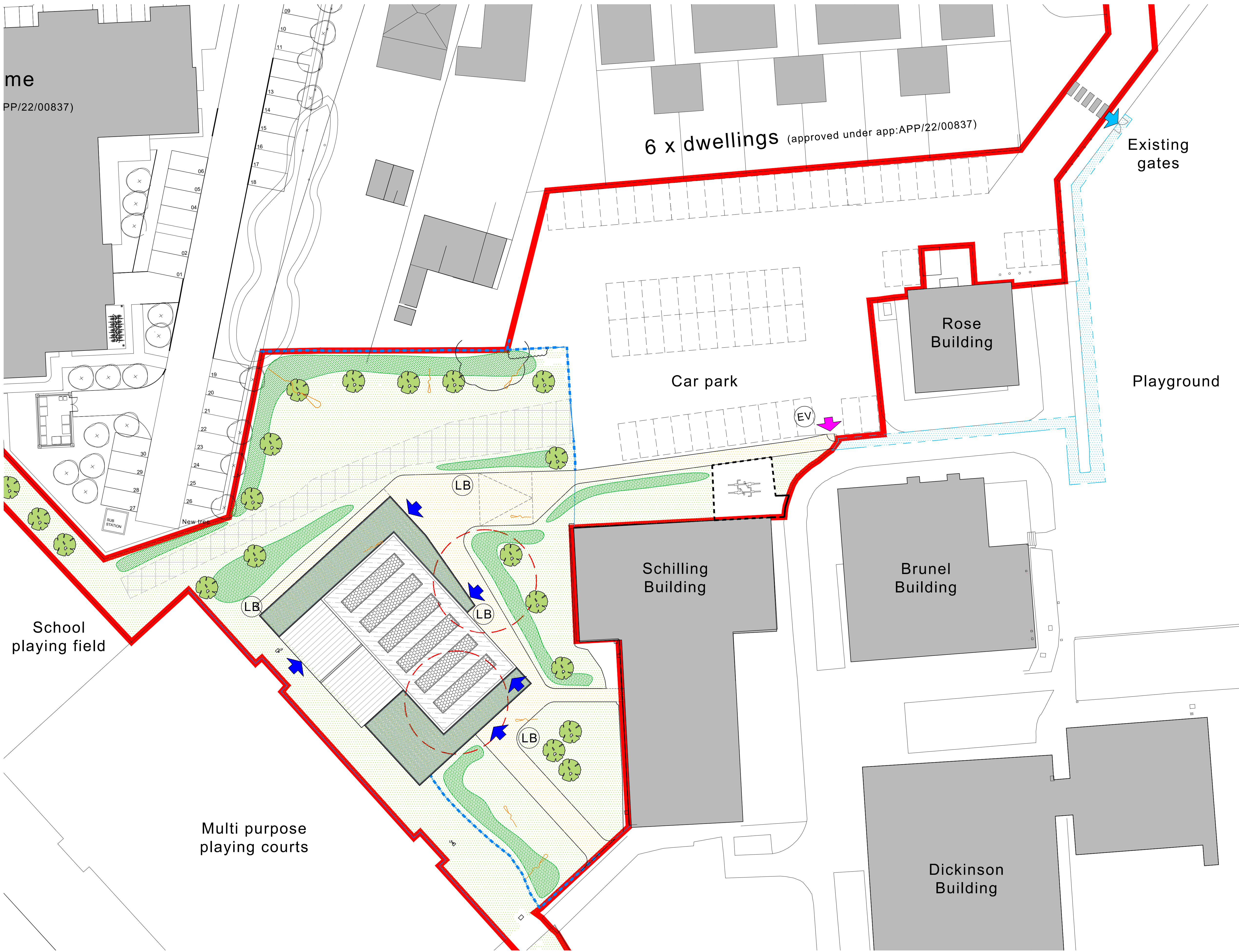
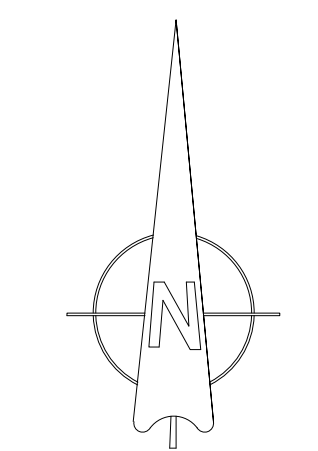
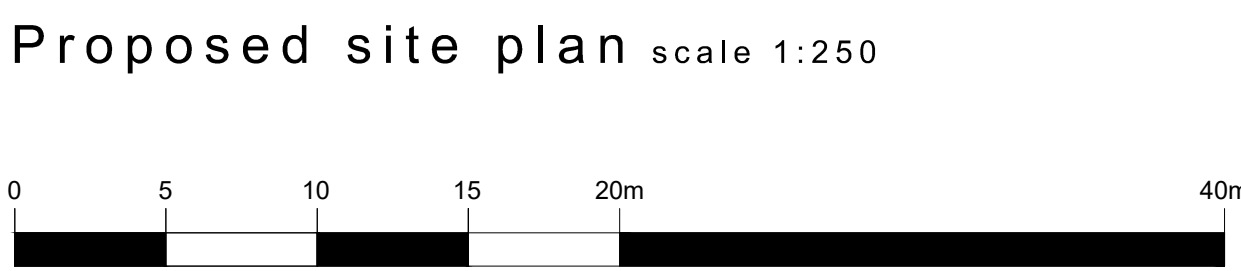


APPENDICES

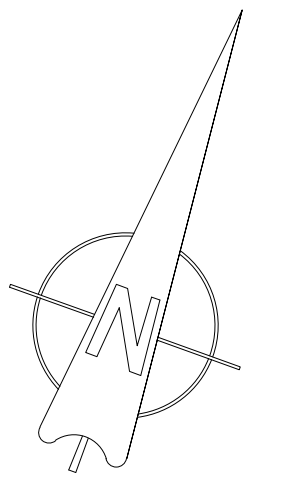
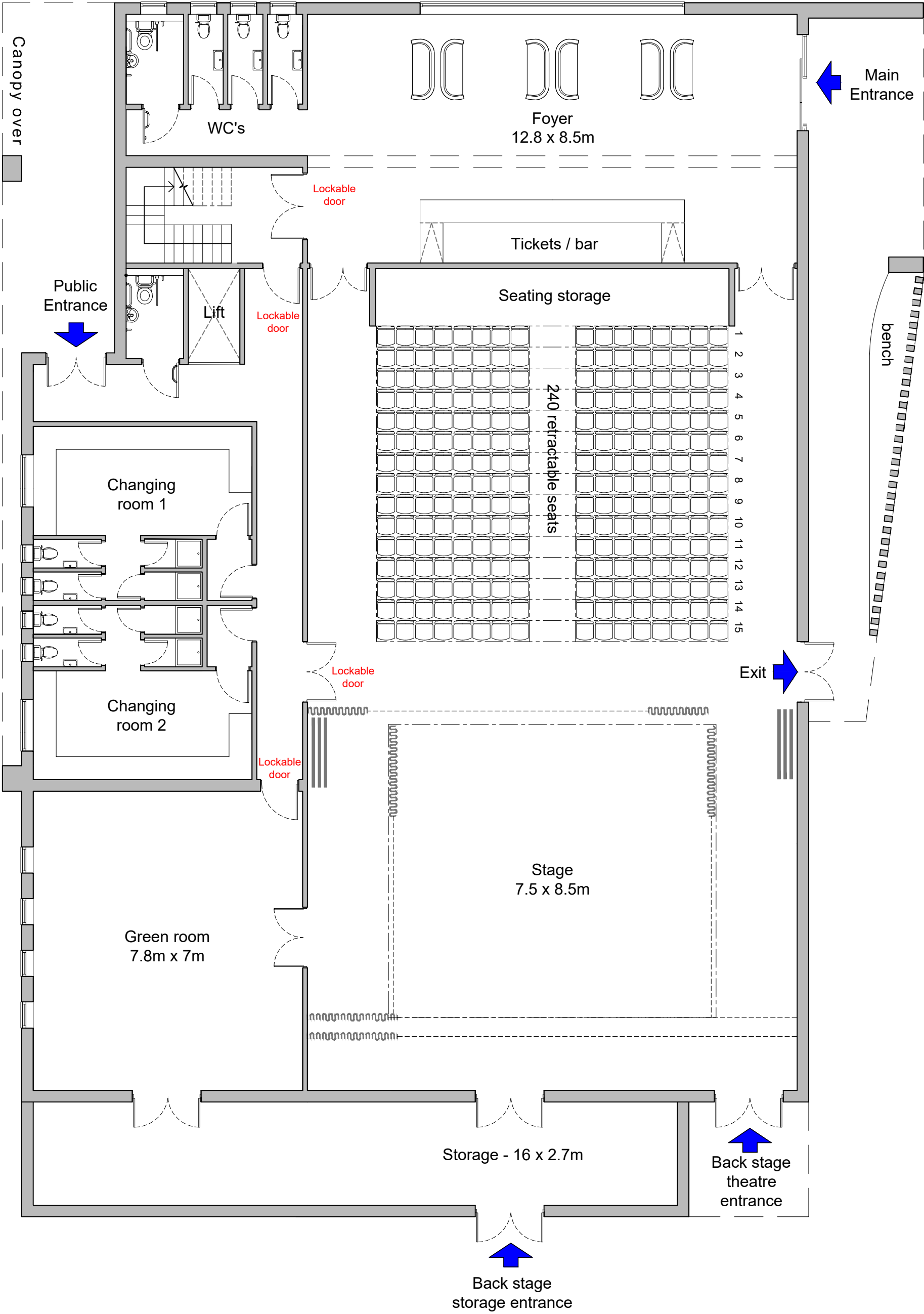
Appendix A JB Architecture Development Proposals



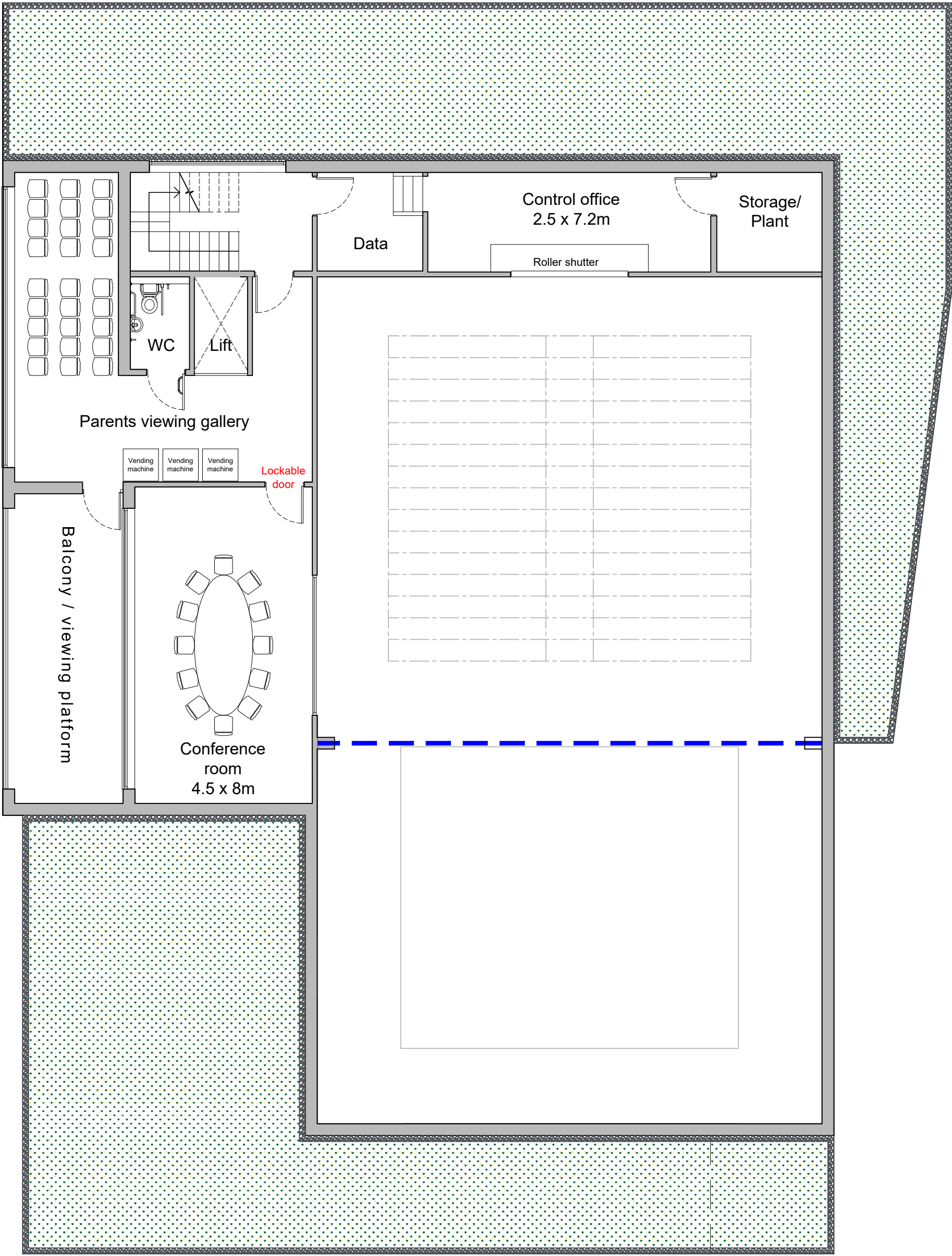
- Key:**
- Areas of grass
 - Existing tree removed
 - Vehicular access to playing field (maintenance and emergency access)
 - New tree
 - New hedgerow
 - Footpath
 - Out of hours pedestrian route
 - Car park access to theatre & changing rooms
 - Building entry points
 - Out of hours pedestrian access
 - EV Electric vehicle charging point
 - LB New litter bin location
 - Additional bike spaces



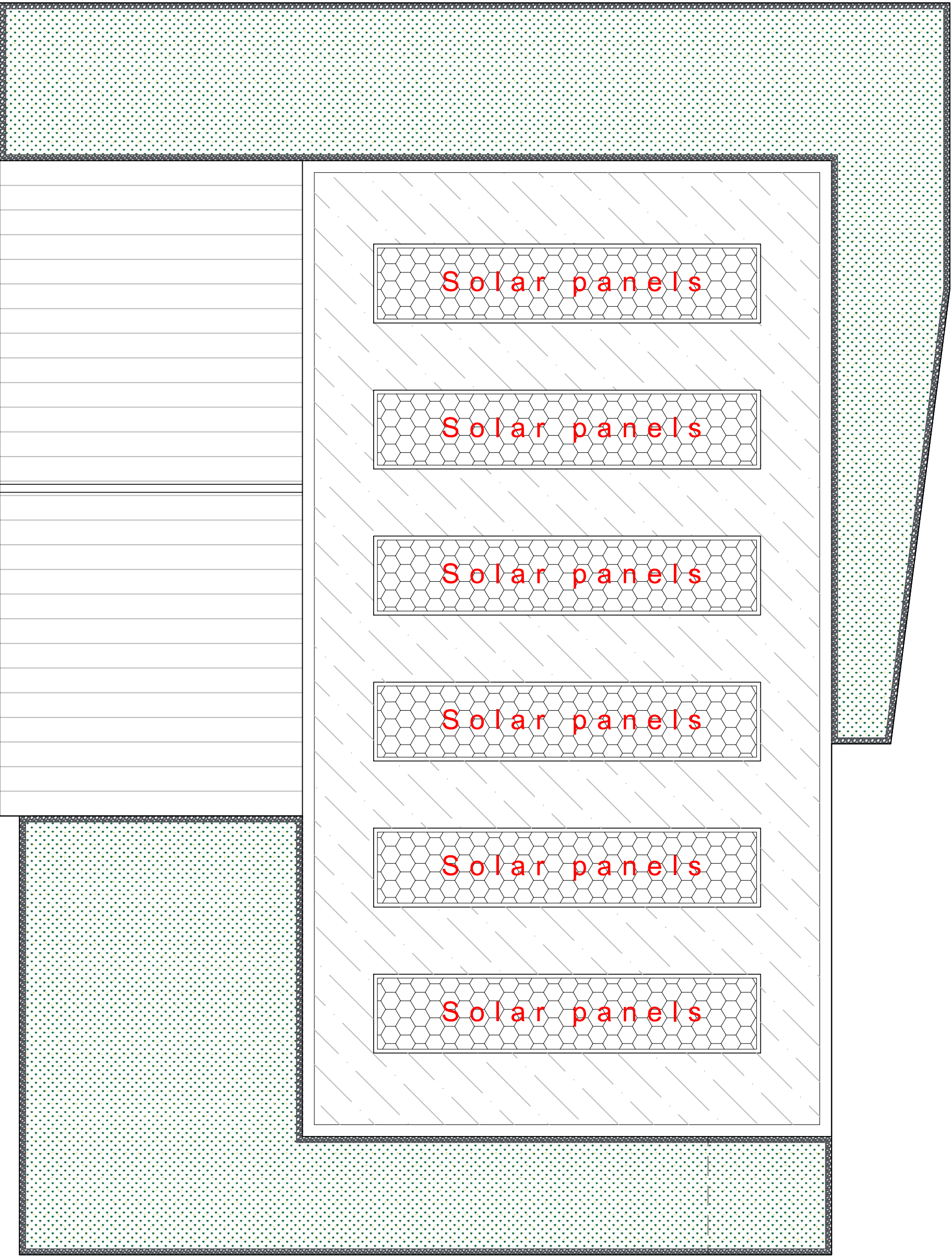
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Project PROPOSED THEATRE BUILDING AT THE COWPLAIN SCHOOL HART PLAIN AVENUE, WATERLOOVILLE PO8 8RY		Date April 2025	Drawn JB	Scale 1:250 @ A1	Checked -
		Job Number PL809.25	Drawing Number -22		Revision C
				Email: admin@jb-architecturedesign.com	
				Web: www.jb-architecturedesign.com	



