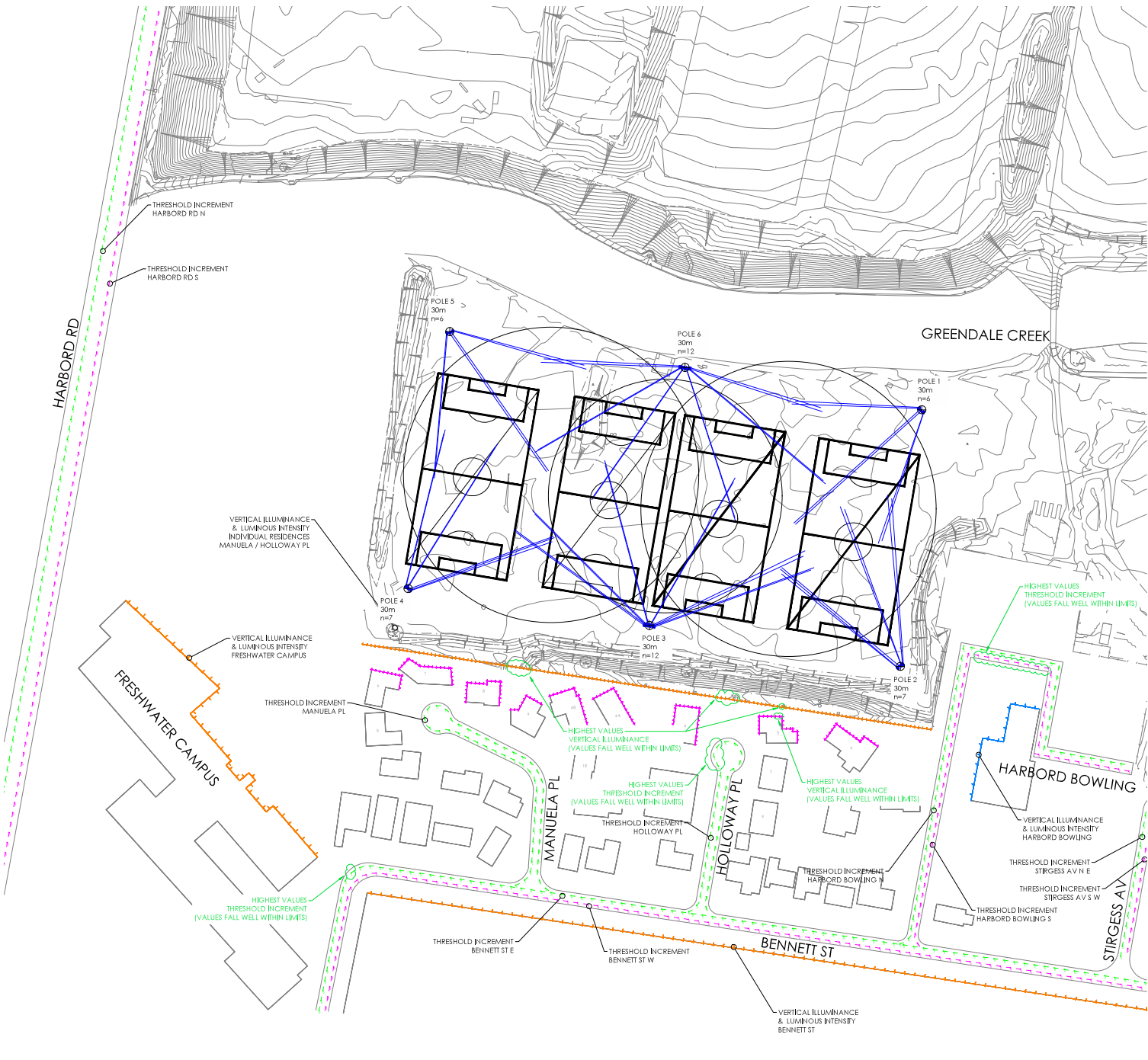


29

31

28

30



Luminaire Schedule				
Symbol	Label	Qty	Description	Total Lamp Lumens
1	BVP27 OUT T30 50K A35-NB +LO	50	Apex OptiVision LED Gen 3 module 6700 K	212481

