



Comhairle Cathrach
& Contae **Luimnigh**

Limerick City
& County Council

Limerick City & County Council

Christmas Lights Installation &

Maintenance Contract

Volume A – Works Requirements A.2.1 – Project Particulars and
Specification

Limerick City and County Council

DOCUMENT CONTROL SHEET

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Instructions to Tenderer

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Suitability Questionnaire (s)

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SAQ Appendices

Volume A Works Requirements

27428-6001- Limerick City & County Council Christmas Lights Installation & Maintenance Contract -
Volume A- Works Requirements – Project Information and Specification A.2.1

Volume B Tender and Schedule

Tender and Schedule

Volume C Pricing Document

27428-6002- Limerick City & County Council Christmas Lights Installation & Maintenance Contract -
Volume C-Pricing Document C.2.1

Volume D Form of Contract Agreements

Form of Contract Agreements

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1 PROJECT INFORMATION

1.1 SCOPE OF WORKS

The Contract is for the storage, maintenance, installation and taking down of the Christmas Lights in Limerick City, Kilmallock and Newcastle West on behalf of Limerick City and County Council.

Timescale: The Contract will operate for a fixed one-year period with the option for 3 No. 1 year extensions.

The Contract is based on the principle that the Contractor agrees to take on the maintenance of the lights in the charge of the Employer in whatever condition they are in, at the start of the Contract or whenever taken in charge during the contract and shall be responsible for the maintenance and upkeep of the lights for the duration of the Contract in accordance with the works requirements and each Bill of Quantity item. All rates shall be inclusive of wages, plant and materials at market rates.

Any defects encountered in the equipment installed during the period of the contract or a fixed period of 1 year after completion of the contract, shall be rectified by the Contractor at their own expense.

It shall be the responsibility of the Tenderer to familiarise themselves with the light types and geographical spread of the lights in Limerick City, Kilmallock and Newcastle West & the nature and extent of the proposed works so as to satisfy themselves as to what is required to be done to fulfil the duties of Contractor and PSCS.

Appendix A of this document contains a report written by Limerick City and County Council in 2024 and outlines the process involved in the installation and taking down of the Christmas light along with key items to consider such as storage, moving the lights, approximate quantities, infrastructure and steel supporting cabling, locations of the sets of lights and main distribution boards feeding them. The report includes photographic and visual surveys to identify the various components and locations that make up the lights and supply electricity from multiple distribution boards around Limerick City.

The contractor shall store the Christmas Lights throughout the year on behalf of Limerick City and County Council in a suitable warehouse storage area. The contractor is responsible for maintaining

current inventories of all festive lights held in storage for Limerick City, Killmallock and Newcastle West. Each area to have their own individual inventory.

The contractor shall start the Christmas Light work six weeks before the installation by inspecting and testing all of the lights and associated electrical infrastructure. It is envisaged that the contractor shall have to upgrade some of the electrical infrastructure each year as some of the cables are up to 20 years old in some places in Limerick City. Glands to sub distribution boards and junction boxes also must be inspected to ensure that there are no leaks and have to be replaced as required.

In Killmallock and Newcastle West, the Contractor shall be responsible for the design, supply, installation, testing, commissioning, and certification of a permanent, compliant Festive Lights electrical distribution system. The scope and extent of works to be undertaken in each location during the Contract period shall be determined annually, subject to the budgets available and approved by the LCCC.

Each section of lights for all areas must be checked to determine if they are working and carry out any replacement of string lights within the main lighting section frame. Once all the lights have been checked and signed off as working they are moved to the installation location by a 5m long towed trailer.

The installation of the Christmas lights in Limerick City shall be carried out over six Sundays before the turning on of the Christmas Lights date. All work is out of hours, Sunday or at night. The lights are installed using two MEWP cherry pickers, by two crews. Some work has to be carried out at night and requires liaison with Bus Eireann on bus routes especially on work carried out to Roche's Street due to the height of buildings and width of the street.

In Killmallock and Newcastle West the installation of the Christmas lights shall be carried out over two weeks before the turning on of the Christmas Lights date. Similar to Limerick City, all work is out of hours, Sunday or at night.

The contractor shall also be required to have a knowledge of the various structures that the steel wire cables are fixed to and in some cases bespoke structural solutions are required i.e. plates bolted to weak crumbling bricks on some of the older facades all organised by the contractor.

In Limerick City, the Contractor shall be required to carry out daily patrols of the festive lighting installation and identify any faults or lights out. LCCC staff shall patrol the festive lighting installation in Kilmallock and Newcastle West and shall report any faults to the Contractor.

The contractor is also required to maintain the lights in all areas over the Christmas period due to lights faults tripping out etc. All faults shall be fixed within 24 hours of being reported.

The taking down of the lights requires the same equipment over two Sundays in January.

At various locations around Limerick city multiple Main Distribution Boards supply power to the sub distribution boards located on building fronts close to each section of Christmas Lights. Appendix A provides further details on the existing electrical distribution system. The electrical cables are ran in ducts underground and then up the face of building facades and distributed at first floor level along the streets in Limerick city to feed the Christmas Lights.

A major part of the Christmas lighting contract is communication and interaction between the stakeholders to ensure minimal disruption during the Christmas period. Relationships must be built up and maintained by the Contractor with business owners within Limerick City, Kilmallock and Newcastle West to ensure access and permissions are obtained to allow work to be carried out to shop fronts. This requires on the ground face to face meetings and discussions on how work is to be carried out. There are also relationships with Gardai, Bus Eireann and Limerick City and County Council to be considered.

The Contractor shall be required to procure traffic management design for Limerick City, Kilmallock and Newcastle West and implement this on the ground to ensure Health and Safety at all times during installation. All crew members must have Safe Passes, are trained in Signing Lighting and Guarding and are qualified Electricians.

Some of the Christmas Lights in Limerick City, due to new buildings being constructed with no allowance made for infrastructure and steel wire cabling to support the Christmas Lights, have to be ran off generators as no power supply is available nearby. This requires monitoring, maintenance and refuelling. Refueling of the generators shall be paid for as required. The contractor shall retain all receipts for fuel and submit as part of their payment claim.

Any new or replacement Christmas lights needed shall have to be ordered no later than March of the same year to ensure receipt of the lights in time for installation in November.

1.2 TRAFFIC CONTROL

Adequate traffic management is to be in place at all times. All traffic management is to be in accordance with Chapter 8, Traffic Signs Manual. Road Closures will not be allowed. Applicants shall facilitate auditing by the Employer and shall act on any shortcomings notified.

Project works on national routes and in busy town centre locations shall require the submission of a traffic management plan in advance. Smaller scale projects on less busy routes need to use generic traffic plans. Before the contract starts, copies of all traffic plans must be submitted to the Employer.

Vehicle and pedestrian access along the roads adjacent to any works shall be maintained at all times subject to shuttle control by flagmen or traffic lights where necessary. The storage of materials and plant on the site shall be restricted to temporary storage, on the day.

The Contractor shall ensure that all necessary precautions are taken to ensure that any traffic delays incurred as a result of this contract are kept to a minimum. They shall provide for all lighting for the duration of the works. He shall also provide temporary access to dwellings for pedestrians or vehicles wherever this shall be required. Traffic flows are to be maintained for the duration of the contract.

A specialist contractor to carry out traffic management or additional contractor personnel to manage the traffic management requirements, may be required in this instance.

1.3 WASTE MANAGEMENT

A Waste Management Plan shall be submitted at the start of the Contract. The Contractor shall have obtained approval of his waste management plan before works will be allowed to commence on site. The Contractor shall be responsible for disposal of all waste and replaced items in a controlled manner with an emphasis on recycling. The materials to be disposed off site are classified as “wastes” and are subject to the provisions of the “Waste Management Act” 1996. The facilities at which such materials are discarded must have a waste licence from the EPA or where the EPA decides, must have a waste permit from the Local Authority

1.4 PSDP & PSCS

The successful Contractor will be required to Act as PSDP & PSCS for any works carried out under the contract in accordance with Safety, Health and Welfare at Work Act 2005 and in compliance with the Safety, Health and Welfare at Work (Construction) Regulations (Amendment) 2020 (SI No. 102 of 2020) and any amendment thereof.

2 GLOSSARY OF TERMS AND ABBREVIATIONS

DEFINITIONS

In this document unless the context otherwise requires, the following words and expressions shall have the meanings hereby respectively assigned to them, that is to say:

- (a) **“Conditions of Contract”** means the Conditions included in the Contract; Term Works and Refurbishment Works Contract – PW-CF11
- (b) words and expressions to which meanings are assigned in the Conditions of Contract have the same meanings in the Pricing Document;
- (c) words and expressions to which meanings are assigned in the Specification and Drawings referred to in the Conditions of Contract have the same meanings in the Pricing Document;
- (d) **“Schedule of Rates”** means a list of items giving brief identifying descriptions and notional quantities of work for preparing the Notional Tender Sum
- (e) **“Preliminary Item”** means an item in respect of works, general obligations and risks antecedent to or involved in the execution of the Contract and which is set out in a “Preliminaries” section of the Schedule of Rates;
- (f) **“Drawings and Details ”** means “drawings in the Contract”.
- (g) The **Contractor** is as named in the accepted Tender.
- (h) The **Employer** is as named in the accepted Tender.
- (i) The **Employer’s Representative** is an engineer, architect, surveyor, or other person notified by the Employer, or if none, the Employer.

STANDARDS AND REGULATIONS

All public lighting and electrical systems installations and equipment shall be designed, manufactured, installed, tested and commissioned in accordance with the latest versions and amendments at the contract *starting date* of all relevant Irish, British, European and International Standards, Regulations, Rules, Codes of Practice, Guides, Legislation and Directives applicable to this specification.

The entire electrical installation shall be in accordance with the following:

- Complying with Irish Standard I.S. 10101:2020+AC2:2025 'National Rules for Electrical Installations' Edition 5.0; and all subsequent addendums;
- Current ESB Networks Regulations, Codes of Practice and Guidelines including the latest edition of the ESB National Code of Practice for Customer Interface and ESB requirements for Works on Public Lighting on ESB's Networks;
- Current edition of ESB Requirements for Work on Public Lighting on ESB's Networks;
- Complying with ESB Networks Ltd. Contractor Pack for Working Near Live Overhead or Underground Cables and subsequent addenda;
- Complying with ILP Code of Practice for Electrical Safety in Highway Electrical Operations and subsequent addenda;

All equipment shall bear the CE marking and shall include Declaration of Performance, where required. CE Marking must be awarded by an EU based certifying body only.

At the end of the transitional period of the withdrawal of the UK from the European Union, UK Notified Bodies will lose their status as EU Notified Bodies and will no longer have any formal legal status in the EU. Certificates of conformity from UK Notified Bodies will no longer be valid for the purposes of affixing 'CE' marking.

It is the requirement of the *Contractor* that any all products when procured, particularly those proposed for certification from a UK based certifying body, will still be supplied with CE certification from an EU-27 notified body regardless of the outcomes of Brexit.

3 PRELIMINARIES

3.1 PROJECT SUPERVISOR DESIGN PROCESS & PROJECT SUPERVISOR CONSTRUCTION STAGE

1. The Contractor shall comply with the Safety, Health and Welfare at Work Act 2005 and with the Safety, Health and Welfare at Work (Construction) Regulations 2013 to 2020 and any amendment thereof.
2. The successful Contractor will be required to Act as PSCS & PSDP for any work carried out under the contract.
3. The Contractor shall employ the services of a Health & Safety Officer to ensure that all relevant health and safety legislation is complied with.
4. The Safety officer must address all Health & Safety concerns.
5. The Contractor must update the safety file with as built drawings, equipment details, certificates for the work etc. Both a digital copy and hard copy of the safety file must be maintained. The digital safety file must be submitted to the LA on installation of the Christmas lights.
6. The Contractor is responsible to ensure that as PSCS all their subcontractors such as the Civil Contractor have provided all certificates and insurances and that these are included in the Safety File.
7. All accidents reported under The Safety, Health and Welfare at Work (Construction) Regulations 2013 to 2020 shall be reported immediately to the Project Supervisor Construction Stage (PSCS), Project Supervisor Design Process (PSDP) and the Employer's Representative. A copy of the subsequent written report to the Health and Safety Authority shall also be provided.

3.2 QUALITY MANAGEMENT SYSTEM

The Contractor shall have a Quality Management system in place. This system shall be an ISO 9001 Compliant System or equivalent and shall fulfil the following requirements:

1. Contractor shall have written documents including a quality policy, objectives, manual, procedures and records;
2. Focus on customers - Identify their requirements and aim to enhance their satisfaction.
3. Contractor shall:
 - a. Identify who has what responsibility and authority
 - b. Give a senior manager responsibility for the quality system overall

- c. Have effective methods of internal communication.
 - d. Provide adequate resources to meet and maintain the requirements of the system
 - e. Must ensure that the Employer benefits from any warranties applicable to elements of the works and shall be responsible for organising and implementation of any replacements under warranty at no cost to the Employer.
- 4. Contractor shall review their quality management system (management review) at regular intervals.
 - a. Review the system and performance.
 - b. Include consideration of: customer feedback, performance, nonconformity, audits, actions raised, changes and any need to improve
 - c. Keep records of outcomes from your reviews; include decisions and actions.
- 5. Contractor shall have effective 'customer-related' processes:
 - a. Know what requirements apply to their products/services
 - b. Make sure they can meet them
 - c. Have effective ways to communicate with their customers.
- 6. Contractor shall have effective processes for designing & developing products/services
 - a. Plan design/development.
 - b. Define what inputs are needed to design/create/develop
 - c. Do the 'design' /plan in some form that enables them to verify the output
 - d. Review the design/plan at suitable stages
 - e. Make sure the result meets the agreed & defined requirements (verification)
 - f. Validate design (where practicable).
 - g. If changes happen during design, manage them.
- 7. Contractor shall control what they buy, outsource or subcontract (goods, materials or services) if it affects their services or products
 - a. Make sure what they buy meets the requirements specified; assess and monitor their suppliers/supply chain.
 - b. Describe what they plan to purchase.
 - c. Make sure it meets requirements.

8. Contractor shall manage their operations

- a. Have effective ways to control what they do (providing products/ services)
- b. Validate production/service provision (if required).
- c. Identify and track services/products (when appropriate)
- d. Take care of any property supplied by their customers, including IP and confidential information
- e. Care for products/components during storage/delivery, etc.to make sure they stay in good condition

9. Control measuring and monitoring equipment

When measuring, make sure your results are valid. Identify what equipment and processes you need for this. Choose suitable equipment or instruments. Make sure the results are and stay accurate.

10. Contractor shall have processes in place that are suitable to ensure their services/products meet all relevant requirements (customer, yours, contractual, legal, etc).Include improvement.

11. Contractor shall monitor and measure processes and services/products (as necessary) to check they got the results you wanted:

- a. Monitor customer perception of satisfaction.
- b. Plan and implement a suitable program of internal system audits, including a procedure
- c. Have suitable methods to monitor / measure processes.
- d. Monitor and measure products/services at suitable stages. Release the final only when all requirements are met.

12. Contractor shall control nonconformity (services/products not meeting requirements) in suitable ways, including a written procedure.

13. Contractor shall have a systematic approach to fix nonconformity and stop it recurring, including a procedure.

14. Contractor shall have a systematic approach to prevent potential nonconformity or failures happening, including a procedure.

