City of London Lighting Supplementary Planning Document (SPD) Consultation Statement JULY 2023



INTRODUCTION

 The City of London Corporation adopted a Lighting Strategy 2018 which included a recommendation to develop planning guidance for lighting. The City Corporation has resolved to develop the Lighting Supplementary Planning Document ('SPD') to further support the National Planning Policy Framework 2021, the London Plan 2021, and the draft City Plan 2040.

EARLY CONSULTATION ON THE LIGHTING SPD

Draft Local Plan consultation

2. The City Corporation is preparing a new Local Plan, the City Plan 2040. The City Corporation consulted on a full draft of City Plan 2036 between 12 November 2018 and 28 February 2019. During the consultation, comments were received for the impact of new development, including for light spill and light pollution. This draft City Plan is at an advanced stage of preparation and will be subject to further ('regulation 19') consultation in early 2024.

City Corporation committee consultation

- 3. The need for the Lighting SPD and progress in delivering the SPD was considered in public meetings of the City Corporation's Port Health and Environmental Services Committee on 10 October 2022 and the Planning & Transportation Committee on 1 November 2022. At these meetings, elected Members provided support for the need for the provisions in the SPD and the need for effective guidance to address artificial lighting associated with development in the City.
- 4. The Planning and Transportation Committee approved the draft Lighting SPD for public consultation on 1 November 2022.

CONSULTATION ON DRAFT LIGHTING SUPPLEMENTARY PLANNING DOCUMENT

- 5. Consultation on the draft Lighting SPD has been undertaken in accordance with the requirements of the City Corporation's Statement of Community Involvement (2023) and the Town and Country Planning (Local Planning) (England) Regulations 2012. Consultation documentation was sent to:
 - adjoining local planning authorities;

- the Mayor of London;
- City residents and City businesses;
- those voluntary bodies or business representative bodies that the City Corporation consider appropriate;
- lighting experts and designers; and
- other groups and bodies on the City Corporation's City Plan database.
- 6. Consultation on the draft Lighting Supplementary Planning Document took place from 9 December 2021 until 17 February 2023. Consultation measures included:

Consultation Notification Emails

- 7. Emails were sent to consultees on the City Plan consultation database, including neighbouring boroughs, the Mayor of London, City businesses, developers and agents, and City residents.
- 8. The consultation was widely publicised in the press including a front page story in the Financial Times Weekend, and coverage in The Times, The Guardian, Evening Standard, Metro, BBC News, BBC Radio 4, BBC Radio London and over 130 other local, national and international outlets.
- 9. A total of 68 representations were received on the draft SPD. These representations and the City Corporation's officer responses are summarised and attached at Appendix 1.

Website

10. The draft Lighting SPD was published on the City Corporation's website.

Consultation events

- 11. Three events took place in total:
 - In-person public consultation event with a Lighting Walking Tour around key parts of the City;
 - A virtual public consultation event;
 - In-person industry professionals event.

RESPONSE TO CONSULTATION ON DRAFT LIGHTING SPD

- 12. The comments received have been summarised in Appendix 1.
- 13. In addition to individual representations from residents, representations were received from the following resident groups and include responses from:
 - Barbican Association;
 - Brandon Mews House Group;
 - Gilbert House Group Tenants Association;
 - Willoughby House Group, Barbican Estate.
- 14. A significant number of technical consultants and lighting designers responded to the consultation which has been summarised in the 'Lighting designers and technical consultants' section of Appendix 1.
- 15. An additional workshop was undertaken following the consultation period with lighting experts to further review the Technical Requirements section of the SPD.
- 16. To summarise, comments can be divided into the general themes below, although not an exhaustive list:
 - Technical requirements and assessment of impacts;
 - Residential amenity;
 - Biodiversity;
 - Heritage;
 - Safe and Inclusive design;
 - The Considerate Lighting Charter;
 - Implementing and enforcement of SPD, and other practical implications.
- 17. Changes were made to the SPD in response to the issues raised. These included significant amendments to: the Planning Process, Lighting Guidance, and the Technical Requirements sections, and to the Considerate Lighting Charter in Appendix 'A'.
- 18. In response to comments, amendments were made to all sections of the document. Most notably, the Technical Requirements section and tables 10 12 were amended to align more closely with established Institution of Lighting Professionals (ILP) Guidance. Specifically, the ILP measures for the light spill on the vertical plane of premises and 'Environmental Zones' have been adapted and included in the SPD. In order to protect amenity and to respond to the unique City context, the proposed levels and zones have been adapted from those included in the ILP guidance and are considered appropriate in the context.

Appendix 1: Summary of consultation comments and City Corporation Officer responses

Representations received from individuals including from City residents have been summarised below:

Summary of response

- I. <u>Impact of light pollution:</u> Significant impacts on health and wellbeing, including internal light spill, and impact of colour temperature. Developers must be required to consult residents.
- II. <u>Planning controls</u>: Enforcement is needed for light pollution; unnecessary lights should be switched off; should control the type of fixtures installed. Planning conditions should require details of reductions and systems to be fully operational before discharge. Westminster Council requires a professional to commission lighting systems.
- III. <u>Automated blinds</u>: Should be compulsory: to drop where buildings face residential; should be required from 7pm; including for existing buildings.
- IV. <u>Curfew times:</u> Proposed times are too late; should be 7 8pm where buildings face residential; and it depends on time of year. Definition of 'near' to residential needed. There should be no need for non-essential lighting to be turned on at all.

City of London Corporation Officer response

- I. The potential impact to health is referenced in paragraph 3.9. Text added at paragraph 2.2 stating applicants should consult the City of London Developer Engagement Guidance (2023) and should develop a Community Engagement Strategy.
- II. Planning conditions will require details, including for management, to be approved prior to lighting works and development must adhere to approved details. Whilst planning conditions will require details to be submitted for approval, the approval of fixtures will relate to external lighting only. Curfews are proposed for non-essential external lighting. The SPD recommends appropriate expertise is sought from the start and states a qualified professional may be required at paragraph 2.4.
- III. Blinds are one of a range of measures suggested, which could be automated or manually deployed. Applicants are required to consider sensitive receptors, including residential, when designing relevant development. At condition stage, applicants are required to submit operational details, and detail for the control methodology. The following has been added to 'Table 4': "Should clearly illustrate the impacts to sensitive receptors and mitigation implemented to reduce this."
- IV. The proposed curfew times reflect the need to balance the mix of uses in the City. The SPD states that the City Environmental Zone should be agreed with an officer, which would include considering nearby sensitive receptors in each case. The light levels set out in the technical requirements both before and after the curfew times would minimise the impact of artificial lighting on sensitive receptors. Lighting in the City needs to respond to the mix of uses and non-essential light and essential light should be responsibly used.

- V. <u>Construction lighting</u>: Should have requirement to turn off or reduce construction lighting out of hours and windows should be blocked out during fitout.
- VI. <u>Safety</u>: Must ensure City is safe and accessible particularly for certain roads and alleyways, and with no contrasting areas of darkness. Lights need to be on very late to ensure the safety of those returning from work late.
- VII. <u>Control systems</u>: Issues experienced with systems in existing buildings when not used or working properly, triggered by late workers, security etc. Should be properly maintained.
- VIII. <u>Street lighting:</u> There is waste from City lighting. Motion sensor activated street lighting should be introduced e.g. Podium level at Barbican.
- IX. <u>Social and Artistic lighting</u>: Schemes will help the overall look and feel of the City and light should be encouraged to promote gatherings.
- X. <u>Definitions:</u> clearer definitions needed for "their sources". How are "distant", "mid" and "near" defined?
- XI. <u>Light spill distance</u>: Lighting more than 2 metres from a window will cause light spill especially when viewed from height; issue of glare is just as significant.
- XII. <u>Applicable development</u>: Should apply to all existing developments including retail.

- V. Text has been added to paragraph 3.17(d): "...turn lights off when not needed...". A comprehensive Appendix 'C' has been provided with guidance for construction lighting, and the following has been added to 'recommendations': "Consideration should also be given to blocking windows to reduce obtrusive light during construction, especially when near to residential."
- VI. Safety and accessibility is a key outcome for the SPD including guidance within the 'Safe and inclusive Design' and 'Public Realm' sections.