Ground floor plan



First floor plan

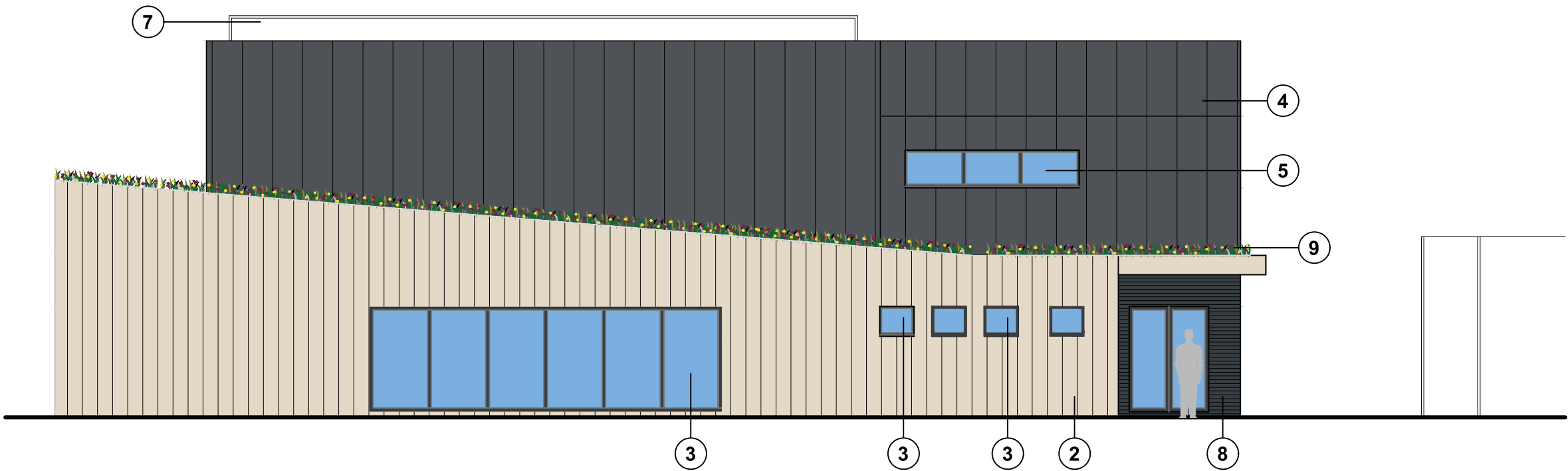


Roof plan

Proposed floor plans scale 1:100



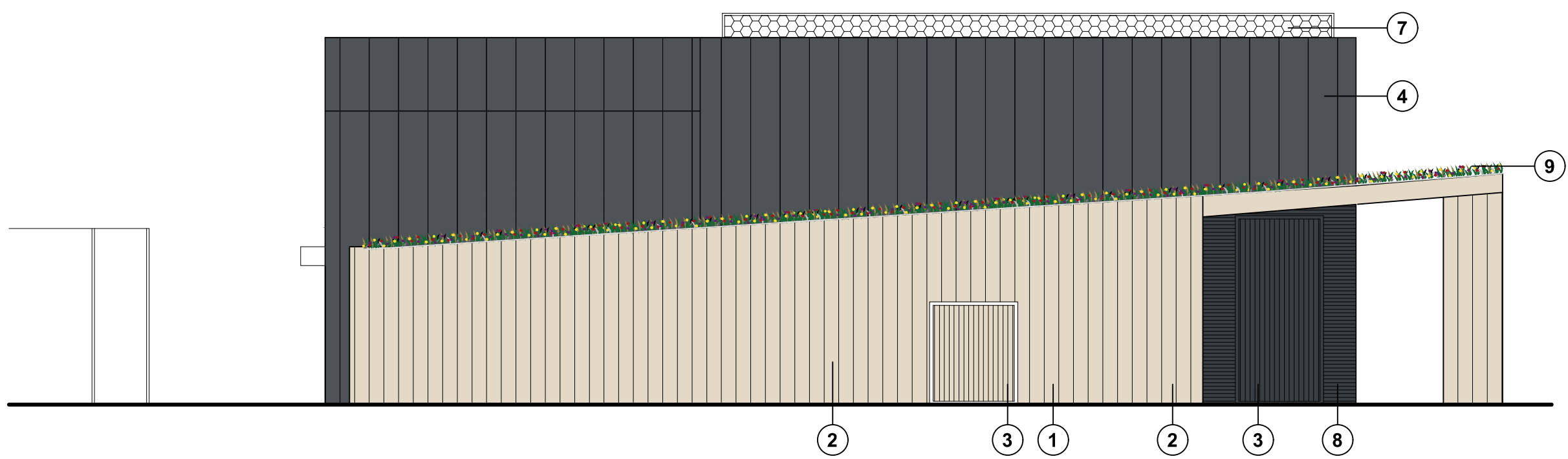
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	Job Number PL809.24	Drawing Number -23		Revision A	Web: www.jb-architecturedesign.com	



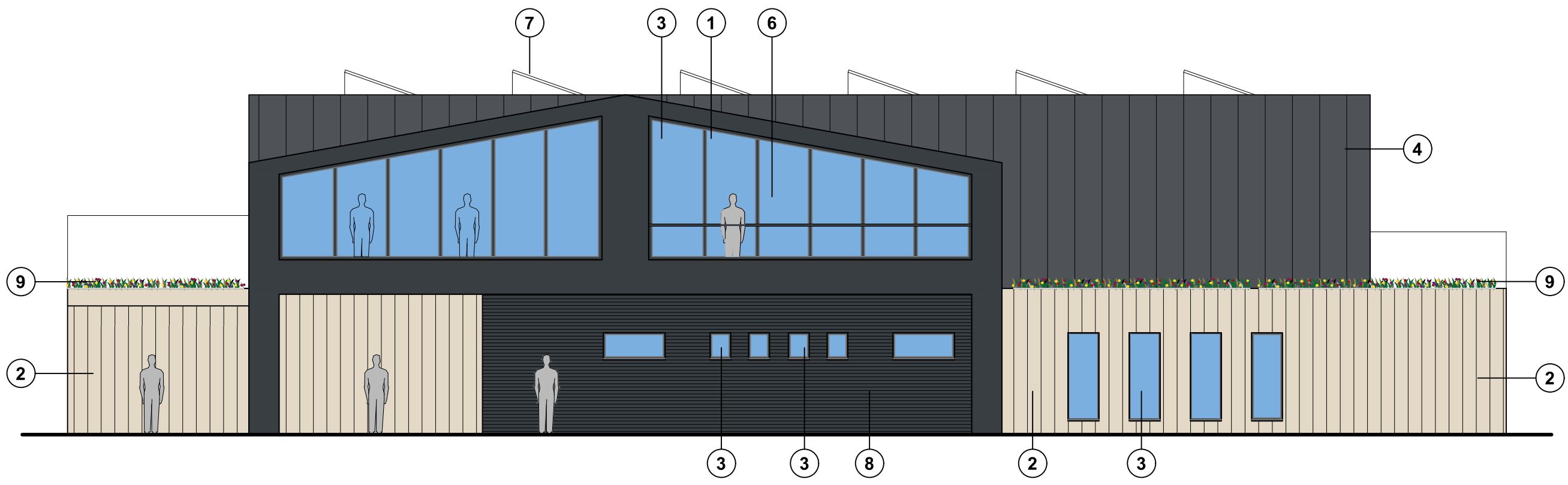
North elevation



East elevation



South elevation



West elevation



Proposed elevations scale 1:100



Proposed 3d images

Rear elevation - overlooking sports field

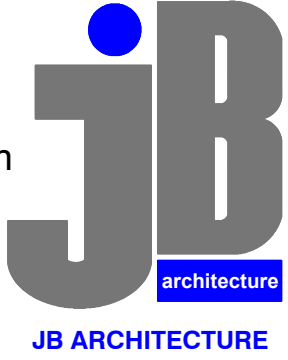


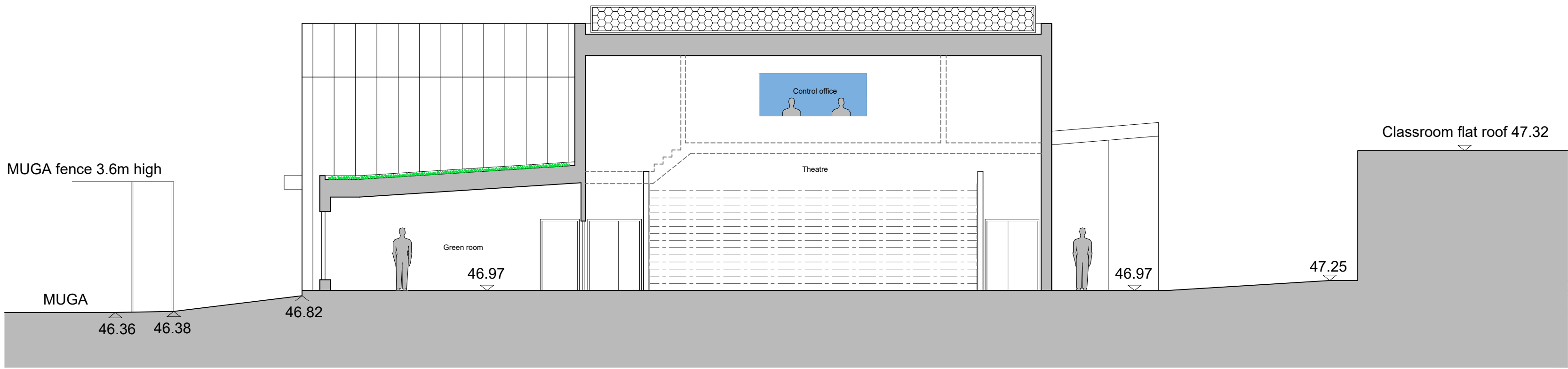
Front elevation - view towards main entrance

- 1 RAL 7016 Zinc standing seam
- 2 Weatherboard cladding (light oak)
- 3 Aluminum doors & windows - RAL 7016
- 4 RAL 7015 Zinc standing seam
- 5 Aluminum doors & windows - RAL 7015
- 6 Frameless glass balustrade
- 7 Solar panels exact type / size TBC
- 8 Grey bricks
- 9 Wildflower green roof

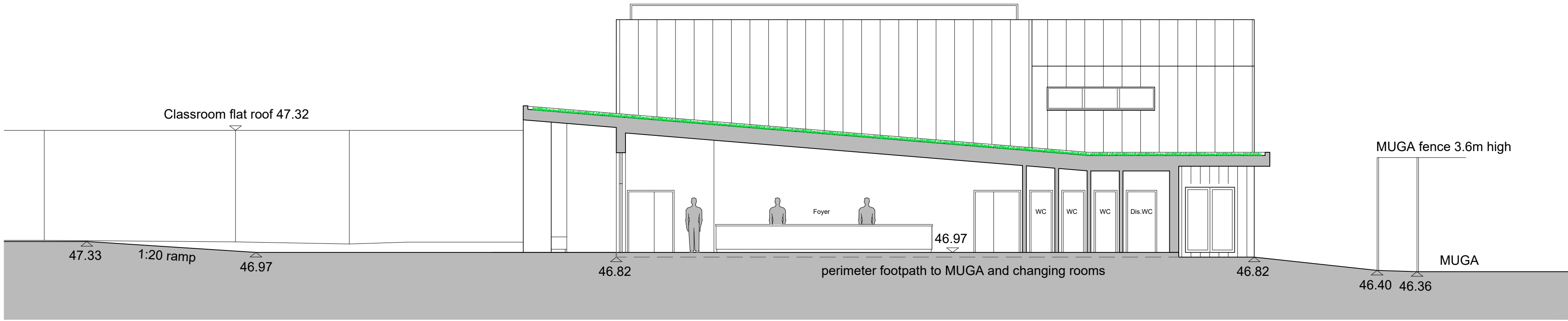


Material samples

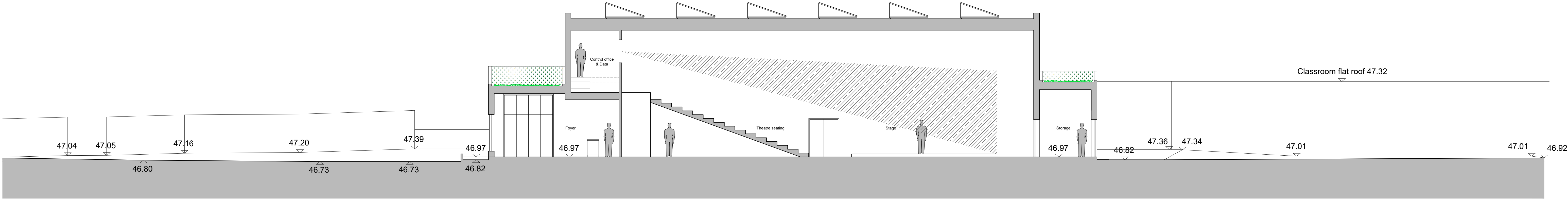
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Project PROPOSED THEATRE BUILDING AT THE COWPLAIN SCHOOL HART PLAIN AVENUE, WATERLOOVILLE PO8 8RY		Date April 2025	Drawn JB	Scale 1:100 @ A1	Checked -
		Job Number PL809.24	Drawing Number -24	Revision B	
		Email: admin@jb-architecturedesign.com		Web: www.jb-architecturedesign.com	
					



Section A-A

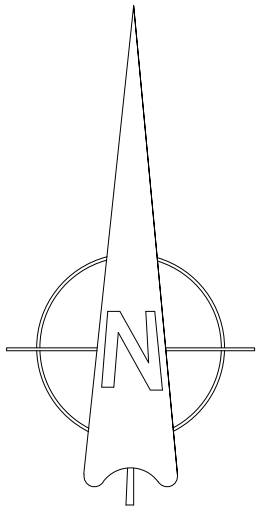
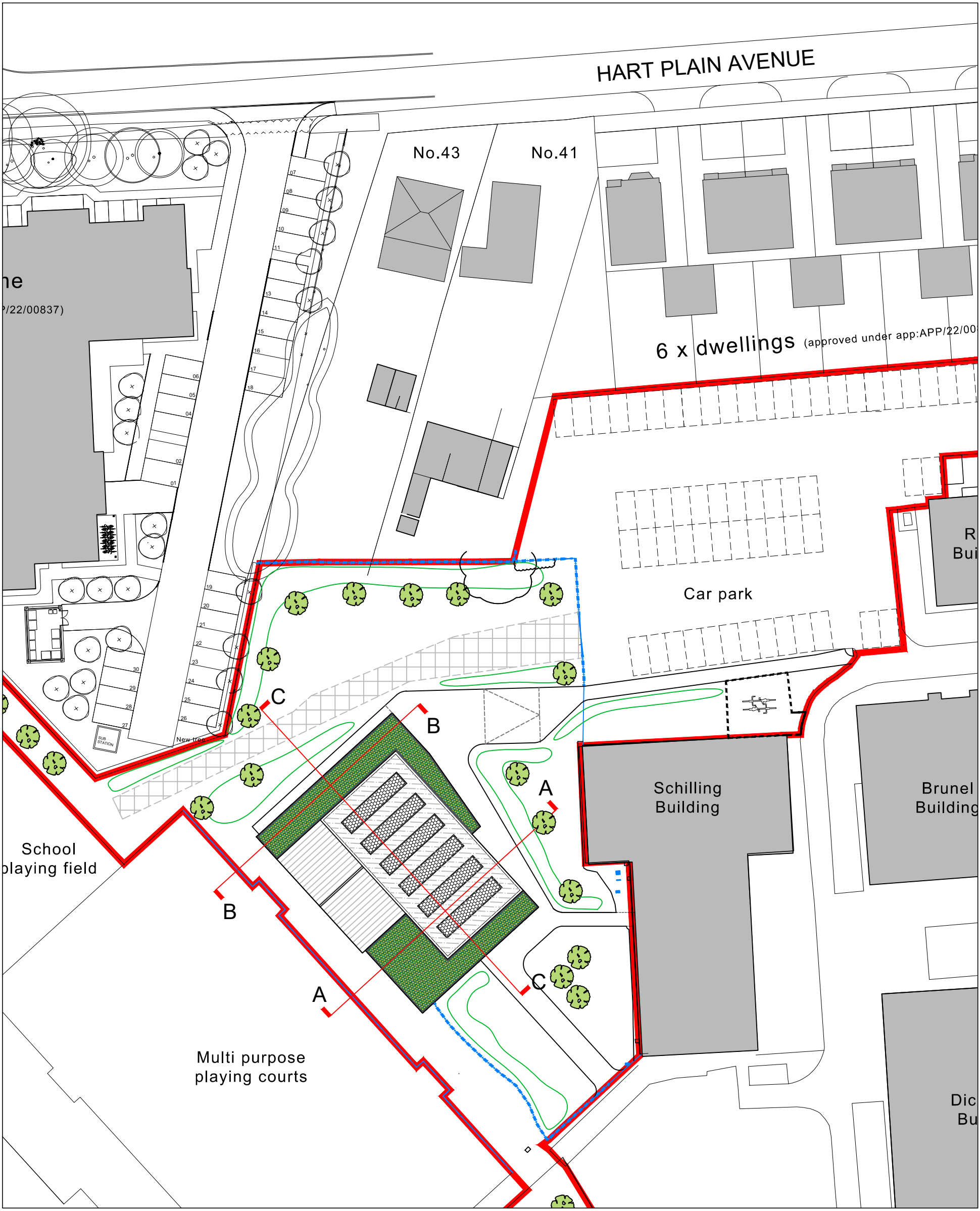


Section B-B

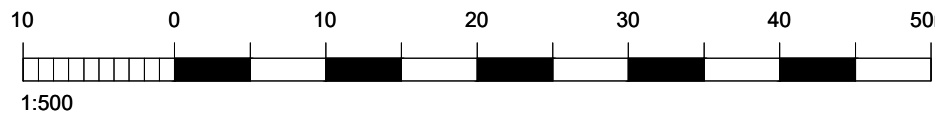


Section C-C

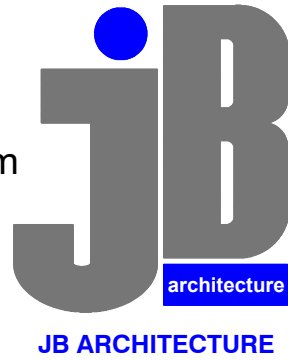
Proposed sections scale 1:100



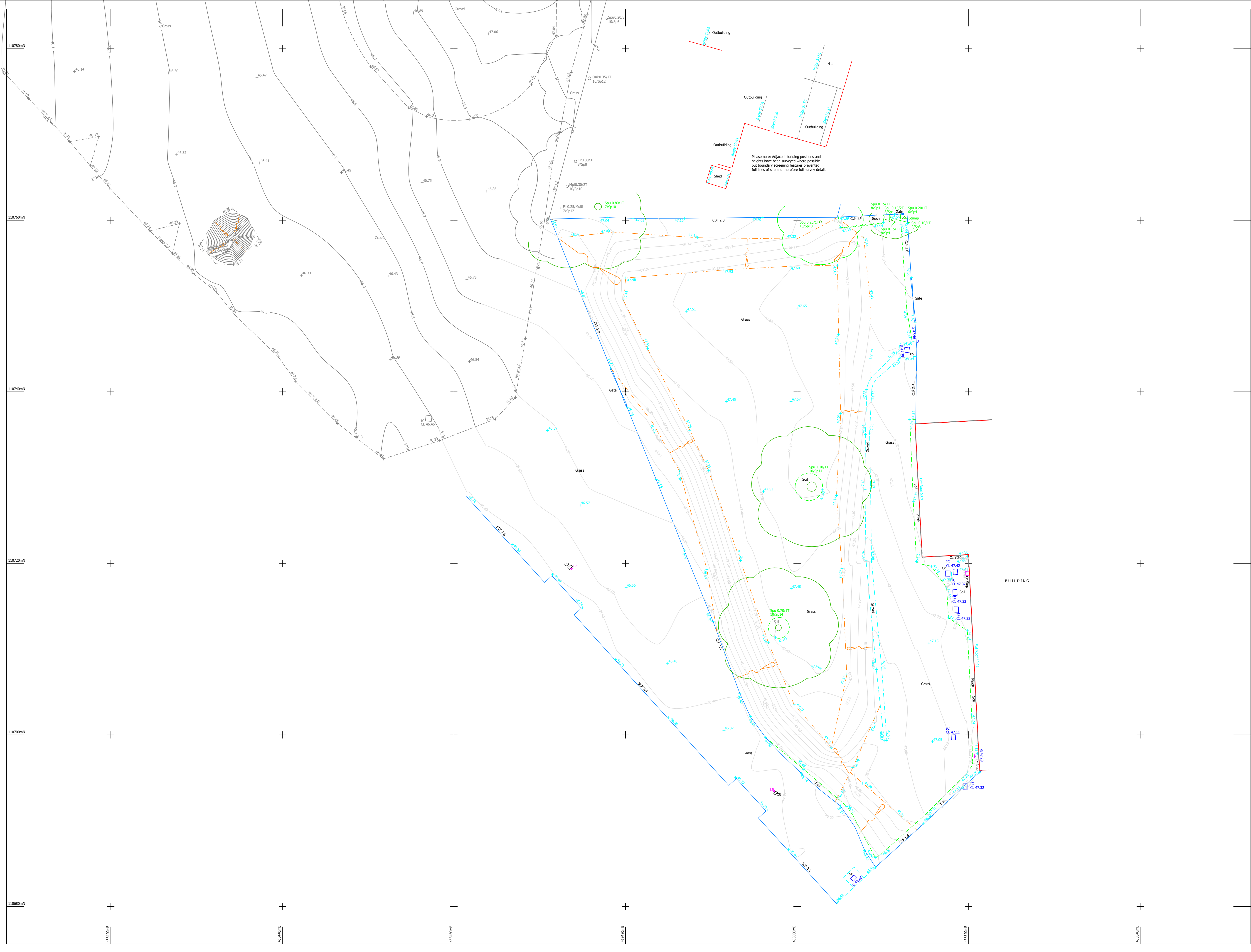
Site plan with section lines



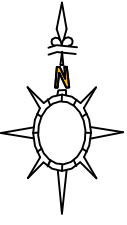
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Project PROPOSED THEATRE BUILDING AT THE COWPLAIN SCHOOL HART PLAIN AVENUE, WATERLOOVILLE PO8 8RY	Date April 2025	Email: admin@jb-architecturedesign.com
	Drawn JB	Web: www.jb-architecturedesign.com
	Scale 1:100 & 1:500 @ A1	
	Checked -	
	Job Number PL809.25	
	Drawing Number -25	
	Revision A	



Appendix B Encompass Surveys Topographic Survey & GPR Survey



NOTES:
Drainage:
Inspection Covers are lifted where possible and all drainage invert information has been obtained through visual inspection only, with no entry into manholes. Therefore the complete accuracy cannot be guaranteed. Where drainage is of critical importance we suggest the services of a specialist drainage expert be used.
Trees:
Every effort has been made to identify and detail all trees on site but where trees are of critical importance we suggest the use of a specialist such as an arborist. Tree spread and heights are indicative.
GPS:
GPS detail is relative to the time and date of survey. GPS levels and grid are obtained using industry standard guidelines and can vary according to the quality of the GPS network at the time of survey. Unless stated otherwise, surveys are Scale factor 1 and Horizontal and Vertical Datums are established from a central site fix and baseline orientation station utilising GNSS correction data.
Survey notes:
Survey specification is linked to the original purpose of the survey commissioned at source and is to be used for this purpose only. Survey is accurate within limitations of site conditions at the time of survey. In areas difficult to survey due to restricted access, lines of sight or dense vegetation, critical dimensions and positions should be verified following suitable clearance.
Survey detail obtained and shown is relative to the plotting scale.
Copyright:
This survey information is Copyright Encompass Surveys Ltd (2009). All rights reserved.



