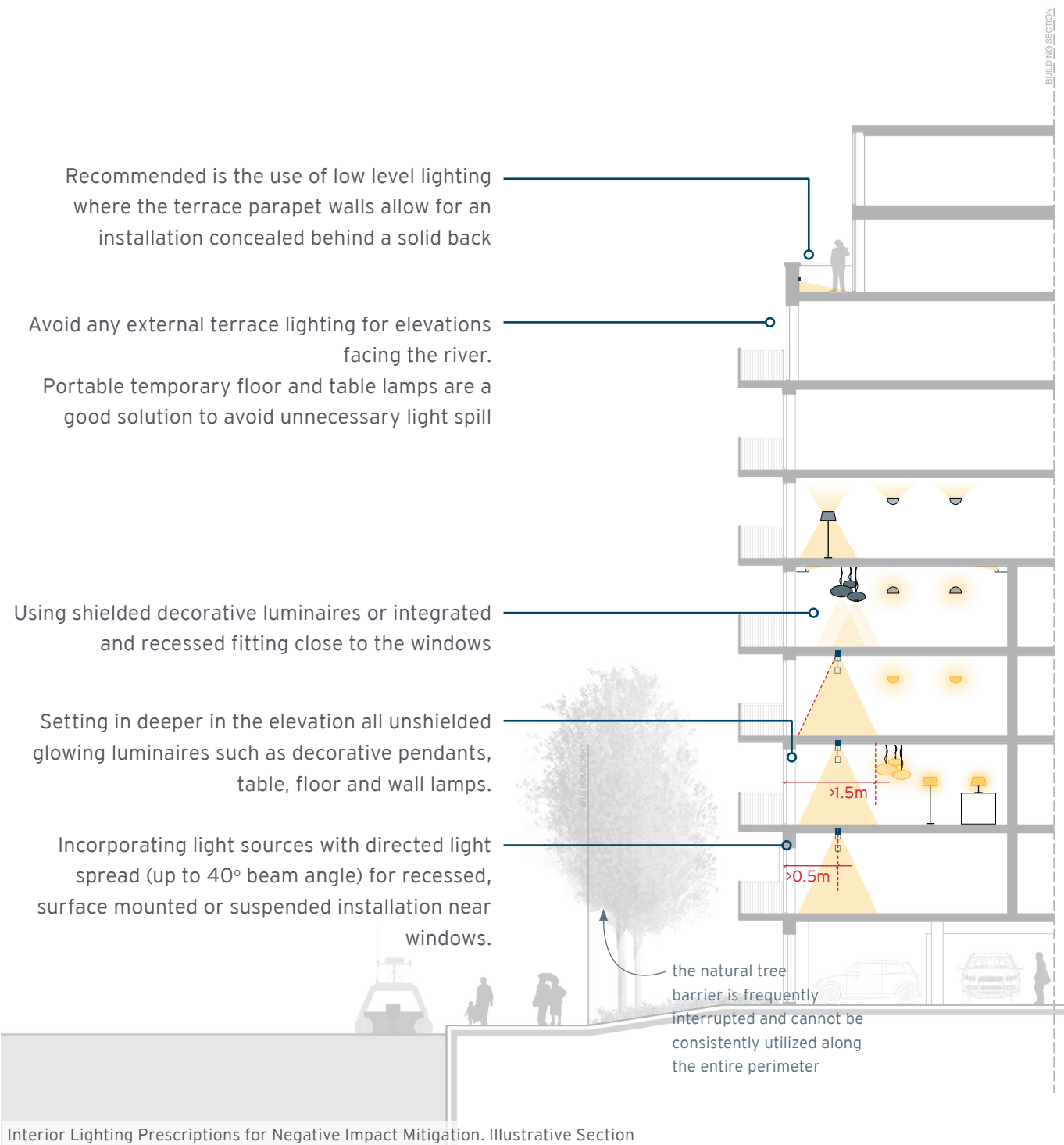


5. Reducing the Adverse Impact upon Wildlife

5.3 Lighting Calculation - Interior Lighting



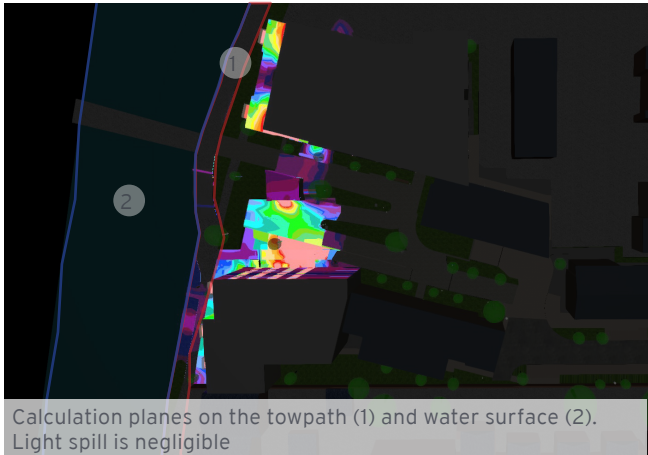
The interior lighting within the buildings along the river bank might have a negative impact upon the wildlife unless mitigated.

The offset of the buildings provided by the threshold Zone C as well as the trees along that ban would help reduce the potential impact of the interior lighting however further measures are incorporated:

- No unshielded lighting or luminaires aimed outwards beyond the surface limits of the enclosed spaces should be installed on the balconies and terraces;
