFT ESTATES LIMITED,

PROPOSED RETAIL DEVELOPMENT, DOCKS WAY, NEWPORT.

Site Location Plan

REFERENCE

Site Area.....edged blue

WARDELL ARMSTRONG	DRG. No 1/W3202	SCALE:-1:10,000

UDOG1360

OSN20

CONTRACTOR	DATE OF DRILLING	DRILLING METHOD	BOREHOLE No.
RITCHIES EQUIPMENT	13-11-87 to 17-11-87	SHELL & AUGER	2 ST38NW/116

GROUND LEVEL	ORIENTATION	SITE	
8.55 m A.O.D.	VERTICAL	DOCKSWAY, NEWPORT Opposite houses No.77 and 79 on main road in NE corner of site	PAGE 1 OF 4

NGR. 3108 8654

WATER LEVEL	DEPTH metres b.g.l.	LOG	STRATA DESCRIPTION	SAMPLE / TEST TYPE	No.	REMARKS
	0.00		MADEGROUND: Brick and concrete rubble with coal remains in a soil and ash matrix.	B.S	1	
	1.00			S.P.T	2	6,9,5, 4,5 N = 23 Min N = 16
	1.25		Marl in the fill (in the base of the SPT sampler)			
	1.50			B.S	3	
	2.00			S.P.T	4	1,2,2, 2,2 N = 8 = Min N
	2.40		Firm to stiff, grey silty CLAY with brown mottling	B.S	5	
	3.00			S.P.T	6	5,2,1, 3,2 N = 8 Min N = 4
	3.60			B.S	7	
	4.00		Soft to firm slightly silty CLAY, [illegible] mottled brown with the traces of grass stems (unaligned) through the clay	U.D	8	60 Blows
	4.50			B.S	9	
	4.60		Layers of PEAT in clay with peat intersperced through the clay Brown dry friable decomposed PEAT	B.S	10	
	5.00					

KEY
B.S = Bulk Sample
U.D = Undisturbed Sample
S.P.T = Std. Penetration Test

REMARKS

LOGGED BY	SCALE
T.J. LUXON	1.25

WARDELL ARMSTRONG

CLIENT: LONGCROFT ESTATES LIMITED

JOB No. W3202

CONTRACTOR	DATE OF DRILLING	DRILLING METHOD	BOREHOLE No. 2 ST38NW 116
GROUND LEVEL	ORIENTATION	SITE	PAGE 2 OF 4

WATER LEVEL	DEPTH metres b.g.l.	LOG	STRATA DESCRIPTION	SAMPLE / TEST TYPE	No.	REMARKS
	5·00		Soft to firm grey silty CLAY	U.D	11	43 Blows
			PEAT layer - Soft, friable, brown Peat	B.S	12	
	5·50		Peat and clay	B.S (5·5 - 6·0m)	13	
	6·00		Peat	U.D	14	31 Blows
	6·20		Soft to firm blue-grey silty CLAY with peat, grass stems intersperced through-out clay. Odourous	B.S	15	
	6·50			B.S (6·5 - 7·5m)	16	
	7·00					
	7·50		Soft blue grey clayey SILT	U.D	17	26 Blows
	8·00		Very soft clayey SILT (Note; tool sunk in soft silt)	B.S (8 - 10m)	18	
	9·00					
	10·00					

KEY

As Page 1

REMARKS

LOGGED BY	SCALE
T.J. LUXON	1.25

WARDELL ARMSTRONG	CLIENT	JOB No.
	LONGCROFT ESTATES LIMITED	W3202

CONTRACTOR	DATE OF DRILLING	DRILLING METHOD	BOREHOLE No. 2 ST 38 NW 116
GROUND LEVEL	ORIENTATION	SITE	PAGE 3 OF 4

WATER LEVEL	DEPTH metres b.g.l.	LOG	STRATA DESCRIPTION	SAMPLE / TEST TYPE	No.	REMARKS
	10·00		Very soft, blue-grey, clayey SILT	U.D	19	
	10·50			B.S	20	10 - 10.50m
	11·00			B.S (11 - 11·5)	21	
	11·50					
	11·80		Red brown, medium to coarse grained GRAVEL with angular lumps of marl and fine to medium sand	B.S (11·8 - 12·2)	22	
	12·00					
	12·20		Fine, medium and coarse grained SAND with some fine grained gravel	S.P.T	23	20,14, 18, 10 9 N = 51 Min N = 36
	12·60					
	12·70			(12·6-13·0) B.S	24	
	13·00		Compact-dense coarse GRAVEL with traces of red/brown marl, sand and a few cobbles	S.P.T	25	17,17 18,13 14 N = 62 Min N = 56
	13·50				26	Water Sample (Stand[illegible])
	14·00			B.S (13 50 - 14·40)	27	
	14·40			S.P.T	28	11,3,3, 4,7, N = 17 Min N = 12
	14·75		Red brown stiff MARL fragments, with mixed sand and gravel			
	14·90					
	15·00					

KEY

As Page 1

REMARKS

Standing water level (overnight) ie on 17.11.87 at 5m below ground level (A sample of this taken)

LOGGED BY T.J LUXON

SCALE 1.25

WARDELL ARMSTRONG

CLIENT LONGCROFT ESTATES LIMITED

JOB No. W3202

CONTRACTOR	DATE OF DRILLING	DRILLING METHOD	BOREHOLE No.
			2 ST38NW/116
GROUND LEVEL	ORIENTATION	SITE	PAGE 4 OF 4

WATER LEVEL	DEPTH metres b.g.l.	LOG	STRATA DESCRIPTION	SAMPLE / TEST TYPE	No.	REMARKS
	15.00		Mixed SAND and GRAVEL with some fragments of marl	B.S (15 - 15.7)	29	
	15.50		Fine to medium grained red brown SAND very compact	S.P.T	30	50 Blows for 50mm
	15.80		END OF HOLE at 15.80m			

KEY

As Page 1

REMARKS

LOGGED BY T.J. LUXON

SCALE 1.25

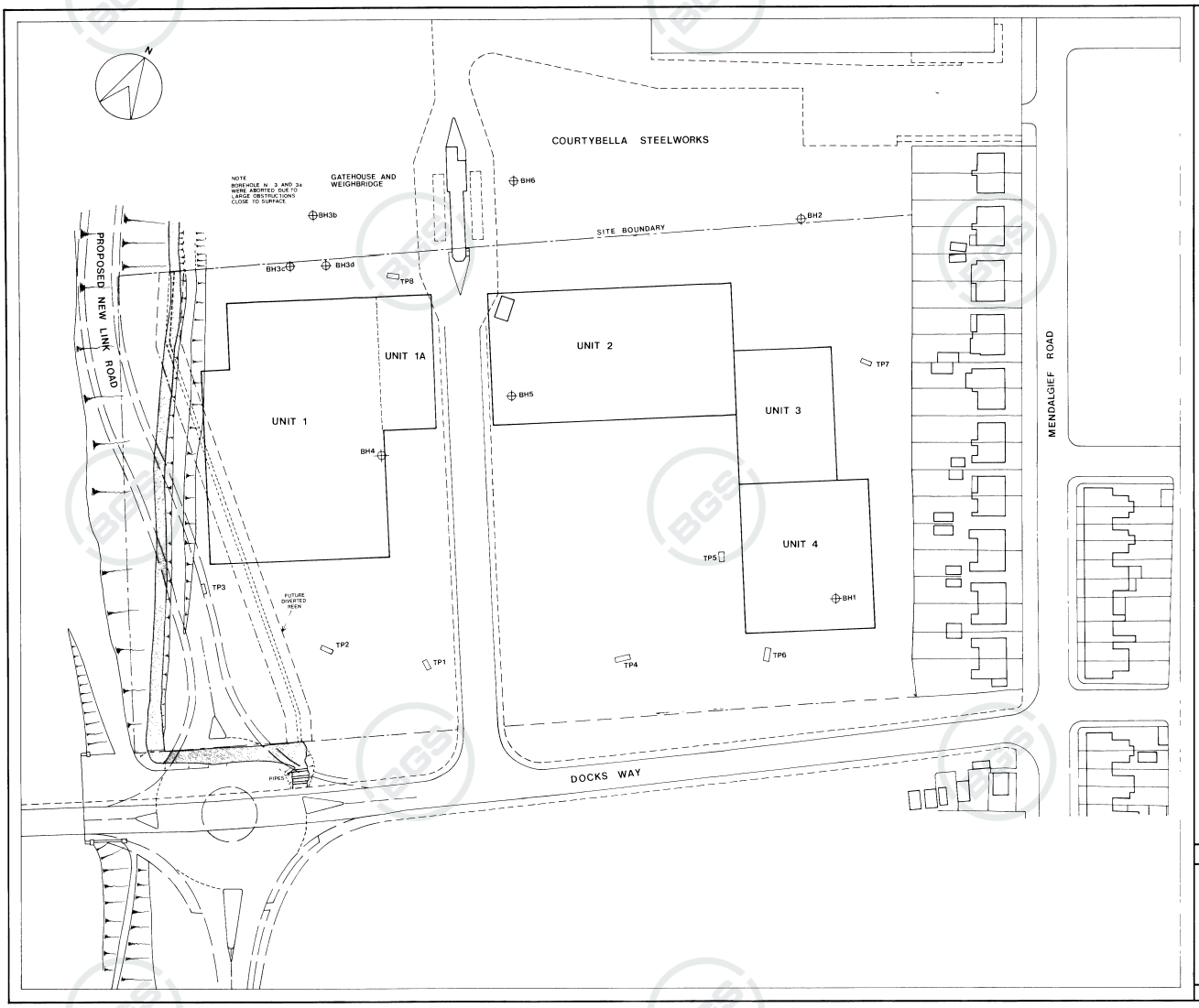
WARDELL ARMSTRONG

CLIENT LONGCROFT ESTATES LIMITED

JOB No. W3202

BGS ID: 385193 : BGS Reference: ST38NW122
British National Grid (27700) : 331008,186503

ST38NW/115-122.



LONGCROFT ESTATES LIMITED
PROPOSED RETAIL DEVELOPMENT,
DOCKS WAY, NEWPORT

Proposed Site layout with Borehole and Trial Pit locations

REFERENCE

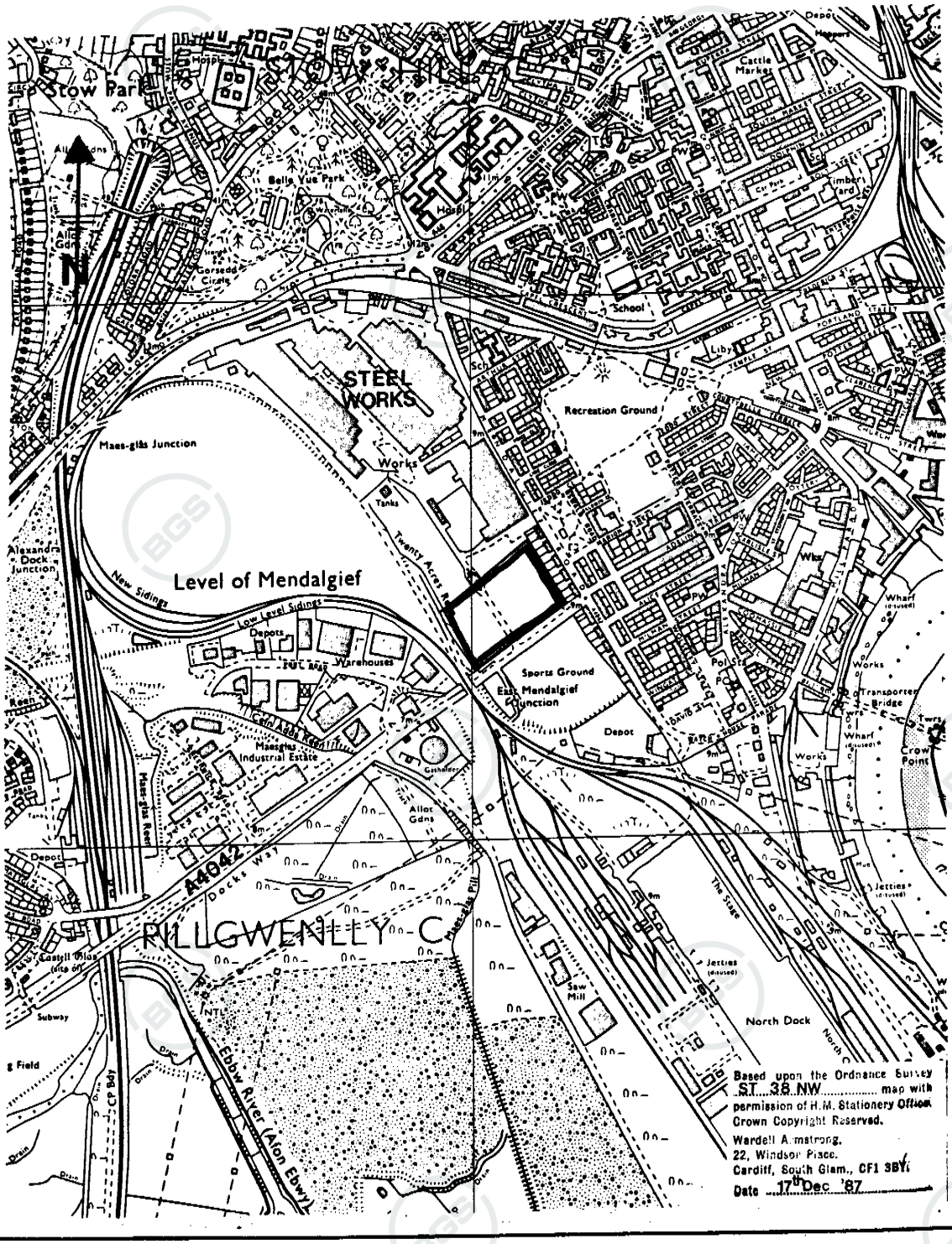
Site Boundary	edged blue
Proposed location of retail units	edged yellow
Borehole locations	⊕
Trial Pit locations	▭
Line of 20 Acres Reen shown	

DRG No 7 W3202	SCALE 1 500

WARDELL ARMSTRONG
22 WINDSOR PLACE CARDIFF
SOUTH GLAMORGAN CF1 3BY
Telephone 0222 382465

DECEMBER 1987

ST 38 NW/115 – 122



LONGCROFT ESTATES LIMITED,

PROPOSED RETAIL DEVELOPMENT, DOCKS WAY, NEWPORT.