LEGEND

OVERALL TREE SPECIES INFORMATION

ALDER	ASH	ASPEN	BEECH	CHERRY	ELM	FIR	FRUIT	HAWTHORN	HAZEL	HOLLY	HORSE CHESTNUT	LIME	LOCUST	ALD	ASH	ASP	BCH	CHY	ELM	FIR	FRU	HAW	HAZ	HLY	HCH	LIM	LOC	LONDON PLANE	MAGNOLIA	MAPLE	OAK	PINE	POPLAR	RHODODENDRONS	SILVER BIRCH	SWEET CHESTNUT	WALNUT	WILLOW	YEW	SPECIES UNKNOWN	COPPED	LPN	MAG	MPL	OAK	PNE	POP	RON	SIB	SCH	WNT	WLW	YEW	SFU	COP
-------	-----	-------	-------	--------	-----	-----	-------	----------	-------	-------	----------------	------	--------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	--------------	----------	-------	-----	------	--------	---------------	--------------	----------------	--------	--------	-----	-----------------	--------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

TREE ANNOTATIONS: Tree Species / Tree Bole Size / No of Boles
Tree Height / Tree Canopy Spread

FENCE INFORMATION

BARBED WIRE FENCE	CHAIN LINK FENCE	CHESTNUT PALING FENCE	CLOSE BOARD FENCE	CONCRETE SLAT FENCE	CORRUGATED IRON FENCE	CRASH BARRIER	HANDRAIL	IRON RAILINGS	LARCH LAP FENCE	MISCELLANEOUS FENCE	PALISADE FENCE	PICKET FENCE	POST AND RAIL FENCE	POST AND WIRE FENCE	SECURITY FENCE	STOCK WIRE FENCE	TRELLIS FENCING	WIRE MESH FENCE
-------------------	------------------	-----------------------	-------------------	---------------------	-----------------------	---------------	----------	---------------	-----------------	---------------------	----------------	--------------	---------------------	---------------------	----------------	------------------	-----------------	-----------------

LEVEL INFORMATION

BED LEVEL	COVER LEVEL	FLOOR LEVEL	INVERT LEVEL	OUTFALL LEVEL	THRESHOLD LEVEL	FOUL WATER	SURFACE WATER	UNABLE TO LIFT	WATER LEVEL
-----------	-------------	-------------	--------------	---------------	-----------------	------------	---------------	----------------	-------------

SURFACE INFORMATION

CONCRETE	BRICK PAVING	FLOWERBED	PAVING SLABS	RETAINING WALL	SCALPING	TACTILE PAVING	CG	BP	FB	PS	RW	Sc	Tac
----------	--------------	-----------	--------------	----------------	----------	----------------	----	----	----	----	----	----	-----

FEATURE INFORMATION

BOLLARD	TELECOMS IC	BUS STOP	CABLE TELEVISION IC	BATHING ROO	ELECTRICITY CABLE PIT	FIRE HYDRANT	FLAG POLE	GUIDE POST	INSPECTION COVER	LAMP POST	LETTER BOX	KERB OUTLET	BD	BTIC	BS	CAV	ER	ELCP	EP	FI	FP	GP	IC	LP	LB	KD	NAME PLATE	NOTICE BOARD	POST	RAIN WATER PIPE	ROAD SIGN	RODDING EYE	SERVICE HARKER POST	SOIL VENT PIPE	STOP VALVE	TELEGRAPH POLE	TRAFFIC SIGNAL	TRAFFIC SIGNALS IC	WASH OUT	WATER METER	NP	NB	P	RWP	RS	RE	SMP	SVP	SV	TP	TS	TSIC	WM
---------	-------------	----------	---------------------	-------------	-----------------------	--------------	-----------	------------	------------------	-----------	------------	-------------	----	------	----	-----	----	------	----	----	----	----	----	----	----	----	------------	--------------	------	-----------------	-----------	-------------	---------------------	----------------	------------	----------------	----------------	--------------------	----------	-------------	----	----	---	-----	----	----	-----	-----	----	----	----	------	----

REVISIONS

Level Datum:
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Ref: 3531

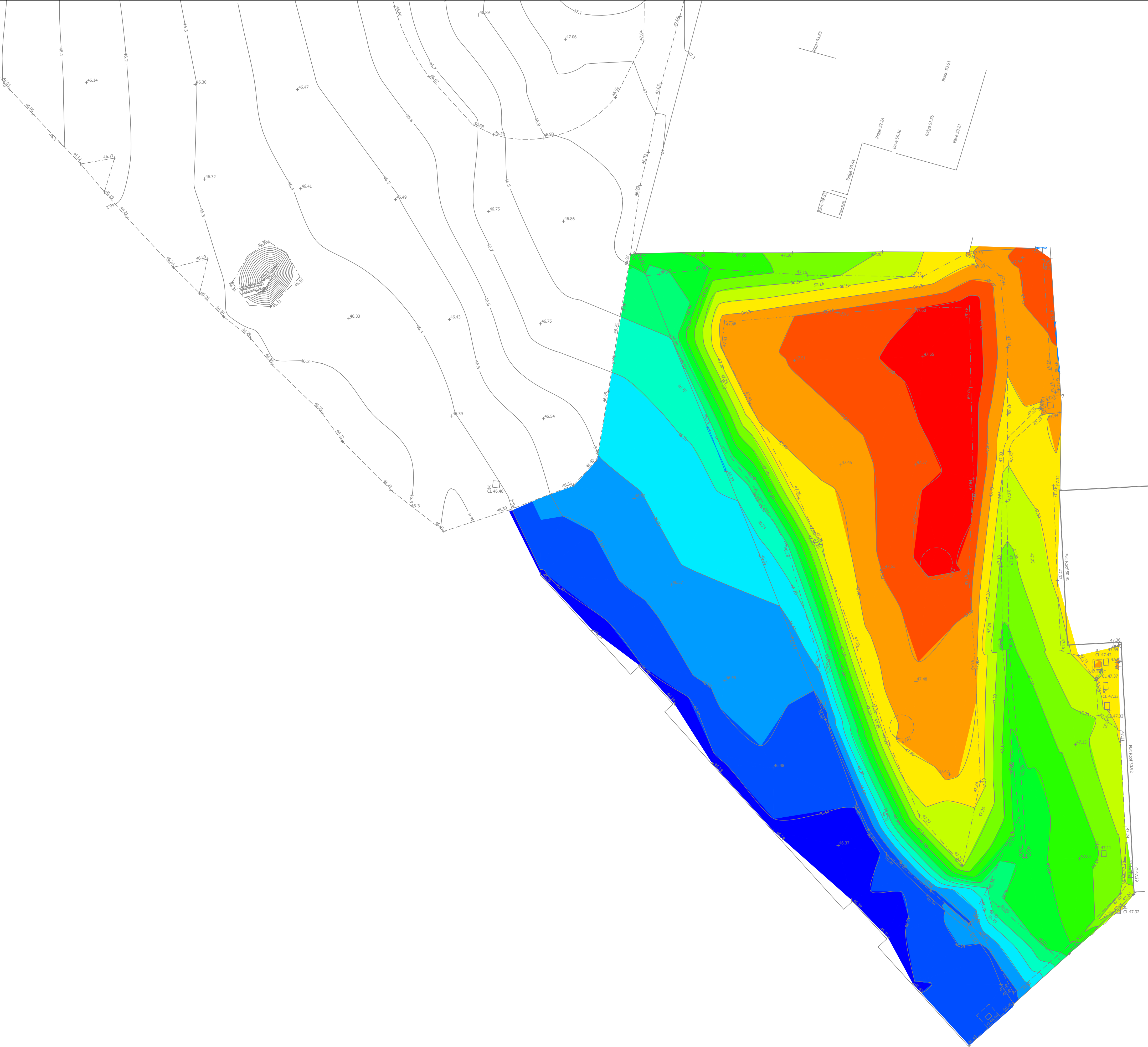
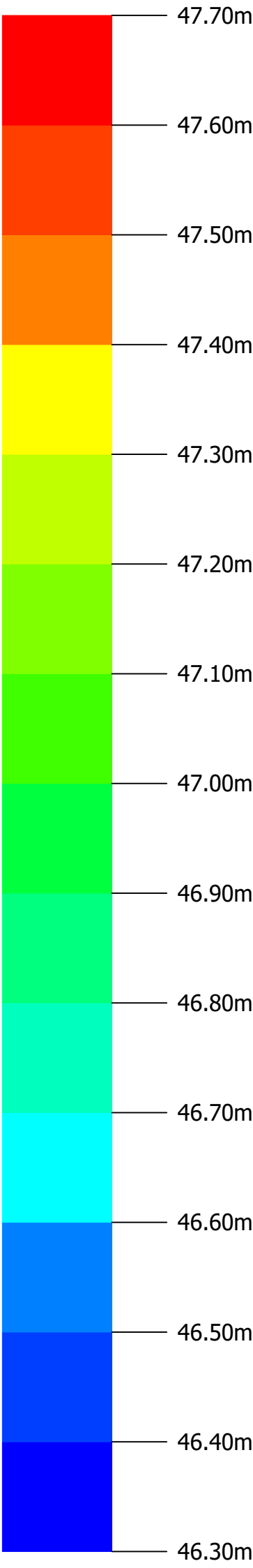
Grid:
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Northpoint:

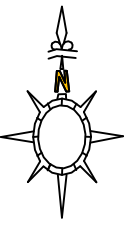


Encompass Surveys Ltd
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1300 Parkway
Solent Business Park
Whiteley, Fareham
Hampshire, PO15 7AX
Tel: (+44)2380 692002 Email: info@encompass-surveys.co.uk
encompass-surveys.co.uk

Client:	Cowplain School		
Survey Location:	Hart Plain Avenue, Cowplain Waterlooville, Hampshire PO8 8RY		
Survey type:	Topographical	Scale:	1:200@A1
Drawing ref:	ENC/3737/291124/S1	Date:	November 2024
Drawn/QA:	CE/BF	Plot No.	1 of 1



NOTES:
Drainage:
Inspection Covers are lifted where possible and all drainage invert information has been obtained through visual inspection only, with no entry into manholes. Therefore the complete accuracy cannot be guaranteed. Where drainage is of critical importance we suggest the services of a specialist drainage expert be used.
Trees:
Every effort has been made to identify and detail all trees on site but where trees are of critical importance we suggest the use of a specialist such as an arborist. Tree spread and heights are indicative.
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GPS detail is relative to the time and date of survey. GPS levels and grid are obtained using industry standard guidelines and can vary according to the quality of the GPS network at the time of survey. Unless stated otherwise, surveys are Scale factor 1 and Horizontal and Vertical Datums are established from a central site fix and baseline orientation station utilising GNSS correction data.
Survey notes:
Survey specification is linked to the original purpose of the survey commissioned at source and is to be used for this purpose only. Survey is accurate within limitations of site conditions at the time of survey. In areas difficult to survey due to restricted access, lines of sight or dense vegetation, critical dimensions and positions should be verified following suitable clearance.
Survey detail obtained and shown is relative to the plotting scale.
Copyright:
This survey information is Copyright Encompass Surveys Ltd (2009). All rights reserved.



LEGEND

OVERALL TREE SPECIES INFORMATION

ALDER	ALD	LONDON PLANE	LPN
ASH	ASH	MAGNOLIA	MAG
ASPEN	ASP	MAPLE	MPL
BEECH	BCH	OAK	OAK
CHERRY	CHY	PINE	PNE
ELM	ELM	POPLAR	POP
FIR	FIR	RHODODENDRONS	RON
FRUIT	FRU	ROWAN	ROW
HAWTHORN	HAW	SILVER BIRCH	SIB
HAZEL	HAZ	SWEET CHESTNUT	SCH
HOLLY	HLY	WALNUT	WNT
HORSE CHESTNUT	HCH	WILLOW	WLW
LIME	LIM	YEW	YEW
LOCUST	LOC	SPECIES UNKNOWN	SNU
		CORPSED	COP

TREE ANNOTATIONS: Tree Species / Tree Bole Size / No of Boles
Tree Height / Tree Canopy Spread

FENCE INFORMATION

BARBED WIRE FENCE	BWF
CHAIN LINK FENCE	CLF
CHESTNUT PALING FENCE	CPF
CLOSE BOARD FENCE	CBF
CONCRETE SLAT FENCE	CSF
CORRUGATED IRON FENCE	CIF
CRASH BARRIER	CBR
HANDRAIL	HDL
IRON RAILINGS	IRF
LARCH LAP FENCE	LLF
MISCELLANEOUS FENCE	MSF
PALISADE FENCE	PSF
PICKET FENCE	PKF
POST AND CHAIN FENCE	PCF
POST AND RAIL FENCE	PRF
POST AND WIRE FENCE	PWF
SECURITY FENCE	SCF
STOCK WIRE FENCE	SWF
TRELLIS FENCING	TLF
WIRE MESH FENCE	WMF

LEVEL INFORMATION

BED LEVEL	BL
COVER LEVEL	CL
FLOOR LEVEL	FL
INVERT LEVEL	IL
OUTFALL LEVEL	OL
THRESHOLD LEVEL	THL
FOUL WATER	FW
SURFACE WATER	SW
UNABLE TO LIFT	UTL
WATER LEVEL	WL

SURFACE INFORMATION

CONCRETE	CC
BRICK PAVING	BP
FLOWERBED	FB
PAVING SLABS	PS
RETAINING WALL	RWAL
SCALPING	Scap
TACTILE PAVING	Tac

FEATURE INFORMATION

BOLLARD	BO	NAME PLATE	NP
TELECOMS IC	BTIC	NOTICE BOARD	NB
BUS STOP	BS	POST	P
CABLE TELEVISION IC	CAV	RAIN WATER PIPE	RWP
BATHING ROO	ER	ROAD SIGN	RS
ELECTRICITY CABLE PIT	ELCP	RODDING EYE	RE
ELECTRICITY POLE	EP	SERVICE HAMMER POST	SMP
FIRE HYDRANT	PH	SOIL VENT PIPE	SVP
FLAG POLE	FP	STOP VALVE	SV
GUIDE POST	GP	TELEGRAPH POLE	TP
INSPECTION COVER	IC	TRAFFIC SIGNAL	TS
LAMP POST	LP	TRAFFIC SIGNALS IC	TSIC
LETTER BOX	LB	WASH OUT	WO
KERB OUTLET	KO	WATER METER	WM

REVISIONS

Level Datum:
Levels are related to previous Encompass Surveys control network
Ref: 3531

Grid:
Grid is related to previous Encompass Surveys control network

Northpoint:

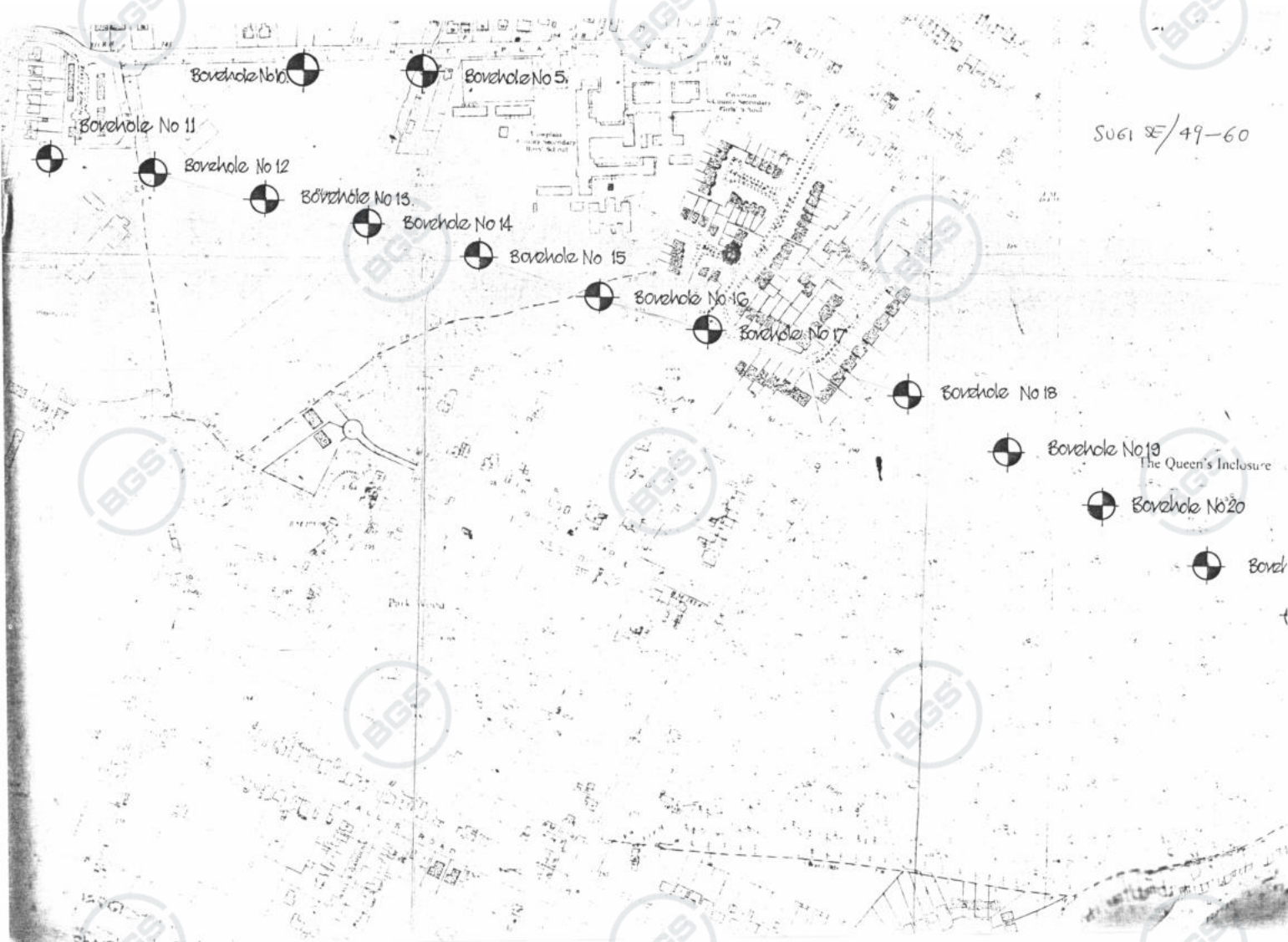


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Tel: (+44)2380 692002 Email: info@encompass-surveys.co.uk
encompass-surveys.co.uk

Client:	Cowplain School		
Survey Location:	Hart Plain Avenue, Cowplain Waterlooville, Hampshire PO8 8RY		
Survey type:	Topographical	Scale:	1:200@A1
Drawing ref:	ENC/3737/291124/S1	Date:	November 2024
Drawn/QA:	CE/BF	Plot No.	Heatmap

Appendix C BGS Information & Records



SHEET No. 16 OF 37

SU 61SE/53

NGR 6844 1067

CONTRACT No. 4195

BOREHOLE RECORD

Hawant

DATE STARTED 25/7 FINISHED 25/7/67

No 14

OPERATOR D. Smith

DATUM LEVEL 147.70

TYPE OF PENETRATION TEST -

DRILLING Shell & Auger

WEIGHT - DROP -

DEPTH 6'

STANDING WATER LEVEL 3.6"

(48 hours)

Type & No of Sample	Boring Details			Legend	Description of Material and Observations
	Penetration	Lining	Water		
			<u>S.W.L.</u>		Soft brown grey mottled clay
					Grey brown mottled clay
					Dark brown/grey laminated clay
					Soft grey clay
			<u>Entry</u>		Brown grey clay
<u>U4/15-6"</u>					Soft grey laminated clay
<u>U4/20-6"</u>					Soft grey sandy clay with layers of firm grey clay
<u>U4/28-0"</u>					
(hard bed)					Firm grey clay & layers of sandy clay

Borehole terminated.