3.3 QUALITY STANDARDS

1. Standards, Quality Assurance Schemes, Agrément Certificates and Other Approvals Standards

Work, goods and materials shall comply with the standards specified in the Contract.

Except where the specified standard implements or is technically equivalent to a Harmonised European Standard or to a European Standard adopted for use within the European Communities after 31 December 1985, any requirement for goods or materials to comply with the specified standard shall be satisfied by compliance with;

- (a) a relevant standard or code of practice of a national standards body or equivalent body of any EEA State which is a contracting party to the EEA Agreement; or
- (b) a relevant international standard recognised for use in any EEA State which is a contracting party to the EEA Agreement; or
- (c) a relevant specification acknowledged for use as a standard by a public authority of any EEA State which is a contracting party to the EEA Agreement; or
- (d) traditional procedures of manufacture of any EEA State which is a contracting party to the EEA Agreement where these are the subject of a written technical description sufficiently detailed to permit assessment of the goods or materials for the use specified; or
- (e) European Technical Approval (ETA) issued in accordance with the Construction Products Directive 89/106/EEC) and any subsequent amendments (or, until procedures are available for the issue of ETAs, a specification sufficiently detailed to permit assessment) for goods or materials of an innovative nature or subject to innovative processes of manufacture and which fulfil the purpose provided for by the specified standard; Provided that the proposed standard, code of practice, specification, technical description or European Technical Approval provides, in use, levels of safety, suitability and fitness for purpose equivalent to those required by the specified standard in so far as they are not inconsistent with the “Essential Requirements” of the Construction Products Directive (89/106/EEC) and any subsequent amendments. This Clause applies also to works only in so far as the means of carrying out such works are indivisibly associated with the goods or materials for which an alternative standard, code of practice, specification or technical description is proposed.

2. NSAI Agrément Certificates

Where any work, goods or materials are required to have a current NSAI Agrément Certificate, or equivalent, only work, goods or materials so certificated shall be used and the Contractor shall in each case provide to the Employer’s Representative a copy of the certificate.

The requirement for types of goods or materials to have an NSAI Agrément Certificate shall be satisfied by goods or materials having an equivalent Agrément certificate issued in any member state of the European Communities, provided that the goods or materials covered by such certificate offer in use levels of safety, suitability and fitness for purpose equivalent to those incorporated in the NSAI Agrément Certificate. This sub-Clause applies also to works only in so far as the means of carrying out such works are indivisibly associated with the goods or materials for which an alternative Agrément certificate is proposed.

3.4 INSURANCES

The Contractor shall indemnify the Employer by arranging insurance to cover the risk of accidental injury, loss, or damage caused by, through or in connection with his work and that of any subcontractor he may engage. In particular, the Contractor shall take out insurance policies as detailed hereunder with approved insurance companies and shall keep such policies validly in force during the period of Contract. The Contractor shall immediately inform the Employer's Representative of any changes in his insurance arrangements.

Insurances provided must be authorised for the jurisdiction of the Republic of Ireland and insurance providers must be recorded on Central Bank of Ireland Register as Authorised Insurers as of 01/04/2024.

The Contractor is required to produce satisfactory evidence of such insurances to the Employer's Representative for approval prior to commencement of the Contract, on renewal of the insurance policy and subsequently on demand at any time during the term of the contract.

The Insurances shall provide for:

Professional Indemnity Insurance – Annually renewable Professional Indemnity Policy, against liability for losses due to professional negligence. Minimum cover each and every claim €2,600,000.00. The cover period will be from start to completion of the Services; and six years from certified completion of the Project works subject to reasonable adjustment of cover for any exceptional increases in insurance market rates.

Employers' Liability Insurance – Employers' Liability for death, injury, to employees. Minimum cover each and every claim €13,000,000.00. Policy excess shall not exceed €6,500.00. The cover period will be from start to completion of the Services.

Public Liability Insurance – Public Liability for death, personal injury (except EL), loss of, Damage to, property, with indemnity to the Employer as Principal. Minimum cover each and every claim €6,500,000.00. The cover period will be from start to completion of the Services. Policy excess shall not exceed €50,000.00 for property damage or €6,500.00 for death, illness or injury.

Product Liability Insurance – Product Liability with a minimum cover each and every claim €6,500,000.00. The cover period will be from start to completion of the Services.

3.5 INVOICING

The frequency of invoicing for complete works shall be as follows:

- The costs associated with the storage of the festive lights, insurances and PSDP/PSCS shall be invoiced on the last working day of every quarter.
- The costs associated with the testing of the festive lights shall be invoiced on the last working day in quarter 1 and quarter 3 of each year.
- The costs associated with the installation and switch on of the festive lights shall be invoiced on successful completion of all switch on events.
- The costs associated with the patrol of the lights, emergency call-outs and deenergizing and removal of the festive lights shall be invoiced on successful removal of all festive lights and secure storage of same. This invoice shall be accompanied with an full inventory of all festive lights.
- The costs associated with civil works shall be invoiced on completion of the civil works.
- The costs associated with the maintenance of the festive lights (Part 3 of Volume C – Bill of Quantities) shall be invoices either on successful completion of all switch on events or following removal of the lights, as applicable.

Limerick City, Kilmallock and Newcastle West shall all be invoiced separately.

A payment claim notice, in the format of the Schedule of Rates shall be submitted to the individual Employer's Representatives in Limerick City & County Council for Limerick City,

Kilmallock and Newcastle West for certification and on receipt of such certification, the Contractor shall, at that stage, generate an invoice and forwarded to the relevant County Council.

The payment claim shall include a report detailing each and every item of replacement installed under maintenance, be it an included item with zero individual cost or a costed item under Replacement or Particular maintenance. Payment claims when the festive lights are taken down should be accompanied by the complete inventory of lights.

The invoice shall contain the Order No. issued by LCCC for the particular works or maintenance.'

The Contractor should note that both maintenance invoices shall not charge VAT and hence the amount on all invoices shall be VAT exclusive only.

The local authority may introduce limits on replacement/particular maintenance spending if necessary, in order to preserve budgets at any stage during the contract.

3.6 PATROLS

The Contractor shall carry out a patrol of every festive light in Limerick City twice per week for the duration that the Festive Lighting are energised in accordance with the requirements below:

1. Night Patrols are to be carried out twice per week with one day patrol carried out per week.
2. Night-time / day-time patrols to detect lighting failures should be carried out from a moving vehicle, in a safe manner, ensuring that every light is checked twice per week.
3. All public lights on foot/cycle paths are to be checked twice per week as part of the patrols.
4. All patrols shall be undertaken by the Contractor in vehicles equipped with a GPS tracking unit along fixed routes and to a fixed schedule agreed with the Employer's Representative. The routes and schedule will be devised by the Contractor to maximise the efficiency of the operation to ensure that all lights in charge are checked as per schedule. The Contractor must facilitate the use of GPS Tracking and evidence submitted to the Employers Rep with the account as a way to verify that each light was inspected twice per week while they were energised.

- 5.** The agreed routes and schedule shall not be altered without the prior agreement of the Employer's Representative.
- 6.** The Employer's Representative may from time to time carry out his/her own patrols of a route, as he/she deems necessary in the interest of auditing the effectiveness and accuracy of the Contractor's patrol activity.
- 7.** The official time for each patrol will be the date of the sunset at the start of the patrol. Night inspection patrols shall not commence earlier than one hour after sunset and shall be completed at least one hour before sunrise. The time of commencement and finishing shall be documented.
- 8.** The Night Inspection Report shall record any visible defect in a lighting unit including:
 - (f) Unlit/dim lamps
 - (g) Lamps not fully run up/cycling
 - (h) Misaligned brackets/lanterns
 - (i) Insecure or missing lantern bowls
 - (j) Insecure or missing column doors
 - (k) Damage to apparatus
- 7.** Day patrols shall check for:
 - (a) Lamps day burning
 - (b) Lamps not fully run up / cycling
 - (c) Misaligned brackets/lanterns
 - (d) Insecure or missing lantern bowls
 - (e) Insecure or missing column doors
 - (f) Damage to apparatus
 - (g) Lanterns shrouded by trees and hence requiring tree trimming
- 8.** The Contractor shall record the results of the night patrol and route on a hand-held mobile device/tablet. The Contractor shall provide a web-based GIS software system for verification of the night patrols.
- 9.** Programmed night-time patrols shall identify and record all lighting failures. However, any other defects which are observed shall be reported.
- 10.** Defects to other equipment and property documented as faults and serious issues should be reported to the Employer's Representative by the Contractor.
- 11.** Additional localised patrols should be carried out in response to random reports as a result of extreme conditions, for example a major road traffic accident, extreme weather, etc.

- 12. Patrols shall cover every festive light within the charge of the Employer's Representative at the time of the Patrol.**

3.7 CHRISTMAS LIGHTING ASSET INVENTORY

The Contractor shall maintain a complete, accurate, and up-to-date inventory of all Christmas lighting assets owned by Limerick City and County Council and held in storage for use in Limerick City, Kilmallock, and Newcastle West. A separate inventory shall be held for each of the 3 areas. The inventory shall record, as a minimum, asset descriptions, quantities, locations, condition, unique identification numbers (where applicable), date of installation and removal, maintenance history, repairs undertaken, replacement requirements, and storage locations. The Contractor shall update the inventory following each installation, removal, maintenance activity, repair, or replacement of lighting assets. A copy of the updated inventory shall be provided to the Council at least quarterly and upon request. The Contractor shall undertake an annual stock audit prior to the commencement of the Christmas lighting season and submit a reconciliation report identifying any missing, damaged, obsolete, or surplus assets together with recommendations for replacement or disposal. All inventory records shall be maintained in an electronic format acceptable to Limerick City and County Council and be available for inspection and audit at any time during the contract period. A complete inventory shall be submitted by the Contractor to LCCC with their invoice once the festive lights are taken down and put into storage.

3.8 ELECTRICAL SUPPORT FOR CHRISTMAS LIGHTS SWITCHING ON CEREMONIES

The Contractor shall provide an adequate number of suitably qualified, competent, and certified electricians to support all Christmas lights switching-on ceremonies and associated events in Limerick City, Kilmallock, and Newcastle West. The Contractor shall ensure that sufficient electrical personnel are available on-site before, during, and after each event to safely energise, monitor, troubleshoot, and, where required, isolate the Christmas lighting installations. Electricians shall hold all relevant certifications and be familiar with the installed lighting infrastructure, control systems, power supplies, and emergency shutdown procedures. The Contractor shall carry out all necessary pre-event inspections and testing to confirm that the lighting installations are fully operational and safe for public use. An on-site supervisory representative with authority to coordinate electrical activities and respond to faults shall be present for the duration of each switching-on ceremony. Any electrical faults or

operational issues arising during the event shall be addressed promptly to minimise disruption and ensure the safe operation of the Christmas lighting displays.

3.9 EMERGENCY CALL OUT SERVICE

1. The Christmas period is a short duration and the Christmas lights need to be maintained and faults resolved within 24 hours of them being reported for the lighting to be fit for purpose. Long periods of outages would not be acceptable and crew's would need to be on call during the full Christmas period to resolve the faults within 12 to 24 hrs.
2. The Contractor shall provide an on-call emergency service for Limerick City, Kilmallock and Newcastle West to make safe damaged equipment and to attend to and repair or minimise the extent of group outages e.g. by disconnecting faulty sections of cable.
3. The Contractor shall provide and maintain a communications system to the satisfaction of the Employer's Representative and ensure that his operator(s) can be contacted at all times. A direct telephone communication (24 hours) shall be provided to enable call outs to be passed without delay. An answer phone shall not be acceptable.
4. On award of the Contract the Contractor shall notify the Employer's Representative, in writing, of the name and contact telephone number of the persons nominated for answering such call outs and shall inform the Employer's Representative immediately in writing of any changes to the contact telephone numbers.
5. All staff attending to a call-out shall have adequate PPE, plant, assistance, equipment and expertise to effect emergency repairs.
6. During working hours, the Contractor shall inform the Employer's Representative immediately they have dealt with an emergency stating what action has been taken by them and whether any further action is required to complete permanent repairs.
7. In the event of the Contractor having to attend to a call out, emergency response or other reason the Contractor shall be required to make contact and redirect/redeploy his operatives and equipment as necessary.

3.10 TESTING OF FESTIVE LIGHTING

All festive lighting installations shall be fully tested and inspected by the Contractor prior to installation to confirm that all lights, cabling, connectors, controllers, fixings, and associated electrical components are operating correctly and are free from defects or damage. Following removal at the end of the festive period, all lighting equipment shall be retested before being

cleaned, packaged, and placed into storage to verify its condition and identify any faults requiring repair or replacement. Records of all testing undertaken shall be maintained and shall be submitted with the invoices at the end of Quarter 1 and Quarter 3 of each year. LCCC, or a representative acting on its behalf, may attend and witness any pre-installation or post-removal testing, and the Contractor shall provide reasonable notice of testing dates and locations to facilitate such attendance.

3.11 TRAFFIC MANAGEMENT PLAN

The Contractor shall prepare and submit a detailed Traffic Management Plan (TMP) to Limerick City and County Council for review and approval not less than **10 working days prior to the commencement of any works** that may impact vehicular, pedestrian, cyclist, public transport, or emergency service movements. Separate Traffic Management Plan's shall be required for Limerick City, Kilmallock and Newcastle West. The TMP shall be prepared by a suitably qualified and competent person and shall include, as a minimum, details of traffic control measures, signage, temporary road closures, lane restrictions, pedestrian diversions, access arrangements, working hours, emergency access provisions, and measures to minimise disruption to road users and local residents. The Contractor shall not commence works until the Traffic Management Plan has received written approval from the Council and all necessary statutory permits, licences, and notifications have been obtained. The approved Traffic Management Plan shall be maintained on site at all times and implemented throughout the duration of the works. Any deviation from the approved plan shall require prior written approval from Limerick City and County Council.

3.12 TRAFFIC MANAGEMENT

1. When planning and undertaking work on roads open to traffic the Contractor shall take account of the recommendations contained in the current version of publication "Guidance for the Control and Management of Traffic at Road Works" issued by the Department of Transport and Chapter 8.
2. The Contractor must provide a schedule of Traffic Management templates for generic to the Employer's Representative at the start of the contract.
3. Employer's Representative auditing will be a feature of the Contract and shall be facilitated.

4. The Contractor shall be responsible for the planning, design, implementation, construction, maintenance and removal of all traffic safety and management measures required to facilitate the Works.
5. A specialist contractor to carry out traffic management or additional contractor personnel to manage the traffic management requirements, may be required.
6. The Contractor shall at all times comply with the requirements of Chapter 8 of the Traffic Signs Manual and any additional requirements detailed in the NRA Design Manual for Roads and Bridges. Where any revisions have been made to these documents, or where the documents have been superseded by other documents, the Contractor shall use the version of the documents current at the time of the Works.
7. The Contractor shall engage an appropriately qualified person, suitably experienced in Temporary Traffic Management Design, who holds relevant qualifications in Temporary Traffic Management Design and also a qualification in the Signing, Lighting and Guarding of installed Traffic Management to produce Traffic Management Plans.
8. A controlled shuttle system shall only be permitted between 09:30 to 16:00 hours Monday to Friday and 09:00 to 16:00 hours on Saturdays.
 - Flagmen shall be used to provide variable 'green' time commensurate with actual demand.
 - At all times when one-way shuttle working is in operation, a sufficient number of suitable operatives are to be in attendance solely for traffic management duties, including operatives at side road junctions impacted by the shuttle-controlled system.
 - The overall length of road subject to shuttle working shall be a maximum of 300m in length. The geometry of the road including bends and junctions shall be taken account of when planning and implementing the shuttle system.
 - Lane widths shall be in accordance with Chapter 8 of the Traffic Signs Manual and shall take account of Bus Service along roads.
 - The Contractor shall comply with the determination of the ER and Roads Authority as to the level of traffic congestion and if they call a cessation to the shuttle operation because of Traffic Congestion the Contractor shall without delay change the temporary traffic management back to two-way.
9. Appropriate pedestrian and cyclist facilities shall be maintained at all times through the Works.