Site Location Plan

REFERENCE

Site Area.....edged blue

WARDELL ARMSTRONG	DRG. No 1/W3202	SCALE:-1:10,000

UDOG1360

OSN20

CONTRACTOR	DATE OF DRILLING	DRILLING METHOD	BOREHOLE No.
RITCHIES EQUIPMENT	20-11-87 to 23-11-87	SHELL AND AUGER	6 ST 38 NW 122

GROUND LEVEL	ORIENTATION	SITE	
8.49 m A.O.D.	VERTICAL	DOCKSWAY, NEWPORT Adjacent to Security hutiinside fence (near weighbridge) on east side NGR. 3101 8651	PAGE 1 OF 4

WATER LEVEL	DEPTH metres b.g.l.	LOG	STRATA DESCRIPTION	SAMPLE / TEST TYPE	No.	REMARKS
	0.00		MADEGROUND : Rubble, coal fragments, sand, soil, brick, marl lumps	B.S (0.0-1.2)	1	
	1.00					
	1.20			S.P.T	2	3,3,3,4 5 N = 15 Min N = 12
	1.70					
STANDING	1.80		MADEGROUND: Rubble, mottled marl lumps black ash	B.S (1.7-2.0)	3	
	2.00					
	2.15		Firm to stiff grey silty CLAY with some ash in top layers of clay and brown mottling	U.D	4	50 Blows
	2.50			B.S	5	
			Firm to stiff, grey and brown silty CLAY	B.S (2.5-3.0)	6	
	3.00			U.D	7	50 Blows
	3.50			B.S	8	
				B.S (3.50-4.50)	9	
	4.00		Soft to firm grey with black streaks, silty CLAY with traces of peat			
	4.50			U.D	10	36 Blows
STRUCK	5.00			B.S	11	

KEY
B.S - Bulk Sample
U.D - Undisturbed Sample
S.P.T - Std. Penetration Test

REMARKS

LOGGED BY T.J.LUXON | SCALE 1:25

WARDELL ARMSTRONG | CLIENT LONGCROFT ESTATES LIMITED | JOB No. W3202

CONTRACTOR	DATE OF DRILLING	DRILLING METHOD	BOREHOLE No. 6 ST38NW 122
GROUND LEVEL	ORIENTATION	SITE	PAGE 2 OF 4

WATER LEVEL	DEPTH metres b.g.l.	LOG	STRATA DESCRIPTION	SAMPLE / TEST TYPE	No.	REMARKS
	5·00					
	5·50		Soft blue/grey silty CLAY with traces of peat	B.S (5·5-5·8)	12	
	5·80		Peat	B.S (5·8-6·1)	13	
	6·00					
	6·10			U.D	14	50 Blows
	6·70		Soft to firm grey silty CLAY with traces of peat, becoming softer with depth	B.S	15	
	7·00		(Soft)	B.S (7-7·5)	16	
	7·50			U.D	17	20 Blows
	8·00			B.S	18	
	8·10					
	9·00		Very soft grey sandy clayey SILT with traces of peat	B.S (9-9·7)	19	
	9·70		(No peat)	U.D	20	10 Blows
	10·00					

KEY: See Page 1

REMARKS: (5 - 12.5m Drillers log only)

LOGGED BY

SCALE

WARDELL ARMSTRONG

CLIENT: LONGCROFT ESTATES LIMITED

JOB No. W3202

CONTRACTOR	DATE OF DRILLING	DRILLING METHOD	BOREHOLE No. 6 (ST38NW 122)
GROUND LEVEL	ORIENTATION	SITE	PAGE 3 OF 4

WATER LEVEL	DEPTH metres b.g.l.	LOG	STRATA DESCRIPTION	SAMPLE / TEST TYPE	No.	REMARKS
	10·00		Very soft, grey sandy clayey SILT.	U.D cont		
	10·50		Slightly decomposed, brown wood PEAT.	B.S (10·5-10·9)	21	
	10·90					
	11·00		Firm, grey, silty, sandy CLAY with peat deposit.	U.D (11m)	22	45 Blows
	11·25			B.S	23	
	11·50		Firm, grey, silty CLAY, mixed with sand, gravel and sandy marl fragments.	B.S (11·5-12)	24	
	12·00			S.P.T	25	4,8,8, 10, 10 N = 36 Min N = 32
	12·50		Medium to densely pacted, red/ brown medium and coarse grained SAND with fine to medium grained gravel and some red/brown silt.	B.S (12·5-13)	26	
	13·00			S.P.T	27	4,4,7, 13,8 N = 32 Min N = 16
	13·50					
	14·00			B.S (13·5-14·4)	28	
	14·40		Compact red/brown, fine to medium grained SAND with some silt.	S.P.T	29	4,2,3, 6,14 N = 25 Min N = 8
	15·00					

KEY: See Page 1

REMARKS:

LOGGED BY:

SCALE: 1:25

WARDELL ARMSTRONG

CLIENT: LONGCROFT ESTATES LIMITED

JOB No.: W3202

CONTRACTOR	DATE OF DRILLING	DRILLING METHOD	BOREHOLE No. 6 ST38 NW 122
GROUND LEVEL / ORIENTATION	SITE		PAGE 4 OF 4

WATER LEVEL	DEPTH metres b.g.l.	LOG	STRATA DESCRIPTION	SAMPLE / TEST TYPE	No.	REMARKS
	15·00		Densely packed red brown medium grained SAND with some gravel with a few cobbles	B.S	30	
	15·60			S.P.T	31	15,6,6 15,15 N = 42 Min N = 24
	16·00		Angular fragments of red brown MARL			
	16·10		Within sand			
	16·20		Stiff red brown MARL in angular fragment with green/grey spotting. Silt between fragments	B.S	32	
	16·60		Stiff red brown fissured MARL with grey/ green spotting (Not very weathered)	U.D	33	120 Blows
	17·00			B.S	34	
				S.P.T (17m)	35	22,10, 14,16, 18 N = 58 Min N = 40
	17·50		END OF HOLE AT 17.50m			

KEY	REMARKS
As Page 1	
LOGGED BY / SCALE	
WARDELL ARMSTRONG	CLIENT: LONGCROFT ESTATES LIMITED / JOB No. W3202

Appendix G Welsh Water Pre-Planning Enquiry Response

Dŵr Cymru
Welsh Water

Developer Services
PO Box 3146
Cardiff
CF30 0EH

Tel: +44 (0)800 917 2652
Fax: +44 (0)2920 740472
E.mail: developer.services@dwrcymru.com

Gwasanaethau Datblygu
Blwch Post 3146
Caerdydd
CF30 0EH

Ffôn: +44 (0)800 917 2652
Ffacs: +44 (0)2920 740472
E.bost: developer.services@dwrcymru.com

Mr Sam Smickersgill
JPG Leeds
5 John Charles Way
Leeds
West Yorkshire
LS12 6QA

Date: 25/06/2024
Our Ref: PPA0008778

Dear Mr Smickersgill,

Grid Ref: 330924 186932
Site Address: Mendalgief Road, Newport
Development: Proposed Carehome Development

I refer to your pre-planning enquiry received relating to the above site, seeking our views on the capacity of our network of assets and infrastructure to accommodate your proposed development. Having reviewed the details submitted I can provide the following comments which should be taken into account within any future planning application for the development.

APPRAISAL

Firstly, we note that the proposal relates to Proposed 66 bed care home at Mendalgief Road, Newport and acknowledge that the site is allocated Ref: H1(51) within the Local Development Plan (LDP). In reference to our representations during the LDP consultation process, we can confirm that an assessment has been undertaken of the public sewerage and watermains systems to accommodate 560 units for the development site as a whole and informs our appraisal as follows.

Please note, however, this proposal comprises an increase to the allocation and the following assessment takes account of an additional 35 units.

PUBLIC SEWERAGE NETWORK

The proposed development site is located in the immediate vicinity of a predominantly combined public sewerage system which drains to Nash Wastewater Treatment Works (WwTW) via Pill South Sewerage Pumping Station (SPS).

You are also advised that some public sewers and lateral drains may not be recorded on our maps of public sewers because they were originally privately owned and were transferred into public ownership by nature of the Water Industry (Schemes for Adoption of Private Sewers) Regulations 2011. The presence of such assets may affect the proposal. In order to assist you may contact Dwr Cymru Welsh Water on 0800 085 3968 to establish the location and status of the apparatus in and around your site. Please be mindful that under the Water Industry Act 1991 Dwr Cymru Welsh Water has rights of access to its apparatus at all times.

SURFACE WATER DRAINAGE

As of 7th January 2019, this proposed development is subject to Schedule 3 of the Flood and Water Management Act 2010. The development therefore requires approval of Sustainable Drainage Systems (SuDS) features, in accordance with the 'Statutory standards for sustainable drainage systems – designing, constructing, operating and maintaining surface water drainage systems'. As highlighted in these standards, the developer is required to explore and fully exhaust all surface water drainage options in accordance with a hierarchy which states that discharge to a combined sewer shall only be made as a last resort. Disposal should be made through the hierarchical approach, preferring infiltration and, where infiltration is not possible, disposal to a surface water drainage body in liaison with the Land Drainage Authority and/or Natural Resources Wales.

It is therefore recommended that the developer consult with Newport Council, as the determining SuDS Approval Body (SAB), in relation to their proposals for SuDS features. Please note, DCWW is a statutory consultee to the SAB application process and will provide comments to any SuDS proposals by response to SAB consultation. Please refer to further detailed advice relating to surface water management included in our attached Advice & Guidance note and our Developer Services website at https://developers.dwrcymru.com/en/help-advice/regulation-to-be-aware-of/sustainable-drainage-systems.

In addition, please note that no highway or land drainage run-off will be permitted to discharge directly or indirectly into the public sewerage system.

FOUL WATER DRAINAGE – SEWERAGE NETWORK

We have considered the impact of foul flows generated by the proposed development and concluded that flows can be accommodated within the public sewerage system which is consistent with our representations to the forward planning consultation process. We advise that the flows should be connected to the combined sewer at or downstream of manhole ST31860902 located in Belleview Terrace to the east.

Should a planning application be submitted for this development we will seek to control these points of communication via appropriate planning conditions and therefore recommend that any drainage layout or strategy submitted as part of your application takes this into account. However, should you wish for an alternative connection point to be considered please provide further information to us in the form of a drainage strategy, preferably in advance of a planning application being submitted.

You may need to apply to Dwr Cymru Welsh Water for any connection to the public sewer under Section 106 of the Water industry Act 1991. However, if the connection to the public sewer network is either via a lateral drain (i.e. a drain which extends beyond the connecting property boundary) or via a new sewer (i.e. serves more than one property), it is now a mandatory requirement to first enter into a Section 104 Adoption Agreement (Water Industry Act 1991). The design of the sewers and lateral drains must also conform to the Welsh Ministers Standards for Foul Sewers and Lateral Drains, and conform with the publication "Sewers for Adoption"- 7th Edition. Further information can be obtained via the Developer Services pages of www.dwrcymru.com.

FOUL WATER DRAINAGE – SEWAGE TREATMENT

No problems are envisaged with the Waste Water Treatment Works for the treatment of domestic discharges from this site.

POTABLE WATER SUPPLY

We anticipate this development will require the installation of a new single water connection to serve the new premise. The provisions of Section 45 of the Water industry Act 1991 apply. We therefore rely on the Local Planning Authority to control the delivery of any required reinforcement or offsite works by way of planning condition at planning application stage.

The water supply system in the immediate vicinity has insufficient capacity to serve the development and will also cause detriment to existing customers' water supply. A hydraulic modelling assessment is required to establish the scope of any reinforcement works to be completed in advance of making the connection. As part of the formal planning consultation process, we will seek to ensure that the assessment (and any associated reinforcement works) is completed in advance of the determination of the application or controlled by way of planning condition.

I trust the above information is helpful and will assist you in forming water and drainage strategies that should accompany any future planning application. I also attach copies of our water and sewer extract plans for the area, and a copy of our Planning Guidance Note which provides further information on our approach to the planning process, making connections to our systems and ensuring any existing public assets or infrastructure located within new development sites are protected.

Please note that our response is based on the information provided in your enquiry and should the information change we reserve the right to make a new representation. Should you have any queries or wish to discuss any aspect of our response please do not hesitate to contact our dedicated team of planning officers, either on 0800 917 2652 or via email at **developer.services@dwrcymru.com**

Please quote our reference number in all communications and correspondence.

Yours faithfully,

Owain George
Planning Liaison Manager
Developer Services

<u>Please Note</u> that demands upon the water and sewerage systems change continually; consequently the information given above should be regarded as reliable for a maximum period of 12 months from the date of this letter.

Appendix H Proposed Impermeable Area Plan

DO NOT SCALE (A1)

NOTES

GENERAL NOTES

1. ALL MATERIALS AND WORKMANSHIP IS TO COMPLY WITH JPG CONSULTANTS STANDARD SPECIFICATION & ALL RELEVANT BRITISH & EUROPEAN STANDARDS.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, M & E CONSULTANTS AND JPG CONSULTANTS DRAWINGS.
3. ANY DISCREPANCIES SHOULD BE REPORTED TO THE ENGINEER IMMEDIATELY SO THAT CLARIFICATION CAN BE SOUGHT PRIOR TO COMMENCEMENT OF WORKS.