Luminaire Location Summary 1					
Scene	Initial	Label	Z	YR	LLF
1	BVP27 OUT T30 50K A35-NB +LO	29.7	64	1.00	
2	BVP27 OUT T30 50K A35-NB +LO	30.25	64	1.00	
3	BVP27 OUT T30 50K A35-NB +LO	30.25	70	1.00	
4	BVP27 OUT T30 50K A35-NB +LO	30.25	70	1.00	
5	BVP27 OUT T30 50K A35-NB +LO	29.7	68	1.00	
6	BVP27 OUT T30 50K A35-NB +LO	30.25	66	1.00	

Luminaire Location Summary 4					
Scene	Initial	Label	Z	YR	LLF
26	BVP27 OUT T30 50K A35-NB +LO	29.7	68	1.00	
27	BVP27 OUT T30 50K A35-NB +LO	30.25	68	1.00	
28	BVP27 OUT T30 50K A35-NB +LO	30.25	68	1.00	
29	BVP27 OUT T30 50K A35-NB +LO	29.7	70	1.00	
30	BVP27 OUT T30 50K A35-NB +LO	30.25	70	1.00	
31	BVP27 OUT T30 50K A35-NB +LO	29.7	69	1.00	
32	BVP27 OUT T30 50K A35-NB +LO	30.25	69	1.00	

Luminaire Location Summary 2					
Scene	Initial	Label	Z	YR	LLF
7	BVP27 OUT T30 50K A35-NB +LO	30.25	70	1.00	
8	BVP27 OUT T30 50K A35-NB +LO	29.7	70	1.00	
9	BVP27 OUT T30 50K A35-NB +LO	30.25	70	1.00	
10	BVP27 OUT T30 50K A35-NB +LO	29.7	70	1.00	
11	BVP27 OUT T30 50K A35-NB +LO	30.25	68	1.00	
12	BVP27 OUT T30 50K A35-NB +LO	30.25	68	1.00	
13	BVP27 OUT T30 50K A35-NB +LO	29.7	68	1.00	

Luminaire Location Summary 5					
Scene	Initial	Label	Z	YR	LLF
33	BVP27 OUT T30 50K A35-NB +LO	30.25	67	1.00	
34	BVP27 OUT T30 50K A35-NB +LO	29.7	67	1.00	
35	BVP27 OUT T30 50K A35-NB +LO	30.25	70	1.00	
36	BVP27 OUT T30 50K A35-NB +LO	30.25	70	1.00	
37	BVP27 OUT T30 50K A35-NB +LO	30.25	66	1.00	
38	BVP27 OUT T30 50K A35-NB +LO	29.7	66	1.00	

Luminaire Location Summary 3					
Scene	Initial	Label	Z	YR	LLF
14	BVP27 OUT T30 50K A35-NB +LO	30.25	70	1.00	
15	BVP27 OUT T30 50K A35-NB +LO	29.7	70	1.00	
16	BVP27 OUT T30 50K A35-NB +LO	30.25	70	1.00	
17	BVP27 OUT T30 50K A35-NB +LO	29.7	70	1.00	
18	BVP27 OUT T30 50K A35-NB +LO	30.25	70	1.00	
19	BVP27 OUT T30 50K A35-NB +LO	29.7	70	1.00	
20	BVP27 OUT T30 50K A35-NB +LO	30.25	70	1.00	
21	BVP27 OUT T30 50K A35-NB +LO	29.7	70	1.00	
22	BVP27 OUT T30 50K A35-NB +LO	30.25	69	1.00	
23	BVP27 OUT T30 50K A35-NB +LO	29.7	69	1.00	
24	BVP27 OUT T30 50K A35-NB +LO	30.25	69	1.00	
25	BVP27 OUT T30 50K A35-NB +LO	29.7	69	1.00	

