

**DATE:** 27 June 2022  
**DESIGNER:** Alex Naper  
**PROJECT No:** SES 09121 Rev D  
**PROJECT NAME:** Barnhill Residential Development



Client: Alanna Homes Ltd & Alcove Ireland Four Ltd

Grids 4,7, 12 - 18.

Residential area designed in accordance with EN13201-2:2015 Category P4.

Access roads designed in accordance with EN13201-2:2015 Category P3.

Step sections designed in accordance with I.S.EN17210-2021 with illuminance levels as per the recommendations of BS8300-1:2018 Table 5 Stairways and ramps (open) in the external environment.

Rev A: Client name updated.

Rev B: Revised site layout,

Rev C: Updated as per comments.

Rev D: Updated layout.

## **Outdoor Lighting Report**

**PREPARED BY:** Sabre Electrical Services Ltd.  
Unit 11,  
Bellview Industrial Estate,  
Tolka Valley Road,  
Dublin 11  
Phone Number: 01 8110875  
Contact: Graham Sheehan  
eMail: graham@sabrelighting.ie

## 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	184403.83	1002576.87	235.30	298.00	117.65	149.00
2	Grid 2	184582.41	1002776.52	235.30	169.17	117.65	84.58
3	Grid 3	184478.63	1002918.51	364.38	332.64	182.19	166.32
4	Grid 4	184858.67	1002936.49	282.67	374.00	1.50	1.50
5	Grid 5	184575.81	1002705.94	309.86	298.00	154.93	149.00
6	Grid 6	184671.36	1003054.36	63.00	163.00	31.50	81.50
7	Grid 7	184867.94	1002809.80	165.00	282.69	1.50	1.50
8	Grid 8	184637.63	1002616.66	283.05	169.17	141.53	84.58
9	Grid 9	184315.18	1002755.06	131.64	191.13	65.82	95.56
10	Grid 10	184277.52	1002995.52	190.43	260.70	95.22	130.35
11	Grid 11	184181.78	1002792.73	135.00	375.26	67.50	187.63
12	Grid 13	184763.95	1003237.09	3.17	6.16	1.06	0.25
13	Grid 14	184849.04	1003271.88	54.00	33.00	1.50	1.50
14	Grid 14	184833.17	1003227.75	27.00	62.94	1.50	1.50
15	Grid 15	184795.58	1003084.17	90.00	34.44	1.50	1.50
16	Grid 16	184839.80	1003136.37	60.00	90.00	1.50	1.50
17	Grid 17	184834.46	1002846.33	102.00	72.00	1.50	1.50
18	Grid 18	184767.34	1002894.11	102.00	137.64	1.50	1.50

### Luminaires

#### Luminaire A Data

Supplier	C U Phosco
Type	E950-28-P4A-727-C550-14W
Lamp(s)	727N
Lamp Flux (klm)	2.03
File Name	E950-28-P4A-727-C0550-14W.ies
Maintenance Factor	0.83
Imax70,80,90(cd/klm)	659.3, 183.1, 0.3
No. in Project	23

#### Luminaire B Data

Supplier	C U Phosco
Type	E950-28-P4A-727-C350-10W
Lamp(s)	727N
Lamp Flux (klm)	1.33
File Name	E950-28-P4A-727-C0350-10W.ies
Maintenance Factor	0.85
Imax70,80,90(cd/klm)	659.3, 183.1, 0.3
No. in Project	14



#### Luminaire C Data

Supplier	C U Phosco
Type	P863-128-R2E-730-W3-375-49W
Lamp(s)	730SS
Lamp Flux (klm)	6.92
File Name	P863-128-R2E-730-W3-375-49W.ies
Maintenance Factor	0.87
Imax70,80,90(cd/klm)	463.7, 84.3, 0.0
No. in Project	14

#### Luminaire D Data

Supplier	C U Phosco
Type	P863-128-P3-730-W3-350-46W
Lamp(s)	730SS
Lamp Flux (klm)	6.19
File Name	P863-128-P3-730-W3-350-46W.ies
Maintenance Factor	0.83
Imax70,80,90(cd/klm)	343.1, 133.7, 0.7
No. in Project	3



## Luminaires

### Luminaire E Data

Supplier	C U Phosco
Type	E950-28-R3A-727-C350-10W
Lamp(s)	727N
Lamp Flux (klm)	1.36
File Name	E950-28-R3A-727-C0350-10W.ies
Maintenance Factor	0.83
Imax70,80,90(cd/klm)	716.7, 30.5, 0.3
No. in Project	53