 Amended to highlight the impact of pooling of light and contrast in paragraph 3.12 for accessibility, inclusion and for safety and security.
- VII. Table 13 sets out requirements for Operation and Maintenance, including for control systems.
- VIII. Street lighting has been informed by the Lighting Strategy (2018) and is carefully managed by the Street Lighting Team; clarification has been added in paragraph 1.11. The SPD applies to new development and lighting for safety is not subject to the curfew restrictions as stated in paragraph 4.13. The Barbican lighting is managed by the Barbican Estate.
- IX. Paragraph 3.10(f) acknowledges that small-scale creative lighting has the potential to create welcoming routes and improve sense of place and should be employed where appropriate. Paragraph 3.14 welcomes artistic lighting where appropriate including for events.
- X. This relates to the connections to light fixtures. In reference to views, this is determined on a site-specific basis considering specific sensitive receptors.
- XI. The SPD has reduced this to 1.5 metres and this does ultimately depend on the viewing angle however this measure it aimed at reducing obtrusive light. Guidance is provided for issue of glare, and measures to address this, including in paragraph 3.9(b).
- XII. The SPD can only apply to new development that requires planning permission, which may include proposals for retail development (although this may also be permitted development) and proposals for new or altered shopfronts. The Charter applies to existing buildings and is a voluntary commitment.

- XIII. <u>Horizontal measure:</u> Sideways and horizontal light also leads to sprawl. Developers should consider where all light emitted will fall. Direct light that hits other properties and roads should be minimised /screened. Surfaces should be selected so that the glow is minimised if appropriate.
- XIV. <u>General energy waste:</u> Should apply to waste energy for heating and cooling too.
- XV. <u>Biodiversity:</u> Should apply not near to green sites and should specify to use lower colour temperature lighting as harmful to wildlife.
- XVI. <u>Public realm</u>: Low white LED should be used to minimise blue light risks; "invisible" infrared lighting and sensitive cameras could/should be used to minimise the need for excessive visible illumination.
- XVII. <u>Skyline:</u> Lights should be dimmed not turned off because London is recognisable.
- XVIII. Glare: State should be avoided as it can affect visibility and make areas more dangerous e.g. traffic.
- XIX. Appendix B: Provide web links.
- XX. <u>Corporation boundary</u>: Queried if applies to the land the City Corporation owns outside the City.
- XXI. <u>Heritage</u>: Query how city heritage assets would be evaluated as to whether would warrant illumination.

- XIII. The Technical requirements section has been amended to more closely reflect existing ILP standards and includes illuminance on nearby premises measured on the vertical ('Table 10') and for surface illuminance on premises ('Table 11').
- XIV. The SPD applies to lighting only.
- XV. The following has been added to 'Biodiversity': for 'e' "...that would affect biodiversity..."; and "Developments should consider using lower Correlated Colour Temperature (CCT) for sensitive sites such as churchyards, and by the river in consultation with ecologists. Such requirements must be carefully balanced with any requirements for safety and security."
- XVI. The SPD encourages the careful consideration of luminaires to sensitively light development, where different light sources may be appropriate in different cases. This may include cases for infrared lighting and cameras however the latter is outside the scope of the SPD.
- XVII. The curfews included ('Table 9') apply to external lighting, except that specifically required for accessibility, safety and crime prevention. It is not considered the recognisable skyline will be adversely affected although the SPD strongly encourages non-essential light to be turned off when not in use.
- XVIII. Reference to road safety in relating to obtrusive light has been added to paragraph 3.7(f).
- XIX. Web links are not used as these are external sources.
- XX. The SPD applies to new development on land within the Square Mile only (the 'Local Planning Authority').
- XXI. Paragraph 3.11(b) states: "The lighting of heritage assets should be undertaken with great care, and be compatible with their conservation and enhancement, but not all heritage assets should be lit, and this will require strong justification." This will be considered alongside officers to determine where illumination of heritage assets is appropriate.

- XXII. <u>Efficiency</u>: Table 6 calls for 70lm/w. Query whether this is in line with Part L and whether considering efficacy as an average of the whole installation.
- XXIII. <u>Light Trespass</u>: Strengthen wording on trespass.
- XXIV. Charter: Many PIRs are set to 40 minutes "on" after activation therefore with late workers, lights can be on through the night. Should state only install if will mostly be turned off at night due to less movement, and to set to the minimum setting. Should be funded and promoted to buildings neighbouring residential including the Barbican and Golden Lane estates. Should consider response to non-compliance. Queried when it will be launched, what publicity will be, and how success will be measured. SPD / Charter could set out the route for a member of the public to complain about a lighting nuisance, and what action the Corporation will take to enforce action. Should amend colour temperatures to 4000K or lower.
- XXII. 'Table 6' amended to state: "All exterior lighting equipment should achieve efficiencies in line with the requirements of the Building Regulations and/or the requirements of BREEAM, whichever shall be the lowest in terms of lumens per circuit watt."
- XXIII. The Glossary definition is considered sufficient.
- XXIV. It is considered this is addressed in the amended Charter: "1.2 Installing control systems such as passive infrared detectors (PIR) as part of a 'smart' lighting system designed in a way that minimises the amount of light used; 1.3. Embedding good lighting management practice in our facilities management teams and undertaking training for staff on how lighting systems should be operated"; and states: "Consulting neighbouring properties, particularly those who are most affected by our lighting, as part of the review. We will publish information about changes to our internal and external lighting and provide contact details". A strategy for promotion the Charter will be agreed in due course and how this will be promoted, implemented and funded will be considered. The Charter states cooler colour temperature should be avoided.

Representations submitted by / on behalf of organisations are summarised below:

Summary of comment

City of London Corporation Officer Response

Combined responses from lighting designers and technical consultants

- I. <u>Introduction</u>: Queried whether paragraph 1.7 relates just to night time artificial light, as day time can result in negative impacts.
- II. <u>Photographs:</u> Unclear which are good/ bad examples.
- III. <u>Inclusive Design:</u> Reference to regulation or best practice needed. Need more on lighting impacts on neurodiversity. Reference to warmer colour temperatures, especially for visually impaired and neurodiversity. See documents: PAS6463 and BS8300.
- IV. Planning conditions and enforcement: Should require sign off through planning to ensure installed scheme meets approved design. Officers do not have the resource to ensure they are met post construction, concerns about how will be enforced. One approach is for a condition that the lighting designer be available through the project and has responsibility to sign off the lighting installation upon completion, and any substitutions of equipment have been discussed and found acceptable and that the installation has been commissioned and operates as intended.
- V. <u>Implementing guidance</u>: Often tall towers have different lighting designers working on them, queried how could calculate from all lighting designs of a building. Following completion, queried how occupiers of floors would undertake calculation e.g. if an occupier of two floors refurbishes, including the lighting.

- I. The SPD applies to all artificial light and aims to address obtrusive light issues, although primarily relates to the lit environment at night. Added text in paragraph 1.7 to clarify.
- II. Clarification added to page 12.
- III. The following has been added to Appendix 'C': British Standards for Lighting (BS8300-1:2018; BS8300-2:2018), and Design for the mind Neurodiversity and the building environment Guide. PAS 6463:2022, The British Standards Institution. Reference to warmer light included in paragraph 3.12(c).
- IV. Additional sign off post-installation may be specifically required in some cases in sensitive contexts however is not currently proposed for all development as the potential impacts and any mitigation measures will be addressed earlier in the planning process. Developments will be required to adhere to approved details, and enforcement action will be taken if deemed appropriate.
- V. The SPD proposes a range of measures, including building design itself, to help address issues of obtrusive light. Developers would be expected to coordinate, as with other planning conditions, to ensure details are provided and requirements met. In addition, if approved, the developer would be required to adhere to the approved details and would be required to submit changes if needed.

- VI. <u>Consultation:</u> Undertake surveys of residents, workers and stakeholders to create an evidence base of perceptions of the existing lighting provision. Follow up studies with the community to assess the effectiveness of the design intervention and could be commissioned under Section 106 agreements.
- VII. <u>Baseline:</u> How does SPD address existing lighting.
- VIII. <u>Table 1</u>: Should include strategies for sustainability, ecology, circularity etc. and include budget costs. Stated this complex as RIBA stage 4 is not always a complete stage depending on the form of contract as a stage 4i may not be suitable detail to discharge a detailed planning condition.
- IX. <u>Table 3:</u> Comments on technical modelling.
- X. <u>Table 4:</u> Should add that any calculation used to determine obtrusive light and other such factors has to be for the installation under 'worse conditions' i.e. when it is new so no maintenance factor adjustment.
- XI. <u>Table 5</u>: Use of the word minimise is wrong, it accepts that it will occur, consider the use of "Mitigate the effects of ..."
- XII. Table 6 for Lifetime, upgrading and disposal: Should this be 'and' instead of 'and/or'. Upgrading is already a legal requirement. EPD / LCA and CIBSE TM65 are becoming common place in lighting and this details not just origin of product but Embodied Carbon through life cycle carbon stages A-D. A lighting specific version of TM65 is due to be released that gives every manufacturer the ability to self-declare the CO2e impacts of their products. This will become common practice to start using this information in specification criteria, the SPD does not mention. This section could also include comment on labelling of components for ease of replacement.
- XIII. <u>Table 6:</u> It is known there are bats etc., in the City, and statement should be included that light sources <CRI 80 should be considered.

