DATE: **14 November 2023**

DESIGNER: **SHD Lighting Consultancy Ltd**

PROJECT No: **SHD1113**

PROJECT NAME: **Sawtry Car Park**

Grid 1 - Whole Area
Grid 2 - Turning Head: >10lux >0.40Uo
Grid 2 - Car Park 1: >10lux >0.40Uo
Grid 4 - Main Car Park: >10lux >0.40Uo
Grid 5 - Caravan Car Park: >10lux >0.40Uo
Grid 6 - Access Road: >10lux >0.40Uo
Grid 7 - FFS Exit Road 1 >10lux >0.40Uo
Grid 8 - FFS Access Road >10lux >0.40Uo
Grid 9 - HGV Car Park >10lux >0.40Uo
Grid 10 - PFS Area >20lux >0.40Uo
Grid 11 - FFS Exit Road 2 >10lux >0.40Uo
Grid 12 - FFS Exit Road 3 >10lux >0.40Uo

Outdoor Lighting Report

PREPARED BY: SHD Lighting Consultancy Ltd
Contact: info@shdlighting.co.uk
Phone: 07834 490 192
Website: www.shdlighting.co.uk

Layout Report

General Data

Dimensions in Metres Angles in Degrees

Calculation Grids

ID	Grid Name	X	Y	X' Length	Y' Length	X' Spacing	Y' Spacing
1	Grid 1: Whole Area	359.53	113.10	190.00	371.79	1.50	1.50
2	Grid 2	369.05	426.25	78.00	51.00	1.50	1.50
3	Grid 3	444.48	367.50	42.00	66.00	1.50	1.50
4	Grid 4	410.57	293.60	64.43	96.00	1.50	1.50
5	Grid 5	473.53	283.67	60.00	94.31	1.50	1.50
6	Grid 6	415.63	259.70	78.00	33.00	1.50	1.50
7	Grid 7	439.48	202.79	21.00	72.00	1.50	1.50
8	Grid 8	505.01	149.35	75.00	150.00	1.50	1.50
9	Grid 9	455.75	204.23	72.00	80.83	1.50	1.50
10	Grid 10	490.20	142.82	63.00	66.00	1.50	1.50
11	Grid 11	481.57	154.63	12.00	63.00	1.50	1.50
12	Grid 12	477.98	137.19	36.00	27.00	1.50	1.50

Luminaires



Luminaire A Data

Supplier	Urbis Schreder
Type	AXIA 3.2 5293 Integrated lenses 24 OSLO N SQUARE GIANT@590mA
Lamp(s)	24 OSLON SQUARE GIANT@590mA WW 730 230V
LampFlux(klm)/Colour	5.81 WW 3000K/70
File Name	AXIA 3.2 5293 24 OSLON SQUARE GIAN T 590mA WW 730 44W 444502 Integrated...
Maintenance Factor	0.84
Lum. Int. Class	G3
No. in Project	16



Luminaire B Data

Supplier	Urbis Schreder
Type	AXIA 3.2 5293 Integrated lenses 32 OSLO N SQUARE GIANT@700mA
Lamp(s)	32 OSLON SQUARE GIANT@700mA WW 730 230V
LampFlux(klm)/Colour	8.91 WW 3000K/70
File Name	AXIA 3.2 5293 32 OSLON SQUARE GIAN T 700mA WW 730 69W 444502 Integrated...
Maintenance Factor	0.84
Lum. Int. Class	G3
No. in Project	17



Luminaire C Data

Supplier	Urbis Schreder
Type	AXIA 3.3 5293 Integrated lenses 64 OSLO N SQUARE GIANT@880mA
Lamp(s)	64 OSLON SQUARE GIANT@880mA WW 730 230V
LampFlux(klm)/Colour	20.69 WW 3000K/70
File Name	AXIA 3.3 5293 64 OSLON SQUARE GIAN T 880mA WW 730 172W 444502 Integrat...
Maintenance Factor	0.84
Lum. Int. Class	G3
No. in Project	4



Luminaire D Data

Supplier	Urbis Schreder
Type	AXIA 3.2 5293 Integrated lenses 24 OSLO N SQUARE GIANT@400mA
Lamp(s)	24 OSLON SQUARE GIANT@400mA WW 730 230V
LampFlux(klm)/Colour	4.17 WW 3000K/70
File Name	AXIA 3.2 5293 24 OSLON SQUARE GIAN T 400mA WW 730 29.7W 444502 Integrat...
Maintenance Factor	0.84
Lum. Int. Class	G3
No. in Project	11

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Layout

ID /Mast	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
1	B	383.21	453.42	8.00	348.00	0.00	0.00	0.40			
2	B	411.38	465.09	8.00	229.00	0.00	0.00	0.40			
3	B	429.05	445.98	8.00	213.00	0.00	0.00	0.40			
4	B	399.11	433.64	8.00	111.00	0.00	0.00	0.40			
5	B	442.22	424.70	8.00	210.00	0.00	0.00	0.40			
6	B	454.18	401.68	8.00	194.00	0.00	0.00	0.40			
7	A	397.59	367.51	8.00	15.00	0.00	0.00	0.40			
8	B	462.14	376.05	8.00	200.00	0.00	0.00	0.40			
9	A	406.27	339.40	8.00	19.00	0.00	0.00	0.40			
10	A	416.18	308.36	8.00	19.00	0.00	0.00	0.40			
11	B	463.73	315.28	8.00	16.00	0.00	0.00	0.40			
12	D	469.31	176.44	6.00	36.00	0.00	0.00	0.40			
13	A	447.56	295.80	8.00	297.00	0.00	0.00	0.40			
14	B	503.77	314.24	8.00	199.00	0.00	0.00	0.40			
15	B	472.24	360.99	8.00	225.00	0.00	0.00	0.40			
16	C	446.15	259.36	10.00	9.00	5.00	0.00	0.40			
17	C	501.71	267.46	10.00	188.00	5.00	0.00	0.40			
18	C	508.21	229.49	10.00	189.00	5.00	0.00	0.40			
19	C	453.24	218.10	10.00	10.00	5.00	0.00	0.40			
20	D	484.38	157.70	6.00	42.00	0.00	0.00	0.40			
21	D	502.69	152.46	6.00	99.00	0.00	0.00	0.40			
22	D	520.21	161.63	6.00	130.00	0.00	0.00	0.40			
23	D	450.89	200.87	6.00	27.00	0.00	0.00	0.40			
24	D	527.24	200.62	6.00	195.00	0.00	0.00	0.40			
25	D	443.19	227.82	6.00	0.00	0.00	0.00	0.40			
26	D	521.40	226.88	6.00	193.00	0.00	0.00	0.40			
27	D	509.23	281.94	6.00	215.00	0.00	0.00	0.40			
28	D	438.91	251.45	6.00	11.00	0.00	0.00	0.40			
29	D	516.22	252.82	6.00	191.00	0.00	0.00	0.40			
30	B	483.50	338.92	8.00	201.00	0.00	0.00	0.40			
31	B	469.54	199.72	6.00	325.00	0.00	0.00	0.40			
32	B	495.39	214.60	6.00	286.00	0.00	0.00	0.40			
33	B	512.90	203.27	6.00	144.00	0.00	0.00	0.40			
34	B	491.33	172.13	6.00	120.00	0.00	0.00	0.40			
35/1	A	440.36	337.15	8.00	15.00	0.00	0.00	0.70			
36/1	A	440.36	337.15	8.00	195.00	0.00	0.00	0.70			

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Layout Continued

ID /Mast	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
37/2	A	434.78	355.93	8.00	15.00	0.00	0.00	0.70			
38/2	A	434.78	355.93	8.00	195.00	0.00	0.00	0.70			
39/3	A	429.94	371.30	8.00	18.00	0.00	0.00	0.70			
40/3	A	429.94	371.30	8.00	198.00	0.00	0.00	0.70			
41/4	A	445.31	321.76	8.00	15.00	0.00	0.00	0.70			
42/4	A	445.31	321.76	8.00	195.00	0.00	0.00	0.70			
43/5	A	474.67	291.66	8.00	97.00	0.00	0.00	0.70			
44/5	A	474.67	291.66	8.00	277.00	0.00	0.00	0.70			
45/6	A	428.99	274.33	8.00	297.00	0.00	0.00	0.70			
46/6	A	428.99	274.33	8.00	117.00	0.00	0.00	0.70			
47/7	B	521.24	182.64	6.00	11.00	0.00	0.00	0.70			
48/7	B	521.24	182.64	6.00	191.00	0.00	0.00	0.70			

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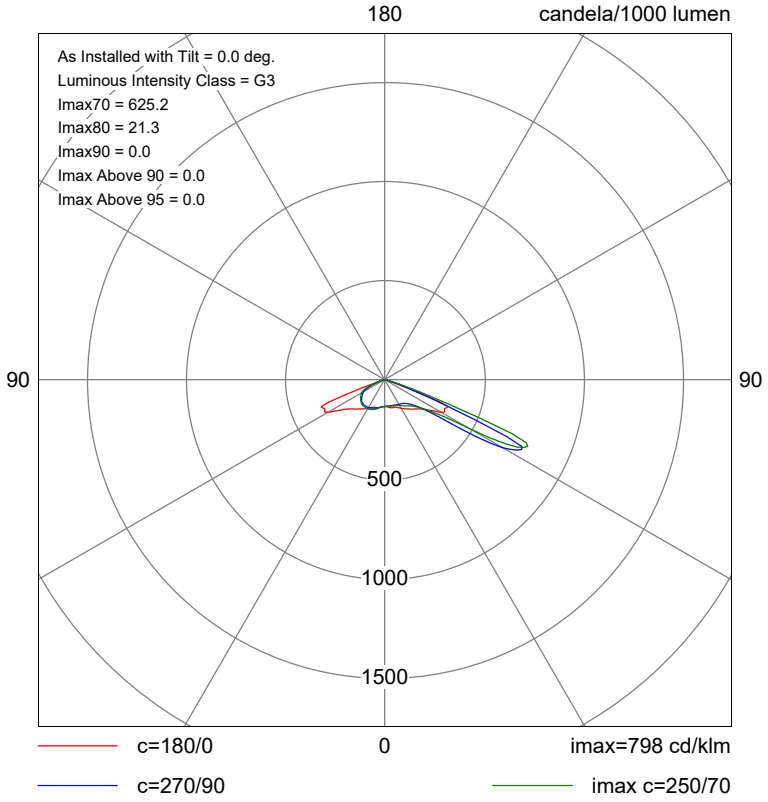
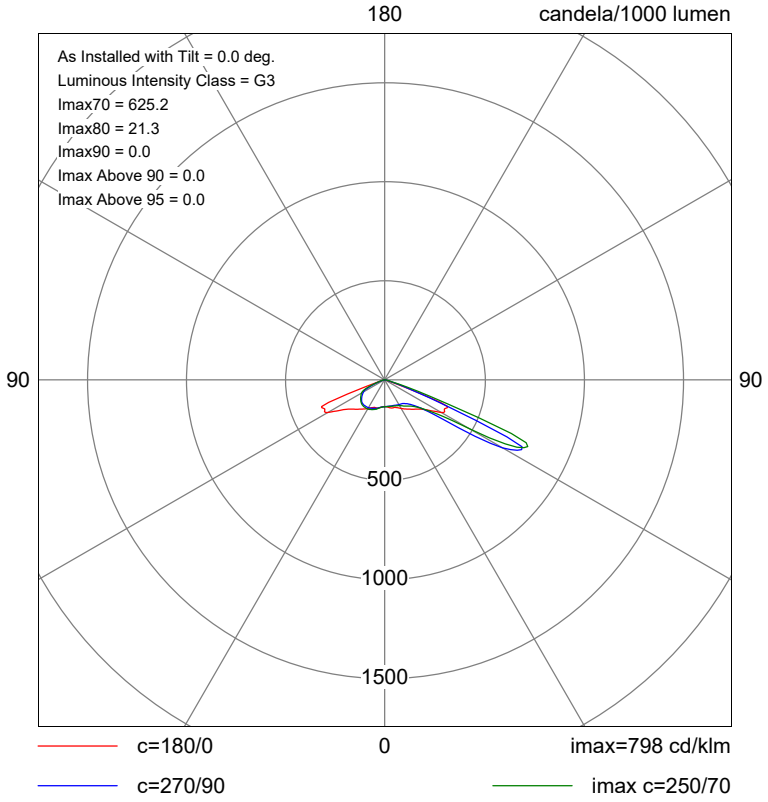
Polar Diagrams

Luminaire A AXIA 3.2 5293 Integrated lenses 24 OSLON SQUARE GIANT@590mA



Luminaire B AXIA 3.2 5293 Integrated lenses 32 OSLON SQUARE GIANT@700mA



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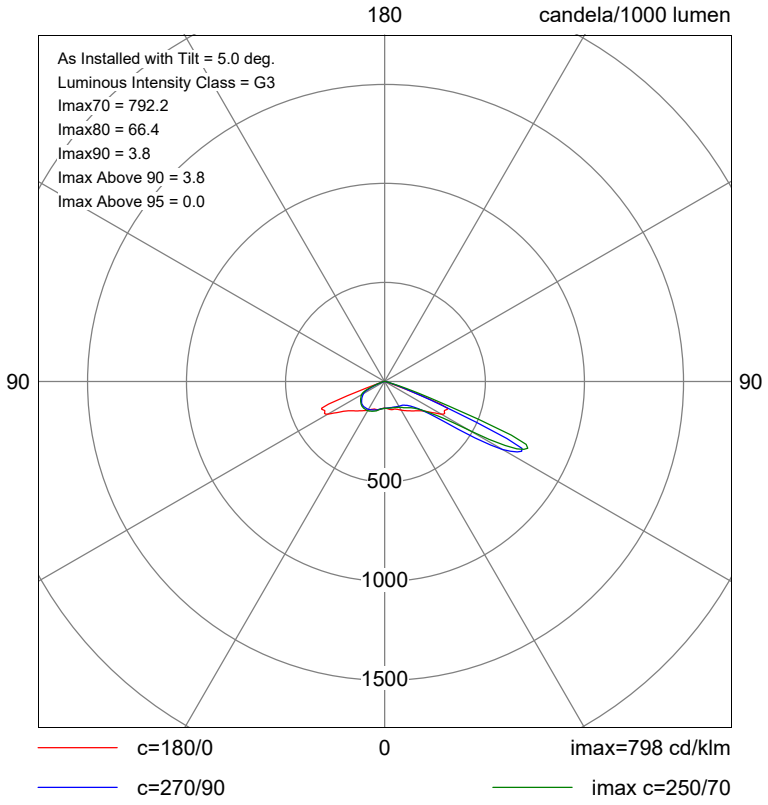
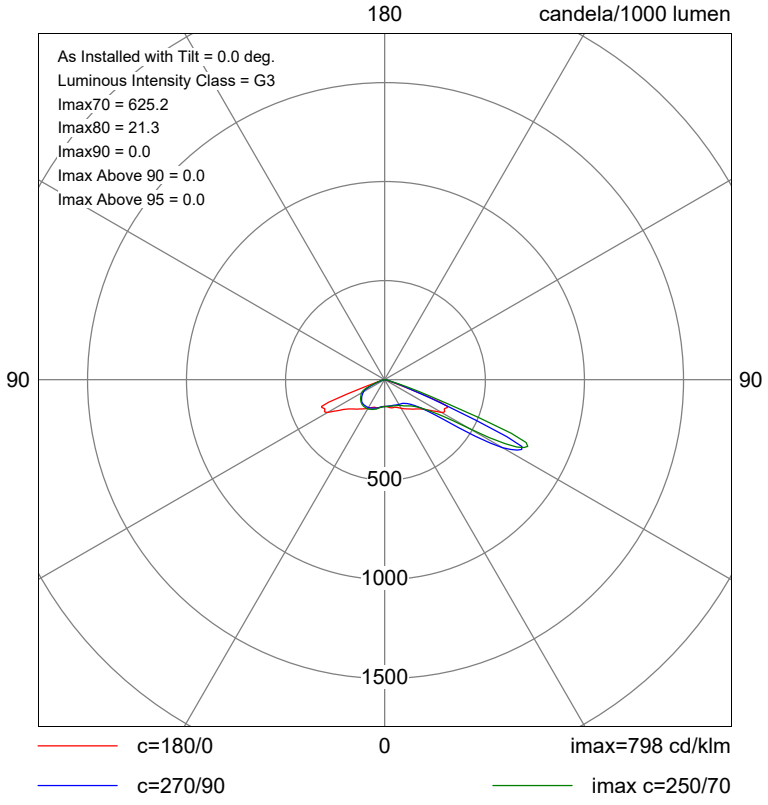
Polar Diagrams Continued