10. The Contractor shall programme the works with the aim of ensuring the safety of pedestrians/cyclists at all times and keeping disruption to pedestrians/cyclists to an absolute practical minimum and shall submit to the Employer's Representative a method statement to demonstrate how he intends to achieve that aim.
11. Drawings showing the Contractor's Traffic Management plans shall be to a scale not less than 1/2000, supplemented by drawings at 1/500 scales as necessary, or as required by the Employer's Representative.
12. Unless otherwise approved in writing by the Employer's Representative, the Relevant Authority and the Gardaí, the erection and removal of any traffic management or temporary diversion shall not be carried out during the following hours: Monday to Saturday – 0600 to 0930 hours and 1600 to 1900 hours and on any local or national public holiday.
13. Temporary Road Closures will not be allowed unless in very exceptional circumstances where no other alternative is possible. In such circumstances, the Contractor shall apply to the Road Authority for an official road closure in the normal manner subject to timescales, fees etc. The Contractor shall be subject to the full statutory procedures outlined in the Temporary Closing of Roads Regulations. The Contractor shall note that there is no guarantee that a road closure will be granted by the relevant roads authority.
14. The Contractor shall provide telephone numbers of a minimum of 2 employees who can be contacted by the Gardaí and/or Employers Representative, both during and outside normal working hours, and who shall be responsible for initiating whatever action shall reasonably be required in the event of an emergency.
15. The Contractor shall maintain arrangements whereby he can quickly call out personnel outside the normal working hours to carry out work needed for an emergency. The Employers Representative shall be provided with a list of names, addresses and telephone numbers of the Contractor's staff who are responsible for the organising of emergency work.
16. The Contractor shall ensure that all signs, cones, barriers, delineators and bollards used in connection with the Works shall be cleaned regularly, at intervals not greater than twenty-four hours. The Contractor shall ensure that all reflective patches and sleeves on cones or other delineators are replaced at intervals of not greater than 28 days, or as necessary.
17. The Contractor shall provide and maintain access (pedestrian, cyclist and vehicular) to all existing properties adjacent to the Works.

18. The Contractor shall be responsible for maintaining the running traffic carriageway and any pedestrian routes adjacent to the Works in a clean and safe condition at all times.
19. In the event of a traffic accident occurring adjacent to or in any of the Works, the Contractor shall immediately contact the Gardaí and the Employer's Representative informing them of the following:
 - a) Location of the accident
 - b) The seriousness of the accident and whether any persons are trapped, whether the collision involves vehicles carrying inflammable, corrosive or hazardous substances, whether there is a possibility of ignition from leaking fuel or chemicals. Immediately thereafter a report shall be provided containing all the relevant facts and issued to the Employer's Representative
20. Vehicles, not engaged in the construction of the Works, which are the property of the Contractor, sub Contractors or employees shall be parked in locations dedicated by the Contractor, where they do not interfere with the works, or obstruct any sight lines.
21. All drivers including those delivering plant and materials must be given clear instructions regarding the traffic arrangements applicable at any particular time.
22. Heavy Goods Vehicles used on Site by the Contractor, his Sub-Contractors or suppliers must be fitted with an audible reversing warning device.

3.13 RESTRICTED HOURS

Traffic or other considerations may make it necessary for the Contractor to carry out certain work outside normal working hours. For the purpose of this Contract, the Employer's Representative recognises the normal working hours as being between 8.00hrs to 18.00hrs Monday to Friday excluding public holidays.

3.14 LIAISING WITH ESB

It is the responsibility of the Contractor to liaise with the ESB for any operational issues, including repairs to ESB Networks which effect the Christmas lighting energy supplies. This is to be undertaken in an efficient and prompt manner. The Contractor shall submit RECI Certs for all new connections to the ESB and shall liaise with ESB to ensure that the connections are effected in a timely manner.

The Employer's Representative will hold responsibility for the application to the ESB for new connections.

Any ESB charges shall be the responsibility of the Employer.

3.15 CHANGE ORDER PROCESS

The purpose of this Change Order Process is to ensure that all variations, additions, omissions, amendments, or changes to the agreed scope of works are properly defined, costed, reviewed, approved, and documented prior to commencement of the changed work. No work associated with a change order shall proceed without formal written approval from Limerick City and County Council.

All proposed changes shall be processed in accordance with the following requirements:

Before any pricing request is issued, the proposed change shall be clearly defined and documented by the Council and/or Contractor, including:

- Description of the required change.
- Reason for the change.
- Location of the works affected.
- Reference drawings, specifications, or documentation.
- Impact on programme or completion dates.
- Health and safety implications.
- Any operational or service impacts.

The scope must be sufficiently detailed to allow accurate pricing and assessment.

Upon receipt of a scope definition, the Contractor shall submit a Change Order Proposal including:

- Detailed description of the proposed works.
- Itemised cost breakdown.
- Labour costs.
- Material costs.
- Plant and equipment costs.
- Subcontractor costs (where applicable).
- Overheads and profit where contractually permitted.

- Impact on project programme.
- Proposed commencement and completion dates.
- Assumptions and exclusions.

The Contractor shall not commence the changed work prior to receiving written approval.

The Employers Representative shall review the submitted proposal and assess:

- Compliance with the requested scope.
- Reasonableness of pricing.
- Availability of budget.
- Programme implications.
- Compliance with procurement and contract requirements.
- Health, safety, environmental, and operational impacts.

The Employers Representative may request clarification, additional information, or revised pricing from the Contractor before approval.

All Change Orders must receive written approval from the appropriate authorised representative of Limerick City and County Council before work commences.

No verbal instruction shall constitute approval unless subsequently confirmed in writing.

The Contractor shall not:

- Commence any change-related work.
- Procure materials specifically for the change.
- Incur additional costs associated with the change.
- Claim payment for variation work.

unless a formal written Change Order approval has been issued by the Council.

Work undertaken without approval shall be at the Contractor's own risk and expense and may not be eligible for payment.

In circumstances involving:

- Immediate danger to public safety.

- Risk of significant property damage.
- Regulatory compliance requirements.
- Essential service continuity.

the Council may issue an emergency instruction to proceed.

Such instruction must be documented within two working days and followed by a retrospective

Change Order detailing:

- Scope of emergency works.
- Agreed costs.
- Supporting justification.
- Formal approval record.

The following records shall be retained for each Change Order:

- Change request.
- Scope definition document.
- Contractor pricing submission.
- Supporting quotations and calculations.
- Review comments.
- Approval documentation.
- Revised programme (where applicable).
- Completion verification.

All records shall be maintained in the Council's project documentation system and be available for audit purposes.

4 PERFORMANCE SPECIFICATIONS

4.1 GENERAL

Materials, equipment and workmanship required under the Contract shall comply with the current version of the National Rules for Electrical Installations published by the Electro-Technical Council of Ireland and in particular the External Lighting Installations requirements and the rules and regulations of the Electricity Company providing the supply.

4.2 CHRISTMAS LIGHTING SPECIFICATION

New Lanterns shall be designed for LED light sources only.

The Christmas Lights are supplied by Fantasy Lighting or equal and approved.

The festoon lighting bulbs shall be Energetic 5.5W LED or equal and approved.

The lights shall be fully compliant with all relevant European/British standards and EC Directives as required to demonstrate full compliance with the CE Directive and be clearly marked accordingly. Certificates of compliance for all lanterns shall be submitted.

Christmas lights shall be supplied completely assembled and ready for use.

External lighting to have RCBO protection if located at less than 2.8m AFFL.

The electrical contractor to ensure that all luminaires and ancillary controls are suitably selected to be compatible with the environment in which they are installed, with suitable IP ratings.

The cabling for the lighting installation shall be certified to a minimum fire performance euro classification of Dca.

All Christmas lighting circuits to be controlled by astronomical time clocks installed in each Distribution Board.

4.3 CHRISTMAS LIGHT INVENTORY

Below is a summary of the approximate known quantities and locations of Christmas Lights across Limerick City.

Patrick Street Lights 1no.Type A 1no. Type B 2 No. Type C	5 sets of Lights.
O'Connell Street Lights 10 No. Type C 1 No. Type D 2 No. Type E	13 sets of Lights.
Sarsfield Street Lights 1 No. Type E 3 No. Type F	4 sets of Lights.
William Street Lights 2 No. Type E 6 No. Type F	8 sets of Lights
Shannon Street Lights 3 No. Type G	8 sets of Lights.
Roche's Street Lights 2 No. Type F 1 No. Type G	3 sets of Lights.
Cruises Street Lights 7 No. Type H 1 No. Type I 1 No. Type I	9 sets of Lights.
Little Catherine Street Lights 3No. Type K	3 Sets of Lights
10 No Half Christmas trees with lights extending to trees Bedford Row extending up to Thomas street	10 Sets of Lights
2 no Christmas tree Lights Thomas Street Junction .Train Station.	2 Sets of Lights

In Kilmallock, the existing festive lighting installation comprises 1 No. Type J Feature Light and 9 No. Type C Festive Lights (consisting of 1 No. 5 m unit and 2 No. 2.5 m units connected in sequence) located along Main Street. In addition, 15 No. Half Christmas Tree Lights are mounted on the front elevations of buildings along Main Street.

In Newcastle West, the existing festive lighting installation comprises approximately 6 No. Feature Lights (consisting of 1 No. 5 m unit and 2 No. 2.5 m units connected in sequence) located along Church Street, Bridge Street and Bishop Street. The installation also includes Christmas Tree Lights within The Square and Festoon Lighting installed around the perimeter of The Square and along the North Quay.

4.1 LUMINAIRE STANDARDS

The luminaire manufacturer shall be accredited to the following minimum standards:

BS EN ISO 9001 – Quality Management Systems

BS EN ISO 14001 – Environmental Management Systems

ISO 45001 – Occupational Health & Safety Management

The luminaire manufacturer (or else their nominated third-party testing laboratories) shall be accredited and certified to the following standard:

BS EN IEC/ISO 17025 – General requirements for the competence of testing and calibration laboratories.

The luminaire manufacturer shall have a competent aftersales team in order to support the Local Authority during the warranty period.

4.2 LED WARRANTIES

1. Luminaires shall be protected with a 10-year minimum manufacturer's warranty, as standard from the date of installation that shall provide replacement parts or whole lanterns (as appropriate) in the event of failure. Luminaires shall have a design life of 25 years (to correlate with 100.000 hours)
2. Luminaire warranty shall cover all luminaire components, inclusive of electronics, drivers, IP Rating, LED Module failures etc. Any third party supplied equipment such as photocells or CMS nodes will be outside of the luminaire warranty
3. Further, the above will be unconditionally transferred to The Employer after the initial 12-month Contractor warranty period.
4. The warranty shall include labour costs for at least the first 12 months post installation.
5. The warranty and any necessary after sales support for the LED lanterns shall be provided and supported directly by the lantern manufacturer and not be novated to the contractor or The Employer based upon a back-to-back arrangement with the driver manufacturer.
6. The manufacturer shall have a national after sales support network and be able to demonstrate the necessary assurances that they are in a position to support the warranty throughout the full defects period and beyond.
7. The Employer will not accept extended warranties which have future cost implications.

4.3 DISTRIBUTION BOARD SPECIFICATION

All distribution boards shall be provided with a fully rated neutral bar with an outgoing way per fuse or MCB, together with a multi-way earthing bar with one outgoing way per fuse of MCB. A facility shall be provided for additional earthing terminals for compliance with Section 543.7 to BS 7671.

Each distribution fuseboard board, miniature circuit breaker board and consumer unit, shall be identified by an externally fitted, engraved Traffolyte label inscribed with the board reference number and supply origin as shown in the Schedules and Drawings.

Each label shall also be provided with the following information externally fitted to the access door:

- i. The reference and current rating of the device serving the equipment.
- ii. The location and reference of the device via which the equipment derives its electrical energy.
- iii. The voltage present.
- iv. The cable size, type and number of cores serving the equipment.

Within each distribution board a full circuit chart shall be provided on the rear of the door and this shall identify the following:

- i. Circuit reference.
- ii. Protective device rating and type.
- iii. Phase conductor CSA.
- iv. Circuit protective conductor CSA.
- v. Circuit type.
- vi. Circuit location.
- vii. Apparatus served.
- viii. Provision so that the circuit details can be modified at a later date.

The chart shall be encapsulated within an ABS plastic laminate.

In each distribution board there shall be an approved label which may be a card enclosed in a non-flammable transparent plastic envelope securely fixed to the inside of the door. The label shall show the number of each way, its reference as indicated in the Schedules or drawings, the rating of the fuse link or M.C.B., the cable size and the apparatus connected.

The label shall be so arranged that the circuit details can be modified at a later date. The ways shall be clearly identified either by the M.C.B. or fuse-bases and carriers being indelibly numbered in an approved manner or by the label. This may be by means of a numbered plan or a printed statement to the effect that the numbering of the ways is from left to right.

Instructions shall be obtained for any mounting heights that are not particularly specified.

All fixing materials, including any necessary steelwork, shall be supplied.

Where a surface distribution board is used in a concealed installation, the cables and conduits shall be brought into a flush adaptable box located behind the board and enter the board through a bushed aperture(s) in the back. The size of the aperture(s) in the back of the distribution board, and the number and size of conduits serving the adaptable box shall be calculated on the basis that all outgoing ways are utilised. (Spare ways shall be assumed to be ring main circuits.)

MINIATURE CIRCUIT-BREAKER BOARDS

M.C.B. distribution boards shall be manufactured from rust protected sheet steel with painted finish and be provided with heavy gauge removable top and bottom gland plates and internal fixing holes.

Boards shall be provided with fully shrouded busbars and neutral bar and the pan assemblies shall be fully removable.

The distribution board door shall be equipped with barrel type locking devices and latches.

Each board shall be provided with a minimum of two keys, which shall be common to all boards.

Where specified, switch disconnectors, RCCB or MCCB disconnectors, shall be located as an integral part of the board.

Where larger disconnectors are specified, they shall be provided matching the pattern, colour and manufacturer and close coupled directly below the distribution board.

All distribution boards shall be in compliance with the latest national and international standards: BS 5486: Parts 13

BS EN 60439 Distribution Board BS EN 60898-2:2006 Types B, C, D

BS EN 60947-2 15 kA MCB's

BS EN 60947-3 Switch Disconnectors

BS EN 61008 RCCB

BS EN 61009 RCBO BS EN 60947-2

IEC 60947-2 MCCB

CONSUMER UNITS

Consumer units shall be either metal or insulated construction, as specified.

They shall be provided with totally encapsulated busbar providing a safety rating of IP2XB and an internal IP rating to be BS EN 60529.

