2.4 ISS

The ISS is located at the northwest corner of the White Wing, where a combined below-ground drainage run exits the site and connects to the Montague Street public sewer. The existing run collects surface and foul water from the White Wing, Hirayama Studio, and possibly the neighbouring 1A Montague Street property. However, the record survey information in this area is incomplete, and the CCTV survey is needed to confirm the arrangement here, which is currently concealed by the portacabins.

The proposed ISS will be connected into the existing combined below-ground drainage network. Manholes that are currently beneath the portacabins must be diverted to accommodate the new ISS, as shown in the adjacent diagram.

For the ISS site, external water butts are also not considered appropriate either internally to the building, as it contains only electrical switchrooms where water tanks would present a hazard, nor externally, where their visual appearance would have a negative impact on the setting of the Museum in a highly visible public area. With that said, significant investment will be made within the proposals in re-landscaping the external space adjacent the new ISS and White Wing. This includes both paved and gravelled landscaped areas served by local run-off, and new trees planted within tree pits. This will therefore introduce new green landscaped infrastructure without requiring additional water from a water butt. The Museum acknowledges that additional prevention and control measures such as the removal of leaves in lightwells will be required as a result, but have committed to this in order to introduce further green infrastructure as part of the development.

The below-ground attenuation system by the SWEC building described in section 2.3 will provide attenuation for an volume of surface water equivalent to that falling on the proposed ISS roof, so the overall discharge from the Museum estate is reduced by an equivalent amount.