- VI. Text added at paragraph 2.2 advising applicants to consult the City of London Developer Engagement Guidance (2023) including developing a Community Engagement Strategy. Follow up studies is not considered necessary at this stage and the applicants are expected to follow the detailed guidance in the SPD regarding assessment of existing context and identifying sensitive receptors. Existing buildings can sign up to the Charter to ensure these continue to consider impact of light, including on surrounding sensitive receptors.
- VII. Added "including existing light" into 'Table 2'.
- VIII. It is considered that this goes beyond the scope of the SPD, and the applicant is expected to consider these issues as part of the wider application. The point is noted regarding the complexity however the SPD broadly follows the RIBA Plan of Work.
- IX. This has been replaced with 'lighting strategy' and 'lighting concept' to reflect the detail required at this stage.
- X. Table 4(e) has been amended to include following: "Calculations used to determine obtrusive light should be for the installation i.e. when new with no maintenance factor adjustment."
- XI. Regarding obtrusive light, this has been amended to state "avoid obtrusive light...".
- XII. Amended to 'and' in Table 6. Circular economy and sustainability are considered throughout the SPD, and wider sustainability impacts would be considered as part of the wider application.
- XIII. 'Table 6' states exterior light sources should have a CRI of ≥80 to aid good recognition; this has been amended to include biodiversity. In addition, the following has been added at paragraph 3.8(m): "Developments should consider using lower Correlated Colour Temperature (CCT) for sensitive sites such as churchyards, and by the river in consultation with ecologists. Such requirements should be carefully balanced with any requirements for safety and security."

- XIV. <u>Table 7</u>: The angle of illumination limit depends on the type of lighting considered and the position of the fixtures. If these are below a bench perhaps the 45° is less important. Street and amenity should be excluded from light spill. For sky glow, this should include a requirement to provide calculations and demonstrate impacts. Equally if lighting designs should only be carried out by qualified / experienced people, calculations are common practice. The reference to "snoots and louvres" has been around for too long. For visual brightness, this should include individual luminaires too.
- XV. <u>Table 13</u>: For replacement of lighting equipment, a maintenance programme over a specified life of the installation (e.g. 25 years) should be planned out. i.e. what gets relaced first and how.
- <u>Technical requirements</u> (light spill) and District Brightness Zones: XVI. Concerns raised for the proposed measuring, targets and tables including to measure at 2m from the facade and clarification needed for these proposed measures and impacts including on safety. Should use the ILP guidance. Concerns levels in DBZs would be too onerous. A developer should be able to propose 'alternative target values' for the illuminance or luminance levels to be achieved around a proposal based on the situation and specific needs of each site with planning officer feedback on these. When taller buildings consider the background against which they are viewed, this can vary depending upon viewpoint, they may from one aspect be viewed with other offices as the background but also from with the natural dark sky as the background, an aspect that ILP GN01 and PLG05 both consider when determining the permitted lighting performance of illumination at higher levels.
- XVII. <u>Safe and inclusive design section:</u> 'g' needs clarification and media screens should be added to this as can be distracting.
- XVIII. <u>Temporary lighting section:</u> Reference the embodied carbon impact of temporary lighting and potential for re-use.

- XIV. Angle has been amended to 60 degrees to balance the requirements of related ILP guidance and the City-specific context. The SPD looks for information to be provided to clarify the light spill over and above the baseline conditions created by statutory lighting. Calculation for sky glow is not required as the proposed requirements are considered sufficient to help to address obtrusive light. For luminaires, this information is required as part of 'Table 4'.
- XV. Reference to replacement is included in tables 4 and 13, and a although detailed plan is expected to be undertaken by the applicant, the full details are outside of the scope of the SPD.
- The tables have been amended to be more closely aligned with XVI. levels with the 'Professional Lighting Guide GN01 – The reduction of obtrusive light' and the 'Professional Lighting Guide PLG05 – The Brightness of Illuminated Advertisements Including Digital Displays' as published by the Institution of Lighting Professionals (ILP). In order to protect amenity, and to respond to the unique City context, the levels proposed have been adapted from the levels included in the ILP guidance and are considered achievable in the context. District Brightness Zones (DBZs), now amended to 'City Environmental Zones' which have been adapted from the ILP Guidance and tailored to the City context. Confirmation of these are at the discretion of officers as per paragraph 4.11. The requirement for consultation including identifying nearby sensitive uses is included in paragraph 2.2 and 'Table 2'. The consideration of cumulative impacts has been added to 'Table 2'.
- XVII. The principal aim is to ensure applicants consider the lit context for those travelling by public transport. This section is considered to cover a range of lighting.
- XVIII. Paragraph 1.15 of Appendix 'B' states "Embodied energy, circularity of design and manufacturing, recycling and disposal should all be considered."

- XIX. Advertisements: Queried if differentiation between large and small screens/signs, and whether illuminance from the illuminated media have to comply with other requirements. Clarification needed for why differs from recently adopted ILP guidance 05, which factors in the lit area of the signage and includes design requirements to prevent upward light etc. Research indicates that it is about the area of the display / sign as well as its height above ground level and Table 12 does not reflect this. The highest value in the table is 15 lx, given that the building is permitted to have a sign of 500 cdm2 then a sign that is 1m2 will give an illuminance of just under 125 lx at the 2m plane.
- XX. <u>Glossary</u>: For light intrusion, remove text which goes beyond glossary definition in Appendix C. For light trespass, propose alternative definition: "Light trespass means any light that falls beyond the legal boundaries of the property it is intended to illuminate. Light trespass means light falling where it is not wanted or needed, generally light from one property that shines onto another property or the public right of way."
- XXI. <u>Submission requirements</u>: Should also include significant lighting projects which may not be major development. Should be a requirement for applicant to resubmit details if luminaires within the approved scheme are changed.
- XXII. <u>Uniformity</u>: Reservations giving such emphasis to uniformity. Perhaps "distribution" could be used instead of uniformity.
- XXIII. <u>Lighting Strategy and Lighting Concept submission</u>: There should be flexibility for lighting strategy to be submitted with lighting concept as information may not be available. It is important to ensure that the results submitted are achievable and can later be implemented at detailed design stage and recommend that the SPD contains a table of reasonable ranges of assumptions for key variables e.g. glass light transmission.
- XXIV. Energy use: For energy load of all external lighting, it is unclear how the total installed load will be used to assess the success or otherwise of a scheme. The size of the area being illuminated and running hours are also important to an overall energy consumption. More guidance needed, e.g. a statement of how energy use has been minimised/optimised.

- XIX. The tables have been amended to be more closely aligned with levels with the 'Professional Lighting Guide PLG05 The Brightness of Illuminated Advertisements Including Digital Displays' as published by the Institution of Lighting Professionals (ILP). In order to protect amenity and to respond to the unique City context, the proposed levels have been adapted from those included in the ILP guidance and are considered achievable in the context. Clarification added in paragraph 4.19. Signage is to be considered separately to light spill from windows.
- XX. Light intrusion definition has not been amended in construction lighting appendix as considered appropriate for subject. The definition for light trespass updated as suggested in Appendix 'E'.
- XXI. Paragraph 2.2 amended to include lighting proposals.

 Applicants would be required to resubmit details if change from previously approved details. Applicants will be required to adhere to approved details through condition discharge process.
- XXII. Amended to 'distribution' in document apart from Appendix 'C'.
- XXIII. The Lighting Concept requirements have been amended and include the resubmission of the Lighting Strategy again (if already submitted at pre-application stage). This was previously included in paragraph 3.2 also (now 2.2). Text has been added to 'Table 4' (e) to state that details of assumptions should be provided.
- XXIV. Included text in Table 4 to state "such as statement of how energy use has been minimised/optimised". The SPD will not be used to directly control energy use as there are other instruments and requirements such as the Building Regulations and BREEAM that address this.

XXV.	<u>Lighting accessories</u> : Paragraph 4.7(e) - Not all exterior fixtures will
	always benefit from these accessories, should add "where
	appropriate".