Luminaire C AXIA 3.3 5293 Integrated lenses 64 OSLON SQUARE GIANT@880mA



Luminaire D AXIA 3.2 5293 Integrated lenses 24 OSLON SQUARE GIANT@400mA



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Horizontal Illuminance (lux)

Grid 1: Whole Area



Horizontal Illuminance (lux)

Grid 1: Whole Area



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Horizontal Illuminance (lux)

Grid 1: Whole Area



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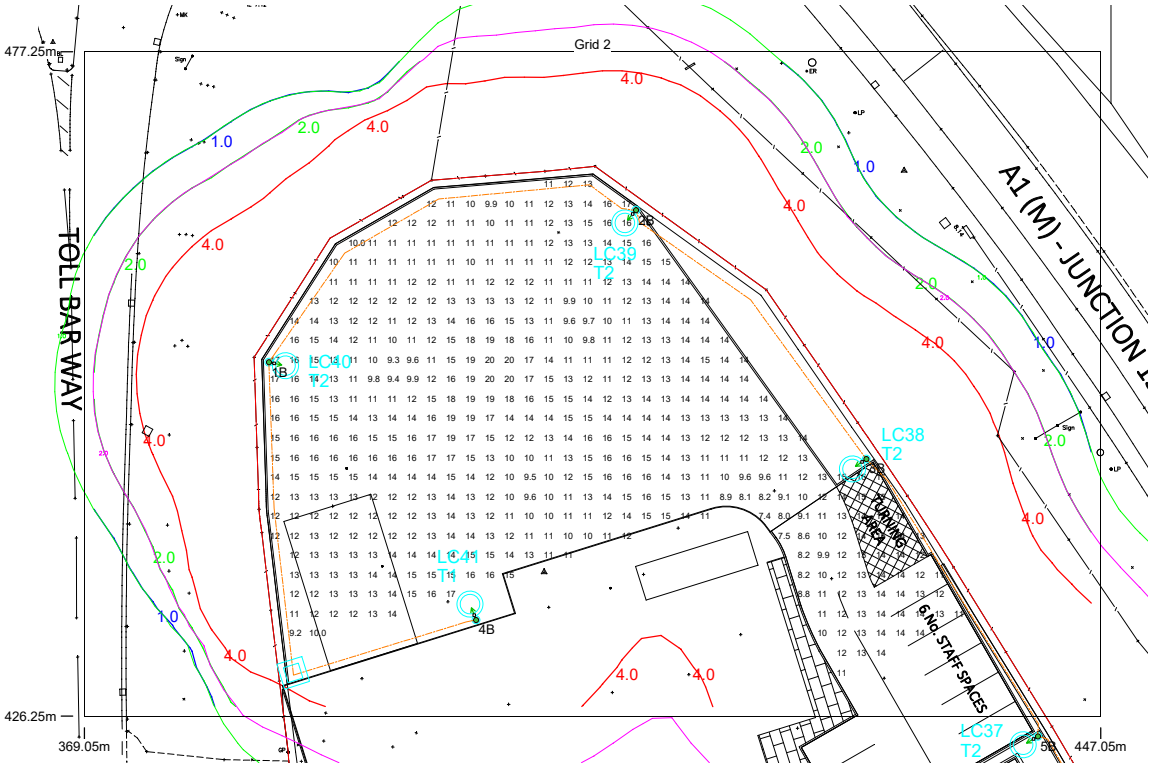
Horizontal Illuminance (lux)

Grid 2



Results

Eav	13.06
Emin	7.43
Emax	20.36
Emin/Emax	0.37
Emin/Eav	0.57

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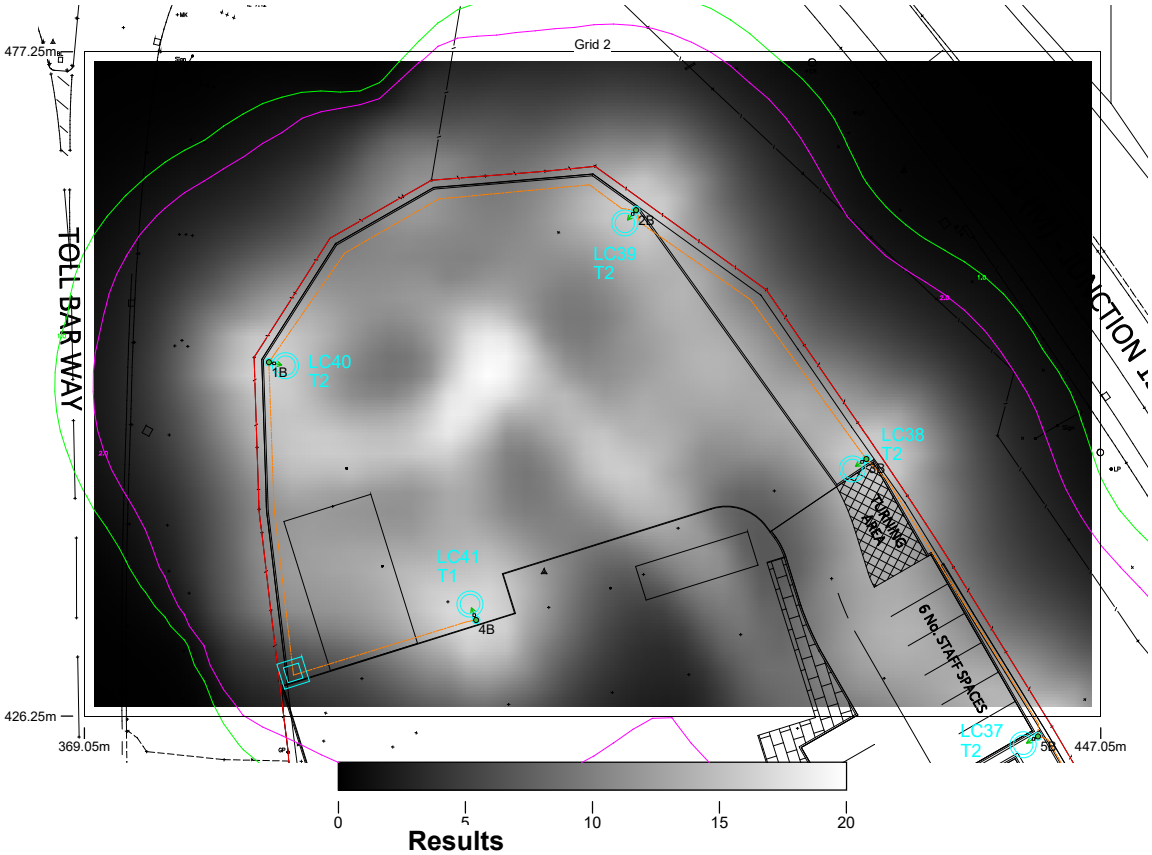
Horizontal Illuminance (lux)

Grid 2



Results

Eav	13.06
Emin	7.43
Emax	20.36
Emin/Emax	0.37
Emin/Eav	0.57

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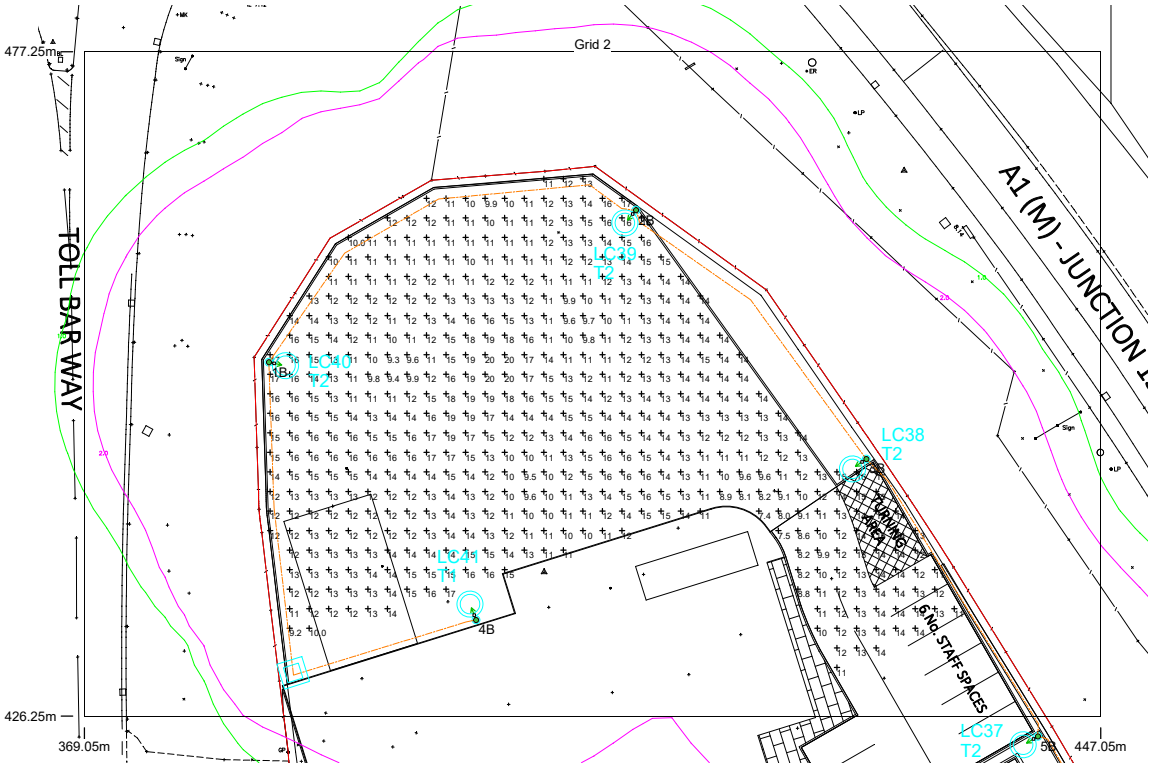
Horizontal Illuminance (lux)

Grid 2



Results

Eav	13.06
Emin	7.43
Emax	20.36
Emin/Emax	0.37
Emin/Eav	0.57

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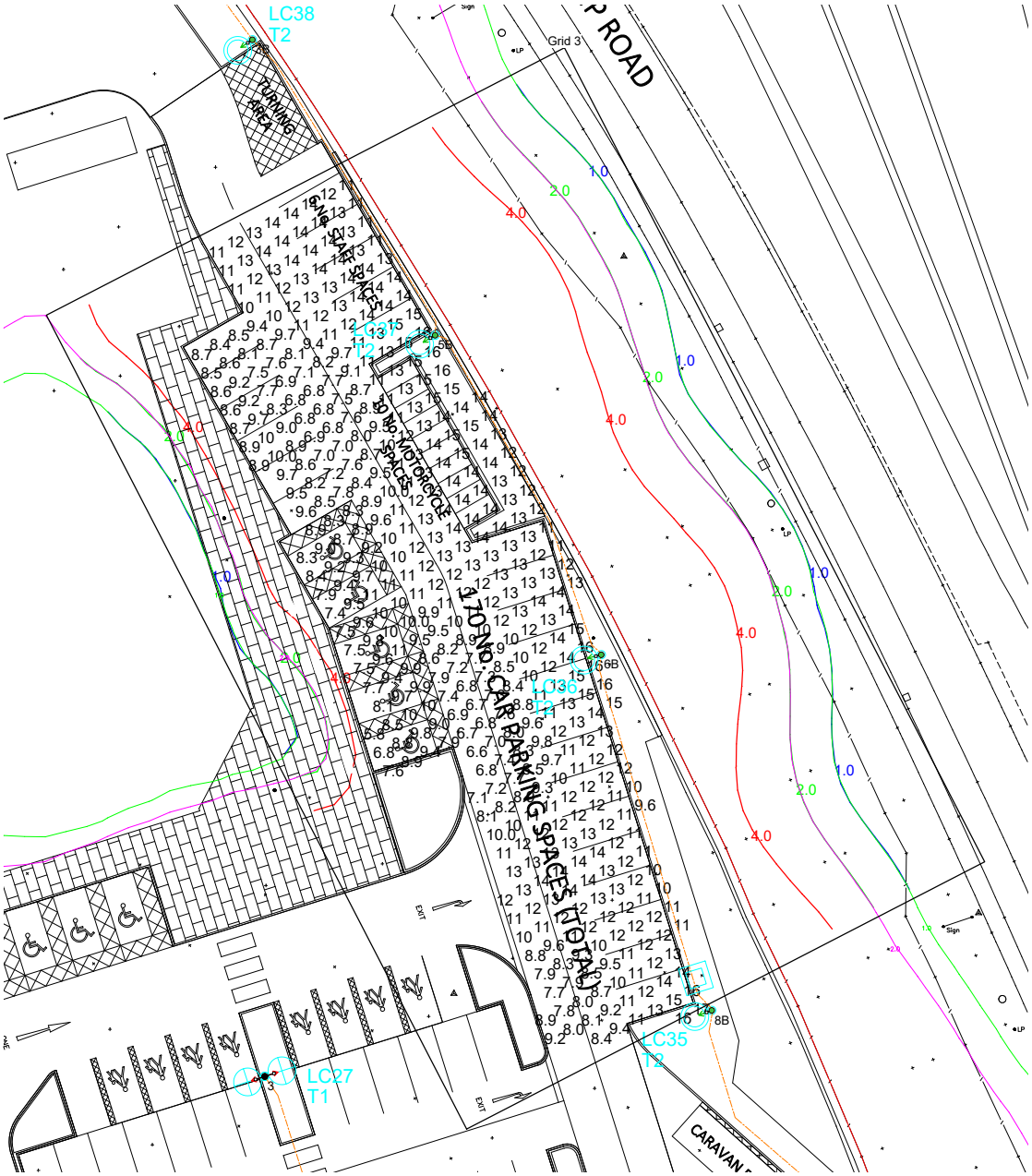
Horizontal Illuminance (lux)

Grid 3



Results

Eav	10.99
Emin	5.83
Emax	17.27
Emin/Emax	0.34
Emin/Eav	0.53

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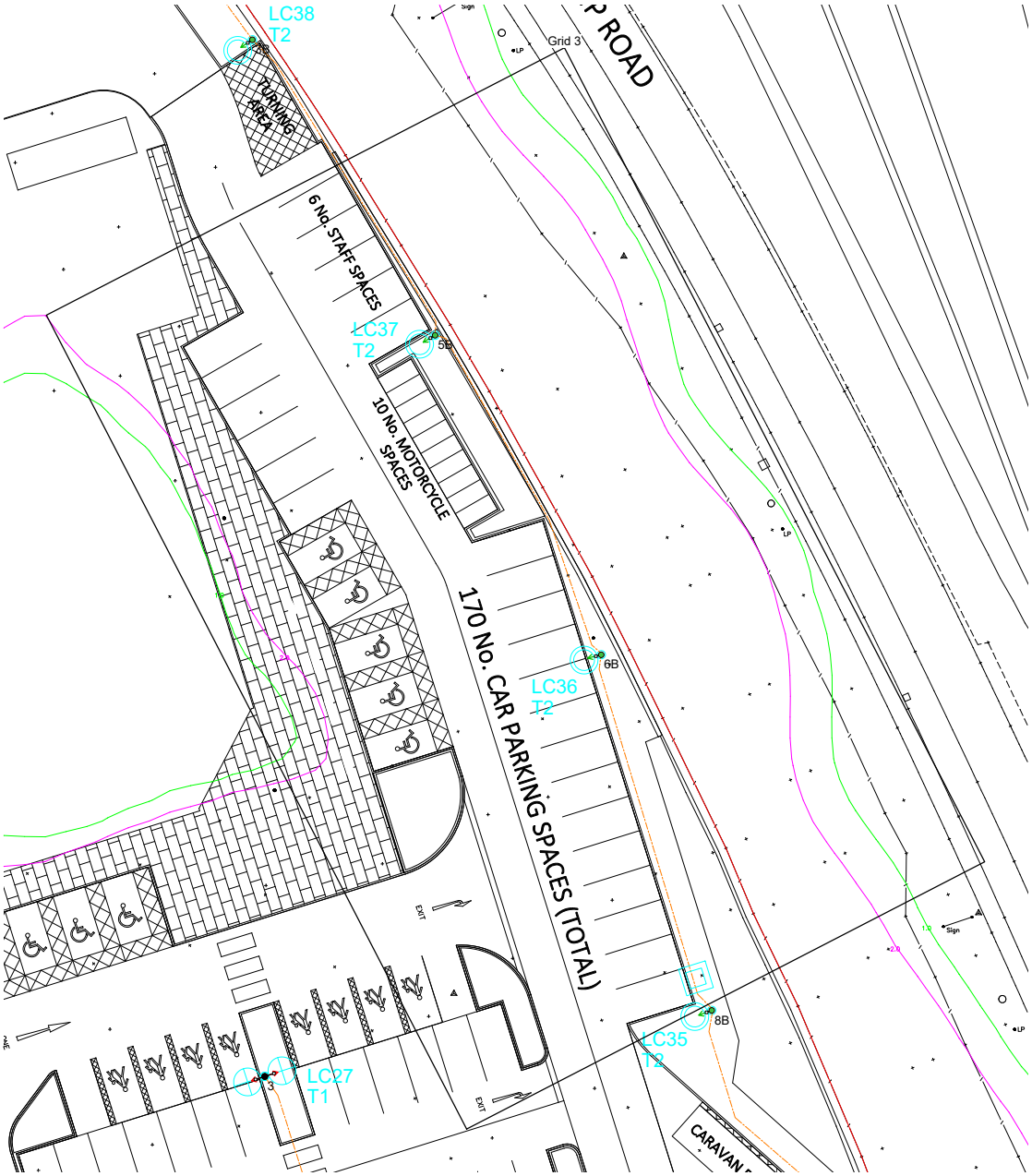
Horizontal Illuminance (lux)