Hawant clay

Appendix D Ground Management Ltd Intrusive Investigation & Testing

SOAKAGE TESTING
AT
COWPLAIN SCHOOL PROPOSED THEATRE BUILDING PO8 8RY
FOR
COWPLAIN SCHOOL

G6666

02 May 2025



Ground Management Ltd
Civil and Geotechnical Engineering Services

DOCUMENT CONTROL

Report Title: Soakage Testing
at Cowplain School Proposed Theatre Building

Report No./ Issue: G6666-01/1

Report Status: Issued for Client Comment

Distribution: Cowplain School PDF copy 02 May 2025

BP Civils

Prepared by: Alistair Tyler BSc MSc DIC CEng MICE

Signed: 
Signature Not Verified
Digitally signed by Alistair Tyler
Date: 2025.05.02 10:08:43 CDT

Ground Management Ltd Robin Hill Farm Clay Lane Fishbourne Chichester West Sussex PO18 8AB

Phone/Fax:01243 575073 mail@groundmanagement.com

CONTENTS

1.0 Introduction

Figure 1: Site Location Plan

Figure 2: Exploratory Hole Location Plan

Exploratory Hole Log : Trial pit TP1

Soakage Test Results

Site Photographs

1.0 INTRODUCTION

- 1.1 Ground Management Ltd (GML) have undertaken soakage testing at the site of the proposed theatre building at Cowplain School PO8 8RY. The site is located as indicated on Figure 1.
- 1.2 The work comprised soakage testing within a trial pit referenced as TP1 excavated to the south of the proposed theatre building located as indicated on Figure 2.
- 1.3 The soils encountered are recorded on the attached exploratory hole log for TP1
- 1.4 This report provides a record of the testing that commenced on 27 March 2025 and was terminated on 2 April 2025. The test pit had only partially drained in that period due to low permeability of the ground. Results of the test are appended.
- 1.5 The work was carried out under on behalf of Cowplain School under instruction from BP Civils and nothing in this report confers or purports to confer on any third party, any benefit or any right to enforce any term of this report pursuant to the Contract (Rights of Third Parties) Act 1999.

PROJECT: Cowplain School Proposed Theatre Building PO8 8RY

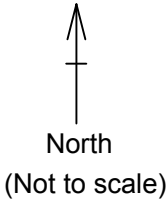
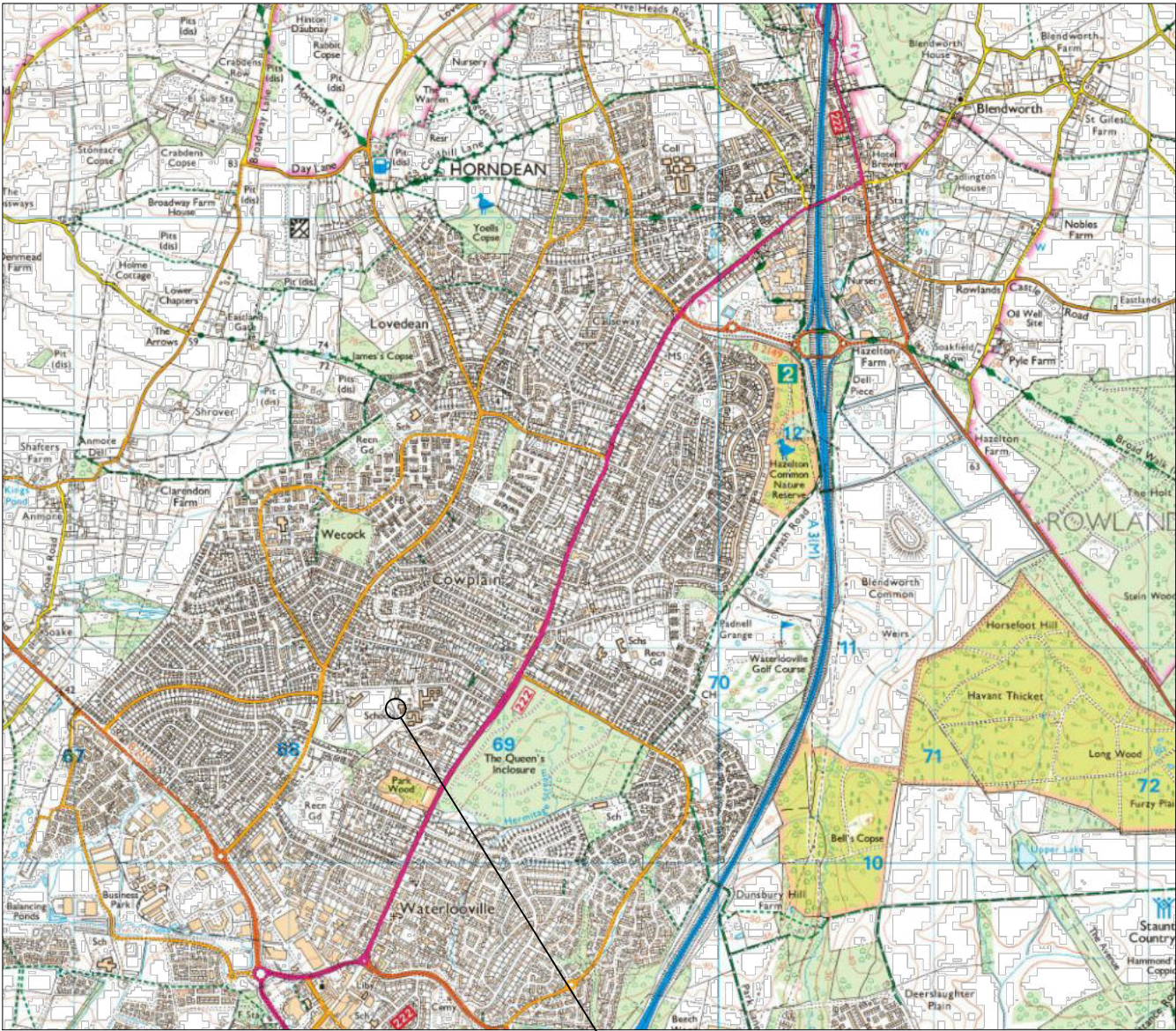
PREPARED: AJHT

SECTION: Soakage Testing

CHECKED: AJHT

TITLE: Site Location Plan

DATE: March 2025



Site Location

PROJECT: Cowplain School Proposed Theatre Building PO8 8RY

PREPARED: AJHT

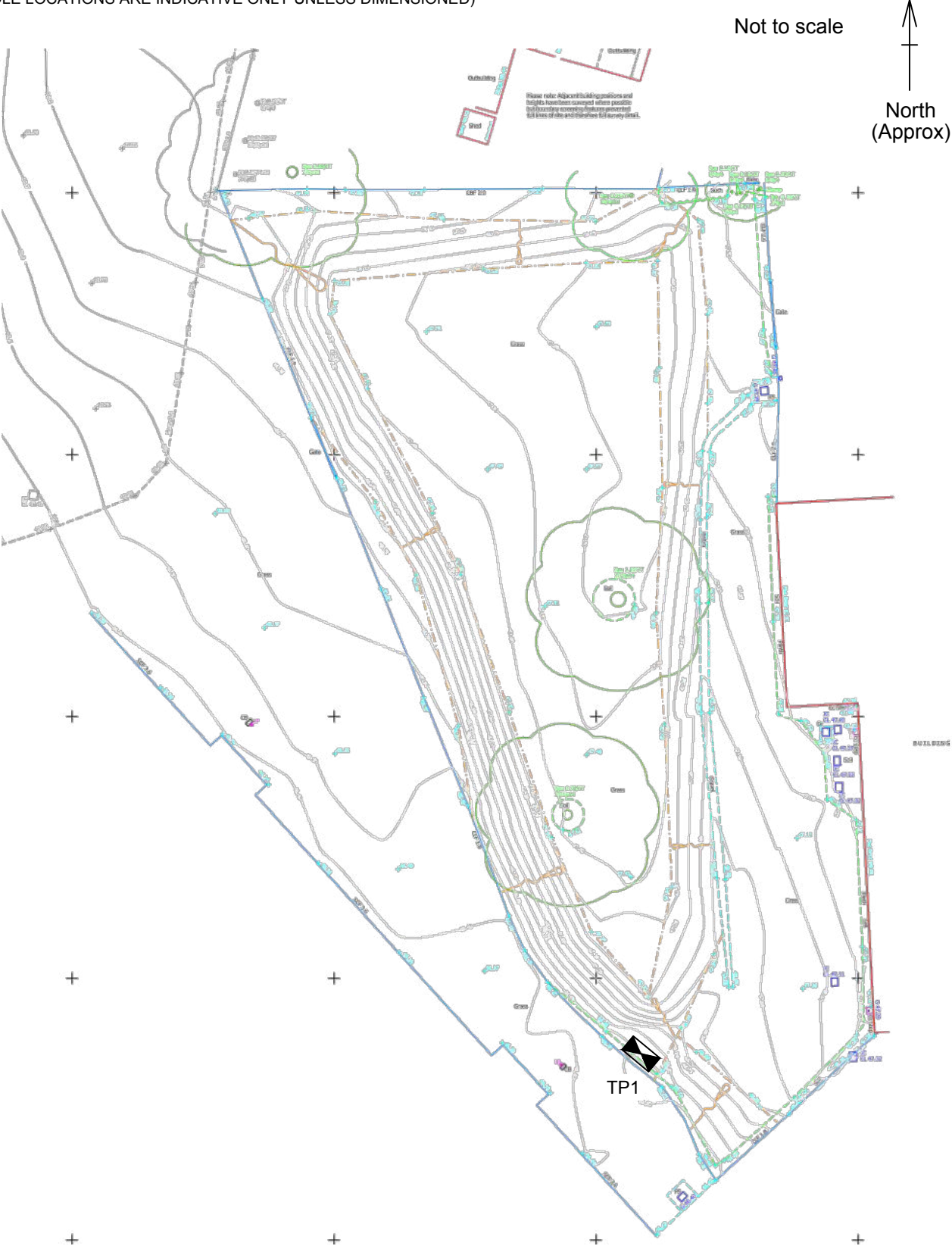
SECTION: Soakage Testing

CHECKED: AJHT

TITLE: Exploratory Hole Location Plan

DATE: March 2025

(HOLE LOCATIONS ARE INDICATIVE ONLY UNLESS DIMENSIONED)



Produced by the GEOTEchnical DATAbase SYstem (GEODASY) (C) all rights reserved

G6666 Cowplain School Soakage Test

TP1 Test 1

Test Start Date: 27-Mar-25

Dimensions (m):

width = 0.30

length = 1.10

depth = 1.53

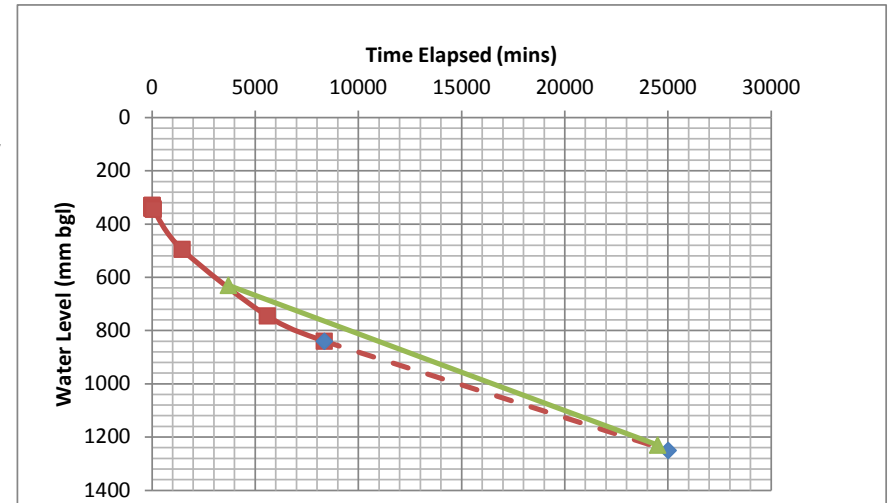
[illegible]

End Fit

Weather

mainly dry
sunny
spells

840
1250 Projected



	Time (mins)	
t0	330	
t25	630	3700
t50	930	
t75	1230	24500
t100	1530	
fall		1.2
t25 - t75		0.6
Area t50		2.01

Infiltration Coefficient = 7.89E-08 m/s



Photograph 1 : TP1 Excavation Location



Photograph 2 : TP1 Excavation



Photograph 3 : TP1 Arisings

Appendix E Southern Water Public Sewer Records



(c) Crown copyright and database rights 2025 Ordnance Survey AC0000808122

Date: 24/03/25

Scale: 1:1250

Map Centre: 468606,110736

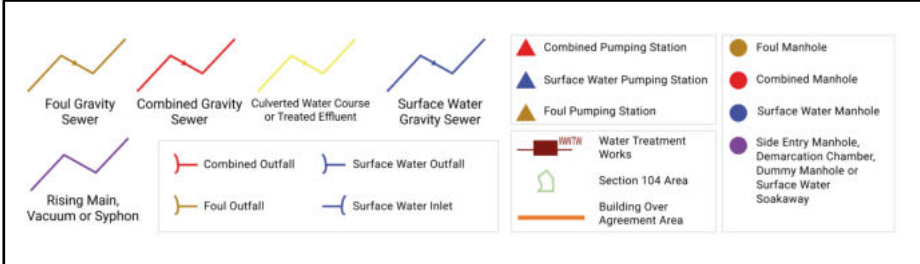
Data updated: 26/02/25

Our Ref: 1724196 - 1

Wastewater Plan A2
Powered by digdat

The positions of pipes shown on this plan are believed to be correct, but Southern Water Services Ltd accept no responsibility in the event of inaccuracy. The actual positions should be determined on site. This plan is produced by Southern Water Services Ltd (c) Crown copyright and database rights 2025 Ordnance Survey AC0000808122. This map is to be used for the purposes of viewing the location of Southern Water plant only. Any other uses of the map data or further copies is not permitted.