### Luminaire F Data

Supplier	C U Phosco
Type	P863-128-R2E-730-W3-275-37W
Lamp(s)	730SS
Lamp Flux (klm)	5.13
File Name	P863-128-R2E-730-W3-275-37W.ies
Maintenance Factor	0.87
Imax70,80,90(cd/klm)	463.7, 84.3, 0.0
No. in Project	2



### Luminaire G Data

Supplier	C U Phosco
Type	E950-28-F2A-727-C550-14W
Lamp(s)	727N
Lamp Flux (klm)	2.06
File Name	E950-28-F2A-727-C0550-14W.ies
Maintenance Factor	0.83
Imax70,80,90(cd/klm)	623.6, 113.9, 0.3
No. in Project	2

### Luminaire H Data

Supplier	C U Phosco
Type	P863-128-P3-730-W3-350-46W
Lamp(s)	730SS
Lamp Flux (klm)	6.19
File Name	P863-128-P3-730-W3-350-46W.ies
Maintenance Factor	0.87
Imax70,80,90(cd/klm)	343.1, 133.7, 0.7
No. in Project	2



### Luminaire I Data

Supplier	C U Phosco
Type	E950-28-R3A-727-C350-10W
Lamp(s)	727N
Lamp Flux (klm)	1.36
File Name	E950-28-R3A-727-C0350-10W.ies
Maintenance Factor	0.87
Imax70,80,90(cd/klm)	716.7, 30.5, 0.3
No. in Project	4

### Luminaire J Data

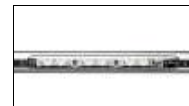
Supplier	C U Phosco
Type	E950-28-P4A-727-C550-14W
Lamp(s)	727N
Lamp Flux (klm)	2.03
File Name	E950-28-P4A-727-C0550-14W.ies
Maintenance Factor	0.83
Imax70,80,90(cd/klm)	659.3, 183.1, 0.3
No. in Project	2

### Luminaire K Data

Supplier	C U Phosco
Type	P863-128-R2E-740-W5-375-49W
Lamp(s)	740SS
Lamp Flux (klm)	7.61
File Name	P863-128-R2E-740-W5-375-49W.ies
Maintenance Factor	0.87
Imax70,80,90(cd/klm)	463.7, 84.3, 0.0
No. in Project	1

### Luminaire N Data

Supplier	Urbis Schreder
Type	ALINEA Handrail 5121 - 3 LED 350mA WW Profiled Poly Clear, Sm
Lamp(s)	3 LEDs WW
Lamp Flux (klm)	0.37
File Name	ALINEA Handrail 5121 3 LED 350mA WW Profiled Poly Clear Smooth WO7314.Idt
Maintenance Factor	0.83
Imax70,80,90(cd/klm)	230.6, 22.2, 4.1
No. in Project	5



## Luminaires

### Luminaire O Data

Supplier	C U Phosco
Type	E950-28-P4A-727-SA0550-24W
Lamp(s)	727SA
Lamp Flux (klm)	2.69
File Name	E950-28-P4A-727-SA0550-24W.ies
Maintenance Factor	0.83
Imax70,80,90(cd/klm)	551.4, 55.4, 4.1
No. in Project	13

### Luminaire P Data



Supplier	Urbis Schreder
Type	TECEO GEN2 1 5121 Flat, Glass Extra Clear, Smooth Light Exhaust
Lamp(s)	24 XP-G3@300mA WW 730 230V
LampFlux(klm)/Colour	3.69 WW 3000K/70
File Name	TECEO GEN2 1 5121 24 XP-G3 300mA WW 730 22.5W 444992 Flat, Glass Extra Cl...
Maintenance Factor	0.85
Imax70,80,90(cd/klm)	313.5, 33.1, 0.0
No. in Project	15

### Luminaire Q Data



Supplier	Urbis Schreder
Type	TECEO GEN2 1 5119 Flat, Glass Extra Clear, Smooth Light Exhaust
Lamp(s)	16 XP-G3@300mA WW 730 230V
LampFlux(klm)/Colour	2.46 WW 3000K/70
File Name	TECEO GEN2 1 5119 16 XP-G3 300mA WW 730 15.6W 444952 Flat, Glass Extra Cl...
Maintenance Factor	0.85
Imax70,80,90(cd/klm)	439.7, 41.6, 0.0
No. in Project	6

### Luminaire R Data

Supplier	C U Phosco
Type	E950-28-A2A-730-C350-10W
Lamp(s)	730N
Lamp Flux (klm)	1.25
File Name	E950-28-A2A-730-C0350-10W.ies
Maintenance Factor	0.83
Imax70,80,90(cd/klm)	470.3, 22.7, 0.9
No. in Project	9

