Braintree District Council
Local Development Framework

Supplementary Planning Document

External Artificial Lighting

Adopted September 2009

Braintree District Council

Contents

Foreword 2

1 Introduction 3

2 Planning Policy Context 4

3 Will your Lighting Scheme Require Planning Permission? 6

4 The Issues Relating to Obtrusive Light 7

5 General Factors to be taken into Consideration 9

6 Specific Factors to be taken into Consideration for Various Land Uses 13

7 Information Required 18

8 Types of Planning Conditions Applied 20

Appendices

Appendix 1: Obtrusive Light Limitations for External Lighting Installations 21

Appendix 2: Relevant Publications for Standards for Lighting 22

Appendix 3: Guidance for Lighting Schemes for Outdoor Sports Facilities 24

Appendix 4: Useful Addresses and Contacts 26

Appendix 5: Glossary of Terms Used in External Lighting 27

Foreword

Braintree District Council is concerned at the increasing number of proposals for external artificial lighting, often in sensitive locations, and the need to consider in general and technical terms their impact on the environment in the determination of planning applications, which involve lighting schemes.

The Supplementary Planning Document (SPD) is based on the information currently available from a range of organisations that are actively interested or involved in lighting matters. It is intended to provide advice and guidance to applicants contemplating a lighting scheme or proposal on what factors will be taken into account by the District Council in determining planning applications for such schemes.

The guidance acknowledges the technical nature of lighting schemes and the requirement for expertise in selecting and installing a system. Reputable manufacturers, installers and suppliers of such systems should be prepared to provide appropriate technical specifications to demonstrate that their product not only maintains the levels of illumination required for the intended use, but also does so with the minimum level of obtrusive light.

This SPD was adopted by the Local Development Framework Panel on 30th September 2009 for the purposes of development control, and will be considered alongside the Braintree District Local Plan Review and other relevant policy and material considerations in the determination of planning applications for development.

This document is based on *External Artificial Lighting Supplementary Planning Guidance* published by Huntingdon District Council, and is produced with their kind permission.

1 Introduction

1.1 This Supplementary Planning Document has been produced in order that those proposing external artificial lighting schemes (referred to as lighting schemes), either as part of a development proposal or as a planning application in its own right, may have a clearer understanding of the planning, technical and environmental issues involved. This SPD supplements Policies RLP 65 and RLP 135 of the Braintree District Local Plan Review 2005 (see Section 2)

1.2 Lighting in itself is not necessarily a problem; it may become a problem where it is excessive, poorly designed, badly installed or poorly maintained. The Local Planning Authority will consider the positive benefits to be gained from any lighting proposal, particularly for safety of movement, security of property, extension of working practices, extension of sporting and leisure activities, advertising of commercial enterprises and enhancing the amenity value of important buildings and settlements. It should be noted however, that whilst lighting helps to reduce the fear of crime, Home Office evidence suggests that the benefits are inconclusive. The Local Planning Authority will seek to balance the need for any such proposal against the implications it may have on the environment in terms of obtrusive light and CO_2 emissions.

1.3 This guidance sets out the criteria that will be taken into account when the District Council, as local planning authority, assesses and determines proposals which include external artificial lighting. The criteria will be applicable to lighting schemes for a range of development proposals including recreational facilities, commercial and retail developments and highway schemes.

1.4 The guidance also shows what an applicant will need to provide in terms of technical information in order that the District Council may have sufficient information to determine proposed lighting schemes. Also identified are the various conditions that the Local Planning Authority may apply to a lighting scheme when granting planning permission.

1.5 Appendices to the guidance provide standards for lighting; additional information relating to lighting for sports facilities, useful contacts and addresses for applicants to contact to gain advice on lighting matters and a glossary of terms.

2 Planning Policy Context

National Policy

2.1 Central government guidance on lighting is contained in various Planning Policy Statements (PPS) listed below.

2.2 PPS 1 (2005): *Delivering Sustainable Development* gives guidance on the role of design considerations in planning (paragraphs 33-39) and advises that development plans should set out robust design policies against which development proposals are to be considered. *PPS: Planning and Climate Change Supplement to PPS1* (2007) advises on designing environmental performance into proposed development and on safeguarding environmental performance.

2.3 PPG 17 (2002): *Planning for Open Space, Sport and Recreation* states that "In considering applications for floodlighting, local authorities should ensure that local amenity is protected. The impact on...the character of the countryside, of floodlight towers or pylons should be a key factor in determining whether planning permission should be granted" (paragraph 19).

2.4 PPS 23 (2004): *Planning and Pollution Control* instructs local planning authorities to take account of the need to limit, and where possible, reduce the adverse impact of lighting in preparing development plan documents. A third Annex on Planning and Light Pollution will be prepared for public consultation in due course.

Regional Policy

2.5 East of England Plan Policy ENV7 *(Quality in the Built Environment)* supports the consideration of the potential impact of lighting schemes on the natural environment and, where appropriate, encouragement of the use of low-energy or energy efficient fixtures. The policy reads:

“POLICY ENV7: Quality in the Built Environment

Local Development Documents should require new development to be of high quality which complements the distinctive character and best qualities of the local area and promotes urban renaissance and regeneration.

New development should:

- provide buildings of an appropriate scale, founded on clear site analysis and urban design principles;
- make efficient use of land;
- in the case of housing development, achieve the highest possible net density appropriate to the character of the locality and public transport accessibility;
- provide a mix of uses and building types where appropriate;
- have regard to the needs and well being of all sectors of the community;
- address crime prevention, community safety and public health;
- promote resource efficiency and more sustainable construction, including maximum use of re-used or recycled materials and of local and traditional materials;

- reduce pollution, including emissions, noise and light pollution; and
- maximise opportunities for the built heritage to contribute to physical, economic and community regeneration.

Conservation-led regeneration should respect the quality and distinctiveness of traditional buildings and the value they lend to an area through their townscape quality, design and use of materials. In their plans, policies, programmes and proposals planning authorities should give consideration to the opportunities presented by the region's industrial, maritime and rural heritage."

Local Policy

2.6 The Braintree District Local Plan Review (adopted 2005) contains specific policy guidance relating to lighting in policy RLP 65 *External Lighting* although in general terms all planning applications must take account of the impact of the development on the environment. Other policies making reference to lighting are RLP 135 *Floodlighting of Sports Facilities* and RLP 90 *Layout and Design of Development*. RLP 135 states that floodlighting must not be unacceptably intrusive or have an unacceptable impact upon the surrounding area and must minimise glare and light spillage from the site; consideration will be given to the effect of light upon local residents, vehicle users, pedestrians, nocturnal fauna and the night sky. Criterion 10 in RL P90 states that the design and level of any lighting proposals will need to be in context with the local area.

2.7 Other policies in the Local Plan Review relate to the protection of residential amenity and the environment. Policies RLP 3 *Development within Town Development Boundaries and Village Envelopes* and RLP 17 *Extensions and alterations to Dwellings in Towns and Villages* allow development only where amenity criteria are satisfied and there will be no adverse impact on amenities or protected species. Countryside policy RLP 79 *Special Landscape Areas* states that development likely to cause loss or damage to traditional rural qualities of the countryside, or its essential landscape character will be refused. Policy RLP 80 *Landscape Features and Habitats* states that all new development will be expected to provide measures for any necessary mitigation of their impact upon wildlife. Finally Policy RLP 84 *Protected Species* states that planning permission will not be granted for development that would have an adverse impact on protected species. This Supplementary Planning Document gives weight to these local policies by providing greater detail on obtrusive light and its environmental effects.

2.8 Obtrusive light was made a Statutory Nuisance under the *Clean Neighbourhoods and Environment Act 2005*. The District Council can take action against sources of intrusive light where these are shown to be causing a nuisance, for example a domestic floodlight shining into a window in a neighbouring dwelling. In addition, conditions imposed on any planning consent for lighting must ensure that adequate control can be enforced. It is acknowledged that many lighting installations which may cause obtrusive light do not require planning permission or do not fall under the Act as a Statutory Nuisance. Where obtrusive lighting is beyond the control of the District Council, the Council will aim to discourage such schemes by appropriate guidance and informal approaches to seek solutions.

3 Will your Lighting Scheme Require Planning Permission?

3.1 Artificial light as such is not classed as development, but the structures and installation may be development requiring planning permission, especially if they are substantial and affect the external appearance of the dwelling. Planning permission is not required for the carrying out of maintenance, improvement or other alterations of any building works, which affect only the interior of the building or does not materially affect the external appearance of the building. Most work involving lighting, particularly of the householder DIY type, will fall within this category, for example home security lights. Furthermore, temporary lighting schemes may not require planning permission.

Planning permission is normally required for:

- Lights mounted on poles or other similar structures or if the structures and installation are substantial and affect the external appearance of the dwelling.

- External lighting proposed as part of an industrial or commercial scheme.

- New lighting structures or works which are integral to other development requiring planning permission.

- Illuminated advertisements, although there are some exceptions such as those indicating medical services and some commercial advertisements on the frontage of business premises.