Grid 3



Results

Eav	10.99
Emin	5.83
Emax	17.27
Emin/Emax	0.34
Emin/Eav	0.53

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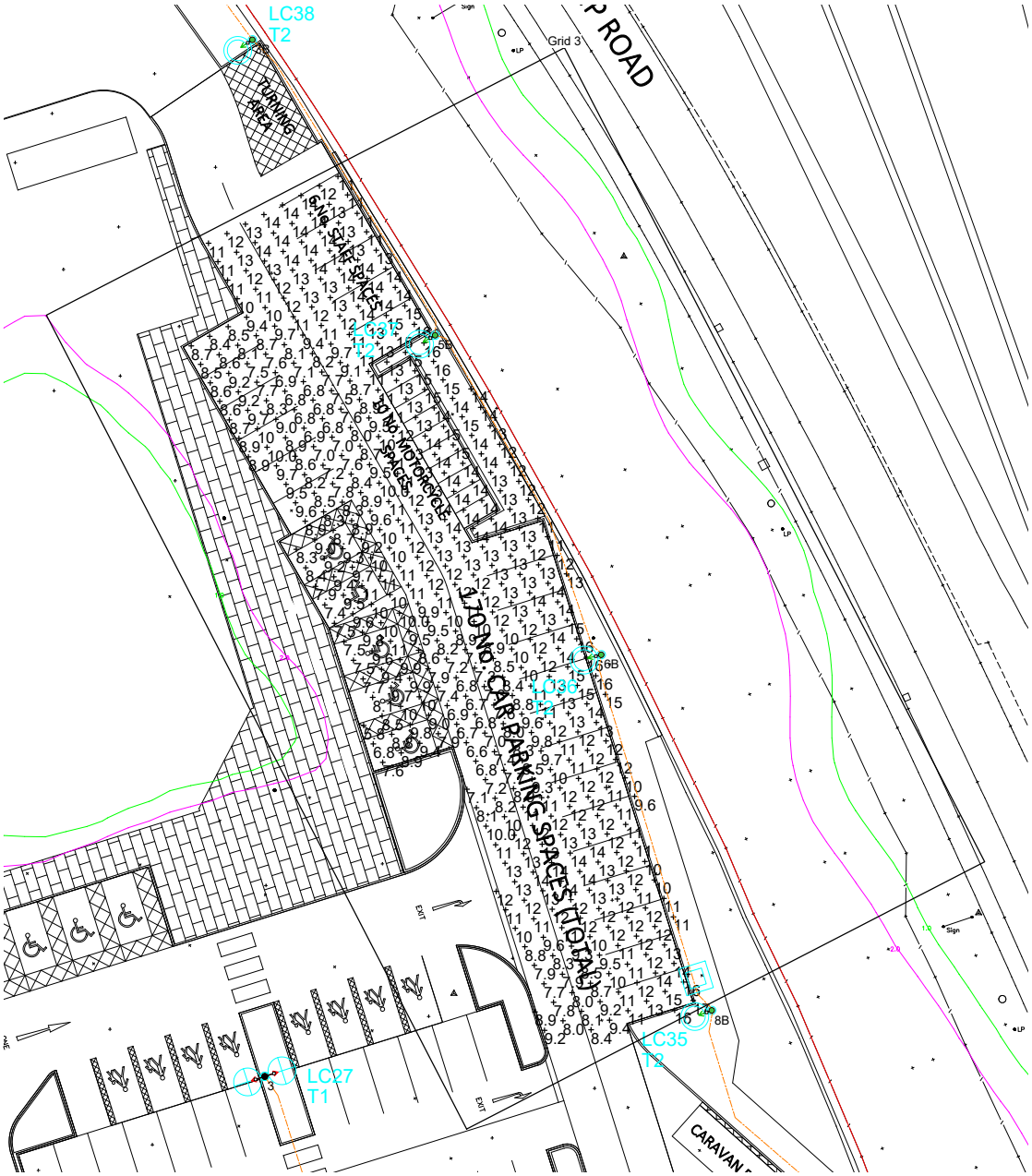
Horizontal Illuminance (lux)

Grid 3



Results

Eav	10.99
Emin	5.83
Emax	17.27
Emin/Emax	0.34
Emin/Eav	0.53

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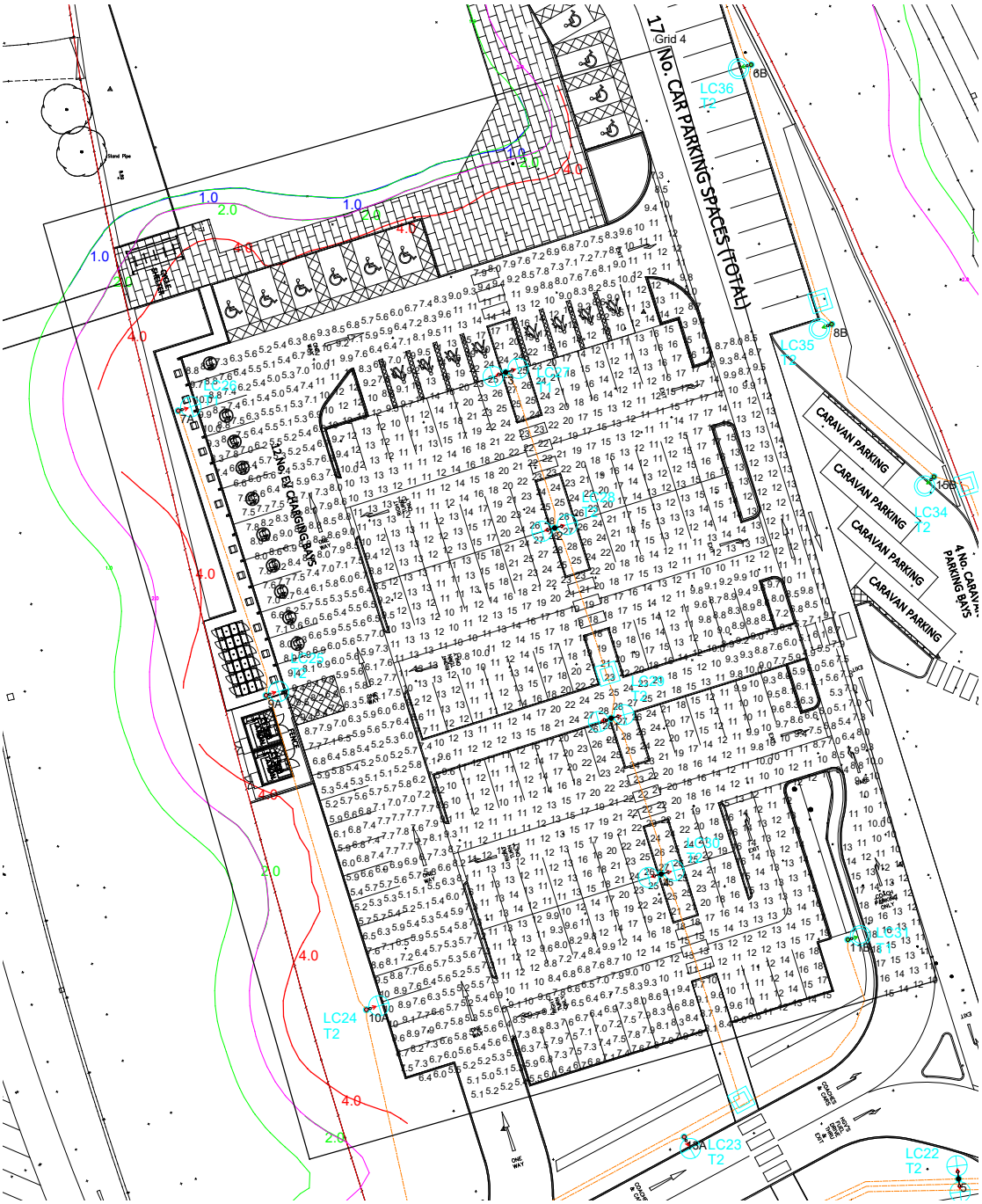
Horizontal Illuminance (lux)

Grid 4



Results

Eav	12.29
Emin	4.91
Emax	27.88
Emin/Emax	0.18
Emin/Eav	0.40

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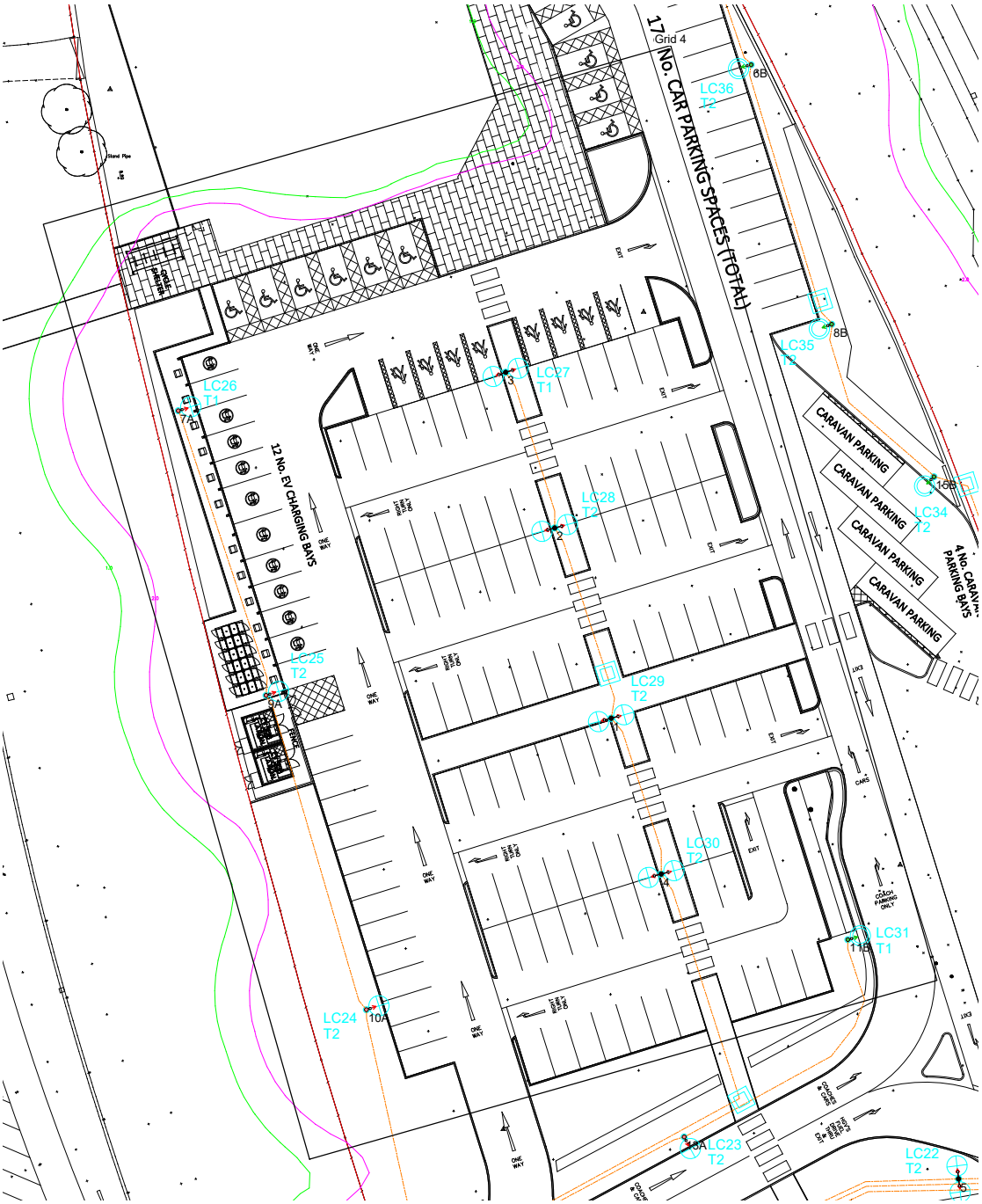
Horizontal Illuminance (lux)

Grid 4



Results

Eav	12.29
Emin	4.91
Emax	27.88
Emin/Emax	0.18
Emin/Eav	0.40

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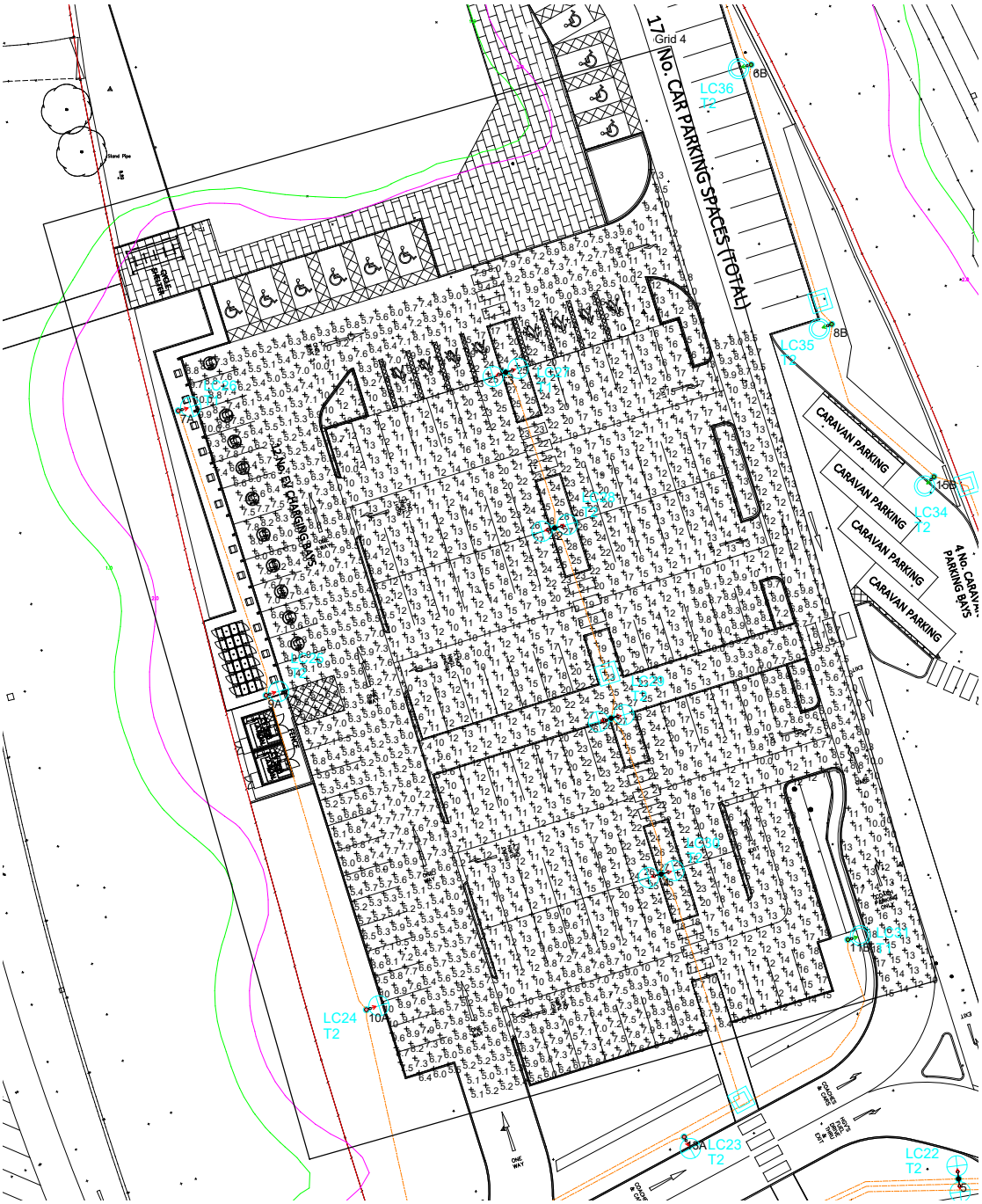
Horizontal Illuminance (lux)