All M.C.B. consumer units shall be in compliance with the latest national and international standards. BS EN 60439

CM 16 Test Consumer Unit

BS EN 60947-2 15 kA MCB's

BS EN 61008 RCCB

BS EN 61009 RCBO

BS EN 60946-3 Switch Disconnecter

4.4 CABLE SPECIFICATION

The electrical services design for new installations shall be undertaken by the Contractor to comply with the relevant sections of I.S. 10101: 2020+AC2:2025 'National Rules for Electrical Installations' or any subsequent amendments and this specification. The requirements set out in section 4 and 5 of I.S. 10101:2020+AC2:2025 or any subsequent amendments shall be complied with.

Underground public lighting cable shall be used exclusively for new public lighting installations.

Underground cables shall be PVC/SWA/PVC or XPLE/SWA/PVC. The cables shall have an integral earth core, i.e. the wire armour shall not form part of the electric conducting circuit. The size of the cable shall be adequate to limit to 4% voltage drop (no more than 9.2 volts) from the ESB Networks supply point. Cable conductor sizes shall not be less than 6mm² cross-section.

In all cases, public lighting cables shall adhere to the following standards:

- Armoured/SWA Cable to BS 6346 (0.6 / 1kV);
- Armoured/SWA Cable to BS 5467 / I.S. 273 (0.6 / 1kV);
- Unarmoured Cable to BS 6004 (0.3 / 0.5 kV)

Wherever wall mounted/ building mounted or pole mounted luminaires are fed from rising underground cables, these cables shall be protected by cable guards from ground level to 3 meters above the ground level. All guards shall be galvanised to EN ISO 1461 and all fixing clips, screws shall be stainless steel.

For wall mounted installations, the cabling infrastructure shall be installed in steel galvanised conduit. This rigid Guardian cable shall be a 3x 2.5mm² cable to BS 8436, impact resistant cable with aluminium screen with plain annealed stranded copper conductors, XLPE insulation and LSZH sheath. The Contractor shall be responsible for obtaining the consent/permission with the building owner prior to commencement of any installation where required.

Cables to be sized for 25% additional load for future extension.

Underground cabling shall be protected for the entire run by ducting, column foundation sleeves and cable chambers. No section of cabling shall be in contact with the soil or ground.

The number of luminaires per circuit shall be limited to eight lights unless otherwise agreed with the Employers Representative.

The armour on the public lighting cables shall be terminated on a brass earth plate. The earth terminal on the brass earth plate shall be connected to the earth terminal on the PL customer service pillar (or other service pillars) and column using 6mm² PVC cable, unless the plate acts as the earth terminal.

Where ESB cables run in parallel with Christmas Lighting cables in ducts, a minimum separation of 300mm shall be maintained. Where ESB high voltage cables and Christmas Lighting Cables cross, they shall do so at right angles. The requirement of crossing at right angles also applies to gas mains. No third-party infrastructure, such as traffic lights, water meters, CCTV etc., shall be supplied from Christmas lighting circuits.

The Contractor is liable for the replacement of any damaged cables and shall protect the cables within duct throughout to facilitate the replacement of cabling.

Cable Terminations

The armour of SWA cables shall be made with proprietary, brass-armoured cable glands and shrouds to the latest version of BS 6121. The armour securing clamp or compression gland and plate assembly shall incorporate at least one non-ferrous earthing terminal.

All glands shall be shrouded overall with PVC sleeves and the conductor shall be terminated with cable lugs.

Phase connections shall be clearly indicated by an agreed colour marking system as required by IS10101 I.S. 10101:2020+AC2:2025 or subsequent addendums.

The armour of SWA cables shall be made with proprietary, brass-armoured cable glands and shrouds to the latest version of BS 6121.

Where PVC/ SWA/ PVC cables are used, the outer sheath shall be terminated on earth-plates (external type). The armoured sheath of the SWA shall be bonded but must not be used as the Circuit Protective Conductor (CPC) under any circumstances.

Cable Joints

a) Jointing of Cables: Jointing of cables shall be carried out in dry and clean trenches. The Contractor shall ensure that adequate working room is provided for his use. All jointing works shall be carried out in accordance with the Manufacturer's specification for the equipment and materials supplied. The Contractor shall if required by the Employer's Representative provide reasonable opportunity for inspection before the joint is filled with compound and before the trench is backfilled. All cable joints and pot ends shall be guaranteed for a period of 2 years from the date of installation.

b) Earthing of Cable Armouring: Cable armour shall be bonded at all joints without significant increase in resistance as that compared with that of an un-jointed cable run, and form the earth continuity circuit.

c) Cable Jointing Kits: Resin Filled joints shall comply in all respects with BS 7888-3 HD623 and accompanying ISO 9001: 2000 quality assurance licence.

- a. Cable Joints, Straight Through types will be required for cable jointing in connection with the cables described.
- b. Joints shall be: - Cold poured polyurethane resin
- c. All joints must have a means of securing the steel armour wires and have an earth continuity conductor.

d) Heat Shrink Cable Joints: Cable joints shall be supplied in kit form and the packaging shall be designed to protect against mechanical damage and the ingress of dirt and moisture. Kits shall be individually packaged and components subject to a shelf life limitation and shall have the final date for use prominently and permanently shown on all packaging. Cable joint kits of the following types shall be provided: -

- i) Straight through joints for all cable types in the range 4-35 sq.mm.
- ii) Pot end for all cable types in the range 4-35 mm².
- iii) Outer insulation cable repair tape (Electrical Adhesive Sealing Compound)

Joint kits shall comply in all respects with BS 7888-3 HD623 and accompanying ISO 9001: 2000 quality assurance licences. Mechanical and electrical protection for all heat shrink joint kits for all types of cable shall incorporate a metallic screen surrounding the insulated

conductors for the full length of the joint. Cable sheath repair kits must contain all necessary fittings to facilitate the satisfactory repair of PVC outer cable sheath damage and should incorporate the use of a wrap around, adhesive coated and moisture sealing outer cover. Pot end kits must be marked to indicate the presence of live conductors. Records of all type testing and routine testing shall be maintained by the Contractor and shall be made available to the Employer's Representative on request.

4.5 UNDERGROUND CABLE FAULTS

1. Location of underground cable faults shall be ascertained by the Contractor's personnel. Cable fault repairs shall be carried out by a suitably Qualified Jointer.
2. The Contractor shall be required to obtain all necessary service information before commencement of Works and ensure compliance with safe clearances from the local electricity supply authority's equipment.
3. The Contractor shall be required to apply for a Road Opening Licence in advance of excavation, except in the case of an emergency or during non- working hours ,when the Contractor shall carry out the excavation and apply in retrospect for the Road Opening Licence on the next working day.
4. The Contractor shall provide all jointing materials and any necessary replacement cable. Replacement cable shall be of the same type and size as the existing installation unless otherwise approved by the Employer's Representative.
5. All jointing shall be carried out in accordance with the manufacturer's recommendations. No joint shall be used after its stated life has expired.
6. When the Contractor has completed the repair they shall test and re-commission the installation in accordance with tests laid down in the current edition of I.S. 10101:2020+AC2:2025 and issue a completed test certificate to the Employer's Representative.

4.6 SERVICE DUCT REQUIREMENTS

1 Details of Ducts

1.1 Where ducts are sealed, the seals shall be marked with coloured foil tape as set out below: -

Type of Service	Marker Colour	Recommended colour reference
Electricity	Red	RAL 3000 to 3002
Gas	Red	BS 5252 yellow 10 E 50 to 10 E 53
Water	Blue	BS 5252 blue 18 E 51 to 18 E 53
Telecommunications Cable	Green	RAL 6010
Cable TV	Red, Blue, Green, Chevron	
Cables for Traffic Signals	Orange	
Street Lighting	Red	RAL 3000 to 3002
Unspecified (Other than 1-7 above)	Black/White	

- (i) Ducts shall have a pipe stiffness of not less than 60 PS (kPa) when test in accordance with ASTM 2412.
- (ii) Duct trench and bedding details for ducts in footpaths or verges shall conform with Guidelines for Managing Openings in Public Road (Purple Book), unless otherwise specified.
- (iii) Duct trench and bedding details for ducts in carriageway crossings shall conform with Guidelines for Managing Openings in Public Road (Purple Book) unless otherwise specified.

2 Street Lighting Duct Systems

2.1 Street lighting duct systems shall comply with:

- (i) Ducts for road lighting and lit traffic sign lighting cables shall be 50mm internal diameter or 100mm internal diameter where a heavier cable or multiple cables are required to be installed and shall be manufactured from high density polyethylene material with a smooth bore and 5mm wall thickness. The ducts shall comply with BS EN 50086-12-4 and shall be coloured red and be inscribed with the words “STREET LIGHTING” or “PUBLIC LIGHTING” at 1 metre intervals. The duct shall be laid with this legend facing upwards.

- (ii) Ducts for the Electricity Company cables unless specified otherwise shall be red coloured 125mm internal diameter and shall comply with the requirements in (i) above.
- (iii) The Contractor shall sleeve underground cables extending from any main longitudinal duct to each column with 50mm red duct extended through the column cable entry.
- (iv) 'Electrical Hazard' warning tape, black letters on yellow background, shall be buried at the appropriate depth of 200mm directly below ground level along the entire length of the duct.

3 Provision of Ducting

3.1 Standards of Ducting

Ducting should be made of PVC to IS135 Class B having a minimum 50mm diameter for public lighting cable and 100mm diameter for ESB network supply distribution cable to lighting micro pillar.
Ref I.S. 10101:2020+AC2:2025

Ducting shall be red coloured and have the words "Electrical" stamped on with the lettering labels facing upwards in the trench. Ducting for street lighting should be located relative to other services. 100mm diameter ducting is recommended for use in long runs, where the poles are to be fed by looping the cable up into the pole base, rather than simply running pole to pole. In such cases the 100mm diameter duct would be laid in a continuous length past each of the bases and the cable looped by cutting a hole in the duct opposite each pole and installing a small chamber at the location to ensure that future replacement of the cable is possible without the need for excavation.

Ducts laid longitudinally along a road are to be located within a footpath or verge where such is available on the side of the road that the ducting is required. Deviation from this requirement shall be for exceptional reasons only and only with the prior approval of the Employers representative. Failure to adhere to this requirement may result in the ducting having to be re-laid at Contractors own expense, when instructed to do so by the Employer's Representative.

3.2 Ducting in Verges/Footpaths

Ducting should generally lie 600mm below ground underneath footpaths and (roadside) grass verges and backfilled/reinstated as outlined in accordance with Guidelines for Managing Openings in Public Road (Purple Book).

Ducts should be installed complete with 10mm diameter polypropylene rope for subsequent pulling of supply cable.

The ESB require that a 10mm diameter rope be provided to draw-in their connecting cable to lighting pillars from supply distribution points.

3.3 Ducts under Roads

Ducts laid in roads shall be backfilled either with a cement bound granular mixture or subject to the agreement of the Employers Representative Clause 804/808 compacted with Clause 802 and laid at a depth consistent with road construction requirements, normally 750mm below road or as determined by road opening licence & in accordance with Guidelines for Managing Openings in Public Road (Purple Book).

Ducts used in road crossings should be 50mm diameter, as required, to facilitate rodding and pulling of cables.

The duct ends shall be protected from ingress of rubble or other material.

Ducts should be installed complete with 10mm diameter polypropylene rope for subsequent pulling of supply cable.

Cross road ducts should extend a minimum of 300mm into the grass margin beyond the edge of the hard shoulder or kerb.

3.4 Ducting Surround

The compacted thickness of sand above and below the duct should be a minimum of 50mm. The remainder of the trench should be backfilled to ground level using selected material free of any larger or sharp stones (greater than 50mm in size) or as specified in the road opening license.

3.5 Connections from Ducting to Columns

Ducting setback in relation to road edge will vary depending on the setback of foundation blocks and/or rooted lighting columns.

In general, 50mm ducting shall loop from one lighting column to the next or in the case of tee off connections the ducting should be up to 500mm in front of the block/column positions, with a minimum 150mm between centre of duct and front face of foundation block or root type column. Cables should be fed from supply ducts to foundation block duct opening or cable slots of root column, both in and out, through short lengths of flexible stub duct such as hydrodare.

In the case of root columns, this flexible stub duct should be sufficiently long to project into column at least 300mm above top of cable slot.

In the case of flange plate columns, flexible stub duct through foundation block should be sufficiently long to project 100mm above top of block. The coupling should be such that the cabling can be easily withdrawn at some future stage.

Ducting should be properly coupled so as to allow for future replacement of cables. Longitudinal ducts should be laid in fully coupled unbroken lengths, which are accessed at the cable drawing-in stage by cutting at each lighting column or other access point. Reducer couplers should be used to connect 100mm ducts and 50mm continuation ducts.

All duct runs should be marked with electrical marking tape at a level of 300mm below finished ground level.

3.6 Marking Tape

Marking tape shall be coloured yellow and stamped along its length with the legend

“Caution - Public Lighting Cable Below”, in black lettering. The tape shall be of the ‘light duty’ type, 150 mm wide and 500 m in length per roll.

4.7 ROAD OPENING REQUIREMENTS

Reference National Publication Guidelines for Managing Openings in Public Roads, 2nd Edition, April 2017, published by DTTaS.

1. Road Opening License

The Contractor shall be required to apply for and receive a Road Opening License (fees to be waived by Limerick City & County Council) from The Road Authority for any jobs involving excavation in roads ,verges, footpaths, and public areas.

The application basis for both Limerick City & County Council is through the web based MRL system for which pre-registration is required in both counties. A road opening license shall be required for each project be it a programmed item or simply an underground cable repair project in a particular location.

2. Reinstatement

Any excavations in public areas must be made safe or backfilled before Contractor's Operatives leave the site on any particular day.

Reinstatement may be carried out on a temporary basis using cold macadam initially but permanent reinstatement must be completed in accordance with the road opening license and procedure issued by the Road Authority.

4.8 INSPECTION AND TESTING TO BE CARRIED OUT BY THE CONTRACTOR

Every Christmas Lighting Unit and Cable installation before being energised, shall be inspected, tested and certified in accordance with the requirements of the National Rules for Electrical Installations (I.S. 10101:2020+AC2:2025) have been met.

Any new cables installed as part of the upgrade of the Christmas lighting electrical infrastructure shall also be inspected, tested and certified upon completion.

The Contractor shall, allow where appropriate for all necessary disconnections of the installation, to enable testing to be carried out and for the refitting of equipment, reconnection and testing for the operation of the equipment immediately following the completion of all electrical tests. All cable disconnections made to carry out the electrical tests will be reconnected, and the system left in full working order unless it would be unsafe to do so.

The method of testing shall be such that no danger to persons or property or damage to equipment can occur even if the circuit test is defective.

The tests shall be divided into two sections;

1. Tests that must be undertaken before the electrical supply is connected and
2. Tests that must be undertaken after the electrical supply is connected.

The tests before connection of the electrical supply shall include the following at minimum;

1. Continuity of Protective Conductor
2. Resistance of Protective Conductor
3. Insulation Resistance of cables
4. Polarity Test

The tests after connection of the electrical supply shall include the following;

1. Earth Fault Loop Impedance

The Contractor shall complete Safe Electric completion certificates and test record sheets and retain a record of all certificates and test record sheets in the Safety File.

A completion certificate will be required for each new supply. Test Record Sheets shall be completed for all the sub-main circuits and final circuits for the lighting installation.

