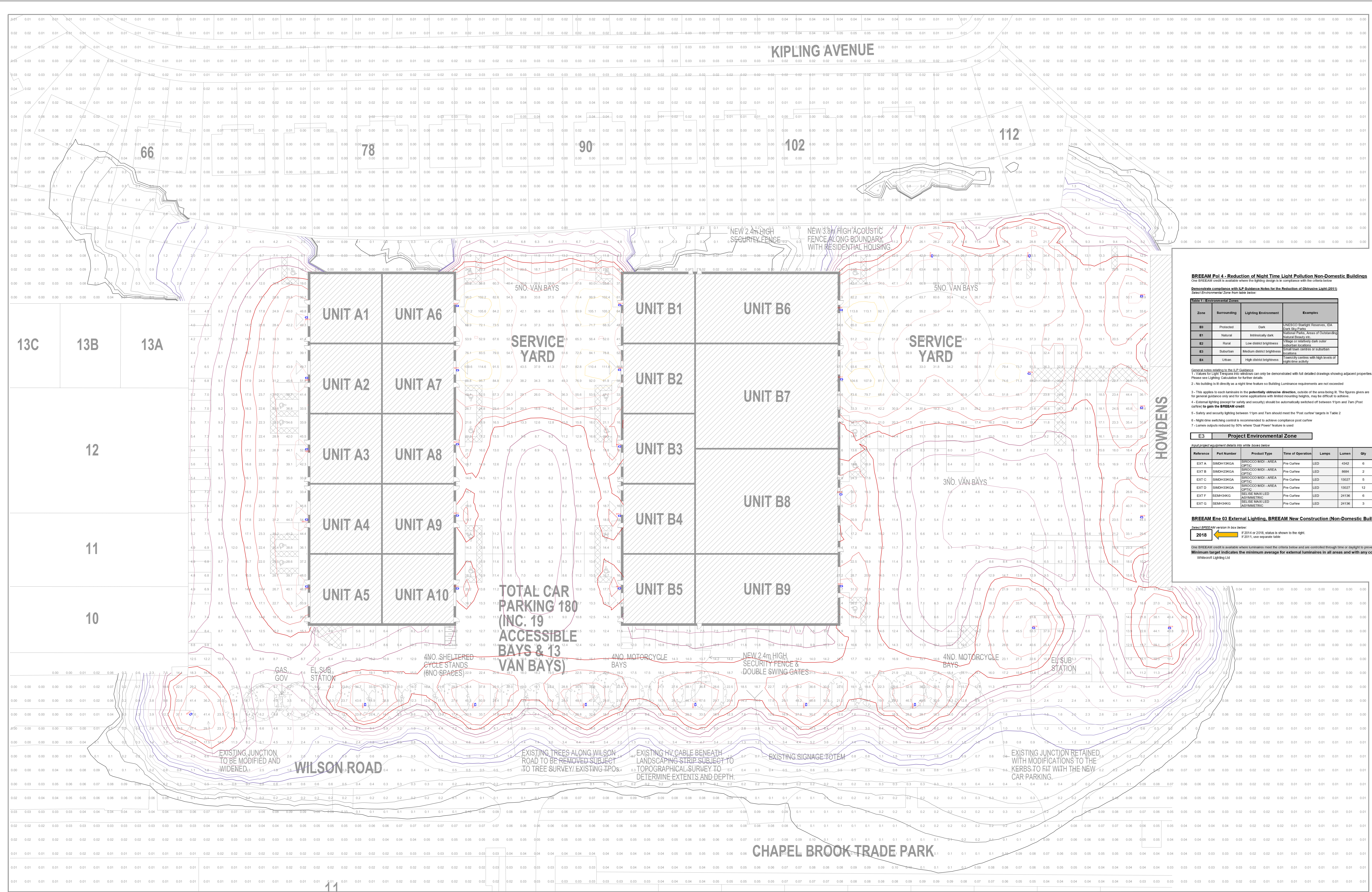




ISOLINE LEGEND

100	
75	
50	
30	
20	
15	
10	
7.5	
5	
2	
1.5	
1	
0.75	
0.5	
0.3	

CDM 2015 - Designers Risk Assessment

The following information is provided in accordance with Regulation 9 of the Construction (Design Management) Regulations 2015:

- No unusual or significant risks have been identified.
- Installation of electrical services to lighting, contractor to prepare appropriate Risk assessment and method statements to establish safe method of works.
- Installation of lighting may involve working at height, contractor to prepare appropriate Risk assessment and method statements to establish safe method of works.
- Product specific Installation instructions should be adhered to, in order to ensure compliance with the requirements of BS EN 60598 with regards to electrical and mechanical safety of the luminaire.
- Refer to the Principal Designer for any project specific Health & Safety information.

