

13-00- Road Light and Electrical Equipment including Illuminated Signs and Bollards

13-01. Street Lighting Design

- a. The Street Lighting Asset Management Plan for North Yorkshire provides detailed information regarding the Design and Detail of Street Lighting systems. A list of approved materials is also available. Both documents can be obtained via request by emailing roadlighting@northyorks.gov.uk.
- b. Street Lighting Designs must be undertaken by suitably competent lighting design consultants that are registered with the Institute of Lighting Professionals (ILP), and must be approved by the NYC Street Lighting Department. Detailed plans coming forward via this route are required to be submitted to Roadlighting@northyorks.gov.uk for approval. A fee will be charged for the Assessment.
- c. The Council's Electrical Team can undertake any street lighting design and any electrical design associated with the installation of illuminated traffic signs, bollards, beacon poles or feeder pillars. A quotation for Design, or Design and Build, can be obtained from the Team on request by contacting them by email. Roadlighting@northyorks.gov.uk. The fees applicable for design will vary depending on the size and complexity of the development and estimates can be obtained from the NYC Electrical Engineering department.
- d. Where the Council's Electrical Team have been commissioned and subsequent payment has been made to provide that service, the design will automatically be accepted as being to adoptable standard and will not require a design review and subsequent approval which can save the developer time and costs.

13-02. External Document Reference

- a. Each category of road, street, footpath and cycle track etc. will have its own specific requirements for road lighting which will affect the level of lighting to be provided.
- b. Street Lighting Designs must comply with the current edition of the following standards at time of design approval:
 - BS5489-1: Design of Road Lighting - Part 1: Lighting of Roads and Public Amenity Areas – Code of Practice
 - BS EN 13201-2: Road Lighting – Part 2: Performance Requirements
 - BS EN 13201-3: Road Lighting – Part 3: Calculation of Performance
 - BS EN 13201-4: Road Lighting – Part 4: Methods of Measuring Lighting Performance

- BS EN 13201-5: Road Lighting – Part 5: Energy Performance Indicators
- c. Street Lighting Designs must comply with the current edition of the following standards at time of design approval:
- ILP Professional Lighting Guide PLG02: The Application of Conflict Areas on the Highway
 - ILP Professional Lighting Guide PLG03: Lighting for Subsidiary Roads
 - ILP Professional Lighting Guide PLG23: Lighting for Cycling Infrastructure
 - ILP Technical Report TR25: Lighting for Traffic Calming Features
 - ILP Technical Report TR30: Passive Safety – Guidance on the Implementation of Passively Safe Lighting Columns and Signposts
 - ILP General Publication GP10: Safety During the Installation and Removal of Lighting Columns and Similar Street Furniture in Proximity to High Voltage Overhead Lines
 - The Electricity at Work Regulations
 - Current Edition of the IET Wiring Regulations

13-03. Passive Safety

- a. Where the traffic speed is 40 mph, or above, a passive risk assessment should be undertaken in line with ILP Technical Report TR30: Passive Safety – Guidance on the Implementation of Passively Safe Lighting Columns and Signposts to determine any requirements for the use of passively safe equipment and determine the appropriate class of passively safe equipment.
- b. Further to the above the following documents shall be taken into consideration for any passive safety installations.
- BS EN 12767:2019 Passive safety of support structures for road equipment, requirements classification and test methods.
 - Passive Safe UK Guidelines for Specification and use of Passively Safe Street Furniture on the UK Road Network.
- c. To provide electrical disconnection and ensure safety in the event of a vehicular collision with passively safe lighting equipment, all passively safe equipment shall utilise a suitable disconnection system for the specified column type.

13-04. Electrical Supply Provision to Street Lighting and Illuminated Signs

- a. Each street lighting column and illuminated sign shall have a 230v 50 hertz mains electricity supply provided by the local DNO or IDNO. Any negotiation with the DNO or IDNO shall be the responsibility of the main contractor. Consultations with electricity suppliers should be done well in advance.