LEGEND

DENOTES PROPOSED BUILDINGS

DENOTES PROPOSED EXTERNALS

IMPERMEABLE AREAS

BUILDINGS = 1119.162m²/0.112Ha
EXTERNALS = 1262.215m²/0.126Ha

TOTAL = 2381.377m²/0.238Ha

TOTAL SITE SURFACE WATER RUN OFF

VOLUME RUN OFF (Cv)	0.750
ROUTING COEFFICIENT (Cr)	1.300
AVERAGE RAINFALL (I) IN mm/hr	50.000
AREA IN HECTARES (A)	0.238
FLOW RATE (Q) = 2.78 x Cv x Cr x I x A	**32.255l/s**

Rough Flow Rate Calc = Area in Hectares x (140 for 50mm/hr) / (210 for 75mm/hr)

0m 6.25m 12.5m

SCALE 1:250

224.789
0.022Ha
3.046l/s

213.581
0.021Ha
2.895l/s

137.412
0.014Ha
1.862l/s

132.007
0.013Ha
1.789l/s

407.294
0.041Ha
5.520l/s

200.067
0.020Ha
2.711l/s

212.065
0.021Ha
2.874l/s

854.921
0.085Ha
11.586l/s

IMPERMEABLE AREA PLAN

SCALE 1:250

REV	DESCRIPTION	DATE	CHK	BY
P02	UPDATED TO SUIT NEW ARRANGEMENT	13.05.25		SMS
P01	FIRST ISSUE	31.07.24	JDM	SMS

Project
MANDALGIEF ROAD
NEWPORT

Drawing Title
IMPERMEABLE AREA PLAN

INFORMATION

JPG
www.jpg.group
E admin@jpg.group | T +44 (0)113 263 1155

6375-JPG-ZZ-ZZ-DR-D-1450 | S2 | **P02**

Appendix I Surface Water Drainage Strategy

DO NOT SCALE (A1)

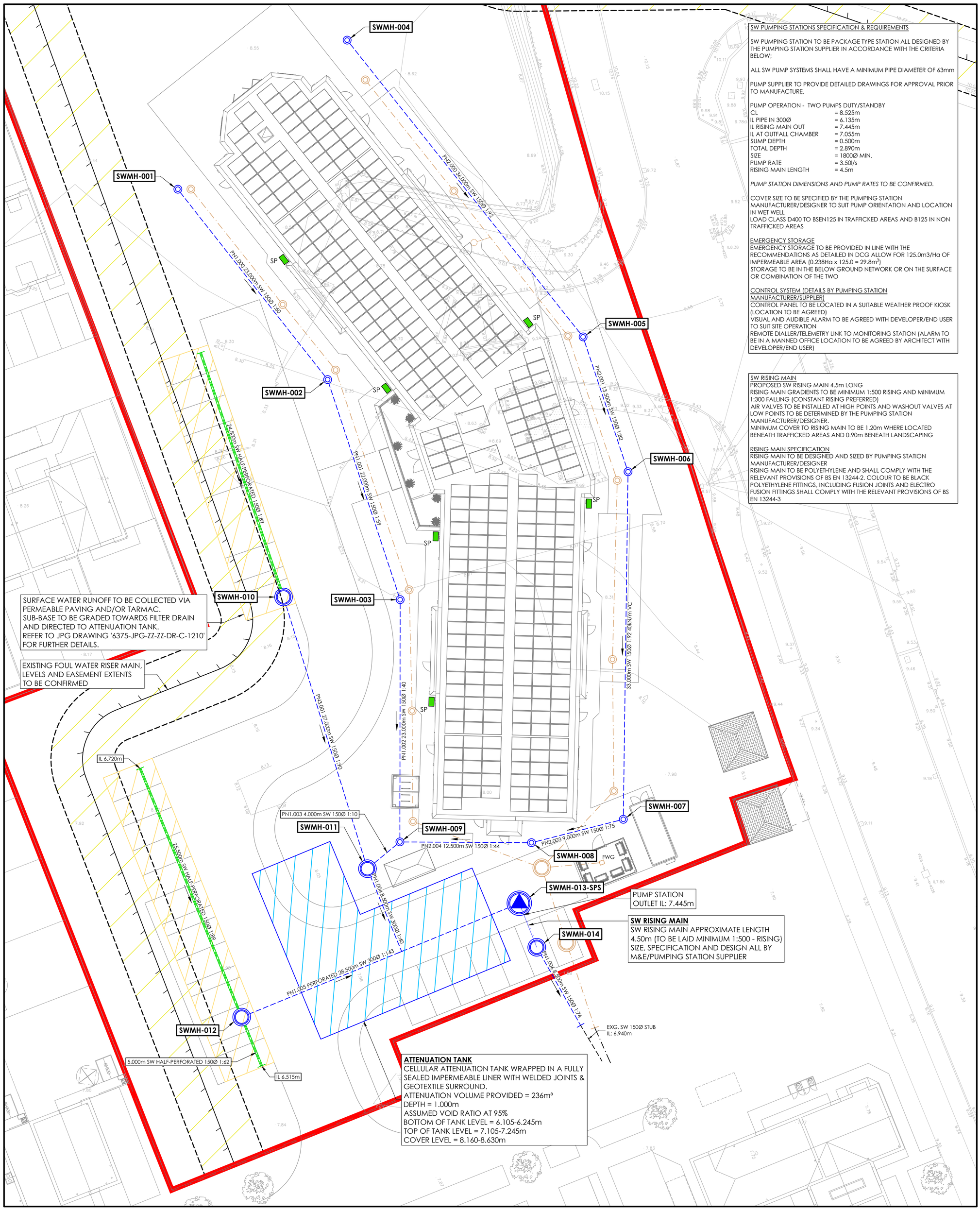
NOTES

GENERAL NOTES

1. ALL MATERIALS AND WORKMANSHIP IS TO COMPLY WITH JPG CONSULTANTS STANDARD SPECIFICATION & ALL RELEVANT BRITISH & EUROPEAN STANDARDS.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, M & E CONSULTANTS AND JPG CONSULTANTS DRAWINGS.
3. ANY DISCREPANCIES SHOULD BE REPORTED TO THE ENGINEER IMMEDIATELY SO THAT CLARIFICATION CAN BE SOUGHT PRIOR TO COMMENCEMENT OF WORKS.

DRAINAGE NOTES

1. ALL BUILDING DRAINAGE WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH BS EN 752:2008 DRAINAGE AND SEWER SYSTEMS OUTSIDE BUILDINGS, THE CURRENT BUILDING REGULATIONS AND THE LOCAL AUTHORITY BUILDING CONTROL SPECIFICATIONS AND REQUIREMENTS.
2. ANY DRAINAGE TO BE PUT FORWARD FOR ADOPTION EITHER WITHIN THE SITE OR OUTSIDE SHALL BE CONSTRUCTED TO SEWERS FOR ADOPTION LATEST EDITION AND ANY SPECIFIC REQUIREMENTS OF THE ADOPTING SEWERAGE/WATER AUTHORITY.
3. THE LOCATION, SIZE AND DEPTH OF ALL EXISTING DRAINS/SEWERS AND SERVICES SHALL BE ESTABLISHED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORKS ON SITE. ANY DISCREPANCIES FROM THE INFORMATION INDICATED ON THESE DRAWINGS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
4. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER SHOULD ANY EXISTING LIVE DRAINAGE BE FOUND WITHIN THE SITE BOUNDARY SERVING ADJACENT PROPERTIES.
5. ALL EXISTING DRAINAGE WITHIN THE SITE NOT REQUIRED FOR THE NEW DEVELOPMENT SHALL BE ABANDONED. DRAINS AND SEWERS LESS THAN 1.500m DEEP WHICH ARE IN OPEN GROUND SHOULD AS FAR AS IS PRACTICABLE BE FULLY REMOVED ALL OTHER PIPES SHOULD BE SEALED AT BOTH ENDS AND AT ANY POINT OF CONNECTION, AND BE GROUT FILLED TO ENSURE THAT RATS CANNOT GAIN ACCESS. LARGER PIPES 225Ø OR ABOVE SHOULD BE GROUT FILLED TO PREVENT SUBSIDENCE OR DAMAGE TO BUILDINGS OR SERVICES IN THE EVENT OF COLLAPSE.
6. THE CONTRACTOR SHALL ALLOW FOR THE PROTECTION, TEMPORARY AND PERMANENT SUPPORT AND DIVERSION WORKS AS NECESSARY, TO ALL EXISTING SERVICES TO THE SATISFACTION OF THE UTILITY COMPANIES.
7. THE CONTRACTOR SHALL ALLOW FOR DEALING WITH SURFACE WATER RUN OFF INTO EXCAVATIONS AND FROM GROUNDWATER BY MEANS OF SUMPS, PUMPING AND DE WATERING AS APPROPRIATE, IN ORDER TO KEEP THE EXCAVATION AS REASONABLY DRY AS POSSIBLE DURING THE CONSTRUCTION OF THE WORKS.
8. THE CONTRACTOR SHALL TAKE ALL NECESSARY SAFETY PRECAUTIONS IN LINE WITH CURRENT LEGISLATION WHEN WORKING IN/NEAR CONFINED SPACES, DEEP EXCAVATIONS AND MACHINERY.
9. THE CONTRACTOR SHALL ALLOW FOR OBTAINING ALL APPROVALS FROM THE RELEVANT AUTHORITIES WHEN WORKING IN THE PUBLIC HIGHWAY AND ON THE SEWERAGE SYSTEM.
10. THE CONTRACTOR SHALL SUITABLY PROTECT PEDESTRIANS AND VEHICLES FROM WORKING AREAS.
11. ALL MANHOLE/CHAMBER COVER LEVELS ARE APPROXIMATE AND SHALL BE ADJUSTED ON SITE TO SUIT THE PROPOSED FINISHED LEVELS.
12. ALL PIPES SHALL BE LAID WITH LEVEL SOFFITS AND ALL MANHOLE/INSPECTION CHAMBER INVERT LEVELS SHOWN ARE FOR THE OUT GOING PIPE UNO. ON THE DRAWING (NOTE THAT ALL PIPE GRADIENTS INDICATED ON THE DRAWING ARE APPROXIMATE ONLY).
13. ALL PIPE CONNECTION FROM DRAINAGE CHANNELS AND GULLIES SHALL BE 150Ø PIPES AT A MINIMUM GRADIENT OF 1:100 WITH CLASS Z BEDDING UNO. ON THE DRAWING.
14. ALL PIPE CONNECTIONS FROM RWP'S TO BE 100Ø AT 1:60 MIN. AND ALL PIPE CONNECTIONS FROM WPC'S TO FIRST CHAMBER SHALL BE 100Ø AT 1:40 MIN. WITH CLASS S BEDDING BENEATH THE BUILDING AND CLASS Z UNDER EXTERNALS WHERE COVER IS LESS THAN 1.20m UNO. ON THE DRAWING (LOCATION OF RWP'S AND WPC'S TO BE CONFIRMED BY THE ARCHITECT AND ARE SHOWN INDICATIVELY ONLY).
15. ALL SYPHONIC RWP SYSTEMS TO BE DESIGNED BY OTHERS. PIPEWORK FROM DOWN PIPE TO FIRST MANHOLE TO BE SIZED/ DESIGNED BY SYPHONIC SYSTEM DESIGNER. THE FIRST MANHOLE TO HAVE AN OPEN GRATE COVER SAINT GOBAIN WATERWAY 2000 - D400 OR SIMILAR APPROVED.
16. SUITABLY SIZED PETROL INTERCEPTORS MUST COMPLY WITH THE REQUIREMENTS OUTLINE IN PPG3 THESE INCLUDE SILT STORAGE CAPACITY AND HIGH LEVEL HYDROCARBON ALARM WIRED BACK TO A MANNED OFFICE.
17. UPON COMPLETION OF THE DRAINAGE WORKS THE CONTRACTOR SHALL CLEAN ALL DRAIN RUNS BY JETTING AND REMOVE ALL DEBRIS FROM SITE. NO DEBRIS SHALL BE PERMITTED TO ENTER THE PUBLIC SEWER AND/OR WATERCOURSE SYSTEM. ONCE THE DRAINAGE SYSTEM HAS BEEN FULLY CLEANED OUT A CCTV CAMERA CONDITION SURVEY SHALL BE UNDERTAKEN TO ALL CONSTRUCTED DRAINAGE AND SEWER PIPES WITH THE FOOTAGE ISSUED TO THE ENGINEER FOR VIEW. THE AS BUILT INVERT AND COVER LEVELS SHALL BE RECORDED BY THE CONTRACTOR AND PASSED ON TO THE ENGINEER FOR REVIEW.



SW PUMPING STATIONS SPECIFICATION & REQUIREMENTS

SW PUMPING STATION TO BE PACKAGE TYPE STATION ALL DESIGNED BY THE PUMPING STATION SUPPLIER IN ACCORDANCE WITH THE CRITERIA BELOW;

ALL SW PUMP SYSTEMS SHALL HAVE A MINIMUM PIPE DIAMETER OF 63mm

PUMP SUPPLIER TO PROVIDE DETAILED DRAWINGS FOR APPROVAL PRIOR TO MANUFACTURE.

PUMP OPERATION - TWO PUMPS DUTY/STANDBY

CL	= 8.525m
IL PIPE IN 300Ø	= 6.135m
IL RISING MAIN OUT	= 7.445m
IL AT OUTFALL CHAMBER	= 7.055m
SUMP DEPTH	= 0.500m
TOTAL DEPTH	= 2.890m
SIZE	= 1800Ø MIN.
PUMP RATE	= 3.50l/s
RISING MAIN LENGTH	= 4.5m

PUMP STATION DIMENSIONS AND PUMP RATES TO BE CONFIRMED.