WARNING: BAC pipes are constructed of Bonded Asbestos Cement.
WARNING: Unknown (UNK) materials may include Bonded Asbestos Cement.



searches@bpcivils.co.uk

D2366 Cowplain Sch



Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert
2507	F	42.40	41.60	
2508	F	0.00	0.00	
2509	F	0.00	0.00	
2510	F	42.74	42.02	
2701	F	43.47	38.71	
3601	F	0.00	0.00	
3701	F	0.00	0.00	
3801	F	44.14	42.82	
3802	F	44.74	43.51	
3803	F	44.79	44.28	
3804	F	45.21	44.51	
3805	F	45.62	44.68	
3806	F	0.00	0.00	
3807	F	0.00	0.00	
3808	F	0.00	0.00	
3809	F	0.00	0.00	
3810	F	0.00	0.00	
3811	F	0.00	0.00	
3901	F	46.25	44.87	
3902	F	47.14	45.89	
4501	F	0.00	0.00	
4601	F	45.42	37.96	
4602	F	45.82	43.83	
4603	F	0.00	0.00	
4801	F	47.22	38.30	
4802	F	47.67	45.25	
4803	F	47.77	46.22	
4804	F	46.00	44.78	
4806	F	47.66	46.27	
4807	F	46.93	46.03	
4808	F	46.63	45.20	
4809	F	47.05	45.44	
4810	F	46.46	45.31	
4902	F	47.66	0.00	
4903	F	47.40	45.64	
5601	F	47.64	45.43	
5701	F	47.52	45.53	
5702	F	47.91	0.00	
5703	F	48.21	45.65	
5704	F	47.54	0.00	
5705	F	48.75	46.61	
5706	F	49.22	47.09	
5707	F	48.48	45.70	
5708	F	48.50	46.07	
5801	F	49.16	46.67	
5802	F	49.83	48.39	
6501	F	60.48	58.79	
6502	F	60.70	58.66	
6503	F	60.58	58.45	
6504	F	60.69	58.21	
6601	F	53.15	0.00	
6602	F	52.35	50.80	
6603	F	0.00	0.00	
6604	F	0.00	0.00	
6605	F	0.00	0.00	
6606	F	0.00	0.00	
6701	F	48.58	46.48	
6702	F	48.53	46.12	
6703	F	48.52	0.00	
6704	F	49.18	46.88	
6801	F	50.92	48.32	
6802	F	52.52	48.95	
6901	F	52.42	49.27	
6904	F	53.30	52.58	
6905	F	53.51	52.40	
6906	F	52.89	52.06	
6907	F	52.86	51.96	
7502	F	0.00	0.00	
7601	F	53.19	51.28	
7602	F	54.84	52.17	
7603	F	55.29	53.75	
7604	F	57.31	54.27	
7605	F	55.22	54.43	

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert
7606	F	0.00	0.00	
7607	F	0.00	0.00	
7608	F	0.00	0.00	
7609	F	0.00	0.00	
7610	F	0.00	0.00	
7611	F	0.00	0.00	
7612	F	0.00	0.00	
7613	F	0.00	0.00	
7701	F	0.00	0.00	
7702	F	51.57	48.69	
7703	F	50.89	49.04	
7704	F	0.00	0.00	
7705	F	51.76	49.51	
7706	F	0.00	0.00	
7707	F	0.00	0.00	
7708	F	0.00	0.00	
7801	F	53.98	49.49	
7902	F	56.70	53.82	
7904	F	0.00	0.00	
7905	F	0.00	0.00	
7906	F	0.00	0.00	
7907	F	0.00	0.00	
8501	F	58.94	56.75	
8502	F	57.67	0.00	
8503	F	59.55	57.87	
8504	F	0.00	0.00	
8505	F	0.00	0.00	
8506	F	0.00	0.00	
8507	F	0.00	0.00	
8508	F	0.00	0.00	
8601	F	58.56	56.98	
8602	F	0.00	0.00	
8701	F	0.00	0.00	
8702	F	0.00	0.00	
8703	F	52.46	50.41	
8704	F	52.10	50.31	
8705	F	51.80	49.86	
8801	F	52.50	50.20	
8802	F	55.29	52.57	
8803	F	53.22	51.15	
8804	F	0.00	0.00	
8805	F	53.56	52.10	
8806	F	0.00	0.00	
9701	F	55.50	54.45	
9801	F	56.29	53.54	
2552	S	42.62	0.00	
2553	S	42.73	41.62	
2554	S	42.84	41.32	
2750	S	44.29	41.76	
2853	S	43.54	42.61	
2855	S	43.74	42.78	
3551	S	43.91	42.15	
3650	S	0.00	0.00	
3651	S	0.00	0.00	
3652	S	44.50	0.00	
3653	S	44.03	0.00	
3850	S	44.25	43.01	
3851	S	44.80	43.65	
3852	S	45.36	44.14	
3853	S	45.28	43.75	
3854	S	45.66	43.91	
3855	S	44.78	43.47	
3950	S	46.12	44.04	
3951	S	46.62	44.35	
4550	S	56.99	55.95	
4551	S	52.07	50.15	
4552	S	50.25	49.33	
4553	S	47.90	0.00	
4650	S	0.00	0.00	
4651	S	45.00	0.00	
4652	S	0.00	0.00	
4750	S	46.90	0.00	
4850	S	46.17	44.80	

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert
4851	S	47.81	46.60	
4852	S	47.69	0.00	
4853	S	46.51	45.21	
4854	S	46.89	45.74	
4855	S	47.68	45.94	
4950	S	47.86	46.06	
5650	S	47.63	46.10	
5651	S	53.46	52.60	
5750	S	47.63	46.76	
5751	S	47.33	46.21	
5850	S	49.11	47.32	
5851	S	0.00	0.00	
5950	S	0.00	0.00	
6550	S	60.44	58.88	
6551	S	60.70	58.82	
6552	S	60.61	58.43	
6650	S	48.51	47.01	
6651	S	48.53	47.00	
6652	S	48.98	47.87	
6653	S	53.76	52.34	
6654	S	54.46	53.36	
6655	S	56.48	55.45	
6656	S	53.32	52.37	
6657	S	53.75	52.76	
6658	S	49.25	47.78	
6659	S	48.70	47.17	
6660	S	48.74	47.56	
6661	S	0.00	0.00	
6750	S	48.51	46.49	
6751	S	0.00	0.00	
6850	S	50.88	48.92	
6851	S	52.47	49.49	
6852	S	51.12	50.20	
7550	S	59.62	58.53	
7650	S	52.61	50.27	
7651	S	55.48	54.16	
7652	S	57.26	53.94	
7653	S	0.00	0.00	
7654	S	55.90	53.55	
7655	S	55.02	52.72	
7656	S	58.27	56.81	
7657	S	57.90	56.78	
7658	S	0.00	0.00	
7750	S	0.00	0.00	
7751	S	51.61	0.00	
7752	S	51.63	49.69	
7753	S	49.64	0.00	
7754	S	0.00	0.00	
7850	S	53.93	50.18	
8550	S	59.57	57.92	
8551	S	58.36	57.66	
8650	S	57.79	56.84	
8651	S	58.56	56.48	
8652	S	57.37	55.51	
8653	S	0.00	0.00	
8750	S	52.42	51.00	
8751	S	52.57	51.47	
8752	S	52.50	51.01	
8753	S	54.25	53.13	
8754	S	53.68	52.55	
8755	S	53.58	51.79	
8756	S	53.27	52.14	
8757	S	52.21	50.72	
8850	S	53.44	52.51	
8851	S	55.34	53.53	
8852	S	54.39	53.32	
8853	S	52.54	50.75	
8854	S	52.95	52.35	
9650	S	57.15	56.27	
9750	S	55.11	54.07	
9752	S	57.15	55.94	
9753	S	57.11	55.94	
9754	S	54.96	53.86	

Appendix F Flood Maps for Planning Extracts

Get a boundary report

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Datasets

- ☒ Flood zones 2 and 3
- ☐ River and sea with defences
- ☐ River and sea without defences
- ☐ Surface water
- ☐ None

Map features

- ☒ Water storage
- ☒ Flood defence
- ☒ Main Rivers

 Search

Key



Flood zone 2



Flood zone 3



Water storage



Flood defence



Main Rivers



Report area



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Datasets
☐ Flood zones 2 and 3

☒ River and sea with defences

☐ River and sea without defences

☐ Surface water

☐ None

Time frame
☒ Present day

☐ Climate change

Annual likelihood of flooding
☒ Rivers and sea 1 in 30

☐ Rivers 1 in 100, Sea 1 in 200

☐ Rivers and sea 1 in 1000

Key


Flood
extent



Water
storage



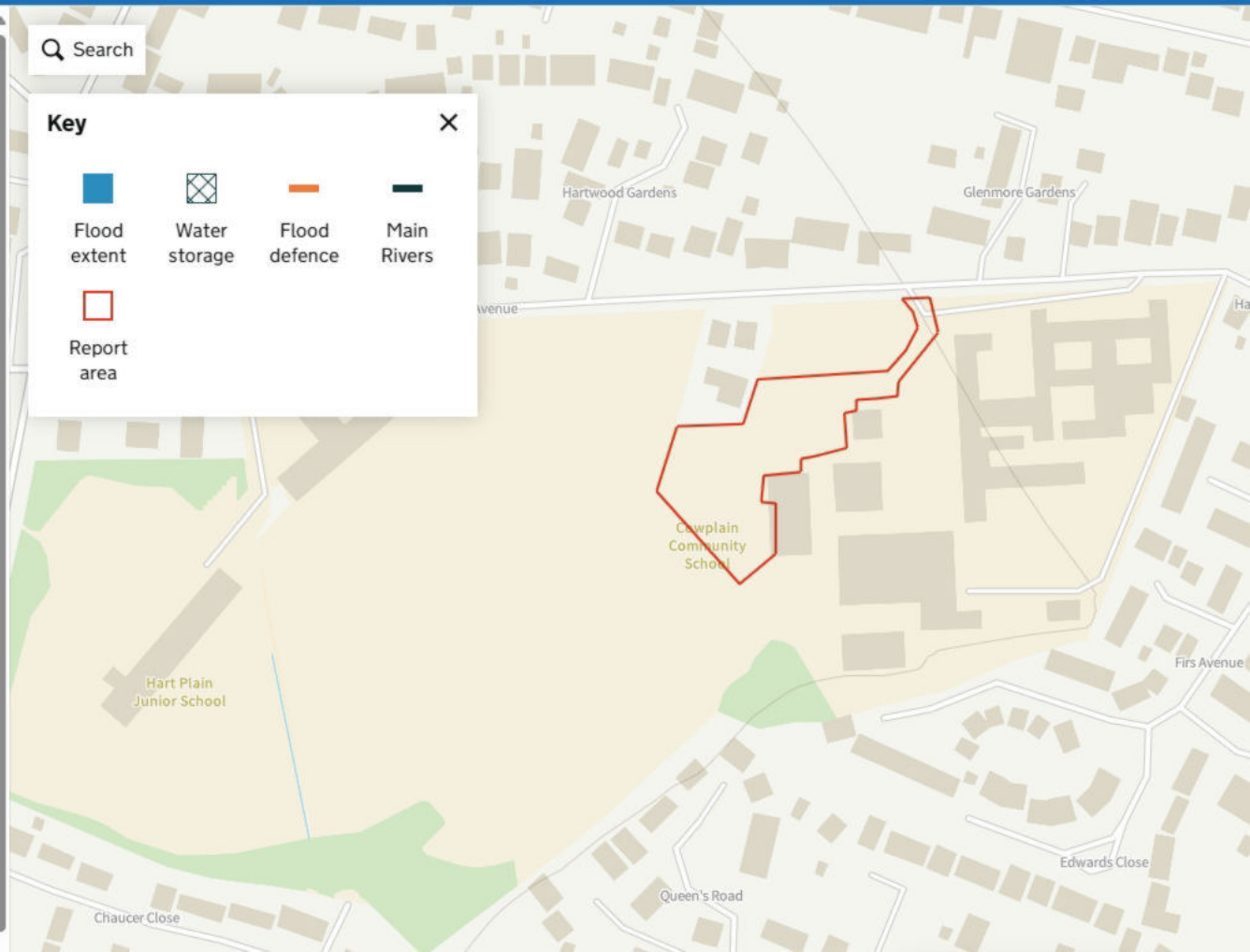
Flood
defence



Main
Rivers



Report
area



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Datasets

☐ Flood zones 2 and 3

☒ River and sea with defences

☐ River and sea without defences

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☐ None

Time frame

☒ Present day

☐ Climate change

Annual likelihood of flooding

☐ Rivers and sea 1 in 30

☒ Rivers 1 in 100, Sea 1 in 200

☐ Rivers and sea 1 in 1000

Key



Flood
extent



Water
storage



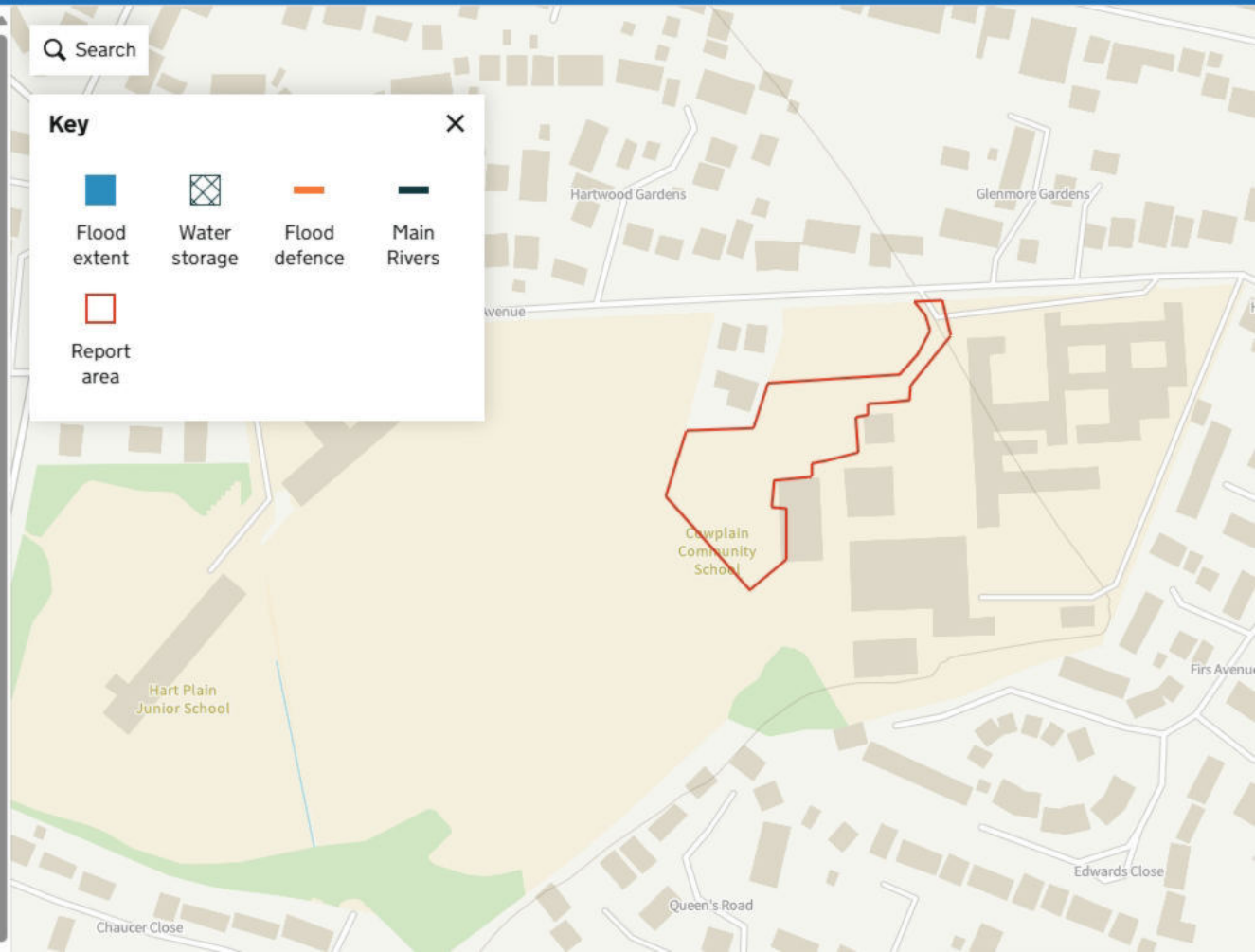
Flood
defence



Main
Rivers



Report
area



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Datasets

- ☐ Flood zones 2 and 3
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- ☐ River and sea without defences
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Time frame

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- ☐ Climate change

Annual likelihood of flooding

- ☐ Rivers and sea 1 in 30
- ☐ Rivers 1 in 100, Sea 1 in 200
- ☒ Rivers and sea 1 in 1000