However, the installation of a lighting scheme of such nature and scale that it would represent an engineering operation and typically be undertaken by specialist lighting engineers (Building Regulations now require specialist installation of lighting schemes) could be deemed "development" and as such is likely to require planning permission. Large-scale lighting installations such as the floodlighting of a football stadium or public tennis courts are clearly a form of development, which comes within this statutory definition and would require planning permission. For listed buildings, listed building consent is required for lighting schemes if it is deemed that the character of the building would be materially affected by the lighting.

3.2 We would advise prospective applicants to check with officers of the Council's Development Control service before installing any lighting scheme. When checking with the Council prospective applicants need to confirm the nature and extent of the scheme proposed, i.e. number of lights and their likely output, the height of the lighting columns (if applicable) and the area to be lit, to enable the officer to provide informed advice.

4 The Issues Relating to Obtrusive Light

4.1 It is recognised that artificial lighting is needed for many circumstances, including safety of movement and leisure activities. However, the wider use of lighting, often in circumstances where it is not required to be on all the time or is badly designed, has led to a rise in the number of complaints about obtrusive light received by local authorities. There is also increased awareness of the impact of light pollution and the impacts on wildlife. This combination of circumstances has raised the profile of obtrusive light as an environmental issue.

4.2 Obtrusive light is generally a consequence of poorly designed, poorly installed or insensitive lighting schemes. The three main problems associated with obtrusive light are:

Sky glow - the orange glow we see around urban areas caused by a scattering of artificial light by dust particles and water droplets in the sky;

Glare - the uncomfortable brightness of a light source when viewed against a darker background; and

Light trespass - light spilling beyond the boundary of the property on which a light is located.

4.3 Each of the three types presents very different problems for the general public and for the environment as a whole:

- *Sky glow* is the result of wasteful and ill-directed lighting and reduces the ability of people to see the natural night sky. This is a problem found not only in urban areas but also in rural areas where dark skies at night are one of the special and intrinsic qualities of the rural landscape. Artificial lighting can also destroy local character by introducing a suburban feel into rural areas.

- *Disability glare* and insensitive lighting can have serious implications for motorists who may become distracted or blinded by glaring lights spilling out on to the highway. Excessively bright artificial lighting at night can create glare to a dark adapted observer and, by comparison, create adjacent deep shadow which the eye cannot adjust well to. Bright or inappropriate lighting in the countryside can also have severe ecological implications. Obtrusive light in rural locations can affect the natural diurnal rhythms amongst a wide range of animals and plants.

- *Light trespass* is a common problem and can intrude on the residential amenity in both urban and rural settings causing stress and anxiety for people affected. In addition to these specific problems, obtrusive light increases the carbon footprint and represents a waste of energy, resources and money.

4.4 Whilst recognising the environmental problems associated with artificial lighting, the District Council also appreciates the role of lighting in allowing for safer mobility for pedestrians and cyclists, in reducing road accidents, in extending opportunities for sport and leisure and in some circumstances reducing crime.

- The safety of the general public is of the utmost importance and this supplementary planning document does not suggest that lighting should not be allowed. What the guidance does suggest is that lighting should be carefully directed and sensitively designed so as to reduce obtrusiveness.

- In appropriate locations, extension of sporting and leisure activities, helping people find commercial enterprises and enhancing the amenity value of important buildings may be considered beneficial. The Local Planning Authority will seek to balance the need for any such proposal against the disbenefits the proposal may bring, including dazzling or distracting drivers, creating hiding places in shadows, making an intrusion into the night scene (particularly in rural areas), spoiling other people's leisure activities, disrupting wildlife, energy use and CO_2 emissions.

- Fear of crime for example may be reduced by lighting but according to the Home Office reports, no clear evidence exists that lighting in itself will necessarily reduce crime. Used inappropriately, such as the lighting of remote industrial or farming premises, it may indeed aid the criminal or encourage anti-social behaviour.

4.5 Linked with this increasing demand has been a rise in the number of complaints about obtrusive light received by local authorities because the general public are now much better informed and concerned about the environmental impacts such as increased carbon emissions, affect on wildlife and sky glow. The combination of circumstances has raised the profile of obtrusive light as an environmental issue and it is now defined as a statutory nuisance in the *Clean Neighbourhoods and Environment Act 2005*.

4.6 Reputable manufacturers and installers of external artificial lighting systems should be prepared to provide appropriate technical specifications to demonstrate that their product provides only the appropriate amount of light and only in the right place and at the appropriate times for the intended use, thus avoiding obtrusive light (i.e. that which causes direct glare, nuisance, sky glow and affects on local wildlife). Installation contractors especially should be fully conversant with manufacturer's guidelines and lighting industry guidelines regarding optimum installation to avoid turning otherwise environmentally friendly lighting schemes into something obtrusive.

4.7 This Supplementary Planning Document clarifies what the District Council, as local planning authority, will take into account when considering proposals for lighting. It also sets out what information the applicant will need to provide in support of such a proposal.

5 General Factors to be taken into Consideration

5.1 The District Council has identified a number of factors that will be taken into consideration in the determination of planning applications for proposals that include lighting. These are an assessment of need, location of proposed lighting in relation to neighbouring uses, the nature and use of the proposed lighting, design and installation of lighting infrastructure.

An Assessment of the Need for Lighting

5.2 The Local Planning Authority will require the applicant to assess the need for the lighting scheme proposed, taking into consideration whether the development could proceed without lighting, whether the benefits of lighting outweigh any drawbacks and if there are any alternative measures that may be taken. Sources of visible light are no longer required for some types of CCTV and the District Council would encourage such technology, which saves energy as well as reducing the problems associated with bright white floodlighting. No lighting is ultimately the best solution in sensitive locations and therefore the Council will ensure that only lighting schemes that are necessary to the general use of the development are considered. The Local Planning Authority will also take account of the requirements of the Highway Authority with regard to proposals relating to highway safety.

The Location of the Proposal in Relation to Neighbouring Uses

5.3 The Local Planning Authority has identified three environmental zones against which impacts of external artificial lighting will be judged.

Environmental Zone 1: Within development boundaries - Lighting proposals that are within or adjoining residential or commercial areas will only be permitted if the applicant can demonstrate to the Local Planning Authority that the scheme proposed is the minimum needed for security and/or working purposes and that it minimises the potential obtrusive light from glare or light trespass to an acceptable level. Obtrusive light can have a significant impact on the amenity of residential areas in towns and villages. Where large scale lighting proposals are adjacent to a settlement boundary, regard will also be had to any detrimental impact on the surrounding countryside.

Environmental Zone 2: Outside development boundaries in the countryside - Lighting proposals within the open countryside will only be permitted if the applicant can demonstrate to the Local Planning Authority that the scheme proposed is the minimum needed for security and/or working purposes and that it minimises the potential for obtrusive light from glare or light trespass to an acceptable level. Artificial lighting in the open countryside can have a demonstrable effect on ‘dark skies’, one of the special qualities of the rural landscape.

Environmental Zone 3: Lighting proposals that neighbour or are near enough to significantly affect areas of nature conservation importance, e.g. Sites of Special Scientific Interest, National Nature Reserves and Local Wildlife Sites and habitats serving key foraging and/or commuting functions will only be permitted in exceptional circumstances. External artificial lighting can have severe implications for the natural diurnal rhythms in a range of animals and plants, and therefore sites and habitats which are deemed important in terms of their provision of wildlife should not be in anyway affected.

Particularly careful consideration will need be given to lighting installations that might affect those buildings and features which existing legislation acknowledges as deserving special protection (for example listed buildings, green heritage sites, and conservation areas) where government advice is that the special character of these areas, buildings and their settings should be protected from inappropriate development.

The Institution of Lighting Engineers has provided guidance on acceptable levels of illumination for specific environmental zones, which relate to the areas we have identified above. The Local Planning Authority will require any applications for lighting schemes to adhere to the following guidance for the relevant environmental zone (see Appendix 1, *Obtrusive Light Limitations for External Lighting Installations*).

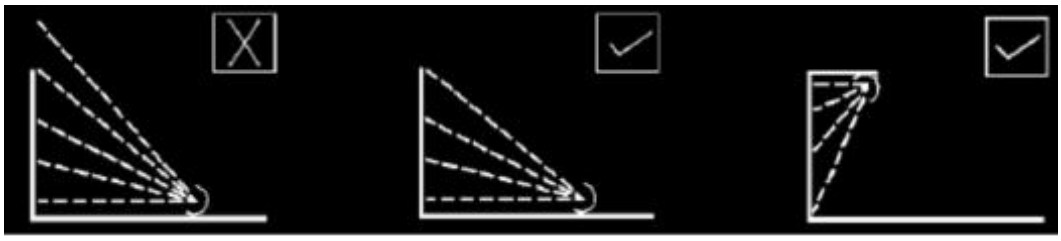
The Nature of the Use of the Lighting Proposed

5.4 For all lighting proposals, the applicant will identify the purpose and use of the lights, the potential users of the lighting scheme (e.g. for recreation facilities) and the hours the lights will be in operation (summer-time and winter-time). All lighting schemes hours of operation will be expected to be kept to a working minimum, and applicants will be expected to show this in their application. Keeping the use of the lighting to a minimum will reduce the impact the lighting may have on the environment.