**Layout**

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
1	Q	184871.07	1003134.81	5.00	168.00	0.00	0.00	0.40			
2	P	184859.49	1003158.37	6.00	355.00	0.00	0.00	1.00			
3	Q	184855.76	1003193.23	5.00	203.00	0.00	0.00	0.40			
4	E	184885.44	1003217.75	5.00	279.00	0.00	0.00	0.40			
5	E	184911.76	1003223.62	5.00	288.00	0.00	0.00	0.40			
6	E	184940.85	1003230.34	5.00	279.00	0.00	0.00	0.40			
7	E	184961.53	1003234.93	5.00	275.00	0.00	0.00	0.40			
8	E	184819.05	1003141.73	6.00	111.00	0.00	0.00	0.40			
9	P	184858.95	1003158.47	7.00	131.00	0.00	0.00	1.00			
10	Q	184844.01	1003210.80	5.00	351.00	0.00	0.00	0.40			
11	Q	184840.21	1003177.95	5.00	348.00	0.00	0.00	0.40			
12	P	184858.97	1003157.95	8.00	241.00	0.00	0.00	1.00			
13	P	184804.35	1003103.65	6.00	100.00	0.00	0.00	1.00			
14	P	184804.39	1003103.10	7.00	236.00	0.00	0.00	1.00			
15	A	184793.04	1003240.36	6.00	285.00	0.00	0.00	0.40			
16	A	184815.32	1003246.20	6.00	283.00	0.00	0.00	0.40			
17	A	184832.77	1003233.58	6.00	101.00	0.00	0.00	0.40			
18	P	184804.89	1003103.26	8.00	346.00	0.00	0.00	1.00			
19	E	184756.55	1003259.41	5.00	11.00	0.00	0.00	0.40			
20	E	184761.09	1003278.51	5.00	283.00	0.00	0.00	0.40			
21	E	184779.24	1003256.08	5.00	196.00	0.00	0.00	0.40			
22	E	184767.48	1003257.30	5.00	286.00	0.00	0.00	0.40			
23	E	184766.49	1003269.34	5.00	103.00	0.00	0.00	0.40			
24	E	185019.37	1003134.53	5.00	116.00	0.00	0.00	0.40			
25	E	185045.68	1003145.76	5.00	118.00	0.00	0.00	0.40			
26	E	185061.77	1003136.58	5.00	19.00	0.00	0.00	0.40			
27	E	185072.83	1003114.60	5.00	28.00	0.00	0.00	0.40			
28	E	185070.95	1003101.35	5.00	320.00	0.00	0.00	0.40			
29	E	185015.77	1003061.34	5.00	14.00	0.00	0.00	0.40			
30	E	185056.42	1003085.55	5.00	285.00	0.00	0.00	0.40			
31	E	185034.24	1003076.15	5.00	286.00	0.00	0.00	0.40			
32	R	185017.41	1003043.39	5.00	150.00	0.00	0.00	0.40			
33	E	184991.33	1003042.86	5.00	302.00	0.00	0.00	0.40			
34	Q	184856.42	1003227.46	5.00	174.00	0.00	0.00	0.40			
35	E	184928.05	1002996.57	5.00	199.00	0.00	0.00	0.40			
67	H	184743.04	1003056.20	8.00	292.00	0.00	0.00	0.40			

