

Stonestreet Green Solar
Environmental Statement
Volume 4: Appendices
Chapter 10: Water Environment
Appendix 10.2: Flood Risk Assessment (Tracked) Part 3 of 3

PINS Ref: EN010135

Doc Ref. 5.4(A)

Version 2

Deadline 1

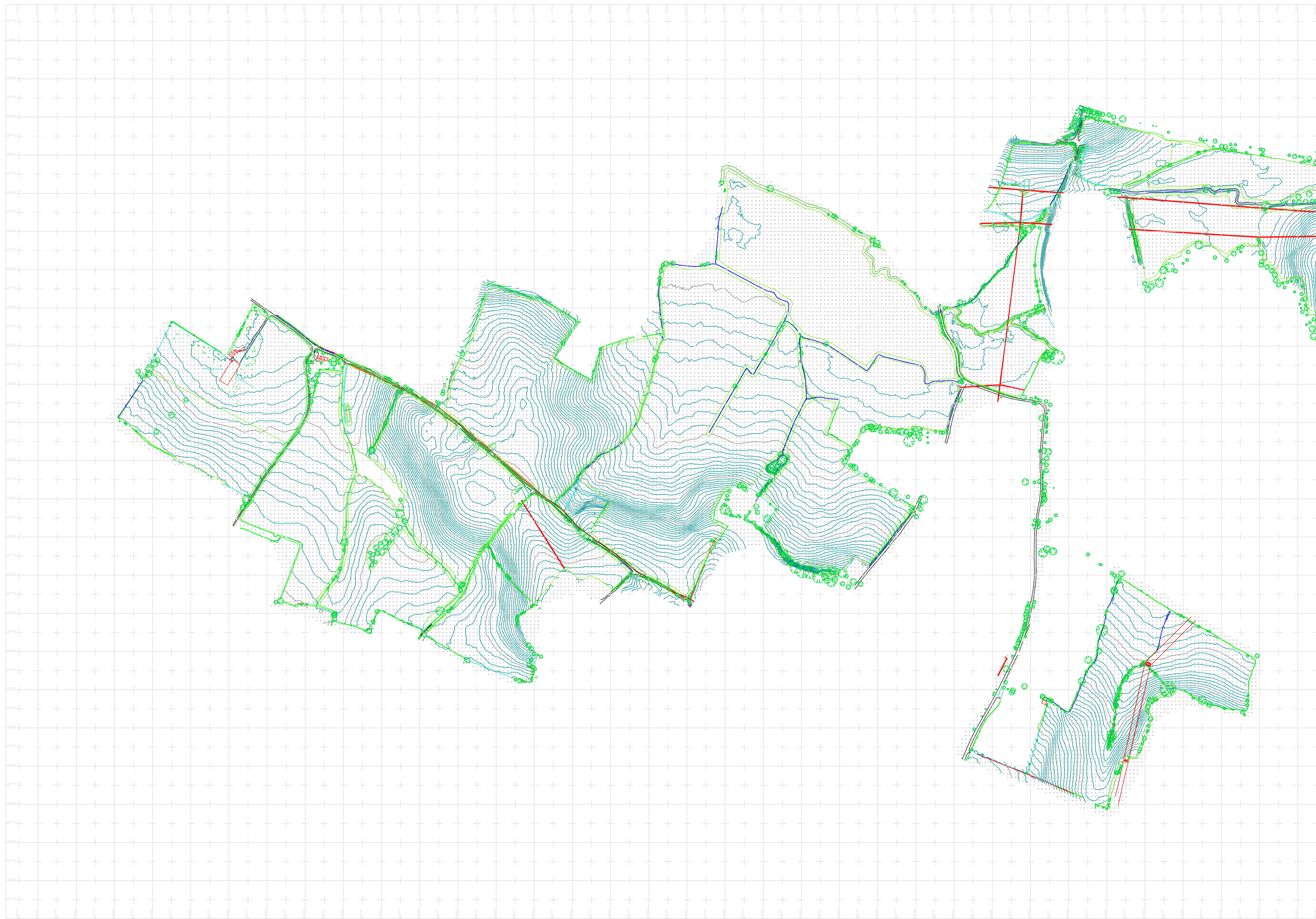
December 2024

APFP Regulation 5(2)(a)

Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009





Legend

- Building
- Bottom of Bank
- Concrete
- Drainage Ditch
- Fence
- Foot Path
- Grass Edge
- Hedge (Edge)
- Hedge Polyline
- KerbChannel
- KerbTop
- Overhead Wires
- Tarmac
- Top of Bank
- Edge of Tree Canopy Left
- Edge of Tree Canopy Right
- Verge
- Wall
- Waters Edge
- White Line