GENERAL NOTES:

- Do not scale from this drawing.
- All dimensions are in millimetres unless otherwise noted.
- All dimensions are to be confirmed.
- This drawing does not necessarily contain all the required information required to communicate the overall design intent or construction detail - therefore drawings should be read in conjunction with all other relevant documentation and specifications.
- Any apparent errors or differences shall be brought to the attention of Whitcroft Lighting as soon as practicable.

BREEM Pol 4 - Reduction of Night Time Light Pollution Non-Domestic Buildings

One BREEM credit is available when the lighting design is in compliance with the following:

Demstrate compliance with 4.2 Guidance Notes for the Reduction of Obtrusive Light (EN12467)

Select Environmental Zone from table below:

Table 1 - Environmental Zones		Lighting Environment		Examples	
Zone	Burrounding	Lighting Environment			
E0	Protected	Dark		MARCO Straight Horizons, CA	
E1	Natural	Intensely dark		Natural Parks, Areas of Outstanding	
E2	Rural	Low distant brightness		Natural Beauty etc	
E3	Suburban	Medium distant brightness		Highly residential dark order	
E4	Urban	High distant brightness		Urban dark centres or suburban	

General notes relating to the 4.2 Guidance

1- Values for Light Targets in this section can only be demonstrated with full detailed drawings showing adjacent properties. Please see Lighting Calculations for further details.

2- No building is lit directly as a right time feature so Building Luminaire requirements are not exceeded

3- This applies to each luminaire in the potentially obtrusive direction, outside of the area being lit. The figures given are for general guidance and for some applications with limited mounting heights, may be difficult to achieve.

4- External lighting except for safety and security should be automatically switched off between 11pm and 7am (Post sunset to pre sunrise)

5- Safety and security lighting between 11pm and 7am should meet the 'Post Curfew' targets in Table 2 and 3

6- Night-time switching control is recommended to achieve compliance post curfew

7- Lumens outputs reduced by 50% where 'Dual Power' feature is used

E3 Project Environmental Zone

Input project equipment details into white house below:

Reference	Part Number	Product Type	Time of Operation	Lamps	Lumen	Qty	Light Output Ratio (% C0)	Upward Light Ratio (% U0)	Total Upward Lumen	Total available lumens	Max. source intensity (cd/1000 ft²)	Max. source intensity (cd/1000 ft²) Pre Curfew	Max. source intensity (cd/1000 ft²) Post Curfew	Circuit Watts	Total Watts
EXT A	SIMDH13K1A	SIROCCO M101 - AREA OPTIC	Pre Curfew	LED	4302	6	100.00%	0.00%	0.0	26032.0	384	1.711		33.0	198.0
EXT B	SIMDH13K2A	SIROCCO M101 - AREA OPTIC	Pre Curfew	LED	8684	2	100.00%	0.00%	0.0	17888.0	384	3.421		67.0	134.0
EXT C	SIMDH13K3A	SIROCCO M101 - AREA OPTIC	Pre Curfew	LED	13027	5	100.00%	0.00%	0.0	65136.0	387	5.172		100.0	500.0
EXT D	SIMDH13K4A	SIROCCO M101 - AREA OPTIC	Pre Curfew	LED	13027	12	100.00%	0.00%	0.0	156324.0	387	5.172		100.0	1200.0
EXT E	SIMDH13K5A	SIROCCO M101 - AREA OPTIC	Pre Curfew	LED	24136	3	100.00%	0.00%	0.0	72408.0	882	21.288		270.0	1620.0
EXT F	SIMDH13K6A	SIROCCO M101 - AREA OPTIC	Pre Curfew	LED	24136	6	100.00%	0.00%	0.0	144816.0	882	21.288		270.0	3192.0
EXT G	SIMDH13K7A	SIROCCO M101 - AREA OPTIC	Pre Curfew	LED	24136	3	100.00%	0.00%	0.0	72408.0	882	21.288		270.0	1620.0
										3	432132				

BREEM Ene 03 External Lighting, BREEM New Construction (Non-Domestic Buildings)

Input project equipment details into white house below:

2018

2014 or 2018, status is shown to the right.

2011, use separate table.

One BREEM credit is available when luminaires meet the criteria below and are controlled through time or daylight to prevent operation during daytime hours.

Minimum target indicates the minimum average for external luminaires in all areas and with any colour rendition.