- XXVI. <u>Lux-leasing</u>: Not necessarily the right solution for all and particularly for external lighting; would place restrictions on the selection of equipment and could result in poorer quality/less efficient schemes.
- XXVII. Colour temperature: Should be limit of 3000k not 4000k.
- XXVIII. <u>Biodiversity</u>: Should include details of green areas or corridors which are deemed to be of particular importance to be retained in darkness, or a definition to reinforce the statement. There is ambiguity with later paragraphs which support sensitive lighting to green landscape.
- XXIX. <u>Lighting Strategy (2018):</u> Clarify the status of the SPD alongside the "Light + Darkness in the City/ A Lighting Vision for the City of London' 2018".
- XXX. <u>Future technologies:</u> Needs more for future technology, approaching.
- XXXI. <u>Curfew:</u> Should avoid using the term 'curfew' due to negative connotations.
- XXXII. <u>Light spill:</u> This is generally spoken about as a negative, the SPD should make distinction between light spill from ground floor / street frontages and light spill from first floor and above. Queried whether this is from inside the building.
- XXXIII. Intensity and upward light ratio: Intensity is one of the key indicators for light source and is often more the problem than illuminance when undertaking light nuisance evaluations, whist it cannot practically be measured it is a consideration that should be calculated for any sensitive receptor.

- XXV. 'Where appropriate' added to paragraph 3.7(e).
- XXVI. Lux-leasing is presented as an example of innovative procurement strategy that could be appropriate for a development.
- XXVII. Range provided is considered acceptable in the City context.
- XXVIII. Prescribed areas will not be provided as biodiversity should be protected across the City. The SPD highlights examples of potential sensitive areas.
- XXIX. Clarification added to paragraph 1.11.
- XXX. This is considered to be outside the scope of the SPD and due to the changing nature of this, it has been included.
- XXXI. Noted, however this is considered appropriate for the purposes of the document.
- XXXII. Paragraph added at 4.10 to make distinction from ground floor and upper levels. Table 10 also applies to light from within the new development.
- XXXIII. It is considered difficult to apply to a building interior, or fittings within a building interior, given the limits of planning. The measures proposed are considered sufficient to limit obtrusive light from new development.

- XXXIV. <u>Additional guidance:</u> Should mention TM66 Creating a circular economy in the lighting industry, TM65 Embodied carbon in building services, The Environmental Product Declaration / Life Cycle Assessment. Could provide target values to add more clarity on what good practice. CIBSE Code for External Lighting is out of date (2016). Include "LG21 Protecting the night-time environment (2021)". Title for ILP PLG05 to be updated. ILP GN08 bats and artificial lighting and BS EN 12464-2 2014 should be included. Issue number should be removed for GN01.
- XXXV. <u>Charter</u>: Should be careful that the owners, occupiers do not make material changes to existing buildings that leads to additional product waste and associated embodied carbon and queried colour temperature level.
- XXXVI. <u>Street lighting:</u> Should include consideration for street lighting luminaires dimming and consider future technologies, paragraph 4.9(g) should be amended to state applies where the street lighting light source can be viewed / seen as this is normal practice. Does not state that limits in tables include public realm lighting.
- XXXVII. <u>Safety</u>: Needs more about perceived safety at night.
- XXXVIII. <u>Introduction</u>: Page 3 "... right light, in the right place at the right time, controlled by the right system" could be a trademark of DPA Lighting.
- XXXIX. <u>Efficiency</u>: All lighting equipment used should also meet the highest standards of energy efficiency and this should include repair and refurbish. Queried proposed recommendation of 70 lm/circuit watt.
- XL. <u>Glossary:</u> Many terms that are not used in the SPD but included. Instead of light trespass, the term light spill or nuisance should be used. Luminous intensity is confusing.

- XXXIV. The SPD aims principally with light in the planning process for applications for new development therefore further sustainability guidance although useful, is considered to be beyond the scope of this document and proposals will also be subject to separate sustainability policies and guidance. Included LG21 reference, updated PLG05 and included ILP GN08 and BS EN12464-2, 2014 in Appendix 'C'. Issue number removed for GN01.
- XXXV. The Charter comprises nine commitments to be made by existing buildings and these would be expected to consider carbon impacts of any changes and whether deemed appropriate as part of the process of reviewing a lighting system. This has been amended to state to avoid cooler colour temperatures after dark.
- XXXVI. This has been adopted and installed as part of the upgrading of the street lighting which is the subject of the Lighting Strategy 2018, and the SPD applies to new development. Paragraph 4.9(g) has been removed to reflect that street lighting is supported and carefully considered by the Street Lighting Team. Paragraph 4.16 states "the values are the summation of all lighting installations including light spill from the development" which includes street lighting.
- XXXVII. The SPD references the importance of safety in several places, and is considered a key 'lighting outcome' of the document. Included reference to 'sense' of safety in paragraph 3.12(d).
- XXXVIII. This is taken from the ILP guidance on obtrusive light and is credited on the page.
- XXXIX. Efficiency is included in 'Table 6'. The SPD also states in paragraph 2.3 that the guidance applies to refurbishment schemes, where these are development. Reference to 70 lm/circuit watt amended.
- XL. Wide range of definitions included for information. Definition for 'intensity' added to glossary.

- XLI. <u>Structure</u>: Paragraphs should have subheadings to make it even easier to navigation, introduction could be clearer including context in policy.
- XLII. <u>Night workers</u>: Make reference. There is a focus on residential amenity and some offices work 24 hours and these workers should be considered too.
- XLIII. <u>Secure by Design:</u> Include reference.
- XLIV. <u>Topic 'A':</u> What is meant by 'minimal' and queried what would be considered 'good' such as including lm/w or similar, and how will success with renewables be measured. Should be Greenhouse Gas Emissions, as carbon is one aspect.
- XLV. <u>Biodiversity</u>: Reference Toronto Green Standard guide on Bird Strike. Section wording implies that it is acceptable to have spill light in some areas unless it is a green area or dark area.
- XLVI. <u>Construction Lighting</u>: Construction lighting should only be used during the hours construction use and not left on overnight if no work is being undertaken.
- XLVII. <u>Policy section</u>: The requirement for artificial light to be considered as a nuisance came out in 2005 therefore should not be referred to as being a new requirement. Should add to be circular economy compliant be considered as well.
- XLVIII. <u>WELL standards</u>: Consider whether this would increase illumination levels for certain credits.
- XLIX. Residential amenity: Should consider whether would result in use of darker internal materials which could be less supportive for wellbeing. Queried why 11pm as City closes sooner, and the definition of near to residential buildings. This section could include mention of the importance of the night-time view and the role of light in that view.
- L. <u>Coloured light</u>: May be better to state that there may be instances where this is appropriate, noting successful projects.

- XLI. The layout and formatting has been amended. Clarification provided on policy context in the executive summary.
- XLII. Text included at 3.12(c) to include night workers. in addition, the SPD aims to balance the interests of all uses in the City and acknowledges in the "City of London has become a diverse 24-hour destination".
- XLIII. This should be considered as part of the wider design process undertaken by the applicant therefore has not been included.
- XLIV. Applicants are expected to minimise the environmental impacts of light from development, and the SPD promotes best practice, however there is a need to limit guidance within this SPD which is considered in wider sustainability considerations for applications. Paragraph 3.6 amended to include GHG emissions.
- XLV. Included in Appendix 'C'.
- XLVI. Following text added at paragraph 3.7(d): "...turn lights off when not needed..."
- XLVII. 'New' removed from paragraph 1.8 in appendix 'B' and circularity is included in paragraph 1.15 in appendix 'B'.
- XLVIII. Applicants are expected to consider issues holistically to achieve the best lighting outcomes for the development.
- XLIX. This is considered to be a wider issue for the development, some of which is not controlled by planning. The times are considered appropriate for the unique City context which needs to balance a range of uses.
 - L. This is considered clear in the "general presumption" and it is recognised in 3.10(e) that "Small-scale creative lighting has the potential to create welcoming routes and improve sense of place and should be employed where appropriate."

- LI. <u>Assessment:</u> some of the required performance criteria can't be validated on site. Should state how many points are needed to assess compliance such as the adoption of a formula such as spacing formula from BS EN 126464-2.
- LII. Above ground level light: In urban settings, levels are often higher at ground level compared with above. Residential windows below the first floor where light levels can be higher should be individually identified and efforts made to protect them from intrusive light.
- LIII. <u>Construction lighting</u>: This is well detailed / covered by CIRIA who have developed an Environmental good practice on site guide. A further consideration to make is the materials used for construction including site hoardings and visual impacts.
- LIV. Glazing perimeter: The lack of glazing perimeter reflectance can lead to a fall in uniformity of illumination over task areas. It has become standard practice in office schemes to support the uniformity with perimeter downlights. A risk this pushes design in a way that does not support the interior working environment. For example, uplight can be positive for visual comfort, glare control, enhancing wellbeing and creating a circadian supportive environment and guidance could lead to more direct only light with associated negatives.