- ⊥ Gate
- ⊙ Tree 2Pt Canopy
- ⊙ Electricity Pole

01	12/12/23	VP	JJ	BC
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Issue	Date	By	Chkd	Appd
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sensat[®]
 Sensat, 15 Ironmonger Row, London, EC1V 3QG
 www.sensat.co.uk
 contact@sensat.co.uk
 +44 (0) 20 3488 2645

Client
 EPL 001 Ltd

Job Title
 Stonestreet Solar Farm
 (revision of S22213)

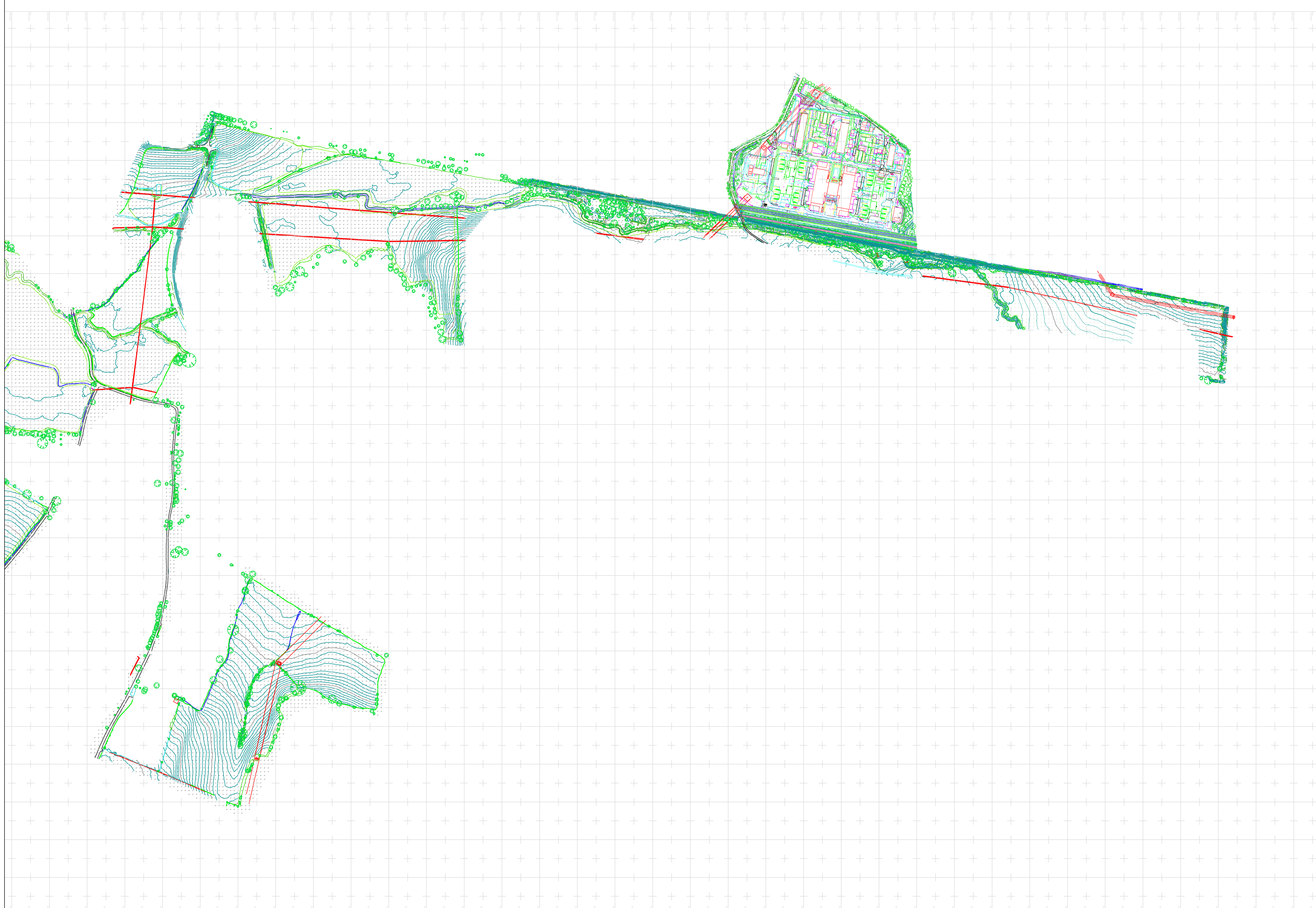
Drawing Title
 Topographic Survey derived from
 UAV Photogrammetry & Lidar
 Point Clouds
 Grid: OSGB36NG & OSGM15