- Overall any permanent exterior lighting to elevations facing the river is strongly discouraged.
- General interior lighting should comprise of good quality light sources with controlled light beam distribution near the windows.

Following the above prescriptions would ensure the successful mitigation of light spill into the sensitive river channel area.

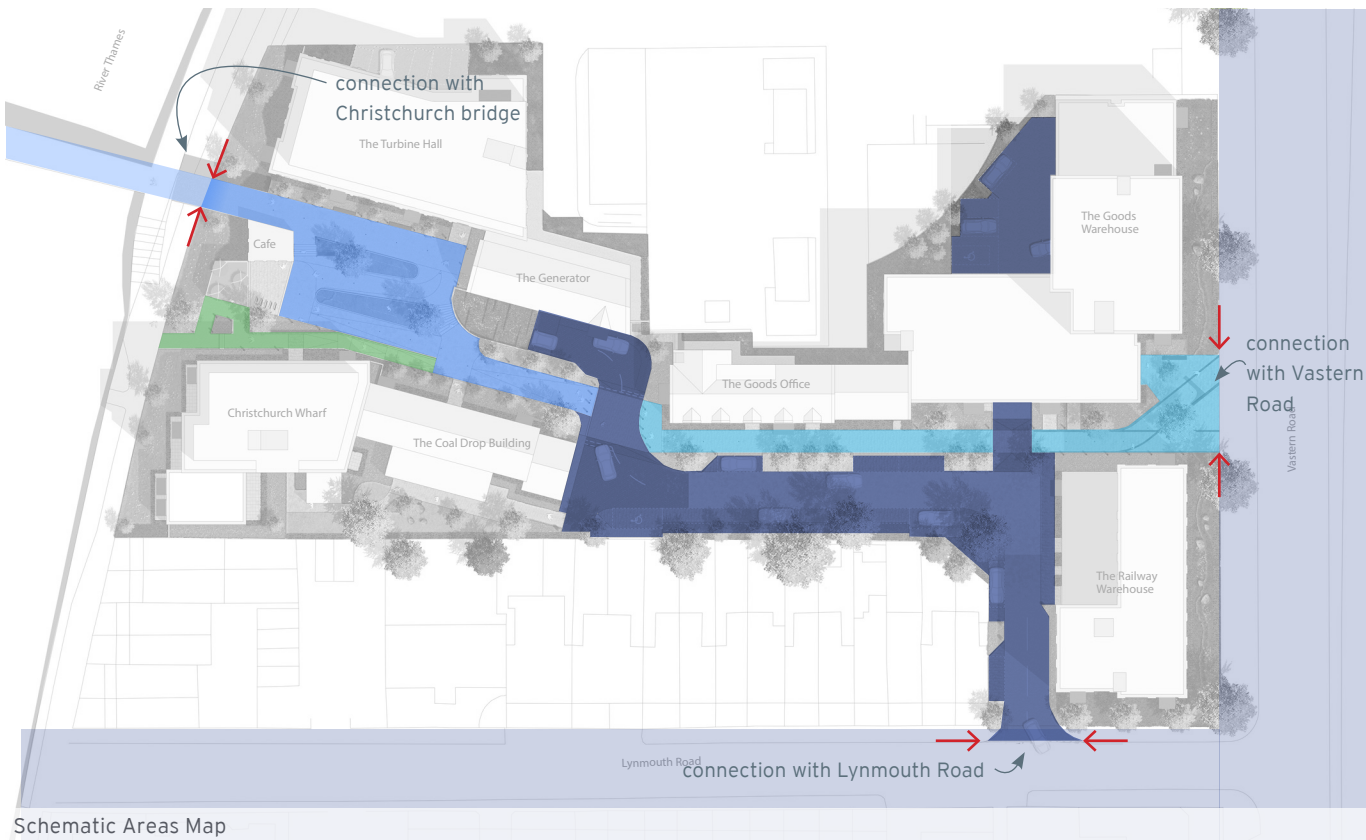
A lighting calculation simulating interior lighting strictly following the above prescriptions was performed for the riverfront buildings. The results show negligible light spill to the towpath surface and water surface. Therefore these results are not incorporated into the isolux layout exports.