Inspection and Testing on New Public Lighting Units shall be as the following:

a) Visual Inspection

- i) Visual inspection of the installation shall take place prior to any testing or opening enclosures, removing covers etc. as far is reasonably practicable. A visual inspection should be made to verify that the electrical equipment has been correctly installed in accordance with the design and with particular regard to the correct rating of the protective device, protective conductor and earth bonding. The visual inspection should ensure that there is no visible damage, which may compromise safety.

1. The installation shall be inspected in accordance with I.S. 10101:2020+AC2:2025 and a completed Inspection Certificate as

issued by Safe Electric shall be forwarded to the Employer's Representative on completion.

2. Where the visual examination of the feeder pillar indicates that there is a major problem this should be reported to the Employer's Representative immediately and work on the system should be suspended until the fault is rectified.

b) Testing of New Installations

- i) The Contractor shall complete records of all measurements taken, faults found, deviations from the drawings etc., and complete the required records in accordance with I.S. 10101:2020+AC2:2025 on completion of testing the installation.

c) The Contractor shall complete the test certificates for the above on either of the following:

- i) Minor Electrical Installation Certificate.
- ii) Electrical Installation Completion Certificate.

Records:

- (a) A schematic diagram and copy of each Certificate to I.S. 10101:2020+AC2:2025 sealed in a transparent plastic cover to be approved by the Employer's Representative shall be fitted in each supply cubicle. The schematic diagram shall indicate the size of each outgoing cable, the identification numbers of public lighting unit equipment associated with each cable, and in addition for each circuit, the fuse rating, the circuit length, the maximum permitted earth fault loop impedance value (Z_s) including temperature correction values and the phase identification.
- (b) The original Certificate to I.S. 10101:2020+AC2:2025 shall be submitted with the invoice for the Works to the Employer's Representative. Invoices submitted by the Contractor for payment without the attached schematic diagram and correctly completed I.S. 10101:2020+AC2:2025 Certification may result in delays to the Contractors payment for Works.
- (c) The Contractor is required to hold copies of all test information supplied to the Employer's Representative at each monthly and end of year progress meeting. The Contractor shall validate such information as supplied to the Employer's Representative. The Contractor is to keep

separate records for each section within each Division and is to agree the correct format with the Employer's Representative following award of the Contract.

Testing of Steel Wire Cables:

The Christmas light fittings are attached to 2 No. steel wire cables fixed to buildings using chemical anchors. These steel wire cables have two connections at each point comprising of the main chemical fixing and secondary safety fixing. The secondary fixing is attached in the event that the main fixing fails.

In advance of any Christmas lights being installed on the steel wire cables, the contractor shall carry out the following tests:

- A visual inspection of all steel wire cables and if any of the cables are showing signs of rust, then the steel wire cable shall be replaced.
- Pull out tests to 10k Newtons are to be carried out every year by the contractor to confirm the secondary fixing are solid and capable of carrying the cables and light fittings.
- Each section of steel wire cable shall be retightened if the cable has sagged over the year.

Calibration of Test Instruments:

The Contractor is to ensure that the test instruments used for all Inspection and Testing Works are calibrated.

The Contractor is to keep a test instrument accuracy record summary and a comprehensive calibration register for the test equipment that is to be used for the duration of the Contract to meet the requirements of EN 45011.

The Contractor shall retain up to date original certificates of calibration for each item of test equipment.

The certificate shall provide the following information as a minimum; manufacturer, type and serial number of item of test equipment, date and location the calibration was carried out and the name of the certifier, the next due calibration date and the name of the calibrating company

The Contractor is to have in place an effective system, which enables them to confirm the continuing accuracy and consistency of all test instruments used for certification and reporting purposes as defined by RECI/ECSSA guidelines. Should the RECI/ECSSA assessment report indicate a non-compliance, in that the Contractor is unable to demonstrate to the satisfaction of the RECI/ECSSA

Inspecting Engineer that an effective control system is in place which ensures the continuing accuracy and consistency of the test instruments used to carry out the tests required by:2020+AC2:2025, then any instruments found by the RECI/ECSSA Inspecting Engineer to be in non-compliance, and to have been used by the Contractor for Inspection and Testing during the Contract, shall render all such submitted Inspection and Testing Certification which had been carried out with such instruments invalid.

Alternatively, should the Employer's Representatives, during an audit or inspection, find any non-compliance in regard to the above then in all such cases the Employer's Representative will require the tests to be redone by the Contractor, at no additional costs, within six weeks of the Contractor being notified in writing by the Employer's Representative.

All test equipment is to be approved by the Employer's Representative and shall comply with HSE Guidance Note GS38 Electrical Test Equipment.

Following award of the Contract the Contractor is to supply the Employer's Representative with a list of all test equipment detailing serial numbers and date of latest calibration certificates for each instrument to be used during the Works. The information supplied to the Employer's Representative is to be regularly updated as instruments are calibrated or replaced as necessary during the Contract.

5 SAFETY FILE & AS – BUILT RECORDS

5.1 GENERAL

- 1.1 The Contractor Shall provide a draft of the As Built Records and issued to the Employer's Representative for review and comment on a three-month basis, 2 weeks in advance of the quarterly meetings.
- 1.2 Any comments raised by the Employer's Representative in relation to these drafts are to be incorporated into the final As Built Records. The final issue of As-Built records are to be submitted by the Contractor within 1 week of receipt of comments from the Employer's Representative.
- 1.3 A full draft of As-Built records are to be submitted by the Contractor within 2 weeks of Substantial Completion.
- 1.4 As-Built Records shall be submitted on hard copy and digital copy. One full hard copy of the As-Built Records and a digital copy shall be supplied to the Employer's Representative fully labeled and indexed. The format for labeling and indexing shall meet the requirements of the Employer's Representative.
- 1.5 The Contractor shall issue to the Employer's Representative, any key information requested by the Roads Authority necessary to operate and maintain the Works.
- 1.6 The Contractor shall keep a daily record of the work in sufficient detail, including the type and drum number of underground cables, to enable site records to be completed.
- 1.7 The particular requirements of the As-Built Records are that they include:
 - As-built drawings as specified in the Safety File within section 9.2;
 - for Design Elements:
 - i) one copy of each of all Design drawings on A1 size paper clearly marked "As Built Drawing"; and
 - ii) copies of all drawings in AutoCAD DWG and DWF format, and schedules in Microsoft Word or Microsoft Excel format as appropriate
 - Completed Data for each light
 - Include records of material compliance, such as certification, quality assurance, external testing and the like; and include a complete record of sampling and testing data.

5.2 INFORMATION TO BE SUPPLIED FOR THE SAFETY FILE

The drawings and other information listed in the following sections shall be incorporated as appropriate to form the Safety File for the Project. The Safety File shall contain an index listing all drawings and other information provided with reference to information that will be in other records to which the file simply cross refers.

The Safety File shall contain the following:

- i. Specification on materials and products used for public lighting maintenance. As new materials are introduced the specification sheets shall be entered into this folder. This shall list all suppliers by name, address and material product supplied. Where products or materials are covered by the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001 (SI No. 619 of 2001) -full details of the product or material specification shall be given. Where subcontractors are responsible for activities involving the construction, installation or application of products or materials, names and addresses shall be given.
- ii. Drawings/Reinstatement details
- iii. Control and Communications Equipment
- iv. Statements of the equipment functionality.
- v. RECI cert for the works
- vi. Road Opening Cert

5.3 AS-BUILT DRAWINGS

As- Built drawings shall show the following information:

- i. Scheme Drawings - scale of 1:1000 in A3, outlining lantern locations, ducting layout and circuitry drawings.
- ii. Circuit Drawings panel layout including cable, fuse, breaker, surge protection etc. details;
- iii. Equipment details such as pole type, arm type, lamp, lantern including O&M's and warranties.
- iv. Civil Work Details such as base foundations, ducting cross sections, concrete documents
- v. Drawings showing the location and details including materials, foundations, lighting and power supply where applicable.
- vi. Drawings showing location and details of type of column, lantern, foundations and power supply.
- vii. Drawings showing location, depth, size and type of equipment & ducting.

- viii. Drawings showing location and details of the type of equipment and routes interconnecting cables and power supply circuits.
- ix. Index map showing location of work.

6 CONTROL OF NOISE AND VIBRATION

- **Noise**

1. The following measures are given as a guide; however, it is for the Contractor to decide whether to seek the Local Authority's formal consent to his proposed methods of work and to the steps he proposes in order to minimise noise.
2. The normal working hours within the site shall be as stated in the schedule below. Exceptionally, consent for work outside these hours may be approved by The Local Authority Traffic Section and An Garda Síochána after any necessary consultation.

Working Hours	
Monday to Friday	0800-1800hrs
Saturday	0900-1300hrs
Sunday and Bank Holidays	No Working

3. The noise levels (see Note (i) below) for periods outside the normal working hours will only be permitted when consent has been given to exceptional working.

The ambient noise level, L_{eq} (see Note (ii) below) from all sources when measured 2.0 metres above the ground at 1m from the façades of residential properties in the vicinity of the Works, shall either not exceed the appropriate level given in the schedule below, or not exceed by more than 3dB(A) the existing ambient noise level, L_{eq} (see Note (iii) below), at the control station measured over the same period, whichever level is greater.

4. The Contractor shall employ the best practical means to minimise noise produced by his operations including plant maintenance and shall comply with the recommendations in BS 5228 1984 (Noise Control on Construction and Demolition Sites).
5. All vehicles and mechanical plant used on the works shall be fitted with effective exhaust silencers and shall be maintained in good and efficient working order for the duration of the works in compliance with BS 5228.

Machines in intermittent use shall be shut down in the periods between work or throttled down to a minimum.

The Contractor shall remove from the works any item of plant, which in the opinion of the Employers Representative is ineffectively silenced.

- All compressors shall be "sound reduced" models fitted with properly lined and sealed acoustic covers and shall be kept closed whenever the machines are in use.

- All ancillary pneumatic percussive tools shall be fitted with mufflers or silencers of the type recommended by the manufacturers.
 - Pumps and mechanical static plant shall be enclosed by acoustic sheds or screens where directed by the Employers Representative.
6. Any plant such as generators and pumps shall be surrounded by an acoustic enclosure to the approval of the Employers Representative which shall restrict the noise level to not less than 5dB(A) below levels quoted in the schedule to this Appendix.
 7. The Contractor shall organise his operations with regard to the positioning of plant, etc., so it minimises construction noise to adjacent properties.
 8. The period referred to as “night” in the Conditions of Contract shall be from 2200 hrs to 0600 hrs.

Period	Hours	Permitted Ambient Noise Level, L_{eq} , measured at Building Facades [dB(A)]	Period of Hours over which L_{eq} , is applicable.	Maximum Sound Level (see note (iv) below) measured at Building Facades [dB(A)]
Monday to Friday	20.00hrs to 06.00hrs	70	1 hour	80
Saturday	-	70	1 hour	80
Sunday and Public Holidays	-	60	1 hour	65
All unattended plant outside normal working hours.		60	18 hours	65

Schedule of Total Noise Levels at Building Facades

Notes:

- i) Noise levels relate to free field conditions. Where noise control stations are located 1 metre from façades of buildings, the permitted noise levels can be increased by 3dB(A).
- ii) The ambient noise level, L_{eq} , at a noise control station is the total L_{eq} from all the noise sources in the vicinity over the specified period.
- iii) The existing ambient noise level, L_{eq} , at a control station is the total L_{eq} from all the noise sources in the vicinity over the specified period prior to the Commencement of the Works.

- iv) **Maximum sound level** is the highest value indicated on a sound level meter which meets the requirements of BS 5969 Type 1 or 2 set to SLOW response, and frequency weighting A.

7 PRIVATELY & PUBLICALLY OWNED SERVICES & SUPPLIES

1. It shall be the responsibility of the Contractor to ascertain and protect any services/supplies affected by the works.
2. The Contractor shall make arrangements with the Statutory Undertakers and others concerned for the co-ordination of his work with all work which needs to be done by them or their Contractors concurrently with the Works. Compliance with the periods of notice given in this Appendix does not relieve the Contractor of his obligations.
3. Private services to individual properties have not been listed. The Contractor shall make arrangements with the Statutory Undertakers and others concerned for the phasing of all necessary disconnections and diversions of private services affected by the Works.
4. Disconnected apparatus shall be removed by the Contractor only with the prior consent of the Authority concerned.
5. The names, addresses and telephone numbers of the main Utility Companies serving in the locality are listed below.

Provider	Enquiry method	contact
Bord Gais	email	dig@gasnetworks.ie
BT	self service website	www.ctw4.nl/User/Login/-/en-US
E-Net	email	stats@enet.ie
Eir	email	pdbureau@openeir.ie
	self service website	cbyd.emaps.eircom.ie/Eircom-CBYD/ (doesn't work on Chrome)
ESB	email	centralsiterequests@esb.ie
Irish Water	email	datarequests@water.ie
Virgin Media	email	civils@virginmedia.ie

8 ENVIRONMENT

The Contractor shall take all necessary precautions to avoid injury to public health, animal health and the surrounding environment. The Contractor shall have regard to the condition of mature trees. He shall protect these in an approved manner from damage by moving plant. In the event of accidental damage to tree branches, these shall be sawn back in an approved manner and sealed with an approved compound.

a. Waste and material management

The Contractor must provide a copy of their Waste Management Plan to the Employer's Representative at the start of the contract.

Waste and material management measures shall be implemented to ensure that waste generated is managed appropriately:

- For the duration of the contract waste will be controlled and segregated appropriately on site by means of dedicated skips which will be disposed of off-site by a licensed waste recovery operator;
- All materials liable to cause water pollution will be stored in a designated impermeable storage area.

b. Plant management

Plant and machinery shall be adequately maintained to ensure that sufficient plant and machinery is available to operatives at all times and in good working order for the duration of the Contract.

Contractor shall have measures in place that temp replacement hoist and other essential equipment is available whilst the primary equipment is being repaired or serviced.

Operators shall adhere to the following practices:

- Vehicle and equipment operators must have appropriate training and qualifications for proper and safe use of their equipment;
- Operation of all vehicles, vessels and equipment will be carried out in a safe and professional manner;
- To avoid risk of spills or leakages into the marine environment continuous care and maintenance of vehicles and equipment will be maintained;
- All filters, oils, lubricants and other related materials will be disposed of properly;
- Plant will be parked in the secure compound when not in use.

c. Control of Dust

The contractor shall provide, use, maintain and keep available plant and equipment necessary to minimize the formation and accumulation of dust arising from the Works, normally in dry weather conditions.

d. Circular Economy

A circular economy is a systemic approach to economic development designed to benefit businesses, society, and the environment. Circular Lighting means that lighting products are designed in a fully sustainable way. At end of the life of a product, the luminaire can be upgraded and reused, or all materials and parts can be returned for repurposing or recycling. By minimizing materials waste and reducing environmental impact, it helps create an ecosystem that extends the life of lighting products and provides a better future for the next generation.

e. WEEE Directive

Based on Extended Producer Responsibility (EPR) principles, the EU Directive on waste electrical and electronic equipment (WEEE) makes producers responsible for the organisation and/or financing of the collection, treatment, recycling and recovery of their products at end of life. The purpose of the directive is to contribute to sustainable production and consumption by, as a first priority, the prevention of WEEE and, in addition, by the reuse, recycling and other forms of recovery of such wastes so as to reduce the disposal of waste and to contribute to the efficient use of resources and the retrieval of valuable secondary raw materials. This EEE waste contains a complex mixture of materials, some of which are hazardous. These can cause major environmental and health problems if the discarded devices are not managed properly. In addition, modern electronics contain rare and expensive resources, which can be recycled and re-used if the waste is effectively managed. Improving the collection, treatment and recycling of electrical and electronic equipment (EEE) at the end of their life can improve sustainable production and consumption, increase resource efficiency and contribute to the circular economy.