**Layout Continued**

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
68	H	184779.26	1003063.39	8.00	106.00	0.00	0.00	0.40			
69	D	184806.46	1003083.35	8.00	295.00	0.00	0.00	0.40			
70	D	184836.51	1003087.41	8.00	108.00	0.00	0.00	0.40			
200	A	184761.90	1003234.03	6.00	280.00	0.00	0.00	0.40			
212	A	184785.69	1003143.05	6.00	300.00	0.00	0.00	0.40			
215	E	184791.11	1003130.50	6.00	111.00	0.00	0.00	0.40			
216	I	184776.50	1003088.10	6.00	19.00	0.00	0.00	0.40			
226	D	184862.74	1003105.29	8.00	266.00	0.00	0.00	0.40			
227	C	184873.80	1003082.67	8.00	20.00	0.00	0.00	0.40			
228	C	184888.29	1003048.53	8.00	20.00	0.00	0.00	0.40			
229	F	184913.55	1003016.30	6.00	205.00	0.00	0.00	0.40			
230	F	184928.23	1002982.39	6.00	205.00	0.00	0.00	0.40			
231	C	184940.25	1002962.53	8.00	131.00	0.00	0.00	0.40			
232	C	184913.75	1002936.69	8.00	135.00	0.00	0.00	0.40			
233	C	184885.73	1002908.33	8.00	138.00	0.00	0.00	0.40			
234	C	184850.29	1002890.81	8.00	327.00	0.00	0.00	0.40			
235	K	184854.16	1002853.38	8.00	41.00	0.00	0.00	0.40			
236	C	184870.41	1002867.02	8.00	227.00	0.00	0.00	0.40			
237	E	184905.00	1002961.32	5.00	357.00	0.00	0.00	0.40			
301	E	184892.01	1003009.96	5.00	229.00	0.00	0.00	0.40			
302	E	184889.22	1003025.98	5.00	321.00	0.00	0.00	0.40			
303	E	184941.36	1002994.52	5.00	297.00	0.00	0.00	0.40			
304	E	184966.95	1003005.78	5.00	297.00	0.00	0.00	0.40			
305	C	184967.35	1002980.25	8.00	113.00	0.00	0.00	0.40			
306	C	184994.02	1002991.88	8.00	118.00	0.00	0.00	0.40			
63	E	185079.25	1003091.17	5.00	100.00	0.00	0.00	0.40			
308	E	185020.91	1003023.01	5.00	156.00	0.00	0.00	0.40			
309	A	184974.34	1003026.80	6.00	23.00	0.00	0.00	0.40			
310	A	184981.29	1003043.02	6.00	202.00	0.00	0.00	0.40			
311	A	184958.57	1003063.76	6.00	15.00	0.00	0.00	0.40			
312	A	184966.88	1003076.13	6.00	204.00	0.00	0.00	0.40			
313	A	184944.50	1003097.92	6.00	16.00	0.00	0.00	0.40			
314	A	184895.38	1003096.21	6.00	287.00	0.00	0.00	0.40			
315	A	184927.22	1003109.59	6.00	287.00	0.00	0.00	0.40			
316	A	184914.50	1003091.30	6.00	108.00	0.00	0.00	0.40			
317	G	184924.72	1003129.09	6.00	23.00	0.00	0.00	0.40			

**Layout Continued**

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
318	G	184948.07	1003126.48	6.00	197.00	0.00	0.00	0.40			
319	E	184931.96	1003145.47	5.00	219.00	0.00	0.00	0.40			
320	E	184909.93	1003129.20	5.00	116.00	0.00	0.00	0.40			
321	E	184885.07	1003118.69	5.00	98.00	0.00	0.00	0.40			
322	E	184948.64	1003145.14	5.00	110.00	0.00	0.00	0.40			
323	E	184976.89	1003157.55	5.00	117.00	0.00	0.00	0.40			
324	A	184820.65	1003153.71	6.00	275.00	0.00	0.00	0.40			
81	B	184882.98	1003162.45	5.00	242.00	0.00	0.00	0.40			
326	E	184886.39	1003145.53	5.00	262.00	0.00	0.00	0.40			
327	E	184914.23	1003147.52	5.00	280.00	0.00	0.00	0.40			
328	E	184941.94	1003157.92	5.00	295.00	0.00	0.00	0.40			
329	E	184968.90	1003166.42	5.00	280.00	0.00	0.00	0.40			
330	E	184997.61	1003169.26	5.00	281.00	0.00	0.00	0.40			
331	A	184968.48	1003127.01	6.00	289.00	0.00	0.00	0.40			
332	A	184956.64	1003108.28	6.00	114.00	0.00	0.00	0.40			
333	A	184995.25	1003125.03	6.00	109.00	0.00	0.00	0.40			
334	A	185002.97	1003142.03	6.00	301.00	0.00	0.00	0.40			
335	A	185013.93	1003159.37	6.00	198.00	0.00	0.00	0.40			
336	A	184995.40	1003186.63	6.00	20.00	0.00	0.00	0.40			
337	A	184984.83	1003211.86	6.00	26.00	0.00	0.00	0.40			
94	I	184739.26	1003272.15	5.00	110.00	0.00	0.00	0.40			
95	E	184770.20	1003247.99	5.00	100.00	0.00	0.00	0.40			
96	N	184763.91	1003237.70	1.00	13.00	0.00	0.00	0.40			
97	N	184763.34	1003240.28	1.00	13.00	0.00	0.00	0.40			
98	N	184762.79	1003242.78	1.00	12.00	0.00	0.00	0.40			
99	N	184765.93	1003242.27	1.00	195.00	0.00	0.00	0.40			
100	N	184766.66	1003239.26	1.00	195.00	0.00	0.00	0.40			
101	O	184850.97	1003279.94	5.00	103.00	0.00	0.00	0.40			
102	O	184865.96	1003283.68	5.00	105.00	0.00	0.00	0.40			
103	O	184879.24	1003287.21	5.00	103.00	0.00	0.00	0.40			
104	O	184889.29	1003293.40	5.00	205.00	0.00	0.00	0.40			
105	O	184864.98	1003289.72	5.00	103.00	0.00	0.00	0.40			
106	O	184865.05	1003289.14	5.00	281.00	0.00	0.00	0.40			
107	O	184879.46	1003293.33	5.00	292.00	0.00	0.00	0.40			
108	O	184878.81	1003296.64	5.00	103.00	0.00	0.00	0.40			
109	O	184868.07	1003301.19	5.00	281.00	0.00	0.00	0.40			

