



Cumbria County Council

**Road Lighting Policy**

**Version 2.1**

**2014**

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## 1 Introduction

- 1.1 This document describes how the Code of Practice for Highway Lighting Management, “Well lit Highways” (The Code) 2013, will be implemented by Cumbria County Council. It is part of the suite documents which include the Asset Management Plans and Highways Maintenance Manual. It also describes the Council’s policy in relation to other electrical installations associated with the Highway network.
- 1.2 The management of road lighting, illuminated signs, bollards and other equipment is seen as an integral part of the management and maintenance of the highway infrastructure. The Council gives a high priority to ensuring safe and efficient maintenance of the existing highway network and recognises that this is critical to achieving the wider aims of the Council.
- 1.3 This document relates to the highway network for which the County Council is responsible as the Highway Authority. It does not cover footway lighting which may be installed on the highway network for which district or parish councils are the lighting authority.
- 1.4 The term “lighting installation” includes road lighting, illuminated traffic signs, bollards and other electrically serviced items. It also includes items of equipment that have no electrical service such as solar or wind powered.
- 1.5 The policies set out in this document are complimented by service standards and procedures published by the County Council.
- 1.6 Appendix A to this document contains a Glossary of frequently used abbreviations.
- 1.7 The policies set out in this document are the County Council’s policies that apply to all road lighting, illuminated signs and other electrical installations on the highway. The standards are minimum standards which may be increased at a local level at the discretion of the Local Committee, using funding available to them.

## 2 Objectives

- 2.1 The provision of road lighting shall support the key aims of the County Council’s, Council Plan:
  - To safeguard children, and ensure that Cumbria is a great place to be a child and grow up
  - To enable communities to live safely and shape services locally
  - To promote health and well-being, and tackle poverty

- To protect and enhance Cumbria's world class environment
- To provide safe and well maintained roads and improved transport network
- To promote sustainable economic growth, and create jobs
- To support older and vulnerable people to live independent and healthy lives
- To be a modern and efficient council

2.2 The County Council believes that well designed and maintained road lighting makes a positive contribution to reducing night-time traffic collisions, reducing crime and fear of crime, helping business, improving the urban night-time environment and encouraging walking and cycling after dark. Equally, the Council recognises the problems caused by light pollution and has set out policies and standards which take into account location and Environmental factors.

2.3 The Council is also committed to minimising energy consumption for lighting through innovation and strategy, and using energy from renewable sources where possible and available.

2.4 The main objectives of the provision and maintenance lighting are:

- to provide a safe network for all highway users, taking into account the needs of more vulnerable groups, but with the principal aim of reducing night-time accidents.
- to maintain lighting to a standard which ensures as far as possible a safe, economic, effective and reliable use of the highway during the hours of darkness.
- to contribute to crime reduction strategies by improving lighting where funding is available in order to provide a safer night-time environment.
- to contribute to the economic well-being of the County by helping transport movements and enhancing the night-time environment of urban areas, including tourist centres.
- to protect the night-time environment by setting levels of lighting provision which reflect the variety and diversity of the County.

2.5 The objective of providing illuminated signs and bollards is to inform the movement of traffic at junctions and other locations which will contribute to user safety.

### 3 Provision of the Service

#### 3.1 Legal powers and duties

3.1.1 There is no statutory requirement on Local Authorities in the United Kingdom to provide public lighting. The following statutes empower local authorities to light roads but do not impose a duty.

3.1.2 In England and Wales, the Highways Act 1980 empowers a Highway Authority to provide lighting for any highway or proposed highway for which they are, or will be, the Highway Authority. District Councils and many Parish or Town Councils also have the power to provide lighting as local lighting authorities; these powers being conferred by the Public Health Act 1985, or the Parish Councils Act 1957. Where such Councils wish to provide lighting on a highway, the consent of the Highway Authority is required.

3.1.3 Highway Authorities have a duty of care to the road user. Any loss to an individual as a consequence of the inappropriate use of these powers may result in action being taken to recover the loss. Such action could be taken on several grounds:

- Negligent exercise of power (including failure to use that power). There is no blanket immunity.
- Action for misfeasance of public office.
- Breach of the common law duty of care (if it can be established).