9 APPENDIX A – CHRISTMAS LIGHTS 2023 REPORT BY LIMERICK CITY AND COUNTY COUNCIL



ABSTRACT

Report on the process of installing and taking down the Christmas lights in Limerick City along with approximate quantities.

Prepared by Dave Whelan

CHRISTMAS LIGHTS 2023

21/06/24 Rev 3

Limerick City Christmas Lights 2023.

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Limerick City Christmas Lights 2023.

1.0 Introduction

This report was compiled to identify and quantify the type of lighting, infrastructure and steel supporting cabling used to create the Christmas Lights in Limerick City. Meetings were held between Limerick City and County Council and the current installer of the Christmas Lights to document the elements of Christmas Lights. LCCC carried out photographic and visual surveys to identify the various components and locations that make up the lights and supply electricity from multiple distribution boards around Limerick City. This report outlines the process involved in the installation and taking down of the Christmas light along with key items to consider such as storage, moving the lights, approximate quantities, locations of the sets of lights and main distribution boards feeding them.



Fig 1 Typical makeup of Christmas Lights section across street in Limerick.

2.0 Sections of Christmas Lights

The Christmas lights sections generally come in lengths of 5m and 2.5m light sections. These can be connected to make up a string of sections across a typical street as shown in Fig 1. In Limerick they are generally made up 1No. 5m section and 2No. 2.5m sections. Each section of Christmas Light fitting are connected together by an external IP 67 socket see Fig 2. For example across O'Connell Street each Christmas Light has 3 lights comprising of 1No. 5m, 2No 2.5m light sections connected by an IP7 socket, see Fig 2. These are then connected to external IP67 sockets and Sub distribution board with RCBOs (Residual Circuit Breaker Overcurrent Protection) sockets located on buildings or to light poles see Fig 3 and Fig 5. The Christmas light fittings are attached to 2 No. steel wire cables fixed to buildings using chemical anchors. These steel wire cables have two connections at each point comprising of the main chemical fixing and secondary safety fixing. The secondary fixing is attached in the event that the main fixing fails. Pull out tests are carried out every year by the current contractor to confirm the secondary fixing are solid and capable of carrying the cables and

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light fittings. The current contractor also inspects each section of steel wire cable and retighten if the cable has sagged over the year.

Scame IP44 Blue Cable Mount 2P + E Industrial Power Socket 230 V

RS Stock No.: 724-9123 | Mfr. Part No.: 313.3243 | Manufacturer: [Scame](#)



Fig 2 IP67 Socket

3.0 IP67 External Sockets

The IP67 external socket is used to connect sections of lights and join maximum lengths of cables along the route of the Christmas Lights. IP stands for "Ingress Protection" and serves as the International Protection Marking. An IP67 rating indicates it is "waterproof." The 6 indicates "complete protection against dust over extended time" as well as "protection against contact with objects greater than 1mm in diameter, such as a wire or a small tool." The 7 indicates the system is "protected against short periods of immersion in water while under pressure between 15cm and 1m." This is one of the highest rated connection sockets you can provide.

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Fig 3 .Residual Current Circuit Breaker with Overcurrent protection. RCBOs

4.0 Residual Current Circuit Breaker with Overcurrent protection. RCBOs.

Fig 3 shows the Residual Current Circuit Breaker with Overcurrent protection. RCBOs used in Sub distribution boards on the Limerick Christmas Lights that are used to instantly cut power during earth faults, overloading of the system and short circuits.

5.0 Electrical cables and consumables.

The contractor provides varying sizes of electrical cables for the Christmas light infrastructure ranging from 1.5mm square up to 6mm square. Every year sections of electrical cables have to be replaced along with string lights within Christmas light sections. The contractor also replaces external sockets, RCBOs, and external boxes. The catenary steel wire cables supporting the light fittings also have to be replaced. Items such as steel wire cabling lengths, bottle tensioners, D shackles and cable clips are replaced as part of the yearly maintenance of the Christmas Light installation. The current contractor can also use up to 4000 cable ties when fastening the Christmas Lights to the steel wire cables. They would also use chemical anchors, threaded rod, threaded eyebolts.

List of consumables per year.

- Approximately 600m of electrical cabling.
- External sockets, external boxes, RCBOs. As required
- String lighting. As required
- Approximately 4000 cable ties
- Steel wire cables, bottle tensioners, clips. D shackles. As required.
- Chemical anchors, threaded rod, threaded eyebolts. As required.

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6.0 Main Distribution Boards.

At various locations around Limerick multiple Main Distribution Boards, see Fig 4, supply power to the sub distribution boards, see Fig 5, located on building fronts close to each section of Christmas Lights. These cables are ran in ducts underground and then up the face of building facades and distributed at first floor level along the streets in Limerick city to feed the Christmas Lights. The current contractor spends two days per year replacing infrastructure as the cables can be up to 20 years old in places. Glands to sub distribution boards and junction boxes also leak and have to be replaced as the Christmas Lights are checked. We estimate that up to 50% of the infrastructure has to be replaced in the coming years.



Fig 4 Main Distribution board feeding sub distribution boards for Christmas Lights.



Fig 5 Sub Board inc RCBOs with IP67 Socket feeding Christmas Lights.

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7.0 Programme and Logistics.

The current contractor start the Christmas light work six weeks before the installation. The lights are stored over the year in a warehouse storage area proved by the contractor. The work begins with inspection and testing of the lights. Each section of light has to be checked to determine if they are working and carry out any replacement of string lights within the main lighting section frame. This is carried out by two men over this six week period. Once all of the lights have been checked and signed off as working they are moved to the installation location by a 5m long towed trailer. The installation of the Christmas lights are carried out by 8 men over six Sundays before the turning on of the Christmas Lights date. All work is out of hours, Sunday or at night. The lights are installed using two MEWP cherry pickers, see fig 6 , by two crews of three men. Two men in the basket and one on the ground. Some work has to be carried out at night and requires liaison with Bus Eireann on bus routes especially on work carried out to Roche's Street due to the height of buildings and width of the street. There is also a requirement to maintain the lights over the Christmas period due to lights faults tripping out etc. This maintenance work is approximately one day per week over 6 weeks and working at night. There is also a requirement to fix faults within 24 hours of being reported. The taking down of the lights requires the same equipment over two Sundays in January.



Fig 6 Type of MEWP used to install and take down Christmas Lights.

8.0 Response Times

The Christmas period is a short duration and the Christmas lights need to be maintained and faults resolved within 24 hours of them being reported for the lighting to be fit for purpose. Long periods of outages would not be acceptable and crew's would need to be on call during the full Christmas period to resolve the faults within 12 to 24 hrs.

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9.0 Interaction with stakeholders

A major part of the Christmas lighting contract is communication and interaction between the stakeholders to ensure minimal disruption during the Christmas period. Relationships have to be built up and maintained with shop owners within Limerick city to ensure access and permissions are obtained to allow work to be carried out to shop fronts. This requires on the ground face to face meetings and discussions on how work is to be carried out. There are also relationships with Gardai , Bus Eireann and Limerick City and County Council to be considered.

10.0 Traffic Management

The current contractor procures traffic management design and implements this on the ground to ensure Health and Safety at all times during installation. All crews have Safe Passes, are trained in Signing Lighting and Guarding and are qualified Electricians.

11.0 Use of Generators.

Some of the Christmas Lights have to be ran off generators as no power supply is available nearby. This requires monitoring, maintenance and refuelling. Some of this is due to new buildings being constructed with no allowance made for infrastructure and steel wire cabling to support the Christmas Lights.

12.0 Other things to consider on installation of the Christmas Lights and other requirements.

MEWPs have to be moved during the night to various locations and timing is critical to avoid issues with traffic, buses etc.

Last minutes changes to locations also have to be considered such as additional power to Christmas Markets, Grottos. Food stalls etc.

Christmas lights have to be ordered early in the year, March, April from the suppliers to avoid delays and lead in times are critical to meet the Christmas deadlines.

As areas of limerick get upgraded and new buildings, footpaths get installed on the main Christmas Light routes, existing infrastructure and cabling support get removed and is not replaced. This leads to problems in fixing cables and finding routes for cables to get to the Christmas lights. In some cases generators have to be used. The contractor has to resolve all of these issues and find solutions to get the lights in place.

13.0 Summary

The existing Christmas Lights are stored, maintained, installed and taken down by the current contractor . As part of this process the existing infrastructure, some of it 20 years old is upgraded, repaired and replaced to ensure the lights are working each year. This work requires planning in advance to ensure orders are placed for replacement Christmas lights, liaison with the Limerick City and County Council, Bus Eireann and the shop owners around limerick to ensure smooth installation of the lights. All of the work is out of hours on a Sunday and at night and requires the logistics of moving lights, MEWPS between locations without disrupting traffic and people. The Christmas Lights

Limerick City Christmas Lights 2023.

also require repair and maintenance at short notice (hours not days) over the weeks of the Christmas period to avoid long periods where lights are out due to faults. The installation of the lights also requires knowledge of the various structures that the steel wire cables are fixed to and in some cases bespoke structural solutions are required i.e. plates bolted to weak crumbling bricks on some of the older facades all organised by the contractor.

14.0 Known approximate quantities

Patrick Street Lights 1no.Type A 1no. Type B 2 No. Type C	5 sets of Lights.
O'Connell Street Lights 10 No. Type C 1 No. Type D 2 No. Type E	13 sets of Lights.
Sarsfield Street Lights 1 No. Type E 3 No. Type F	4 sets of Lights.
William Street Lights 2 No. Type E 6 No. Type F	8 sets of Lights
Shannon Street Lights 3 No. Type G	8 sets of Lights.
Roche's Street Lights 2 No. Type F 1 No. Type G	3 sets of Lights.
Cruises Street Lights 7 No. Type H 1 No. Type I 1 No. Type I	9 sets of Lights.
Little Catherine Street Lights 3No. Type K	3 Sets of Lights
10 No Half Christmas trees with lights extending to trees Bedford Row extending up to Thomas street	10 Sets of Lights
2 no Christmas tree Lights Thomas Street Junction .Train Station.	2 Sets of Lights

Limerick City Christmas Lights 2023.

Total sets of Christmas Lights	65
• Approximately 600m of electrical cabling. • External sockets, external boxes, RCBOs. As required • String lighting. As required • Approximately 4000 cable ties • Steel wire cables, bottle tensioners, clips. D shackles. As required. • Chemical anchors, threaded rod, threaded eyebolts. As required.	

Limerick City Christmas Lights 2023.

15.0 Christmas Light Location



Light Type A .Deep. Patrick Street .Light Number P1. Length 5m long.



Light Number P1 Power Supply And External Socket and Box Located on Arthurs Quay.

Limerick City Christmas Lights 2023.



Light Type B. Deep. Patrick Street / Ellen St .Light Number P2. Length 2 No x 5m connected.

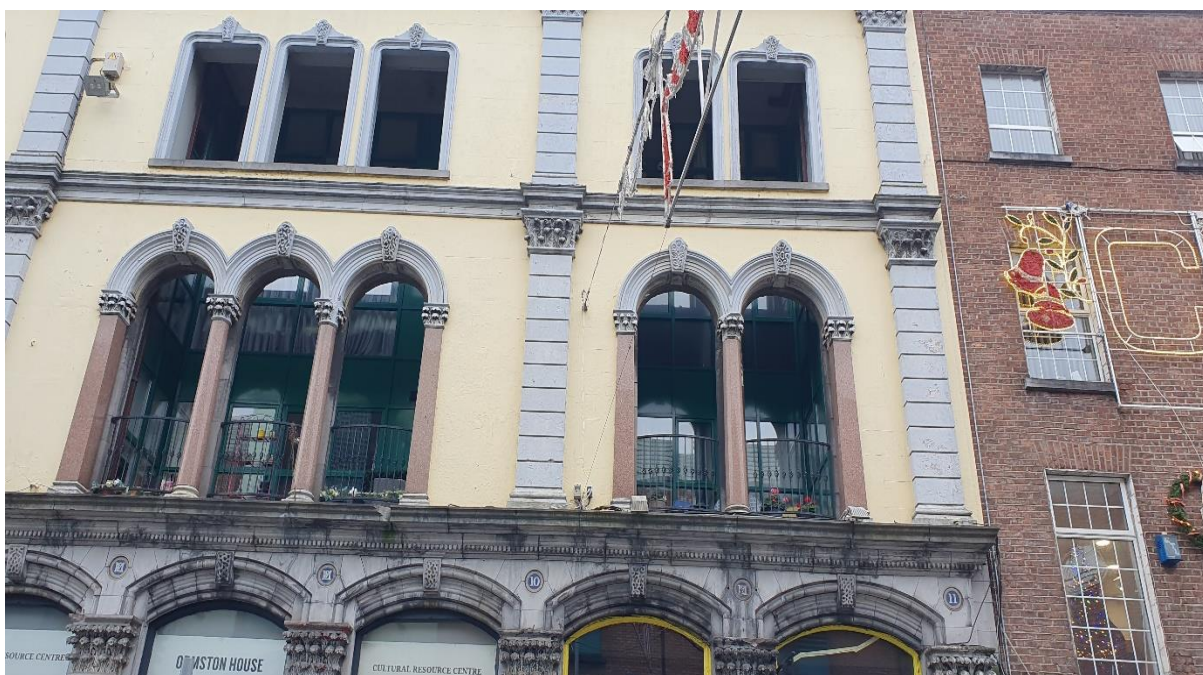


Light Number P2 Power Supply And External Socket and Box Located on Arthurs Quay over Star Cuts.

Limerick City Christmas Lights 2023.



Light Type C. Deep. Patrick Street .Number P3. Length 1 x 5m, 2 x 2.5 connected.