- b. On some sites, it may be necessary to connect to a streetlight, or to get a supply to a single point/feeder pillar, from which a fused looped electrical distribution system could then be derived. Such a system must meet all current legislation and be approved by the NYC Electrical Engineering Team in writing before work commences.
- c. Black service ducts for DNO/IDNO services cables may be required. Such ducts shall be installed to the relevant DNO/IDNO specification.
- d. Where an IDNO has been used, the cut out must be clearly and indelibly marked with the IDNO name and contact number clearly visible for emergencies.
- e. The street lighting contractor shall be responsible for testing all electrical equipment, and all certificates shall be issued by the street lighting contractor or main contractor to the NYC Electrical Engineering Team for their written approval. This must be completed prior to any site inspection by the NYC Electrical Engineering Team.
- f. The Developer or the Contractor shall provide an as-built drawing to the NYC Electrical Engineering Team that includes details of all cable routes, ducts and depths.
- g. All points of supply (post or feeder pillar) fed from the mains shall have the suppliers name clearly visible for emergencies. They shall also have the NYC Column Number and the date of installation displayed; these shall be done on an indelible label attached to the wooden back board.

13-05. Design Submission

- a. Where detailed design is submitted by an External Lighting Design Consultant then the Developer's lighting design proposals must be submitted for approval to the NYC Electrical Engineering department and shall include the following:
 - Lighting design statement setting out the nature of the site including a copy of the lighting risk assessment used to determine the lighting classification.
 - It should be noted the preferred design software for submission of lighting design calculations is 'Lighting Reality'.
 - Reality Illuminance results where area calculation methods have been used in both RTMA and PDF format.
 - Luminance calculations, where appropriate in both RTMR and PDF format
 - Written equipment specification including all information needed to identify exact luminaire used, and to ensure installation will meet the requirements of this document.
 - Lighting calculations – the cover of each lighting calculation shall identify which Street Light Asset numbers the lighting calculation is applicable to and the process which has resulted in the lighting class selection.

- Any drawings submitted should be in an AutoCAD format and PDF format and must be to an appropriate scale when printed.
- All public lighting cable networks fed from a feeder pillar, or a DNO/IDNO supply point within a column, should be fully detailed on a schematic diagram outlining connection type, cable size/type, and circuit protection to be provided. This information shall be accompanied by cable calculations in accordance with the current edition of the IET Wiring Regulations (BS7671) produced using a suitable proprietary electrical design software package (Trimble pro design preferred) with results and schedules made available for review.
- Site clearance drawings detailing Assets and equipment to remain and to be removed, including any work to affected sign plates, private underground and over ground cabling, DNO underground and over ground cabling, illuminated bollards, pruning/limbing required to facilitate works.
- Proposed ducting layouts detailing proposed duct routes and chamber locations.
- Proposed lighting and electrical layout detailing proposed works and any work to affected sign plates, private underground and over ground cabling, DNO underground and over ground cabling, installation of non-illuminated and/or illuminated bollards.
- Electrical detail drawings showing cabling and wiring schematics (which include identification of asset refs, fusing, cabling type and size, earth rods, joints, passive equipment connections), internal feeder pillar layouts (both new and refurbished) plus any other aspect of electrical, ducting or lighting equipment.
- Sign and post schedules shall be provided for all new illuminated and non-illuminated traffic signs that form part of the detailed scheme design.
- Assets under overhead lines shall be checked for clearance with the DNO and National grid. The guidance within the Institution of Lighting Professionals General Publication GP10; Safety During the Installation and Removal of Lighting Columns and Similar Street Furniture in Proximity to High Voltage Overhead Lines should be considered.
- The designer may elect to combine site clearance, ducting layouts and proposed lighting and electrical layouts into fewer drawings where there is reduced detail needed for the Design.
- A designer risk assessment shall also be submitted.

13-06. Design Appraisal and Review

- a. Failure to seek approval for the electrical and/or street lighting design will prevent any part of the proposed highway works obtaining technical approval and could result in significant delays or the development not being adopted by NYC.
- b. The fee structure (available upon request depending on complexity and number of proposed assets) covers the costs of the NYC Electrical Engineering department to assess two submissions for technical approval: the initial submission and one subsequent re-submission.
- c. Where the Developer submits an amended electrical and/or street lighting design for a third time, an additional fee, to that of the original fee, will be charged for that submission (and each subsequent submission).
- d. Additional submission fees are to be advised. An hourly charge out rate will be applied (with a minimum of four hours charged). A quotation will be provided, which will need to be agreed in writing and paid by the Developer, prior to additional approval work being carried out.
- e. Due to the fast technical advances of LED technology, approved drawings shall expire 2 years from date of approval.
- f. Where a Developer requests the use of heritage, contemporary or decorative style equipment or any street lighting equipment that is not of a standard nature then NYC are likely to require a Commuted Sum to assist with future replacement and maintenance costs.
- g. North Yorkshire Council has published Commuted Sum advice and process guidance on its website. Additionally, advice on commuted sums is available from the 'Association of Directors for Environment, Economy, Planning and Transport' (ADEPT). ADEPT who have published a guidance document on the subject, entitled 'Commuted Sums for Maintaining Infrastructure Assets' (this is available through the website www.adeptnet.org.uk).