Grid 4



Results

Eav	12.29
Emin	4.91
Emax	27.88
Emin/Emax	0.18
Emin/Eav	0.40

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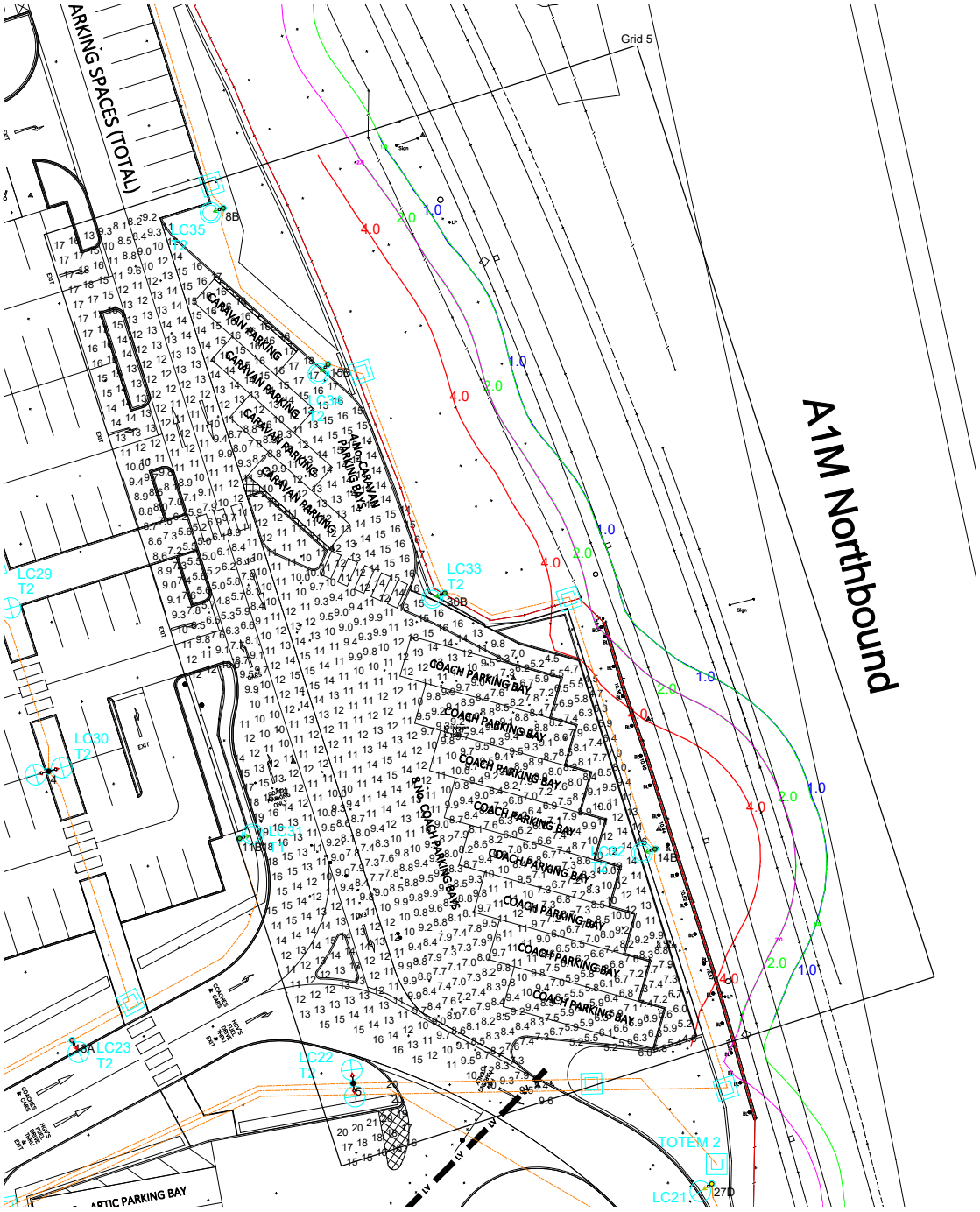
Horizontal Illuminance (lux)

Grid 5



Results

Eav	10.87
Emin	4.49
Emax	20.80
Emin/Emax	0.22
Emin/Eav	0.41

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Horizontal Illuminance (lux)

Grid 5



Results

Eav	10.87
Emin	4.49
Emax	20.80
Emin/Emax	0.22
Emin/Eav	0.41

Horizontal Illuminance (lux)

Grid 5



Results

Eav	10.87
Emin	4.49
Emax	20.80
Emin/Emax	0.22
Emin/Eav	0.41

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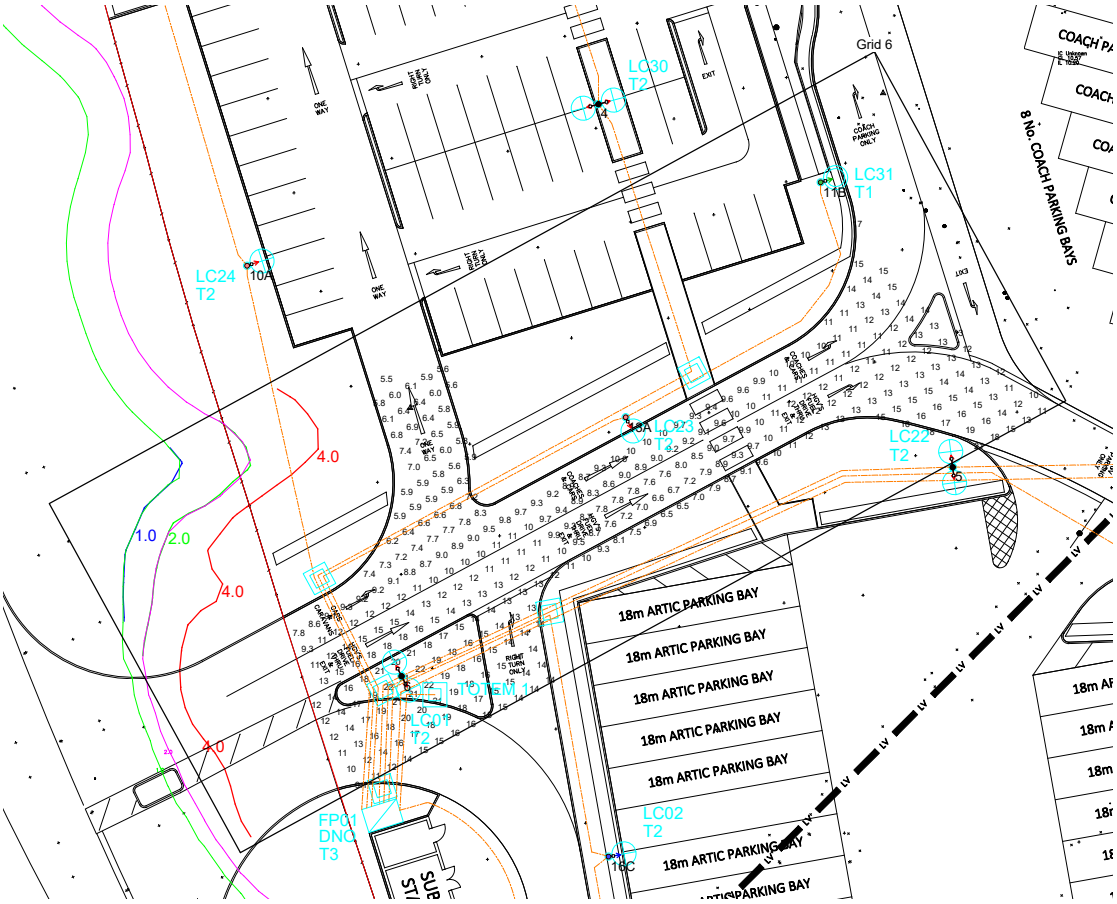
Horizontal Illuminance (lux)

Grid 6



Results

Eav	11.76
Emin	5.48
Emax	21.96
Emin/Emax	0.25
Emin/Eav	0.47

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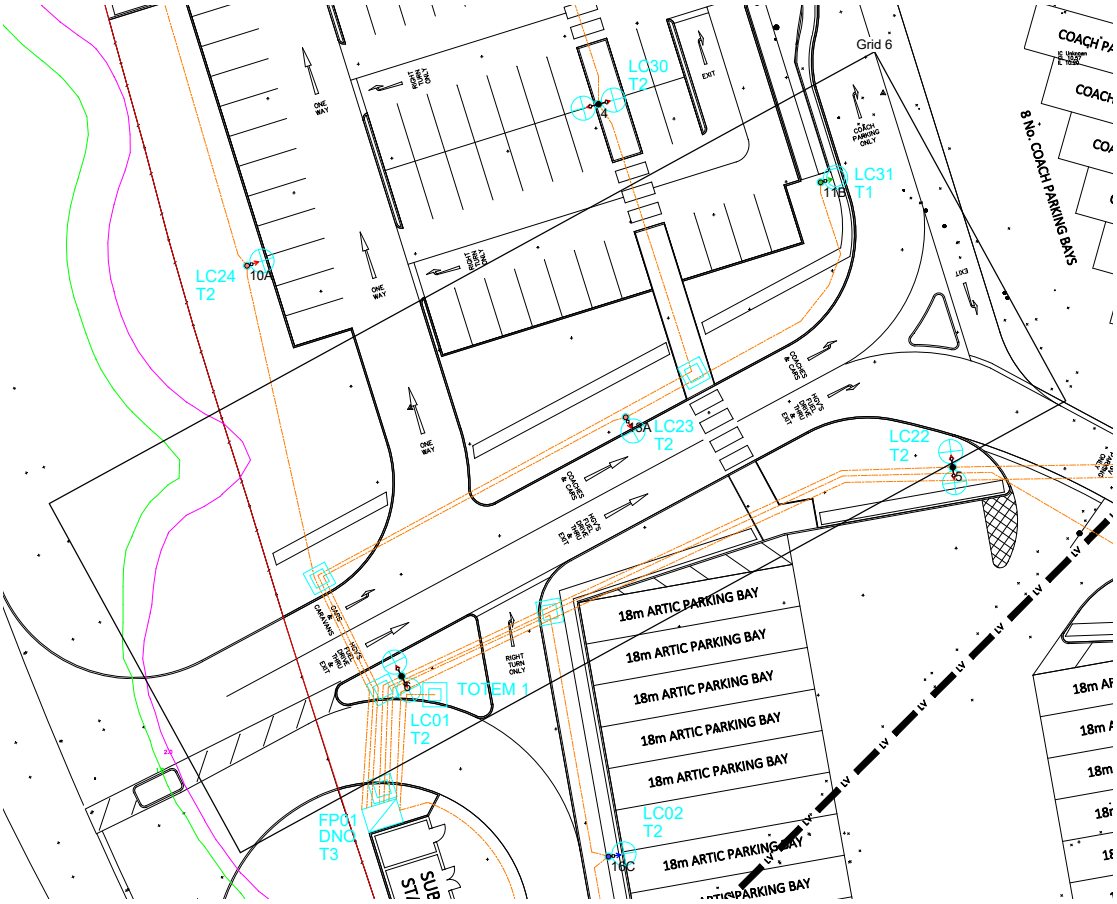
Horizontal Illuminance (lux)

Grid 6



Results

Eav	11.76
Emin	5.48
Emax	21.96
Emin/Emax	0.25
Emin/Eav	0.47

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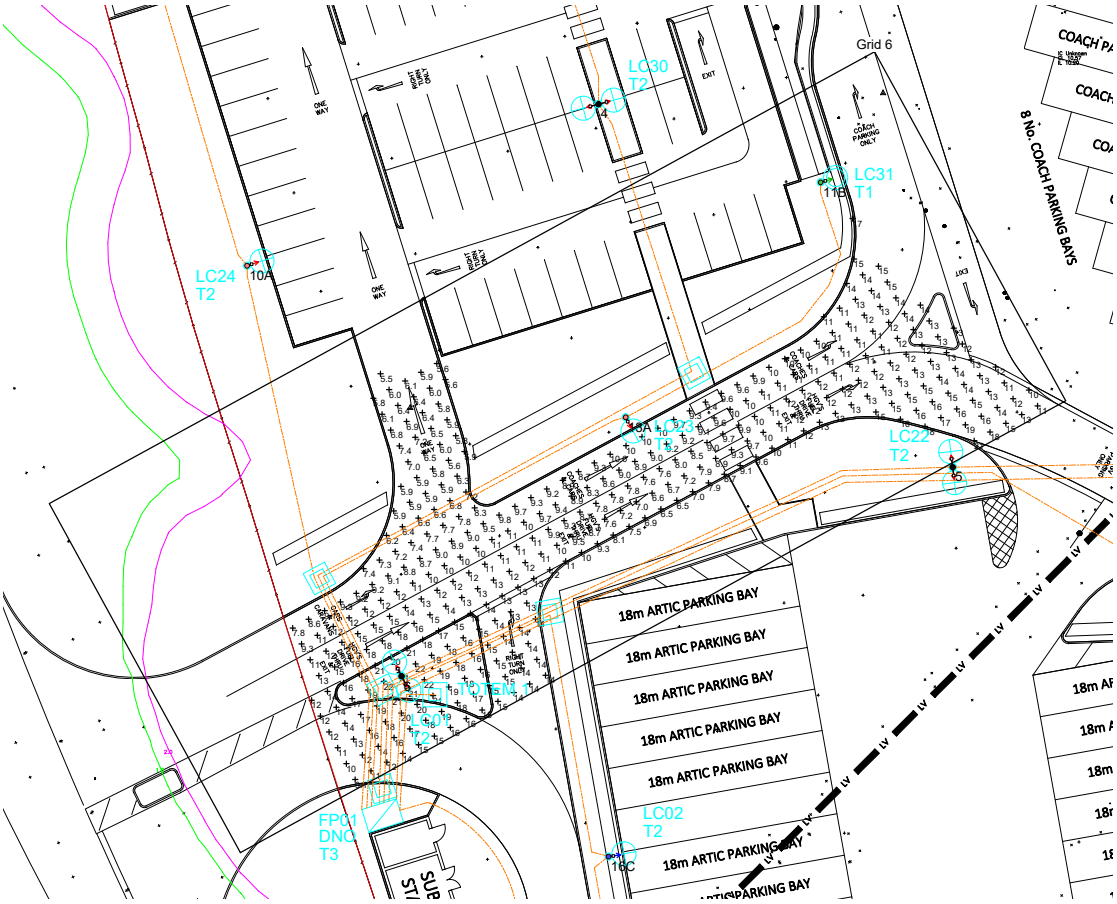
Horizontal Illuminance (lux)

Grid 6

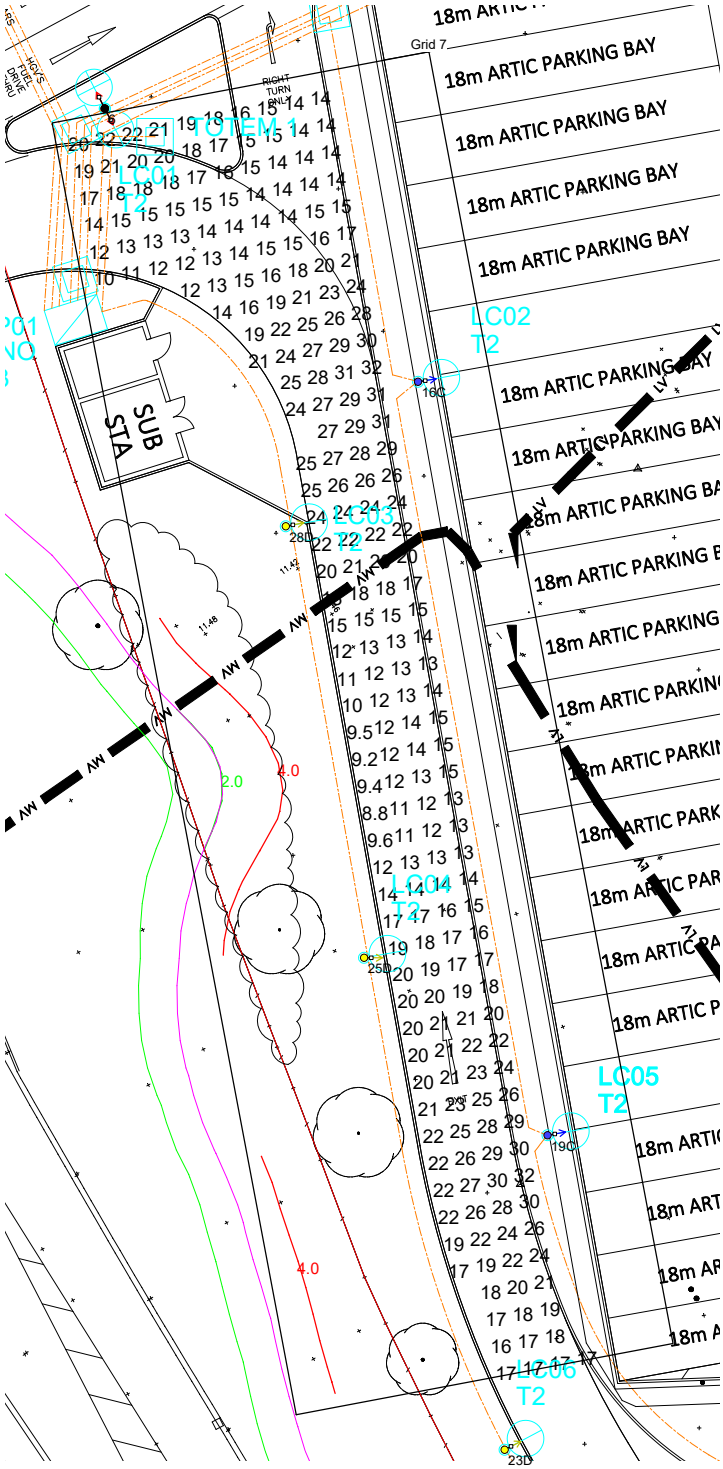


Results

Eav	11.76
Emin	5.48
Emax	21.96
Emin/Emax	0.25
Emin/Eav	0.47

Horizontal Illuminance (lux)