Scale at A1 1:5000

Plot ID S23347_Stone-Street_Sensat-Topo-01

Drawing Status
Final

Job No S23347	Drawing No Sheet 1 of 2	Issue A
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Legend

- Building
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- X Gate
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Plot ID S23347_Stone-Street_Sensat-Topo-01
 Drawing Status

Final	Job No S23347	Drawing No Sheet 2 of 2	Issue A
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Downstream of AFSA Embankment: Floodplain Compensation Level for Level Calculations

Approval		Floodplain Loss Calculations				Floodplain Compensation Calculations			
Model	035	Analysis		Sense Check		Analysis		Sense Check	
Revision:		Area of section (m2)	9.30E-04	No. of legs in flood extent	10121	Scrape Base Width (m)	0.5	Max Flood Level (mAOD)	46.61
Prepared By:	AJ	Max Flood Level (mAOD)	46.60	Average Depth of Flooding (m)	0.192	Scrape Top Width (m)	3.5	Min Invert Level (mAOD)	43.77
Approved By:	CE	Min Ground Level (mAOD)	44.22	Estimated Volume (m3)	1.80	Scrape Depth (m)	0.5	Volume of Compensation (m3)	1543.11
Date:	26/11/2024	Volume of Fill (m3)	1.80			Side Slope (%)	33%	Length of Scrape in Flood Extent (m)	1579
								Cross-sectional Area of Scrape (m2)	1
								Estimated Volume (m3)	1579