- LI. Performance criteria can be evidenced through modelling/calculation and is used for other environmental impacts as part of planning applications, as stated in paragraph 4.9: "Evidence of compliance with the requirements in Tables 10-13 should be provided through details submitted by the applicant including outputs from light modelling studies." Whilst it may be useful to provide a formula for assessment points, it is considered beyond the scope of the document although the applicant is required to identify the existing context and sensitive receptors.
- LII. Paragraph 4.10 has been added to acknowledge the lighting that directly affects the streetscape should be considered in the specific context and may exceed levels identified. The SPD also identifies that sensitive receptors should be identified at an early stage of the process.
- LIII. The guidance has been included in Appendix 'D'. Regarding site hoarding, although related, is considered outside the remit of this SPD.
- LIV. Paragraph 4.14 has been added to include design measures for proposals. In addition, each case will be considered on a case-by-case basis with input from an officer.

Combined responses from resident groups

- I. <u>Control systems:</u> Should address issue of systems not working and lights left on or activated, should be required to turn off, and should be operational before condition discharged.
- II. <u>Applicable development</u>: Expectations on developments that are less than "Major" not clear. Explain what "(in line with SPD)" means.
- I. 'Table 13' includes operation and maintenance details including for control systems. Planning conditions will require details, including for management, to be approved prior to lighting works and development must adhere to approved details.
- II. Paragraph 2.2 amended to provide clarification. In line with SPD requires developers to consider the guidance and technical requirements for applications.

- III. <u>Existing buildings:</u> Some changes to internal lighting schemes in existing buildings do not need planning permission, queried how will this be addressed in the Charter.
- IV. <u>Planning process:</u> Require that developers include discussions of lighting in their consultations with stakeholders, at pre-application, demolition and construction, and handover stages. To include lighting design, "lights off" times; and the commissioning of lighting management systems.
- V. <u>Blinds:</u> Should require blinds (including automated) next to residential and should state not acceptable for a developer or building manager to propose providing blinds as a mitigation to intrusive light. Blinds should be a planning condition and apply to all proposals including refurbishment. For paragraph 4.9 d) The use of the word "or" is problematic developers should not be asked to choose between smaller windows or blinds.
- VI. <u>Glazing</u>: Should advise to reduce glazed areas in order to reduce light pollution.
- VII. Residential amenity: Needs to be reflected in all policies in the SPD and in Table 5. The advice in 'F' for temporary lighting should apply also to 'B' for residential amenity. Should refer to designing out "nuisance" (as in the section on "environmental impact"). Lighting concept design should also show planned mitigation to protect residential amenity.
- VIII. <u>Brightness zones:</u> Queried the process for agreeing a brightness zone and hence lighting curfew. Local residents should be consulted during the making of this agreement. The brightness zones do not really address the fundamental problem of light pollution including cumulative impacts. Should consider a fourth brightness zone to encompass areas of green and parkland and biodiversity and to follow the guidance.
- IX. <u>Refurbishment</u>: Does not include much reference to this and to 'retrofit' missing. Text should strengthened where developments, refits and refurbishments face directly onto homes in the City both during construction and in later operation including impact on health and wellbeing.

- III. Planning powers are limited to existing buildings. The Charter is a voluntary commitment for existing buildings, not for new development. The wider SPD applies to new development.
- IV. 'Table 2' updated to include "nearby sensitive receptors', and Paragraph 2.2 added to state importance of consultation with nearby sensitive uses, including developing a community engagement strategy.
- V. The SPD includes a range of mitigation measures including at the early stage of design to avoid obtrusive light. A general condition is used for lighting details which requests details of mitigation for light spill, which could include blinds if appropriate. Amended 3.9(d) from "or" to "and".
- VI. This is stated in paragraph 3.9(d).
- VII. The advice and all sections should be considered holistically by applicants, and there is naturally some overlap. Paragraph 3.9 refers to addressing "nuisance" for residential amenity.

 Reference to residential amenity added to 'Table 3' for Lighting Concept.
- VIII. District Brightness Zones (DBZs) have been amended to 'City Environmental Zones' which have been adapted from the ILP Guidance and tailored to the City context. Confirmation of these are the at discretion of officers as per paragraph 4.11. The requirement for consultation including nearby sensitive uses is included in paragraph 2.2 and 'Table 2'. The consideration of cumulative impacts has been added 'Table 2'.
- IX. Refurbishment (where it is considered development) is mentioned in paragraphs 2.3 and 3.11, and is considered to cover 'retrofit' also. Paragraph 3.9 sets out the guidance to protect residential amenity for new development and also acknowledges that "...bright external and internal lighting schemes and light sources can not only cause a nuisance but also contribute to health issues including...".

- X. <u>Curfew times:</u> Should be absolute limits and should be turned off earlier if possible. A 10 pm curfew is too late and blinds should be required to be used at 6pm. Intrusive lighting before 10.00pm is a nuisance which the City has a statutory duty to mitigate. Should apply to all proposals including refurbishment.
- XI. <u>Construction sites</u>: all lighting internal to the site (except specific safety lighting) should be switched off completely when work has finished for the day. Windows should be blacked out. Repercussions for not meeting requirements on construction sites should be clear. Should not fall short of the City of London's Code of Deconstruction and Construction which already mandates blacking out windows during fit out. make it clear that any glazing specified in the development must be capable of withstanding the blackout. should hold developers to their obligations to keep site lighting under control and fully black out windows once they are glazed and right through fit-out. Better compliance monitoring is crucial.
- XII. Planning controls and enforcement: In Westminster, the lighting strategy and design must be done by a suitably qualified lighting expert and that lighting conditions are not discharged until all is installed and commissioned by expert. Explain how will enforce compliance with conditions for operational use, such as with curfew. City will find it difficult to enforce the curfew, or any other lighting controls, through planning conditions as often many years after completion, developments do not have automated lighting systems operating. Add a further section to the SPD explaining how the City proposes to enforce compliance with conditions relating to operational use, such as making sure that the curfew is met. The lighting systems must demonstrate that they are operating in line with the design before planning conditions are discharged.
- XIII. <u>Street lighting:</u> Amend 4.9(g) to include public realm lighting and state that the same shall apply when replacing or repairing existing light fittings and luminaires. Should add specific routes including Barbican Podium Highwalk.

- X. The times are considered appropriate for the unique City context which needs to balance a range of uses. There are pre-curfew levels for earlier than 10pm.
- XI. Appendix 'D' provides detailed guidance for construction lighting which applicants will be expected to follow. The applicant is likely to be required to submit separate detail for a scheme to protect residents from the construction phase, with detail to be reviewed by the Environmental Health team. Appendix 'D' now includes the following text: "Consideration should also be given to blocking windows to reduce obtrusive light during construction, especially when near to residential."
- XII. The SPD encourages the appointment of a suitably qualified professional in paragraph 2.4 however it is not considered necessary to require this, although it is expected for major developments. The applicant will be required to adhere to details approved through condition discharge, and enforcement action will be taken if deemed appropriate.
- XIII. 'Table 12' addresses the replacement of lighting through the requirements for the operation and maintenance of lighting. This paragraph relating to street lighting has been removed and clarification has been added to the introduction at paragraph 1.12, and the application applies to new development.

XIV.	<u>Legislation references:</u> Mention of Section 17 of the Crime and Disorder Act 1998 which states that all relevant authorities have a duty to consider the impact of all their functions and decisions on crime and disorder in	XIV.	The SPD does not apply to street lighting, which is dealt with separately, paragraph 1.11 has been added to clarify.
	their local area and lighting is a key consideration here, especially in the public realm.	XV.	The SPD requires all issues to be considered holistically and paragraph 3.9 requires applicants to consider range of issues that impact on residential amenity.
XV.	Heritage assets: Add: "Lighting located at heritage assets shall not be		·
	exempt from, or have a lower standard of, residential amenity related requirements."	XVI.	Mention of roof terraces added at paragraph 3.12(c).
XVI.	Public realm: Heavily planted terraces and planting should be considered when being lit as part of building identity including public	XVII.	The SPD asks applicant to avoid contribution to obtrusive light, although is not requiring details for the contribution made to sky
	realm trees and green walls, and whether this directly supports inclusion		glow.
		XVIII.	The programme for management and publicity of the Charter is to be confirmed in due course, and these comments will be considered. The Charter is intended for existing buildings.
XVII.	<u>Skyglow</u> : Queried whether impact to sky glow will be required to be assessed.		
XVIII.	<u>Charter:</u> Should award a "charter mark" following adoption, maintaining publicly available lists and regular publicity programmes, and should be funded. Lighting more than 2 metres from a window will still cause light spill especially when viewed from height. Should mention residential		
	amenity. Officers should be responsive to complaints from residents. Should include changes to schemes that do not require planning.		