NOTE: This duty of care does not imply any duty on the Highway Authority to keep the public lighting lit. However, an authority responsible for the maintenance of public lighting should be able to demonstrate that they have systems in place to maintain the public lighting equipment in a safe condition, including the detection of dangerous equipment.

3.1.4 The Health and Safety at Work Act 1974, together with the Management of Health and Safety at Work Regulations 1999 and the Construction (Design and Management) Regulations 2007 provide for a requirement for authorities to carry out work in a safe manner and establish arrangements for the management of construction works.

3.1.5 The New Roads and Street Works Act 1991 (NRSWA) is an enabling act setting out the duties of Street Authorities to coordinate and regulate works carried out in the highway. All underground cables should be recorded in accordance with the NRSWA, the Code of Practice for Recording of Underground Apparatus in Streets and the requirements of the Electricity Safety, Quality and Continuity Regulations 2002.

3.1.6 There is also a framework of legislation not specifically related to highways and public lighting functions, but dealing with wider community issues with which the services are involved. These include:

- Disability Discrimination Act 1995.
- Criminal Justice and Public Order Act 1994.
- Climate Change Act 2008
- Conservation (Natural Habitats, &c) Regulations 2007
- Traffic Management Act 2004
- The Health and Safety at Work Act 1974
- The Electricity at Work Regulations 1989
- Human Rights Act 1998.
- Freedom of Information Act 2000.
- Clean Neighbourhoods and Environment Act 2005
- Local Government Act 2000.
- WEEE Directive & Disposal of other materials

### 3.2 Policy for the provision of lighting

3.2.1 The County Council will consider the provision of new road lighting schemes based on the Council's strategic aims.

**Each scheme will be evaluated in respect of;**

- Reduction of night time accidents
- Reduction of crime and fear of crime
- Impact on the local environment
- Impact on Capital and maintenance costs
- Added value to commercial and leisure activities

3.2.2 All, new and replacement, road lighting installations shall be designed in accordance with the requirements of BS5489-1: 2013 Code of practice for the design of road lighting, with reference to all standards noted therein, and shall be restricted to the highway network for which the Council is the highway authority. Further guidance is given in Cumbria Design Guide, as amended 2014.

3.2.3 Selection of an appropriate lighting class shall be through the application of the risk assessment process outlined in the above code of practice.

3.2.4 The Council is aware that road lighting forms a significant proportion of the Council's electrical energy usage and is committed to reducing energy consumption and carbon emissions by application of the following measures:

**Light Source**, for all new and replacement road lighting installations the light source shall be Light Emitting Diode (LED).

**Trimming**, taking advantage of the immediate full power run up of LEDs and modern optimum gear lamps, trimming shall be applied to switch on, and off, road lighting installations when ambient lighting levels are closer to the required level. Developments in switching protocols, devices and systems will be monitored to ensure the Council, where economically viable, realise the full potential of energy savings.

**Variable Lighting**, road usage can vary at different times during the hours of darkness, the Council will take advantage of available technology to, where appropriate, dim lighting installations during these periods. The dimmed lighting levels shall not fall below those recommended for the road usage during the dimmed period. Variable lighting equipment shall be compatible with a Central Management System (CMS) to enable the Council to migrate to CMS where this becomes economically viable. This would be subject to consultation.

**Part-night switch off**, where local condition permit, or there is an express desire from residents the Council will consider switching off the street lights between the hours of midnight and 5:00am. This would be subject to consultation, safety and equality assessments.

**Full Switch Off**, consideration would be given to removing life expired street lighting where there is assessed to be no further need for street lighting provision. This would be subject to consultation, safety and equality assessments and a trial (12 months) switch off period.

- 3.2.5 All new and replacement associated electrical installations shall comply with the requirements of BS7671: 2008 (Amendment No.1 2011) Requirements for Electrical Installations, IET Wiring regulations.

### 3.3 **Obtrusive Lighting**

- 3.3.1 The Council recognises that obtrusive lighting can have a negative impact on the local environment which can lead to concerns regarding the quality of lighting installations. Obtrusive light, sometimes referred to as light pollution, is light which falls outside the area to be illuminated and causes annoyance, discomfort, distraction and in extreme cases can reduce the ability to see.