**Layout Continued**

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
110	O	184881.03	1003303.37	5.00	284.00	0.00	0.00	0.40			
111	O	184855.82	1003293.40	5.00	276.00	0.00	0.00	0.40			
112	O	184854.82	1003299.43	5.00	21.00	0.00	0.00	0.40			
113	O	184845.18	1003292.02	5.00	281.00	0.00	0.00	0.40			
114	P	184839.22	1003279.35	6.00	35.00	0.00	0.00	1.00			
115	P	184838.74	1003279.09	7.00	171.00	0.00	0.00	1.00			
116	P	184839.10	1003278.69	8.00	281.00	0.00	0.00	1.00			
117	P	184842.89	1003252.11	6.00	50.00	0.00	0.00	1.00			
118	P	184842.50	1003251.73	7.00	186.00	0.00	0.00	1.00			
119	P	184842.94	1003251.44	8.00	296.00	0.00	0.00	1.00			
120	P	184829.34	1003120.05	6.00	50.00	0.00	0.00	1.00			
121	P	184828.95	1003119.67	7.00	186.00	0.00	0.00	1.00			
122	P	184829.39	1003119.38	8.00	296.00	0.00	0.00	1.00			
123	Q	184836.14	1003137.77	5.00	348.00	0.00	0.00	0.40			
124	B	184905.54	1003162.06	5.00	281.00	0.00	0.00	0.40			
125	B	184919.41	1003164.81	5.00	198.00	0.00	0.00	0.40			
126	B	184934.04	1003178.23	6.00	274.00	0.00	0.00	0.40			
127	B	184963.01	1003184.63	5.00	282.00	0.00	0.00	0.40			
128	B	184962.03	1003175.06	5.00	196.00	0.00	0.00	0.40			
129	E	185029.54	1003168.14	5.00	265.00	0.00	0.00	0.40			
130	E	185056.50	1003156.46	5.00	222.00	0.00	0.00	0.40			
131	B	184969.93	1003096.24	5.00	115.00	0.00	0.00	0.40			
132	B	184975.65	1003112.02	5.00	24.00	0.00	0.00	0.40			
133	E	185094.14	1003100.17	5.00	259.00	0.00	0.00	0.40			
134	E	185032.79	1003063.26	5.00	140.00	0.00	0.00	0.40			
135	E	184864.07	1003212.80	5.00	279.00	0.00	0.00	0.40			
140	I	184756.73	1002961.80	5.00	330.00	0.00	0.00	0.40			
142	E	184775.86	1002986.39	5.00	309.00	0.00	0.00	0.40			
143	E	184796.91	1003003.62	5.00	307.00	0.00	0.00	0.40			
144	E	184824.03	1003015.95	5.00	286.00	0.00	0.00	0.40			
145	C	184866.40	1003041.18	8.00	20.00	0.00	0.00	0.40			
146	C	184865.76	1003041.00	8.00	199.00	0.00	0.00	0.40			
147	C	184851.95	1003075.39	8.00	20.00	0.00	0.00	0.40			
148	C	184851.31	1003075.21	8.00	204.00	0.00	0.00	0.40			
149	C	184842.13	1003047.63	8.00	20.00	0.00	0.00	0.40			
150	E	184850.96	1003021.69	5.00	269.00	0.00	0.00	0.40			