Bands	Level (mAOD)		Volume of Floodplain Filled (m3)							Compensatory Volume Provided (m3)							Level for Level Volume Change (m3)						
	Min	Max	Field 16	Field 18	Field 19	Field 23	Field24	ALL	Field 16	Field 18	Field 19	Field 23	Field24	ALL	Field 16	Field 18	Field 19	Field 23	Field24	ALL			
1	43.7	43.8	-	-	-	-	-	-	-	-	0.06	-	-	0.06	-	-	0.06	-	-	0.06			
2	43.8	43.9	-	-	-	-	-	-	0.01	-	1.47	-	-	1.49	0.01	-	1.47	-	-	1.49			
3	43.9	44	-	-	-	-	-	-	0.18	-	4.50	-	-	4.68	0.18	-	4.50	-	-	4.68			
4	44	44.1	-	-	-	-	-	-	1.36	-	14.97	-	-	16.35	1.36	-	14.97	-	-	16.35			
5	44.1	44.2	-	-	-	-	-	-	5.41	-	31.34	-	-	36.91	5.41	-	31.34	-	-	36.91			
6	44.2	44.3	-	-	0.00	-	-	0.00	13.27	-	45.57	-	-	59.13	13.27	-	45.57	-	-	59.13			
7	44.3	44.4	-	-	0.01	-	-	0.01	30.47	-	53.27	-	-	84.15	30.47	-	53.26	-	-	84.14			
8	44.4	44.5	-	-	0.02	-	-	0.02	49.37	-	57.13	-	-	107.02	49.37	-	57.11	-	-	107.01			
9	44.5	44.6	0.00	-	0.06	-	-	0.06	62.45	0.00	29.80	-	-	92.81	62.45	0.00	29.74	-	-	92.75			
10	44.6	44.7	0.00	-	0.12	-	-	0.13	66.06	0.45	1.88	-	-	68.42	66.05	0.45	1.76	-	-	68.29			
11	44.7	44.8	0.00	-	0.20	-	-	0.20	21.53	2.57	-	-	-	24.09	21.52	2.57	0.20	-	-	23.89			
12	44.8	44.9	0.01	-	0.17	-	-	0.18	21.53	2.57	-	-	-	24.09	21.52	2.57	0.17	-	-	23.91			
13	44.9	45	0.00	-	0.12	-	-	0.12	3.21	5.42	-	-	-	8.63	3.21	5.42	0.12	-	-	8.51			
14	45	45.1	0.00	-	0.09	-	-	0.10	-	10.77	0.75	-	-	11.52	0.00	10.77	0.65	-	-	11.43			
15	45.1	45.2	-	-	0.09	-	-	0.09	-	19.01	5.27	-	-	24.28	-	19.01	5.17	-	-	24.19			
16	45.2	45.3	-	-	0.08	-	-	0.08	-	27.69	18.84	-	-	46.53	-	27.69	18.76	-	-	46.45			
17	45.3	45.4	-	-	0.08	-	-	0.08	-	35.22	34.11	0.18	0.39	69.90	-	35.22	34.03	0.18	0.39	69.82			
18	45.4	45.5	-	-	0.06	-	-	0.06	-	36.93	51.46	4.57	3.52	96.48	-	36.93	51.40	4.57	3.52	96.42			
19	45.5	45.6	-	-	0.05	-	-	0.05	-	32.73	65.32	15.88	12.69	126.61	-	32.73	65.27	15.88	12.69	126.57			
20	45.6	45.7	-	0.00	0.04	-	-	0.04	-	13.11	62.83	29.68	24.40	130.01	-	13.11	62.79	29.68	24.40	129.97			
21	45.7	45.8	-	0.01	0.04	-	-	0.05	-	6.39	29.86	46.05	37.95	120.25	-	6.39	29.81	46.05	37.95	120.20			
22	45.8	45.9	-	0.00	0.05	0.00	0.00	0.05	-	5.87	17.57	60.69	52.16	136.28	-	5.87	17.52	60.69	52.16	136.23			
23	45.9	46	-	0.00	0.02	0.01	0.00	0.03	-	5.39	4.99	53.86	54.11	118.36	-	5.39	4.98	53.85	54.11	118.32			
24	46	46.1	-	0.00	0.00	0.04	0.01	0.05	-	2.06	-	31.08	36.47	69.60	-	2.06	0.00	31.04	36.46	69.55			
25	46.1	46.2	-	-	-	0.06	0.03	0.09	-	0.11	-	15.44	26.84	42.39	-	0.11	-	15.39	26.81	42.30			
26	46.2	46.3	-	-	-	0.08	0.05	0.13	-	-	-	1.58	17.37	18.95	-	-	-	1.50	17.33	18.83			
27	46.3	46.4	-	-	-	0.08	0.05	0.13	-	-	-	-	4.11	4.11	-	-	-	0.08	4.06	3.98			
28	46.4	46.5	-	-	-	0.01	0.03	0.04	-	-	-	-	-	-	-	-	-	0.01	0.03	0.04			
29	46.5	46.6	-	-	-	-	0.02	0.02	-	-	-	-	-	-	-	-	-	-	0.02	0.02			
30	46.6	46.7	-	-	-	-	0.00	0.00	-	-	-	-	-	-	-	-	-	-	0.00	0.00			
31	46.7	46.8	-	-	-	-	0.00	0.00	-	-	-	-	-	-	-	-	-	-	0.00	0.00			
TOTAL			0.02	0.01	1.30	0.27	0.21	1.80	274.83	206.28	531.00	259.00	270.00	1,543.11	274.82	206.28	529.70	258.73	269.79	1,541.31			

Upstream of AFSA Embankment: Floodplain Compensation Level for Level Calculations

Approval

Model	01
Revision:	
Prepared By:	CN
Approved By:	DW
Date:	26/11/2024

AFSA Floodplain Loss Calculations

Analysis	
Area of Section in floodplain (m2)	0.00
Max Flood Level (mAOD)	50.36
Min Ground Level (mAOD)	47.50
Volume of Fill (m3)	0.00

Floodplain Compensation Calculations

Analysis	
Scrape Depth (m)	0.5
Pond Depth (m)	1.5
Side Slope (%)	25%
Max Flood Level (mAOD)	0.00
Min Invert Level (mAOD)	0.00
Volume of Compensation (m3)	1698.10

Sense Check

Area of Scrape in Flood Extent (m2)	2541
Area of Pond in Flood Extent (m2)	297
Estimated Volume (m3)	1716