**There are three main effects associated with obtrusive light;**

**Skyglow**, the brightening of the night sky, caused by the scattering of light by dust particle and water droplets in the atmosphere. Often seen as an orange glow over urban areas and is caused by poorly designed luminaires emitting light directly up or at high angles above the horizontal.

**Glare**, occurs when one part of the visual scene is much brighter than the remainder such as an intense light against a dark background. A common

cause of glare is poorly orientated lighting resulting in impaired vision, discomfort and reduced task performance.

**Light Intrusion (“Trespass”)**, light falling where it is not wanted or needed, light spilling beyond the boundary of the property on which the light is located. Light that shines into neighbouring properties and bedroom windows, hindering sleep and reducing privacy.

3.3.2 The control of glare shall be considered for all new and replacement lighting schemes. The guidance contained in EN 13201-2:2003, Annex A for the selection of luminous intensity class and glare index class shall be followed.

### 3.4 **Policy for the transfer or adoption of road lighting systems**

3.4.1 Where a District or Parish council acting within its powers as a lighting authority, upgrades an existing system of footway lighting to road lighting standards then, subject to approval of equipment, that system of lighting may be adopted by the Highway Authority.

3.4.2 Where a developer enters into an Agreement with the Highway Authority, leading to the adoption of specific areas and assets and this may include lighting providing:

- The lighting is designed and installed in accordance with the policies in this document and meets the standards set out in here and in the Cumbria Design Guide (2014).

### 3.5 **Attachments and Secondary Uses of Lighting Columns**

3.5.1 No attachments shall be made to lighting columns without prior written approval of the County Council.

3.5.2 All works shall be carried out in accordance with the requirements of the Council's policy for Attachments and Secondary Uses of Lighting Columns.

3.5.3 In view of the financial, legal and safety issues related to the provision of temporary power supplies taken from lighting columns, under no circumstances will this practice be permitted.

### 3.6 **Policy for the Maintenance of Road Lighting**

3.6.1 The Council recognises the importance of achieving Best Value in lighting maintenance and adopts the recommendations of UK Lighting Board “Well-lit Highways, Code of Practice for Highway Lighting Management” and complementary Institution of Lighting Professionals technical reports and industry good practice.

3.6.2 **Service performance targets**, at least 97.5% of lighting units are functioning correctly at all times.

### 3.7 Reporting faults and emergencies

3.7.1 Faults and emergencies can be reported to the Cumbria, Highways Hotline by;

Telephone	0845 609 6609
Email:	<a href="mailto:highways@cumbria.gov.uk">highways@cumbria.gov.uk</a>
On Line:	<a href="http://www.cumbria.gov.uk">www.cumbria.gov.uk</a>

This is a 24 hour service and is also the method of contact for any other types of enquiry relating to highways, lighting or signs.

### 3.8 Night time monitoring

3.8.1 To detect units which are not operating correctly night time monitoring is carried out by means of scouting patrols of the lit sections of the highway network. These inspections take place at specified intervals which shall be reviewed as the Council migrates to more reliable equipment.

### 3.9 Management of Maintenance

3.9.1 All the elements of the lighting system require inspection and maintenance to ensure that they are safe, operate correctly, continue to provide the designed performance and to maximise their life. Maintenance can be divided into two aspects:

1. **Cyclical or Routine**, a process of preventative maintenance carried out on a cyclical basis to help reduce or eliminate failures and to ensure the system is operating at its intended design outputs.
2. **Reactive**, where failures of equipment are recorded and the equipment repaired or replaced.

Details of each of these aspects are given in the Service Procedures for lighting maintenance.

### 3.10 Computer Systems

3.10.1 The Council will develop and maintain a Highways Integrated Management System (HIMS) which will include a Lighting Management System (LMS) module.

3.10.2 LMS will hold comprehensive details of all lighting assets which will record inventory items, works instructions, cyclic maintenance, fault reporting and enable energy calculations and financial monitoring. All maintenance activities

will be monitored to ensure that the system is being maintained in an effective manner.

### **3.11 Competence of staff**

3.11.1 All those involved in managing and providing the service shall have appropriate experience, skills, training and equipment to perform the task. The Council will, through accredited organisations, authorise and certify the level of competency. In addition the Council will continually monitor and assess training and supervision to ensure the certified level of competency is maintained.