Grid 7

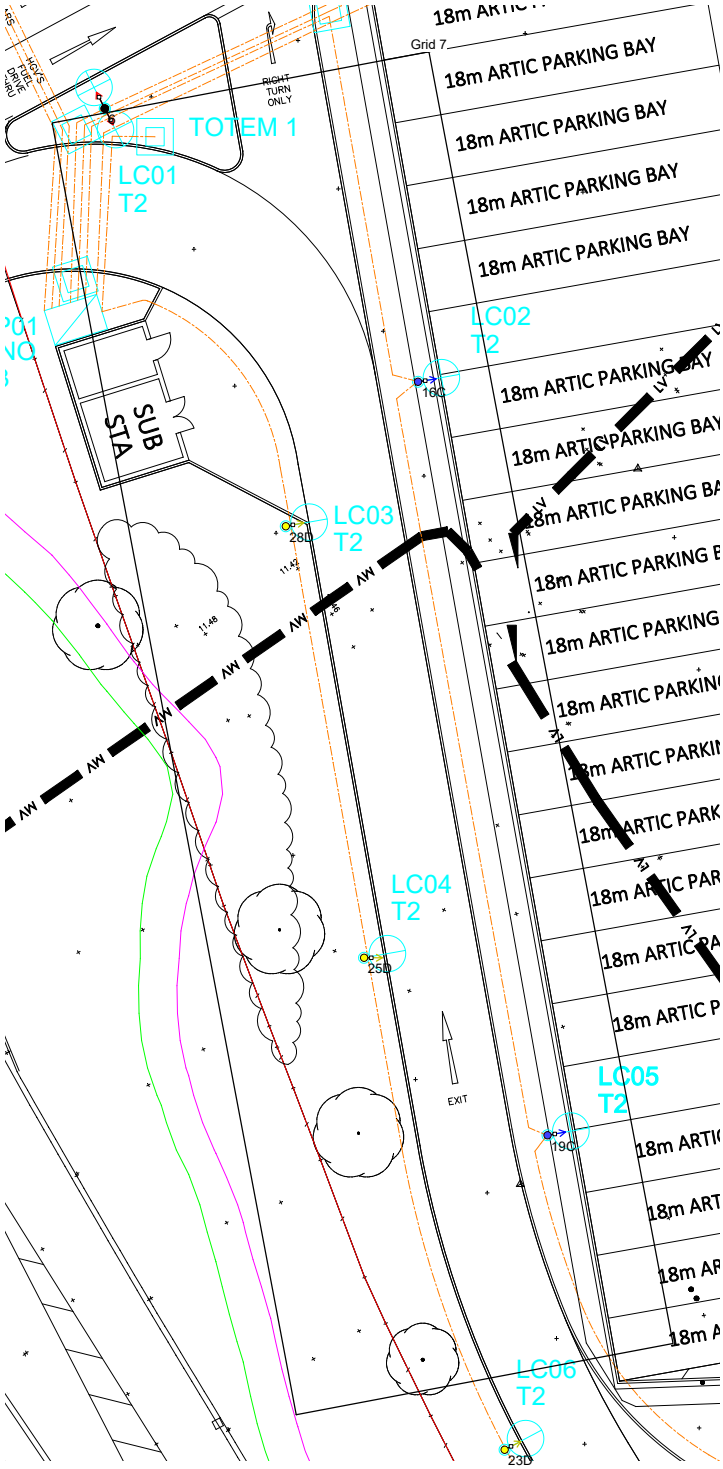


Results

Eav	18.61
Emin	8.81
Emax	32.25
Emin/Emax	0.27
Emin/Eav	0.47

Horizontal Illuminance (lux)

Grid 7



Results

Eav	18.61
Emin	8.81
Emax	32.25
Emin/Emax	0.27
Emin/Eav	0.47

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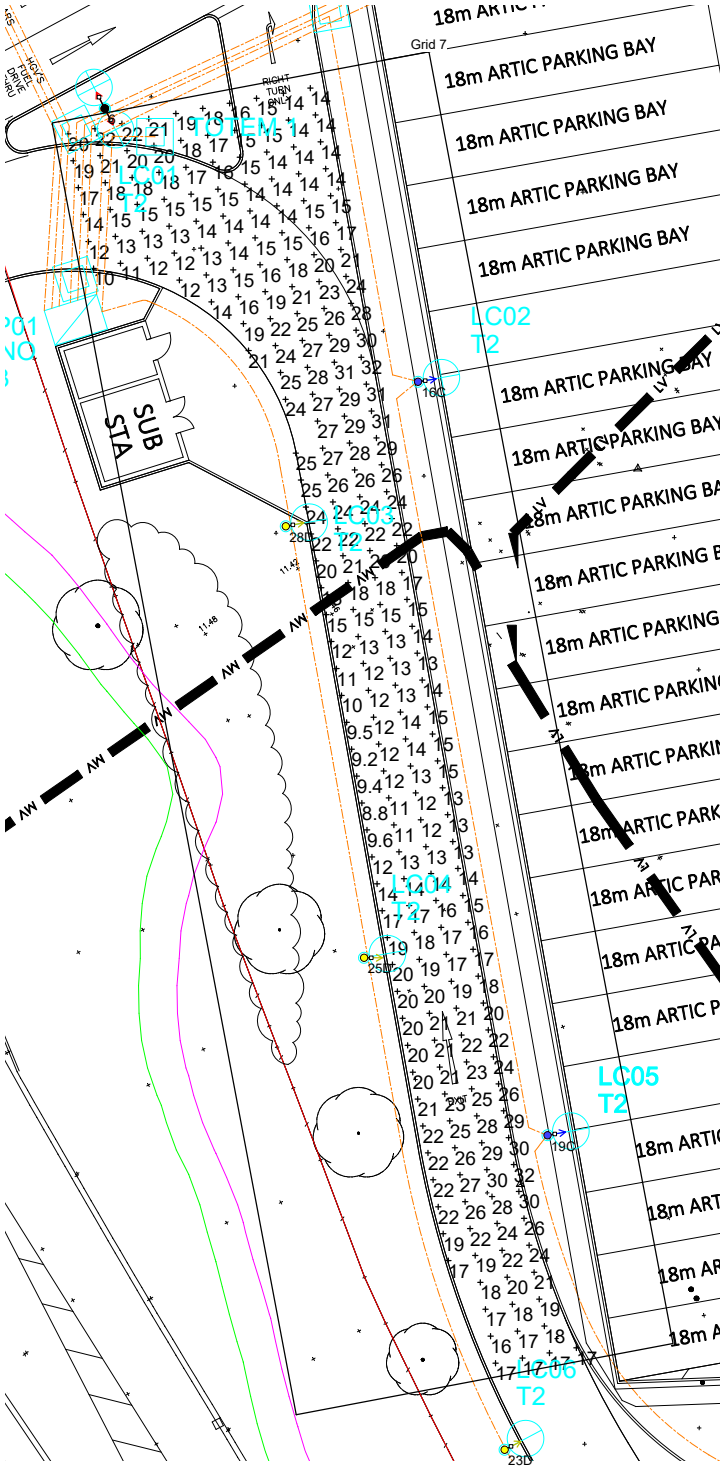
Horizontal Illuminance (lux)

Grid 7

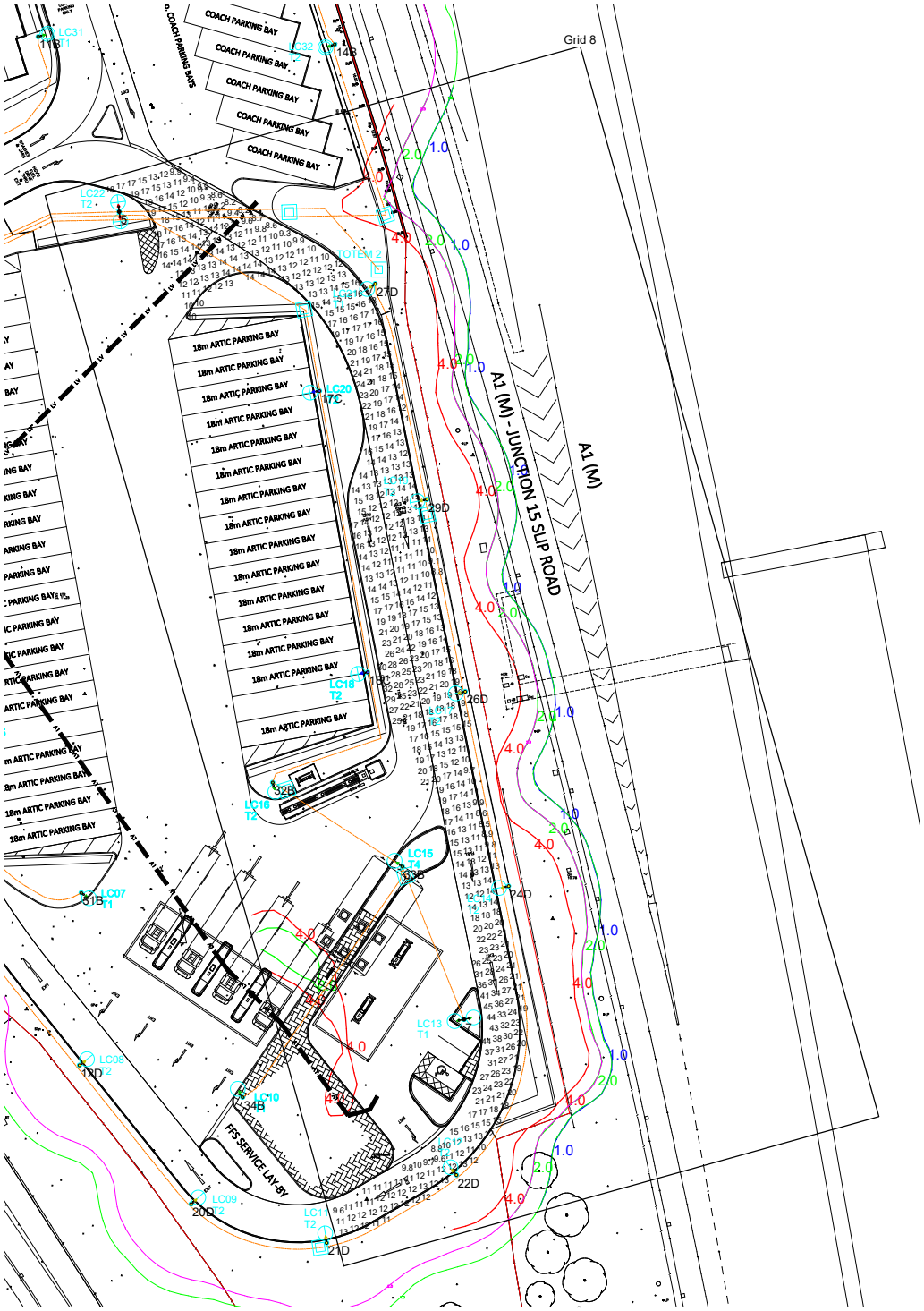


Results

Eav	18.61
Emin	8.81
Emax	32.25
Emin/Emax	0.27
Emin/Eav	0.47

Horizontal Illuminance (lux)

Grid 8



Results

Eav	15.88
Emin	8.18
Emax	45.16
Emin/Emax	0.18
Emin/Eav	0.52

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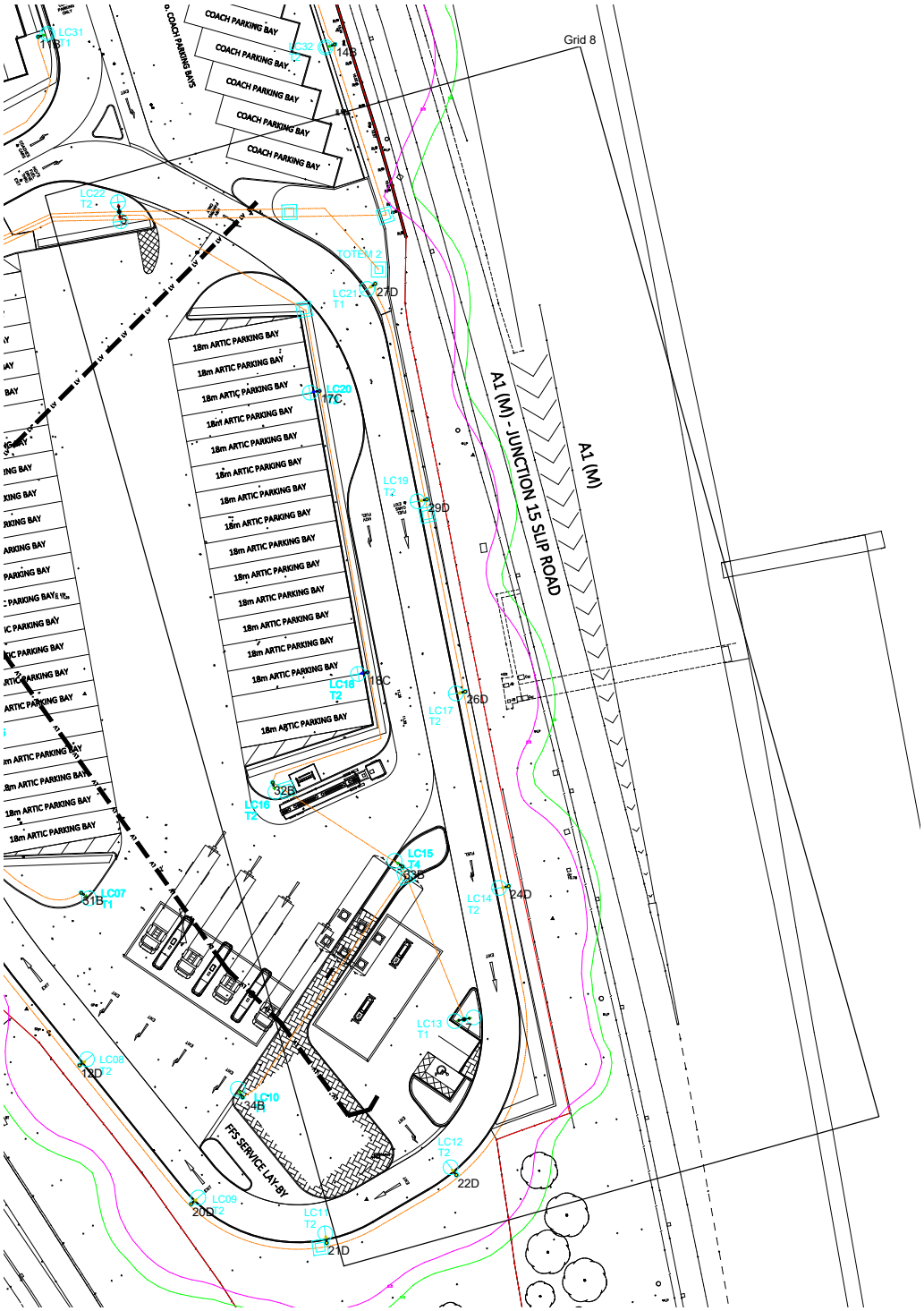
Horizontal Illuminance (lux)