COVER SIZE TO BE SPECIFIED BY THE PUMPING STATION MANUFACTURER/DESIGNER TO SUIT PUMP ORIENTATION AND LOCATION IN WET WELL
LOAD CLASS D400 TO BSEN125 IN TRAFFICKED AREAS AND B125 IN NON TRAFFICKED AREAS

EMERGENCY STORAGE
EMERGENCY STORAGE TO BE PROVIDED IN LINE WITH THE RECOMMENDATIONS AS DETAILED IN DCG ALLOW FOR 125.0m3/Ha OF IMPERMEABLE AREA (0.238Ha x 125.0 = 29.8m³)
STORAGE TO BE IN THE BELOW GROUND NETWORK OR ON THE SURFACE OR COMBINATION OF THE TWO

CONTROL SYSTEM (DETAILS BY PUMPING STATION MANUFACTURER/SUPPLER)
CONTROL PANEL TO BE LOCATED IN A SUITABLE WEATHER PROOF KIOSK (LOCATION TO BE AGREED)
VISUAL AND AUDIBLE ALARM TO BE AGREED WITH DEVELOPER/END USER TO SUIT SITE OPERATION
REMOTE DIALLER/TELEMETRY LINK TO MONITORING STATION (ALARM TO BE IN A MANNED OFFICE LOCATION TO BE AGREED BY ARCHITECT WITH DEVELOPER/END USER)

SW RISING MAIN
PROPOSED SW RISING MAIN 4.5m LONG
RISING MAIN GRADIENTS TO BE MINIMUM 1:500 RISING AND MINIMUM 1:300 FALLING (CONSTANT RISING PREFERRED)
AIR VALVES TO BE INSTALLED AT HIGH POINTS AND WASHOUT VALVES AT LOW POINTS TO BE DETERMINED BY THE PUMPING STATION MANUFACTURER/DESIGNER.
MINIMUM COVER TO RISING MAIN TO BE 1.20m WHERE LOCATED BENEATH TRAFFICKED AREAS AND 0.90m BENEATH LANDSCAPING

RISING MAIN SPECIFICATION
RISING MAIN TO BE DESIGNED AND SIZED BY PUMPING STATION MANUFACTURER/DESIGNER
RISING MAIN TO BE POLYETHYLENE AND SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS EN 13244-2. COLOUR TO BE BLACK POLYETHYLENE FITTINGS, INCLUDING FUSION JOINTS AND ELECTRO FUSION FITTINGS SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS EN 13244-3

LEGEND

- PROPOSED SURFACE WATER PIPE
- PROPOSED SURFACE WATER MANHOLE
- PROPOSED HALF-PERFORATED SURFACE WATER PIPE
- PROPOSED FOUL WATER PIPE
- PROPOSED FOUL WATER MANHOLE
- RWP PROPOSED RAINWATER PIPE
- SP PROPOSED SUDS PODS RAINWATER HARVESTING UNITS OR SIMILAR (LOCATION TBC BY ARCHITECT)

NOTE
RAIN WATER PIPE LOCATIONS TO BE CONFIRMED BY OTHERS

NOTE
PERMEABLE TARMAC DESIGN BY OTHERS

0m 5m 10m
SCALE 1:200

SURFACE WATER DRAINAGE STRATEGY

SCALE 1:200

SURFACE WATER MANHOLE SCHEDULE

REF.	COVER LEVEL	INVERT LEVEL	SUMP DEPTH	DEPTH	EASTING	NORTHING	DIAMETER	TYPE	COVER	NOTES
001	8.722m	8.258m - 150Ø OUT	0.300m	0.764m	330900.229	186960.961	450Ø	PPIC	450x450 - CLASS B125	CATCHPIT
002	8.701m	7.875m - 150Ø IN 7.875m - 150Ø OUT	0.300m	1.126m	330914.459	186942.891	450Ø	PPIC	300x300 - CLASS B125	CATCHPIT
003	8.559m	7.505m - 150Ø IN 7.505m - 150Ø OUT	0.300m	1.354m	330921.348	186921.998	450Ø	PPIC	300x300 - CLASS B125	CATCHPIT
004	8.714m	8.250m - 150Ø OUT	0.300m	0.764m	330916.313	186975.122	450Ø	PPIC	450x450 - CLASS B125	CATCHPIT
005	8.709m	7.860m - 150Ø IN 7.860m - 150Ø OUT	0.300m	1.149m	330938.722	186946.948	450Ø	PPIC	450x450 - CLASS B125	CATCHPIT
006	8.709m	7.695m - 150Ø IN 7.695m - 150Ø OUT	0.300m	1.314m	330942.992	186934.140	450Ø	PPIC	300x300 - CLASS B125	CATCHPIT
007	8.843m	7.335m - 150Ø IN 7.335m - 150Ø OUT	0.300m	1.808m	330942.542	186901.144	450Ø	PPIC	300x300 - CLASS B125	CATCHPIT
008	8.734m	7.215m - 150Ø IN 7.215m - 150Ø OUT	0.300m	1.819m	330933.820	186898.923	450Ø	PPIC	300x300 - CLASS B125	CATCHPIT
009	8.654m	6.930m - 150Ø IN 6.930m - 150Ø IN 6.930m - 150Ø OUT	0.300m	2.024m	330921.320	186898.998	450Ø	PPIC	300x300 - CLASS B125	CATCHPIT
010	8.005m	6.830m - 150Ø IN 6.830m - 150Ø OUT	0.500m	1.675m	330910.274	186922.249	1200Ø	TYPE E	600x600 - CLASS D400	CATCHPIT
011	8.524m	6.530m - 150Ø IN 6.530m - 150Ø IN 6.380m - 300Ø OUT	0.500m	2.644m	330918.237	186896.450	1200Ø	TYPE B	600x600 - CLASS B125	CATCHPIT
012	7.912m	6.435m - 150Ø IN 6.435m - 150Ø IN 6.285m - 300Ø OUT	0.500m	2.127m	330906.292	186882.367	1200Ø	TYPE B	600x600 - CLASS D400	CATCHPIT
013-SPS	8.525m	6.085m - 300Ø IN	0.500m	2.940m	330932.663	186893.178	1800Ø	TYPE B	900x600 (TBC BY M&E DESIGNERS) - CLASS D400	PUMP CHAMBER DESIGNED BY SPECIALIST
014	8.559m	7.055m - 150Ø OUT	0.000m	1.504m	330934.319	186888.993	1200Ø	TYPE E	600x600 - CLASS D400	-

REV	DESCRIPTION	DATE	CHK	BY
P04	TANK UPDATED TO COMMENTS	14.05.25	BT	SMS
P03	UPDATED TO SUIT NEW ARRANGEMENT	12.05.25	BT	SMS
P02	CATCHPITS ADDED IN LINE WITH SABS REQUIREMENTS	13.08.24		SMS
P01	FIRST ISSUE	02.07.24	JDM	SMS

Project
MENDALGIEF ROAD
NEWPORT

Drawing Title
SURFACE WATER DRAINAGE STRATEGY

INFORMATION

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6375-JPG-ZZ-ZZ-DR-D-1400 | S2 | **P04**

Appendix J SW Drainage Hydraulic Calculations

Project:	Date:		
Mendalgief Road Newport	09/05/2025		
	Designed by:	Checked by:	Approved By:
	SMS		
Report Details:	Company Address:		
Type: Junctions Storm Phase: Phase	JPG Group 5 John Charles Way, Leeds LS12 6QA		

Outlets

Junction	Outlet Name	Outgoing Connection	Outlet Type
004	Outlet	2.000	Free Discharge
005	Outlet	2.001	Free Discharge
006	Outlet	2.002	Free Discharge
007	Outlet	2.003	Free Discharge
008	Outlet	2.004	Free Discharge
009	Outlet	1.003	Free Discharge
011	Outlet	1.004	Free Discharge
001	Outlet	1.000	Free Discharge
002	Outlet	1.001	Free Discharge
003	Outlet	1.002	Free Discharge
010	Outlet	3.001	Free Discharge
014	Outlet	1.006	Free Discharge
012	Outlet	1.005	Free Discharge
	Outlet	Rising Main	Pump

Invert Level (m)	7.625

Depth (m)	Outflow (L/s)
0.100	3.5
0.200	3.5
0.300	3.5
0.400	3.5
0.500	3.5
0.600	3.5
0.700	3.5
0.800	3.5
0.900	3.5
1.000	3.5
1.100	3.5
1.200	3.5
1.300	3.5
1.400	3.5
1.500	3.5
1.600	3.5
1.700	3.5
1.800	3.5
1.900	3.5
2.000	3.5
2.100	3.5
2.200	3.5
2.300	3.5
2.400	3.5
2.500	3.5
2.600	3.5
2.700	3.5
2.800	3.5
2.900	3.5
3.000	3.5
3.100	3.5
3.200	3.5
3.300	3.5
3.400	3.5
3.500	3.5
3.600	3.5
3.700	3.5
3.800	3.5
3.900	3.5
4.000	3.5
4.100	3.5
4.200	3.5
4.300	3.5
4.400	3.5
4.500	3.5
4.600	3.5
4.700	3.5
4.800	3.5
4.900	3.5
5.000	3.5
5.100	3.5
5.200	3.5
5.300	3.5
5.400	3.5
5.500	3.5
5.600	3.5
5.700	3.5
5.800	3.5
5.900	3.5
6.000	3.5
6.100	3.5
6.200	3.5

013-SPS

Project:	Date:		
Mendalgief Road Newport	09/05/2025		
	Designed by: SMS	Checked by:	Approved By:
Report Details: Type: Junctions Storm Phase: Phase	Company Address: JPG Group 5 John Charles Way, Leeds LS12 6QA		

Junction	Outlet Name	Outgoing Connection	Outlet Type
	6.300	3.5	
	6.400	3.5	
	6.500	3.5	
	6.600	3.5	
	6.700	3.5	
	6.800	3.5	
	6.900	3.5	
	7.000	3.5	
	7.100	3.5	
	7.200	3.5	
	7.300	3.5	
	7.400	3.5	
	7.500	3.5	
	7.600	3.5	
	7.700	3.5	
	7.800	3.5	
	7.900	3.5	
	8.000	3.5	
	8.100	3.5	
	8.200	3.5	
	8.300	3.5	
	8.400	3.5	
	8.500	3.5	
	8.600	3.5	
	8.700	3.5	
	8.800	3.5	
	8.900	3.5	
	9.000	3.5	
	9.100	3.5	
	9.200	3.5	
	9.300	3.5	
	9.400	3.5	
	9.500	3.5	
	9.600	3.5	
	9.700	3.5	
	9.800	3.5	
	9.900	3.5	
	10.000	3.5	
Simple Junction	Outlet	3.000	Free Discharge
Simple Junction (1)	Outlet	4.000	Free Discharge
Simple Junction (2)	Outlet	5.000	Free Discharge

Project:	Date:		
Mendalgief Road Newport	09/05/2025		
	Designed by: SMS	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: JPG Group 5 John Charles Way, Leeds LS12 6QA		

Tank

Type : Tank

Dimensions

Exceedance Level (m)	8.265
Depth (m)	2.160
Base Level (m)	6.105
Freeboard (mm)	0
Initial Depth (m)	0.000
Porosity (%)	95
Average Slope (1:X)	0.00
Total Volume (m³)	234.148

Depth (m)	Area (m²)	Volume (m³)
0.000	245.25	73.000
1.000	245.25	73.000

Advanced

Perimeter	Circular
Length (m)	25.870
Friction Scheme	Colebrook-White Roughness
Roughness (mm)	0.6

Project:	Date:		
Mendalgief Road Newport	09/05/2025		
	Designed by: SMS	Checked by:	Approved By:
Report Details: Type: Network Design Criteria Storm Phase: Phase	Company Address: JPG Group 5 John Charles Way, Leeds LS12 6QA		

Flow Options

Peak Flow Calculation	(UK) Modified Rational Method
Min. Time of Entry (mins)	5
Max. Travel Time (mins)	30

Pipe Options

Lock Slope Options	None
Design Options	Minimise Excavation
Design Level	Level Soffits
Min. Cover Depth (m)	1.200
Min. Slope (1:X)	500.00
Max. Slope (1:X)	40.00
Min. Velocity (m/s)	1.0
Max. Velocity (m/s)	3.0
Use Flow Restriction	☐
Reduce Channel Depths	☐

Manhole Options

Apply Offset	☐

Project:	Date:		
Mendalgief Road Newport	09/05/2025		
	Designed by: SMS	Checked by:	Approved By:
Report Details: Type: Outfall Details Storm Phase: Phase	Company Address: JPG Group 5 John Charles Way, Leeds LS12 6QA		

Outfalls

Outfall	Outfall Type	Fixed Surcharged Level (m)	Level Curve
Outfall	Free Discharge		

Project:	Date:		
Mendalgief Road Newport	**09/05/2025**		
	Designed by: **SMS**	Checked by:	Approved By:
Report Title: **Rainfall Analysis Criteria**	Company Address: **JPG Group 5 John Charles Way, Leeds LS12 6QA**		

Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Default
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	10
Junction Flood Risk Margin (mm)	300
Prefill Manhole Sumps	☐
Perform No Discharge Analysis	☐

Project:	Date:		
Mendalgief Road Newport	09/05/2025		
	Designed by: SMS	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Address: JPG Group 5 John Charles Way, Leeds LS12 6QA		

1:2+00CC: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment Area	1:2+00CC: 2 years: +0 %: 15 mins: Winter	0.09	15.8	7.257
Carpark 1	1:2+00CC: 2 years: +0 %: 15 mins: Winter	0.04	7.5	3.455
Building 6	1:2+00CC: 2 years: +0 %: 15 mins: Winter	0.02	3.9	1.805
Building 1	1:2+00CC: 2 years: +0 %: 15 mins: Winter	0.02	4.2	1.906
Building 2	1:2+00CC: 2 years: +0 %: 15 mins: Winter	0.01	2.5	1.162
Building 5	1:2+00CC: 2 years: +0 %: 15 mins: Winter	0.01	2.4	1.120
Building 4	1:2+00CC: 2 years: +0 %: 15 mins: Winter	0.02	3.7	1.698
Building 3	1:2+00CC: 2 years: +0 %: 15 mins: Winter	0.02	3.9	1.802

Project:	Date:		
Mendalgief Road Newport	09/05/2025		
	Designed by: SMS	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Address: JPG Group 5 John Charles Way, Leeds LS12 6QA		