**Layout Continued**

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
151	E	184906.35	1002986.28	5.00	195.00	0.00	0.00	0.40			
152	A	184994.20	1003020.12	6.00	200.00	0.00	0.00	0.40			
153	B	184962.44	1003102.04	5.00	115.00	0.00	0.00	0.40			
154	A	184977.87	1003004.85	6.00	28.00	0.00	0.00	0.40			
155	B	184956.67	1003198.51	6.00	24.00	0.00	0.00	0.40			
156	B	184942.36	1003205.50	6.00	102.00	0.00	0.00	0.40			
157	B	184945.61	1003214.86	6.00	275.00	0.00	0.00	0.40			
158	B	184792.89	1003240.72	6.00	106.00	0.00	0.00	0.40			
159	B	184815.18	1003246.49	6.00	106.00	0.00	0.00	0.40			
160	E	184976.42	1003231.52	5.00	17.00	0.00	0.00	0.40			
161	J	184734.18	1003227.88	6.00	279.00	0.00	0.00	0.40			
162	J	184758.18	1003127.70	6.00	297.00	0.00	0.00	0.40			
163	I	184767.80	1003121.00	5.00	111.00	0.00	0.00	0.40			
158	E	184810.98	1003256.66	5.00	19.00	0.00	0.00	0.40			
159	E	184806.33	1003270.04	5.00	311.00	0.00	0.00	0.40			
160	E	184800.27	1003269.28	5.00	217.00	0.00	0.00	0.40			
161	R	184891.86	1003200.12	5.00	227.00	0.00	0.00	0.40			
162	R	184904.15	1003198.30	5.00	319.00	0.00	0.00	0.40			
163	R	184906.76	1003187.96	5.00	217.00	0.00	0.00	0.40			
164	R	185030.88	1003115.54	5.00	23.00	0.00	0.00	0.40			
165	R	185034.24	1003101.48	5.00	23.00	0.00	0.00	0.40			
166	R	184993.80	1003098.35	5.00	23.00	0.00	0.00	0.40			
168	R	185002.92	1003074.53	5.00	19.00	0.00	0.00	0.40			
168	R	185002.41	1003074.13	5.00	207.00	0.00	0.00	0.40			