Grid 8



Results

Eav	15.88
Emin	8.18
Emax	45.16
Emin/Emax	0.18
Emin/Eav	0.52

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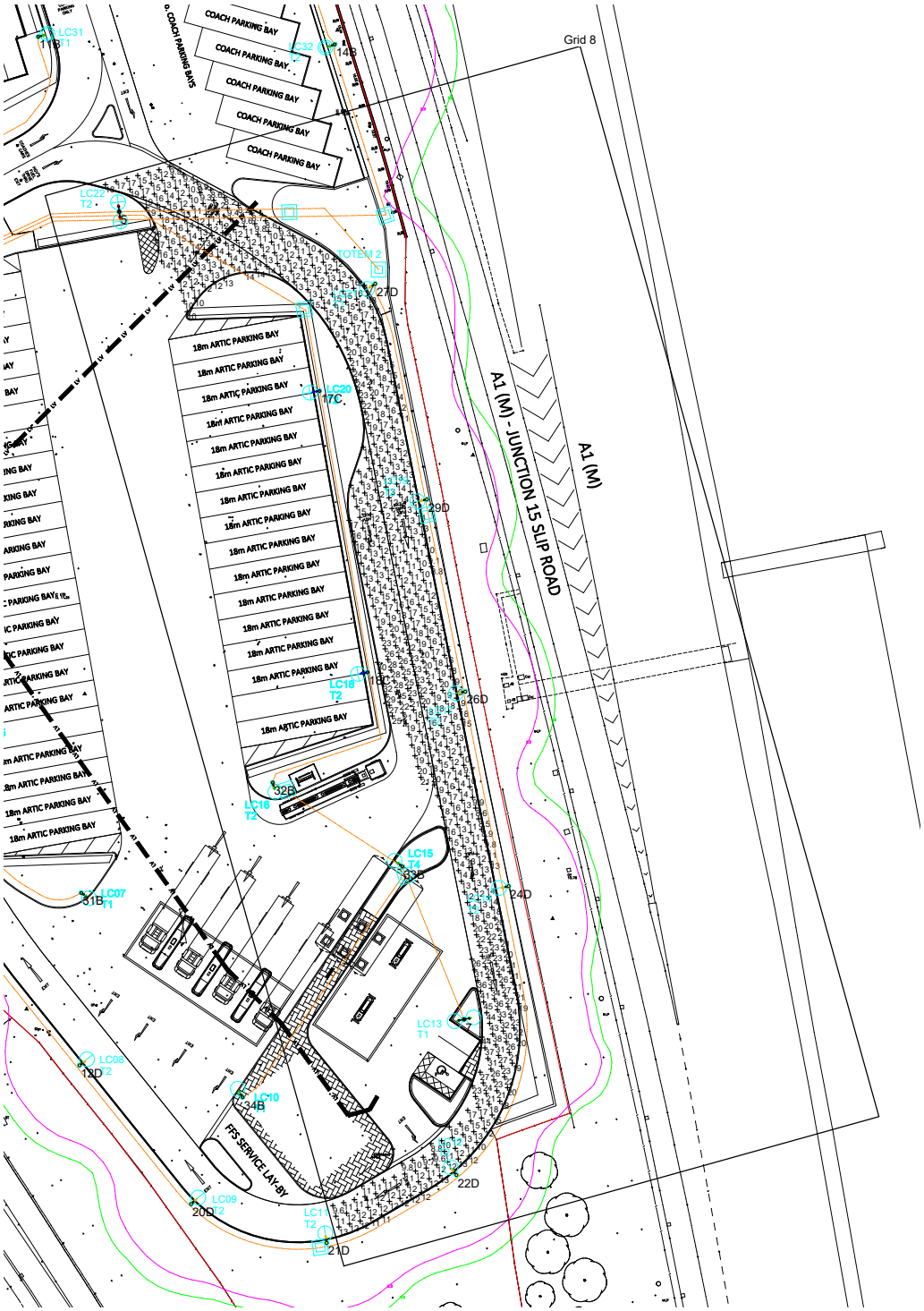
Horizontal Illuminance (lux)

Grid 8



Results

Eav	15.88
Emin	8.18
Emax	45.16
Emin/Emax	0.18
Emin/Eav	0.52

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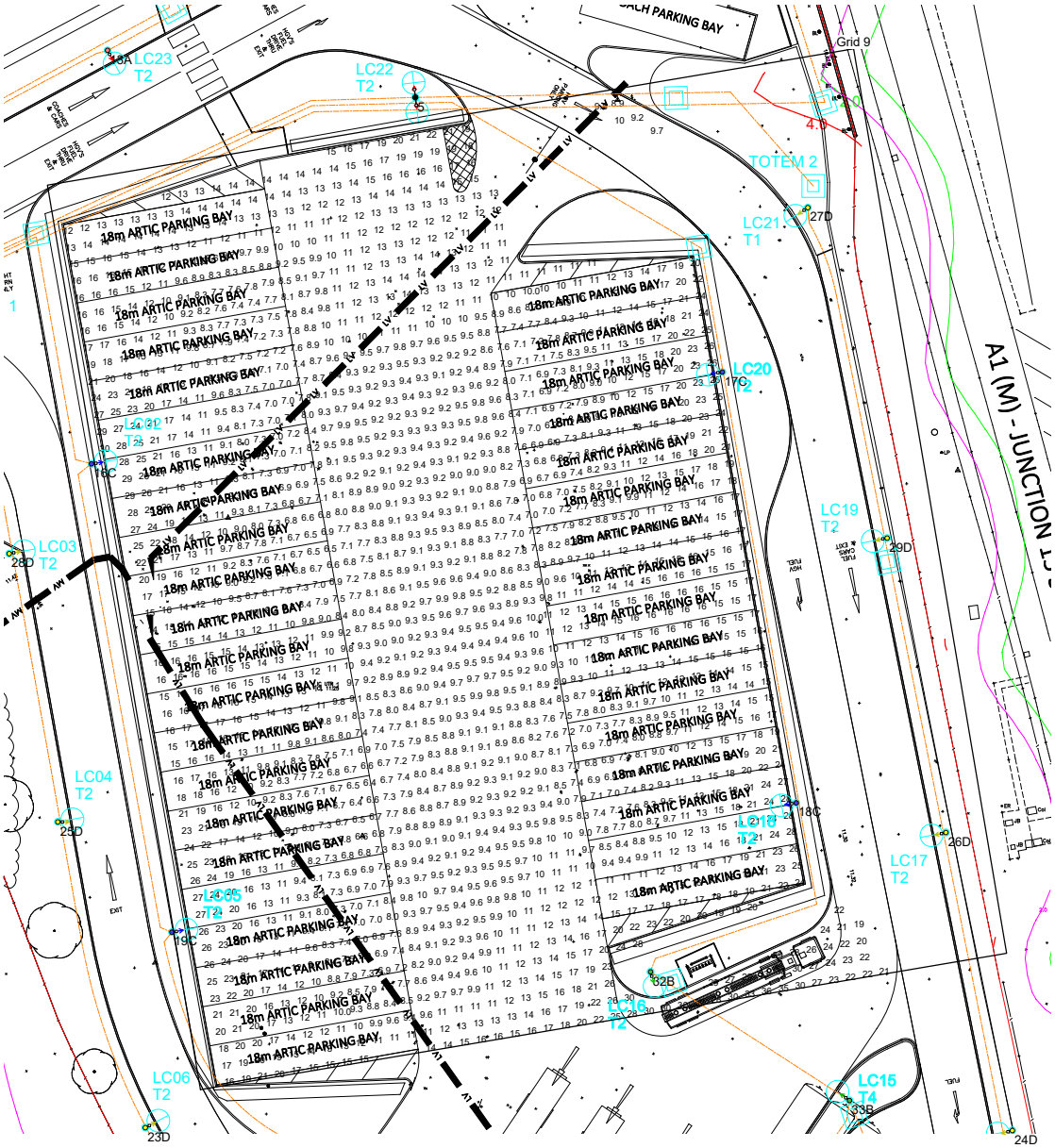
Horizontal Illuminance (lux)

Grid 9

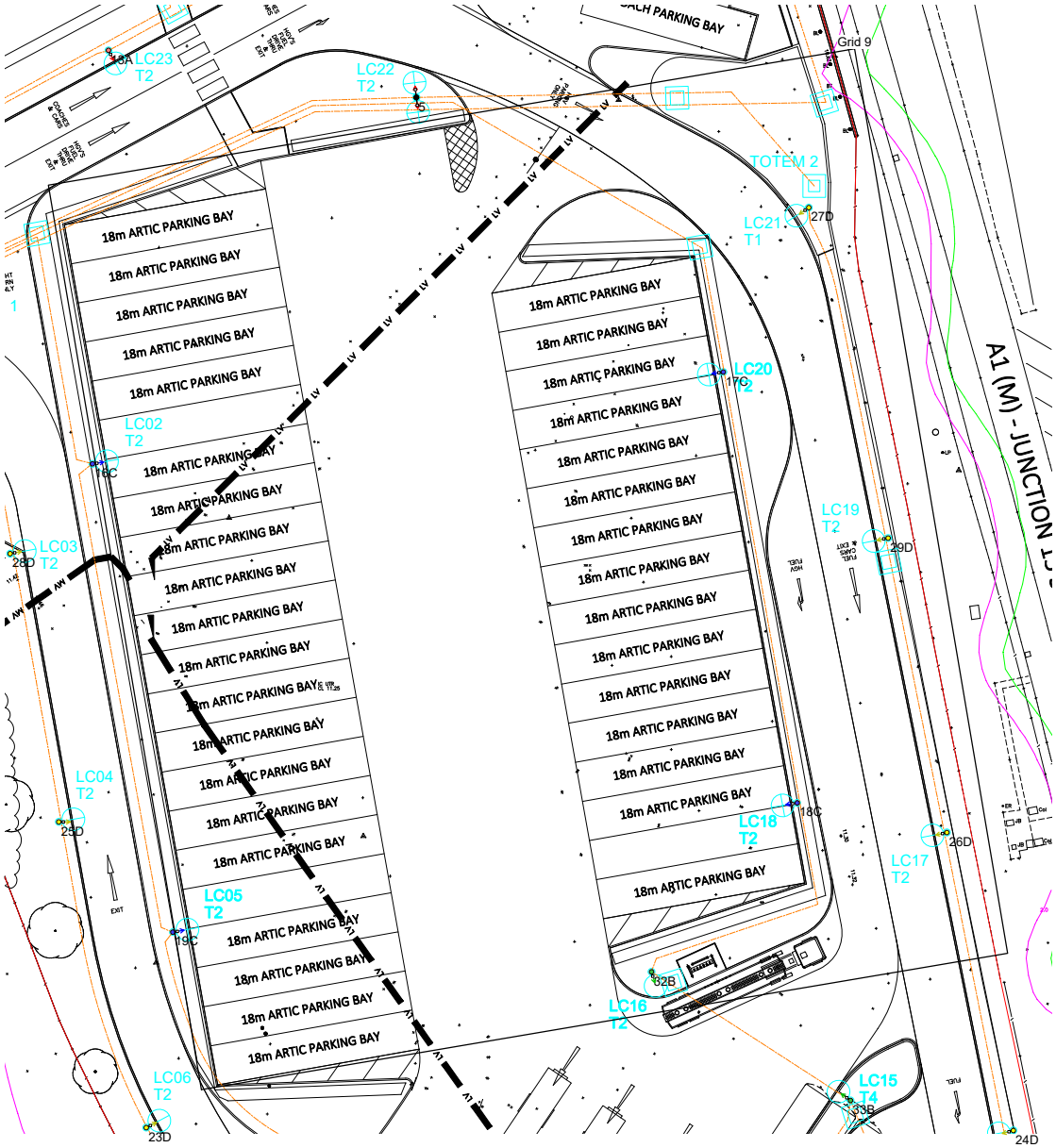


Results

Eav	12.43
Emin	6.36
Emax	36.24
Emin/Emax	0.18
Emin/Eav	0.51

Horizontal Illuminance (lux)

Grid 9

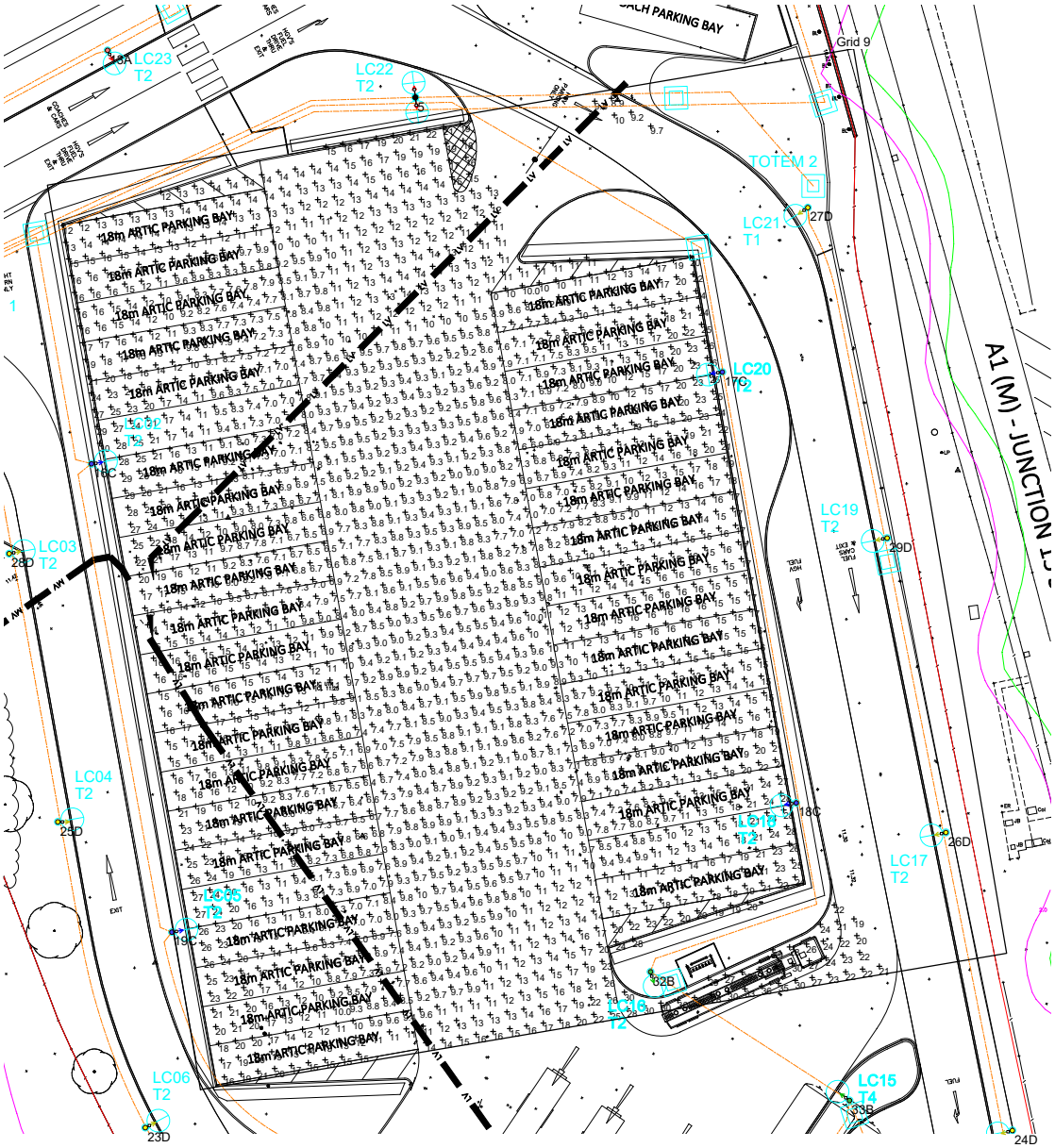


Results

Eav	12.43
Emin	6.36
Emax	36.24
Emin/Emax	0.18
Emin/Eav	0.51

Horizontal Illuminance (lux)