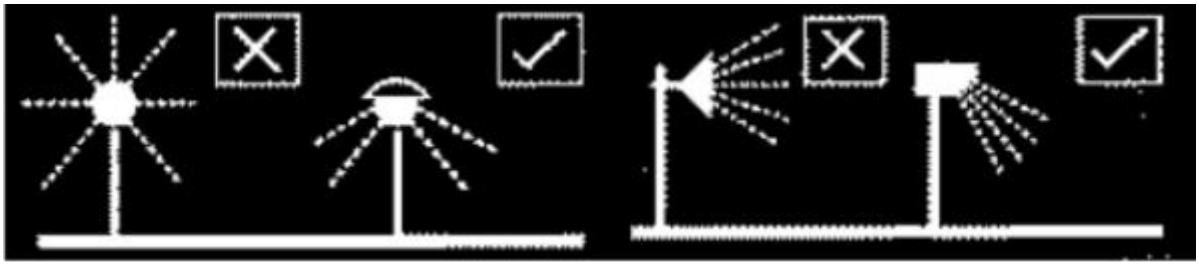
The Design of the Lighting Proposed

5.5 To achieve the necessary minimising of obtrusive light the applicant should adhere to the following general principles taken from the Institution of Lighting Engineers, *Guidance Notes for the Reduction of Obtrusive Light* (2005).

(a) Lighting is directed downwards wherever possible to illuminate its target (see image below). If there is no alternative to up lighting, then the use of shields and baffles will help reduce spill light to a minimum. Up lighting is a particularly bad form of obtrusive light and contributes to sky glow.

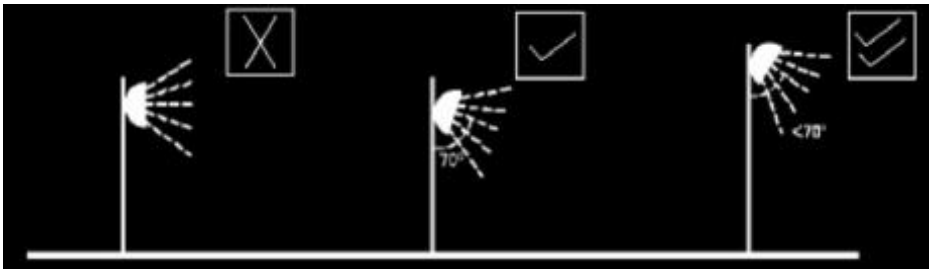


(b) Lighting is designed so as to minimise the spread of light near to, or above the horizontal (see image below). Again, any light that shines above the horizontal line of the light adds to the sky glow effect.



(c) Lighting should be designed to the correct standard for the task and should not over-light. (See Appendix 2, *Relevant Publications for Standards for Lighting*). Over-lighting is a cause of obtrusive light and also represents a waste of money and energy.

(d) The main beam angle of all lights proposed directed towards any potential observer is kept below 70° (see image below). It should be noted that the higher the mounting height, the lower the main beam angle could be. This will help reduce the effect of glare and light spill on neighbouring dwellings, passing motorists, pedestrians, etc.



(e) Lighting should be directed to minimise and preferably avoid light spillage onto neighbouring properties. Wherever possible use floodlights with asymmetric beams that permit the front glazing to be kept at or near parallel to the surface being lit.

(f) The lights used should be the most efficient taking into account cost, energy use, colour rendering and the purpose of the lighting scheme required. All lighting schemes should meet British Standards.

Installation of Lighting

5.6 The visual effect of the lighting installation when viewed during daylight hours can be as important as its effects at night. Therefore the design, size and colours of the physical infrastructure related to new lighting installations, including junction boxes, poles, brackets and cabling, needs to be carefully considered to ensure that any visual intrusion is minimised.

6 Specific Factors to be taken into Consideration for Various Land Uses

6.1 Different development proposals will warrant more specific guidance. The Local Planning Authority will take the following guidance into account when assessing external artificial lighting proposals. These extracts are based upon the Department of the Environment and the Countryside Commission publication, *Lighting in the countryside: Towards good practice* (1997 – this publication is only available online from www.communities.gov.uk website).

6.2 Advertisement Control

- Acceptable lighting levels for illuminated signs are given in *Brightness of Illuminated Advertisements – Technical Report Number 5* (2001) produced by The Institution of Lighting Engineers. All advertisement applications should conform to the recommendations set out in this report.

- Position promotional lighting/signs so that they are not visible from open countryside i.e. concentrate at public entrance to buildings;

- Consider timing of lights – avoid any lights being left on during daytime and turn off all lights after working hours.

- 'Sky beams' and 'upward laser displays' will be treated as advertisements and controlled as such.

6.3 Commercial Developments

- Avoid use of lights simply to create a 'presence' at night. Consider a reduction in lighting during agreed night hours, leaving only essential lights on through the night. For areas that may require occasional or part time lighting, motion sensors can be used. Lighting should be switched off when buildings are unoccupied.

- Concentrate lights where they are needed and establish a clear hierarchy, with minimum lighting around the outer, perimeter of the complex.

- Reduce the scale of street/road lighting and consider height and spacing of lights in relation to buildings, if other requirements like visibility, glare, etc. permit it.

- Positing promotional lighting/signs so that they are not visible from open countryside i.e. concentrate at public entrance to buildings.

6.4 Decorative Building Lighting and Public Art

- Where decorative lighting falls within planning control the Council will consider applications on their merits taking into account their local environmental impact.
- Keep lighting understated and aim to enhance rather than swamp architectural or artistic character.
- Ensure light is directed only at the structure, re-siting lights and using baffles and shielding where possible.
- Minimise up lighting where it distorts architectural detailing.
- It is expected that timer controls are used to ensure that buildings or public artworks will only be lit during the evenings when they will be appreciated by the public. Switching off decorative lights late at night, typically 11pm, will reduce sky glow and save energy. Curfews are expected to be earlier in the countryside.
- Consider the choice of surface materials being illuminated. The reflectance value may be high causing reflected light to generate excessive sky glow.
- External lighting is sometimes used as part of public art installations. It is acknowledged that 'light' might have a quality in its own right rather than for what it illuminates. It is not the intention of this SPD to exclude lighting effects, lighting sequences etc. where these might be proposed as a contribution to public art.
- Where the public art consists of lighting effects or lighting sequences in their own right, the Council will have regard to the intensity of light, its impact beyond the public realm space to which it relates and other guidance contained in this SPD.

6.5 Farms and Market Garden Centres

- To reduce light spillage, mount lights below the roof height of buildings and direct light downwards to where it is needed.
- Ensure that motion sensors are directed so as not to be tripped by animals.
- As far as possible, position lights so that they are shielded by buildings and are not visible from the surrounding countryside.
- The potential impact of light from glasshouses will be considered as part of the planning application.
- Avoid the use of all-night lighting by using timer controls.

6.6 Lighting Railway Stations and Road/Rail Interchanges

- Design the lights for the station as a whole, balancing the need for lighting in different areas and considering the impact of light in views from the surrounding countryside.
- Concentrate on lighting to enhance the architectural character of the station building rather than on creating an ‘urban’ level of light on the platform and in the station forecourt.
- Direct car park and security floodlights downwards and to where the light is required and switch off lights when the car park is not used late at night.

6.7 Mineral Extraction

- Mount lights below the roof height of buildings, and perimeter fencing, and direct light downwards to where it is required.
- Position lights so that they are shielded by buildings or permanent plant and are not visible from the surrounding countryside.
- Avoid lights mounted on the side of the buildings that shine directly out, dazzling users of the facility.
- Consider a reduction in lighting during agreed night hours, leaving only essential lights on through the night. For areas that may require occasional or part time lighting, motion sensors can be used. Lighting should be switched off when buildings and plant are unoccupied.

6.8 Petrol Filling Stations and Car Showrooms

- Canopy lights should be positioned to avoid light spill from the sides of the canopy.
- Avoid the use of dish diffusers, which cause additional glare.
- Reduce lighting or avoid it during daylight hours.
- Integrate design for promotional signage with that of the canopy.
- Avoid lighting internal fascia around canopy.
- Design and position signs to that they are visible only from the carriageway and not from the surrounding landscape.
- Consider a reduction in lighting during agreed night hours, leaving only essential lights on through the night. For areas that may require occasional or part time lighting, motion sensors can be used. Lighting should be switched off when buildings are unoccupied.

6.9 Residential Development

- Consider whether lighting is required at all, and where it will be most effective.
- Consider using PIR sensors for porch and other lights on houses so that they are only on when needed.
- Keep lighting in new residential areas in balance with that of the village as a whole and lighting on adjacent road junctions.
- Consider views from the surrounding countryside and avoid a line of lights, defining the edge of the settlement.