Whitcroft Lighting Ltd

Time LUX (lx)

2018

Luminaire lumens per sqm with LUX

Target

Project

PASS/FAIL

2018

2014 or 2018, status is shown to the right.

2011, use separate table.

One BREEM credit is available when luminaires meet the criteria below and are controlled through time or daylight to prevent operation during daytime hours.

Minimum target indicates the minimum average for external luminaires in all areas and with any colour rendition.

Whitcroft Lighting Ltd

Time LUX (lx)

2018

Luminaire lumens per sqm with LUX

Target

Project

PASS/FAIL

2018

2014 or 2018, status is shown to the right.

2011, use separate table.

One BREEM credit is available when luminaires meet the criteria below and are controlled through time or daylight to prevent operation during daytime hours.

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Whitcroft Lighting Ltd

Time LUX (lx)

2018

Luminaire lumens per sqm with LUX

Target

Project

PASS/FAIL

2018

2014 or 2018, status is shown to the right.

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Whitcroft Lighting Ltd

Time LUX (lx)

2018

Luminaire lumens per sqm with LUX

Target

Project

PASS/FAIL

2018

2014 or 2018, status is shown to the right.

2011, use separate table.

One BREEM credit is available when luminaires meet the criteria below and are controlled through time or daylight to prevent operation during daytime hours.

Minimum target indicates the minimum average for external luminaires in all areas and with any colour rendition.

Whitcroft Lighting Ltd

AREA	Avg	Max	Min	Min/Avg
CAR PARK 1	19.3lx	53.7lx	4.4lx	0.23Uo
CAR PARK 2	14.4lx	62.4lx	5.4lx	0.37Uo
CAR PARK 3	15.9lx	54.7lx	4.4lx	0.28Uo
CAR PARK 4	18.9lx	54.6lx	8.2lx	0.43Uo
CAR PARK 5	19.3lx	64.92lx	4.7lx	0.24Uo
CAR PARK 6	12.7lx	61.8lx	3.7lx	0.29Uo
SERVICE YARD 1	67.0lx	123lx	37.0lx	0.54Uo
SERVICE YARD 2	50.0lx	117lx	22.0lx	0.43Uo
VAN BAYS (1)	25.9lx	44.2lx	15.1lx	0.58Uo
VAN BAYS (2)	40.6lx	74.4lx	16.0lx	0.40Uo

Ref	Description	Lumen Output / Wattage
EXT A	SIROCCO M101 AREA OPTIC, BUILDING MOUNTED AT 6.5M. 3000K	4342lm / 33W
EXT B	SIROCCO M101 AREA OPTIC, BUILDING MOUNTED AT 6.5M. 3000K	8684lm / 67W
EXT C	SIROCCO M101 AREA OPTIC, BUILDING MOUNTED AT 6.5M. 3000K	13027lm / 100W
EXT D	SIROCCO M101 AREA OPTIC, COLUMN MOUNTED AT 6M. 3000K	13027lm / 100W
EXT E	SELISE MAXI FLOOD OPTIC, BUILDING MOUNTED AT 6.5M. 3000K	24136lm / 270W
EXT F	SELISE MAXI FLOOD OPTIC, COLUMN MOUNTED AT 6M. 3000K	24136lm / 270W

04	CALCULATIONS UPDATED TO REDUCE LIGHT SPILL ONTO RESIDENTIAL PROPERTIES. REF G LUMINAIRE TITLED TO 150G.	11/04/2023	WLL
03	Luminaire (SEAM-CHKG) position moved as per request from DSRP (03/03/2023)	03/03/2023	WLL
02	HEIGHT OF ACOUSTIC BOUNDARY FENCE AMENDED TO 3.8M AS PER DETAILS FROM DESR	12/07/2022	AW
01	LEGEND AND LUMINAIRE SYMBOLS ADDED	14/06/2022	AW
00	INITIAL PROPOSAL	06/06/2022	AW
Rev	Description	Date	By
01	Whitcroft Lighting Ltd Burlington Street Aldershot, Hampshire GU11 1AA United Kingdom T: +44 (0)161 330 8811 F: +44 (0)161 331 5655 E: email@whitcroftlighting.com		
Project Name	WILSON ROAD INDUSTRIAL ESTATE		
Drawing Name	PROPOSED CAR PARK AND SERVICE ROAD LIGHTING LAYOUT		
Drawn By	AW	Checked By	MF
Date	06/06/2022	Scale	1:300 @ A0
Drawing No.	28052 - DWG - XX - 00001	Revision	04
Project No.	Type	File Loc.	Sequence