Grid 9

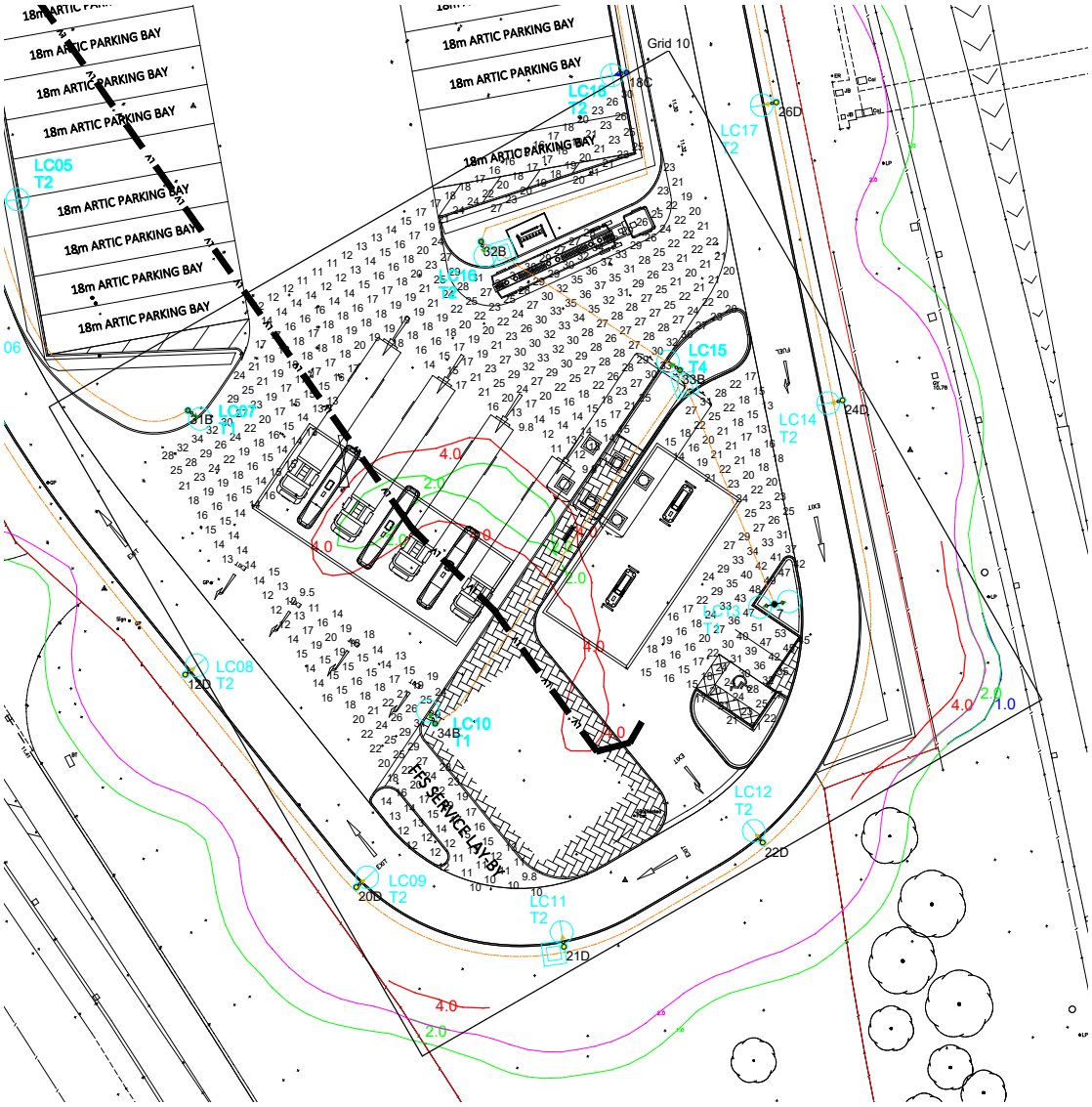


Results

Eav	12.43
Emin	6.36
Emax	36.24
Emin/Emax	0.18
Emin/Eav	0.51

Horizontal Illuminance (lux)

Grid 10



Results

Eav	21.50
Emin	9.53
Emax	52.62
Emin/Emax	0.18
Emin/Eav	0.44

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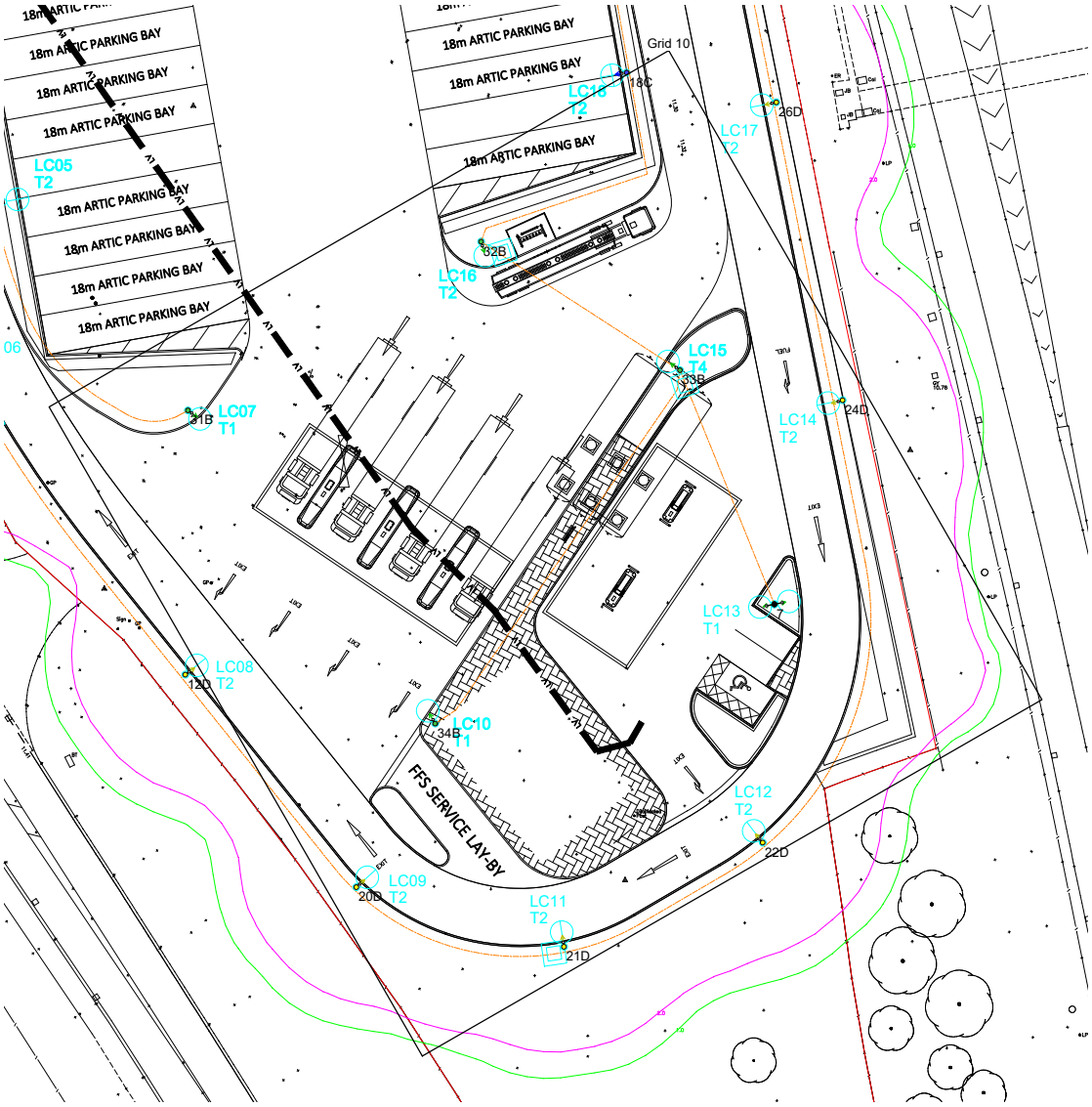
Horizontal Illuminance (lux)

Grid 10

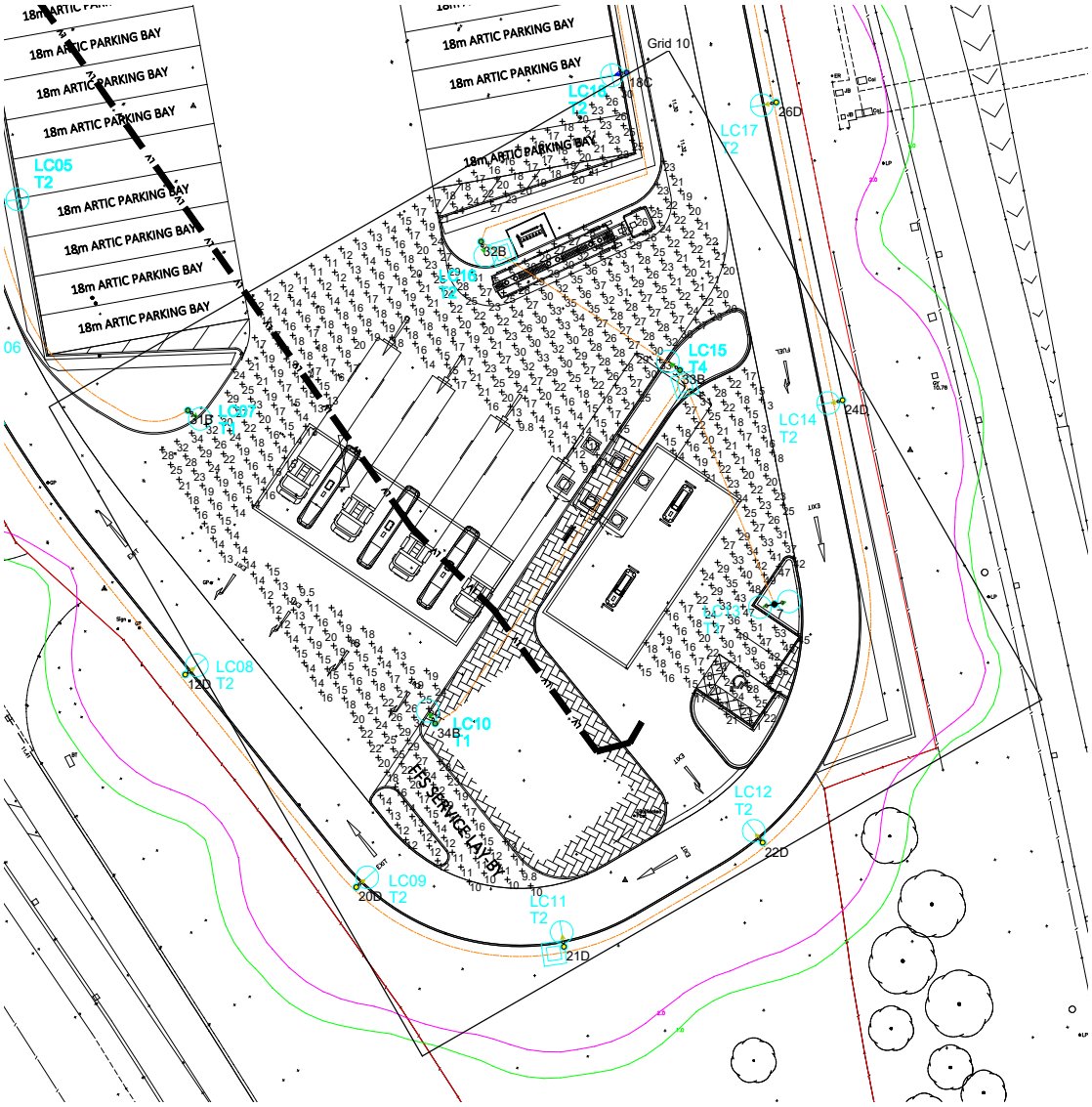


Results

Eav	21.50
Emin	9.53
Emax	52.62
Emin/Emax	0.18
Emin/Eav	0.44

Horizontal Illuminance (lux)

Grid 10



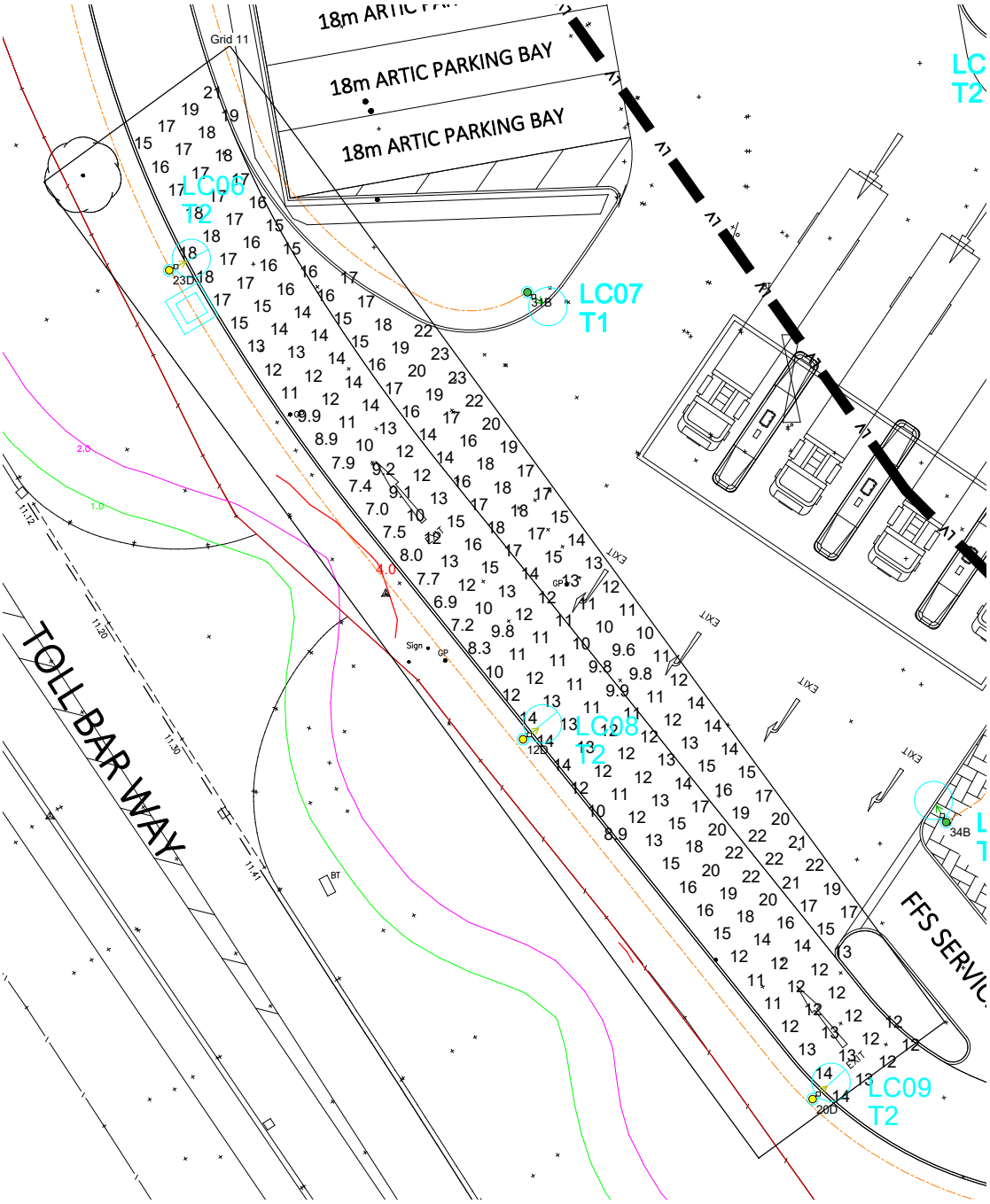
Results

Eav	21.50
Emin	9.53
Emax	52.62
Emin/Emax	0.18
Emin/Eav	0.44

8514109794

Horizontal Illuminance (lux)