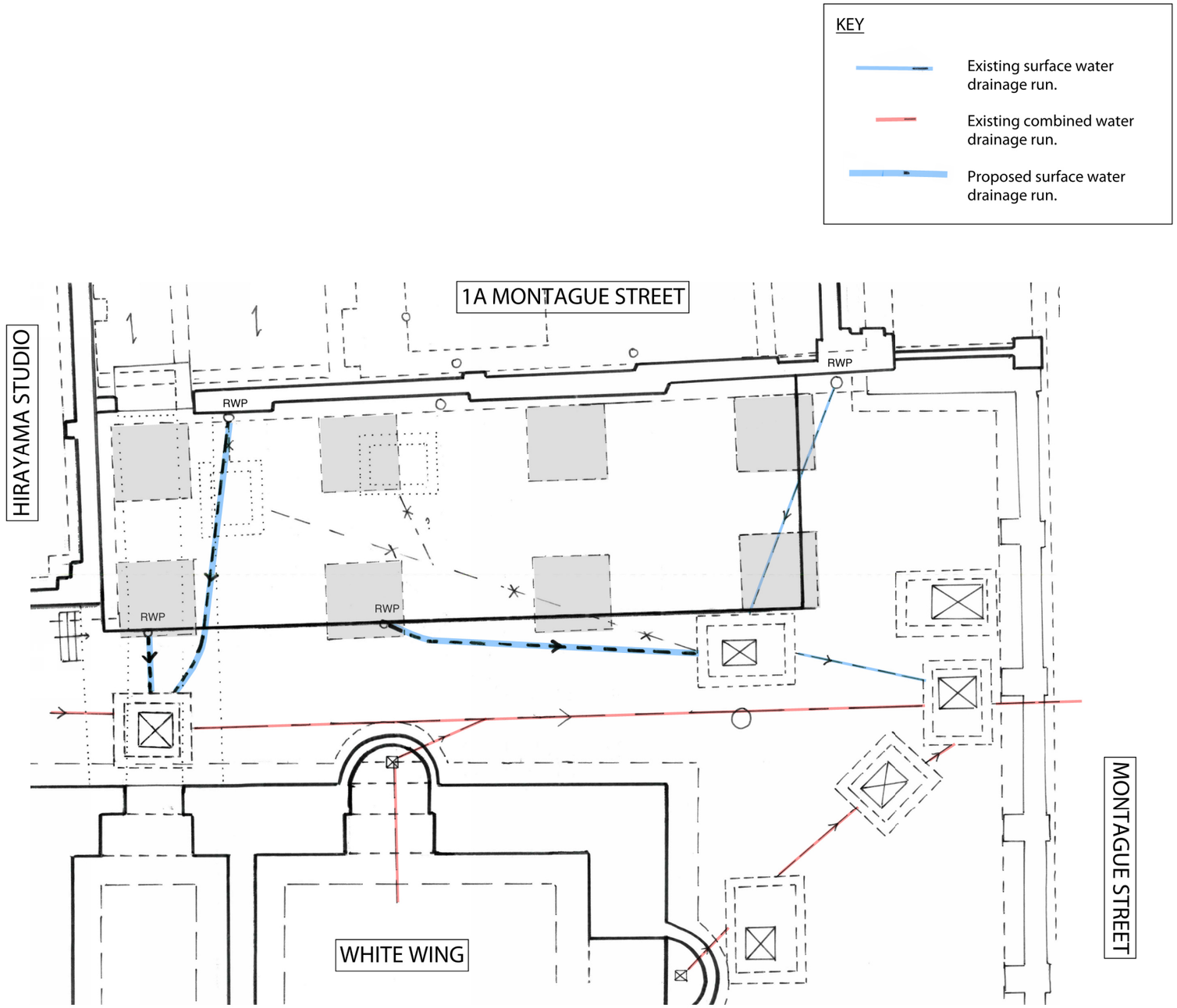
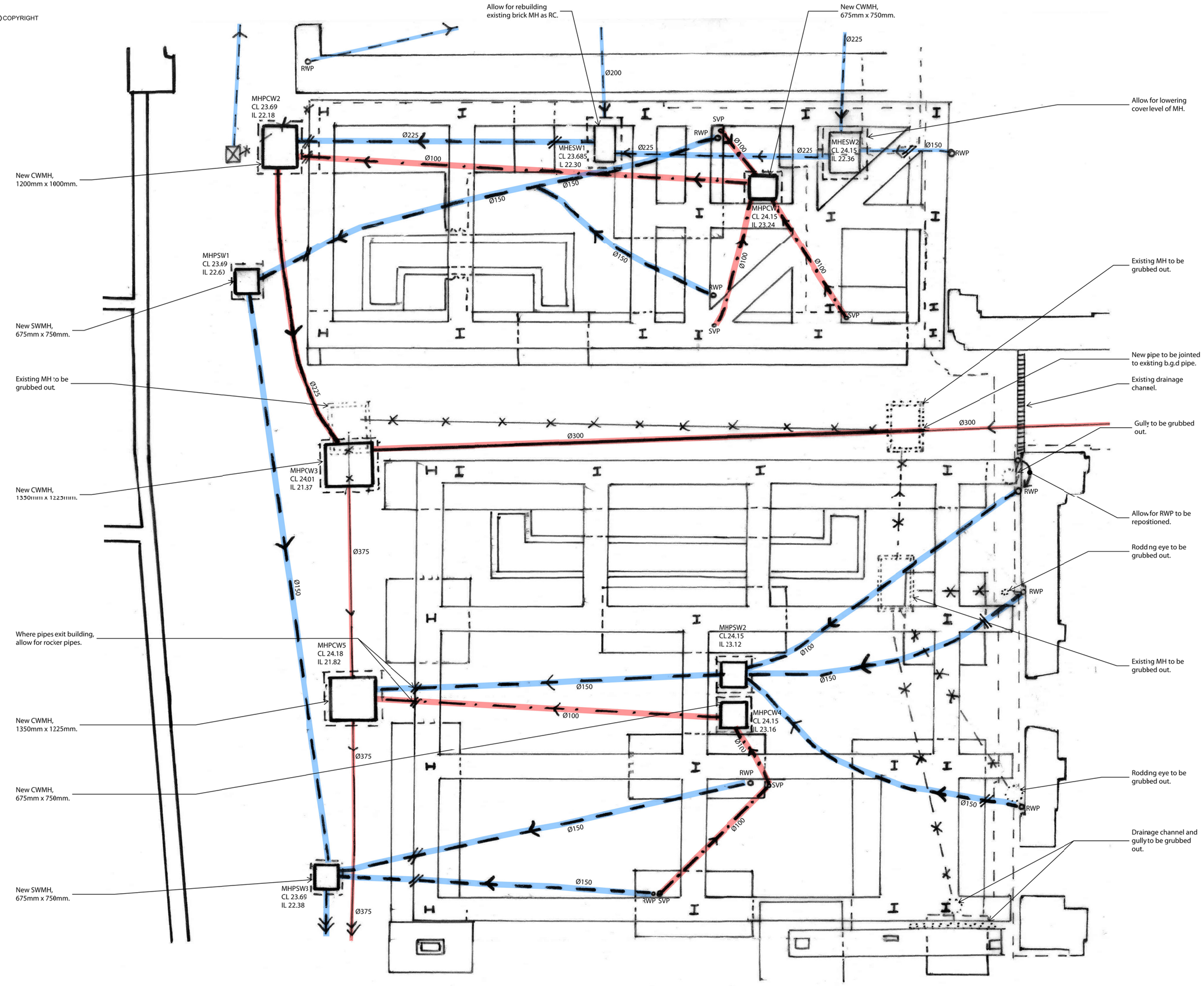


Fig. 9: ISS proposed below ground drainage drawing

Appendix A
Below-ground drainage drawings



notes

1. This drawing is to be read in conjunction with all relevant Architect's and Engineer's drawings and the specification.