# Horizontal Illuminance (lux)

Grid 4

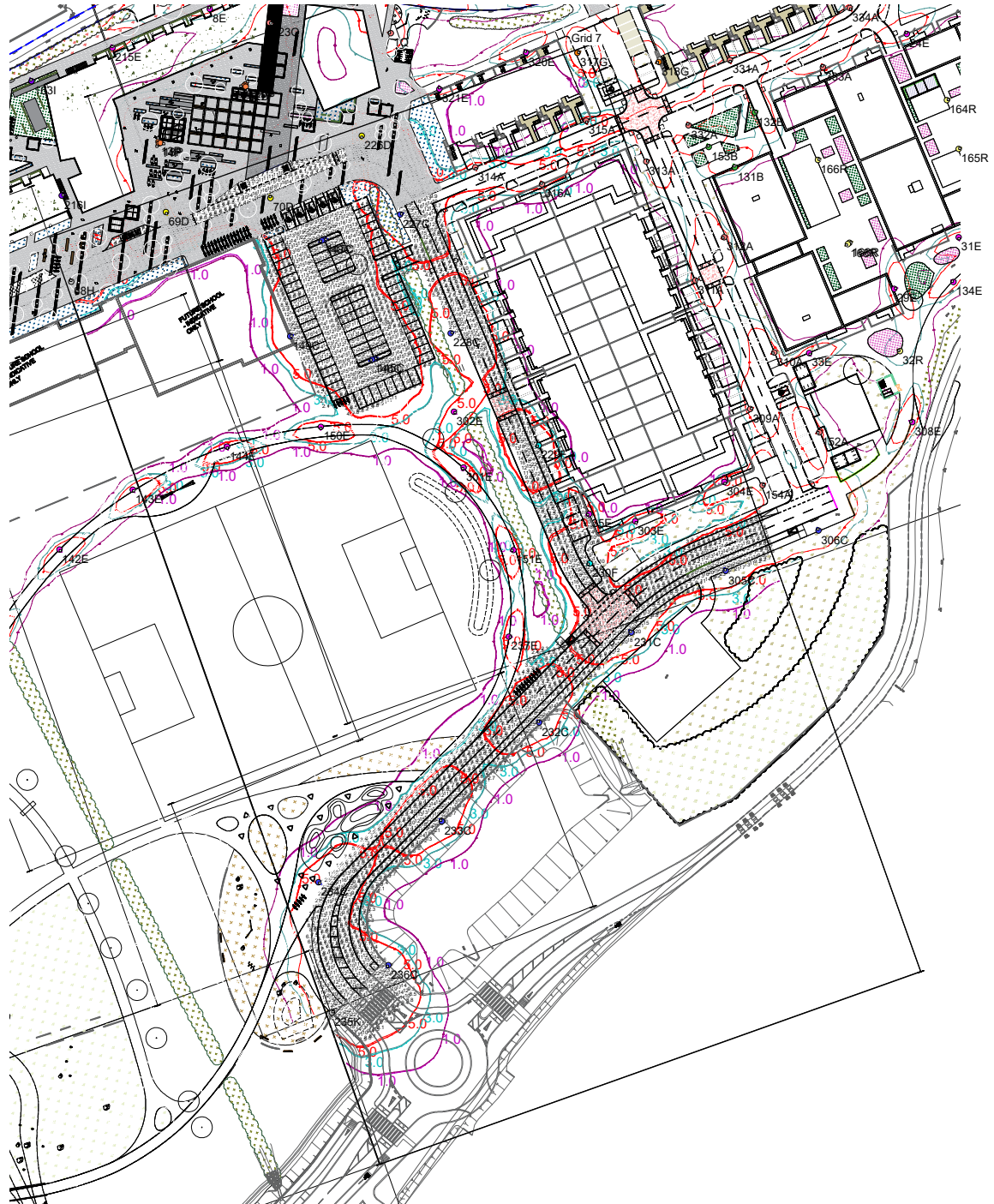


## Results

Eav	6.16
Emin	1.23
Emax	58.57
Emin/Emax	0.02
Emin/Eav	0.20

# Horizontal Illuminance (lux)

Grid 7

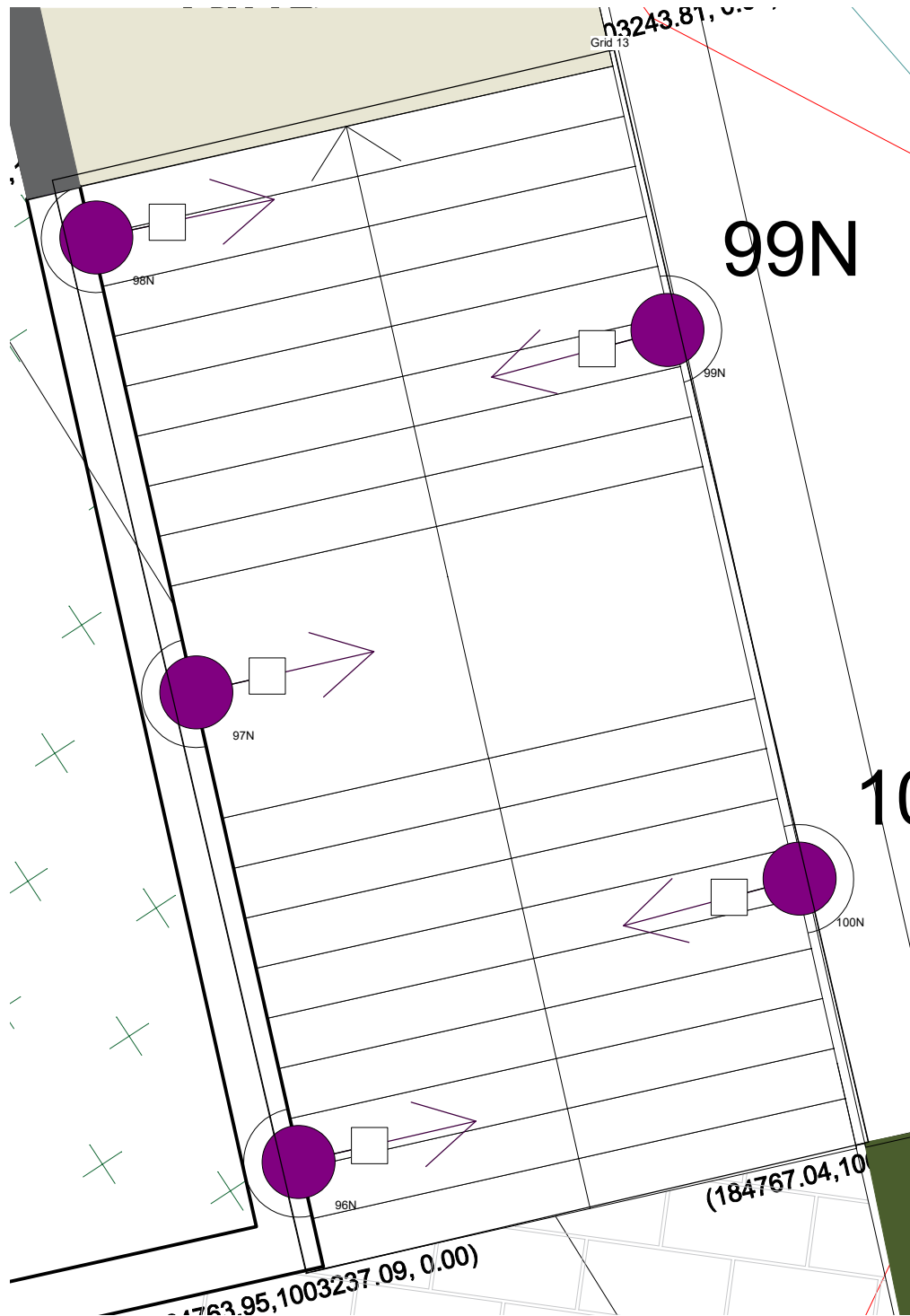


## Results

Eav	10.12
Emin	2.12
E <sub>max</sub>	35.91
Emin/E <sub>max</sub>	0.06
Emin/Eav	0.21