1:2+00CC: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
004	1:2+00CC: 2 years: +0 %: 15 mins: Summer	8.714	7.950	7.950	0.000	0.0	0.000	0.000	0.0	0.000	OK
005	1:2+00CC: 2 years: +0 %: 15 mins: Winter	8.709	7.560	7.906	0.346	4.2	0.055	0.000	3.9	1.515	OK
006	1:2+00CC: 2 years: +0 %: 15 mins: Winter	8.709	7.395	7.755	0.360	6.5	0.057	0.000	6.1	2.335	OK
007	1:2+00CC: 2 years: +0 %: 15 mins: Winter	8.843	7.035	7.413	0.378	10.1	0.060	0.000	9.5	3.789	OK
008	1:2+00CC: 2 years: +0 %: 15 mins: Winter	8.734	6.915	7.279	0.364	9.5	0.058	0.000	9.4	3.442	OK
009	1:2+00CC: 2 years: +0 %: 15 mins: Winter	8.654	6.630	6.999	0.369	19.1	0.059	0.000	18.9	6.904	OK
011	1:2+00CC: 2 years: +0 %: 10080 mins: Winter	8.524	5.880	6.871	0.991	0.5	1.121	0.000	0.5	120.929	Surcharged
001	1:2+00CC: 2 years: +0 %: 15 mins: Summer	8.722	7.960	7.960	0.000	0.0	0.000	0.000	0.0	0.000	OK
002	1:2+00CC: 2 years: +0 %: 15 mins: Winter	8.701	7.575	7.916	0.341	3.9	0.054	0.000	3.8	1.405	OK
003	1:2+00CC: 2 years: +0 %: 15 mins: Winter	8.559	7.205	7.552	0.347	6.2	0.055	0.000	6.0	2.157	OK
010	1:2+00CC: 2 years: +0 %: 15 mins: Winter	8.005	6.330	6.895	0.565	7.5	0.639	0.000	6.8	2.826	OK
014	1:2+00CC: 2 years: +0 %: 15 mins: Summer	8.559	7.055	7.055	0.000	0.0	0.000	0.000	0.0	0.000	OK
Outfall	1:2+00CC: 2 years: +0 %: 15 mins: Summer		6.940	6.940	0.000	0.0			0.0	0.000	OK
012	1:2+00CC: 2 years: +0 %: 10080 mins: Winter	7.912	5.985	6.872	0.887	0.3	1.003	0.000	0.3	74.935	Surcharged
013-SPS	1:2+00CC: 2 years: +0 %: 10080 mins: Winter	8.525	5.585	6.871	1.286	0.1	3.274	0.000	0.0	3.242	OK
Simple Junction	1:2+00CC: 2 years: +0 %: 15 mins: Summer		7.105	7.105	0.000	0.0			0.0	0.000	OK
Simple Junction (1)	1:2+00CC: 2 years: +0 %: 10080 mins: Winter		6.770	6.872	0.102	0.0			0.0	2.797	OK
Simple Junction (2)	1:2+00CC: 2 years: +0 %: 10080 mins: Winter		6.656	6.872	0.216	0.0			0.0	2.156	Surcharged

Project:	Date:		
Mendalgief Road Newport	09/05/2025		
	Designed by: SMS	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address: JPG Group 5 John Charles Way, Leeds LS12 6QA		

1:2+00CC: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. Avg. Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)
Tank	1:2+00CC: 2 years: +0 %: 10080 mins: Winter	6.871	6.871	6.871	0.766	0.766	0.8	178.563	0.000	0.000	0.1	12.840	23.739

Project:	Date:		
Mendalgief Road Newport	09/05/2025		
	Designed by: SMS	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address: JPG Group 5 John Charles Way, Leeds LS12 6QA		

Status
OK

Project:	Date:		
Mendalgief Road Newport	09/05/2025		
	Designed by:	Checked by:	Approved By:
	SMS		
Report Details: Type: Connections Summary Storm Phase: Phase	Company Address: JPG Group 5 John Charles Way, Leeds LS12 6QA		

1:2+00CC: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
2.000	1:2+00CC: 2 years: +0 %: 15 mins: Summer	Pipe	004	005	8.714	7.950	0.022	0.000	0.0	0	0.0	OK
2.001	1:2+00CC: 2 years: +0 %: 15 mins: Winter	Pipe	005	006	8.709	7.906	0.053	1.515	0.7	0.2	3.9	OK
2.002	1:2+00CC: 2 years: +0 %: 15 mins: Winter	Pipe	006	007	8.709	7.755	0.069	2.335	0.8	0.33	6.1	OK
2.003	1:2+00CC: 2 years: +0 %: 15 mins: Winter	Pipe	007	008	8.843	7.413	0.075	3.789	1.1	0.46	9.5	OK
2.004	1:2+00CC: 2 years: +0 %: 15 mins: Winter	Pipe	008	009	8.734	7.279	0.066	3.442	1.2	0.35	9.4	OK
1.003	1:2+00CC: 2 years: +0 %: 15 mins: Winter	Pipe	009	011	8.654	6.999	0.064	6.904	2.6	0.33	18.9	OK
1.000	1:2+00CC: 2 years: +0 %: 15 mins: Summer	Pipe	001	002	8.722	7.960	0.020	0.000	0.0	0	0.0	OK
1.001	1:2+00CC: 2 years: +0 %: 15 mins: Winter	Pipe	002	003	8.701	7.916	0.044	1.405	0.9	0.16	3.8	OK
1.002	1:2+00CC: 2 years: +0 %: 15 mins: Winter	Pipe	003	009	8.559	7.552	0.058	2.157	1.0	0.21	6.0	OK
3.001	1:2+00CC: 2 years: +0 %: 15 mins: Winter	Pipe	010	011	8.005	6.895	0.063	2.826	1.0	0.36	6.8	OK
1.006	1:2+00CC: 2 years: +0 %: 15 mins: Summer	Pipe	014	Outfall	8.559	7.055	0.000	0.000	0.0	0	0.0	OK
1.004	1:2+00CC: 2 years: +0 %: 15 mins: Winter	Pipe	011	Tank	8.524	6.460	0.080	9.130	1.7	0.16	25.2	OK
1.005	1:2+00CC: 2 years: +0 %: 15 mins: Winter	Pipe	012	Tank	7.912	6.374	0.089	6.884	0.9	0.19	15.1	OK
1.005 (1)	1:2+00CC: 2 years: +0 %: 60 mins: Summer	Pipe	Tank	013-SPS	8.265	6.217	0.122	1.639	0.8	0.07	6.9	OK
Rising Main	1:2+00CC: 2 years: +0 %: 15 mins: Summer	Pipe	013-SPS	014	8.525	6.159	0.000	0.000	0.0	0	0.0	OK
4.000	1:2+00CC: 2 years: +0 %: 8640 mins: Winter	Pipe	Simple Junction (1)	012	6.920	6.837	0.150	0.000	0.0	0	0.0	OK
5.000	1:2+00CC: 2 years: +0 %: 10080 mins: Summer	Pipe	Simple Junction (2)	012	6.806	6.801	0.150	0.000	0.0	0	0.0	OK
3.000	1:2+00CC: 2 years: +0 %: 15 mins: Summer	Pipe	Simple Junction	010	7.225	7.105	0.031	0.000	0.0	0	0.0	OK

Project:	Date:		
Mendalgief Road Newport	09/05/2025		
	Designed by:	Checked by:	Approved By:
	SMS		
Report Details:	Company Address:		
Type: Junctions Storm Phase: Phase	JPG Group 5 John Charles Way, Leeds LS12 6QA		

Outlets

Junction	Outlet Name	Outgoing Connection	Outlet Type
004	Outlet	2.000	Free Discharge
005	Outlet	2.001	Free Discharge
006	Outlet	2.002	Free Discharge
007	Outlet	2.003	Free Discharge
008	Outlet	2.004	Free Discharge
009	Outlet	1.003	Free Discharge
011	Outlet	1.004	Free Discharge
001	Outlet	1.000	Free Discharge
002	Outlet	1.001	Free Discharge
003	Outlet	1.002	Free Discharge
010	Outlet	3.001	Free Discharge
014	Outlet	1.006	Free Discharge
012	Outlet	1.005	Free Discharge
	Outlet	Rising Main	Pump

Invert Level (m)	7.625

Depth (m)	Outflow (L/s)
0.100	3.5
0.200	3.5
0.300	3.5
0.400	3.5
0.500	3.5
0.600	3.5
0.700	3.5
0.800	3.5
0.900	3.5
1.000	3.5
1.100	3.5
1.200	3.5
1.300	3.5
1.400	3.5
1.500	3.5
1.600	3.5
1.700	3.5
1.800	3.5
1.900	3.5
2.000	3.5
2.100	3.5
2.200	3.5
2.300	3.5
2.400	3.5
2.500	3.5
2.600	3.5
2.700	3.5
2.800	3.5
2.900	3.5
3.000	3.5
3.100	3.5
3.200	3.5
3.300	3.5
3.400	3.5
3.500	3.5
3.600	3.5
3.700	3.5
3.800	3.5
3.900	3.5
4.000	3.5
4.100	3.5
4.200	3.5
4.300	3.5
4.400	3.5
4.500	3.5
4.600	3.5
4.700	3.5
4.800	3.5
4.900	3.5
5.000	3.5
5.100	3.5
5.200	3.5
5.300	3.5
5.400	3.5
5.500	3.5
5.600	3.5
5.700	3.5
5.800	3.5
5.900	3.5
6.000	3.5
6.100	3.5
6.200	3.5

013-SPS

Project:	Date:		
Mendalgief Road Newport	09/05/2025		
	Designed by: SMS	Checked by:	Approved By:
Report Details: Type: Junctions Storm Phase: Phase	Company Address: JPG Group 5 John Charles Way, Leeds LS12 6QA		

Junction	Outlet Name	Outgoing Connection	Outlet Type
	6.300	3.5	
	6.400	3.5	
	6.500	3.5	
	6.600	3.5	
	6.700	3.5	
	6.800	3.5	
	6.900	3.5	
	7.000	3.5	
	7.100	3.5	
	7.200	3.5	
	7.300	3.5	
	7.400	3.5	
	7.500	3.5	
	7.600	3.5	
	7.700	3.5	
	7.800	3.5	
	7.900	3.5	
	8.000	3.5	
	8.100	3.5	
	8.200	3.5	
	8.300	3.5	
	8.400	3.5	
	8.500	3.5	
	8.600	3.5	
	8.700	3.5	
	8.800	3.5	
	8.900	3.5	
	9.000	3.5	
	9.100	3.5	
	9.200	3.5	
	9.300	3.5	
	9.400	3.5	
	9.500	3.5	
	9.600	3.5	
	9.700	3.5	
	9.800	3.5	
	9.900	3.5	
	10.000	3.5	
Simple Junction	Outlet	3.000	Free Discharge
Simple Junction (1)	Outlet	4.000	Free Discharge
Simple Junction (2)	Outlet	5.000	Free Discharge

Project:	Date:		
Mendalgief Road Newport	09/05/2025		
	Designed by: SMS	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: JPG Group 5 John Charles Way, Leeds LS12 6QA		

Tank

Type : Tank

Dimensions

Exceedance Level (m)	8.265
Depth (m)	2.160
Base Level (m)	6.105
Freeboard (mm)	0
Initial Depth (m)	0.000
Porosity (%)	95
Average Slope (1:X)	0.00
Total Volume (m³)	234.148

Depth (m)	Area (m²)	Volume (m³)
0.000	245.25	73.000
1.000	245.25	73.000

Advanced

Perimeter	Circular
Length (m)	25.870
Friction Scheme	Colebrook-White Roughness
Roughness (mm)	0.6

Project:	Date:		
Mendalgief Road Newport	09/05/2025		
	Designed by: SMS	Checked by:	Approved By:
Report Details: Type: Network Design Criteria Storm Phase: Phase	Company Address: JPG Group 5 John Charles Way, Leeds LS12 6QA		

Flow Options

Peak Flow Calculation	(UK) Modified Rational Method
Min. Time of Entry (mins)	5
Max. Travel Time (mins)	30

Pipe Options

Lock Slope Options	None
Design Options	Minimise Excavation
Design Level	Level Soffits
Min. Cover Depth (m)	1.200
Min. Slope (1:X)	500.00
Max. Slope (1:X)	40.00
Min. Velocity (m/s)	1.0
Max. Velocity (m/s)	3.0
Use Flow Restriction	☐
Reduce Channel Depths	☐

Manhole Options

Apply Offset	☐

Project:	Date:		
Mendalgief Road Newport	09/05/2025		
	Designed by: SMS	Checked by:	Approved By:
Report Details: Type: Outfall Details Storm Phase: Phase	Company Address: JPG Group 5 John Charles Way, Leeds LS12 6QA		

Outfalls

Outfall	Outfall Type	Fixed Surcharged Level (m)	Level Curve
Outfall	Free Discharge		

Project:	Date:		
Mendalgief Road Newport	**09/05/2025**		
	Designed by: **SMS**	Checked by:	Approved By:
Report Title: **Rainfall Analysis Criteria**	Company Address: **JPG Group 5 John Charles Way, Leeds LS12 6QA**		

Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Default
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	10
Junction Flood Risk Margin (mm)	300
Prefill Manhole Sumps	☐
Perform No Discharge Analysis	☐

Project:	Date:		
Mendalgief Road Newport	09/05/2025		
	Designed by: SMS	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Address: JPG Group 5 John Charles Way, Leeds LS12 6QA		

1:30+0cc: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment Area	1:30+0cc: 30 years: +0 %: 15 mins: Winter	0.09	29.9	13.783
Carpark 1	1:30+0cc: 30 years: +0 %: 15 mins: Winter	0.04	14.3	6.565
Building 6	1:30+0cc: 30 years: +0 %: 15 mins: Winter	0.02	7.4	3.429
Building 1	1:30+0cc: 30 years: +0 %: 15 mins: Winter	0.02	7.9	3.620
Building 2	1:30+0cc: 30 years: +0 %: 15 mins: Winter	0.01	4.8	2.216
Building 5	1:30+0cc: 30 years: +0 %: 15 mins: Winter	0.01	4.6	2.129
Building 4	1:30+0cc: 30 years: +0 %: 15 mins: Winter	0.02	7.0	3.226
Building 3	1:30+0cc: 30 years: +0 %: 15 mins: Winter	0.02	7.4	3.417

Project:	Date:		
Mendalgief Road Newport	09/05/2025		
	Designed by: SMS	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Address: JPG Group 5 John Charles Way, Leeds LS12 6QA		