KEY

- Existing surface water drainage run.
- Existing combined water drainage run.
- Proposed surface water drainage run.
- Proposed foul water drainage run.
- Proposed combined water drainage run.

Notes

- All new internal below-ground drainage to be sealed cast iron suspended from RC slab.
- All new internal manholes to be RC.
- All internal manholes to be double locked and sealed.
- Allow for rocker pipes where internal below-ground drainage exits the building.
- All proposals are to be verified following receipt of CCTV survey.

C	31.08.23	UPDATED FOR PLANNING	LK
B	28.07.23	ISSUED FOR STAGE 3	LK
A	24.07.23	ISSUED FOR COMMENT	LK
-	04.11.22	ISSUED FOR INFORMATION	XT

job
BRITISH MUSEUM SOUTH WEST ENERGY CENTRE

title
PROPOSED BELOW-GROUND DRAINAGE ALTERATION

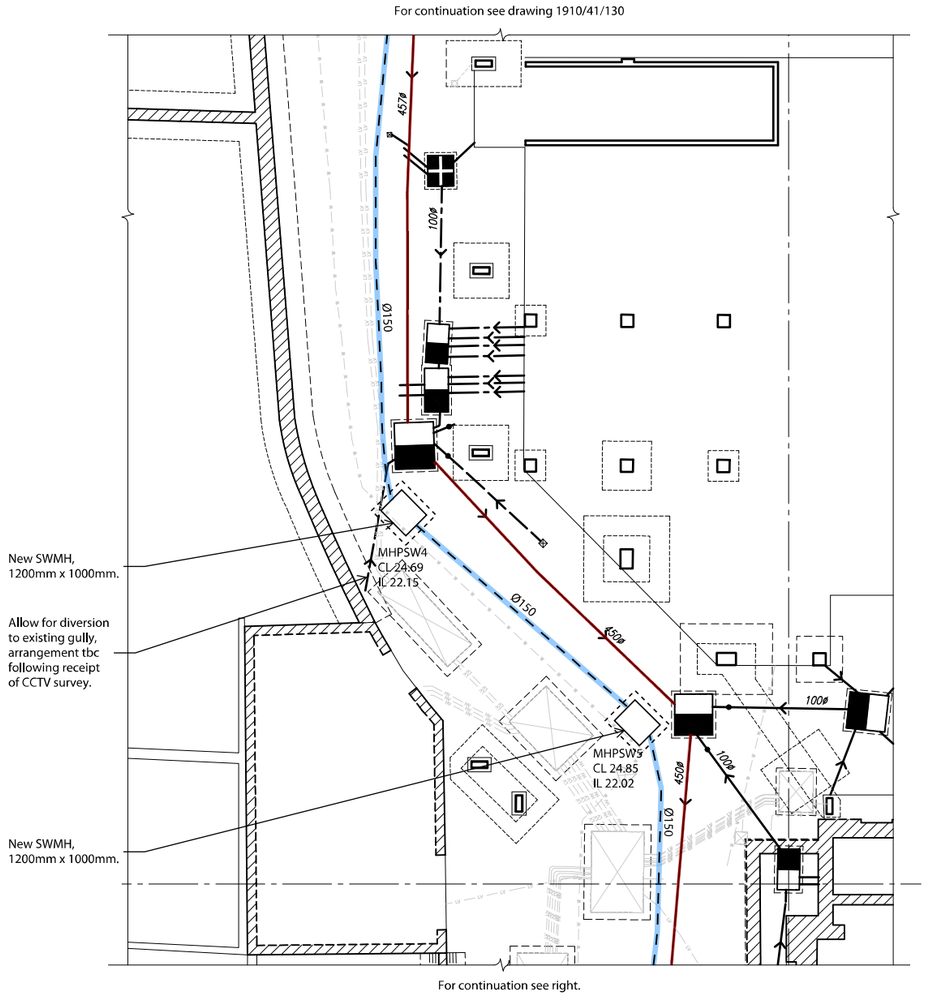
drawn: CM
checked: LK
date: JULY '23
scale (original - A1): 1:50