## Horizontal Illuminance (lux)

Grid 13

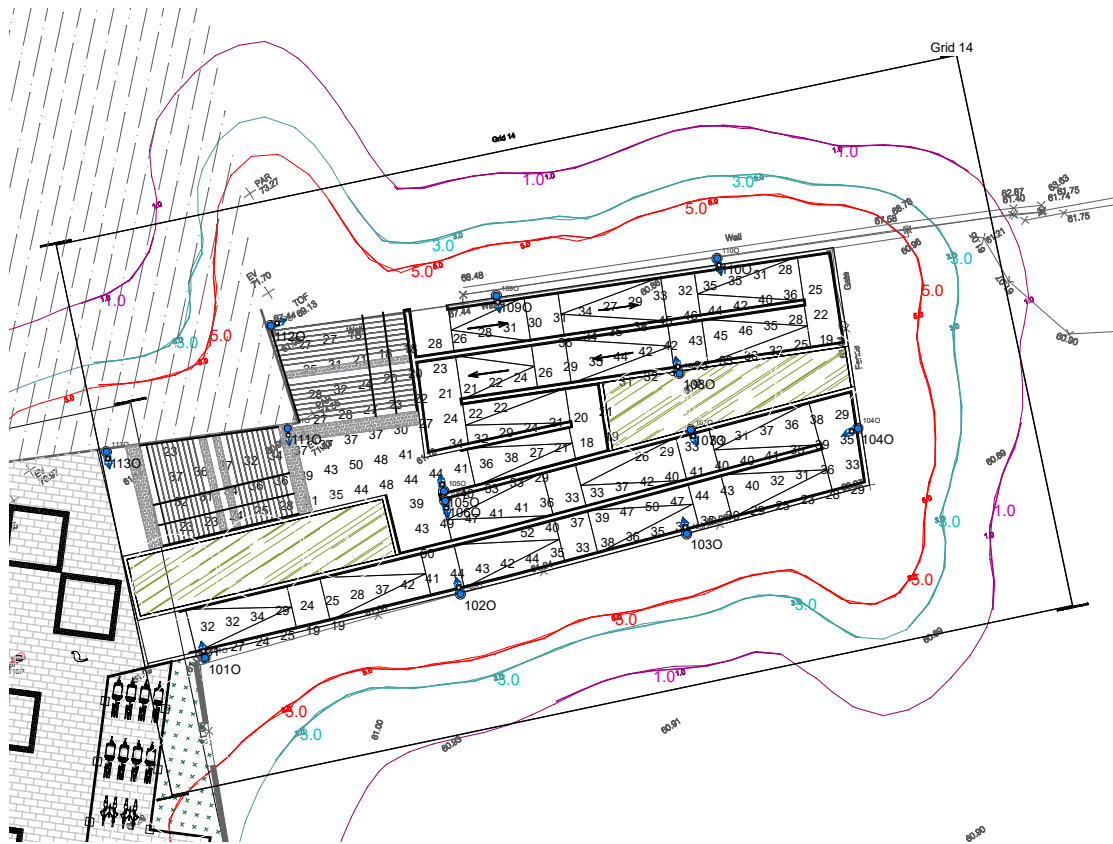


### Results

Eav	56.07
Emin	17.07
Emax	103.55
Emin/Emax	0.16
Emin/Eav	0.30

# Horizontal Illuminance (lux)

Grid 14



### Results

Eav	33.04
Emin	17.67
Emax	51.54
Emin/Emax	0.34
Emin/Eav	0.53



# Horizontal Illuminance (lux)

Grid 14



### Results

Eav	11.87
Emin	2.93
Emax	33.20
Emin/Emax	0.09
Emin/Eav	0.25

# Horizontal Illuminance (lux)

Grid 15



## Results

Eav	8.30
Emin	1.64
Emax	29.08
Emin/Emax	0.06
Emin/Eav	0.20

# Horizontal Illuminance (lux)

Grid 16



## Results

Eav	6.36
Emin	1.41
Emax	29.05
Emin/Emax	0.05
Emin/Eav	0.22



# Horizontal Illuminance (lux)

Grid 17



### Results

Eav	0.00
Emin	0.00
Emax	0.00
Emin/Emax	0.00
Emin/Eav	0.00

# Horizontal Illuminance (lux)

Grid 18



## Results

Eav	6.99
Emin	1.40
Emax	19.58
Emin/Emax	0.07
Emin/Eav	0.20