6.10 Road Junctions and Accesses

- All designs for road junctions and accesses must meet British Standards.
- Keep number of columns to a minimum – a single column may be sufficient on small roundabouts.
- Consider colour of lighting columns in relation to surrounding landscape.
- Use the most efficient lighting possible in terms of cost, energy use and colour rendering whilst meeting British Standards.
- Use of horizontal cut-off luminaires which emit less than 1.0% upward light.
- Carry out a visual appraisal and design lighting scheme to minimise visual intrusion of light at night and day.

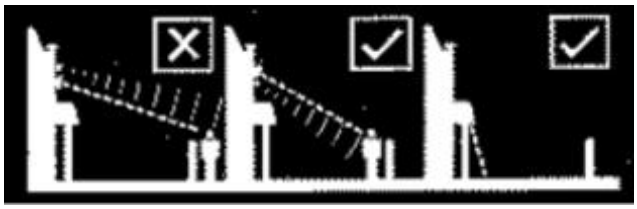
6.11 Car Parks

- Direct lighting downwards and design equipment to control levels of light spill and glare.
- Site lighting equipment carefully, making use of the backdrop provided by any existing vegetation and introducing new planting within the car park to help integrate the lighting structures and minimise the visual impact of both equipment and lighting.
- Use new hedgerows or tree planting to help minimise the impact of car park lights around the car park boundaries.
- All vegetation needs to be maintained and trimmed once it has been established otherwise it will block out the light
- Rural car parks need not necessarily be lit, but where they are they should have minimal full cut-off lighting and should be switched off when the premises served are closed. Public car park

lighting should cease when the car park is closed or when street lighting is switched off, whichever is later.

6.12 Security Lighting

- Passive infrared detectors should control lighting, avoiding the need for all night lighting. Avoid mis-installing sensors such that they can be tripped by road or footway users, see image below.



- A 150W (2000 lumen) tungsten halogen lamp is more than adequate for domestic security lighting. Lamps of higher intensity create too much light, more glare and darker shadows. For all-night lighting at low brightness use a compact fluorescent porch light of 9W (600 lumen).

- Lighting should be directed down to illuminate its target and mounted below the property boundary height so as to reduce light spill.

- Develop an integrated approach to security lighting, balancing levels of light with other lighting in and around the site to avoid glare and light spill as well as dark spots.

6.13 Sports Facilities

- Design lighting to be as directional as possible with no direct lighting above the horizontal using the minimum number of lights required, thereby reducing light pollution.

- For facilities that are more occasionally used, such as multi use games areas in rural areas, the use of tokens to switch on floodlights can ensure that lights are only on when needed, ensuring that sky glow is minimised and energy is saved.

- Consider the colour of lighting poles; light colours should be used if lights are generally seen against the sky or dark if there is a backdrop of vegetation.

- (Additional information is given in Appendix 3, *Guidance for Lighting Schemes for Outdoor Sports Facilities*)

7 Information Required

7.1 In addition to the information normally required for any other planning proposal, the Validation Checklist requires that applications including the provision of external lighting, including street lighting and security lighting, in both urban and countryside locations, should be accompanied by:

- Lighting designs for the proposed installations,
- Layout plan with beam orientation,
- Lighting levels, luminaire details, lamp type, wattage and control systems, and proposed hours when the lighting would be switched on.

All installations must be energy efficient and "Dark Sky" compliant, thereby not causing obtrusive light pollution, glare or spillage.

All new street lighting for roads to be adopted should comply with Essex County Council specifications. For unadopted accesses and private roads, parking courts, commercial and industrial development, proposals should also meet Essex County Council standards.

Additionally, applications should be accompanied by:

- A statement setting out why a lighting scheme is required, the proposed users, and the frequency and length of use in terms of hours of illumination (see paragraph 5.4).
- A site survey showing the area to be lit relative to the surrounding area, the existing landscape features together with proposed landscaping features to mitigate the impacts of the proposed lighting.

The lighting designs, layout plans and other information required under the Validation Checklist should be in the form of a technical report prepared by a qualified Lighting Engineer or the lighting company setting out the type of lights, performance, height and spacing of lighting columns. The light levels to be achieved over the intended area, at the site boundaries and, for large schemes, 150m outside of the boundary of the site, should be superimposed on a map of the site and its surrounding area.

7.2 Any proposal for the display of illuminated advertisements will need to be accompanied by that information normally required for any other planning proposal and additionally the information set out below:

- Details of the proposed location, positioning and dimensions of the sign face.
- The sign face maximum luminance in candelas per square metre.
- The number, size and type of light sources and details of the sign face materials.
- The type of illumination – internal or external; static or intermittent.

- Details of the make and catalogue number of any luminaires or floodlights.
- Size, type and number of lamps fitted within any luminaire or floodlight.
- The mounting height of the luminaires or floodlights specified.
- The location and orientation of the luminaires or floodlights.

Provision of this information may require professional advice and potential advisors can be found in Appendix 4, *Useful Addresses and Contacts*. For significant lighting schemes professional advice from a lighting manufacturer or from a qualified lighting engineer is recommended.

8 Types of Planning Conditions Applied

8.1 Where the District Council grants planning consent for a development proposal it will impose conditions controlling the lighting scheme provided. These may include:

- Limiting the time of use of the lighting;
- Limiting the light levels to a designated uniformity;
- Requiring replacement lighting schemes to be submitted for approval;
- Specifying lamps, luminaires and columns;
- Specifying the need for full horizontal cut-off;
- Specifying the need for passive infra red and other lighting controls;
- The design, height and position/angle of the lighting;
- The retention of screening vegetation;
- The use of planting and bunding to contain lighting effects;
- The future maintenance of the lighting schemes and post-installation checks in accordance with the original design and planning approval; and
- In exceptional circumstances, the granting of temporary planning permission to enable a review of lighting impacts after installation.

These conditions will be applied as necessary by the local planning authority to help reduce obtrusive light from new proposals, particularly glare and spillage, to protect wildlife and residential amenity and to reduce energy consumption and CO_2 emissions.

Appendix 1: Obtrusive Light Limitations for External Lighting Installations

Environmental Zone	Sky Glow UWLR (Max. %)	Light into Windows Ev (lux)		Source Intensity I (kcd)		Building Luminance L (cd/m^2)***
		Before Curfew	After Curfew	Before Curfew**	After Curfew	Average, Before Curfew
Zone 1	5	10	2	10	1	10
Zone 2	2.5	5	1	7.5	0.5	5
Zone 3	0	2	1*	2.5	0	0

Notes:
UWLR (Upward Waste Light Ratio) = Maximum permitted percentage of luminaire flux that goes directly into the sky.
EV = Vertical Illuminance in LUX.
I = Light Intensity in Candelas.
L = Luminance in Candelas per Square Metre.
Before/After Curfew = An agreed time, usually late evening, at which the level of artificial lighting should be reduced in the interests of maintaining residential amenity.
* Acceptable from public road lighting installations only.
** Source Intensity – This applies to each source in the potentially obtrusive direction outside of the area being lit. The figures given are for general guidance only and for some medium to large sports lighting applications with limited mounting heights, may be difficult to achieve. However, if the aforementioned recommendations are followed then it should be possible to lower these figures to less than 10kcd (kilo candela).
*** Building Luminance – This should be limited to avoid over lighting, and relate to the general district brightness.

Appendix 2: Relevant Publications for Standards for Lighting

British Standards:	BS 5489 & BS EN 13201-1:2003	Road Lighting
	BS EN 12193	Light & Lighting - Sports Lighting
CIBSE/SLL:	SLL	Code for Lighting (2006)
	SLL FF07	Environmental Considerations for Exterior Lighting (2003)
	LG04	Sports Lighting (2006)
	LG06	The Outdoor Environment (1992)
CIE Publications:	001	Guidelines for minimising Urban Sky Glow near Astronomical Observatories (1980)
	017.4	International Lighting Vocabulary (1987)
	083	Guide for Lighting of Sports Events for Colour Television and Film Systems (1989)
	094	Guidance for Floodlighting (1993)
	115	Recommendations for the Lighting of Roads for Motor and Pedestrian Traffic
	126	Guidelines for Minimising Sky Glow (1997)
	129	Guide for Lighting Exterior Work Areas (1998)
	136	Guide to the Lighting of Urban Areas (2000)
	150	Guide on the Limitation of the Effects of Obtrusive Light from Outdoor Lighting (2003)
ILE Publications:		Towards Understanding Skyglow (2007)
		Outdoor Lighting Guide (2005)
	TR05	Brightness of Illuminated Advertisements (2001)
	GP02	Lasers, Festive Lighting and Entertainments Code (1995)
	GP09	Lighting the Environment (1995)
	GN01	Guidance Notes for the Reduction of Obtrusive Light
	GN02	Domestic Security Lighting - Friend or Foe? (2005)
CLG:		Lighting in the Countryside: Towards Good Practice (1997; only available on-line)
CfDS		The CfDS Handbook: Blinded by the Light - A Handbook on Light Pollution
		CfDS Information Sheets

CfDS = Campaign for Dark Skies
CIBSE = Chartered Institution of Building Services Engineers
CIE = International Commission on Illumination
CLG = Department of Communities and Local Government
ILE = The Institution of Lighting Engineers
SLL = Society of Light and Lighting

Appendix 3: Guidance for Lighting Schemes for Outdoor Sports Facilities

Introduction

Sport plays an increasingly important role in the everyday lives of people today. There is now a greater need for more sports facilities provided to better specification levels than existing facilities and many older facilities are also being refurbished to improved specification levels. Most new sports facilities now have outdoor play areas, which to meet the demands of the modern consumer need to be open both during the daytime and the evening. Therefore, new sports facilities are almost always accompanied by artificial lighting schemes. Whilst recognising the advantages that lighting can bring in making more effective use of recreational facilities, the District Council is also conscious that such proposals can have an adverse environmental impact in terms of obtrusive light.