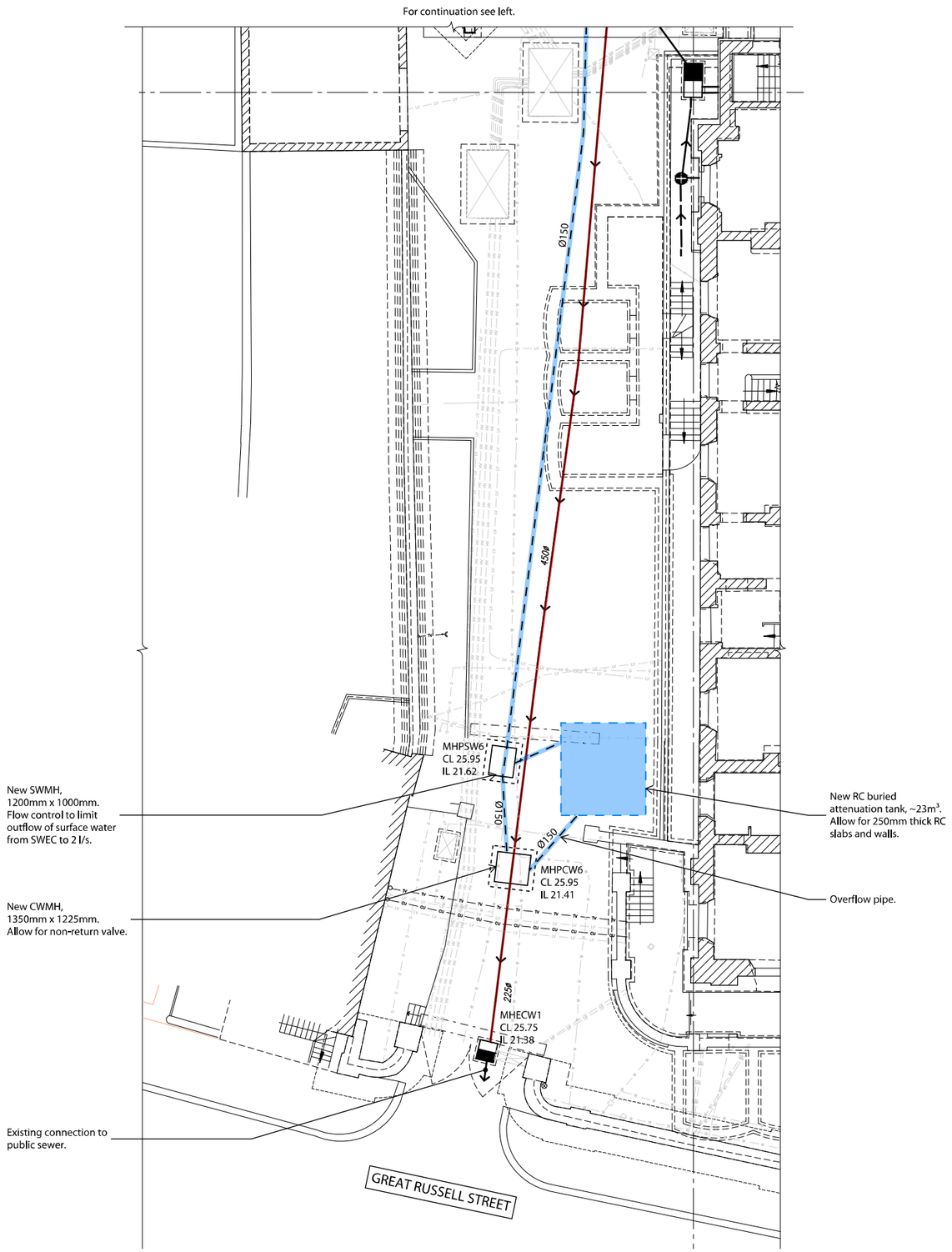
Alan Baxter

75 Cowcross Street London EC1M 6EL
tel 020 7250 1555
email aba@alanbaxter.co.uk

www.alanbaxter.co.uk

drg. no. 1910/41/130
rev. C





notes

1. This drawing is to be read in conjunction with all relevant Architect's and Engineer's drawings and the specification.

KEY

Existing combined water drainage run.

Proposed surface water drainage run.

Notes

- All proposals are to be verified following receipt of CCTV survey.