3.11.2 Regulation 16 of the Electricity at Work regulations states that “No person shall be engaged in any work activity where technical knowledge or experience is necessary to prevent danger or where appropriate, injury, unless he possesses such knowledge or experience, or is under such a degree of supervision as may be appropriate having regard to the nature of the work”.

3.11.3 Only a competent person, duly authorised, and trained to the required level of competence and able to recognise electrical hazards, must carry out the work.

3.11.4 The County Council requires that organisations, through the Council's framework contracts, delivering the service shall have Quality Management systems in place and have BS EN ISO 9001 accreditation. In addition, the Quality Management systems should comply with the requirements of the National Highway Sector Schemes 8, The Overseeing and/or Installation and/or Maintenance of Highway Electrical equipment and supporting works.

### **3.12 Asset Management**

3.12.1 The lighting assets owned and operated by the Council include:

- Road lighting
- Illuminated traffic signs
- Illuminated traffic bollards
- Feeder pillars
- School crossing signs
- Highway power supplies, including cables, joints and other components
- Traffic barriers and Navigation lights at Jubilee Bridge, Barrow

This equipment is usually located on the highway network for which the Council is the Highways Authority. For operational reasons or, where there is a desire to reduce street clutter, equipment may be mounted on adjacent structures or buildings with the owner's consent.

3.12.2 The Council will develop asset management plans to inform and advise service delivery, performance and condition.

3.12.3 An inventory, based on the requirements of Institution of Lighting Professionals (ILP) Technical Report TR22, of road lighting equipment is currently maintained on a database which includes the information described below:

**Geographic data**, linked to the National Street Gazetteer (NSG) each unit has an Ordnance Survey Grid Reference to pin-point the unit on a mapping interface. The data will be able to provide the address location and, where applicable, lighting standard for each unit.

**Apparatus data**, a record of unit type and accompanying technical data to enable the identification of different types of equipment, light sources, operational hours and electricity connection arrangements. Apparatus data also includes additional information necessary to comply with BSCP520 requirements for the purchase of unmetered electricity. Details of metered supplies, or self-generating, are maintained but are excluded from the declared load for unmetered supplies.

**Risk assessment data**, a record of factors which affect the design life, structural stability and life of lighting units. This data feeds into the life cycle process of the asset management plan. Risk Assessments may also include details on access restrictions for maintenance and special equipment.

**Operational data**, records actions carried out to units, including cyclic and reactive maintenance, with a history of previous actions, materials used (component failure) and returned under warranty and recurring faults.

3.12.4 Where information is available location of the Council's underground cables will be recorded in accordance with the requirements of;

- New Roads and Street Works Act
- Code of Practice and the Electricity Safety Quality and Continuity Regulations

Available historical record drawings of the Council's cable network, in paper format, are held in local offices. Where existing cable networks are amended, or new networks installed, the location and details shall be recorded within the Lighting Management System. It is intended that all historical records will be transferred to the Lighting Management System.

- 3.12.5 The Council will ensure that the Lighting management System is updated regularly to ensure the currency of the data held. Maximum response times are given in the table below:-

<b>Maximum response times for updating of Asset Management System</b>	
<b>Nature of activity</b>	<b>Response time following return of completed work sheet</b>
Cyclic maintenance activities	5 working days
Non-emergency faults	5 working days
Emergency faults	1 working day
Commissioning of a single unit of lighting equipment, illuminated traffic sign or illuminated traffic bollard	10 working days
Commissioning of a complete system of lighting	10 working days
Decommissioning and removal of a single unit of lighting equipment, illuminated traffic sign or illuminated traffic bollard	10 working days
Decommissioning and removal of a complete system of lighting	10 working days
Fixing of non-illuminated attachment	20 working days
Fixing and commissioning of illuminated attachment	5 working days
Adoption of lighting installation under S38 or S278 or other agreements.	20 working days following adoption. Details to be provided by the developer or promoter at their expense.

### 3.13 Design for maintenance

3.13.1 The Council has standards for new lighting installations which are set out in Cumbria Design Guide, 2014 and Service Procedures. These standards have been developed through local experience and based on whole life costs. They are aimed to ensure that lighting is installed, maintained and operated to provide durable installations with efficient performance. They have also considered energy costs, compatibility with other components and availability of spares and replacements. These standards also apply to renewal or replacement of installations.