Bands	Level (mAOD)		Volume of Floodplain Filled (m3)			Compensatory Volume Provided (m3)			Level for Level Volume Change (m3)		
	Min	Max	Field 27	Field 28	ALL	Field 27	Field 28	ALL	Field 27	Field 28	ALL
1	46	46.1	0.00	0.00	0.00	7.60	-	7.60	7.60	-	7.60
2	46.1	46.2	0.00	0.00	0.00	8.80	-	8.80	8.80	-	8.80
3	46.2	46.3	0.00	0.00	0.00	11.60	4.80	16.40	11.60	4.80	16.40
4	46.3	46.4	0.00	0.00	0.00	13.50	5.80	19.30	13.50	5.80	19.30
5	46.4	46.5	0.00	0.00	0.00	15.80	6.90	22.70	15.80	6.90	22.70
6	46.5	46.6	0.00	0.00	0.00	18.20	8.20	26.40	18.20	8.20	26.40
7	46.6	46.7	0.00	0.00	0.00	20.80	9.50	30.30	20.80	9.50	30.30
8	46.7	46.8	0.00	0.00	0.00	23.80	11.00	34.80	23.80	11.00	34.80
9	46.8	46.9	0.00	0.00	0.00	26.80	12.40	39.20	26.80	12.40	39.20
10	46.9	47	0.00	0.00	0.00	30.00	14.10	44.10	30.00	14.10	44.10
11	47	47.1	0.00	0.00	0.00	33.40	15.90	49.30	33.40	15.90	49.30
12	47.1	47.2	0.00	0.00	0.00	98.90	59.70	158.60	98.90	59.70	158.60
13	47.2	47.3	0.00	0.00	0.00	108.00	64.90	172.90	108.00	64.90	172.90
14	47.3	47.4	0.00	0.00	0.00	116.90	69.70	186.60	116.90	69.70	186.60
15	47.4	47.5	0.00	0.00	0.00	126.80	75.20	202.00	126.80	75.20	202.00
16	47.5	47.6	0.00	0.00	0.00	99.30	80.60	179.90	99.30	80.60	179.90
17	47.6	47.7	0.00	0.00	0.00	18.20	28.40	46.60	18.20	28.40	46.60
18	47.7	47.8	0.00	0.00	0.00	39.30	-	39.30	39.30	-	39.30
19	47.8	47.9	0.00	0.00	0.00	42.20	-	42.20	42.20	-	42.20
20	47.9	48	0.00	0.00	0.00	45.10	-	45.10	45.10	-	45.10
21	48	48.1	0.00	0.00	0.00	48.20	-	48.20	48.20	-	48.20
22	48.1	48.2	0.00	0.00	0.00	51.30	-	51.30	51.30	-	51.30
23	48.2	48.3	0.00	0.00	0.00	0.00	-	-	-	-	-
24	48.3	48.4	0.00	0.00	0.00	0.00	-	-	-	-	-
25	48.4	48.5	0.00	0.00	0.00	12.30	-	12.30	12.30	-	12.30
26	48.5	48.6	0.00	0.00	0.00	27.40	-	27.40	27.40	-	27.40
27	48.6	48.7	0.00	0.00	0.00	30.80	-	30.80	30.80	-	30.80
28	48.7	48.8	0.00	0.00	0.00	43.80	-	43.80	43.80	-	43.80
29	48.8	48.9	0.00	0.00	0.00	49.30	-	49.30	49.30	-	49.30
30	48.9	49	0.00	0.00	0.00	33.20	-	33.20	33.20	-	33.20
31	49	49.1	0.00	0.00	0.00	14.00	-	14.00	-	-	-
32	49.1	49.2	0.00	0.00	0.00	15.70	-	15.70	15.70	-	15.70
TOTAL			0.00	0.00	0.00	1,231.00	467.10	1,698.10	1,217.00	467.10	1,684.10

N.b. Fencing proposed within Field 29, whilst upstream of the AFSA embankment, is outside of the projected maximum flood extent.

From: KSLPlanning <KSLPLANNING@environment-agency.gov.uk>

Sent: Tuesday, April 23, 2024 2:18 PM

To: [REDACTED]

Cc: [REDACTED]

Subject: Stonestreet Green Hydraulic Model - ENVPAC/1/KSL/00636

Good afternoon, [REDACTED] *et al*

Thank you for seeking our review of your flood modelling in support of your flood risk assessment for the above development.

We have applied a risk based approach to the assessment of this model. In this instance a basic review has been carried out (a review of the hydrology and hydraulic model reports, but not the model files). We don't have any specific comments on the reports and consider that the model appears to provide a suitable basis for assessing the flood risk.

The proposed substation building is to be located outside the Aldington FSA and above the FSA embankment crest level designed to contain the 1in10,000 year flood event. The solar panels in the fields downstream of the FSA will be on legs above the design flood levels with appropriate freeboard to be assessed by the designer.

From the information so far provided we are unlikely to raise an objection to a formal application on flood risk grounds.

Kind Regards,

[REDACTED]
Planning Specialist
Sustainable Places – Kent and South London

kslplanning@environment-agency.gov.uk

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