This guidance only gives a brief background to the nature of artificial lighting for sports facilities and the District Council would advise the applicant to refer to more technical guidance from The Chartered Institution of Building Services Engineers (CIBSE), *Lighting Guide 4: Sports Lighting* (2006). Lighting Schemes for sports facilities require considerable technical expertise. Reputable manufacturers and suppliers of lighting schemes should be prepared to provide appropriate technical specifications to demonstrate that their product not only maintains the levels of illumination required for the intended use, but also does so with the minimum of visual intrusion or obtrusive light.

Specific Guidance on Design and Illumination

Most sporting facilities require lighting of a uniform level over the whole playing area. This is normally best provided by downward facing lights mounted on columns. The Institution of Lighting Engineers recommends that the most effective way of achieving this and preventing light spillage into surrounding areas is to use floodlights with an asymmetric beam that, while producing the main beam at around 60° – 70°, permits the front glass to be kept horizontal. The upper limits to the beam will also need to be specified depending on circumstances but should normally not exceed 70° from the downward vertical.

Different sporting activities require different light levels on the playing surface. Sports such as hockey, with a fast moving small ball, require a much higher level of illumination than, for example, netball. It is usually the case that the higher the level at which a sport is played, for example County or National standard, the higher the level of illumination required. Training or more informal use may be undertaken with a lower level of illumination. Sport England provides advice on lighting in its design guidance for some individual sports and intends to issue a new guidance note in the future. In the meantime Sport England refer to *Lighting Guide 4: Sports Lighting* (2006).

Some sports facilities such as golf driving ranges present particular difficulties for floodlighting. Most sites tend to be in open countryside and have floodlights aimed either horizontally or slightly above the horizontal plane to enable players to follow the flight of the ball. These lights, which are often of considerable intensity and with a wide beam, can cause inconvenience to neighbours and can be a safety hazard; particularly where dazzle affects highway users. Golf driving range lights are probably one of the most polluting forms of floodlighting in that they invariably illuminate a much larger area

than is required. The only circumstances where a horizontal beam of this nature may be permitted are where the natural landform or a permanent natural or manmade landscape feature can effectively contain the light.

Careful consideration needs to be given to the positioning and height of lighting columns if an even light distribution over the playing surface is to be achieved whilst maintaining light spillage into adjacent property to a level below that indicated in Appendix 1. Floodlighting columns may vary in height from around 5m to 25m depending upon the type of illumination required and the area to be lit. The higher the lighting columns, the easier it is to ensure that the beam is directed downwards as indicated above, and to minimise light spillage to surrounding areas. A judgement in all cases will need to be made on the visual impact of the lighting columns during daylight hours as well as the impact of the floodlighting system when in use.

Floodlighting systems can utilise a number of different light sources each with its own particular characteristics in terms of colour rendering, operating costs, and the amount of glare produced. The type of light source will need to be carefully matched with the level of illumination required and the height and positioning of columns, the visual impact of which will be a material planning consideration. It is also essential that the fittings are sufficiently robust to ensure that the carefully aimed lamps necessary to minimise light spillage outside the floodlit site are not knocked out of alignment by high winds or the weight of snow.

In coming to a decision on the merits of a particular proposal, the District Council will take into account the use of the facility and the likely benefits to the general public. By definition, floodlighting allows sports facilities to be used for longer hours and throughout the winter. Floodlights must be operational for long hours to justify their initial capital cost and provide for the community's needs. Although in general 10pm is an acceptable curfew time for most sports floodlighting schemes in residential areas, exceptionally the curfew may be extended to 11pm where it meets the needs of the local community and in less environmentally sensitive areas such as employment areas. Planning conditions may be applied setting a curfew time based on the specific characteristics of an individual scheme. For facilities that are more occasionally used, the use of tokens to switch on floodlights can ensure that the lights are only on when needed, ensuring that sky glow is minimised and energy is saved.

Consideration will be given to the relationship between the use of the facility and the interests of conservation, amenity and safety. Where the impact of a proposal is considered to be unacceptable or cannot be mitigated through ameliorative measures, the protection of those recognised interests will prevail.

Appendix 4: Useful Addresses and Contacts

British Astronomical Association Burlington House, Piccadilly, London, W1V 9AG Tel: 0171 734 4145 www.britastro.org	**British Standards Institution** 389 Chiswick High Road, London, W4 4AL Tel: 0181 996 7000 www.bsi.org.uk	**Campaign for Dark Skies** Regional Information Officer (Essex) James Abbott Waterfall Cottages Park Road Rivenhall Witham CM8 3PR www.britastro.org/dark-skies
Ch. Institute of Building Services Engineers (Lighting Division) 222 Balham High Road, London, SW12 9BS Tel: 0181 675 5211 www.cibse.org	**Council for the Protection of Rural England** Warwick House 25 Buckingham Palace Road, London, SW1W 0PP www.cpre.org.uk	**International Commission on Illumination (CIE)** Central Bureau, Kegelgasse 27, A-1030 Wien, Austria Tel: 001 431 714 3187 www.cie.co.at
International Dark-Sky Association 3225 North First Avenue Tuscon AZ 85719 Tel: +1 (520) 293 3198 www.darksky.org	**Institution of Lighting Engineers** Regent House, Regent Place, Ruby, CV21 1PN Tel: 01788 576492 www.ile.org	**Lighting Industry Federation** Swan House, 207 Balham High Road, London, SW17 7BQ Tel:0171 675 5432 www.lif.co.uk
Sport England 16 Upper Woburn Place, London, WC1H 0QP www.sportengland.org		

Appendix 5: Glossary of Terms Used in External Lighting

The definitions and explanations given in this Glossary are intended to help readers to understand the Guidance.

Asymmetrical Beam – a fan shaped lighting pattern emitted by floodlights – available in wide, medium and narrow beams.

Beam Angle – the angle formed by the centre of the beam of light from a lamp relative to the vertical. When light is emitted from a lamp it forms a cone from the light source. The shape of this cone will depend on the reflector design in the lamp.

Candela – the unit of luminous intensity of a light source in a given direction.

Front Glazing – the front face of the lighting unit through which the light passes.

Glare – the discomfort or impairment of vision, which is experienced when part of the visual field is excessively bright in relation to the general surroundings. Direct glare normally occurs when the viewer can see the light source. Glare can cause discomfort or disability to see detail.

Illumination – the process of lighting an object or surface.

Light Trespass – any light which illuminates beyond that which needs to be lit, particularly into residential areas or properties, usually perceived to be a nuisance.

Lumen – the unit of luminous flux (light) emitted by a light source or falling on a surface or object.

Luminaire – the protective unit in which a lamp is fitted, formerly known as a light fitting. The apparatus which controls the distribution of flux from a lamp or lamps, and which includes all the components necessary for fixing and protecting the lamps for connecting them to the local supply circuit. Floodlights and some other luminaires retain their individual names.

Luminance – a term which expresses the intensity of the light emitted in a given direction by unit area of a luminous or reflecting surface. It is the physical equivalent of what is subjectively called brightness. The unit most commonly used is the candela per square metre.

Luminous Flux – the light emitted by a source or received by surface. The unit is the lumen (lm).

Luminous Intensity – the power of a source or illuminate surface to emit light in a given direction. The unit is the candela (cd).

Lux – the unit of measurement of illuminance (the amount of light falling on an object). One lux equals one lumen per square metre.

Main Beam Angle/Horizontal Cut-Off – a term applied to a luminaire. The angle measured from the downward vertical upwards to the first line of sight at which the lamp(s) or surface of high brightness is no longer visible. This angle is usually measured from the downward vertical or, for a floodlight, from the beam axis. Horizontal cut-off refers to the limiting of light above an imaginary line horizontal to the luminaire.

Mounting Height – the vertical distance between the luminaire and the ground or floor.

Obtrusive Light – any light, which illuminates areas beyond that which needs to be lit, that causes nuisance or glare, disturbs wildlife or causes light pollution, including sky glow. The extent to which it is perceived as being a nuisance will often depend on the background light from other sources and the intensity of the light.

Sky Glow – a phenomenon where light, usually from a major light source such as an urban area or industrial/recreational floodlight installation and often from many miles distant, is seen as a glow in the sky caused by light reflecting off particles in the atmosphere. Some of the light is reflected from the illuminated surfaces although most is emitted directly skyward from poorly designed lighting systems. Sky glow resulting from poorly designed systems is particularly noticeable in dark landscapes where there are few other light sources. Most rural areas would fall into this category.