Calculation plane results	
Towpath (Perpendicular illuminance)	
Average	0.013 lx
Min	0.00 lx
Max	0.15 lx
Water (Perpendicular illuminance)	
Average	0.013 lx
Min	0.00 lx
Max	0.08 lx

6. Safety and Security

6.1 Considerations



Area Name	Lighting Situation	Traffic Flow*	Ambient Illum.*	Light Class	E _{avg} (lux)	E _{min} (lux)
Arrival square, pedestrian and bicycle access pathways	C1	high	medium	S3/P3	7.5	1.5
Pedestrian and bicycle access: ramps and stairways	as per Table 3 of BS 5489-1 Annex A				20	10
Vehicular access streets	D3	normal	medium	S3/P3	7.5	1.5
Pedestrian only pathways	E1	normal	low	S5/P5	3.0	0.6

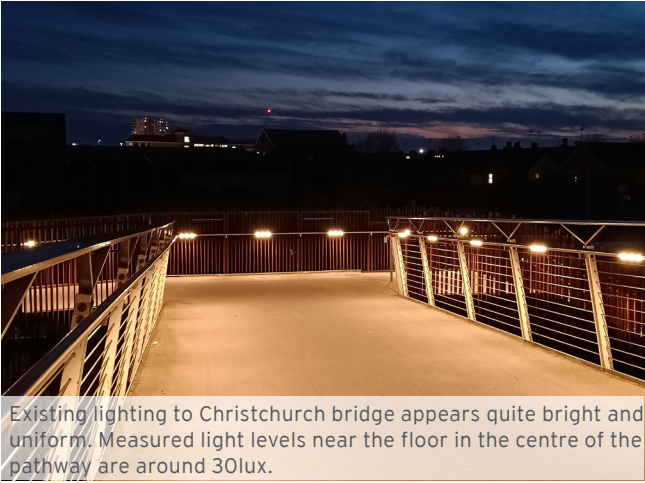
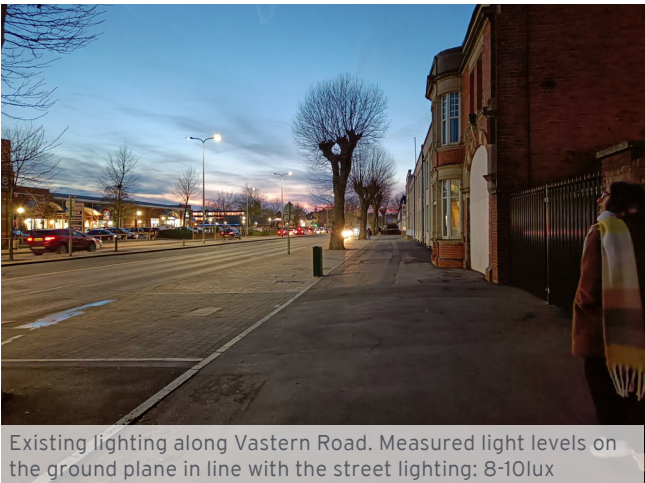
Before curfew the lighting design aims to activate the space and create an attractive and pleasant environment for the residents and guests of the development. However, to comply with the aforementioned post-curfew considerations the lighting after a predetermined curfew hour will be reduced.

To ensure a safe and secure transition and use of the publicly accessible areas the post-curfew lighting scheme has been developed to comply with the prescriptions of BS EN 13201 and BS 5489-1.