Search

Key



Flood extent



Water storage



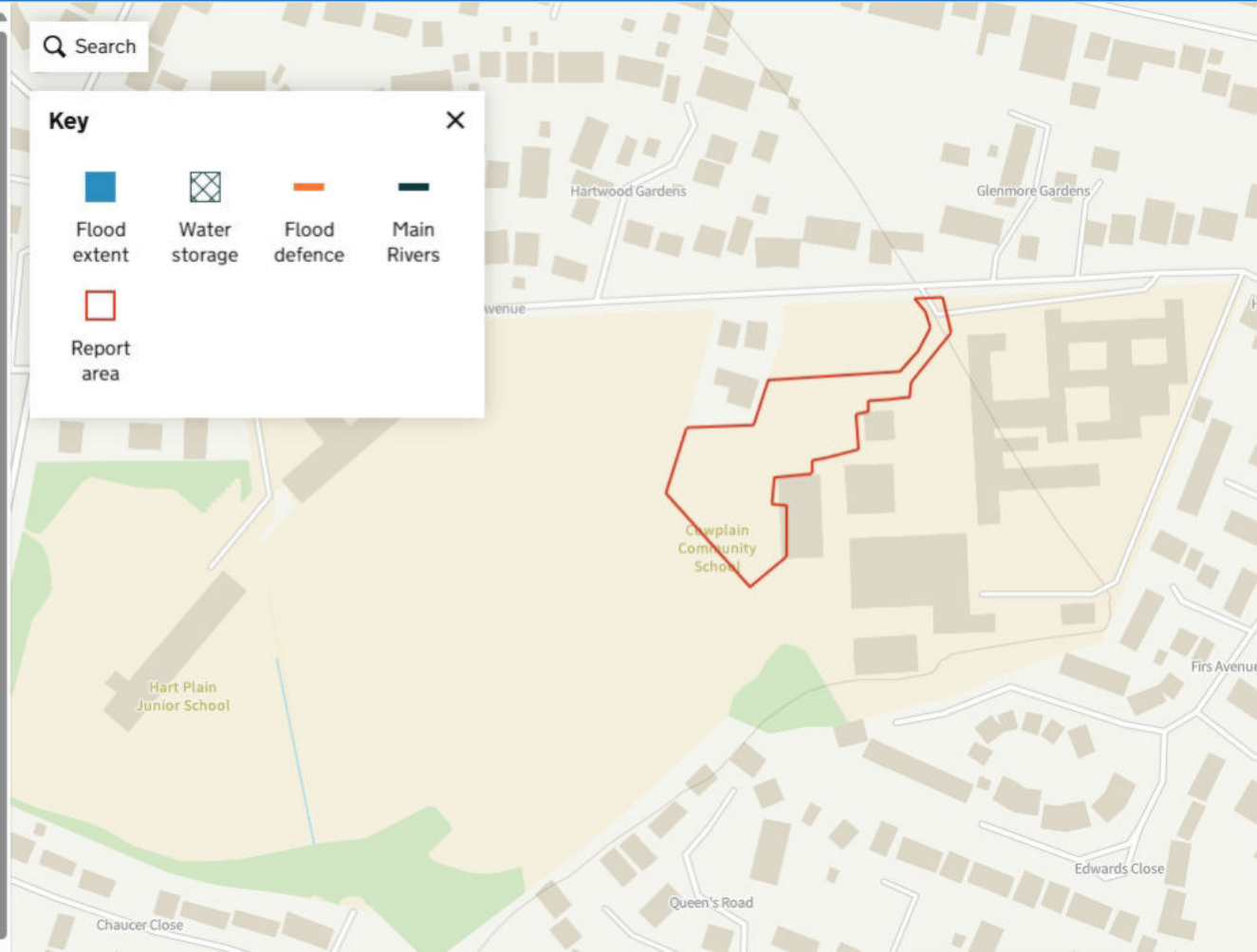
Flood defence



Main Rivers



Report area



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Datasets

☐ Flood zones 2 and 3

☒ River and sea with defences

☐ River and sea without defences

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☐ None

Time frame

☐ Present day

☒ Climate change

Annual likelihood of flooding

☒ Rivers and sea 1 in 30

☐ Rivers 1 in 100, Sea 1 in 200

☐ Rivers and sea 1 in 1000

 Search

Key



Flood extent



Water storage



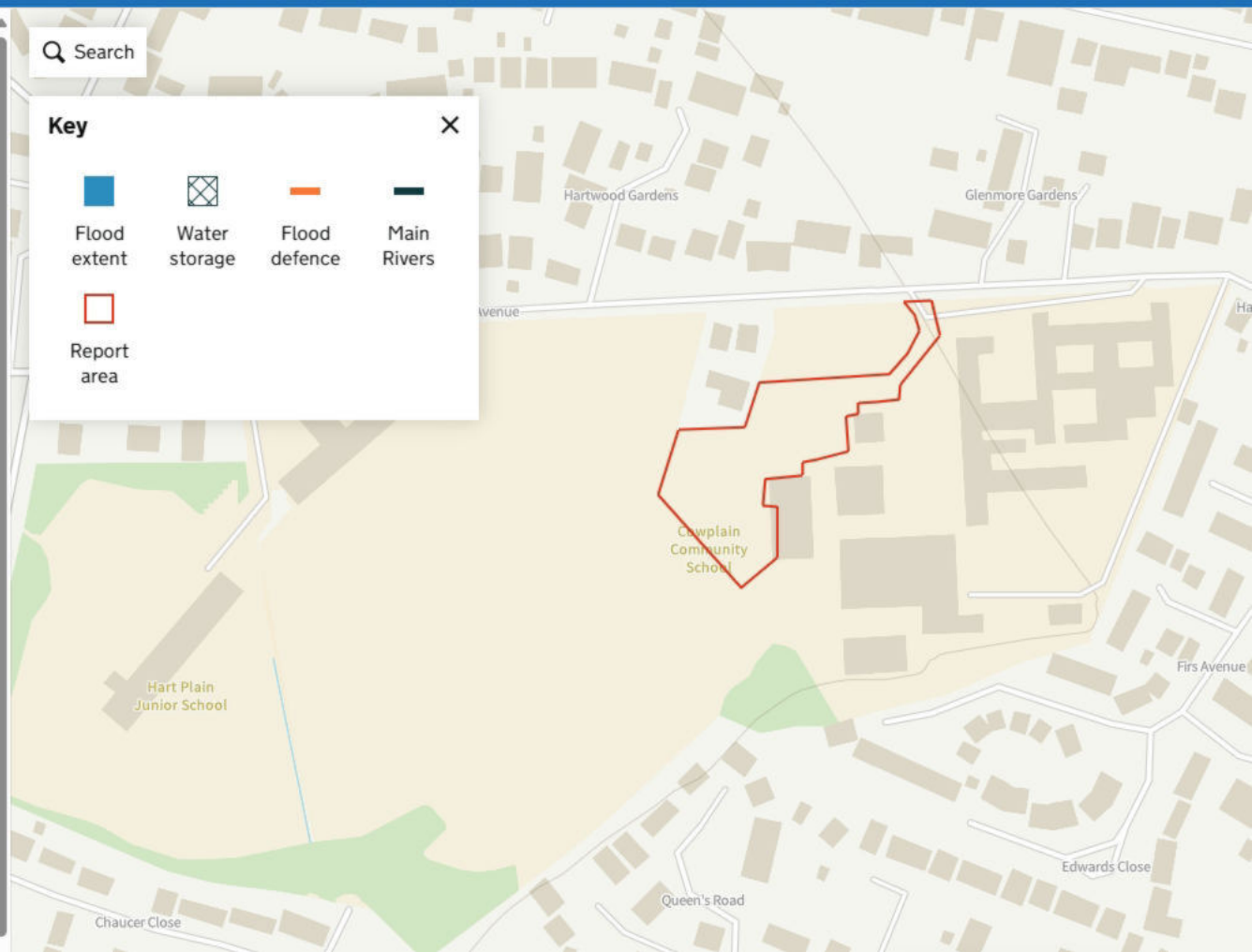
Flood defence



Main Rivers



Report area



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Datasets

☐ Flood zones 2 and 3

☒ River and sea with defences

☐ River and sea without defences

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☐ None

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☐ Present day

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☐ Rivers and sea 1 in 30

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☐ Rivers and sea 1 in 1000

Search

Key



Flood extent



Water storage



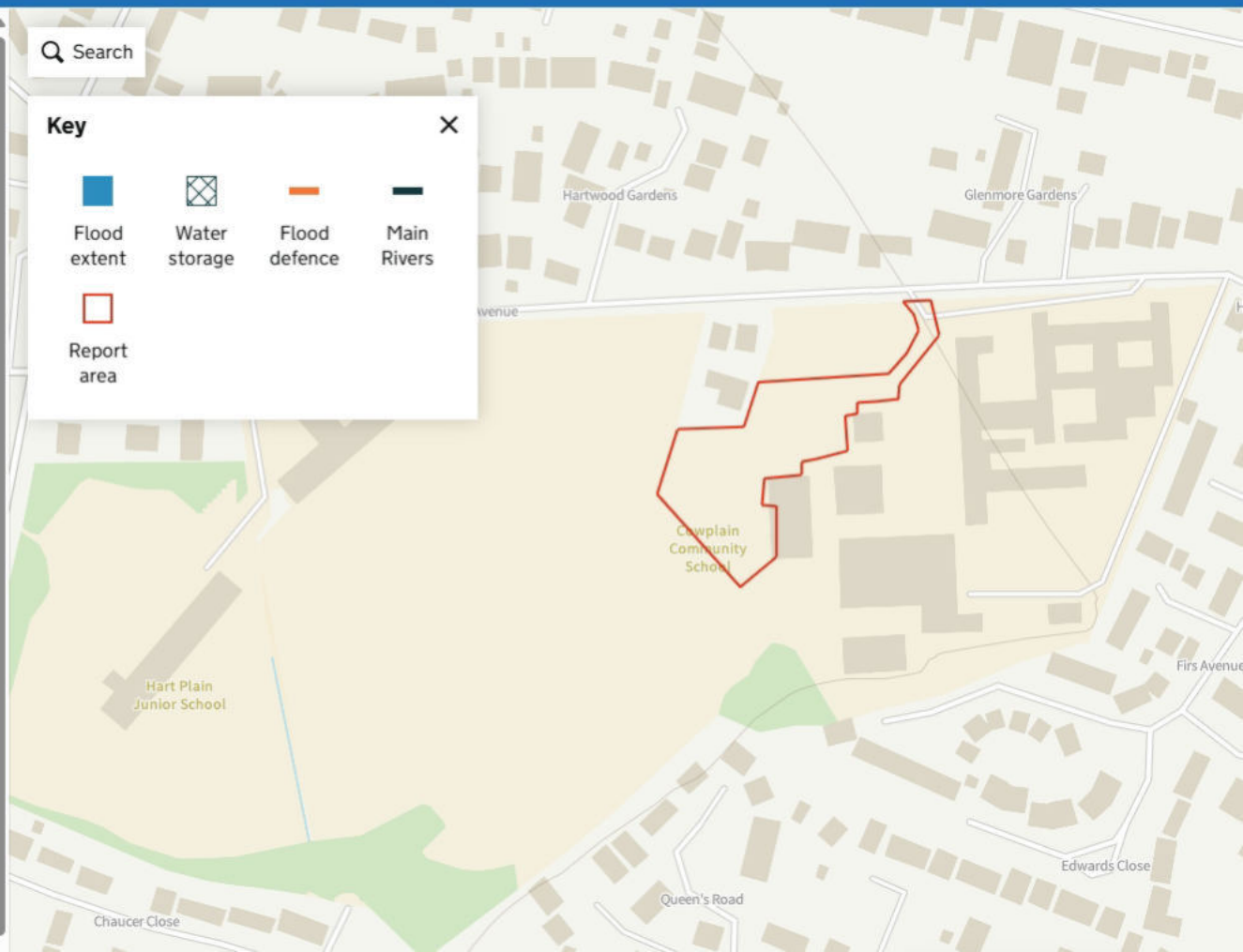
Flood defence



Main Rivers



Report area



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Datasets

☐ Flood zones 2 and 3

☒ River and sea with defences

☐ River and sea without defences

☐ Surface water

☐ None

Time frame

☐ Present day

☒ Climate change

Annual likelihood of flooding

☐ Rivers and sea 1 in 30

☐ Rivers 1 in 100, Sea 1 in 200

☒ Rivers and sea 1 in 1000

 Search

Key



Flood extent



Water storage



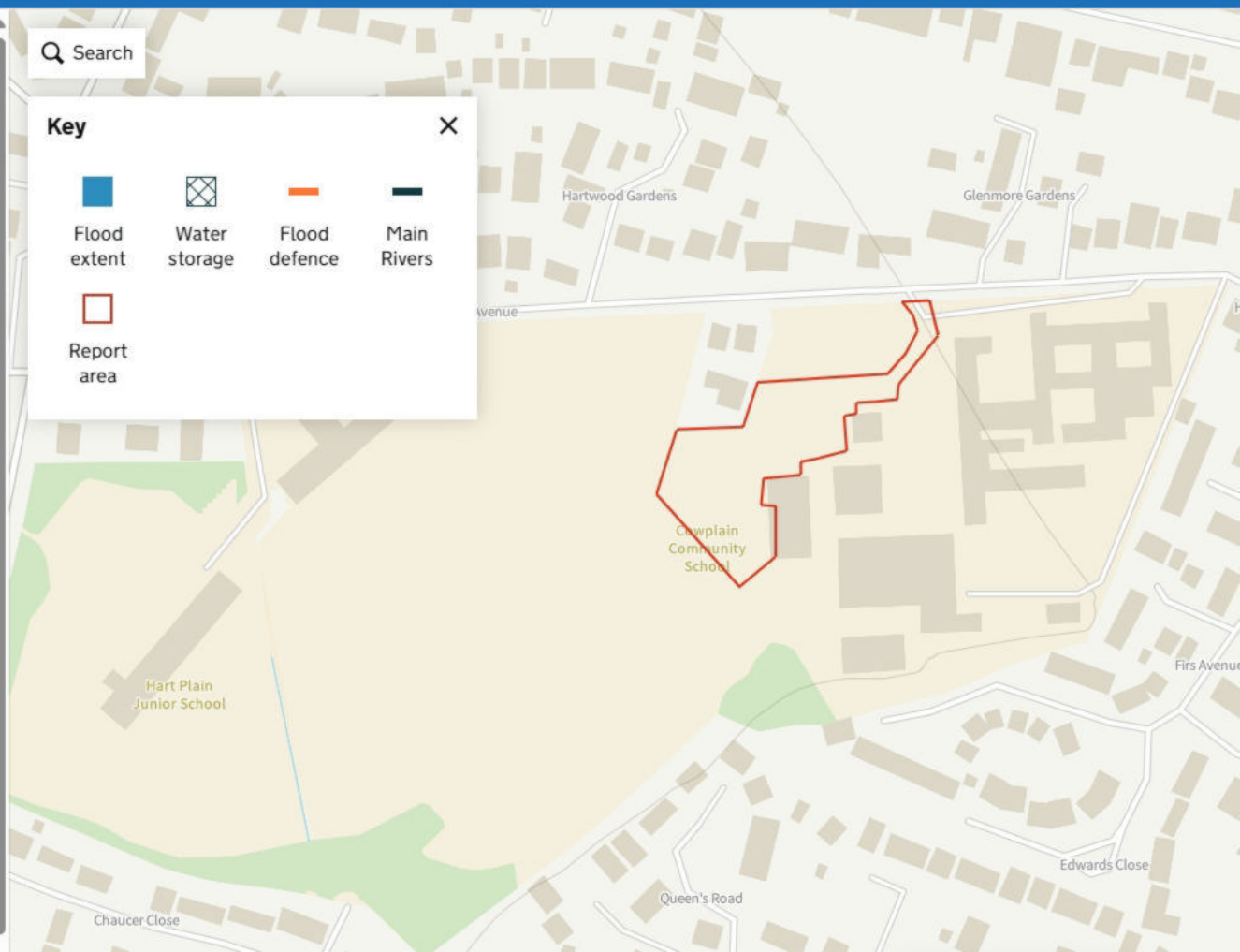
Flood defence



Main Rivers



Report area



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Datasets

☐ Flood zones 2 and 3

☐ River and sea with defences

☒ River and sea without defences

☐ Surface water

☐ None

Time frame

☒ Present day

☐ Climate change

Annual likelihood of flooding

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☐ Rivers and sea 1 in 1000

 Search

Key



Flood extent



Water storage



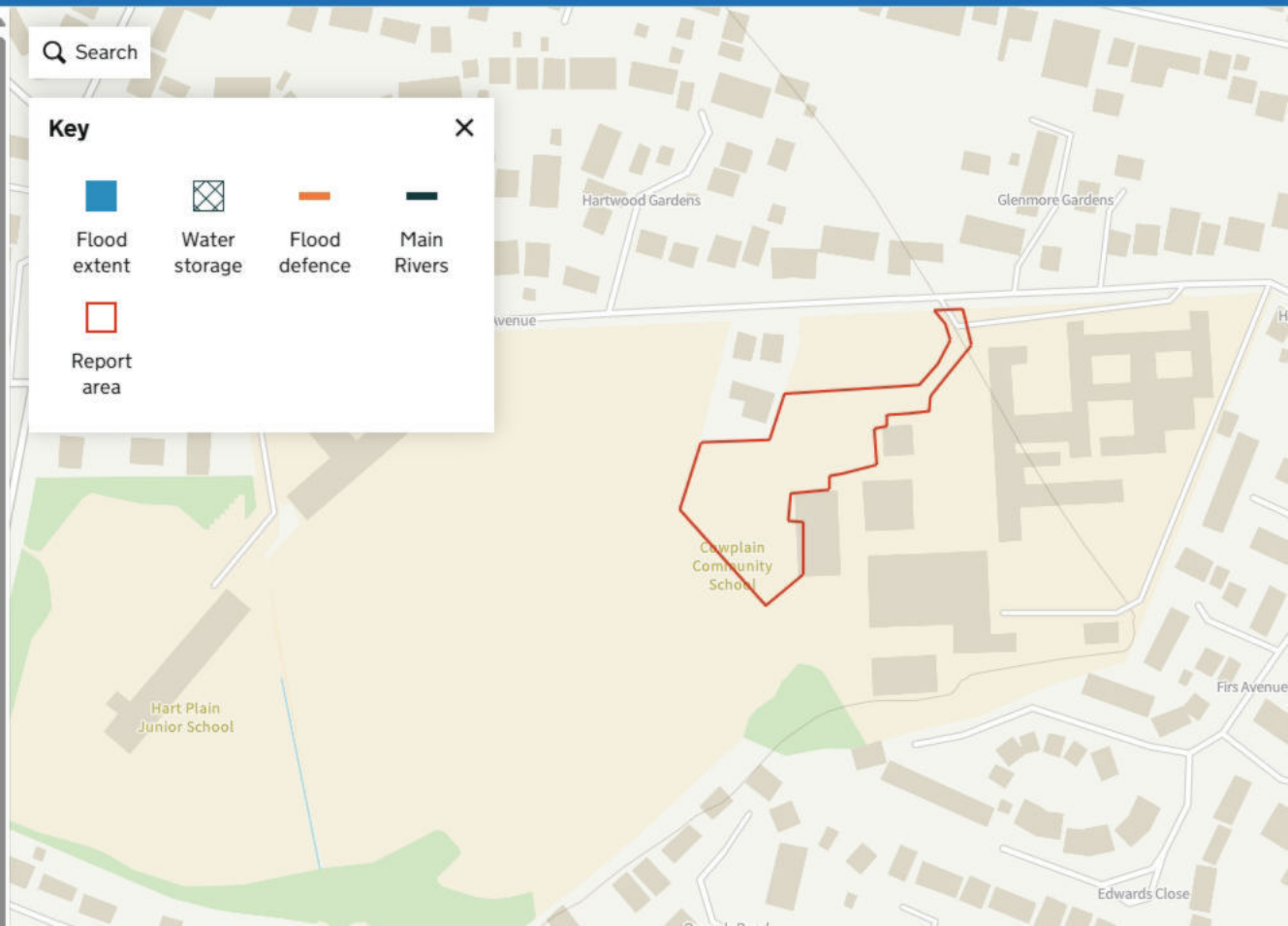
Flood defence



Main Rivers



Report area



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Datasets

- ☐ Flood zones 2 and 3
- ☐ River and sea with defences
- ☒ River and sea without defences
- ☐ Surface water
- ☐ None

Time frame

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- ☐ Climate change

Annual likelihood of flooding

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- ☒ Rivers and sea 1 in 1000

 Search

Key



Flood extent



Water storage



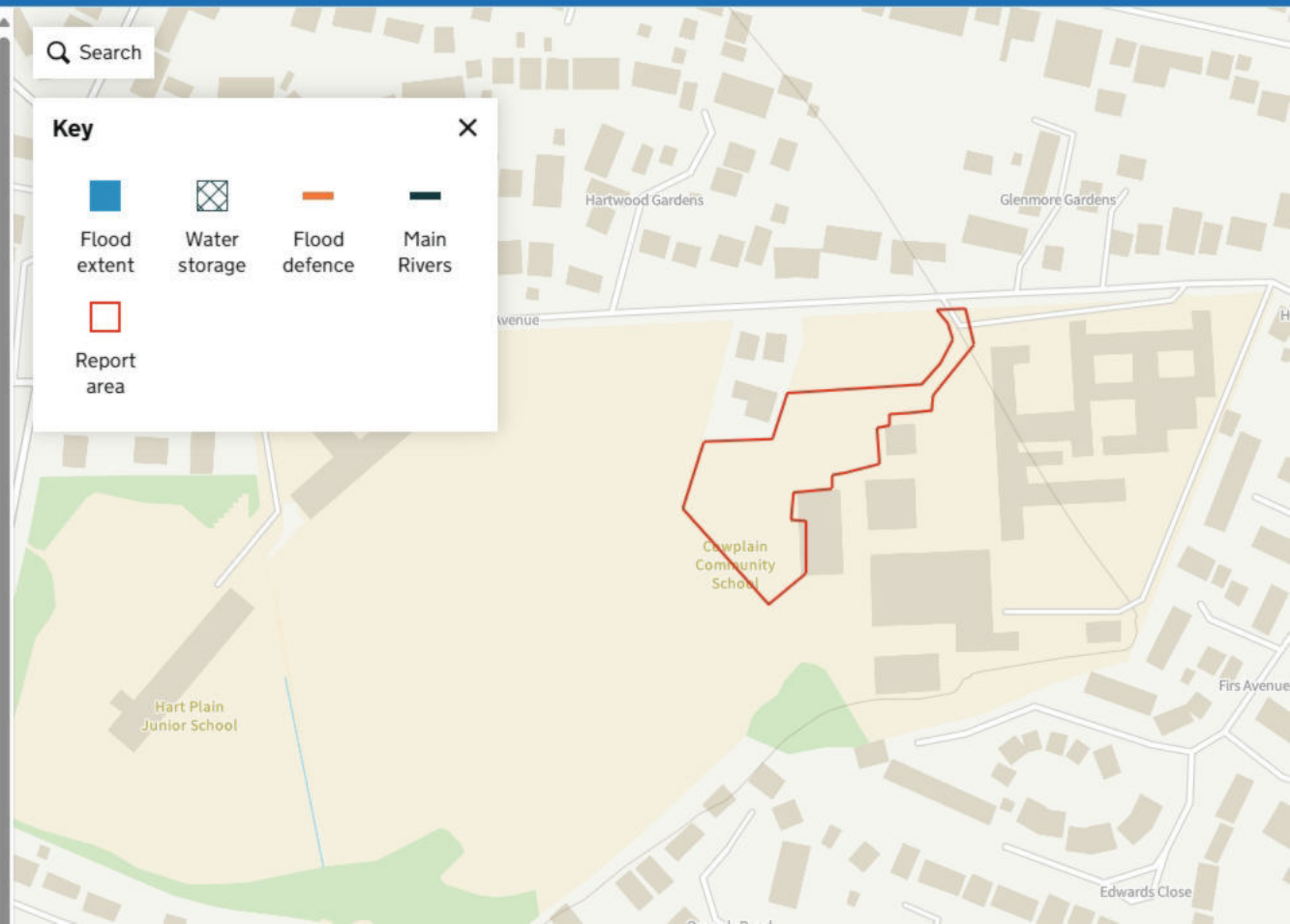
Flood defence



Main Rivers



Report area



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Datasets

- ☐ Flood zones 2 and 3
- ☐ River and sea with defences
- ☒ River and sea without defences
- ☐ Surface water
- ☐ None

Time frame

- ☐ Present day
- ☒ Climate change

Annual likelihood of flooding

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- ☐ Rivers and sea 1 in 1000