### 3.14 Effect of trees

3.14.1 The effect of trees on the performance of the lighting installation shall be considered. Lighting columns in the vicinity of trees will be sited to minimise operational issues such as;

- Incorrect operation of the photocell
- Restricted or impaired access for maintenance
- Potential for damage to the lighting unit, including foundation and underground electrical services

3.14.2 Siting of the lighting installation shall take into account the potential growth and spread of summer foliage, siting shall not necessitate substantial cutting back of trees.

3.14.3 On new roads and developments where it is intended to plant trees, the lighting design shall be carried out in consultation with landscape architects or suitably qualified professionals.

3.14.4 Further guidance is given in the Service Procedures.

### 3.15 Maintenance Factors

3.15.1 Lighting installations are designed to ensure that during their service life, the luminance or illuminance levels do not fall below the lighting levels for the selected lighting class.

3.15.2 Maintenance factor shall be the product of the lamp lumen maintenance factor and the luminaire maintenance factor taking into consideration the light source, operating environment and operating and maintenance regimes. Designers shall follow the guidance given in BS5489-1: 2013, Annex B and C.

3.15.3 Details of cyclic maintenance regimes are given in the Service Procedures.

### 3.16 Recycling and waste disposal

3.16.1 The Council recognises that the maintenance, replacement and installation of public lighting can generate waste products such as used lamps, control gear,

luminaires and lighting columns. For each type of waste product there are different recycling and disposal requirements.

3.16.2 The Council accepts that it is no longer morally, ethically or legally acceptable to just dispose of waste products and specifies equipment with a high recyclable content to reduce waste at end of life. Where existing equipment is to be removed, in accordance with the requirements of the Waste Electrical and Electronic Equipment Directive (WEEE) 2013, the Council will use specialist suppliers to manage this process.

### 3.17 **Best Value**

3.17.1 The Council is committed to developing the lighting service and the value of comparison with peer authorities to monitor progress and effect change to improve service delivery.

3.17.2 Performance reporting is undertaken by the Council for both its internal service and framework contracts relating to the lighting service. This set of indicators will be developed to include all aspects of routine and reactive maintenance and the design and installation of new lighting schemes.

3.17.3 The Council will benchmark with peer authorities and associations to ensure the continued effectiveness of the service and to provide a baseline from which improvement can be measured.

### 3.18 **Passive Safety**

3.18.1 The Council is committed to safe and well maintained roads and recognises the potential hazard that lighting columns may pose, to both motorised and non-motorised road users, and will consider the installation of passively safe lighting columns and illuminated sign posts in accordance with BS EN 12767.

3.18.2 The requirement for passively safe equipment is different for each individual site and type of road. Each new and replacement lighting installation will be subject to a risk based assessment to determine the need for passive safe equipment.

- Passively safe equipment shall be considered on rural 'A' roads with an Average Annual Daily Traffic (AADT) flow greater than 5000 vehicles.
- All other roads shall be subject a site specific risk assessment in accordance with Institution of Lighting Professionals (ILP) Technical Report 30, Passive Safety, Guidance on the Implementation of Passively Safe Lighting Columns and Signposts.

3.18.3 In addition to ILP Technical Report TR30 the design of new and replacement lighting installation shall also take in to consideration the following documents relating to passively safe installations;

- National Annex – BS EN 12767: Passive safety of support structures for road equipment, requirements classification and test methods 2007 (Amended 2009)
- Transport Research Laboratory (TRL) – SL04/07 Use of Passively Safe Signposts and Lighting Columns
- Passive Safety UK – Guidelines for Specification and Use of Passively Safe Street Furniture on the UK Road Network

### **3.19 Innovation and New Technology**

3.19.1 The Council recognises that the lighting industry is innovative with new products and procedures being developed resulting in energy efficiency, reliability and whole life cost savings.

3.19.2 By liaising with peer authorities, professional organisations and trade groups the Council will monitor technological and innovative developments and, where there is no risk and there is a benefit to the Council, will be open to participation in trials and initiatives.

### **3.20 Other Electrical Installations on the highway network**

3.20.1 In addition to lighting installations there are other items of equipment on the highway network whose operation requires an electrical supply such as automated weather stations used as part of the ice prediction system. These installations are generally maintained by specialist companies under contract arrangements.