Luminaire Location Summary 6					
Scene	Initial	Label	Z	YR	LLF
39	BVP27 OUT T30 50K A35-NB +LO	30.25	66	1.00	
40	BVP27 OUT T30 50K A35-NB +LO	29.7	66	1.00	
41	BVP27 OUT T30 50K A35-NB +LO	30.25	70	1.00	
42	BVP27 OUT T30 50K A35-NB +LO	29.7	70	1.00	
43	BVP27 OUT T30 50K A35-NB +LO	30.25	69	1.00	
44	BVP27 OUT T30 50K A35-NB +LO	29.7	69	1.00	
45	BVP27 OUT T30 50K A35-NB +LO	30.25	69	1.00	
46	BVP27 OUT T30 50K A35-NB +LO	29.7	69	1.00	
47	BVP27 OUT T30 50K A35-NB +LO	29.7	71	1.00	
48	BVP27 OUT T30 50K A35-NB +LO	30.25	71	1.00	
49	BVP27 OUT T30 50K A35-NB +LO	29.7	66	1.00	
50	BVP27 OUT T30 50K A35-NB +LO	30.25	66	1.00	

**Obtrusive Light - Compliance Report**  
 AS/NZS 4282:2019, A3 - Medium District Brightness, Non-Curfew L1  
 Filename: 18076-07-A John Fisher Park\_LA+S - Copy - revised 200225  
 25/02/2020 4:39:31 PM

**Illuminance**  
 Maximum Allowable Value: 10 Lux  
 Calculations Tested (53):

Calculation Label	Results	Max. Illum.
ObtrusiveLight_6 Manuela Pl_Cd_Seg1	PASS	0.3
ObtrusiveLight_5 Manuela Pl_III_Seg2	PASS	0.1
ObtrusiveLight_7 Manuela Pl_Cd_Seg2	PASS	0.1
ObtrusiveLight_7 Manuela Pl_III_Seg2	PASS	0.1
ObtrusiveLight_7 Manuela Pl_III_Seg3	PASS	0.5
ObtrusiveLight_7 Manuela Pl_III_Seg4	PASS	0.3
ObtrusiveLight_8 Manuela Pl_III_Seg1	PASS	0.1
ObtrusiveLight_8 Manuela Pl_III_Seg2	PASS	0.5
ObtrusiveLight_8 Manuela Pl_III_Seg3	PASS	0.1
ObtrusiveLight_8 Manuela Pl_III_Seg4	PASS	0.3
ObtrusiveLight_8 Manuela Pl_III_Seg5	PASS	0.3
ObtrusiveLight_8 Manuela Pl_III_Seg6	PASS	0.2
ObtrusiveLight_8 Manuela Pl_III_Seg7	PASS	0.2
ObtrusiveLight_8 Manuela Pl_III_Seg8	PASS	0.4
ObtrusiveLight_8 Manuela Pl_III_Seg9	PASS	0.2
ObtrusiveLight_8 Manuela Pl_III_Seg10	PASS	0.1
ObtrusiveLight_4A Holloway Pl_III_Seg1	PASS	0.5
ObtrusiveLight_4 Holloway Pl_III_Seg2	PASS	0.1
ObtrusiveLight_4 Holloway Pl_III_Seg3	PASS	0.5
ObtrusiveLight_4 Holloway Pl_III_Seg4	PASS	0.2
ObtrusiveLight_4 Holloway Pl_III_Seg5	PASS	0.1
ObtrusiveLight_4 Holloway Pl_III_Seg6	PASS	0.2
ObtrusiveLight_4 Holloway Pl_III_Seg7	PASS	0.2
ObtrusiveLight_4 Holloway Pl_III_Seg8	PASS	0.4
ObtrusiveLight_4 Holloway Pl_III_Seg9	PASS	0.2
ObtrusiveLight_4 Holloway Pl_III_Seg10	PASS	0.1
ObtrusiveLight_5 Holloway Pl_III_Seg1	PASS	0.3
ObtrusiveLight_5 Holloway Pl_III_Seg2	PASS	0.2
ObtrusiveLight_5 Holloway Pl_III_Seg3	PASS	0.5
ObtrusiveLight_5 Holloway Pl_III_Seg4	PASS	0.5
ObtrusiveLight_5 Holloway Pl_III_Seg5	PASS	0.2
ObtrusiveLight_5 Holloway Pl_III_Seg6	PASS	0.5
ObtrusiveLight_5 Holloway Pl_III_Seg7	PASS	0.2
ObtrusiveLight_5 Holloway Pl_III_Seg8	PASS	0.4
ObtrusiveLight_5 Holloway Pl_III_Seg9	PASS	0.2
ObtrusiveLight_5 Holloway Pl_III_Seg10	PASS	0.1
ObtrusiveLight_Harbord Bowling_III_Seg1	PASS	0.1
ObtrusiveLight_Harbord Bowling_III_Seg2	PASS	0.1
ObtrusiveLight_Harbord Bowling_III_Seg3	PASS	0.2
ObtrusiveLight_Harbord Bowling_III_Seg4	PASS	0.1
ObtrusiveLight_Freshwater Campus_Cd_Seg1	PASS	0.1
ObtrusiveLight_Freshwater Campus_Cd_Seg2	PASS	0.1
ObtrusiveLight_Freshwater Campus_Cd_Seg3	PASS	0.1
ObtrusiveLight_Freshwater Campus_Cd_Seg4	PASS	0.1
ObtrusiveLight_Freshwater Campus_Cd_Seg5	PASS	0.1
ObtrusiveLight_Freshwater Campus_Cd_Seg6	PASS	0.1
ObtrusiveLight_Freshwater Campus_Cd_Seg7	PASS	0.1
ObtrusiveLight_Freshwater Campus_Cd_Seg8	PASS	0.1
ObtrusiveLight_Freshwater Campus_Cd_Seg9	PASS	0.1
ObtrusiveLight_Freshwater Campus_Cd_Seg10	PASS	0.1
ObtrusiveLight_Bennett St_Cd_Seg1	PASS	0.1
ObtrusiveLight_4B Manuela Pl_Cd_Seg2	PASS	0.1
ObtrusiveLight_4B Manuela Pl_Cd_Seg3	PASS	0.1
ObtrusiveLight_4B Manuela Pl_Cd_Seg4	PASS	0.1
ObtrusiveLight_Stirgess Av_Cd_Seg1	PASS	0.3
ObtrusiveLight_Stirgess Av_III_Seg1	PASS	0.0
ObtrusiveLight_Manuela Holloway_III_Seg1	PASS	0.0