The following assumptions have been made when determining the relevant lighting situations and classes:

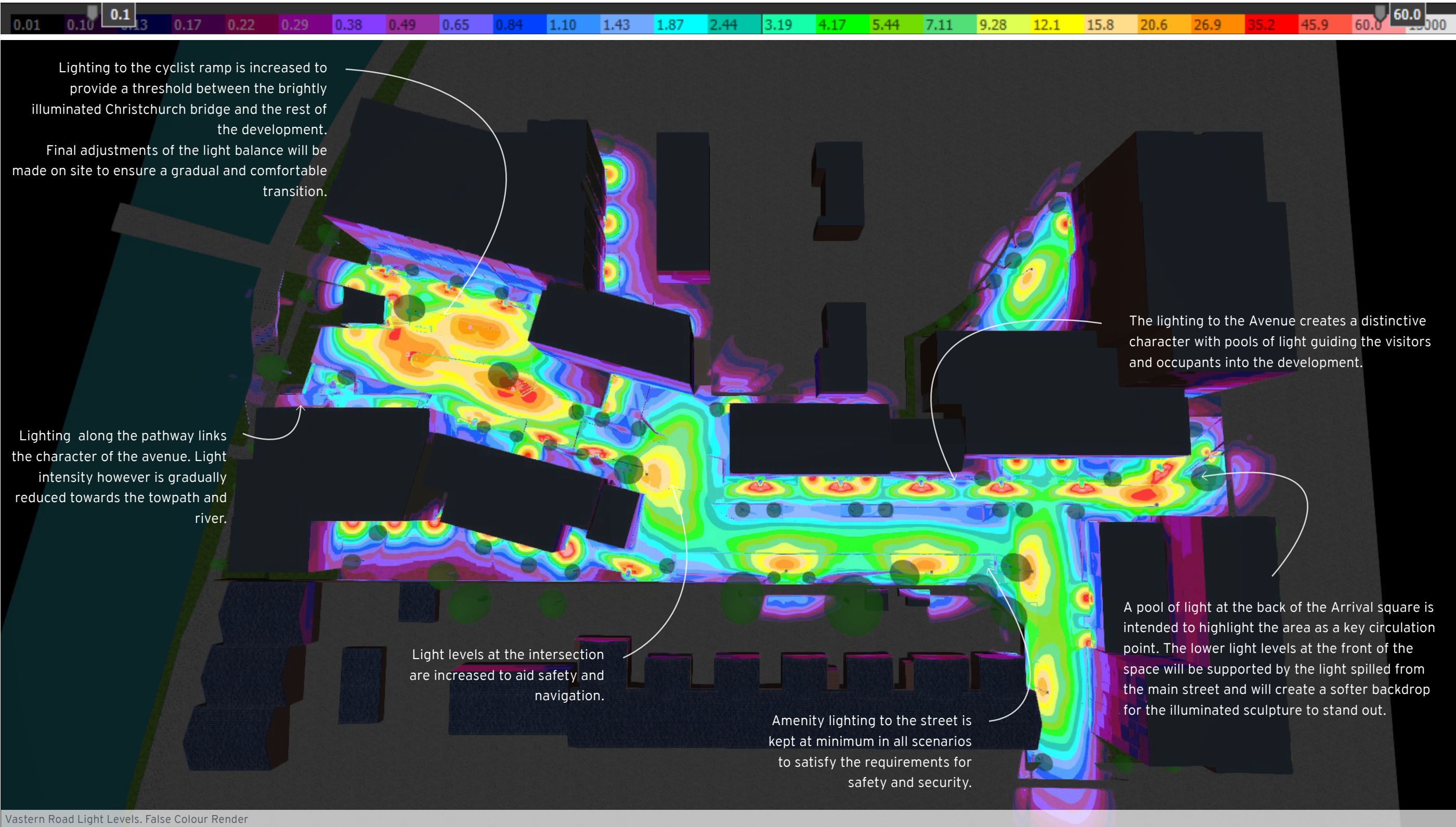
- Normal crime risk, facial recognition - necessary, normal difficulty of navigational task.
- Traffic calming measures are not taken into consideration.
- Ambient illumination and traffic flow marked with star(*) are assumed.

In addition light levels measured on the existing Christchurch bridge, along Vastern Road and Lynmouth Road are taken into consideration and a gradual transition will be incorporated at the new connection of the development with the existing infrastructure.