## **4 Service Agreements with the Distribution Network Operator**

### **4.1 Service Level Agreement**

- 4.1.1 Since the introduction of national terms of connection within the Distribution Connection and Use of System Agreement in 2010 the Council no longer enters into a bilateral agreement with the licensed distribution network operator (DNO), Electricity North West Limited.
- 4.1.2 The national terms of connection form an agreement between the Council and the operator (Electricity North West Limited) of the distribution system through which electricity is conveyed to the lighting installation when the Council enter into an electricity supply contract with an electricity supplier.
- 4.1.3 The performance requirements for fault repair, quotation and completion of new works are set out in the guide Unmetered Connections Standards of Service for Electricity Distribution Companies in England, Wales and Scotland. This guide summarises the Electricity (Connection Standards of Performance) Regulations 2010 where those regulations relate to unmetered connections.
- 4.1.4 Where the lighting installation is served by a network extension to the DNO network operated by an Independent Distribution Network Operator (IDNO), for example to serve a new housing development, then the Council will enter into a separate agreement with the IDNO.

### **4.2 Competition in Connections**

- 4.2.1 Taking advantage of The Office of Gas and Electricity Markets (Ofgem) decision that connections to both high and low voltage networks are contestable activities the Council has entered into tripartite agreements with Electricity North West Limited and Independent Connection Providers to secure competitive rates for network connections.

## **5 Procurement**

### **5.1 Maintenance contracts**

- 5.1.1 The management and maintenance of the lighting installation is the responsibility of the Council's in house lighting team.
- 5.1.2 Where additional support is necessary this shall be provided by contractors through the Council's existing framework contracts.
- 5.1.3 The Council measures contractor performance against the following Key Performance Indicators (KPI's)
- Time
  - Cost
  - Quality
  - Employer Satisfaction
  - Supplier Satisfaction
  - Health & Safety
  - Environmental Impact
  - Miscellaneous Factors

NOTE: Miscellaneous factors include innovative technique with or without savings.

### **5.2 Electricity procurement**

- 5.2.1 Taking advantage of the de-regulation in the market for un-metered highway electrical supplies the Council procure electrical energy for lighting installations on a Half-Hourly trading arrangement by means of an Equivalent Meter. The Equivalent Meter is a two part process where the Council has installed a photo-cell array unit, located at Lillyhall Depot, which logs the operating hours for the different types of photoelectric cell in use. The second part of the process requires the council submit an inventory, in accordance with BSCP520, to the Unmetered Supplies Operator (UMSO) who combine this with the log data from the photo-cell array. The UMSO then provide a summary inventory to the Council's appointed Meter Administrator (MA) who, using data from the Equivalent Meter, calculate the energy consumption, to be invoiced to the Council, on a monthly basis.
- 5.2.2 Through membership of a Public Sector consortium operating on Half-Hourly and Non-Half-Hourly trading agreement for both metered and unmetered supplies the Council secures the more competitive prices available on large load contracts. The contract is administered by Yorkshire Purchasing Organisation and is subject to a competitive tender process on a four year basis which is compliant with all European Union procurement guidelines and public contract regulations enacted in UK law.

### 5.3 **Agreements**

- 5.3.1 **Connection Agreement**, with the introduction of the Distribution Connection and Use of System Agreement in 2010 Electricity North West Limited no longer issue individual connection agreements for unmetered supplies when the Council enters into an electricity supply contract with an electricity supplier.
- 5.3.2 **Meter Administrator's Agreement**, The Council has appointed Power Data Associates as its Meter Administrator. This appointment is reviewed and renewed on an annual basis.
- 5.3.3 **Supply Agreement**, through membership of the Yorkshire Purchasing Organisation consortium the Council has entered into an electricity supply contract with Npower Limited until 31 March 2019.