**Luminous Intensity (Cd) At Vertical Planes**  
 Maximum Allowable Value: 12500 Cd  
 Calculations Tested (53):

Calculation Label	Test Results
ObtrusiveLight_6 Manuela Pl_Cd_Seg1	PASS
ObtrusiveLight_7 Manuela Pl_Cd_Seg2	PASS
ObtrusiveLight_7 Manuela Pl_Cd_Seg3	PASS
ObtrusiveLight_7 Manuela Pl_Cd_Seg4	PASS
ObtrusiveLight_7 Manuela Pl_Cd_Seg5	PASS
ObtrusiveLight_7 Manuela Pl_Cd_Seg6	PASS
ObtrusiveLight_7 Manuela Pl_Cd_Seg7	PASS
ObtrusiveLight_7 Manuela Pl_Cd_Seg8	PASS
ObtrusiveLight_7 Manuela Pl_Cd_Seg9	PASS
ObtrusiveLight_7 Manuela Pl_Cd_Seg10	PASS
ObtrusiveLight_8 Manuela Pl_Cd_Seg1	PASS
ObtrusiveLight_8 Manuela Pl_Cd_Seg2	PASS
ObtrusiveLight_8 Manuela Pl_Cd_Seg3	PASS
ObtrusiveLight_8 Manuela Pl_Cd_Seg4	PASS
ObtrusiveLight_8 Manuela Pl_Cd_Seg5	PASS
ObtrusiveLight_8 Manuela Pl_Cd_Seg6	PASS
ObtrusiveLight_8 Manuela Pl_Cd_Seg7	PASS
ObtrusiveLight_8 Manuela Pl_Cd_Seg8	PASS
ObtrusiveLight_8 Manuela Pl_Cd_Seg9	PASS
ObtrusiveLight_8 Manuela Pl_Cd_Seg10	PASS
ObtrusiveLight_4A Holloway Pl_Cd_Seg1	PASS
ObtrusiveLight_4 Holloway Pl_Cd_Seg2	PASS
ObtrusiveLight_4 Holloway Pl_Cd_Seg3	PASS
ObtrusiveLight_4 Holloway Pl_Cd_Seg4	PASS
ObtrusiveLight_4 Holloway Pl_Cd_Seg5	PASS
ObtrusiveLight_4 Holloway Pl_Cd_Seg6	PASS
ObtrusiveLight_4 Holloway Pl_Cd_Seg7	PASS
ObtrusiveLight_4 Holloway Pl_Cd_Seg8	PASS
ObtrusiveLight_4 Holloway Pl_Cd_Seg9	PASS
ObtrusiveLight_4 Holloway Pl_Cd_Seg10	PASS
ObtrusiveLight_5 Holloway Pl_Cd_Seg1	PASS
ObtrusiveLight_5 Holloway Pl_Cd_Seg2	PASS
ObtrusiveLight_5 Holloway Pl_Cd_Seg3	PASS
ObtrusiveLight_5 Holloway Pl_Cd_Seg4	PASS
ObtrusiveLight_5 Holloway Pl_Cd_Seg5	PASS
ObtrusiveLight_5 Holloway Pl_Cd_Seg6	PASS
ObtrusiveLight_5 Holloway Pl_Cd_Seg7	PASS
ObtrusiveLight_5 Holloway Pl_Cd_Seg8	PASS
ObtrusiveLight_5 Holloway Pl_Cd_Seg9	PASS
ObtrusiveLight_5 Holloway Pl_Cd_Seg10	PASS