Consultation responses from organisations:

Ref	Organisation	Summary of response	City of London officer response	
1	British Sign and Graphics Association	I. Exclude all forms of advertisement at the beginning of document. All advertisements must be considered only on considerations of amenity and public safety, as specified in the Control of Advertisements Regulations. Paragraph 4.7(c) would directly contradict the PPG by requiring a judgement of "need". As stated in the NPPF (paragraph 136) and the PPG (ID 18b-001-20140306), advertisements are	I. The Town and Country Planning (Control of Advertisements) (England) Regulations 2007 (as amended) states: "factors relevant to amenity include the general characteristics of the locality, including the presence of any feature of historic, architectural, cultural or similar interest" and that "factors relevant to public safety include— (i) the safety of persons using any highway, railway, waterway, dock, harbour or aerodrome (civil or military); (ii) whether the display of the advertisement in question is likely to obscure, or	

controlled under a separate system as specified in the Control of Advertisements Regulations (which are not even mentioned in Part 2 of the draft SPD). The attempt to include them within this SPD creates confusion and inaccuracy, as well as direct contradiction of advice and law.

- II. Illuminated advertisements come in many colours and can be through coloured luminaires, although commonly white luminaires through coloured glass, Perspex etc. These would also fail the SPD's proposed limitations on colour.
- III. Paragraph 4.10 (n and o) not considering how Advertisements Regulations operate, 4.10(n) is vague and unclear.
- IV. Paragraph 4.10(o) would require dimmers to be fitted to all illuminated advertisements. This is not a requirement of the Advertisements Regulations. No need for dimmers to be fitted to every "advertisement" which, under the statutory definition in TCPA would include all road signs.
- V. District Brightness Zones (Table 8) is carried forward into Table 12 which seeks to define the maximum level of surface brightness of "illuminated media". From the supporting text (paragraph 5.13), this would appear to include "signs". What the SPD refers to as "signs" and "illuminated media" have no statutory definition.

hinder the ready interpretation of, any traffic sign, railway signal or aid to navigation by water or air; (iii) whether the display of the advertisement in question is likely to hinder the operation of any device used for the purpose of security or surveillance or for measuring the speed of any vehicle.".

All the aforementioned instances can be impacted by artificial light, therefore advertisements are considered relevant for the SPD and the relevant requirements it sets out are considered to be in the interests of amenity and/or public safety.

In addition, the Light Pollution PPG, which advises on how to consider light within the planning system, states that "complaints to local authorities include domestic, shop or office exterior security lights, illuminated advertising and flood lighting, so these installations may require particular attention".

- II. The guidance relating to colour relate to lighting interventions specifically not materiality.
- III. These lighting principles have been amended to state: "(m) For illuminated advertising, impact to amenity and public safety should be carefully considered and to achieve this, should be in compliance with 'Table 12'; (n) Illuminated advertising should be fully dimmable and controllable to help manage visual brightness."
- IV. Although not a requirement of the Regulations, dimming is considered best practice, where appropriate. Paragraph 4.19 states the guidance on illuminated advertisements would exclude highway signage.
- V. The SPD has been amended to reflect definition of 'illuminated advertising' in Advertisement Regulations (as amended).

		VI.	Table 12, the 3 DBZ classifications and levels differ from the recognised 5 brightness zones as set out in the ILP Guide PLG05 "The Brightness of Illuminated Advertisements". Images 2 and 3 support a caption which suggests that both signs would be acceptable at a brightness of less than 200cd/m². But the ILP Guidance suggests that in a comparable medium district brightness zone (Zone 3), both signs would be acceptable at 600cd/m². And the draft SPD would also contradict the luminance levels set for deemed consent illuminated signs in Part 2 of Schedule 3 to the Control of Advertisements Regulations (which are based on the ILP recommended levels).		The tables and zones have been amended to be more closely aligned with levels with the 'Professional Lighting Guide PLG05 – The Brightness of Illuminated Advertisements Including Digital Displays' as published by the Institution of Lighting Professionals (ILP). In order to protect amenity, and to respond to the unique City context, the levels proposed are lower than included in the Advertisement Regulations 2007 (as amended).
2	Buglife – The Invertebrate Conservation Trust	II. III.	The City lies partially on the North/South London B-Line. B-Lines are designed to reconnect our landscapes, enabling pollinators and other wildlife to move freely, and supporting nature's recovery. Light pollution impacts pollinators and their ability to pollinate, reducing rates by up to 62%, it is therefore vital that light pollution is reduced along B-Lines to ensure the safety of these habitats for pollinators. Recommend addresses Correlated Colour Temperature (CCT) within the biodiversity guidance. There is no, perfect CCT, however, it is thought that in general CCT lower than 2200k will provide the least impactful conditions for the widest range of organisms, while still providing adequate lighting needs for human activity. Encourage retrospective steps to reduce light pollution and setting environmental targets to reduce overall levels of light pollution in the City.		Temperature (CCT) for sensitive sites such as churchyards, and by the river in consultation with ecologists. Such requirements should be carefully balanced with any requirements for safety and security."
3	City Property Association	I.	Lighting Outcomes: Should include supporting economic growth and the night-time economy.	I	The role of lighting in supporting the business function of the City is already included in SPD as a key consideration.

- II. <u>Charter</u>: City Corporation should work in partnership with other London boroughs and/or the GLA when developing and initiating this policy to harness expertise, pool resources and avoid a proliferation of different and competing charters across the capital. Could place an additional burden on businesses.
- III. <u>Planning submission requirements:</u> Should review the level of information required in the early stages of the planning application process contained in the document as may be onerous.
- IV. <u>Lighting efficacy:</u> The requirement for exterior lighting efficacy is unclear throughout the document. It cites 70lm/cw but unclear if average installation or minimum for all luminaires. Part L & BREEAM current guidance calls for average, i.e. a more flexible approach. Building regulations Part L have different minimum efficacy requirements for different types of specialist lighting.
- V. <u>Lighting angle</u>: ILP guidance states this angle to be 70°. The requirement to reduce further to 45° may affect lower mounted lighting the most and discourage the use of pedestrian friendly lighting.
- VI. <u>Amenity lighting:</u> Unclear what is considered amenity lighting.
- VII. <u>Internal lighting:</u> The scope is frequently split between different consultants and it implies a coordinated response may be required.

- II. The consultation has included a wide range of expertise. City Charter is considered appropriate due to unique context.
- III. Level of information required amended in 'Table 3' to remove technical information.
- IV. 'Table 6' amended to state: "All exterior lighting equipment should achieve efficiencies in line with the requirements of the Building Regulations and/or the requirements of BREEAM, whichever shall be the lowest in terms of lumens per circuit watt."
- V. This has been amended to 60 degrees when considered ILP Guidance and the unique context of the City.
- VI. Definition added to the Glossary.
- VII. Noted. 'Table 3' has been amended to remove the requirement for some technical information at planning application stage.

- VIII. Technical requirements: Clarify rationale behind the deviation from ILP's environmental zones, the 2m offset, and feasibility of restricting vertical illuminance values expected of rural and/or National Parks. Include methodology to help understanding and application of these requirements. New proposed District Brightness Zones are a significant deviation from ILP's environmental zones classification and seems particularly onerous for commercial buildings and for illuminated signs of up to 500cd/m2 to comply with. Equal Horizontal and Vertical illuminance values could potentially be set for a clash with the sign luminance values in Table 12. For Advertisements: There is no mention of size of sign/screen as a critical factor of perceived brightness. Values of table 12 are more onerous than the current ILP guidance PLG05 however the 'measuring plane' as suggests an average luminance value is to be taken which would provide a loophole for signs with significant variations in surface luminance i.e. digital media screens. No mention of daytime conditions and upper luminance values. Unclear how an illuminated sign to 500cd/m2 (250cd/m2 post curfew) can meet the values required on Table 11 for horizontal luminance on a 2m measuring plane.
- IX. <u>Dimming:</u> Setting dimming values prior to commissioning of installation seldom reflect the reality of brightness intended as luminaires dimming curves behave differently.
- X. <u>Charter:</u> Suggest the use of consistent language throughout the document to avoid ambiguity.

- VIII. The Technical Requirements guidance has been amended to more closely align with the ILP Guidance, and adapted for the City context. The guidance relates to artificial light at night-time.
- IX. Noted. However the aim is to encourage best practice and a reduction of light pre and post curfew.
- X. The Charter has been amended including for consistency with wider SPD, however the purpose of the Charter (for existing building) differs from the SPD (for new development).