6. Safety and Security

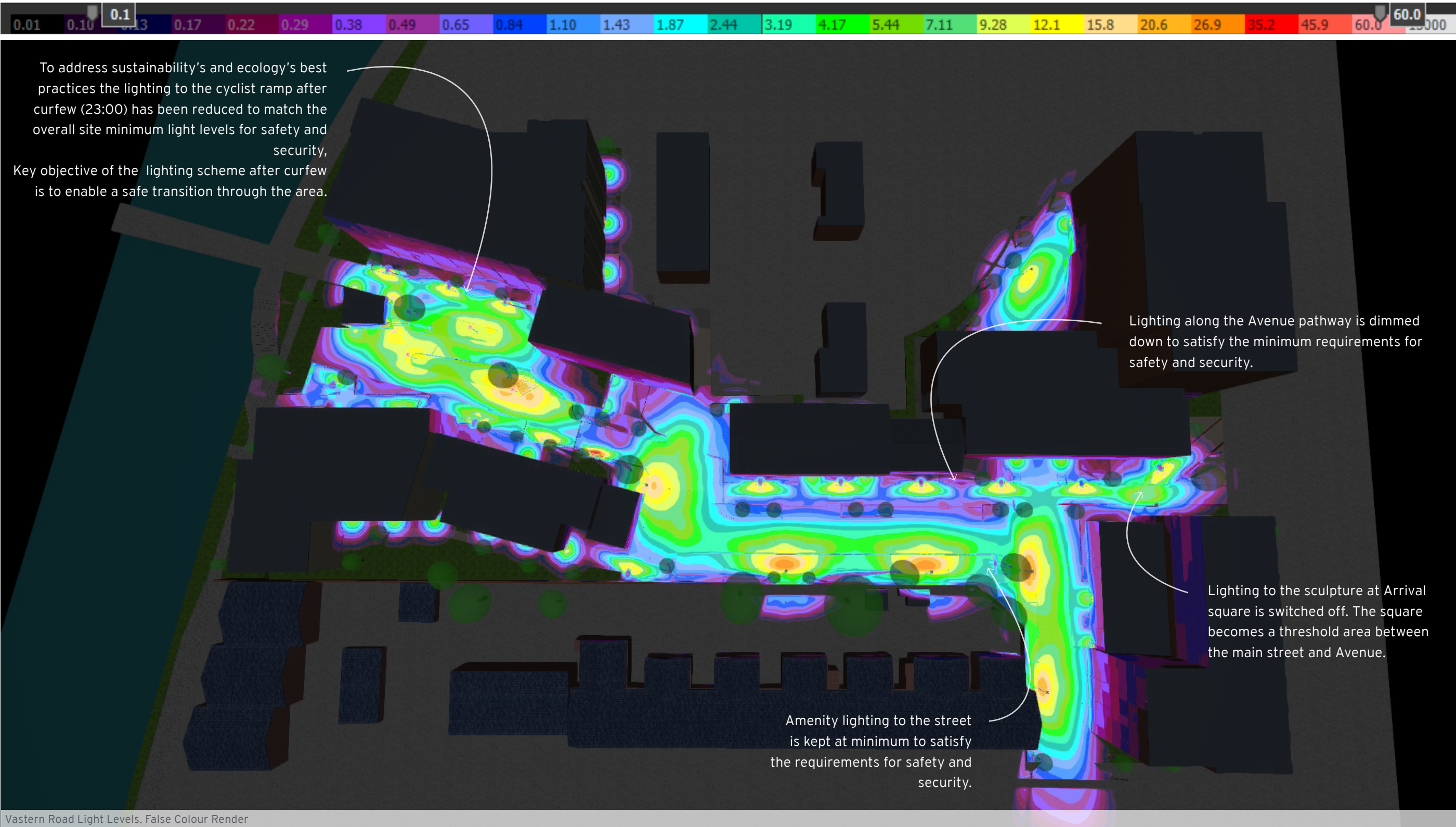
6.2 Lighting Calculation - Pre-curfew



* For detailed isolux lines illustrating the calculated light levels please refer to the Appendices.

6. Safety and Security

6.3 Lighting Calculation - Post Curfew



* For detailed isolux lines illustrating the calculated light levels please refer to the Appendices.

7. Appendices

LB_1108_LL_01 - Lighting Layout. Pre-curfew
LB_1108_LL_02 - Lighting Layout. Post Curfew

* Page intentionally left blank.

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