Braintree District Council
Local Development Framework

Supplementary Planning Document

External Artificial Lighting

Sustainability Appraisal

Adopted September 2009

Braintree District Council

Contents

1 Introduction 2

2 Appraisal Methodology 3

3 Background 4

4 Objectives, Baselines and Context 6

5 The Sustainability Appraisal 9

6 Sustainability Effects of the SPD 10

7 Monitoring 11

Appendix 1: Sustainability Indicators 12

SEA Screening Statement

1 Introduction 17

2 External Artificial Lighting Draft Supplementary Planning Document 18

3 The Sustainability Appraisal 20

4 The Screening Process 21

5 Conclusions 22

1 Introduction

1.1 The External Artificial Lighting Supplementary Planning Document (SPD) expands upon the policies relating to affordable housing in the Braintree District Local Plan Review (LPR), adopted in July 2005. In particular it supplements policy RLP 65 *External Lighting* and RLP 135 *Floodlighting of Sports Facilities*.

1.2 The SPD sets out the criteria that will be used by the District Council as local planning authority in assessing and determining proposals which include external artificial lighting. It shows what technical information an applicant will need to provide so that the District Council may have sufficient information to determine an application for a new lighting scheme. It also identifies the various conditions that the local planning authority may apply to a lighting scheme when granting planning permission. The SPD includes standards for lighting, additional information for the lighting of sports facilities and useful contact addresses to assist applicants to gain further advice on lighting matters.

1.3 This Sustainability Appraisal (SA) is required under Regulation 39 of the Planning and Compulsory Purchase Act 2004. The approach to the sustainability appraisal in this report reflects the Government's sustainability agenda and guidelines for undertaking sustainability appraisals. In *A Better Quality of Life – A Strategy for Sustainable Development in the UK – CM 4345* (May 1999) the Government sets out four aims for sustainable development:

- social progress which recognises the needs of everyone;
- effective protection of the environment;
- the prudent use of natural resources; and
- the maintenance of high and stable levels of economic growth and employment.

These were set out in PPS1: Delivering Sustainable Development.

1.4 This SA accompanies the SPD and drafts of both documents were published for consultation between 5 June and 17 July 2009. No changes to the SA followed from this consultation and both documents were adopted by the Council on 30th September 2009.

1.5 The Council has prepared a screening document which demonstrates that a Strategic Environmental Assessment (SEA) is not required for this SPD (see paragraph 5.3).

2 Appraisal Methodology

Approach Adopted for the Sustainability Appraisal

2.1 The approach taken in this Sustainability Appraisal for the External Artificial Lighting SPD recognises that sustainable development is not limited to environmental concerns but recognises that economic and social issues also need to be taken into account. The Sustainability Appraisal of the Braintree District Local Plan Review Adopted July 2005 was based on a list of 28 objectives used in the Braintree Quality of Life Plan. These objectives represented a range of sustainability criteria affecting people's everyday lives as well as longer-term social, economic and environmental questions against which the implications for sustainability of the Plan could be assessed. These were grouped under the following 13 headings:

- Housing
- Jobs, skills and the local economy
- Transport
- Built environment and landscape
- Energy, water and pollution
- Waste
- Nature conservation
- Health
- Community Safety
- Leisure and recreation
- Arts and heritage
- Equalities and welfare
- Promoting democracy.

2.2 This sustainability appraisal uses the same set of criteria to enable a direct comparison to be made between two options:

Option 1 – Adopting an SPD to add value to the LPR Policies by enabling the Council to give additional guidance to applicants for planning permission to enable those applicants to produce effective lighting schemes and reduce impacts on the environment and the amenities of neighbours.

Option 2 – A 'do nothing' scenario in which the existing LPR Policies RLP 65, RLP 90 and RLP 135 on floodlighting will be the sole basis for controlling the environmental and social effects of floodlighting.

It was prepared in tandem with the SPD and consultation on both documents was undertaken simultaneously.

2.3 The SA process incorporates the requirements of the EU *Strategic Environmental Assessment Directive*, which requires certain types of UK plans and programmes to undergo a formal environmental assessment.

3 Background

Purpose of the Sustainability Appraisal

3.1 In accordance with the Council's *Statement of Community Involvement*, a sustainability appraisal must be undertaken for each SPD. The purpose of the sustainability appraisal is to promote sustainable development through better integration of sustainability considerations into their preparation. The appraisal looks at the guidance contained in the SPD and examines how it contributes to the aim of sustainable development. Identifying issues at an early stage enables the guidance to be changed and amended to ensure that it is as sustainable as possible.

3.2 The approach to sustainable development addresses social, economic and environmental concerns and covers a wide range of issues from local to global effects of development. This appraisal assesses the effect of the External Artificial Lighting Supplementary Planning Document on sustainability by assessing whether there are any impacts additional to those which may have been identified under the LPR policies.

Policy Context

3.3 The Braintree District Local Plan Review (BDLPR), adopted in July 2005, provides general guidance on external artificial lighting through Policies RLP 65 *External Lighting*, RLP 135 *Floodlighting of Sports Facilities* and RLP 90 *Layout and Design of Development* (criterion 10). Additionally there are a number of policies which seek to protect amenity, the environment, character of urban and rural areas, landscape, habitats and wildlife from development and external lighting would also need to be assessed against these policies – RLP 3 *Development within Town Development Boundaries and Village Envelopes*, RLP 17 *Extensions and Alterations to Dwellings in Towns and Villages*, RLP 79 *Special Landscape Areas*, RLP 80 *Landscape Features and Habitats* and RLP 84 *Protected Species*. The Secretary of State for Communities and Local Government has confirmed that these policies can be 'saved' under Regulations relating to the *Planning and Compulsory Purchase Act 2004*.

3.4 The SPD draws from leading professional guidance on lighting and refers applicants to these sources. They are:

Guidance Notes for the Reduction of Obtrusive Light The Institution of Lighting Engineers (2005)

Lighting the Countryside: Towards Good Practice Countryside Commission (1997) (out of print)

Brightness of Illuminated Advertisements – Technical Report No.5 ILE (2001)

Lighting Guide 4: Sports Lighting Chartered Institute of Building Services Engineers (2006)

3.5 The External Artificial Lighting SPD will supplement the existing Local Plan Review by providing guidance and advice to developers on how the policies should be interpreted and implemented, and to enable them to plan for external lighting within the SPD's guidelines as an integral part of any development proposal.

SPD Objective

3.6 The External Artificial Lighting SPD has one principle objective – to provide advice and guidance to applicants contemplating a lighting scheme or proposal on what factors will be taken into account by the District Council in determining planning applications for such schemes.

3.7 The SPD gives further guidance on:

- when planning permission is required,
- issues relating to obtrusive light,
- general factors to be taken into consideration, including assessments of need, location in relation to neighbouring uses, nature of the use of the lighting proposed and the design of the lighting,
- specific factors to be taken into consideration for various land uses including advertisements, commercial development, decorative lighting of buildings, farms and market garden centres, railway stations and road/rail interchanges, mineral extraction, petrol filling stations, residential development, road junctions and accesses, rural car parks, security lighting and sports facilities,
- the information which should accompany planning applications for external artificial lighting and the types of conditions which the District Council may impose to control lighting schemes where approved.

Appendices give advice on obtrusive light limitations for external lighting installations, relevant publications for standards for lighting and guidance for lighting schemes for outside sports facilities, useful addresses and contacts and a glossary of terms used in external lighting.

4 Objectives, Baselines and Context

Links to Other Strategies, Plans and Programmes

4.1 The SPD is part of a hierarchy of planning policy. It must conform to the Braintree District Local Plan Review, and is consistent with the Regional Spatial Strategy *East of England Plan* (2008) and national planning policies which support the Government's sustainability agenda.

4.2 Other policies in the LPR are also relevant because they relate to:

protection of amenity – RLP 3 and RLP 17,

protection of the landscape – RLP 79,

protection of habitats – RLP 80 and

protected species – RLP 84.

These policies have also been 'saved' by the Secretary of State. This sustainability appraisal will not consider these other policies because its purpose is to consider the likely effects of the SPD on implementing the external artificial lighting policies.

Baseline Characteristics

4.3 The current policy on external artificial lighting dates from the First Draft Local Plan Review. The adopted LPR covers the period 1996-2011, but has a baseline of 31 March 2002 and the policies referred to above will continue in force until replaced by development plan documents. The SPD supplements the LPR policies by reference to guidance on external lighting, available from the Institution of Lighting Engineers and the Chartered Institute of Building Services Engineers, which have been incorporated into the Document

4.4 The SPD is intended to ensure that applicants for planning permission will provide the right type of lighting in the right location to minimise any detriment to the environment. Information on the environmental, social and economic baseline of the LPR provides the basis for predicting and monitoring effects and helps to identify problems and alternative ways of dealing with them. The sustainability appraisal of the LPR found no adverse impacts from any of the external lighting or floodlighting policies and no such policies were amended as a result of the SA.