Grid 11

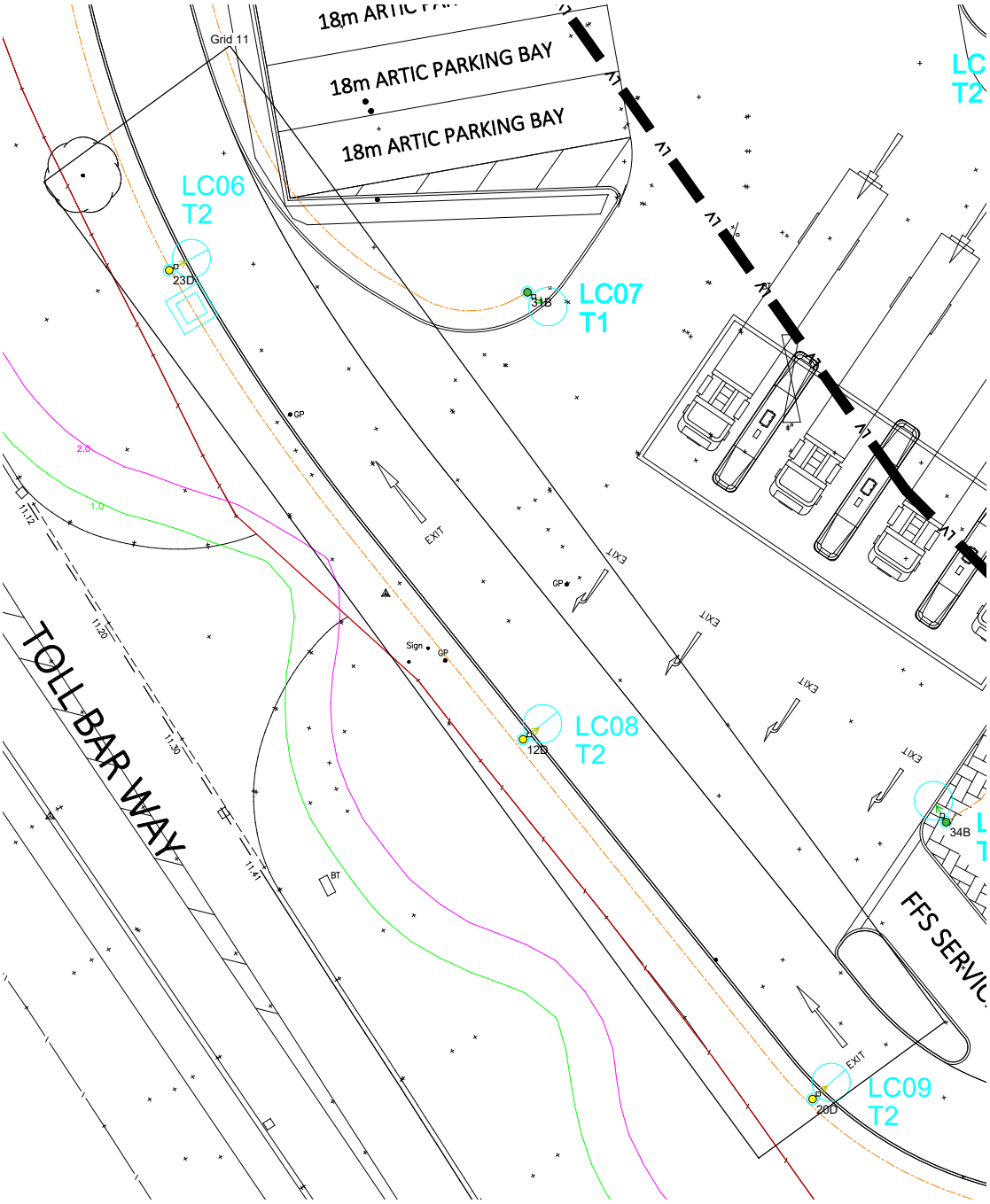


Results

Eav	14.33
Emin	6.92
Emax	23.23
Emin/Emax	0.30
Emin/Eav	0.48

Horizontal Illuminance (lux)

Grid 11



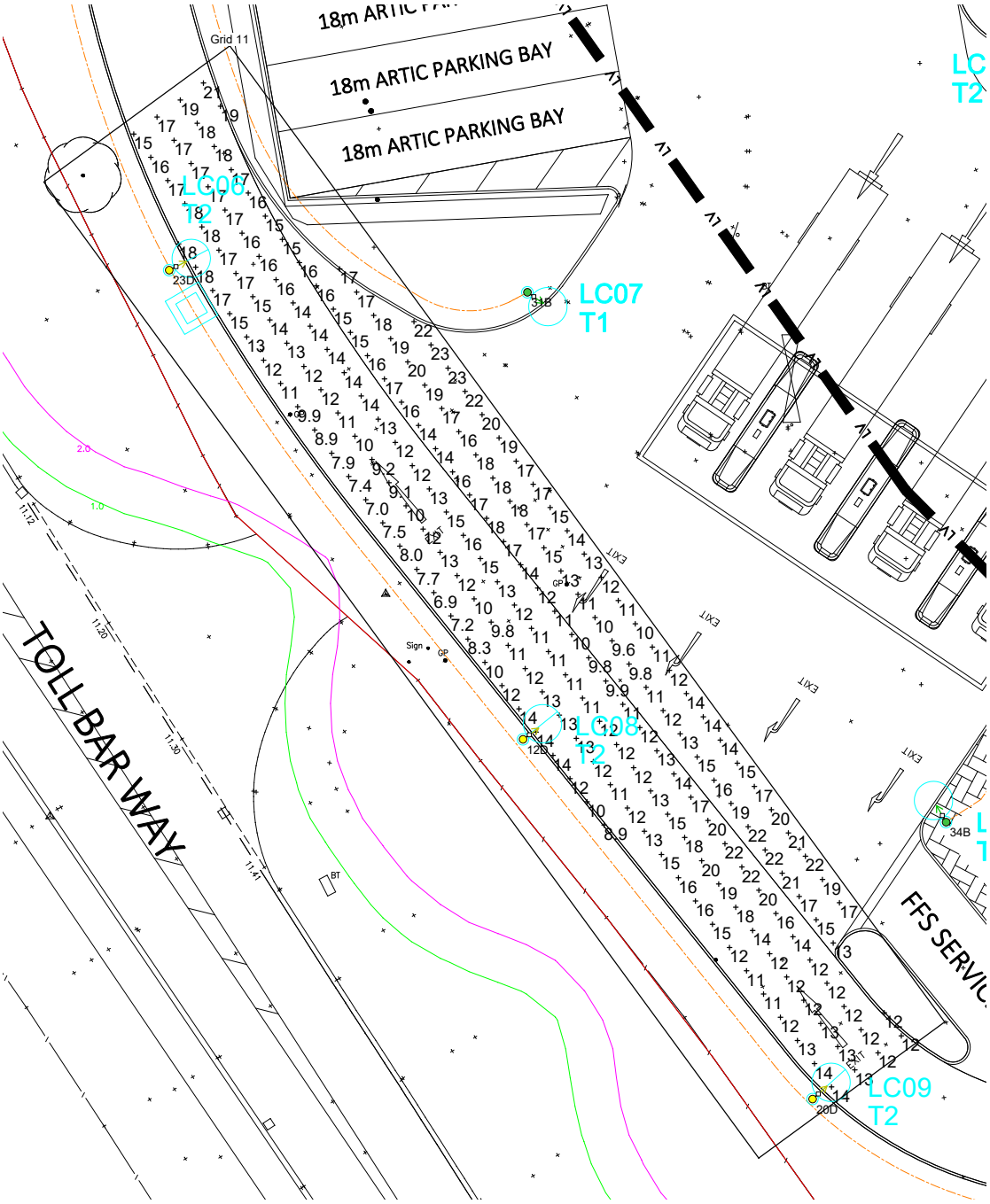
Results

Eav	14.33
Emin	6.92
Emax	23.23
Emin/Emax	0.30
Emin/Eav	0.48

8514109794

Horizontal Illuminance (lux)

Grid 11

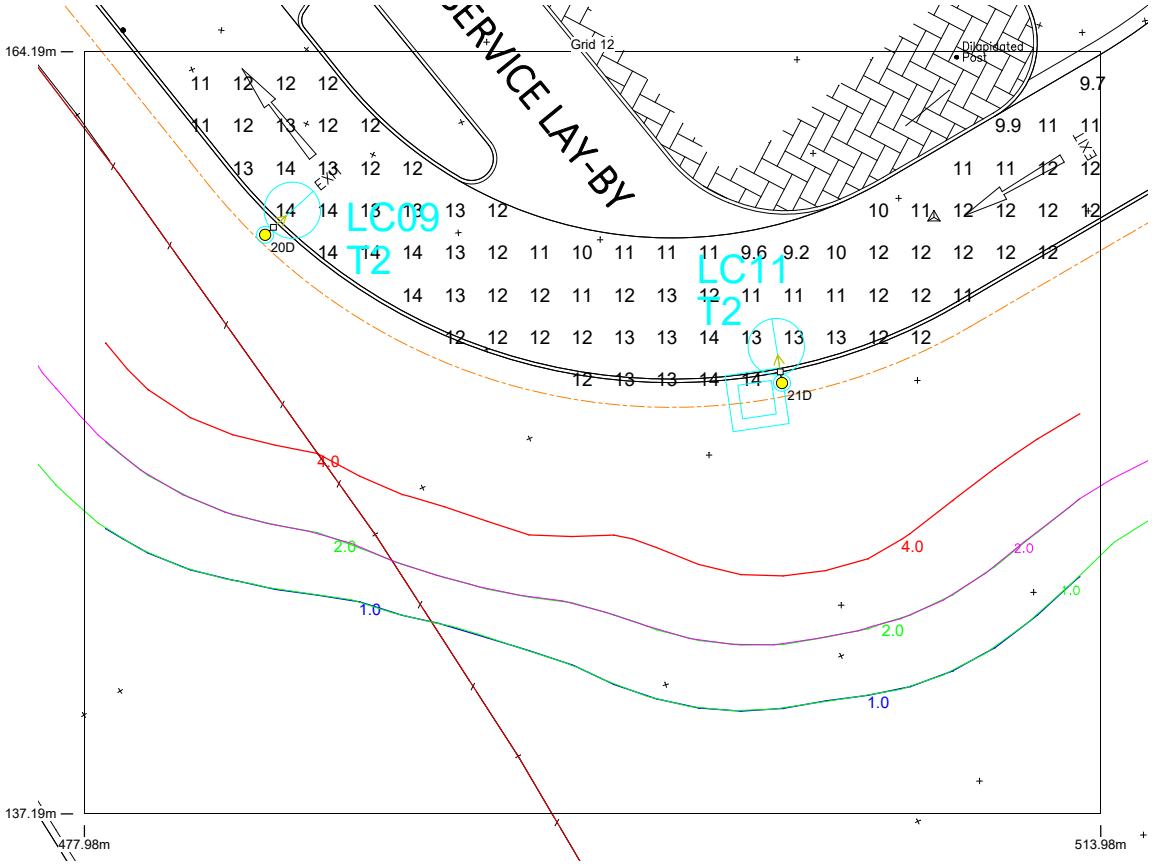


Results

Eav	14.33
Emin	6.92
Emax	23.23
Emin/Emax	0.30
Emin/Eav	0.48

Horizontal Illuminance (lux)

Grid 12



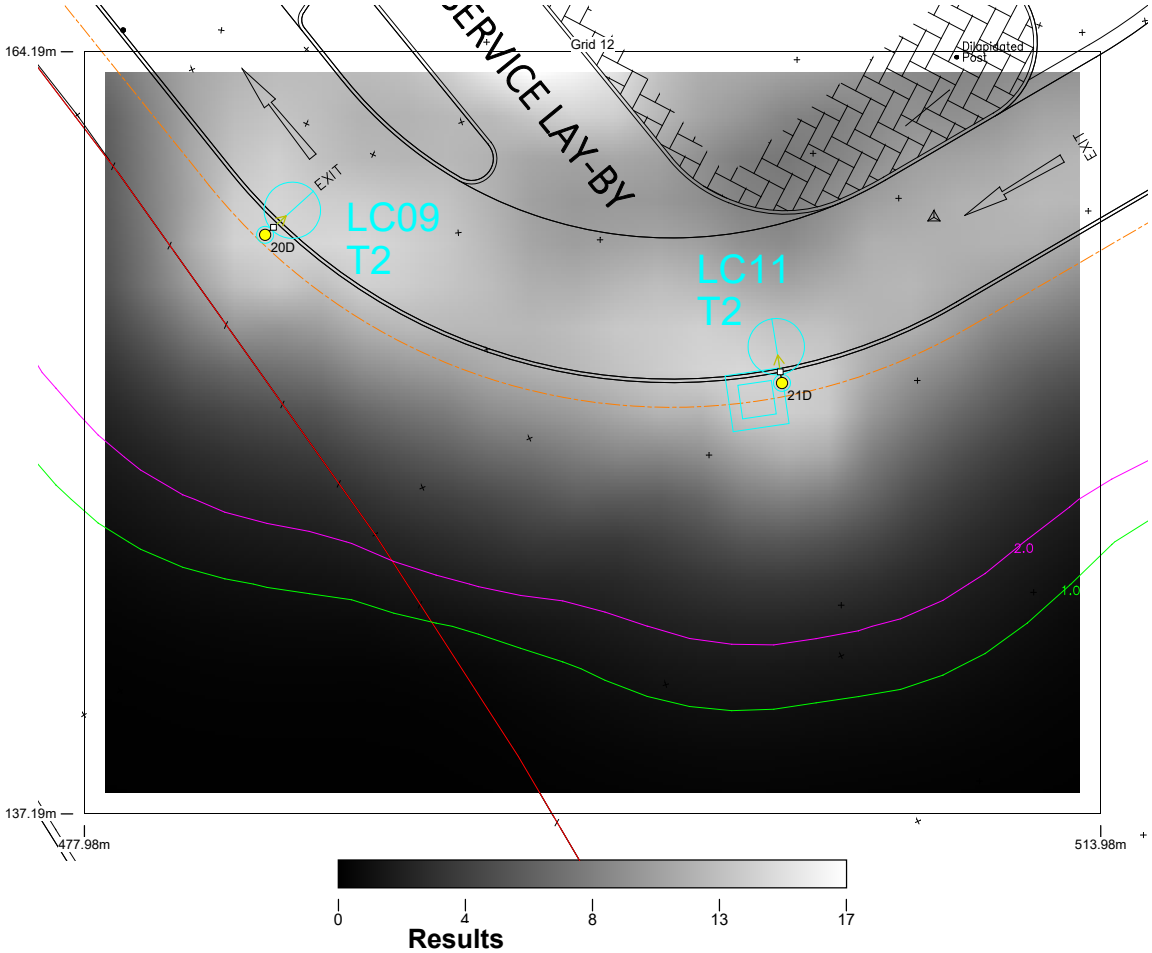
Results

Eav	12.05
Emin	9.24
Emax	14.31
Emin/Emax	0.65
Emin/Eav	0.77

8514109794

Horizontal Illuminance (lux)

Grid 12



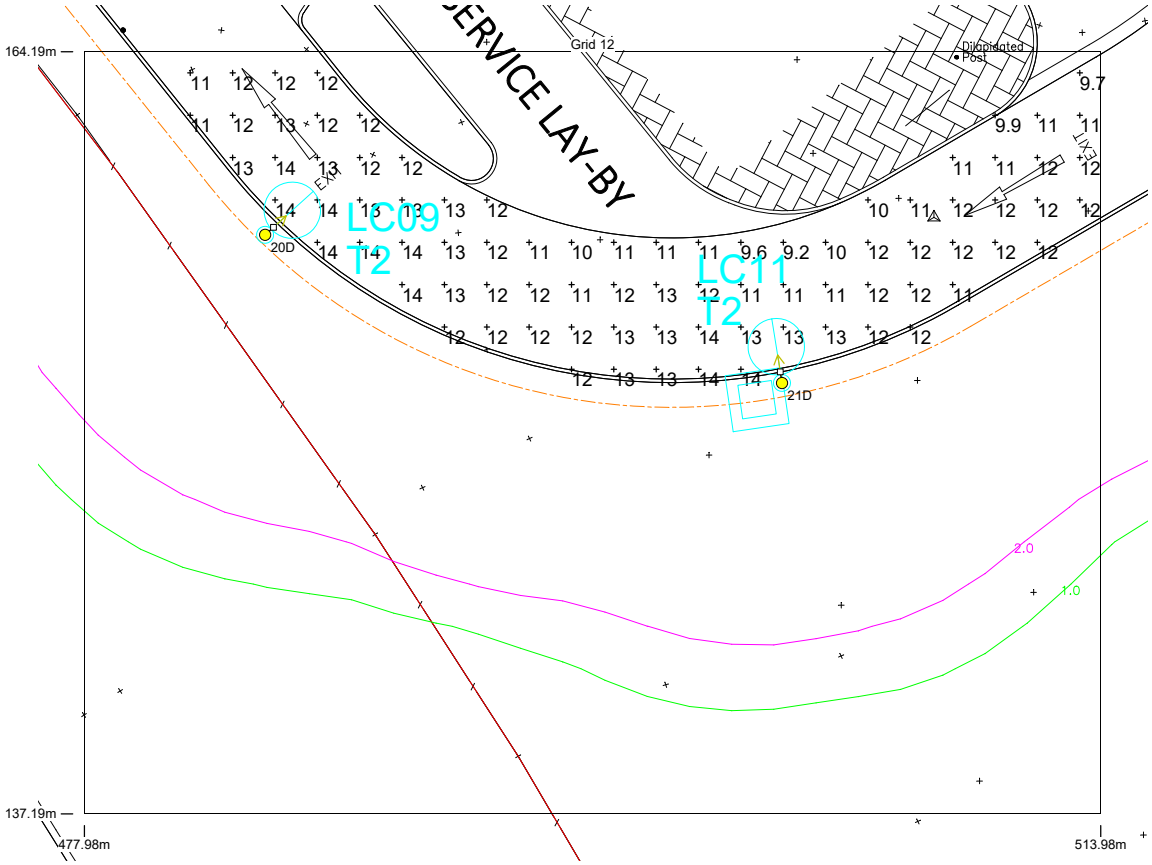
Results

Eav	12.05
Emin	9.24
Emax	14.31
Emin/Emax	0.65
Emin/Eav	0.77

8514109794

Horizontal Illuminance (lux)

Grid 12



Results

Eav	12.05
Emin	9.24
Emax	14.31
Emin/Emax	0.65
Emin/Eav	0.77

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