ObtrusiveLight_Harbord Bowling_Cd_Seg1	PASS
ObtrusiveLight_Harbord Bowling_Cd_Seg2	PASS
ObtrusiveLight_Harbord Bowling_Cd_Seg3	PASS
ObtrusiveLight_Harbord Bowling_Cd_Seg4	PASS
ObtrusiveLight_Harbord Bowling_Cd_Seg5	PASS
ObtrusiveLight_Harbord Bowling_Cd_Seg6	PASS
ObtrusiveLight_Harbord Bowling_Cd_Seg7	PASS
ObtrusiveLight_Harbord Bowling_Cd_Seg8	PASS
ObtrusiveLight_Harbord Bowling_Cd_Seg9	PASS
ObtrusiveLight_Harbord Bowling_Cd_Seg10	PASS
ObtrusiveLight_Freshwater Campus_Cd_Seg1	PASS
ObtrusiveLight_Freshwater Campus_Cd_Seg2	PASS
ObtrusiveLight_Freshwater Campus_Cd_Seg3	PASS
ObtrusiveLight_Freshwater Campus_Cd_Seg4	PASS
ObtrusiveLight_Freshwater Campus_Cd_Seg5	PASS
ObtrusiveLight_Freshwater Campus_Cd_Seg6	PASS
ObtrusiveLight_Freshwater Campus_Cd_Seg7	PASS
ObtrusiveLight_Freshwater Campus_Cd_Seg8	PASS
ObtrusiveLight_Freshwater Campus_Cd_Seg9	PASS
ObtrusiveLight_Freshwater Campus_Cd_Seg10	PASS
ObtrusiveLight_Bennett St_Cd_Seg1	PASS
ObtrusiveLight_4B Manuela Pl_Cd_Seg2	PASS
ObtrusiveLight_4B Manuela Pl_Cd_Seg3	PASS
ObtrusiveLight_4B Manuela Pl_Cd_Seg4	PASS
ObtrusiveLight_Stirgess Av_Cd_Seg1	PASS
ObtrusiveLight_Stirgess Av_Cd_Seg2	PASS
ObtrusiveLight_Manuela Holloway_Cd_Seg1	PASS

**Upward Waste Light Ratio (UWLR)**  
 Maximum Allowable Value: 2.0 %  
 Calculated UWLR: 0.0 %  
 Test Results: PASS

**Threshold Increment (TI)**  
 Maximum Allowable Value: 20 %  
 Calculations Tested (10):

Calculation Label	Adaptation Test Results
ObtrusiveLight_T1_Harbord Rd_S	1 PASS
ObtrusiveLight_T1_Harbord Rd_N	1 PASS
ObtrusiveLight_T1_Bennett St_W	1 PASS
ObtrusiveLight_T1_Manuela Pl	1 PASS
ObtrusiveLight_T1_Holloway Pl	1 PASS
ObtrusiveLight_T1_Bennett St_E	1 PASS
ObtrusiveLight_T1_Harbord Bowl_N	1 PASS
ObtrusiveLight_T1_Harbord Bowl_S	1 PASS
ObtrusiveLight_T1_Stirgess Av_NE	1 PASS
ObtrusiveLight_T1_Stirgess Av_SW	1 PASS