 Search

Key



Flood extent



Water storage



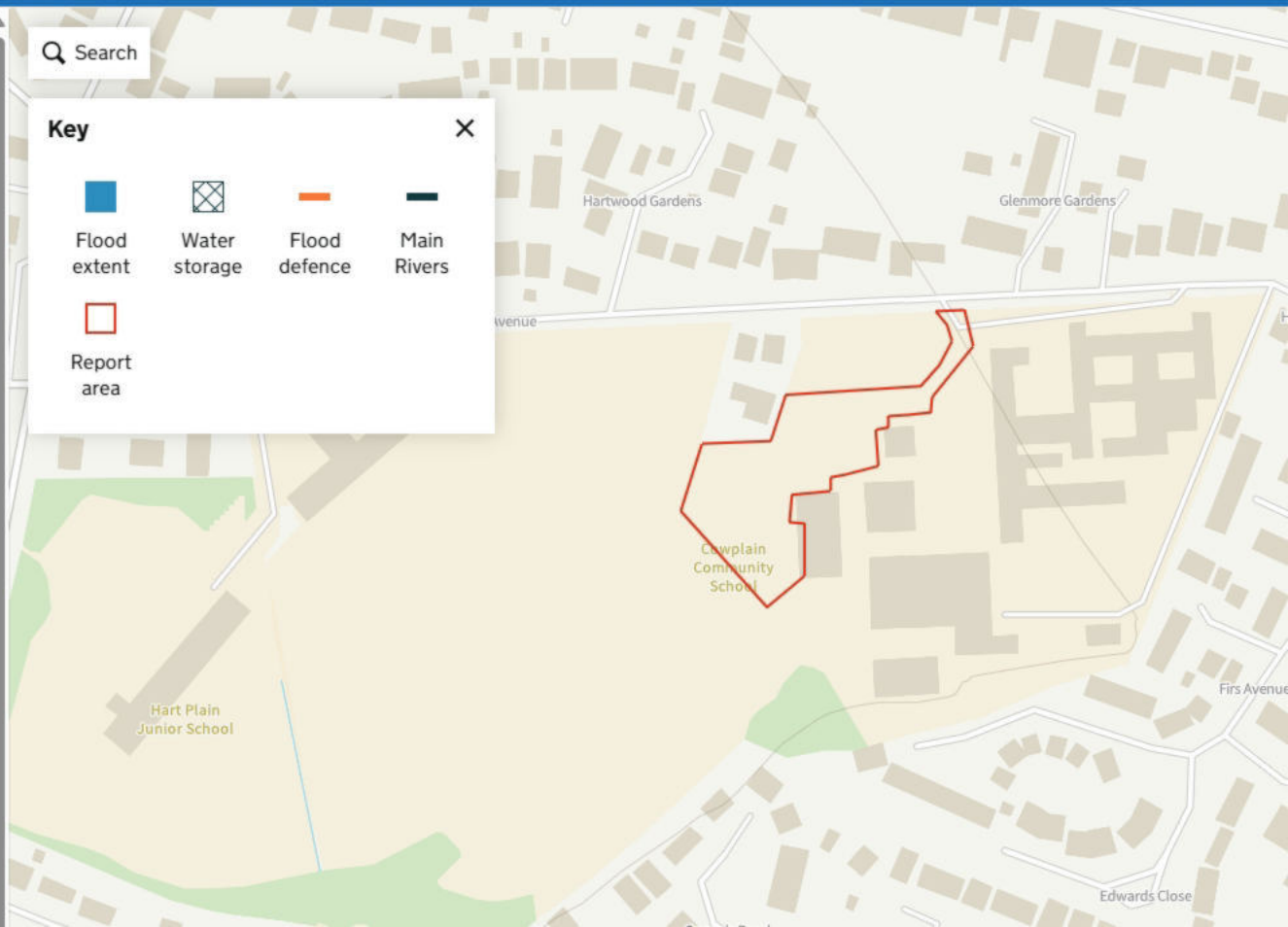
Flood defence



Main Rivers



Report area



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Datasets

- ☐ Flood zones 2 and 3
- ☐ River and sea with defences
- ☒ River and sea without defences
- ☐ Surface water
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- ☒ Climate change

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- ☒ Rivers and sea 1 in 1000

 Search

Key



Flood extent



Water storage



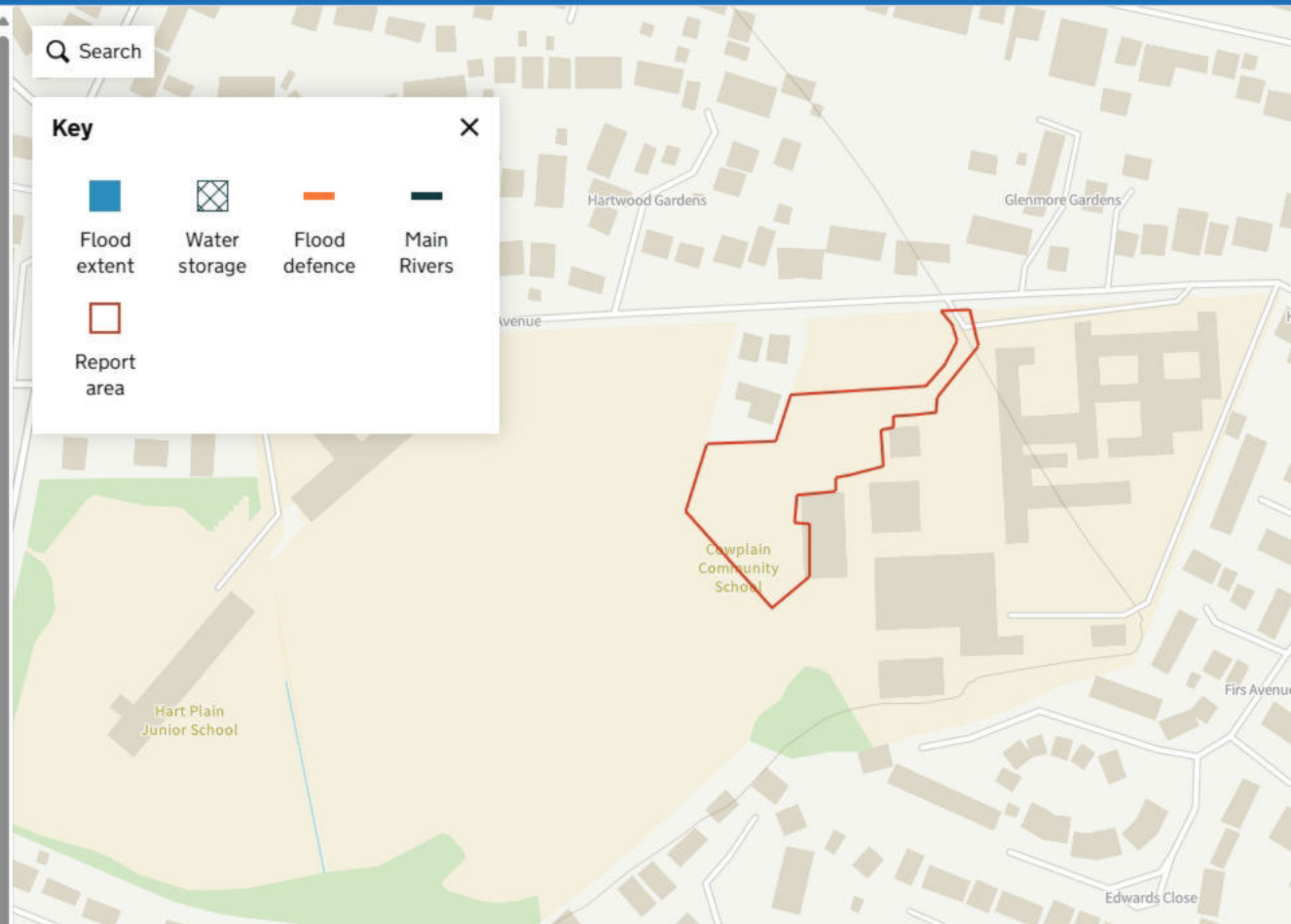
Flood defence



Main Rivers



Report area



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Datasets

- ☐ Flood zones 2 and 3
- ☐ River and sea with defences
- ☐ River and sea without defences
- ☒ Surface water
- ☐ None

Annual likelihood of flooding

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- ☐ 1 in 100
- ☐ 1 in 1000

 Search

Key



Flood extent



Water storage



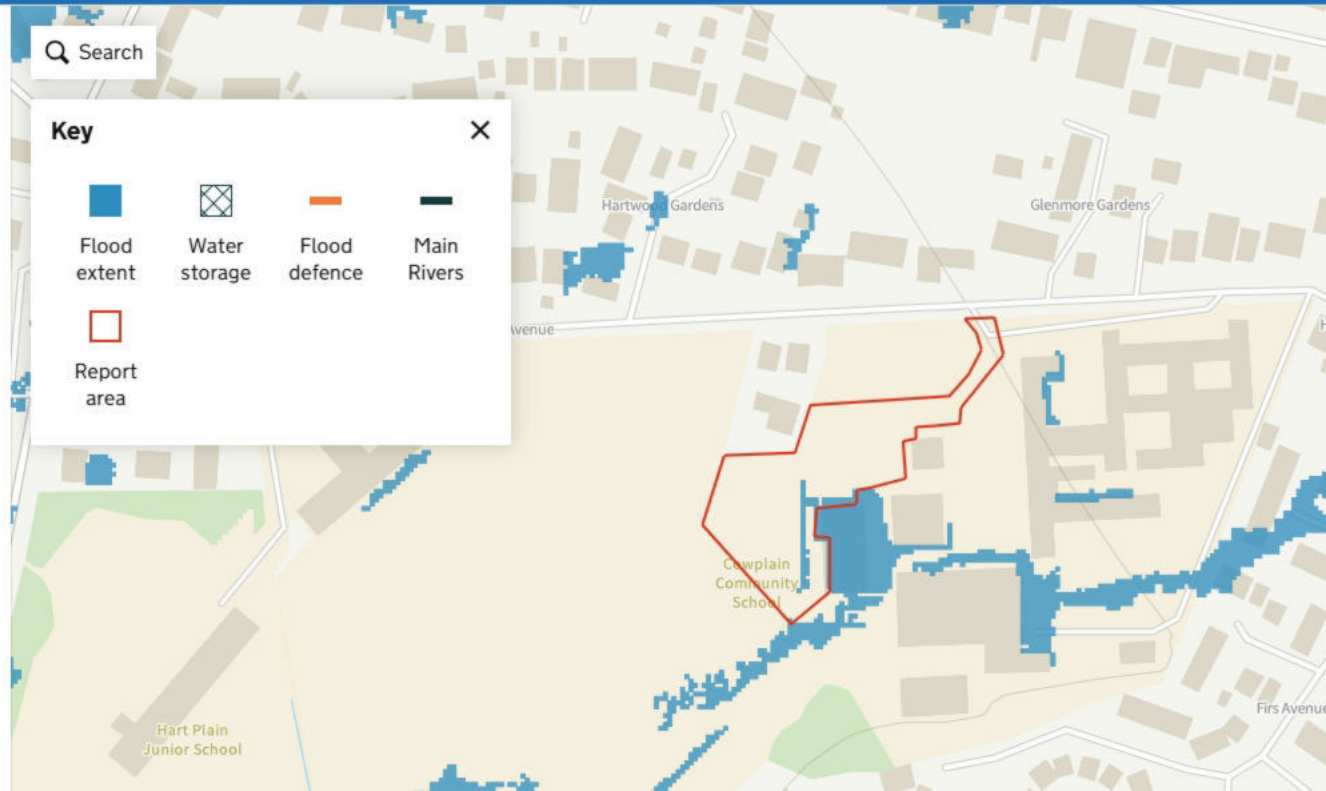
Flood defence



Main Rivers



Report area



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Datasets

- ☐ Flood zones 2 and 3
- ☐ River and sea with defences
- ☐ River and sea without defences
- ☒ Surface water
- ☐ None

Annual likelihood of flooding

- ☐ 1 in 30
- ☒ 1 in 100
- ☐ 1 in 1000

 Search

Key



Flood extent



Water storage



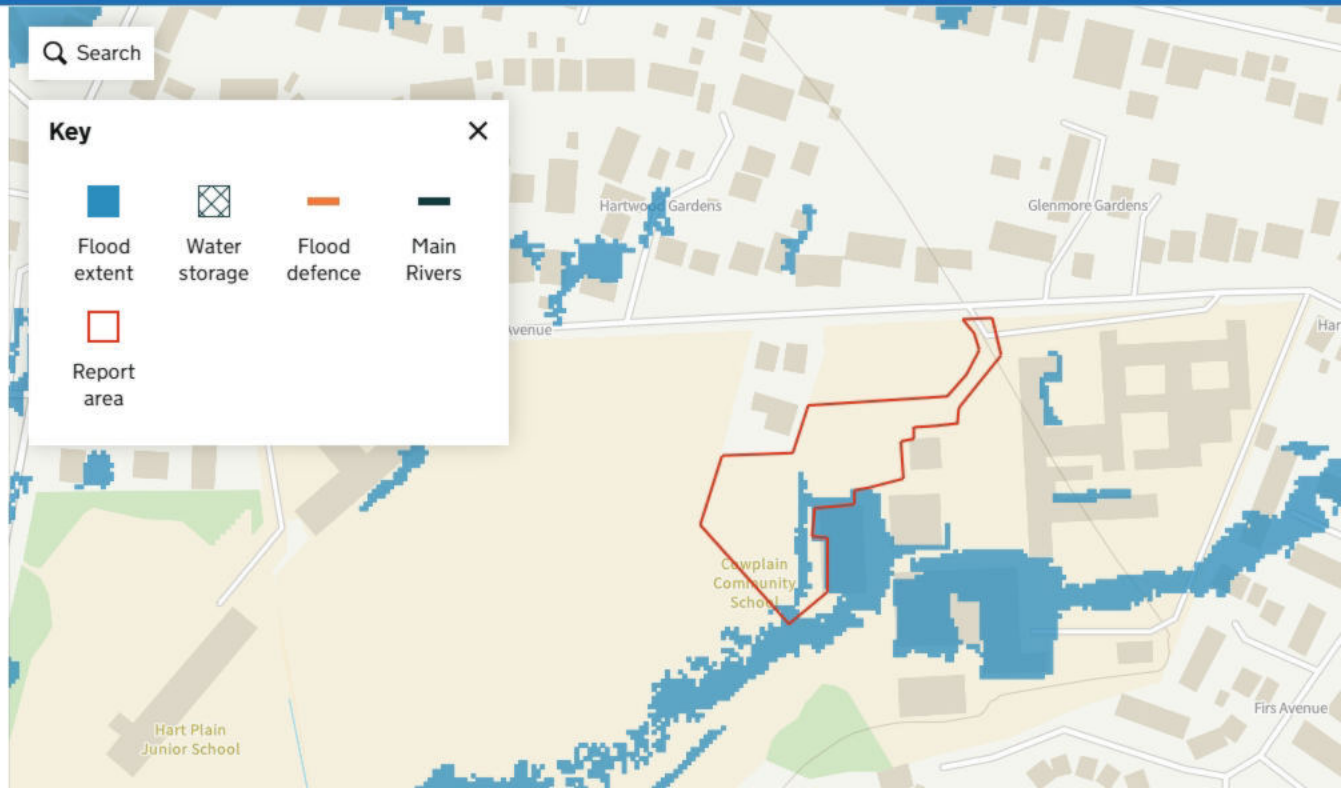
Flood defence



Main Rivers



Report area



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Datasets

- ☐ Flood zones 2 and 3
- ☐ River and sea with defences
- ☐ River and sea without defences
- ☒ Surface water
- ☐ None