1:30+0cc: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
004	1:30+0cc: 30 years: +0 %: 15 mins: Summer	8.714	7.950	7.950	0.000	0.0	0.000	0.000	0.0	0.000	OK
005	1:30+0cc: 30 years: +0 %: 15 mins: Winter	8.709	7.560	7.927	0.367	7.9	0.058	0.000	7.5	3.222	OK
006	1:30+0cc: 30 years: +0 %: 15 mins: Winter	8.709	7.395	7.782	0.387	12.3	0.062	0.000	11.8	5.097	OK
007	1:30+0cc: 30 years: +0 %: 10080 mins: Winter	8.843	7.035	7.635	0.600	0.3	0.095	0.000	0.3	68.453	Surcharged
008	1:30+0cc: 30 years: +0 %: 10080 mins: Winter	8.734	6.915	7.634	0.719	0.3	0.114	0.000	0.3	69.789	Surcharged
009	1:30+0cc: 30 years: +0 %: 10080 mins: Winter	8.654	6.630	7.634	1.004	0.6	0.160	0.000	0.6	135.188	Surcharged
011	1:30+0cc: 30 years: +0 %: 10080 mins: Winter	8.524	5.880	7.635	1.755	0.8	1.984	0.000	0.8	179.819	Surcharged
001	1:30+0cc: 30 years: +0 %: 15 mins: Summer	8.722	7.960	7.960	0.000	0.0	0.000	0.000	0.0	0.000	OK
002	1:30+0cc: 30 years: +0 %: 15 mins: Winter	8.701	7.575	7.933	0.358	7.4	0.057	0.000	7.2	3.025	OK
003	1:30+0cc: 30 years: +0 %: 10080 mins: Winter	8.559	7.205	7.634	0.429	0.2	0.068	0.000	0.2	41.626	OK
010	1:30+0cc: 30 years: +0 %: 10080 mins: Winter	8.005	6.330	7.634	1.304	0.2	1.475	0.000	0.2	50.533	Surcharged
014	1:30+0cc: 30 years: +0 %: 10080 mins: Winter	8.559	7.055	7.070	0.015	0.3	0.017	0.000	0.3	30.561	OK
Outfall	1:30+0cc: 30 years: +0 %: 10080 mins: Winter		6.940	6.954	0.014	0.3			0.3	30.561	OK
012	1:30+0cc: 30 years: +0 %: 10080 mins: Winter	7.912	5.985	7.635	1.650	0.4	1.866	0.000	0.4	107.452	Flood Risk
013-SPS	1:30+0cc: 30 years: +0 %: 10080 mins: Winter	8.525	5.585	7.634	2.049	0.5	5.215	0.000	0.3	35.389	Surcharged
Simple Junction	1:30+0cc: 30 years: +0 %: 10080 mins: Winter		7.105	7.634	0.529	0.1			0.0	1.742	Surcharged
Simple Junction (1)	1:30+0cc: 30 years: +0 %: 10080 mins: Winter		6.770	7.634	0.864	0.1			0.0	2.012	Surcharged
Simple Junction (2)	1:30+0cc: 30 years: +0 %: 10080 mins: Winter		6.656	7.634	0.978	0.1			0.1	3.616	Surcharged

Project:	Date:		
Mendalgief Road Newport	09/05/2025		
	Designed by: SMS	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address: JPG Group 5 John Charles Way, Leeds LS12 6QA		

1:30+0cc: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. Avg. Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)
Tank	1:30+0cc: 30 years: +0 %: 10080 mins: Winter	7.634	7.634	7.634	1.529	1.529	1.2	233.572	0.000	0.000	0.5	46.529	0.246

Project:	Date:		
Mendalgief Road Newport	09/05/2025		
	Designed by: SMS	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address: JPG Group 5 John Charles Way, Leeds LS12 6QA		

Status
OK

Project:	Date:		
Mendalgief Road Newport	09/05/2025		
	Designed by:	Checked by:	Approved By:
	SMS		
Report Details:	Company Address:		
Type: Connections Summary Storm Phase: Phase	JPG Group 5 John Charles Way, Leeds LS12 6QA		

1:30+0cc: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
2.000	1:30+0cc: 30 years: +0 %: 15 mins: Summer	Pipe	004	005	8.714	7.950	0.033	0.000	0.0	0	0.0	OK
2.001	1:30+0cc: 30 years: +0 %: 15 mins: Winter	Pipe	005	006	8.709	7.927	0.077	3.222	0.8	0.38	7.5	OK
2.002	1:30+0cc: 30 years: +0 %: 15 mins: Winter	Pipe	006	007	8.709	7.782	0.106	5.097	0.9	0.63	11.8	OK
2.003	1:30+0cc: 30 years: +0 %: 15 mins: Winter	Pipe	007	008	8.843	7.459	0.117	8.156	1.2	0.88	18.1	OK
2.004	1:30+0cc: 30 years: +0 %: 15 mins: Winter	Pipe	008	009	8.734	7.312	0.103	7.810	1.4	0.67	17.9	OK
1.003	1:30+0cc: 30 years: +0 %: 15 mins: Winter	Pipe	009	011	8.654	7.038	0.097	15.469	3.0	0.63	35.8	OK
1.000	1:30+0cc: 30 years: +0 %: 15 mins: Summer	Pipe	001	002	8.722	7.960	0.028	0.000	0.0	0	0.0	OK
1.001	1:30+0cc: 30 years: +0 %: 15 mins: Winter	Pipe	002	003	8.701	7.933	0.063	3.025	1.0	0.31	7.2	OK
1.002	1:30+0cc: 30 years: +0 %: 15 mins: Winter	Pipe	003	009	8.559	7.572	0.087	4.787	1.1	0.41	11.5	OK
3.001	1:30+0cc: 30 years: +0 %: 15 mins: Winter	Pipe	010	011	8.005	6.927	0.094	5.924	1.1	0.7	13.0	OK
1.006	1:30+0cc: 30 years: +0 %: 10080 mins: Winter	Pipe	014	Outfall	8.559	7.070	0.015	30.561	0.4	0.05	0.3	OK
1.004	1:30+0cc: 30 years: +0 %: 15 mins: Winter	Pipe	011	Tank	8.524	6.493	0.112	20.771	2.0	0.3	48.3	OK
1.005	1:30+0cc: 30 years: +0 %: 15 mins: Winter	Pipe	012	Tank	7.912	6.411	0.125	13.364	1.0	0.36	28.9	OK
1.005 (1)	1:30+0cc: 30 years: +0 %: 15 mins: Winter	Pipe	Tank	013-SPS	8.265	6.244	0.149	1.708	0.7	0.05	5.0	OK
Rising Main	1:30+0cc: 30 years: +0 %: 10080 mins: Winter	Pipe	013-SPS	014	8.525	7.634	0.004	30.562	0.0	0.02	0.3	Surcharged
4.000	1:30+0cc: 30 years: +0 %: 8640 mins: Winter	Pipe	Simple Junction (1)	012	6.920	7.632	0.150	0.000	0.0	0	0.0	Surcharged
5.000	1:30+0cc: 30 years: +0 %: 10080 mins: Winter	Pipe	Simple Junction (2)	012	6.806	7.634	0.150	0.000	0.0	0	0.1	Surcharged
3.000	1:30+0cc: 30 years: +0 %: 10080 mins: Summer	Pipe	Simple Junction	010	7.225	7.543	0.150	0.000	0.0	0	0.0	Surcharged

Project:	Date:		
Mendalgief Road Newport	09/05/2025		
	Designed by:	Checked by:	Approved By:
	SMS		
Report Details:	Company Address:		
Type: Junctions Storm Phase: Phase	JPG Group 5 John Charles Way, Leeds LS12 6QA		

Outlets

Junction	Outlet Name	Outgoing Connection	Outlet Type
004	Outlet	2.000	Free Discharge
005	Outlet	2.001	Free Discharge
006	Outlet	2.002	Free Discharge
007	Outlet	2.003	Free Discharge
008	Outlet	2.004	Free Discharge
009	Outlet	1.003	Free Discharge
011	Outlet	1.004	Free Discharge
001	Outlet	1.000	Free Discharge
002	Outlet	1.001	Free Discharge
003	Outlet	1.002	Free Discharge
010	Outlet	3.001	Free Discharge
014	Outlet	1.006	Free Discharge
012	Outlet	1.005	Free Discharge
	Outlet	Rising Main	Pump

Invert Level (m)	7.625

Depth (m)	Outflow (L/s)
0.100	3.5
0.200	3.5
0.300	3.5
0.400	3.5
0.500	3.5
0.600	3.5
0.700	3.5
0.800	3.5
0.900	3.5
1.000	3.5
1.100	3.5
1.200	3.5
1.300	3.5
1.400	3.5
1.500	3.5
1.600	3.5
1.700	3.5
1.800	3.5
1.900	3.5
2.000	3.5
2.100	3.5
2.200	3.5
2.300	3.5
2.400	3.5
2.500	3.5
2.600	3.5
2.700	3.5
2.800	3.5
2.900	3.5
3.000	3.5
3.100	3.5
3.200	3.5
3.300	3.5
3.400	3.5
3.500	3.5
3.600	3.5
3.700	3.5
3.800	3.5
3.900	3.5
4.000	3.5
4.100	3.5
4.200	3.5
4.300	3.5
4.400	3.5
4.500	3.5
4.600	3.5
4.700	3.5
4.800	3.5
4.900	3.5
5.000	3.5
5.100	3.5
5.200	3.5
5.300	3.5
5.400	3.5
5.500	3.5
5.600	3.5
5.700	3.5
5.800	3.5
5.900	3.5
6.000	3.5
6.100	3.5
6.200	3.5

013-SPS

Project:	Date:		
Mendalgief Road Newport	09/05/2025		
	Designed by: SMS	Checked by:	Approved By:
Report Details: Type: Junctions Storm Phase: Phase	Company Address: JPG Group 5 John Charles Way, Leeds LS12 6QA		

Junction	Outlet Name	Outgoing Connection	Outlet Type
	6.300	3.5	
	6.400	3.5	
	6.500	3.5	
	6.600	3.5	
	6.700	3.5	
	6.800	3.5	
	6.900	3.5	
	7.000	3.5	
	7.100	3.5	
	7.200	3.5	
	7.300	3.5	
	7.400	3.5	
	7.500	3.5	
	7.600	3.5	
	7.700	3.5	
	7.800	3.5	
	7.900	3.5	
	8.000	3.5	
	8.100	3.5	
	8.200	3.5	
	8.300	3.5	
	8.400	3.5	
	8.500	3.5	
	8.600	3.5	
	8.700	3.5	
	8.800	3.5	
	8.900	3.5	
	9.000	3.5	
	9.100	3.5	
	9.200	3.5	
	9.300	3.5	
	9.400	3.5	
	9.500	3.5	
	9.600	3.5	
	9.700	3.5	
	9.800	3.5	
	9.900	3.5	
	10.000	3.5	
Simple Junction	Outlet	3.000	Free Discharge
Simple Junction (1)	Outlet	4.000	Free Discharge
Simple Junction (2)	Outlet	5.000	Free Discharge

Project:	Date:		
Mendalgief Road Newport	09/05/2025		
	Designed by: SMS	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: JPG Group 5 John Charles Way, Leeds LS12 6QA		

Tank

Type : Tank

Dimensions

Exceedance Level (m)	8.265
Depth (m)	2.160
Base Level (m)	6.105
Freeboard (mm)	0
Initial Depth (m)	0.000
Porosity (%)	95
Average Slope (1:X)	0.00
Total Volume (m³)	234.148

Depth (m)	Area (m²)	Volume (m³)
0.000	245.25	73.000
1.000	245.25	73.000

Advanced

Perimeter	Circular
Length (m)	25.870
Friction Scheme	Colebrook-White Roughness
Roughness (mm)	0.6

Project:	Date:		
Mendalgief Road Newport	09/05/2025		
	Designed by: SMS	Checked by:	Approved By:
Report Details: Type: Network Design Criteria Storm Phase: Phase	Company Address: JPG Group 5 John Charles Way, Leeds LS12 6QA		

Flow Options

Peak Flow Calculation	(UK) Modified Rational Method
Min. Time of Entry (mins)	5
Max. Travel Time (mins)	30

Pipe Options

Lock Slope Options	None
Design Options	Minimise Excavation
Design Level	Level Soffits
Min. Cover Depth (m)	1.200
Min. Slope (1:X)	500.00
Max. Slope (1:X)	40.00
Min. Velocity (m/s)	1.0
Max. Velocity (m/s)	3.0
Use Flow Restriction	☐
Reduce Channel Depths	☐

Manhole Options

Apply Offset	☐

Project:	Date:		
Mendalgief Road Newport	09/05/2025		
	Designed by: SMS	Checked by:	Approved By:
Report Details: Type: Outfall Details Storm Phase: Phase	Company Address: JPG Group 5 John Charles Way, Leeds LS12 6QA		

Outfalls

Outfall	Outfall Type	Fixed Surcharged Level (m)	Level Curve
Outfall	Free Discharge		

Project:	Date:		
Mendalgief Road Newport	**09/05/2025**		
	Designed by: **SMS**	Checked by:	Approved By:
Report Title: **Rainfall Analysis Criteria**	Company Address: **JPG Group 5 John Charles Way, Leeds LS12 6QA**		

Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Default
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	10
Junction Flood Risk Margin (mm)	300
Prefill Manhole Sumps	☐
Perform No Discharge Analysis	☐

Project:	Date:		
Mendalgief Road Newport	09/05/2025		
	Designed by: SMS	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Address: JPG Group 5 John Charles Way, Leeds LS12 6QA		

1:100+50CC: 100 years: Increase Rainfall (%): +50: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment Area	1:100+50CC: 100 years: +50 %: 15 mins: Winter	0.09	58.0	26.814
Carpark 1	1:100+50CC: 100 years: +50 %: 15 mins: Winter	0.04	27.6	12.766
Building 6	1:100+50CC: 100 years: +50 %: 15 mins: Winter	0.02	14.4	6.673
Building 1	1:100+50CC: 100 years: +50 %: 15 mins: Winter	0.02	15.2	7.048
Building 2	1:100+50CC: 100 years: +50 %: 15 mins: Winter	0.01	9.3	4.308
Building 5	1:100+50CC: 100 years: +50 %: 15 mins: Winter	0.01	9.0	4.141
Building 4	1:100+50CC: 100 years: +50 %: 15 mins: Winter	0.02	13.6	6.275
Building 3	1:100+50CC: 100 years: +50 %: 15 mins: Winter	0.02	14.4	6.652

Project:	Date:		
Mendalgief Road Newport	09/05/2025		
	Designed by: SMS	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Address: JPG Group 5 John Charles Way, Leeds LS12 6QA		