A	31.08.23	UPDATED FOR PLANNING	LK
-	28.07.23	ISSUED FOR STAGE 3	LK

job
BRITISH MUSEUM SOUTH WEST ENERGY CENTRE

title
PROPOSED BELOW-GROUND DRAINAGE ATTENUATION

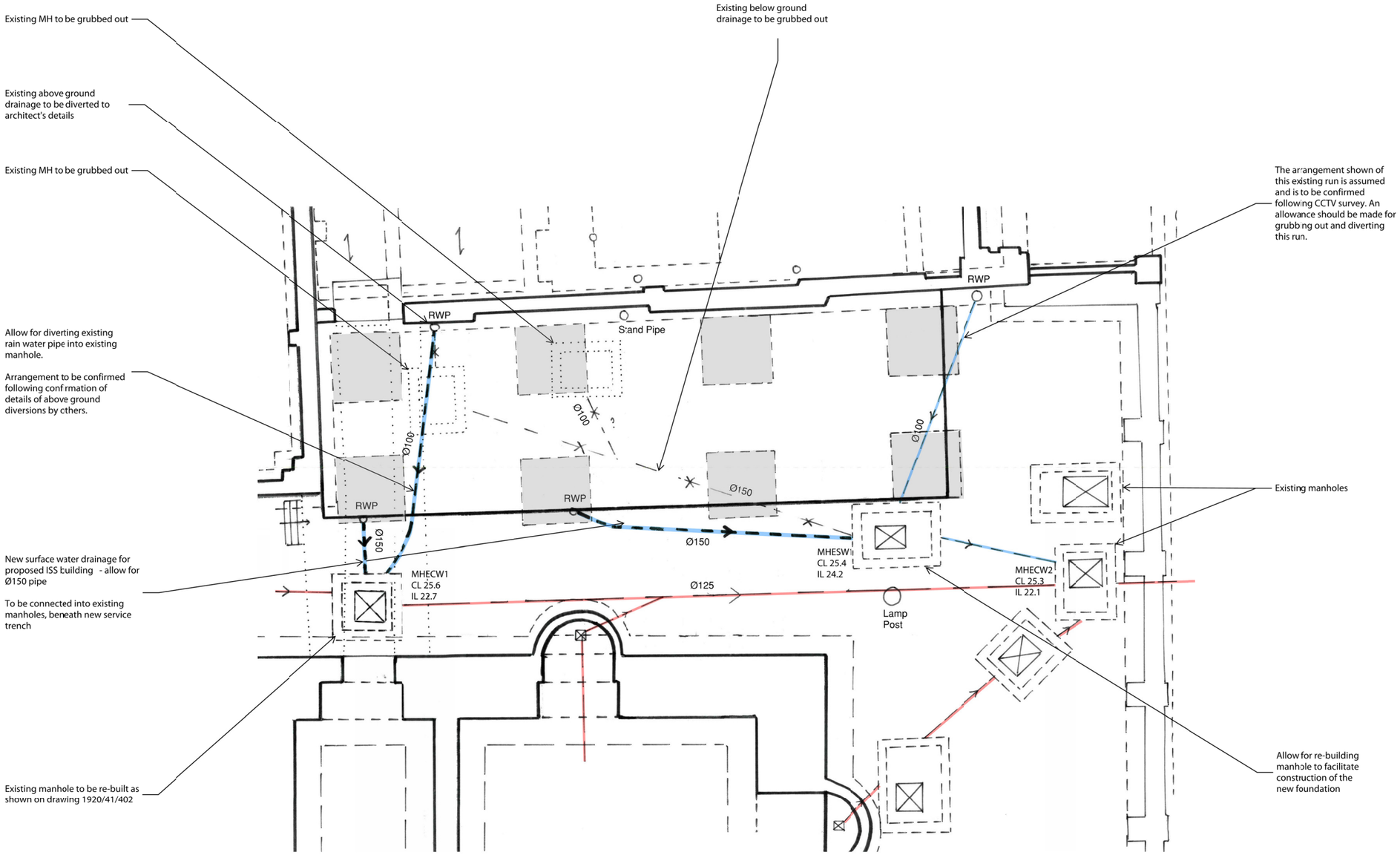
drawn: CM
checked: LK
date: JULY '23
scale (original - A1): 1:100

Alan Baxter

75 Cowcross Street London EC1M 6EL
tel 020 7250 1555
email aba@alanbaxter.co.uk

www.alanbaxter.co.uk

drg. no. **1910/41/131**
rev. **A**



notes

1. This drawing is to be read in conjunction with all relevant Architect's and Engineer's drawings and the specification.

KEY

- Existing surface water drainage run.
- Existing combined water drainage run.
- Proposed surface water drainage run.
- Proposed foul water drainage run.
- Proposed combined water drainage run.

2. All proposed below ground drainage alternations shown on this drawing are to be confirmed following receipt of the CCTV survey. A suitable contingency should be allowed for at this stage for additional diversions and manholes.