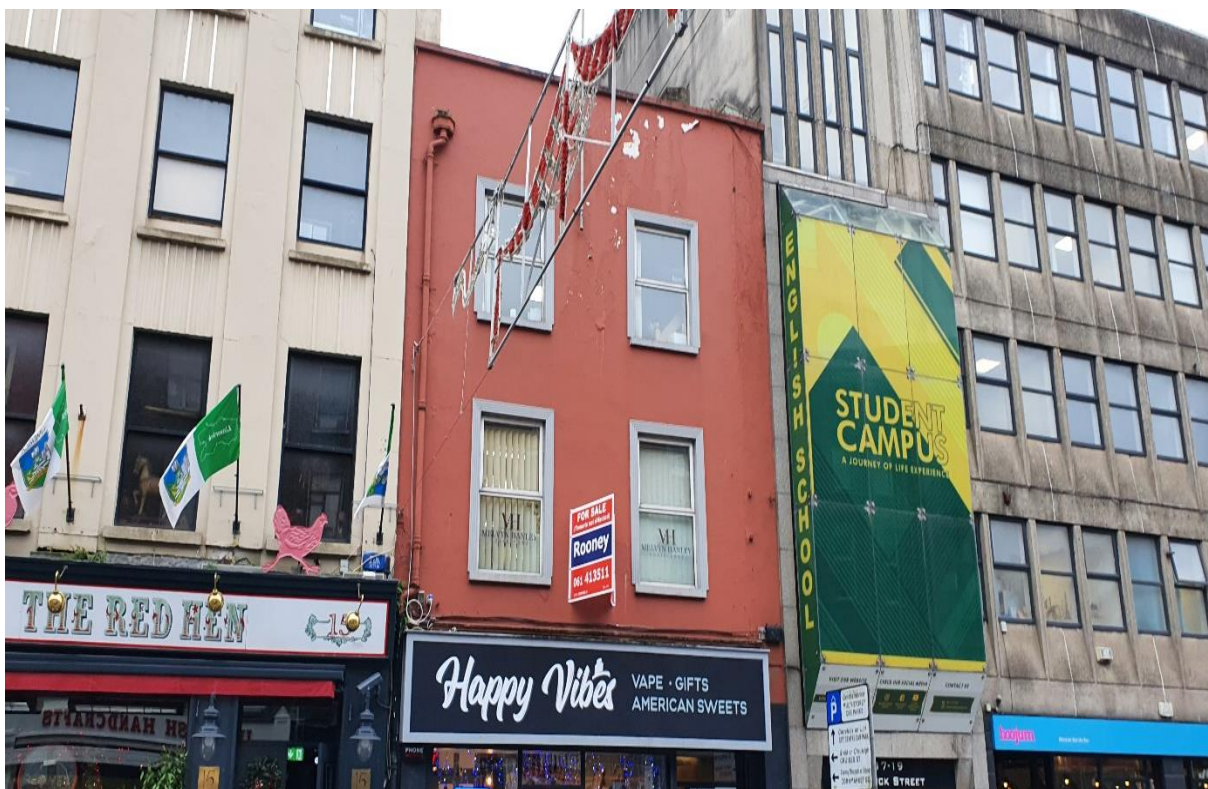


Light Number P3 Power Supply and External Socket and Box located on Ormston House.

Limerick City Christmas Lights 2023.



Light Type C. Deep. Patrick Street .Number P4. Length 1 x 5m, 2 x 2.5 connected.



Light Number P4 Power Supply and External Socket and Box located on Happy Vibes.

Limerick City Christmas Lights 2023.



Light Type D. Deep. Patrick Street /Denmark St .Number P5. Length 2 x 5m, connected.



Light Number P5 Power Supply and External Socket and Box located on Burger King.

Summary Patrick Street Lights 5 sets of Lights.

1no.Type A

1no. Type B

2 No. Type C

Limerick City Christmas Lights 2023.

1 No. Type D



Light Type C. Deep. O Connell St .Number OC1. Length 1 x 5m, 2 x 2.5 connected.



Light Number OC1 Power Supply and External Socket and Box located on Penneys.

Limerick City Christmas Lights 2023.



Light Type C. Deep. O Connell St .Number OC2. Length 1 x 5m, 2 x 2.5 connected.



Light Number OC2 Power Supply and External Socket and Box located on Enable Ireland.

Limerick City Christmas Lights 2023.



Light Type D. Deep. O Connell St / William Street .Number OC 3. Length 2 x 5m, connected.



Light Number OC3. Power Supply and External Socket and Box located on Street Light.

Limerick City Christmas Lights 2023.



Light Type C. Deep. O Connell St .Number OC4. Length 1 x 5m, 2 x 2.5 connected.



Light Number OC4. Power Supply and External Socket and Box located on Brown Thomas.

Limerick City Christmas Lights 2023.



Light Type C. Deep. O Connell St .Number OC5. Length 1 x 5m, 2 x 2.5 connected.



Light Number OC5. Power Supply and External Socket and Box located on Brown Thomas.

Limerick City Christmas Lights 2023.



Light Type E. Deep. O Connell St / Bedford Row. Number OC 6. Length 2 x 5m, connected



Light Number OC6. Power Supply and External Socket and Box located on Brown Thomas.

Limerick City Christmas Lights 2023.



Light Type C. Deep. O Connell St .Number OC7. Length 1 x 5m, 2 x 2.5 connected.



Light Number OC7. Power Supply and External Socket and Box located on 21 O Connell Street.

Limerick City Christmas Lights 2023.



Light Type C. Deep. O Connell St .Number OC8. Length 1 x 5m, 2 x 2.5 connected.



Light Number OC8. Power Supply and External Socket and Box located on Abbey Book Shop.

Limerick City Christmas Lights 2023.



Light Type E. Deep. O Connell St / Roche's Street .Number OC 9. Length 2 x 5m, connected



Light Number OC9. Power Supply and External Socket and Box located on Ex Vape Shop.

Limerick City Christmas Lights 2023.



Light Type C. Deep. O Connell St .Number OC10. Length 1 x 5m, 2 x 2.5 connected.



Light Number OC10. Power Supply and External Socket and Box located on Ex Vape Shop.

Limerick City Christmas Lights 2023.



Light Type C. Deep. O Connell St .Number OC11. Length 1 x 5m, 2 x 2.5 connected.



Light Number OC11. Power Supply and External Socket and Box located on Jasmine Palace.

Limerick City Christmas Lights 2023.



Light Type C. Deep. O Connell St .Number OC12. Length 1 x 5m, 2 x 2.5 connected.



Light Number OC12. Power Supply and External Socket and Box located on 46 O'Connell Street.

Limerick City Christmas Lights 2023.



Light Type C. Deep. O Connell St .Number OC13. Length 1 x 5m, 2 x 2.5 connected.



Light Number OC13. Power Supply and External Socket and Box located on 52 O'Connell Street

Summary O'Connell Street Lights 13 sets of Lights.

10 No. Type C

1 No. Type D

2 No. Type E

Limerick City Christmas Lights 2023.



Light Type E. Deep. Sarsfield St / Henry Street .Number S1. Length 2 x 5m, connected.



Light Number S1. Power Supply and External Socket and Box located on Hook and Ladder.

Limerick City Christmas Lights 2023.



Light Type F. Shallow. Sarsfield St .Number S2. Length 2 x 5m, connected.



Light Number S1. Power Supply and External Socket and Box located on Debenhams.

Limerick City Christmas Lights 2023.

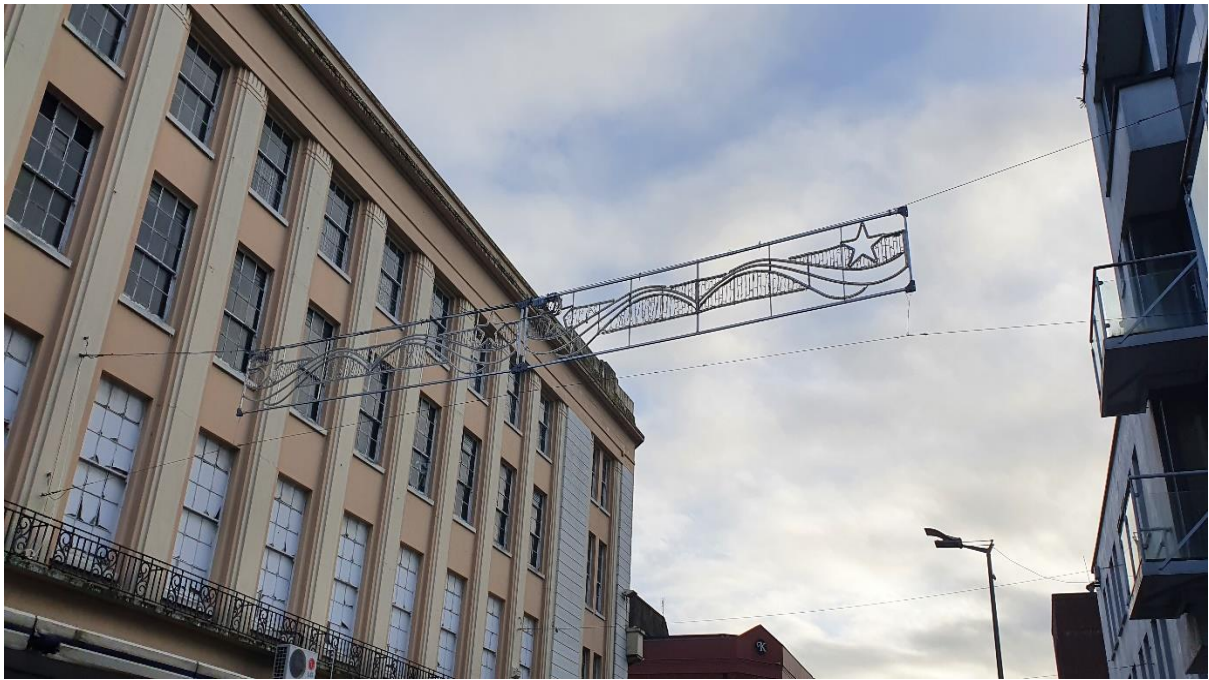


Light Type F. Shallow. Sarsfield St .Number S2. Length 2 x 5m, connected.



Light Number S2. Power Supply and External Socket and Box located on Light pole.

Limerick City Christmas Lights 2023.



Light Type F. Shallow. Sarsfield St .Number S3. Length 2 x 5m, connected.



Light Number S3. Power Supply and External Socket and Box located on Debenhams.

Summary Sarsfield Street Lights 4 sets of Lights.

1 No. Type E

3 No. Type F

Limerick City Christmas Lights 2023.



Light Type F. Shallow. William St .Number W1. Length 2 x 5m, connected.



Light Number W1. Power Supply and External Socket and Box located on Light Pole.

Limerick City Christmas Lights 2023.



Light Type F. Shallow. William St .Number W2. Length 2 x 5m, connected.



Light Number W2. Power Supply and External Socket and Box located on Light Pole.

Limerick City Christmas Lights 2023.



Light Type F. Shallow. William St .Number W3. Length 2 x 5m, connected



Light Number W3. Power Supply and External Socket and Box located on Light Pole.

Limerick City Christmas Lights 2023.



Light Type E. Deep. William St / Lt Catherine St .Number W4. Length 2 x 5m, connected.



Light Number W4. Power Supply and External Socket and Box located on Light Pole.

Limerick City Christmas Lights 2023.



Light Type F. Shallow. William St .Number W5. Length 2 x 5m, connected



Light Number W5. Power Supply and External Socket and Box located on Light Pole.

Limerick City Christmas Lights 2023.



Light Type F. Shallow. William St . Number W6. Length 2 x 5m, connected.



Light Number W6. Power Supply and External Socket and Box located on Light Pole.

Limerick City Christmas Lights 2023.



Light Type F. Shallow. William St . Number W7. Length 2 x 5m, connected.



Light Number W7. Power Supply and External Socket and Box located on Light Pole.

Limerick City Christmas Lights 2023.



Light Type E. Deep. William St .Number W8. Length 2 x 5m, connected.



Light Number W8. Power Supply and External Socket and Box located on Light Pole.

Summary William Street Lights 8 sets of Lights.

2 No. Type E

6 No. Type F

Limerick City Christmas Lights 2023.



10 No Half Christmas trees with lights extending to trees Bedford Row extending up to Thomas Street.



Half Christmas trees power supply from poles.

Limerick City Christmas Lights 2023.



Light Type G. Deep. Shannon Street. Number S1. Length 1No. X 5m, connected.



Light Number S1. Power Supply and External Socket and Box located on Savins.

Limerick City Christmas Lights 2023.

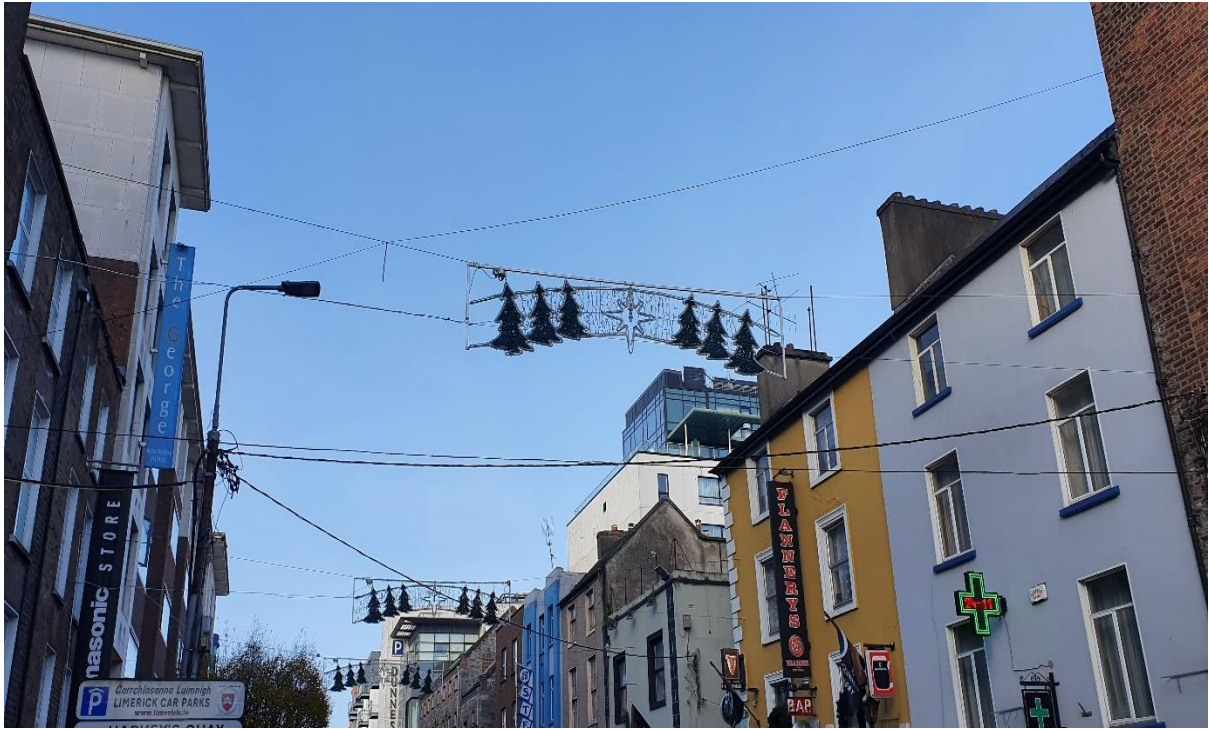


Light Type G. Deep. Shannon Street. Number S2. Length 1No. x 5m, connected



Light Number S2. Power Supply and External Socket and Box located on Savins.

Limerick City Christmas Lights 2023.



Light Type G. Deep. Shannon Street. Number S3. Length 1No. x 5m, connected



Light Number S3. Power Supply and External Socket and Box located on Guji Coffee.

Summary Shannon Street Lights 8 sets of Lights.

3 No. Type G

Limerick City Christmas Lights 2023.



Light Type F. Shallow. Roche's St . Number R1. Length 1No. x 5m.



Light Number R1. Power Supply and External Socket and Box located on Limerick Barber.

Limerick City Christmas Lights 2023.



Light Type G. Deep. Roche's Street. Number R2. Length 1No. x 5m.



Light Number R2. Power Supply and External Socket and Box located on Hamptons Auctioneers.

Limerick City Christmas Lights 2023.



Light Type F. Shallow. Roche's St . Number R3. Length 1No. x 5m.



Light Number R3. Power Supply and External Socket and Box located on Silkes Art.

Summary Roche's Street Lights 3 sets of Lights.

2 No. Type F

1 No. Type G

Limerick City Christmas Lights 2023.



Light Type H. Deep. Cruises St . Number C1. Length 2No. x 2.5m.



Light Number C1. Power Supply and External Socket and Box located on Cruises Distribution board.

Limerick City Christmas Lights 2023.



Light Type H. Deep. Cruises St . Number C2. Length 2No. x 2.5m. Connected.