4 CPRE London

- I. <u>Street lighting:</u> All authority owned street lighting should be <3000K with limits on spectral emissions under 500nm.
- II. <u>Light spill and pollution:</u> Fixtures should achieve zero upward light. Light pollution reduction targets should be established and link to biodiversity, energy-use and carbon emissions targets. Lighting development should follow industry standards and guidance for lighting and the reduction of obtrusive light.
- III. <u>Curfews:</u> Reduced illuminance curfews guided by British Standards should be used.
- IV. <u>Applicable applications:</u> Lighting impact assessments should be required for all major development, stating how impact on lighting in terms of spill, glare, sky glow and visual obtrusion will be kept to a minimum and with lighting having clear justification.
- V. <u>IDA Guidance:</u> Planning policies similar to those used in IDA (International Dark-Sky Association) places and protected landscapes (based on professional guidance which applies in any setting) should be adopted.
- VI. <u>Neighbouring boroughs:</u> Collaboration with neighbouring boroughs to ensure that lighting designs do not negatively impact over wider areas.
- VII. Artistic and public realm lighting installations: Those which aim to illuminate the night sky for effect, such as light towers, light domes, sky-scanners should be avoided. Should avoid prominent and bright installations that contribute to light pollution.

 Designers and artists should be required to meet an artistic brief that prioritises the environmental impact.

- I. Street lighting is informed by the Lighting Strategy (2018) and the requirements of the SPD do not apply. Text has been added to clarify at paragraph 1.12.
- II. Zero upward light is considered too onerous in an urban setting. The Technical Requirements as been amended to more closely align with established ILP Guidance, and has been adapted for the unique City context.
- III. The curfews have been applied to the unique context of the City which needs to balance a range of uses.
- IV. Applies to all major development as set out in paragraph 2.3.
- V. The SPD has considered a range of guidance including that published by the ILP. The City is a unique urban context and therefore relevant guidance has been adapted to reflect this.
- VI. Neighbouring boroughs have been consulted as part of consultation. Paragraph 2.2 now states that applicants should refer to the Developer Engagement Guidance (2023) and develop a community engagement strategy for the development.
- VII. Agreed. Paragraph 3.7 states: "a. The City Corporation's Lighting Strategy (2018) seeks the active reduction of all forms of obtrusive light including sky glow, light spill, glare, excessive visual brightness, and light intrusion" and "b. All developments within the City of London should take measures to limit all aspects of obtrusive light in accordance with the recommendations of this SPD and best practice." In addition paragraph 3.10 e) states: "Small-scale creative lighting has the potential to create welcoming routes and improve sense of place and should be employed where appropriate."

	 YIII. Sustainability: Compliance with sustainability metrics within projects should include light pollution. IX. Illuminated advertising: Recommend the SPD includes additional robust guidance regarding the location of LED advertising screens to ensure they are not installed on or near green spaces, nature reserves and Metropolitan Open Land. 	 VIII. Sustainability issues for the wider development are assessed under a range of policies. Paragraph 3.6(c) states: "Buildings should seek to achieve the maximum number of credits for lighting in BREEAM Assessment (or similar schemes) using the most energy efficient lighting possible." IX. The illuminated advertising section has been amended to more closely align with the ILP Guidance. Paragraph 3.8 sets out considerations for biodiversity including that "Lighting levels should generally be kept as low as possible with light focused only where it is needed in green areas / corridors."
5 City of London Access Group (CoLAG)	I. General: Guidance should be more specific throughout and less high level. Queried what needs will be considered most important of all issues when considering lighting, and access should leading consideration. II. Guidance: Should contain more specific accessibility guidance. III. Needs of different people: Glare and excessive visual brightness, pooling of light, affects those with sensory sensitivity and therefore should be mentioned including for neurodiversity, and people who are visually impaired and who suffer from chronic fatigue conditions.	 It is considered that each development should consider accessibility on a site-specific basis, and therefore additional work should be undertaken by the applicants, in consultation with stakeholders, when designing the development. Paragraph 3.12(b), added following text: "Lighting design, especially that which affects the public realm, should be informed by meaningful and constructive engagement, especially through engaging those with expertise and experience in accessibility, equality, diversity and inclusion" and reference to the Developer Engagement Guidance has been added as paragraph 2.2. Paragraph 3.12 also now acknowledges: "Lighting can affect the accessibility of the City by creating barriers". The applicant is required to balance the needs in each case, and must ensure the highest level of accessibility possible for each development. II. Following added to Appendix C: Design for the mind – 'Neurodiversity and the building environment - Guide. PAS 6463:2022, The British Standards Institution' and lighting sections referenced for BS8300-1:2018 and BS8300-2:2018. III. Paragraph 3.12(d) has been amended to include reference to inclusivity and accessibility and include pooling of light. This section aims to address a broad range of requirements as addressed in 3.12(a).

- IV. <u>Technical requirements:</u> Queried what had informed the proposed levels in technical requirements. Stated these requirements could result in less inclusive places.
- V. <u>Arrival modes:</u> Should include motorised vehicles including wheelchair or accessible parking.
- VI. <u>Format of document:</u> Accessible and easy read versions should be provided.
- VII. <u>Safety:</u> Impact of SPD could be to create unsafe conditions.
- VIII. Reflections: Make reference.
- IX. <u>Routes</u>: Importance of ability to preview route and requires adequate lighting.
- X. <u>Lighting concept</u>: Importance of uniformity of lighting of the public realm including building façades.
- XI. <u>Maintenance of lighting:</u> Important for the continuing accessibility and inclusion.
- XII. <u>Public Realm:</u> Link should also be made to signage policy and inclusion also needs to be mentioned.
- XIII. <u>Sustainability and climate change</u>: Emphasise that the health of disabled and elderly people is already often under stress and so regard for wellbeing will be particularly impactful for these groups.

- IV. The levels have been informed by the established ILP guidance and adapted to the City context. The 'Technical requirements' do not apply to street lighting, and paragraph 4.13 has been amended to include 'accessibility'.
- V. Reference to 'wheelchair users' and 'motorised travel' added to Section 'F'.
- VI. Accessible version will be provided and easy read will be considered.
- VII. Safety is a key consideration of the document and curfew times do not apply to essential lighting required for accessibility and safety and does not apply to street lighting.
- VIII. Mentioned in paragraph 3.12(d)
- IX. Mentioned in paragraph 3.12(c).
- X. This is covered in the Lighting Strategy (distribution) that is to be resubmitted with the Lighting Concept.
- XI. 'Table 13' addresses the requirement for operation and maintenance of lighting to ensure ongoing success.
- XII. These are covered separately in the Public Realm, and Safe and Inclusive Design sections and there is naturally overlap throughout the document. The applicant is required to balance the needs in each case, and must ensure the highest level of accessibility possible for each development.
- XIII. An important point, however further detail for WELL standard measures this is considered to be outside the remit of the SPD.

		 XIV. Language: Use the term 'requirements' rather than 'needs'. XV. Flashing lights: Should be avoided as they can be particularly disorientating for people who are neurodivergent, visually impaired people or those with neurodegenerative conditions. XVI. Construction: Luminaires positioned outside a construction way gantry or walkway do not provide sufficient light. XVII. Lighting details: Clarify which direction angle of light is, and mention downward light is important but not able to be fixed with shields etc. XVIII. Charter: Queried how would be promoted and enforced, and whether this could be added as a key factor to the Considerate Constructors Scheme. Should state proposals should try to meet neighbours requirements. Accessibility should be mentioned in relation to ongoing management. XIX. Construction lighting appendix: A range of comments made. 	 XIV. Amended to reflect comment. XV. Added 'flashing lights' to 3.12(d). XVI. The following: "promote accessibility" added to paragraph 3.17(d). XVII. The angle of illumination limit depends on the type of lighting and position of the fixtures. The SPD states that uplighting the sky should be avoided. Street lighting is not covered by the SPD which is managed separately by the Street Lighting Team. XVIII. These details are to be considered and confirmed in due course and the CCS can be considered too. The Charter is a voluntary commitment for existing buildings. Consulting neighbours is part of Charter and includes the following commitment "We will publish information about changes to our internal and external lighting and provide contact details" to ensure that this can be followed up by neighbouring properties, who are able to get in contact about any issues. The Charter is intended to be high level and building owners would be expected to consider accessibility alongside a range of issues. XIX. Appendix D aims to provide guidance to contractors which should be considered holistically for best outcomes for the site. Added reference to inclusivity and accessibility. Removed reference to 'Christmas'.
6	DP9 on behalf of the Tower Limited Partnership	 I. Existing lighting: Seeking to confirm that the lighting display on the Tower 42 building will not be subject to the constraints sought in the SPD. Include that the technical requirements section are not applicable to developments that have been consented and/or completed when SPD adopted. II. Proposed Curfews: 'Residential amenity' section should state that external lighting serving a public 	 I. The SPD encourages all existing building occupiers to sign up to the Considerate Lighting Charter. The SPD requirements apply to new development. II. It is considered this is addressed in paragraph 4.13 which states that 'Table 9: Lighting curfew times' for external lighting, except that specifically required for accessibility, safety and crime prevention such as street and essential amenity lighting, should automatically switch off, or be dimmed down to pre-agreed