-	28.07.23	ISSUED FOR STAGE 3	LK

job
BRITISH MUSEUM
SWEC AND ISS

title
Proposed ISS below ground drainage plan

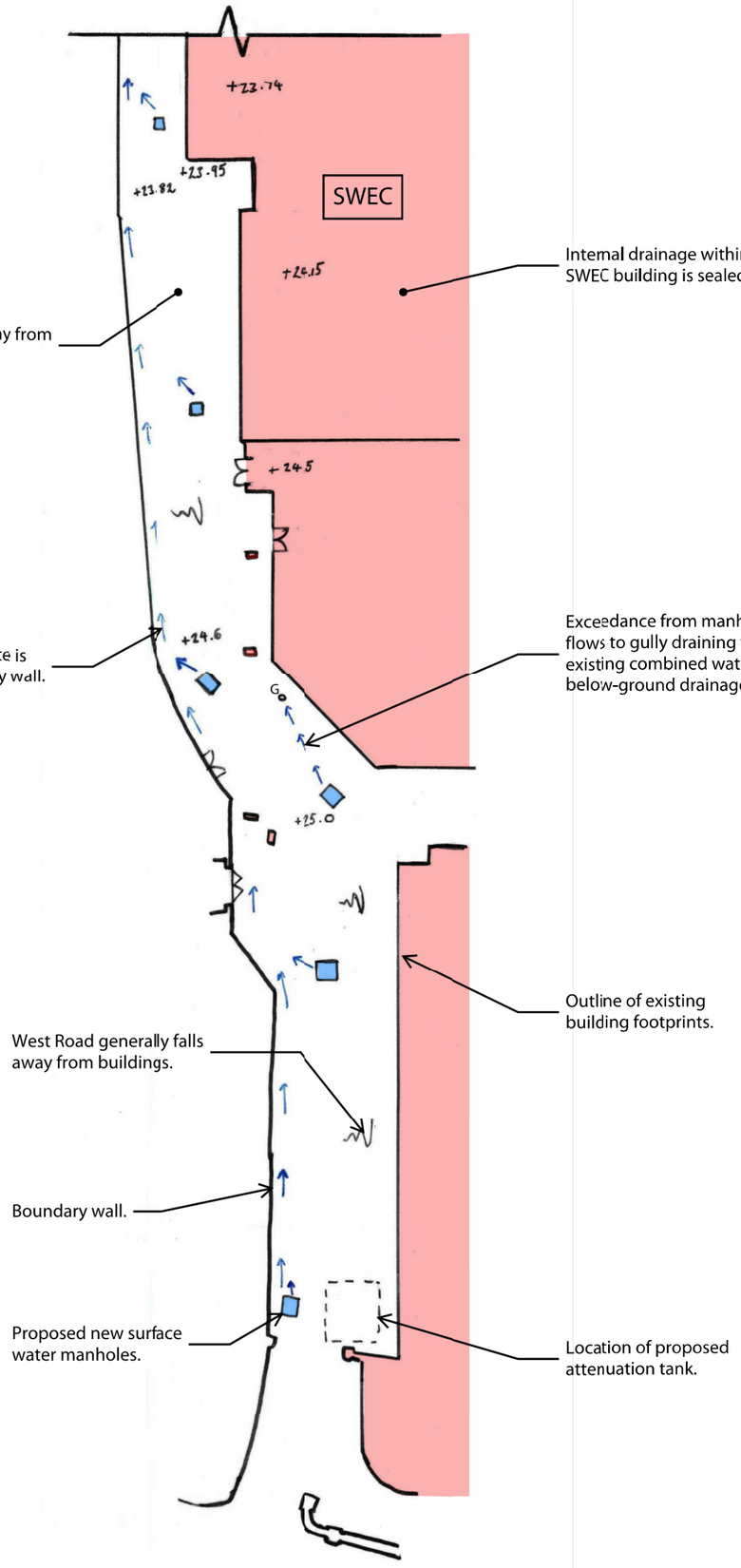
drawn	checked
OL	LK
date	scale (orignal - A1)
07/2023	1:50

Alan Baxter

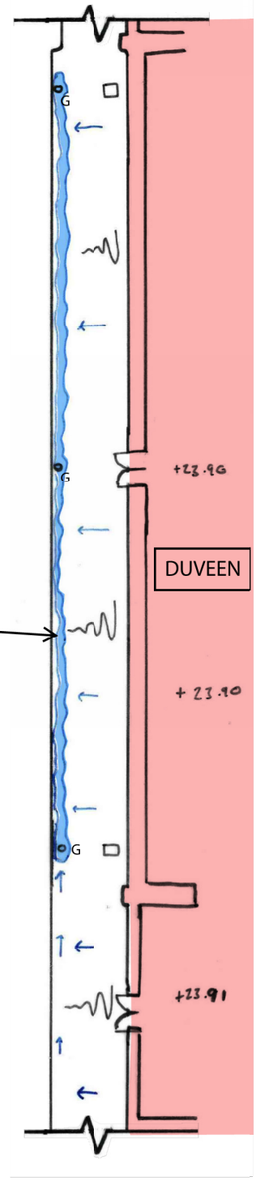
75 Cowcross Street London EC1M 6EL
tel 020 7250 1555
email aba@alanbaxter.co.uk

www.alanbaxter.co.uk

drg. no.	rev.
1910/041/420	-



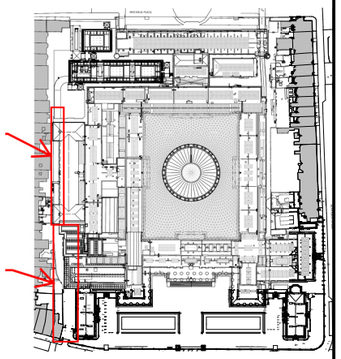
Plan - Part 1



Plan - Part 2

notes

1. This drawing is to be read in conjunction with all relevant Architect's and Engineer's drawings and the specification.