Light Number C2. Power Supply and External Socket and Box located on Cruises Distribution board.

Limerick City Christmas Lights 2023.



Light Type H. Deep. Cruises St . Number C3. Length 2No. x 2.5m. Connected.



Light Number C3. Power Supply and External Socket and Box located on Cruises Distribution board.

Limerick City Christmas Lights 2023.



Light Type H. Deep. Cruises St . Number C4. Length 2No. x 2.5m. Connected.

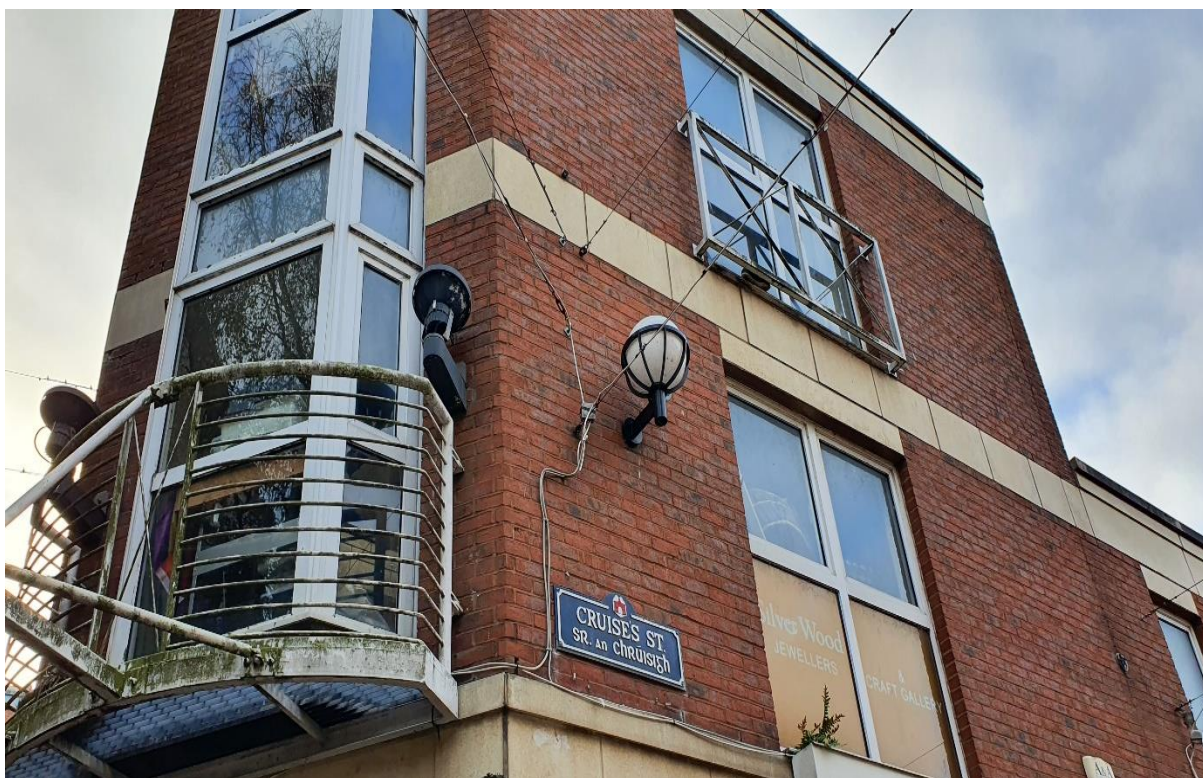


Light Number C4. Power Supply and External Socket and Box located on Cruises Distribution board.

Limerick City Christmas Lights 2023.



Light Type H. Deep. Cruises St . Number C5. Length 2No. x 2.5m. Connected.

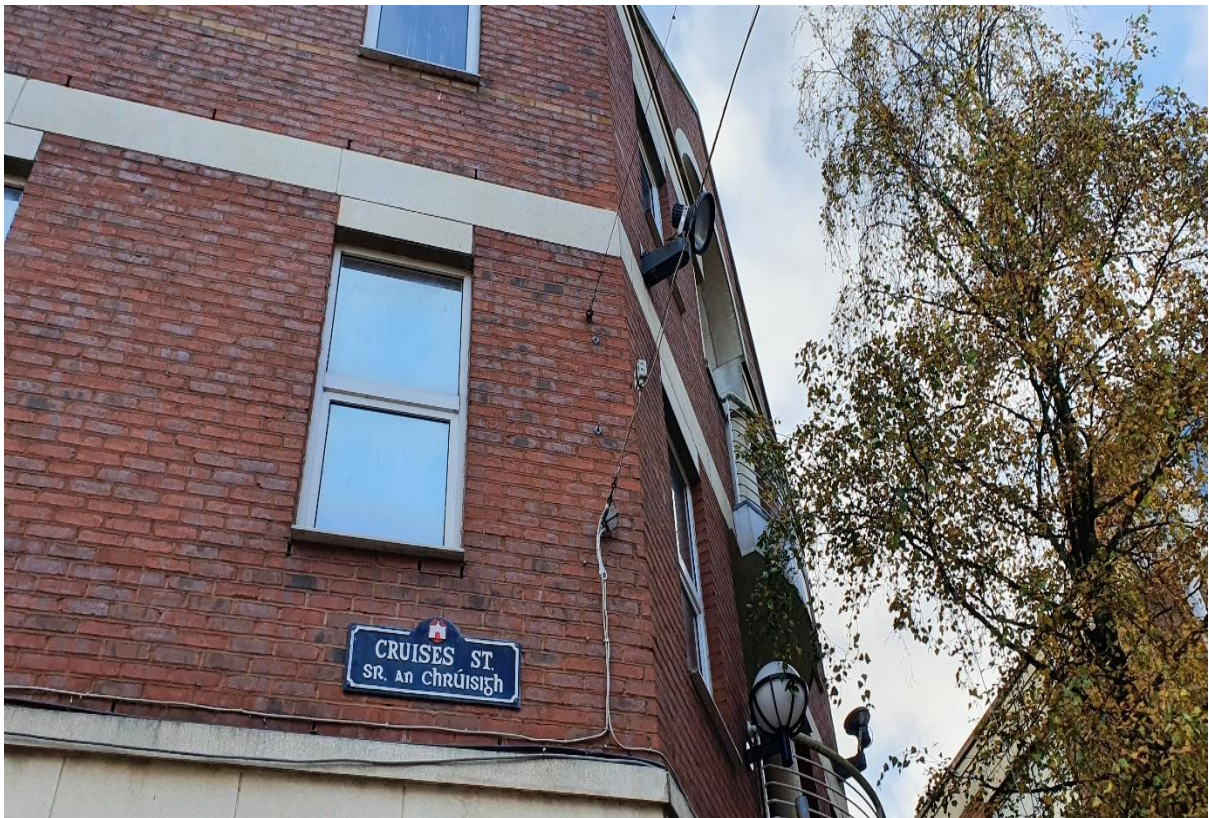


Light Number C5. Power Supply and External Socket and Box located on Cruises Distribution board.

Limerick City Christmas Lights 2023.



Light Type I. Deep. Cruises St . Number C6. Length 2No. x 5m. Connected.

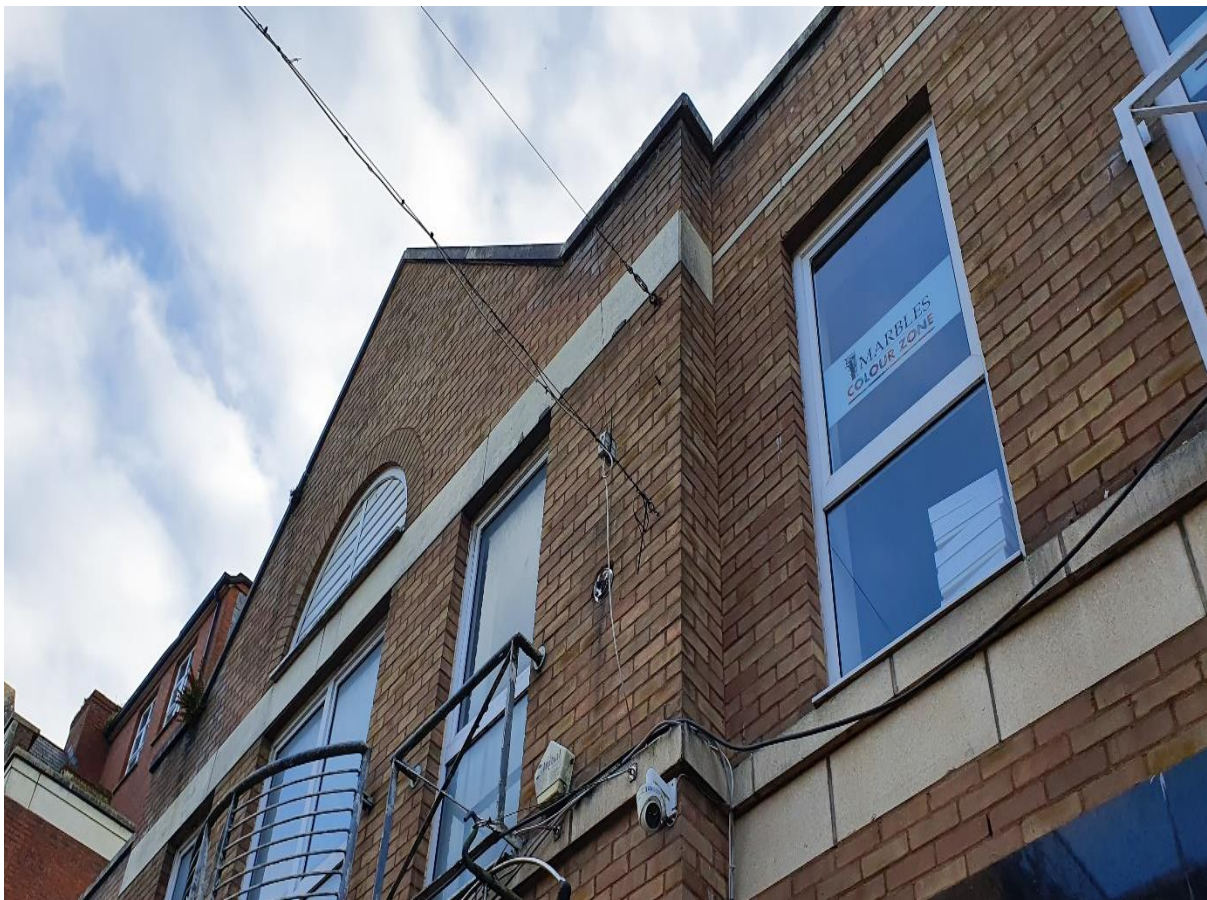


Light Number C6. Power Supply and External Socket and Box located on Cruises Distribution board.

Limerick City Christmas Lights 2023.



Light Type H. Deep. Cruises St . Number C7. Length 2No. x 2.5m. Connected.

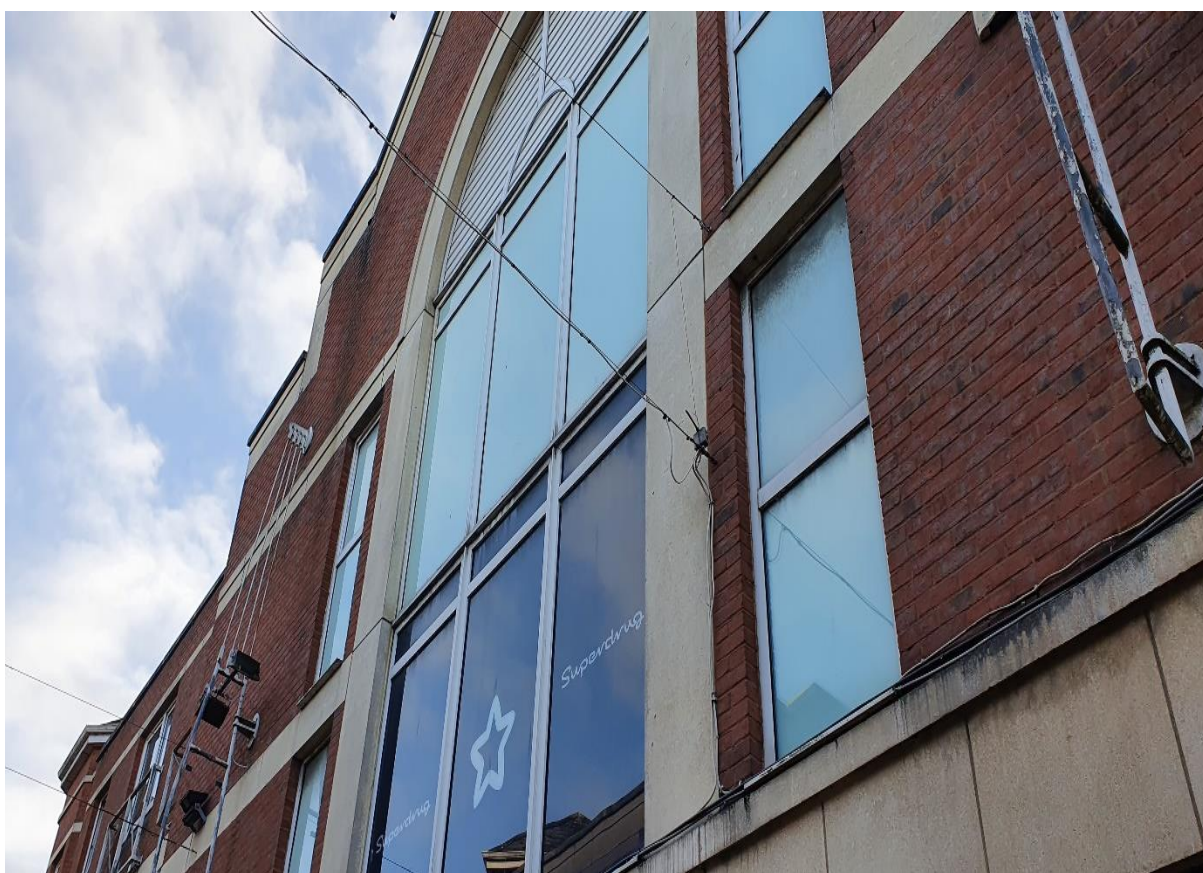


Light Number C7. Power Supply and External Socket and Box located on Cruises Distribution board.

Limerick City Christmas Lights 2023.



Light Type H. Deep. Cruises St . Number C8. Length 2No. x 2.5m. Connected.



Light Number C8. Power Supply and External Socket and Box located on Cruises Distribution board

Limerick City Christmas Lights 2023.



Light Type J. Deep. Cruises St . Number C9. Junction of Cruises street



Christmas tree Lights Thomas Street O'Connell Street Junction.

Summary Cruises Street Lights 9 sets of Lights.

7 No. Type H

1 No. Type I

1 No. Type I

Limerick City Christmas Lights 2023.

16.0 Main Distribution Board locations.



MDB Ellen Street.



MDB Ellen Street.

Limerick City Christmas Lights 2023.



MDB Bedford Row.



MDB Bedford Row.

Limerick City Christmas Lights 2023.



MDB Roche's Street.



MDB Roche's Street.

Limerick City Christmas Lights 2023.



MDB Upper William Street.



MDB Upper William Street.

Limerick City Christmas Lights 2023.



MDB Sarsfield Street



MDB Sarsfield Street

Limerick City Christmas Lights 2023.