Issue	Amendment	Date
P1	PRELIMINARY ISSUE	25-09-19
P2	PRELIMINARY ISSUE	01-11-19
P3	PRELIMINARY ISSUE	27-02-20

Notes:

- Drawings are based on site plan, converted PDF from APEX lighting design for pole locations, and aerial imagery. Locations are indicative only.
- Vertical Illuminance & Luminous Intensity calculation grid heights: 1.5 - 30m.
- Vertical Illuminance & Luminous Intensity calculation grid heights for individual houses: 1.5 - 10m.
- Threshold Increment calculations height: 1.5m.
- Windscreen cutoff angle: 30° above the horizontal.
- A light loss factor of 1.0 is used to show initial light values.

Lead Consultant BFB TOWN PLANNERS	<p>Lighting Consultants Electrical Engineers        Level 1, 41 Home St, Crocus Nest NSW 2065        p: +61 2 9436 0995 e: mail@lasand.com.au</p>	Project NBC SPORTSFIELDS JOHN FISHER PARK, MANLY VALE
Client NBC		Drawing OBTRUSIVE LIGHTING ASSESSMENT AS/NZS 4282:2019 CALCULATIONS
Project No L1600	Approval RM	Date SEP 2019
Client No CR-03	Drawing No L1600	Scale 1:1000@A1
		Revision P3

All rights reserved. This drawing may not be reproduced or represented in any form or by any means without the written permission of Lighting Art & Science Pty Ltd.



Luminaire Schedule				
Scene	Label	Qty	Description	Total Lamp Lumens
01	BVP527 OUT T30 50K A35-NB +LO	50	Apex OptiVision LED Gem 3 module 5700 K	212481

Luminaire Location Summary 1				
Scene: Initial				
LumNo	Label	Z	Ht	LLF
1	BVP527 OUT T30 50K A35-NB +LO	29.7	64	1.00
2	BVP527 OUT T30 50K A35-NB +LO	30.25	64	1.00
3	BVP527 OUT T30 50K A35-NB +LO	30.25	70	1.00
4	BVP527 OUT T30 50K A35-NB +LO	30.25	70	1.00
5	BVP527 OUT T30 50K A35-NB +LO	29.7	68	1.00
6	BVP527 OUT T30 50K A35-NB +LO	30.25	66	1.00

Luminaire Location Summary 4				
Scene: Initial				
LumNo	Label	Z	Ht	LLF
26	BVP527 OUT T30 50K A35-NB +LO	29.7	68	1.00
27	BVP527 OUT T30 50K A35-NB +LO	30.25	68	1.00
28	BVP527 OUT T30 50K A35-NB +LO	30.25	68	1.00
29	BVP527 OUT T30 50K A35-NB +LO	29.7	70	1.00
30	BVP527 OUT T30 50K A35-NB +LO	30.25	70	1.00
31	BVP527 OUT T30 50K A35-NB +LO	29.7	68	1.00
32	BVP527 OUT T30 50K A35-NB +LO	30.25	68	1.00

Luminaire Location Summary 2				
Scene: Initial				
LumNo	Label	Z	Ht	LLF
7	BVP527 OUT T30 50K A35-NB +LO	30.25	70	1.00
8	BVP527 OUT T30 50K A35-NB +LO	29.7	70	1.00
9	BVP527 OUT T30 50K A35-NB +LO	30.25	70	1.00
10	BVP527 OUT T30 50K A35-NB +LO	29.7	70	1.00
11	BVP527 OUT T30 50K A35-NB +LO	30.25	68	1.00
12	BVP527 OUT T30 50K A35-NB +LO	30.25	68	1.00
13	BVP527 OUT T30 50K A35-NB +LO	29.7	68	1.00