The Sustainability Appraisal Framework

4.5 To enable a direct comparison to be made between the Local Plan Review Policies and the External Artificial Lighting SPD the same 28 sustainability objectives were used, grouped under the following headings:

Social

Housing

- Access to housing
- Quality, quantity and affordability

Built environment and landscape

- Local distinctiveness
- Design – utility, aesthetics and sense of community

Health

- Health – lifespan and quality
- Access to health services

Community Safety

- Crime and disorder reduction
- Reduce perceptions of insecurity
- Reduce accidents

Leisure and recreation

- Encourage leisure activities
- Maximise leisure and sports opportunities

Arts and heritage

- Access to the arts
- Preservation of local cultural heritage

Equalities and welfare

- Access to affordable housing, food, water and fuel
- Access to community services and facilities
- Opportunities for disadvantaged citizens and groups

Promoting democracy

- Opportunities to participate in decision-making

Environmental

Energy, water and pollution

- Energy, water and natural resources
- Pollution – air, water, land and noise

Waste

- Reduction in refuse and solid waste
- Sustainable waste management

Nature conservation

- Protection of biodiversity
- Opportunities for nature conservation

Economic

Jobs, skills and the local economy

- Stable and sustainable local economy
- Physical access to employment
- Training and skills

Transport

- Access – modal shift
- Impact of transport

4.6 These sustainability objectives not only encompassed, but also went beyond the issues published by the Government in *Sustainable Communities for the 21st Century*. Each policy in the Local Plan Review was appraised through the use of a sustainability matrix and the impact of the policies measured in terms of having clear adverse effects or having unclear objectives. This process focused on policies where change was considered essential or desirable. In total 5 strategy elements and 39 policies, nearly a quarter of the policies contained in the Plan, were changed.

5 The Sustainability Appraisal

5.1 This appraisable adopts the most commonly employed method of using a sustainability matrix to cross-reference policies to specific sustainability objectives. The matrix is used to compare the impacts of the principal LPR policy (RLP 138) with the impacts of the additional guidance given in SPD. As both were appraised on a similar basis, the SPD should achieve at least the same level of sustainability as the LPR and, ideally, some improvement. The matrix compares the relative effects of the SPD in comparison to the baseline data and assesses them as positive, neutral or negative.

5.2 The SPD provides guidelines for achieving sustainable external artificial lighting with a reduction in light pollution and loss of amenity. The following elements of the SPD were tested against the selected sustainability indicators:

- **Assessment and justification** of need for lighting
- **Environmental zones** in which the lighting is proposed
- **Use** for the lighting and the **hours of operation**
- **Design** of the lighting equipment
- **Guidance notes** for examining specific land uses and lighting proposals

Strategic Environmental Assessment

5.3 The Council undertook a screening exercise to determine whether a Strategic Environmental Assessment (SEA) should be carried out in accordance with the *Environmental Assessment of Plans and Programmes Regulations 2004*. Before making its determination, the Council carried out consultation with the three statutory bodies - English Heritage, Natural England and the Environment Agency. No objections were raised to the Council's determination that a SEA was not required, because the External Artificial Lighting SPD was a thematic document that supplements existing saved policies in a Local Plan and is unlikely to have any significant environmental effects in comparison with relying on existing policies alone. See Appendix 2 for the Screening Statement.

6 Sustainability Effects of the SPD

6.1 The positive effects of the SPD will be mostly social. The SPD aims to reduce loss of amenity for people living near to external lighting and the effects of glare from light which is too intensive. Both of these may impact on people's well being. The SPD also ameliorates the environmental impacts of external artificial lighting schemes by reducing the level of intensity and the amount of light pollution.

6.2 The results of the assessment of the sustainability implications of having an External Artificial Lighting SPD rather than relying on Policies RLP 65 and RLP 135 alone are:

- **Need** for lighting – encouraging applicants to critically assess and justify the need for a lighting scheme will help to raise standards and minimise obtrusion of light in its many forms.

- **Environmental zones** in which the lighting is proposed – a further refinement of policy which will have the effect of tailoring lighting schemes to the sensitivity of the location.

- **Use** for the lighting and the **hours of operation** – keeping the use of lighting to a working minimum will reduce the impact of lighting on the environment.

- **Design** of the lighting equipment – guidance is intended to minimise obtrusive light to reduce sky glow, to reduce the amount of light and consequent waste of energy, and to reduce glare to protect the environment, to increase safety and ensure that lighting infrastructure is of a high standard of design.

- **Guidance notes** for examining specific land uses and lighting proposals – the SPD will have a positive effect by giving more detailed guidance on the approach to external lighting for a variety of land uses, thereby raising the quality of lighting proposals.

Using the Supplementary Planning Document in addition to the Braintree Local Plan Review Policies will have net beneficial effects in the following areas:

Social indicators - built environment and landscape, quality of life, community safety and preservation of the local cultural heritage.

Environmental indicators – light pollution and biodiversity.

7 Monitoring

7.1 The implementation of the SPD and its sustainability effects will be assessed by monitoring the number of complaints received about light pollution, glare and other nuisances caused by new floodlighting schemes.

The overall sustainability effect of the SPD will be assessed by having regard to the type of lighting being permitted. Any adverse impacts that arise will be addressed through future modification to the guidance. The results of this assessment will be published in the Annual Monitoring Report.

Appendix 1: Sustainability Indicators

Additional Guidance on External Artificial Lighting - Preferred Option

SUSTAINABILITY INDICATORS	Assessment of the NEED for external lighting	Guidance for external lighting in ENVIRONMENTAL ZONES	PURPOSE and HOURS OF OPERATION of lighting proposals	DESIGN of lighting	Guidance for SPECIFIC LAND USE scenarios
SOCIAL INDICATORS:					
Housing					
Access to housing	0	0	0	0	0
Quality, quantity and affordability of housing	0	0	0	0	0
Built Environment and Landscape					
Local distinctiveness	+	+	+	+	+
Design - utility, aesthetics and sense of community	+	+	+	+	+
Health					
Lifespan and quality of life	+	+	+	+	+
Access to health services	0	0	0	0	0
Community Safety					
Reduction in crime and disorder	0	+	+	+	?
Reduce perceptions of insecurity	0	+	+	+	?
Reduce accidents	+	?	?	+	?
Leisure and Recreation					
Encourage leisure activities	?	?	?	?	?
Maximise leisure and sports opportunities	?	?	?	?	?
Arts and Heritage					
Access to the arts	0	0	0	0	0
Preservation of the local cultural heritage	+	+	+	+	+

SUSTAINABILITY INDICATORS	Assessment of the NEED for external lighting	Guidance for external lighting in ENVIRONMENTAL ZONES	PURPOSE and HOURS OF OPERATION of lighting proposals	DESIGN of lighting	Guidance for SPECIFIC LAND USE scenarios
Equalities and Welfare					
Access to affordable housing, food, water and fuel	0	0	0	0	0
Access to community facilities and services	0	0	0	0	0
Opportunities for disadvantaged citizens and groups	0	0	0	0	0
Promoting Democracy					
Opportunities to participate in decision making	0	0	0	0	0
ENVIRONMENTAL INDICATORS:					
Energy, Water and Pollution					
Energy, water and natural resources	0	0	0	0	0
Pollution of air, water, land and noise	+	+	+	+	+
Waste					
Reduction in refuse and solid waste	0	0	0	0	0
Sustainable waste management	0	0	0	0	0
Nature Conservation					
Protection of biodiversity	+	+	+	+	+
Opportunities for nature conservation	0	0	0	0	0
ECONOMIC INDICATORS:					
Jobs, Skills and the Local Economy					
Stable and sustainable local economy	0	0	0	0	0
Physical access to employment	0	0	0	0	0
Training and skills	0	0	0	0	0

SUSTAINABILITY INDICATORS	Assessment of the NEED for external lighting	Guidance for external lighting in ENVIRONMENTAL ZONES	PURPOSE and HOURS OF OPERATION of lighting proposals	DESIGN of lighting	Guidance for SPECIFIC LAND USE scenarios
Transport					
Access to transport - securing a modal shift	0	0	0	0	0
Impact of transport	0	0	0	0	0

Table 1

+ Beneficial effect

- Detrimental effect

0 Neutral effect

? Uncertain

SEA Screening Statement

1 Introduction

1.1 The Council is preparing an External Artificial Lighting Supplementary Planning Document (SPD) which expands upon the saved policies for affordable housing in the Braintree District Local Plan Review, adopted in July 2005. A Sustainability Appraisal is also being prepared to accompany the SPD and both documents will be subject to public consultation early in 2009.

1.2 Sustainability Appraisals are required to incorporate the requirements for Strategic Environmental Assessments (SEAs) as set out in the *Environmental Assessment of Plans and Programmes Regulations 2004* which implements the *European Directive 2001/42/EC* on the assessment of the effects of certain plans and programmes on the environment. The Regulations place an obligation on local authorities to undertake an SEA on any land use plan which sets the framework for future development.