KEY PLAN
(NTS)

-	09.02.24	ISSUED FOR PLANNING	DLa

job
BRITISH MUSEUM SOUTH WEST ENERGY CENTRE

title
PROPOSED SURFACE WATER DRAINAGE SYSTEM EXCEEDANCE FLOW ROUTES

drawn	checked
CM	DLa
date	scale (original - A3)
FEB '24	NTS

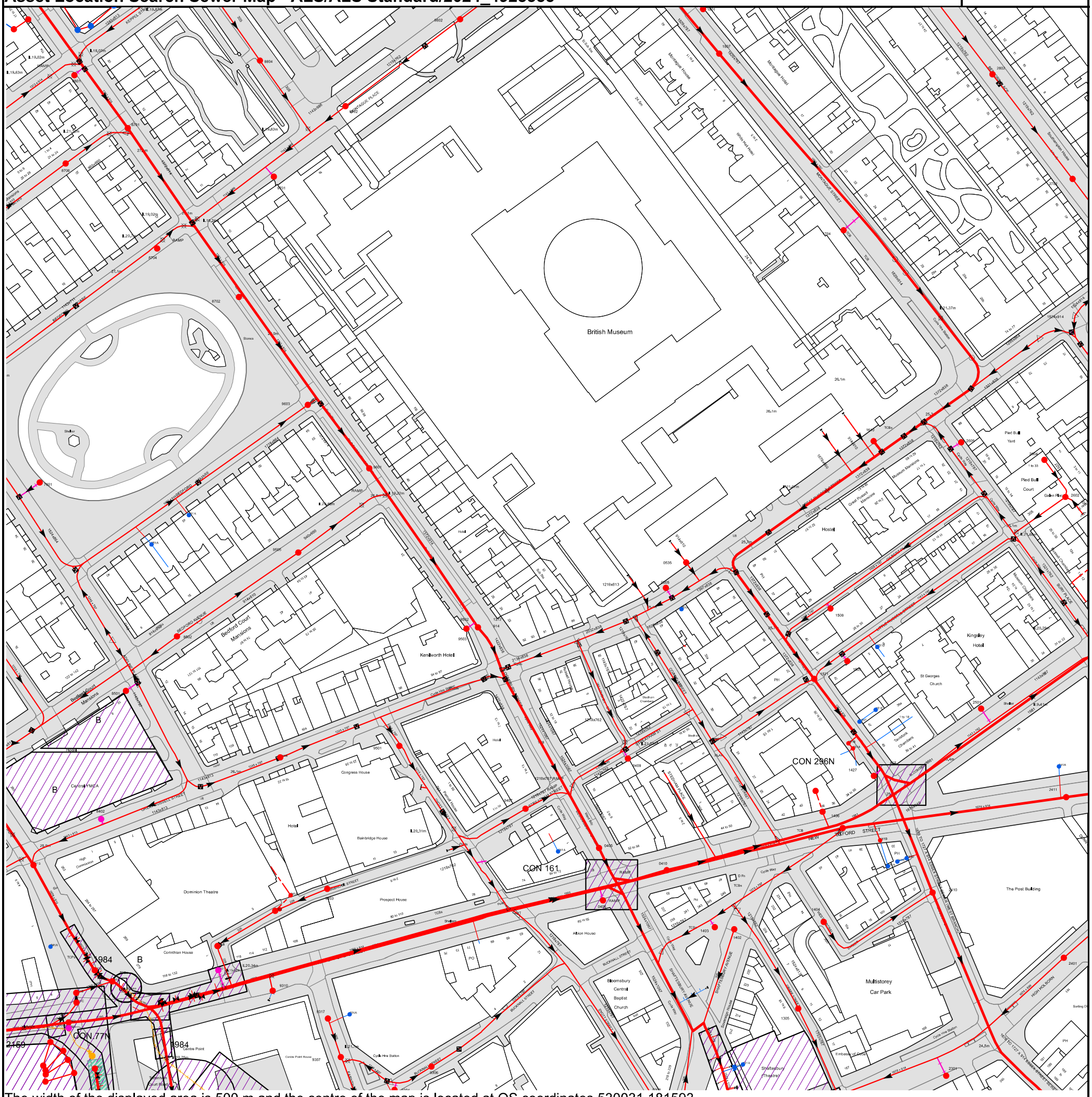
Alan Baxter

75 Cowcross Street London EC1M 6EL
tel 020 7250 1555
email aba@alanbaxter.co.uk

www.alanbaxter.co.uk

drg. no. **1910/41/133** rev. **-**

Asset Location Search Sewer Map - ALS/ALS Standard/2024_4928355



The width of the displayed area is 500 m and the centre of the map is located at OS coordinates 530031,181593