13-07. Construction of Street Lighting Works

- a. Competence of operatives or contractors will be verified through the National Highways Sector Scheme 8 (HERS) as applicable.
- b. At any point during the installation phase NYC inspectors can verify NHSS8 compliance via site inspections.
- c. The installation of new street lighting equipment must take into account the need to light phases within a development that are occupied or require access by residents.

- d. The Developer shall be responsible for the implementation of all work required in the removal, replacement or re-siting of all existing electrical equipment made necessary by the development.
- e. No existing street lighting shall be switched off, relocated, dismantled or removed without prior written approval by NYC through the HDM. This approval shall normally only be granted if the Developer can provide evidence that arrangements have been made for either immediate installation and energising of new equipment or the immediate provision and energising of temporary lighting.
- f. Any relocation of equipment shall be at the Developer's expense, prior to adoption and shall be within design parameters. If a revised column location differs to that indicated in the approved lighting layout the Developer will be required to provide a revised lighting calculation and obtain technical approval prior to installation.
- g. Where temporary lighting is installed, it must be approved by the NYC Electrical Engineering department and provide illumination to the standard that will be achieved by the permanent street lighting layout.
- h. Temporary lighting shall not include the use of catenary cables crossing the carriageway and shall be positioned, such that it does not cause glare, distraction or discomfort to any highway users.
- i. Under no circumstances are joints to private cable to be allowed. Any cable should be installed in full continuous lengths.
- j. Emergency Repair – NYC or our agents holds the right to make safe, or cause to be made safe, any equipment that is dangerous (i.e., though vehicular impact damage etc.) and all reasonable costs shall be chargeable to the Developer. Standard repairs however will be the responsibility of the Developer until final adoption has been certified.
- k. The Developer shall be responsible for the mitigation of light intrusion, such as putting up shields if required by the residents or North Yorkshire Council. This shall be at the developers cost.

13-08. Inspection of Street Lighting Installation

- a. NYC Electrical Engineering department, they shall inspect the site to check:
 - that the Assets have been installed in accordance with the design
 - that the Assets have been installed in accordance with the manufacturer's instructions
 - that the installation complies with NYC street lighting guidance
 - that installation complies with the material specification and NYC S.L.A.M.P
 - that the installation is compliant to the current version of BS7671

- a. Following an initial site inspection any remedial actions shall be issued to the Developer/contractor via the HDM requesting adoption. When these remedials have been notified as fully complete back to the HDM, the NYC Electrical Engineering department shall re-inspect the site. The initial inspection and the second inspection shall not be charged. The Council reserves the right to charge the developer for any additional visits required as result of non-completion of reported defects.

13-09. Equipment Warranty and BS7671 Test Certificates

- a. Any electrical equipment that has a warranty period remaining, at the time of adoption is the Developers responsibility to have that remaining warranty transferred to NYC.
- b. The following certificates will be required prior to the issue of a Final Certificate:
 - A 30-year column/sign pole Design Life Expectancy Certificate, which will show that the column has more than 50% of its residual life remaining. If the column has less than 50%, then it will have to be replaced at the Developers expense.
 - An Electrical Test Certificate that is valid for at least 2 years after adoption (as part of 6-year test cycle)
 - Lanterns to have a minimum of 15 years residual life remaining after adoption. If the residual life is less, then the unit will have to be replaced at the Developers expense.
 - Sign Lanterns to have a minimum of 10 years residual life remaining after adoption. If the residual life is less, then the unit will have to be replaced at the Developers expense.
 - The Developer shall provide NYC with written confirmation, including a manufacturer's certificate, for any equipment that is subject to an extended warranty, which details the original warranty period and the amount of warranty remaining, at the time of requesting the 'Final' inspection.