1:100+50CC: 100 years: Increase Rainfall (%): +50: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
004	1:100+50CC: 100 years: +50 %: 15 mins: Winter	8.714	7.950	8.236	0.286	0.0	0.045	0.000	0.0	0.000	OK
005	1:100+50CC: 100 years: +50 %: 15 mins: Winter	8.709	7.560	8.127	0.567	15.2	0.090	0.000	10.4	6.650	Surcharged
006	1:100+50CC: 100 years: +50 %: 15 mins: Winter	8.709	7.395	8.074	0.679	19.0	0.108	0.000	16.0	10.287	Surcharged
007	1:100+50CC: 100 years: +50 %: 2160 mins: Winter	8.843	7.035	7.915	0.880	1.7	0.140	0.000	1.7	83.851	Surcharged
008	1:100+50CC: 100 years: +50 %: 2160 mins: Winter	8.734	6.915	7.915	1.000	1.7	0.159	0.000	4.9	83.821	Surcharged
009	1:100+50CC: 100 years: +50 %: 2880 mins: Winter	8.654	6.630	7.914	1.284	8.7	0.204	0.000	2.6	175.352	Surcharged
011	1:100+50CC: 100 years: +50 %: 2160 mins: Winter	8.524	5.880	7.914	2.034	4.4	2.300	0.000	4.4	223.863	Surcharged
001	1:100+50CC: 100 years: +50 %: 15 mins: Summer	8.722	7.960	7.960	0.000	0.0	0.000	0.000	0.0	0.000	OK
002	1:100+50CC: 100 years: +50 %: 15 mins: Winter	8.701	7.575	7.960	0.385	14.4	0.061	0.000	14.2	6.250	OK
003	1:100+50CC: 100 years: +50 %: 2160 mins: Winter	8.559	7.205	7.915	0.710	1.0	0.113	0.000	1.0	50.581	Surcharged
010	1:100+50CC: 100 years: +50 %: 2160 mins: Winter	8.005	6.330	7.914	1.584	6.4	1.792	0.000	1.2	60.375	Flood Risk
014	1:100+50CC: 100 years: +50 %: 1440 mins: Winter	8.559	7.055	7.108	0.053	3.5	0.060	0.000	3.5	66.722	OK
Outfall	1:100+50CC: 100 years: +50 %: 1440 mins: Winter		6.940	6.989	0.049	3.5			3.5	66.722	OK
012	1:100+50CC: 100 years: +50 %: 2160 mins: Winter	7.912	5.985	7.914	1.929	14.9	3.835	1.656	2.4	130.574	Flood
013-SPS	1:100+50CC: 100 years: +50 %: 2880 mins: Winter	8.525	5.585	7.913	2.328	3.7	5.924	0.000	3.5	132.099	Surcharged
Simple Junction	1:100+50CC: 100 years: +50 %: 2160 mins: Winter		7.105	7.914	0.809	4.8			0.1	0.969	Surcharged
Simple Junction (1)	1:100+50CC: 100 years: +50 %: 2160 mins: Winter		6.770	7.914	1.144	4.4			0.1	1.170	Surcharged
Simple Junction (2)	1:100+50CC: 100 years: +50 %: 2160 mins: Winter		6.656	7.914	1.258	0.4			6.0	2.298	Surcharged

Project:	Date:		
Mendalgief Road Newport	09/05/2025		
	Designed by: SMS	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address: JPG Group 5 John Charles Way, Leeds LS12 6QA		

1:100+50CC: 100 years: Increase Rainfall (%): +50: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. Avg. Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)
Tank	1:100+50CC: 100 years: +50 %: 2160 mins: Winter	7.914	7.911	7.913	1.809	1.806	105.2	233.837	0.034	0.000	3.8	122.478	0.133

Project:	Date:		
Mendalgief Road Newport	09/05/2025		
	Designed by: SMS	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address: JPG Group 5 John Charles Way, Leeds LS12 6QA		

Status
OK

Project:	Date:		
Mendalgief Road Newport	09/05/2025		
	Designed by:	Checked by:	Approved By:
	SMS		
Report Details:	Company Address:		
Type: Connections Summary Storm Phase: Phase	JPG Group 5 John Charles Way, Leeds LS12 6QA		

1:100+50CC: 100 years: Increase Rainfall (%): +50: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
2.000	1:100+50CC: 100 years: +50 %: 15 mins: Summer	Pipe	004	005	8.714	7.970	0.091	0.000	0.0	0	0.0	OK
2.001	1:100+50CC: 100 years: +50 %: 15 mins: Winter	Pipe	005	006	8.709	8.127	0.150	6.316	0.8	0.53	10.4	Surcharged
2.002	1:100+50CC: 100 years: +50 %: 15 mins: Summer	Pipe	006	007	8.709	7.999	0.150	9.391	0.9	0.89	16.5	Surcharged
2.003	1:100+50CC: 100 years: +50 %: 30 mins: Summer	Pipe	007	008	8.843	7.623	0.150	20.948	1.4	1.22	25.1	Surcharged
2.004	1:100+50CC: 100 years: +50 %: 15 mins: Winter	Pipe	008	009	8.734	7.626	0.150	16.282	1.5	0.98	26.5	Surcharged
1.003	1:100+50CC: 100 years: +50 %: 15 mins: Winter	Pipe	009	011	8.654	7.392	0.150	32.221	3.0	0.93	52.9	Surcharged
1.000	1:100+50CC: 100 years: +50 %: 15 mins: Summer	Pipe	001	002	8.722	7.960	0.042	0.000	0.0	0	0.0	OK
1.001	1:100+50CC: 100 years: +50 %: 15 mins: Winter	Pipe	002	003	8.701	7.960	0.128	6.250	0.9	0.62	14.2	OK
1.002	1:100+50CC: 100 years: +50 %: 15 mins: Summer	Pipe	003	009	8.559	7.623	0.150	8.878	1.1	0.66	18.7	OK
3.001	1:100+50CC: 100 years: +50 %: 15 mins: Winter	Pipe	010	011	8.005	7.131	0.150	12.111	1.3	1.19	22.3	Surcharged
1.006	1:100+50CC: 100 years: +50 %: 1440 mins: Winter	Pipe	014	Outfall	8.559	7.108	0.051	66.722	0.9	0.5	3.5	OK
1.004	1:100+50CC: 100 years: +50 %: 15 mins: Winter	Pipe	011	Tank	8.524	6.524	0.143	43.591	2.2	0.46	74.6	OK
1.005	1:100+50CC: 100 years: +50 %: 15 mins: Winter	Pipe	012	Tank	7.912	6.473	0.186	25.911	1.2	0.71	56.2	OK
1.005 (1)	1:100+50CC: 100 years: +50 %: 7200 mins: Winter	Pipe	Tank	013-SPS	8.265	7.702	0.300	216.982	1.8	1.39	128.6	Surcharged
Rising Main	1:100+50CC: 100 years: +50 %: 1440 mins: Winter	Pipe	013-SPS	014	8.525	7.905	0.011	66.723	0.0	0.19	3.5	Surcharged
4.000	1:100+50CC: 100 years: +50 %: 2880 mins: Winter	Pipe	Simple Junction (1)	012	6.920	7.913	0.150	0.000	0.4	0.4	7.5	Surcharged
5.000	1:100+50CC: 100 years: +50 %: 10080 mins: Summer	Pipe	Simple Junction (2)	012	6.806	7.701	0.150	0.000	0.5	0.24	8.0	Surcharged
3.000	1:100+50CC: 100 years: +50 %: 2880 mins: Winter	Pipe	Simple Junction	010	7.225	7.913	0.150	0.000	0.3	0.25	4.6	Surcharged

Appendix K SuDS Mitigation Indices

Project Number: 6375
By: SMS
Date: 05.08.24

www.jpg.group
Email: admin@jpg.group
Call: +44 (0)113 263 1155

The SuDS Manual - Table 26.2 Pollution hazard indices for different land use classifications

Category	Land use	Pollution hazard level	Total suspended solids (TSS)	Metals	Hydrocarbons
1	Residential roofs.	Very low	0.2	0.2	0.05
2	Other roofs (typically commercial/industrial roofs).	Low	0.3	0.2	0.05
3	**Individual property driveways, residential car parks, low traffic roads (eg cul de sacs, homezones and general access roads) and non-residential car parking with infrequent change (eg schools, offices) ie < 300 traffic movements/day.**	**Low**	**0.5**	**0.4**	**0.4**
4	Commercial yard and delivery areas, non-residential car parking with frequent change (eg hospitals, retail), all roads except low traffic roads and trunk roads/motorways.	Medium	0.7	0.6	0.7
5	Sites with heavy pollution (eg haulage yards, lorry parks, highly frequented lorry approaches to industrial estates, waste sites), sites where chemicals and fuels (other than domestic fuel oil) are to be delivered, handled, stored, used or manufactured; industrial sites; trunk roads and motorways.	High	0.8	0.8	0.9

Summary	
Category	3
Pollution hazard level	Low
Total suspended solids (TSS)	0.5
Metals	0.4
Hydrocarbons	0.4

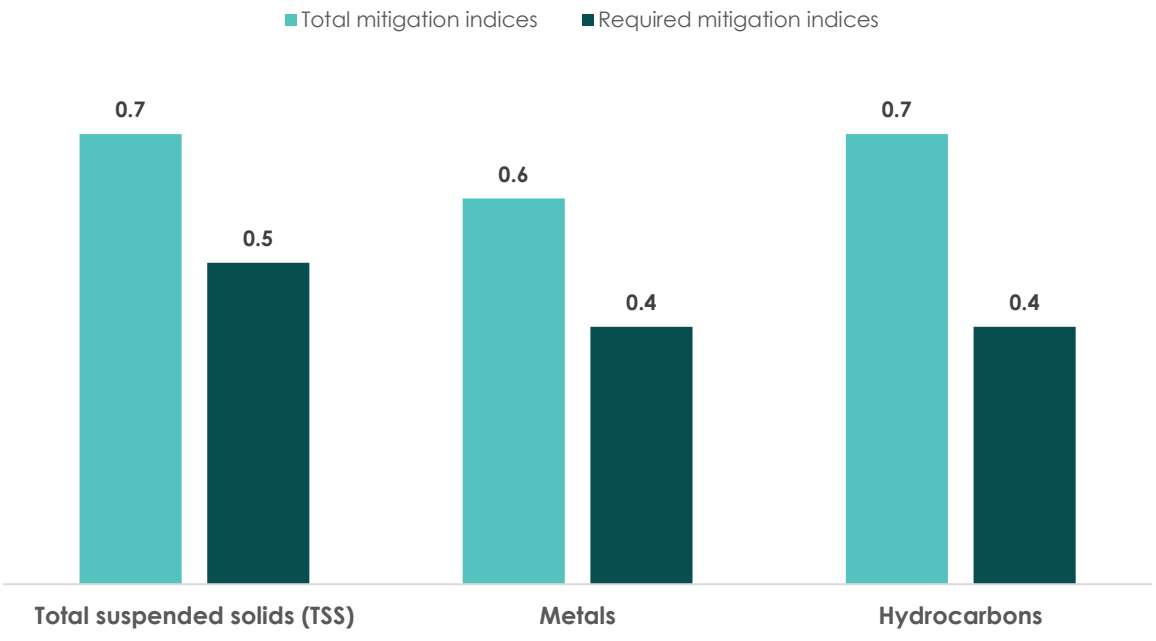
Project Number: 6375
By: SMS
Date: 05.08.24

www.jpg.group
Email: admin@jpg.group
Call: +44 (0)113 263 1155

The SuDS Manual - Table 26.3 Indicative SuDS mitigation indices for discharges to surface waters

Type of SuDS component	Mitigation indices		
	Total suspended solids (TSS)	Metals	Hydrocarbons
Filter strip	0.4	0.4	0.5
Filter drain	0.4	0.4	0.4
Swale	0.5	0.6	0.6
Bioretention system	0.8	0.8	0.8
Permeable pavement	**0.7**	**0.6**	**0.7**
Detention basin	0.5	0.5	0.6
Pond	0.7	0.7	0.5
Wetland	0.8	0.8	0.8
Proprietary treatment system 1	0	0	0
Proprietary treatment system 2	0	0	0
Proprietary treatment system 3	0	0	0
None	**0**	**0**	**0**

SuDS components	Mitigation indices		
	Total suspended solids (TSS)	Metals	Hydrocarbons
(1) Permeable pavement	0.7	0.6	0.7
(2) None	0	0	0
(3) None	0	0	0
Total mitigation indices	**0.7**	**0.6**	**0.7**
Required mitigation indices	**0.5**	**0.4**	**0.4**
	✓	✓	✓



Appendix L Overland Flow Plan

DO NOT SCALE (A1)

NOTES

GENERAL NOTES

1. ALL MATERIALS AND WORKMANSHIP IS TO COMPLY WITH JPG CONSULTANTS STANDARD SPECIFICATION & ALL RELEVANT BRITISH & EUROPEAN STANDARDS.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, M & E CONSULTANTS AND JPG CONSULTANTS DRAWINGS.
3. ANY DISCREPANCIES SHOULD BE REPORTED TO THE ENGINEER IMMEDIATELY SO THAT CLARIFICATION CAN BE SOUGHT PRIOR TO COMMENCEMENT OF WORKS.