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

Appendix B
Camden Council SuDS Proforma

Camden

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1. Project & Site Details

Project / Site Name (including sub-catchment / stage / phase where appropriate)	British Museum, Energy Centre Programme
Address & post code	Great Russell Street, London WC1B 3DG
OS Grid ref. (Easting, Northing)	E 530020
	N 181635
LPA reference (if applicable)	
Brief description of proposed work	The British Museum is progressing with its strategy for transitioning to sustainable, low-carbon infrastructure. 2 new infrastructure buildings, the South West Energy Centre (SWEC) and a new Intake Substation (ISS), are proposed.
Total site Area	530 m^2
Total existing impervious area	530 m^2
Total proposed impervious area	530 m^2
Is the site in a surface water flood risk catchment (ref. local Surface Water Management Plan)?	The site is within Critical Drainage Area Group 3_005.
Existing drainage connection type and location	Into existing combined drainage run on Museum site.
Designer Name	Cara Malcolm
Designer Position	Engineer
Designer Company	Alan Baxter Ltd

2. Proposed Discharge Arrangements

2a. Infiltration Feasibility

Superficial geology classification	River Terrace sands & gravels
Bedrock geology classification	London Clay
Site infiltration rate	N/A m/s
Depth to groundwater level	3.85 - 3.96 m below ground level
Is infiltration feasible?	No

2b. Drainage Hierarchy

	Feasible (Y/N)	*Proposed (Y/N)*
1 store rainwater for later use	N	N
2 use infiltration techniques, such as porous surfaces in non-clay areas	N	N
3 attenuate rainwater in ponds or open water features for gradual release	N	N
4 attenuate rainwater by storing in tanks or sealed water features for gradual release	Y	Y
5 discharge rainwater direct to a watercourse	N	N
6 discharge rainwater to a surface water sewer/drain	N	N
7 discharge rainwater to the combined sewer.	Y	Y

2c. Proposed Discharge Details

Proposed discharge location	Existing combined drainage run on site.
Has the owner/regulator of the discharge location been consulted?	Yes - owned by applicant.

Camden

GREATERLONDONAUTHORITY

LoDEG

These are the theoretical storage volumes required to limit flows to greenfield rates. However, it is not possible to limit flows to greenfield rates.

3. Drainage Strategy

3a. Discharge Rates & Required Storage

	Greenfield (GF) runoff rate (l/s)	*Existing discharge rate (l/s)*	*Required storage for GF rate (m^3)*	*Proposed discharge rate (l/s)*
Qbar	0.08			
1 in 1	0.1	8.4	12	2
1 in 30	0.2	20	30	2
1 in 100	0.3	25.4	42	2
1 in 100 + CC			50	2
Climate change allowance used		40%		

3b. Principal Method of Flow Control	Vortex flow control device (Hydrobrake or similar), subject to detailed design.

3c. Proposed SuDS Measures

	Catchment area (m^2)	*Plan area (m^2)*	*Storage vol. (m^3)*
Rainwater harvesting	0		0
Infiltration systems	0		0
Green roofs	0	0	0
Blue roofs	0	0	0
Filter strips	0	0	0
Filter drains	0	0	0
Bioretention / tree pits	0	0	0
Pervious pavements	0	0	0
Swales	0	0	0
Basins/ponds	0	0	0
Attenuation tanks	530		24
Total	**530**	**0**	**24**

4. Supporting Information

4a. Discharge & Drainage Strategy	*Page/section of drainage report*
Infiltration feasibility (2a) – geotechnical factual and interpretive reports, including infiltration results	Pages 3-4
Drainage hierarchy (2b)	Pages 3-4
Proposed discharge details (2c) – utility plans, correspondence / approval from owner/regulator of discharge location	Appendix A
Discharge rates & storage (3a) – detailed hydrologic and hydraulic calculations	Appendix C
Proposed SuDS measures & specifications (3b)	Page 4

4b. Other Supporting Details	*Page/section of drainage report*
Detailed Development Layout	Appendix D
Detailed drainage design drawings, including exceedance flow routes	Appendix A
Detailed landscaping plans	N/A
Maintenance strategy	Page 5
Demonstration of how the proposed SuDS measures improve:	
a) water quality of the runoff?	N/A
b) biodiversity?	N/A
c) amenity?	N/A

Appendix C
Discharge Rate Calculations