1.3 Where plans determine the use of only small areas at a local level, and for minor modifications, an exception may be made to this requirement if the local authority determines that the plan is unlikely to have significant environmental effects. To assist in this determination, local authorities are required to undertake a screening process, based on a set of criteria specified in the Regulations, to assess whether the plan is likely to have significant environmental effects. Before making its determination, a local authority is required to consult on the screening process with the three statutory bodies comprising the Natural England, English Heritage, and the Environment Agency.

1.4 The Council considers that the External Artificial Lighting SPD will not have any significant environmental effects since it is simply a thematic document that supplements existing local plan policies, and therefore a SEA under Directive 2001/42/EC is not required. A draft SEA Screening Document was sent to the statutory bodies as part of the consultation process for their opinion on whether or not a SEA is required. No contrary views were expressed.

2 External Artificial Lighting Draft Supplementary Planning Document

2.1 There is an increasing use of external lighting, including security lighting, sports floodlighting and illumination of buildings. There are many benefits of external lighting; it provides for increased public safety, increased security for people and property, enables more extensive use to be made of sports facilities and car parks, and can improve the visual appearance of some buildings. Together with these benefits are a number of disadvantages, mostly arising from the way in which the illumination is provided. Lighting may have an adverse impact on people through glare and intensity; safety may be compromised by contrast between light and shadow, and the environment may be affected by various forms of light spillage, including sky glow which can affect enjoyment of the night sky. Not all forms of external lighting require planning permission, but where they do so the Council will have regard to the planning policies of the Braintree District Local Plan Review (LPR), adopted in 2005.

2.2 Three policies referring to external lighting were included in the Adopted Braintree District Local Plan Review:

Policy RLP65 External Lighting

Proposals for external lighting which will require planning permission will only be permitted if:

1. The lighting is designed as an integral element of the development;
2. Low energy lighting is used;
3. The alignment of lamps and provision of shielding minimises spillage and glow, including into the night sky;
4. The lighting intensity is no greater than necessary to provide adequate illumination; and
5. There is no significant loss of privacy or amenity to nearby residential properties and no danger to pedestrians and road users;
6. There is no unacceptable harm to natural ecosystems.

Policy RLP 135 Floodlighting of Sports Facilities

Floodlighting of sports facilities will be permitted, provided that it is not unacceptably intrusive, or has an unacceptable impact upon the surrounding area and it minimises glare and light spillage from the site.

Consideration will be given to the effect of light upon local residents, vehicle users, pedestrians, nocturnal fauna and the night sky.

Consideration will also be given to limiting the hours of use. Additionally the Council referred to lighting proposals in the general policy on the layout and design of development:

Policy RLP 90 Layout and Design of Development

The Council seeks a high standard of layout and design in all developments, large and small, in the District. Planning permission will only be granted where the following criteria are met:

….(x) The design and level of any lighting proposals will need to be in context with the local area.

2.3 Whilst the LPR policies were used to provide guidance to applicants for planning permission, and will for the time being continue so to do, the SPD provides additional guidance on how the Local Plan Review policies will be used to raise the quality of proposals for lighting schemes. It covers detailed issues such as sources of obtrusive light, general factors to be taken into consideration in determining planning applications, specific factors to be considered in different types of uses and planning conditions that are likely to be applied. It provides more detailed guidance for designers of lighting schemes and will enable a finer degree of control over lighting proposals. This will be to the benefit of both people and the environment, and encourage a reduction of energy wastage in the interests of sustainability.

3 The Sustainability Appraisal

3.1 A sustainability appraisal is required for all DPDs and SPDs under the *Planning and Compensation Act 1990*, and must incorporate the requirements of the SEA Directive. However, the Directive is not applied to plans and programmes which "determine the use of small areas at a local level" or which are "Minor modifications" **unless** they are determined to be likely to have significant environmental effects.

3.2 The ODPM guidance on Sustainability Appraisal of Regional Spatial Strategies and Local Development Documents states in Appendix 1 that the criteria in Article 3.3 may on occasion apply to SPDs in the form of design guides or issues based documents that supplement policies in the DPD. It is for the local authority to determine whether there are significant environmental effects, and where they consider that a plan is exempt the Directive requires the local authority to follow a screening procedure by consulting the specified environmental bodies on whether or not there are likely to be significant environmental effects. The determination and a statement of reasons for reaching it must be made available to the public and local authorities are advised to include it in the SA Report during the consultation process.

3.3 Even where there are no significant environmental effects, the SA will be used to assess whether there are any economic or social effects. Since the Adopted Braintree Local Plan Review was subject to a sustainability appraisal, the SPD SA will compare the effects of the External Artificial Lighting SPD with the effects of operating the LPR policies without any additional guidance.

4 The Screening Process

4.1 Annex II of the Directive sets out the relevant criteria to be used in the screening process to determine whether the Draft External Artificial Lighting SPD is exempt from the requirements of Directive 2001/42/EC:

1. The characteristics of plans and programmes having regard to:

- the degree to which it sets a framework for projects and other activities
- the degree to which it influences other plans and programmes
- the relevance for integration of environmental considerations in particular with a view to promoting sustainable development
- environmental problems relevant to the plan or programme
- relevance for the implementation of Community legislation on the environment.

2. Characteristics and effects of the area likely to be affected having regard to:

- probability, duration, frequency and reversibility of the effects
- cumulative nature of the effects
- transboundary nature of the effects
- risks to human health or the environment
- magnitude and spatial extent of the effects (geographical area and size of population likely to be affected)
- value and vulnerability of the area likely to be affected due to:
- special natural characteristics or cultural heritage
- exceeded environmental quality or standards or limit values
- intensive land use
- effects on areas or landscapes which have a recognised national, Community or international protection status.

4.2 The screening process required the Draft External Artificial Lighting SPD to be assessed against the criteria listed above and the results are listed in Table 1. The table shows that the SPD is unlikely to have any significant environmental effects.

5 Conclusions

5.1 The screening process has demonstrated that the External Artificial Lighting SPD will not have any significant environmental effects and that a Strategic Environmental Assessment need not be incorporated into the Sustainability Appraisal.

Table 1 SEA Screening Process

SEA Directive Criteria	Response
The degree to which the plan or programme sets a framework for projects and other activities, either with regard to the location, nature, size and operating conditions or by allocating resources.	The SPD will not set a framework for any other projects or activities; rather it will supplement existing planning policies in the Braintree District Local Plan Review which control the use of external artificial lighting. The SPD simply provides more detailed guidance on how the external lighting policies RLP 65 and RLP 135 will be implemented in different land use scenarios, and gives greater guidance to designers of lighting proposals.
The degree to which the plan or programme influences other plans or programmes including those in a hierarchy.	The SPD is the lowest form of plan in the hierarchy and is subservient to the Local Plan Review and Regional Planning Guidance. It will not influence these or any other plans or programmes.
The relevance of the plan or programme for the integration of environmental considerations in particular with a view to promoting sustainable development.	The SPD will promote sustainable development in accordance with the principles of PPS12. Its guidance will address issues of light pollution and its impact on people and the environment. It will also encourage a reduction in the intensity of lighting and in the amount of energy wasted, and contribute to more sustainable development.
Environmental problems relevant to the plan or programme.	The SPD will not lead to environmental problems. A sustainability appraisal including social, economic and environmental effects has already been undertaken on the policies and proposals of the Local Plan Review, including policies RLP 65 and RLP 135.
The relevance of the plan or programme for the implementation of Community legislation on the environment (e.g. plans and programmes linked to waste management or water protection).	The SPD has no relevance to the implementation of Community legislation on the environment.

SEA Directive Criteria	Response
The probability, duration, frequency and reversibility of the effects.	The SPD will have positive social effects through the improvement in external lighting schemes. There are no adverse environmental effects – indeed local environments will be improved. The effects of the SPD will be limited to the period over which it remains in force and for a period of time thereafter. It will be further limited because not all lighting schemes will require planning permission. The effects could be reversed if the policy was to be discontinued.
The cumulative nature of the effects.	The cumulative nature of the effects will depend on the number of proposals for external lighting which will be subject to planning policies. The SPD gives good guidance which may help to improve the quality of lighting schemes whether or not they require planning permission.
The transboundary nature of the effects.	The SPD applies only to development within the administrative area of Braintree District Council and will not impact on the neighbouring local authorities unless a lighting proposal would be located near to the District boundary.
The risks to human health or the environment (e.g. due to accidents).	The SPD will not pose risks to human health; rather it may prevent accidents by discouraging glare from lighting schemes.
The magnitude and spatial extent of the effects (geographical area and size of population likely to be affected).	The SPD provides guidance on the provision of external lighting in Braintree District, but its impact will be limited geographically to those areas in which external lighting is proposed.
The value and vulnerability of the area likely to be affected due to special characteristics or cultural heritage, exceeded environmental quality standards or limit standards, or intensive land use.	The area to which the policy applies does not have any special characteristics which will be harmed by the guidance in the SPD. Nevertheless the guidance is likely to improve the standard of external lighting in the more sensitive areas such as the countryside and reduce the adverse impacts of external lighting in the more densely populated settlements.

SEA Directive Criteria	Response
The effects on areas or landscapes which have a recognised national, Community or international protection status.	There are no areas or landscapes within Braintree District that have a recognised national, European Community or international status.