Annual likelihood of flooding

- ☐ 1 in 30
- ☐ 1 in 100
- ☒ 1 in 1000

 Search

Key



Flood extent



Water storage



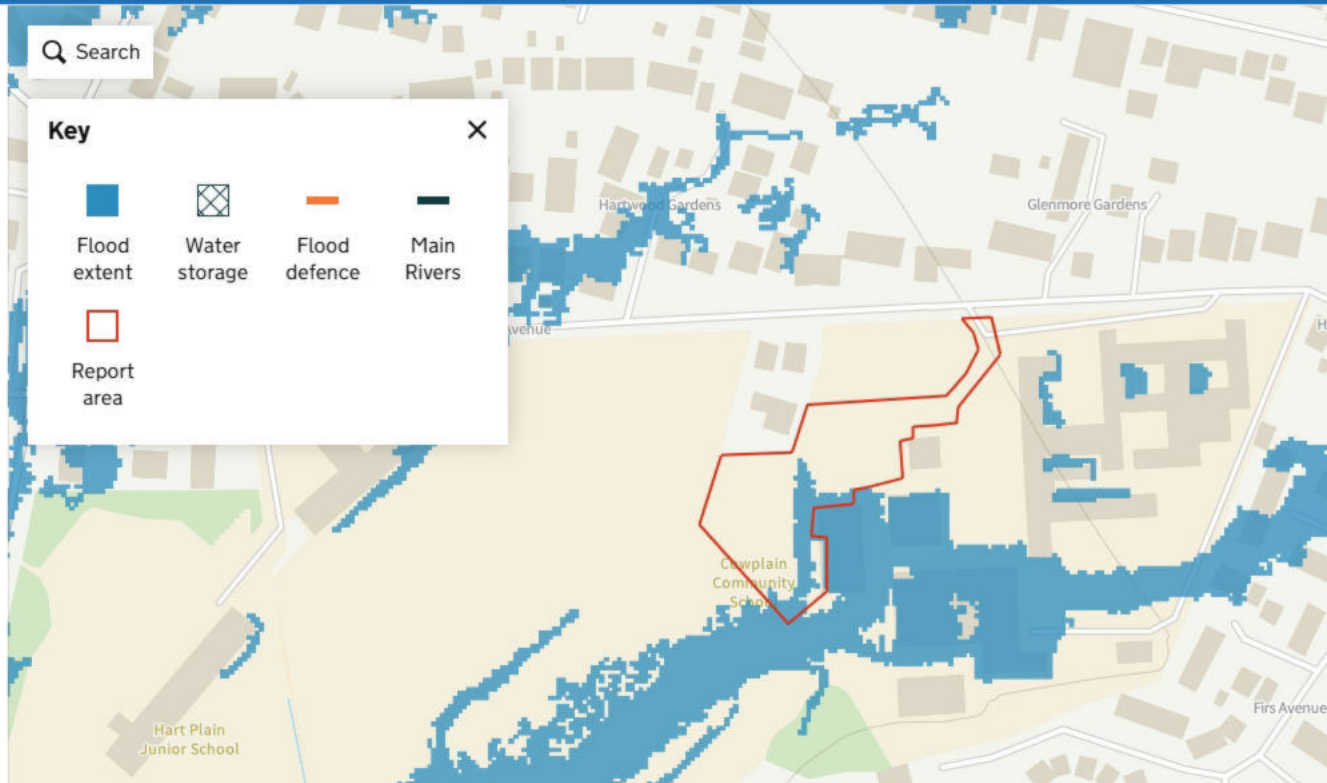
Flood defence



Main Rivers



Report area



Appendix G Wallingford Greenfield Run-off Calculations

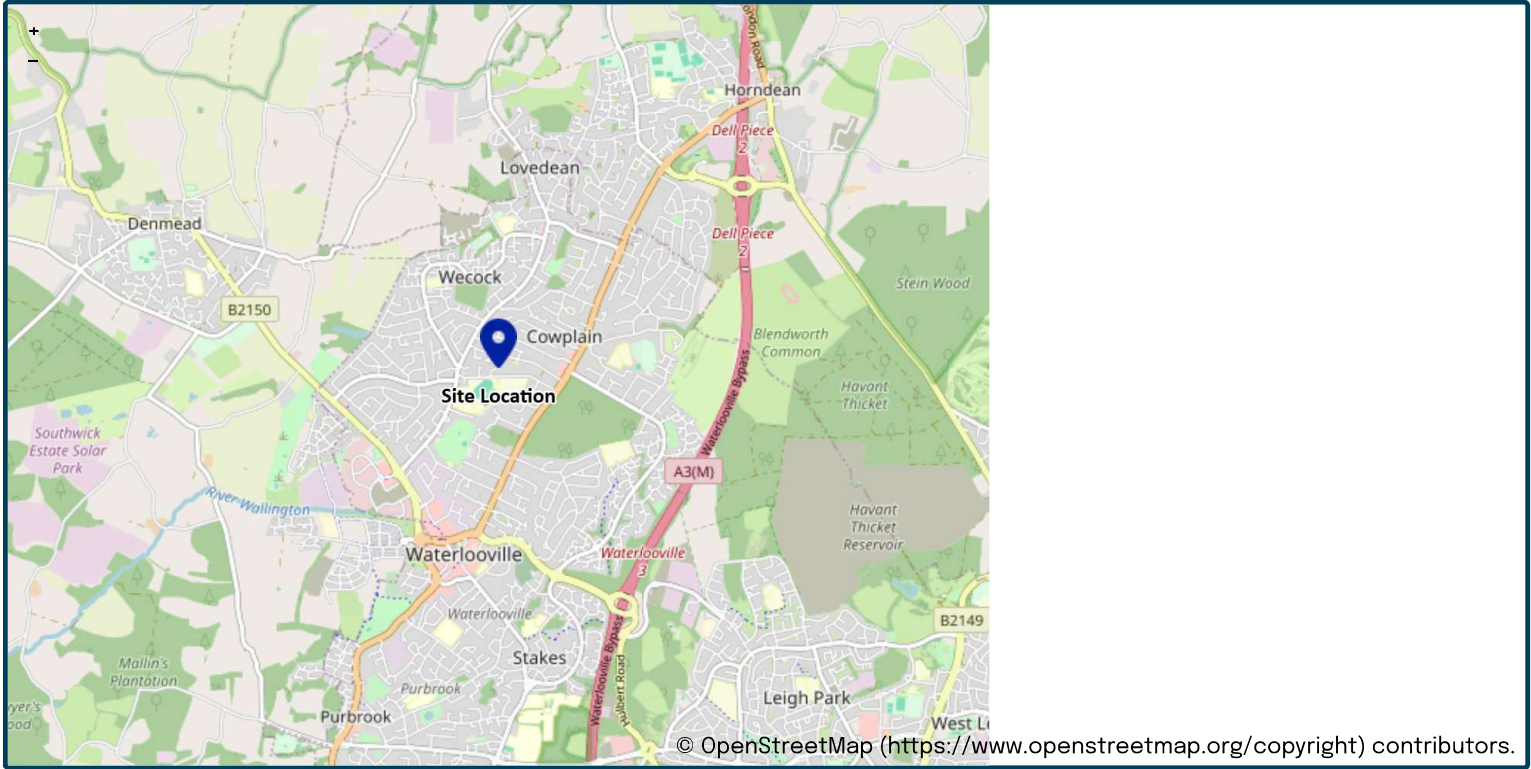
This is an estimation of the greenfield runoff rates that are used to meet normal best practice criteria in line with Environment Agency guidance “Rainfall runoff management for developments”, SC030219 (2013), the SuDS Manual C753 (CIRIA, 2015) and the non-statutory standards for SuDS (Defra, 2015). This information on greenfield runoff rates may be the basis for setting consents for the drainage of surface water runoff from sites.

Project details

Date	<input type="text" value="18/07/2025"/>
Calculated by	<input type="text" value="S Burnett"/>
Reference	<input type="text" value="D2366 Cowplain School"/>
Model version	<input type="text" value="2.0.1"/>

Location

Site name	<input type="text" value="D2366 Cowplain School"/>
Site location	<input type="text"/>



Site easting	<input type="text" value="468497"/>
Site northing	<input type="text" value="110723"/>

Site details

Total site area (ha)	<input type="text" value="0.7778"/>	ha
----------------------	-------------------------------------	----

Greenfield runoff

Method

Method	<div>IH124</div>		
	<u>My value</u>	<div></div>	<u>Map value</u>
SAAR (mm)	<div>792</div> <div>mm</div>	<div></div>	<div>792</div>
How should SPR be derived?	<div>WRAP soil type</div>		
WRAP soil type	<div>4</div>	<div></div>	<div>4</div>
SPR	<div>0.47</div> <div></div>		
QBar (IH124) (l/s)	<div>4.3</div> <div>l/s</div>		

Growth curve factors

	<u>My value</u>	<div></div>	<u>Map value</u>
Hydrological region	<div>7</div>	<div></div>	<div>7</div>
1 year growth factor	<div>0.85</div> <div></div>		
2 year growth factor	<div>0.88</div> <div></div>		
10 year growth factor	<div>1.62</div> <div></div>		
30 year growth factor	<div>2.3</div> <div></div>		
100 year growth factor	<div>3.19</div> <div></div>		
200 year growth factor	<div>3.74</div> <div></div>		

Results

Method	<div>IH124</div> <div></div>
Flow rate 1 year (l/s)	<div>3.7</div> <div>l/s</div>
Flow rate 2 year (l/s)	<div>3.8</div> <div>l/s</div>
Flow rate 10 years (l/s)	<div>7</div> <div>l/s</div>
Flow rate 30 years (l/s)	<div>10</div> <div>l/s</div>
Flow rate 100 years (l/s)	<div>13.8</div> <div>l/s</div>
Flow rate 200 years (l/s)	<div>16.2</div> <div>l/s</div>

Disclaimer

This report was produced using the Greenfield runoff rate estimation tool (2.0.1) developed by HR Wallingford and available at uksuds.com (<https://www.uksuds.com/>).

The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at [uksuds.com/terms-conditions](https://www.uksuds.com/terms-conditions) (<https://www.uksuds.com/terms-conditions>). The outputs from this tool have been used to estimate Greenfield runoff rates. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, Centre for Ecology and Hydrology, Wallingford Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.

Appendix H Site 3D Hydraulic Calculations

Network Details

Manhole Schedule

Manhole	Catchment Area (ha)	Diameter (m)	Type	CL (m)	IL (m)	Depth To Soffit (m)	Easting (m)	Northing (m)
S1	0.000	0.150	Unknown	46.970	46.220	0.525	468488.932	110742.650
S2	0.046	0.450	Unknown	46.970	46.160	0.585	468494.895	110736.116
S3	0.000	0.450	Unknown	46.970	45.950	0.795	468509.872	110714.731
S6	0.013	0.150	Unknown	46.400	45.650	0.600	468467.827	110723.375
S7	0.012	0.450	Unknown	46.400	45.410	0.840	468491.251	110697.725
S4	0.000	0.450	Unknown	46.400	45.275	0.900	468495.577	110701.676
S16	0.000	1.200	Unknown	46.458	44.800	1.433	468499.792	110697.061
S15	0.000	1.200	Type B	46.508	44.350	2.008	468504.006	110692.446
SWMH 5650	0.000	1.350	Type C	47.630	46.100	1.080	468545.123	110681.734
SWMH 4652	0.000	1.350	Type B	46.500	43.232	2.818	468499.006	110679.711
SWMH 4651	0.000	1.800	Type A	45.000	39.000	5.550	468430.923	110677.797

Pipe Schedule

Pipe Number	US Manhole	US IL (m)	DS Manhole	DS IL (m)	Shape	Dimension (m)	Length (m)	Gradient (1:x)	Roughness (mm)	US Depth To Soffit (m)	DS Depth To Soffit (m)
1.000	S1	46.220	S2	46.160	Circ	0.225mØ	8.846	147.4	0.600	0.525	0.585
1.001	S2	46.160	S3	45.950	Circ	0.225mØ	26.109	124.3	0.600	0.585	0.795
1.002	S3	45.950	S4	45.275	Circ	0.225mØ	19.359	28.7	0.600	0.795	0.900
2.000	S6	45.650	S7	45.418	Circ	0.15mØ	34.736	149.7	0.600	0.600	0.832
2.001	S7	45.410	S4	45.350	Circ	0.15mØ	5.859	97.6	0.600	0.840	0.900
1.003	S4	45.275	S16	44.800	Circ	0.225mØ	6.250	13.2	0.600	0.900	1.433
1.004	S16	44.800	S15	44.350	Circ	0.225mØ	6.250	13.9	0.600	1.433	1.933
1.005	S15	44.350	SWMH 4652	43.532	Circ	0.15mØ	13.681	16.7	0.600	2.008	2.818
3.000	SWMH 5650	46.100	SWMH 4652	43.232	Circ	0.45mØ	46.161	16.1	0.600	1.080	2.818
1.006	SWMH 4652	43.232	SWMH 4651	39.000	Circ	0.45mØ	68.110	16.1	0.600	2.818	5.550

Outfall Details

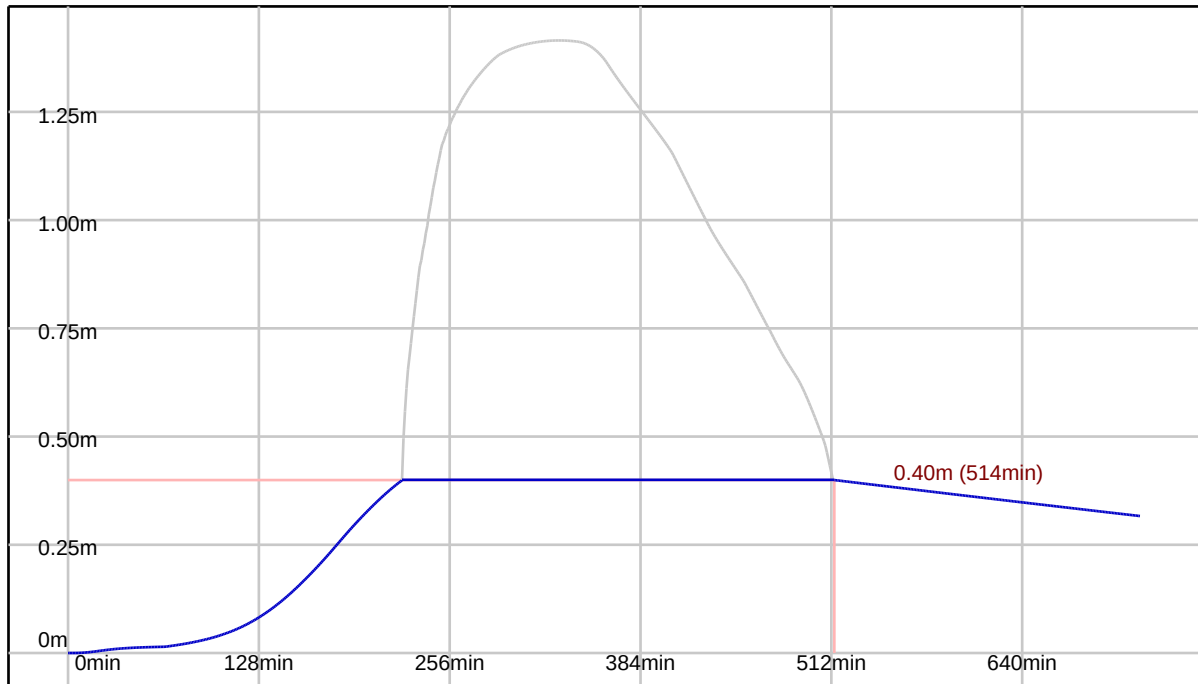
Outfall Manhole SWMH 4651 : Free Discharge

Flow Control Details

Tank Structure at Manhole S16

Tank Invert (m)	Tank Height (m)	Porosity Ratio (%)	Area (m2)	Effective Area (m2) Area x Porosity Ratio	Max Storage (m3) Effective Area x Height	Infil Base (m/hr)	Infil Side (m/hr)	Safety Factor
44.800	0.400	95.00	104.000	98.800	39.520	0.00000000	0.00000000	2.00

Tank at S16 (100Yr+45% 360Min Winter)

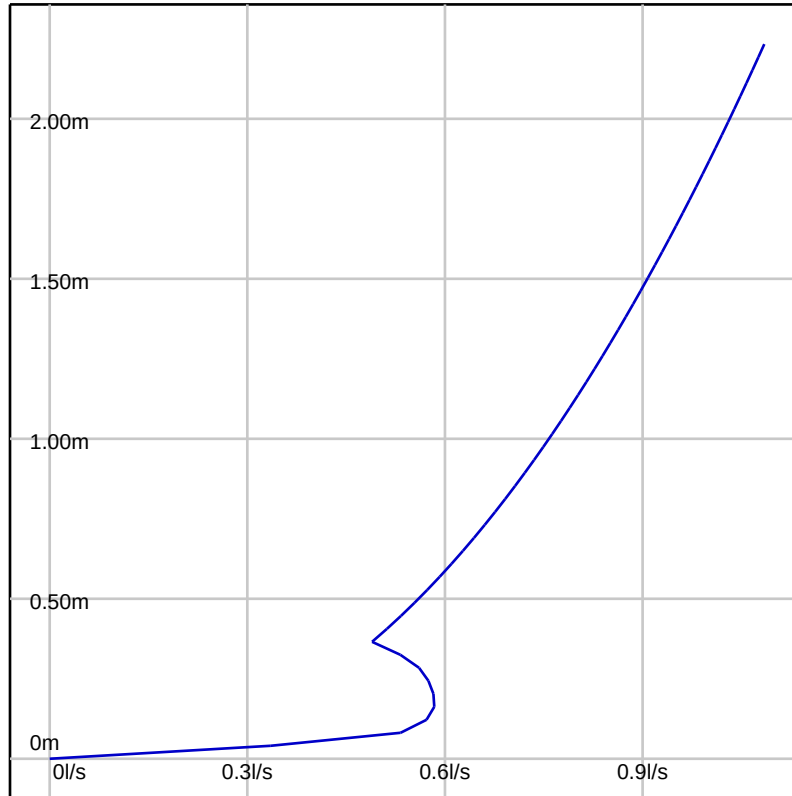


Controls within Manhole S15

Hydro-Brake® Optimum Control at Manhole S15

Model Ref	Design Depth (m)	Design Flow (l/s)	Depth Above Invert (m)	FF Head (m)	FF Flow (l/s)	KF Head (m)	KF Flow (l/s)
SHE-0040-1000-1880-1000	1.880	1.000	0.000	0.175	0.584	0.360	0.486

Hydro-Brake® Optimum Control at S15



Simulation Settings

FEH2022 (point): Filename=FEH_Point_Descriptors_468510_110717_v5_0_1.xml

Summer (Cv: 1.00), Winter (Cv: 1.00)

Global Time of Entry: 5.0 mins

Durations (mins): 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080

Return Periods (yrs) + Climate Change: (100, +45%)

Simulated Rainfall Events

Storm	Average Intensity (mm/hr)	Runoff Continuity %	Flow Continuity %	Storm	Average Intensity (mm/hr)	Runoff Continuity %	Flow Continuity %
100Yr+45% 15Min Winter	144.300	0.00	0.62	100Yr+45% 720Min Winter	8.767	0.00	-0.10
100Yr+45% 15Min Summer	144.300	0.00	0.62	100Yr+45% 960Min Summer	7.018	0.00	0.00
100Yr+45% 30Min Winter	96.742	0.00	0.71	100Yr+45% 960Min Winter	7.018	0.00	0.00
100Yr+45% 30Min Summer	96.742	0.00	0.71	100Yr+45% 1440Min Summer	5.125	0.00	-0.08
100Yr+45% 60Min Summer	61.784	0.00	0.48	100Yr+45% 1440Min Winter	5.125	0.00	-0.08
100Yr+45% 60Min Winter	61.784	0.00	0.64	100Yr+45% 2160Min Summer	3.761	0.00	0.00
100Yr+45% 120Min Winter	35.626	0.00	-0.06	100Yr+45% 2160Min Winter	3.761	0.00	0.00
100Yr+45% 120Min Summer	35.626	0.00	0.09	100Yr+45% 2880Min Summer	3.024	0.00	0.00
100Yr+45% 180Min Summer	25.637	0.00	0.09	100Yr+45% 2880Min Winter	3.024	0.00	0.00
100Yr+45% 180Min Winter	25.637	0.00	-0.17	100Yr+45% 4320Min Summer	2.238	0.00	0.00
100Yr+45% 240Min Summer	20.586	0.00	0.00	100Yr+45% 4320Min Winter	2.238	0.00	0.00
100Yr+45% 240Min Winter	20.586	0.00	-0.30	100Yr+45% 5760Min Summer	1.821	0.00	0.00
100Yr+45% 360Min Winter	14.986	0.00	-0.30	100Yr+45% 5760Min Winter	1.821	0.00	0.00
100Yr+45% 360Min Summer	14.986	0.00	-0.09	100Yr+45% 7200Min Summer	1.568	0.00	0.00
100Yr+45% 480Min Summer	11.970	0.00	0.00	100Yr+45% 7200Min Winter	1.568	0.00	0.00
100Yr+45% 480Min Winter	11.970	0.00	-0.21	100Yr+45% 8640Min Summer	1.400	0.00	0.00
100Yr+45% 600Min Summer	10.082	0.00	-0.22	100Yr+45% 8640Min Winter	1.400	0.00	0.00
100Yr+45% 600Min Winter	10.082	0.00	-0.09	100Yr+45% 10080Min Winter	1.282	0.00	0.00
100Yr+45% 720Min Summer	8.767	0.00	-0.10	100Yr+45% 10080Min Summer	1.282	0.00	0.00

Simulation Results

Return Period Yrs: 100.0

Climate Change %: 45

Manholes

Manhole	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Status
S1	15 min Summer	8	46.316	0.096	0.064		OK
S2	15 min Summer	8	46.316	0.156	39.578		OK
S3	360 min Winter	329	46.215	0.265	0.641		Surcharged
S6	360 min Winter	328	46.215	0.565	0.181		Flood Risk
S7	360 min Winter	330	46.215	0.805	0.342		Flood Risk
S4	360 min Winter	330	46.215	0.940	1.001		Flood Risk
S16	360 min Winter	330	46.215	1.415	1.000		Surcharged
S15	360 min Winter	330	46.215	1.865	0.998		Flood Risk
SWMH 5650	-	0	46.100	0.000	0.000		OK
SWMH 4652	360 min Winter	331	43.244	0.012	0.996		OK
SWMH 4651	360 min Winter	331	39.012	0.012	0.996		Outfall

Conduits

Pipe No.	Critical Storm	Peak (mins)	US Manhole	DS Manhole	Flow Depth (m)	Max Velocity (m/s)	Max Flow (l/s)	Flow / Capacity	Status
1.000	15 min Summer	11	S1	S2	0.126	0.054	0.628	0.015	OK
1.001	360 min Winter	329	S2	S3	0.140	0.933	4.825	0.104	OK
1.002	360 min Winter	287	S3	S4	0.225	1.270	4.825	0.050	OK
2.000	120 min Summer	111	S6	S7	0.150	0.670	4.686	0.324	Surcharged
2.001	120 min Summer	95	S7	S4	0.150	1.028	9.095	0.507	Surcharged
1.003	120 min Summer	92	S4	S16	0.225	2.363	26.155	0.181	OK
1.004	15 min Summer	14	S16	S15	0.225	0.756	10.657	0.076	OK
1.005	360 min Winter	330	S15	SWMH 4652	0.016	1.024	0.996	0.023	OK
3.000	360 min Winter	331	SWMH 5650	SWMH 4652	0.006	0.000	0.000	0.000	OK
1.006	360 min Winter	331	SWMH 4652	SWMH 4651	0.012	0.883	0.996	0.001	OK