# 1 APPENDICIES

## 1.1 Appendix A - Definitions

The following definitions are used in the Code of Practice and also apply to this document:

<b>Highway Authority</b>	In two-tier areas (i.e. where there are district councils and a county council), it is the county council that is the local highway authority. As such the county council will have responsibility for road lighting on their highway network.
<b>Lighting Authority</b>	In two-tier areas (i.e. where there are district councils and a county council), this can be the function of either the district or parish council. As a lighting authority they can provide a system of footway lighting for a highway with the consent of the highway authority.
<b>Well Lit Highways</b>	This is the code of practice for highway lighting management published in November 2004 (Updated May 2013). It provides guidance on lighting management and forms a foundation for policy and delivery of 'best value'.
<b>BS 5489-1: 2013</b>	This is the code of practice for the design of road lighting and makes recommendations on the general principles of road lighting.
<b>Passive Safety</b>	Is the use of products which, following a serious collision with street furniture, help reduce the severity of any injury to road users.
<b>Asset Management</b>	Is a strategic approach, combining engineering and financial facets, that identifies the optimal allocation of resources for the management, operation, preservation and enhancement of the infrastructure to meet the needs of current and future customers.
<b>Service Procedure</b>	Describes how, and at what intervals, maintenance activities are undertaken.
<b>Client</b>	The person or organisation responsible for the operation and management of the public lighting system in a defined area.
<b>Contractor</b>	The person or organisation employed by the client to undertake any function of the public lighting system in a defined area.

<b>DNO</b>	Distribution Network Operator is a holder of a distribution licence, the DNO owns, operates and maintains a distribution network and is responsible for confirming requirements for the connection of distributed generation to that network.
<b>IDNO</b>	Independent Distribution Network Operator is a holder of a distribution licence, an IDNO designs, builds, owns and operates a distribution network, which is an extension to existing DNO network. They typically build network for new developments such a retail parks, retail and residential areas and leisure facilities.
<b>ICP</b>	Independent Connection Provider organisations which have been assessed and granted the necessary accreditation to provide new connections in competition with the DNOs.
<b>Unmetered Supply (UMS)</b>	Is any electronic equipment that draws an electrical current and is connected to the distribution network without a meter recording its energy consumption. Restricted to individual electrical loads of 500 watts and less.
<b>BSCP520</b>	Balancing & Settlement Code Procedure 520. Sets out the requirements for UMS registered in Supplier Meter Registration Service (SMRS).
<b>Meter Administrator (MA)</b>	An agent qualified under the BSC, appointed by the Customer when trading energy on a half hourly basis.
<b>Unmetered Supplies Operator (UMSO)</b>	Is a function of the DNO concerned with the accurate settlement of unmetered electricity.
<b>Highway power supply</b>	An electrical installation comprising an assembly of associated highway distribution circuits, highway distribution boards and street furniture, supplied from a common origin.
<b>Lighting installation</b>	A system of road lighting and any associated illuminated traffic signs and illuminated traffic bollards owned by the authority.
<b>Illuminated traffic bollard</b>	Bollards lit by internal or base mounted lighting units, carrying one or more diagrams from the Traffic Signs Regulations & General Directions (TSR&GD), or the same type of unit with all plain aspects.
<b>Illuminated traffic sign</b>	Internally or externally illuminated signs, carrying a diagram or legend as required by the TSR&GD, flashing school crossing warning signs, centre island beacons, and pedestrian crossing Belisha beacons.

<b>Street lighting</b>	A system of lighting illuminating streets, footways, footpaths, cycle tracks and pedestrian subways open to public access.
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## 1.2 Appendix B - Hierarchy and Requirements for Lighting

### Lighting Requirements For Traffic Routes

Cumbria CC Description	Code of Practice Category / Description 5
<p><b>Carriageways</b></p> <p>Strategic Routes</p> <p>Major Distributors</p> <p>Secondary Distributors</p> <p>Link Roads</p> <p>Local Access</p>	<p>2</p> <p>3a</p> <p>3b</p> <p>4a</p> <p>4b</p>
<p><b>Footways</b></p> <p>Town Centre Pedestrian Zones</p> <p>Main shopping areas</p> <p>Busy tourist centres</p> <p>Busy urban areas</p> <p>Other tourist areas</p> <p>Other urban areas</p> <p>Rural areas and villages</p>	<p>1a Prestige walking zones</p> <p>1 Primary walking routes</p> <p>1 Primary walking routes</p> <p>2 Secondary walking routes</p> <p>2 Secondary walking routes</p> <p>3 Link Footways</p> <p>4 Local access footways</p>
<p><b>Cycleways</b></p> <p>Cycle lane</p> <p>Cycle Track</p> <p>Cycle Trail (limited)</p>	<p>A Cycle lane forming part of the carriageway, commonly 1.5 metre strip adjacent to the nearside kerb. Cycle gaps at road closure point (no entries allowing cycle access).</p> <p>B Cycle track, a highway route for cyclists not contiguous with the public footway or carriageway. Shared cycle/ pedestrian paths, either segregated by a white line or other physical segregation, or un-segregated.</p> <p>C Cycle trails, leisure routes through open spaces. These are not necessarily the responsibility of the highway authority, but may be</p>