7	Hertfordshire and North London Sustainable Places, Environment Agency	function should be exempt from the lighting curfew times. III. The Charter: for actions 9 to 11, request that clarification added that where lighting on buildings has already been agreed with the City of London, these actions will not be applicable. I. Lighting Strategy: Should be updated to include Bats as a sensitive receptor. II. Table 3: Add that visual material should illustrate the impacts to sensitive receptors such as rivers, parks, gardens and churchyards with lighting levels clearly labelled. III. Table 4: Add that material should clearly illustrate the impacts to sensitive receptors and mitigation implemented to reduce this.	include bats. II. Addressed in 'III' below. III. The following text added to 'Table 4': Should clearly demonstrate the impacts to sensitive receptors and mitigation implemented to reduce this."
8	Greenspace Information for Greater London CIC	 I. GiGL: Reference to GiGL in paragraph 4.8(I), should be rephrased to: "Developments should consult the existing evidence base, including a data search report from Greenspace Information for Greater London CIC (GiGL), which includes information on species and Sites of Importance for Nature Conservation (SINCs)." II. Table 2(F): Reference to the mitigation hierarchy (avoid, mitigate, compensate) should be added, so if applicants foresee any potential biodiversity impacts they demonstrate the steps that will be taken to avoid, mitigate and compensate for potential impacts. 	I. Paragraph 4.8 amended to include suggested text. II. The following text has been added to 'Table 2(f)': "proposed mitigation measures"
9	Historic England	Welcome and support SPD.	Noted.

10	London City Airport	 I. Aircraft Safety: Obtrusive lighting can cause a risk to aircraft safety, particularly on take-off or landing if directed towards an airport. This risk should be acknowledged due to proximity of London City Airport. II. Construction: The use of lighting on tall cranes is necessary to protect aircraft safety, and a reference to the CAAs CAP1096 'Guidance to crane users on aviation lighting and notification' should be included to highlight the safety requirements. 	I. Additional wording added to Topic 'A' and to Appendix 'C'. II. Guidance added to Appendix 'C'.
11	London School of Economics, Department of Sociology	I. Expertise: Text could be stronger for tables 1 and 2: at RIBA 1 it says to 'consider the early appointment of a lighting design professional'. Would be great if consulting a professional were mandatory at the earliest possible stage, and at RIBA 7 to push for required post-implementation assessment. Better to emphasise lighting designer rather than illumination engineer in the text. II. Social Impacts: These are fragmented in SPD, split between several headings. Emphasis needed on awareness of the range and diversity of users of the area who might be impacted, and consideration of diverse or conflicting lighting needs between those users. Developers should be asked to profile their area socially to consider diverse needs and implications for different elements of the community potentially at RIBA 1 or 2, add: "Consider researching the social composition of usership in the area and the different needs and impacts of lighting on diverse users." Ensure different constituents have a voice in this process and include requirement to do a serious analysis that identifies stakeholders and then considers their needs and potential impacts. For obtrusive or excessive light, there is social difference between potential users of a space for how this is defined.	 It is not considered necessary to require this of applicants, however will be encouraged and expected, especially for major development. Post-implementation assessment can be considered by Officers on a case-by-case basis. II. Added text in 'Table 2': "Consider the social composition of the area and the different needs and impacts of lighting on diverse range of users". Paragraph 2.2 has been added to encourage applicants to produce a community engagement strategy to inform the proposals based on the unique context.

		III. <u>Table 2</u> : Should be asked to look at conflicts and complexity: e.g. "B. Analysis", the answers may be	III. As 'II' above, additional text has been included in 'Table 2'.
		very different. Should be asked to expand on these criteria in terms of conflicting answers to these questions.	IV. It is considered this is addressed in the Technical Requirements section which excludes lighting required for accessibility, safety and crime prevention such as street and essential amenity lighting.
		IV. ' <u>Topic A':</u> Should state that although we are all concerned to reduce light pollution and energy consumption, this is a City and the overall aim is not to promote darkness above all else.	V. Text has been added to paragraph 3.8: "n. Applicants should actively seek the best possible up-to-date scientific information and advice."
		V. <u>Biodiversity:</u> Should add "developers should actively seek the best possible current scientific advice". Point L refers them to the two main bodies however more is needed.	VI. Paragraph 3.7 addresses obtrusive light and paragraph 4.14 has been added to the Technical Requirements section, which sets out design measures which would also apply to highly glazed buildings. The Considerate Lighting Charter seeks to address existing building issues.
		VI. Office lighting: Lack of treatment of commercial lighting, and the over-illumination of office blocks, through the night. Queried whether this could be brought into the planning process, and there should be more explicit reference.	
12	Natural England	Do not wish to comment.	Noted.
13	Project Management London	The SPD should not only apply to new developments. Existing buildings have lighting on after hours.	There are limits to controls outside of planning and the SPD applies to new development. The Considerate Lighting Charter seeks to address issues with existing buildings.
14	Surveyor to the Fabric of St. Paul's Cathedral	I. Policy: Include explicit reference to the relevant policy, guidance and assessment regimes, in particular for heritage, townscape (in Topic D), and visual impact assessments. Should be embedded in text and more holistic in their outlook e.g. it would be useful if 'Topic C: Public Realm', which deals with views and explicitly referenced landmarks, more clearly referenced policy and guidance regarding view management used in	I. Reference to Developer Engagement Guidance (2023) has been added at paragraph 2.2. The document includes detailed policy in Appendix 'B' and additional references not considered necessary to keep document concise. St. Paul's Cathedral is mentioned in paragraph 3.10.

		 development. Should include more reference to City guidance e.g. the Developer Engagement Guidance. II. Heritage assets: Developers should recognise that the preservation and enhancement of heritage assets can either be achieved by lighting the heritage asset or by not lighting a new development, and thus not distracting attention from the heritage context or setting. III. DBZs: Should ensure that key landmark features (such as St Paul's and the Tower of London) are the dominant feature in views. Applicant must understand the cumulative effect of their proposals and if there is a breach of key contrast and illuminance levels, if not proven by design and clear calculation or modelling, the lighting proposal could be refused approval. IV. The Charter: Point 3 should include a list of sensitive receptors such as a 'consultee list' in relation to the City's Statement of Community Involvement. St. Paul's Cathedral can be seen from such a long distance, therefore it is very important for the Cathedral to be identified as a receptor and for developers to be alerted explicitly to these very long distance 'neighbours'. 	 III. 'Cumulative impact' has been added to 'Table 2'. 'Paragraph 4.1 states "Where deviation occurs from these Technical Requirements applicants should explain their reasons and justify their design decisions including providing mitigation where needed." IV. Paragraph 2.2 of the Charter includes the following commitments: "Consulting neighbouring properties, particularly those who are most affected by our lighting, as part of the review. We will publish information about changes to our internal and external lighting and provide contact details." Paragraph 2.2 of wider SPD now includes reference to Developer Engagement Guidance (2023). In addition, the following has been added to 'Table 2': "and nearby sensitive receptors" and to 'Table 4': "Should clearly demonstrate the impacts to sensitive receptors and mitigation implemented to reduce this." St. Paul's Cathedral is mentioned in paragraph 3.10 which states "Lighting directly contributes to the character of the City of London after dark. This can range from the experience of pedestrians at street level to an appreciation of the skyline and key landmarks such as St. Paul's Cathedral when seen from a distance."
15	The Royal Borough of Kingston Upon Thames	Should reference and align with the guidance from BCT and ILP's Bats and artificial lighting in the UK - Bats and the Built Environment series (Guidance note 08/18). There will be a 'Bats and Artificial Lighting' Guidance Note 2023 update available shortly.	Noted. Reference to guidance added to Appendix 'C'.
16	Virtual UK Services Company	Some existing commercial employ control systems. Queried whether applies to residential.	The SPD applies to all new development.

17	Port of London Authority	 I. Developments should minimise light spill and light intrusion that adversely impacts biodiversity, particularly in areas adjacent to or over the River. II. Lighting on or adjacent to the River Thames needs to consider any impacts to navigation, to ensure that proposed lighting does not cause a hazard for vessels using the river. SPD should reference this, potentially on page 12 (f) in reference to all lighting next to the River Thames. 	I. Paragraph 3.8 (f) and (j) address this. II. Text added to paragraph 3.7(g).
18	Surrey County Council	Confirmed do not have any comments to raise.	Noted.