Luminaire Location Summary 5				
Scene: Initial				
LumNo	Label	Z	Ht	LLF
33	BVP527 OUT T30 50K A35-NB +LO	30.25	87	1.00
34	BVP527 OUT T30 50K A35-NB +LO	29.7	87	1.00
35	BVP527 OUT T30 50K A35-NB +LO	30.25	70	1.00
36	BVP527 OUT T30 50K A35-NB +LO	30.25	70	1.00
37	BVP527 OUT T30 50K A35-NB +LO	30.25	68	1.00
38	BVP527 OUT T30 50K A35-NB +LO	29.7	68	1.00

Luminaire Location Summary 3				
Scene: Initial				
LumNo	Label	Z	Ht	LLF
14	BVP527 OUT T30 50K A35-NB +LO	30.25	70	1.00
15	BVP527 OUT T30 50K A35-NB +LO	29.7	70	1.00
16	BVP527 OUT T30 50K A35-NB +LO	30.25	70	1.00
17	BVP527 OUT T30 50K A35-NB +LO	29.7	70	1.00
18	BVP527 OUT T30 50K A35-NB +LO	30.25	70	1.00
19	BVP527 OUT T30 50K A35-NB +LO	29.7	70	1.00
20	BVP527 OUT T30 50K A35-NB +LO	30.25	70	1.00
21	BVP527 OUT T30 50K A35-NB +LO	29.7	70	1.00
22	BVP527 OUT T30 50K A35-NB +LO	30.25	69	1.00
23	BVP527 OUT T30 50K A35-NB +LO	29.7	69	1.00
24	BVP527 OUT T30 50K A35-NB +LO	30.25	69	1.00
25	BVP527 OUT T30 50K A35-NB +LO	29.7	69	1.00

Luminaire Location Summary 6				
Scene: Initial				
LumNo	Label	Z	Ht	LLF
39	BVP527 OUT T30 50K A35-NB +LO	30.25	66	1.00
40	BVP527 OUT T30 50K A35-NB +LO	29.7	66	1.00
41	BVP527 OUT T30 50K A35-NB +LO	30.25	70	1.00
42	BVP527 OUT T30 50K A35-NB +LO	29.7	70	1.00
43	BVP527 OUT T30 50K A35-NB +LO	30.25	69	1.00
44	BVP527 OUT T30 50K A35-NB +LO	29.7	69	1.00
45	BVP527 OUT T30 50K A35-NB +LO	30.25	69	1.00
46	BVP527 OUT T30 50K A35-NB +LO	29.7	69	1.00
47	BVP527 OUT T30 50K A35-NB +LO	29.7	71	1.00
48	BVP527 OUT T30 50K A35-NB +LO	30.25	71	1.00
49	BVP527 OUT T30 50K A35-NB +LO	29.7	66	1.00
50	BVP527 OUT T30 50K A35-NB +LO	30.25	66	1.00

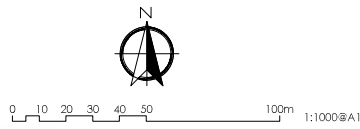
**Obtrusive Light - Compliance Report**  
 AS/NZS 4022:2016 Medium-Disturbance Non-Curfew L1  
 Filename: 18076-07-A John Fisher Park\_LA-5 - Copy - revised 200225  
 25/02/2020 4:02:11 PM

**Illuminance**  
 Maximum Allowable Value: 10 Lux  
 Calculations Treated (20):

Calculation Label	Test Results	Max. Illum.
ObtrusiveLight_Site_Surrounds_0m_III_Seg1	PASS	0.3
ObtrusiveLight_Site_Surrounds_0m_III_Seg2	PASS	0.1
ObtrusiveLight_Site_Surrounds_0m_III_Seg3	PASS	0.1
ObtrusiveLight_Site_Surrounds_0m_III_Seg4	PASS	0.3
ObtrusiveLight_Site_Surrounds_0m_III_Seg5	PASS	0.5
ObtrusiveLight_Site_Surrounds_0m_III_Seg6	FAIL	29.9
ObtrusiveLight_Site_Surrounds_0m_III_Seg7	FAIL	36.6
ObtrusiveLight_Site_Surrounds_0m_III_Seg8	FAIL	39.6
ObtrusiveLight_Site_Surrounds_0m_III_Seg9	PASS	0.2
ObtrusiveLight_Site_Surrounds_0m_III_Seg10	PASS	0.2
ObtrusiveLight_Site_Surrounds_10_III_Seg1	PASS	0.1
ObtrusiveLight_Site_Surrounds_10_III_Seg2	PASS	0.2
ObtrusiveLight_Site_Surrounds_10_III_Seg3	PASS	0.1
ObtrusiveLight_Site_Surrounds_10_III_Seg4	PASS	0.2
ObtrusiveLight_Site_Surrounds_10_III_Seg5	PASS	0.4
ObtrusiveLight_Site_Surrounds_10_III_Seg6	PASS	3.9
ObtrusiveLight_Site_Surrounds_10_III_Seg7	PASS	6.5
ObtrusiveLight_Site_Surrounds_10_III_Seg8	PASS	6.8
ObtrusiveLight_Site_Surrounds_10_III_Seg9	PASS	1.1
ObtrusiveLight_Site_Surrounds_10_III_Seg10	PASS	0.2