	maintained by an authority under other powers or duties.
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5 "Well Maintained Highways" Table 1, Page 99, Table 2 Page 100, Table 3 Page 102

General Requirements for Lighting

<b>National Parks, Areas of Outstanding Natural Beauty, Sites of Special Scientific Importance and other Dark Area</b>	
Rural roads, villages and settlements (Environmental zones E1/E2)	<p>Generally not lit where the Parish Council confirms the community's wish to continue to have no lighting, unless there are issues of road safety which cannot be solved by other means.</p> <p>Consideration would be given to dimming or switching to reduce or vary lighting levels during off peak periods.</p>
Larger Urban Areas (Environmental zone E3)	<p>Generally lit to the appropriate standard of BS5489.</p> <p>Consideration would be given to dimming to reduce lighting levels during off peak periods.</p>
<b>Other Areas</b>	
Rural roads, villages and settlements (Environmental zones E1/E2)	<p>Generally not lit except where there is an adopted system of road lighting adjacent to the proposed lighting or there are problems of road safety or where lighting provision is supported by the Parish Council.</p> <p>Consideration would be given to dimming or switching to reduce or vary lighting levels during off peak periods</p>
Other Urban Areas (Environmental zone E3)	<p>Lit to the appropriate standard of BS5489 except where a higher standard can be justified because of high crime rates and funding is available.</p> <p>Consideration would be given to dimming to reduce lighting levels during off peak periods.</p>
Urban Areas with High Night-Time Usage (Environmental zone E4)	<p>Lit to the appropriate standard of BS5489 as part of any overall lighting plan (funded and developed by or in partnership with the District Council) which adds to the amenity and value of the centre.</p>

Lighting requirements for specific features	
Pedestrian Crossings	<p>Where the night-time pedestrian use of the crossing facility is high or it is in an area of low ambient lighting, high conflict or excessive traffic speed then a risk assessment shall be undertaken to determine the need to provide supplementary positive contrast illumination to complement the existing lighting system.</p>
Traffic Calming	<p>Where there is no existing road lighting, a risk assessment shall be undertaken to determine the need to provide lighting of the Traffic Calming features.</p> <p>In locations which are already lit, the existing installation shall be assessed to determine whether alterations to the installation are necessary.</p> <p>Where lighting of traffic calming schemes is provided, it shall provide the degree of colour rendition necessary for driver navigation or pedestrian orientation and shall be in accordance with:-</p> <ul style="list-style-type: none"> <li>a) The Highways (Road Humps) Regulations 1999 (SI No 1025) and</li> <li>b) The Highways (Traffic Calming) Regulations 1999 (SI No 1026).</li> </ul> <p>All traffic calming features shall be lit in accordance with the above regulations and the existing lighting system in the vicinity of each proposed feature shall be examined to ensure compliance with BS 5489.</p> <p>To emphasize the positioning of features within the highway and identify the presence of pedestrians in the vicinity of the features, a light source shall be installed adjacent to the feature which contrasts with that used throughout the general extent of the traffic calmed area. and adequately illuminates any pedestrians who may cross at the feature.</p>

Illuminated signs	<p>Wherever possible, the need for sign illumination should be negated by the use of sign face materials with high levels of reflectivity.</p> <p>The illumination of traffic signs shall be in accordance with the requirements contained in the Traffic Signs Regulations and General Directions (SI No 3113 2002), the Zebra, Pelican and Puffin Pedestrian Crossings Regulations and General Directions (SI No 2400 1997) and any subsequent amending Regulations.</p>
Historic or Sensitive Areas	<p>Lit to retain or enhance the character of the area. The level of provision will be determined following consultation.</p>