LEGEND

DENOTES FLOOD EXCEEDANCE ROUTE

NOTE
SITE LEVELS AND GRADIENTS ARE SHOWN TO LNT CONSTRUCTIONS DESIGN

0m 6.25m 12.5m

SCALE 1:250

OVERLAND FLOW PLAN

SCALE 1:250

REV	DESCRIPTION	DATE	CHK	BY
P02	UPDATED TO NEW ARRANGEMENT	12.05.25		SMS
P01	FIRST ISSUE.	07.08.24	RMR	SMS

Project
MENDALGIEF ROAD
NEWPORT

Drawing Title
OVERLAND FLOW PLAN

INFORMATION

www.jpg.group
E admin@jpg.group | T +44 (0)113 263 1155

6375-JPG-ZZ-ZZ-DR-D-1455 | S2 | **P01**

Appendix M Foul Water Drainage Strategy

DO NOT SCALE (A1)

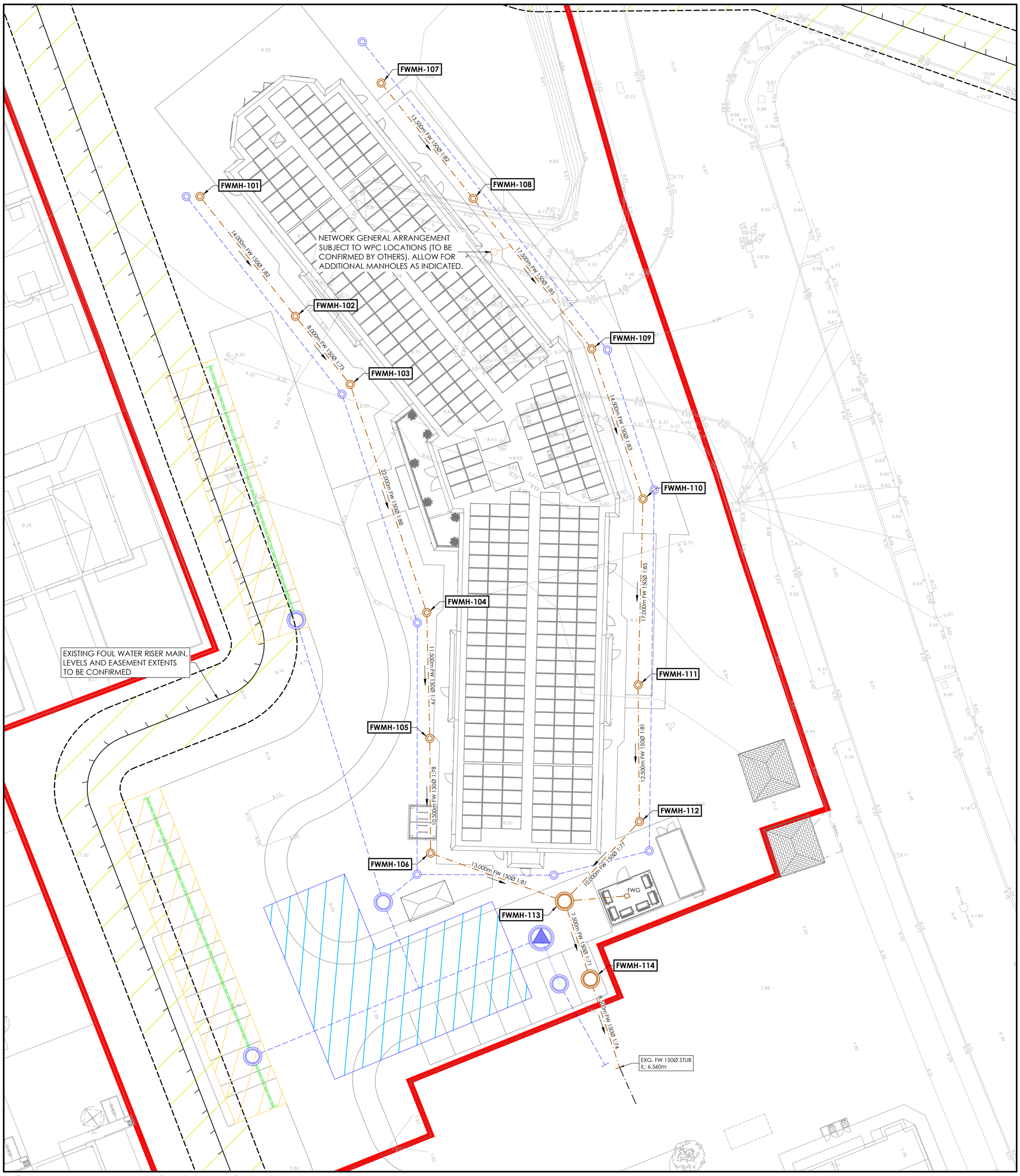
NOTES

GENERAL NOTES

1. ALL MATERIALS AND WORKMANSHIP IS TO COMPLY WITH JPG CONSULTANTS STANDARD SPECIFICATION & ALL RELEVANT BRITISH & EUROPEAN STANDARDS.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, M & E CONSULTANTS AND JPG CONSULTANTS DRAWINGS.
3. ANY DISCREPANCIES SHOULD BE REPORTED TO THE ENGINEER IMMEDIATELY SO THAT CLARIFICATION CAN BE SOUGHT PRIOR TO COMMENCEMENT OF WORKS.

DRAINAGE NOTES

1. ALL BUILDING DRAINAGE WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH BS EN 752:2008 DRAINAGE AND SEWER SYSTEMS OUTSIDE BUILDINGS, THE CURRENT BUILDING REGULATIONS AND THE LOCAL AUTHORITY BUILDING CONTROL SPECIFICATIONS AND REQUIREMENTS.
2. ANY DRAINAGE TO BE PUT FORWARD FOR ADOPTION EITHER WITHIN THE SITE OR OUTSIDE SHALL BE CONSTRUCTED TO SEWERS FOR ADOPTION LATEST EDITION AND ANY SPECIFIC REQUIREMENTS OF THE ADOPTING SEWERAGE/WATER AUTHORITY.
3. THE LOCATION, SIZE AND DEPTH OF ALL EXISTING DRAINS/SEWERS AND SERVICES SHALL BE ESTABLISHED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORKS ON SITE. ANY DISCREPANCIES FROM THE INFORMATION INDICATED ON THESE DRAWINGS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
4. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER SHOULD ANY EXISTING LIVE DRAINAGE BE FOUND WITHIN THE SITE BOUNDARY SERVING ADJACENT PROPERTIES.
5. ALL EXISTING DRAINAGE WITHIN THE SITE NOT REQUIRED FOR THE NEW DEVELOPMENT SHALL BE ABANDONED. DRAINS AND SEWERS LESS THAN 1.500m DEEP WHICH ARE IN OPEN GROUND SHOULD AS FAR AS IS PRACTICABLE BE FULLY REMOVED ALL OTHER PIPES SHOULD BE SEALED AT BOTH ENDS AND AT ANY POINT OF CONNECTION, AND BE GROUT FILLED TO ENSURE THAT RATS CANNOT GAIN ACCESS. LARGER PIPES 225Ø OR ABOVE SHOULD BE GROUT FILLED TO PREVENT SUBSIDENCE OR DAMAGE TO BUILDINGS OR SERVICES IN THE EVENT OF COLLAPSE.
6. THE CONTRACTOR SHALL ALLOW FOR THE PROTECTION, TEMPORARY AND PERMANENT SUPPORT AND DIVERSION WORKS AS NECESSARY, TO ALL EXISTING SERVICES TO THE SATISFACTION OF THE UTILITY COMPANIES.
7. THE CONTRACTOR SHALL ALLOW FOR DEALING WITH SURFACE WATER RUN OFF INTO EXCAVATIONS AND FROM GROUNDWATER BY MEANS OF SUMPS, PUMPING AND DE WATERING AS APPROPRIATE, IN ORDER TO KEEP THE EXCAVATION AS REASONABLY DRY AS POSSIBLE DURING THE CONSTRUCTION OF THE WORKS.
8. THE CONTRACTOR SHALL TAKE ALL NECESSARY SAFETY PRECAUTIONS IN LINE WITH CURRENT LEGISLATION WHEN WORKING IN/NEAR CONFINED SPACES, DEEP EXCAVATIONS AND MACHINERY.
9. THE CONTRACTOR SHALL ALLOW FOR OBTAINING ALL APPROVALS FROM THE RELEVANT AUTHORITIES WHEN WORKING IN THE PUBLIC HIGHWAY AND ON THE SEWERAGE SYSTEM.
10. THE CONTRACTOR SHALL SUITABLY PROTECT PEDESTRIANS AND VEHICLES FROM WORKING AREAS.
11. ALL MANHOLE/CHAMBER COVER LEVELS ARE APPROXIMATE AND SHALL BE ADJUSTED ON SITE TO SUIT THE PROPOSED FINISHED LEVELS.
12. ALL PIPES SHALL BE LAID WITH LEVEL SOFFITS AND ALL MANHOLE/INSPECTION CHAMBER INVERT LEVELS SHOWN ARE FOR THE OUT GOING PIPE UNO. ON THE DRAWING (NOTE THAT ALL PIPE GRADIENTS INDICATED ON THE DRAWING ARE APPROXIMATE ONLY).
13. ALL PIPE CONNECTION FROM DRAINAGE CHANNELS AND GULLIES SHALL BE 150Ø PIPES AT A MINIMUM GRADIENT OF 1:100 WITH CLASS Z BEDDING UNO. ON THE DRAWING.
14. ALL PIPE CONNECTIONS FROM RWP'S TO BE 100Ø AT 1:60 MIN. AND ALL PIPE CONNECTIONS FROM WPC'S TO FIRST CHAMBER SHALL BE 100Ø AT 1:40 MIN. WITH CLASS S BEDDING BENEATH THE BUILDING AND CLASS Z UNDER EXTERNALS WHERE COVER IS LESS THAN 1.20m UNO. ON THE DRAWING (LOCATION OF RWP'S AND WPC'S TO BE CONFIRMED BY THE ARCHITECT AND ARE SHOWN INDICATIVELY ONLY).
15. ALL SYPHONIC RWP SYSTEMS TO BE DESIGNED BY OTHERS. PIPEWORK FROM DOWN PIPE TO FIRST MANHOLE TO BE SIZED/ DESIGNED BY SYPHONIC SYSTEM DESIGNER. THE FIRST MANHOLE TO HAVE AN OPEN GRATE COVER SAINT GOBAIN WATERWAY 2000 - D400 OR SIMILAR APPROVED.
16. SUITABLY SIZED PETROL INTERCEPTORS MUST COMPLY WITH THE REQUIREMENTS OUTLINE IN PPG3 THESE INCLUDE SILT STORAGE CAPACITY AND HIGH LEVEL HYDROCARBON ALARM WIRED BACK TO A MANNED OFFICE.
17. UPON COMPLETION OF THE DRAINAGE WORKS THE CONTRACTOR SHALL CLEAN ALL DRAIN RUNS BY JETTING AND REMOVE ALL DEBRIS FROM SITE. NO DEBRIS SHALL BE PERMITTED TO ENTER THE PUBLIC SEWER AND/OR WATERCOURSE SYSTEM. ONCE THE DRAINAGE SYSTEM HAS BEEN FULLY CLEANED OUT A CCTV CAMERA CONDITION SURVEY SHALL BE UNDERTAKEN TO ALL CONSTRUCTED DRAINAGE AND SEWER PIPES WITH THE FOOTAGE ISSUED TO THE ENGINEER FOR VIEW. THE AS BUILT INVERT AND COVER LEVELS SHALL BE RECORDED BY THE CONTRACTOR AND PASSED ON TO THE ENGINEER FOR REVIEW.



FOUL WATER DRAINAGE STRATEGY

SCALE 1:200

FOUL WATER MANHOLE SCHEDULE

REF.	COVER LEVEL	INVERT LEVEL	SUMP DEPTH	DEPTH	EASTING	NORTHING	DIAMETER	TYPE	COVER	NOTES
101	8.650m	7.750m - 150Ø OUT	0.000m	0.900m	330901.470	186960.974	450Ø	PPIC	450x450 - CLASS B125	-
102	8.739m	7.580m - 150Ø IN 7.580m - 150Ø OUT	0.000m	1.159m	330910.189	186950.020	450Ø	PPIC	450x450 - CLASS B125	-
103	8.711m	7.470m - 150Ø IN 7.470m - 150Ø OUT	0.000m	1.241m	330915.212	186943.794	450Ø	PPIC	300x300 - CLASS B125	-
104	8.653m	7.220m - 150Ø IN 7.220m - 150Ø OUT	0.000m	1.433m	330922.205	186922.935	450Ø	PPIC	300x300 - CLASS B125	-
105	8.689m	7.075m - 150Ø IN 7.075m - 150Ø OUT	0.000m	1.614m	330922.485	186911.438	450Ø	PPIC	300x300 - CLASS B125	-
106	8.693m	6.940m - 150Ø IN 6.940m - 150Ø OUT	0.000m	1.753m	330922.558	186900.938	450Ø	PPIC	300x300 - CLASS B125	-
107	8.710m	7.810m - 150Ø OUT	0.000m	0.900m	330918.041	186971.345	450Ø	PPIC	450x450 - CLASS B125	-
108	8.715m	7.645m - 150Ø IN 7.645m - 150Ø OUT	0.000m	1.070m	330926.448	186960.782	450Ø	PPIC	450x450 - CLASS B125	-
109	8.715m	7.440m - 150Ø IN 7.440m - 150Ø OUT	0.000m	1.275m	330937.285	186947.041	450Ø	PPIC	300x300 - CLASS B125	-
110	8.715m	7.265m - 150Ø IN 7.265m - 150Ø OUT	0.000m	1.450m	330941.969	186933.318	450Ø	PPIC	300x300 - CLASS B125	-
111	8.708m	7.065m - 150Ø IN 7.065m - 150Ø OUT	0.000m	1.643m	330941.518	186916.324	450Ø	PPIC	300x300 - CLASS B125	-
112	8.847m	6.910m - 150Ø IN 6.910m - 150Ø OUT	0.000m	1.937m	330941.644	186903.825	450Ø	PPIC	300x300 - CLASS B125	-
113	8.591m	6.780m - 150Ø IN 6.780m - 150Ø IN 6.780m - 150Ø OUT	0.000m	1.811m	330934.792	186896.542	1200Ø	TYPE E	600x600 - CLASS D400	-
114	8.571m	6.675m - 150Ø IN 6.675m - 150Ø OUT	0.000m	1.896m	330937.153	186889.424	1200Ø	TYPE B	600x600 - CLASS D400	-

LEGEND

- PROPOSED SURFACE WATER PIPE
- PROPOSED SURFACE WATER MANHOLE
- PROPOSED HALF-PERFORATED SURFACE WATER PIPE
- PROPOSED FOUL WATER PIPE
- PROPOSED FOUL WATER MANHOLE
- FWG PROPOSED FOUL WATER GULLY
- WPC PROPOSED WASTE POINT CONNECTION

NOTE
WASTE POINT CONNECTION LOCATIONS TO BE CONFIRMED BY OTHERS

0m 5m 10m
SCALE 1:200

REV	DESCRIPTION	DATE	CHK	BY
P02	UPDATED TO NEW ARRANGEMENT	12.05.25	BT	SMS
P01	FIRST ISSUE	02.08.24	JDM	SMS

Project
MENDALGIEF ROAD
NEWPORT

Drawing Title
FOUL WATER DRAINAGE STRATEGY

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