Calculation Summary				
Project LA-5 - Obtrusive Surrounds				
Scene: Initial				
Label	Units	Avg	Max	
ObtrusiveLight_Site_Surrounds_0m_III_Seg1	Lux	0	0.3	
ObtrusiveLight_Site_Surrounds_0m_III_Seg2	Lux	0	0.2	
ObtrusiveLight_Site_Surrounds_0m_III_Seg3	Lux	0	0.1	
ObtrusiveLight_Site_Surrounds_0m_III_Seg4	Lux	0	0.3	
ObtrusiveLight_Site_Surrounds_0m_III_Seg5	Lux	0	0.5	
ObtrusiveLight_Site_Surrounds_0m_III_Seg6	Lux	3	29.9	
ObtrusiveLight_Site_Surrounds_0m_III_Seg7	Lux	3	36.6	
ObtrusiveLight_Site_Surrounds_0m_III_Seg8	Lux	3	39.6	
ObtrusiveLight_Site_Surrounds_0m_III_Seg9	Lux	0	0.2	
ObtrusiveLight_Site_Surrounds_0m_III_Seg10	Lux	0	0.2	
ObtrusiveLight_Site_Surrounds_10_III_Seg1	Lux	0	0.1	
ObtrusiveLight_Site_Surrounds_10_III_Seg2	Lux	0	0.1	
ObtrusiveLight_Site_Surrounds_10_III_Seg3	Lux	0	0.1	
ObtrusiveLight_Site_Surrounds_10_III_Seg4	Lux	0	0.2	
ObtrusiveLight_Site_Surrounds_10_III_Seg5	Lux	0	0.4	
ObtrusiveLight_Site_Surrounds_10_III_Seg6	Lux	0	3.9	
ObtrusiveLight_Site_Surrounds_10_III_Seg7	Lux	1	6.5	
ObtrusiveLight_Site_Surrounds_10_III_Seg8	Lux	1	6.8	
ObtrusiveLight_Site_Surrounds_10_III_Seg9	Lux	0	1.1	
ObtrusiveLight_Site_Surrounds_10_III_Seg10	Lux	0	0.1	

Issue	Amendment	Date
P1	PRELIMINARY ISSUE	25-09-19
P2	PRELIMINARY ISSUE	01-11-19
P3	PRELIMINARY ISSUE	27-02-20



- Notes:**
- Drawings are based on site plan, converted PDF from APEX lighting design for pole locations, and aerial imagery. Locations are indicative only.
  - Vertical illuminance calculation grid heights: 1.5 - 30m.
  - A light loss factor of 1.0 is used to show initial light values.
  - Floodlight reference I(θ) is noted as 'I(θ)', Subtract 30° from I(θ) value to get the I(θ) of the visor.

Lead Consultant  
 BBF TOWN PLANNERS  
 Client  
 NBC

Lighting, Art & Science  
 Lighting Consultants Electrical Engineers  
 Level 1, 41 Hume St, Cross Street NSW 2065  
 p: +61 2 9436 0995 e: mail@lasands.com.au

Project NBC SPORTSFIELDS  
 JOHN FISHER PARK, MANLY VALE  
 Drawing OBTRUSIVE LIGHTING ASSESSMENT  
 SURROUNDS CALCULATIONS  
 Drawn CVZ Date SEP 2019 Scale 1:1000@A1  
 Approved RM  
 Project No Drawing No  
 L160P CL-03 SUR P3