PROCEDURE

PUBLIC LIGHTING TECHNICAL STANDARD

JEN PR 0026

Revision Number: 11.0

Revision Date: 15/10/2025

DOCUMENT APPROVAL

	Position Title	Name	Date
Approval	Network Assets Manager	*D. Bonavia*	29/10/2025
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DOCUMENT HISTORY

Revision	Date	Author	Description of Changes
11.0	15/10/2025	Max Demko	Aldridge changed to Aldridge-FOS. Deleted Urban luminaires – no longer made. Added Coslee to Sections A 1.3, 1.5 & 2.2. Updated Sylvania-Schreder Cat V & P luminaires in Sections A1.7, A2.3, B1 & B2. Added Sylvania-Schreder 3000K luminaires in Sections B1 & B2. Added Plasgain hybrid pole to Section C1. Added Streetworx OzLite 12W to Section B2. Added GE Evolve L1 & L2 to Section A1.7. Added Sylvania-Schreder Parkville Mk2, and WE-EF Lighting VFL530, 30W to Section B1. Added Sylvania-Schreder Cat V Glare shields.
10.0	15/2/2023	Max Demko	Merged Section B5 with Clause 16, deleted Appendix B3 & A1.8. Updated Clause 16. Added Braums PX 21W HO LEDs to Section 2.3. Added Coslee to Sections A1.2 & A1.6. Updated the Smart PE cell. Added Urban Lighting Group brackets to Section A1.4 Deleted MV and CFL luminaires. Deleted HPS luminaires from Sections A1.7 & A2.3. Added additional Vicpole columns to A 2.1. Added Aldridge Aero P-LED 13W and Aero P-LED 30W to Section A2.3, Aero V-LED 155W to Section 1.7. Added Plasgain Lincoln 9.2m and, Promenade 8.5m to Section C1. Updated Section B1, deleted HPS luminaires, added Toorak Major LED. Added Toorak & Toorak Alpha 14W to Section B2.
9.0	10/3/2021	Max Demko	Added Braums PX 12W LED to Section 2.3. Added Plasgain Lincoln and Manningham to Section C1. Added Sylvania-Schreder StreetLEDIII 14W, Added Safeway 13.5m slip base pole to Section A1.3. Added Lincoln without decoy to Section C1. Updated Vicpole part numbers and added Plasgain poles in Section A2.1. Added We-ef ASP530 3000K LED to Section B1. Added Plasgain outreach brackets to Section A1.4.
8.0	19/02/2019	Max Demko	Added Aldridge VLED Mark II 75, 175 & 265W. Added Gerard StreetLED3, superseded StreetLED2. Added Gerard RoadLED MIDI 70W & 150W to Section A1.7. Added Toorak Alpha 21W LED to Section B2. StreetLED Aeroscreen 42W superseded by 33W. Update Aldridge PLED with PLED.II.14W. Added Artcraft Genesis with Urban Lighting Genesis 18 Mk2. Added Gerard Streetled 42W Aeroscreen LED to Section A2.3. Deleted T5 & CFL luminaires from Section A2.3. Deleted Section A2.6 (Electronic Ballasts). Added NEMA PE cells to Section A2.5. Added Vicpole 10m Centre Hinge Pole to Section C1.
7.1	11/08/2017	Max Demko	Template updated. Approval as per Rev 7.0 still applicable. Updated Gerard StreetLED2 HO 22W to NEMA PE.
7.0	20/06/2017	Max Demko	Added alt Vicpole 5.5m URD pole to Section A2.1. Section C3 changed to Standard stock, moved to A1.3. Changed 100W HPS lamp to elliptical. Added Aldridge Aero V-LED 162, Gerard RoadLED70, RoadLED155 & RoadLED275 to Section B1, Aldridge HPS to Section A1.7. Added Streetworx OzLite 23W LED and Vicpole Toorak 21W LED to Section B2. Added Vicpole Glenville Column and Vicpole 5.5m Centre Hinged Igm Column to Section C1. In Section A2.3, updated part No's of approved LED luminaires, deleted Sylvania HPS70W, MV80W & MV125W. Deleted Appendix E.
6.0	29/4/2016	Max Demko	Added Vicpole King St to Appendix C1. Added Gerard Streetled 18HE, Artcraft Genesis 19W (incl aeroscreen LED) and Aldridge Aero P-LED 23W to Section A2.3. Added Vicpole to Section A2.1. Added Coslee to Section A1.4, added brackets to Section 2.2. Added new Clause 16.
5.0	12/2/2015	Max Demko	Document Number Change. Modified Clause 15.0, added Appendix E, moved former A1.8 & A2.4 to B.4 & added Streetworx & Street LED visors. Updated Sections A1.9, A2.1, A2.7 & A2.3 for new manufacturer's part numbers. Added Artcraft T5 to Sections A2.3 & A2.6. Added Coslee to Section A2.1 & C3. Added Taylors Hill to Section C1 and Promenade brackets to C2.
4.0/3.3	17/12/2012	Max Demko	Updated Sections A1.2, A2.1, C1, and C3 for new manufacturer's part numbers, and 5mm base columns. Removed Rexel Boston from Section B1. Added Vicpole Toorak Major Alpha 42W CFL to Appendix B2. Updated Appendix B5. Added new clause 14. Updated SAP Id's for JSAP. Added Streetworx T5 to A2.3 Updated SLA part No's, A1.7 luminaires now with Timed Ignitor and Metal Canister Capacitor.
3.2	1/6/2011	Max Demko	Added Vicpole Toorak 42W CFL to Appendix B2. Updated Appendix B5. Added new clause 14.
3.1	19/5/2011	Max Demko	The steel column minimum thickness of 5mm now to extend min of 600mm above ground level. Revised Drawing SP15/10 in Appendix D.
3.0	23/2/2011	Max Demko	Reviewed and updated for: changed approval process, expanded Appendices, increased steel column minimum thickness from 3 to 5mm.

2.0	13/07/2009	Max Demko	Updated to new Jemena Report Format and changed name from AGL Electricity & Agility to Jemena Electricity Networks (VIC) Ltd.
1.0	19/11/2002	Max Demko	Original First Release

OWNING FUNCTIONAL GROUP & DEPARTMENT / TEAM

Asset Management : Asset & Operations - Electricity: Network Assets

REVIEW DETAILS

Review Period:	Review Date + 2 years
Next Review Due:	October 2027

TABLE OF CONTENTS

1 INTRODUCTION & SCOPE 7
2 DEFINITIONS & TERMINOLOGY 7
3 REFERENCES 8
4 VESI PUBLIC LIGHTING – REGULATORY FRAMEWORK 9
4.1 PUBLIC LIGHTING CODE 9
4.2 PUBLIC LIGHTING EXCLUDED SERVICE (OMR) CHARGES 9
5 PUBLIC LIGHTING CONNECTION POLICY 9
6 EXISTING PUBLIC LIGHTING - ASSET MANAGEMENT 10
6.1 MINIMUM SERVICE STANDARDS 10
6.2 GUARANTEED SERVICE LEVELS 10
7 APPROVED STANDARD PUBLIC LIGHTING FITTINGS 10
7.1 LIST OF APPROVED STANDARD FITTING 10
7.2 RESPONSIBILITIES RELATED TO APPROVED STANDARD FITTINGS 11
7.3 OWNERSHIP OF APPROVED STANDARD FITTINGS 11
7.4 APPROVAL PROCESS FOR NEW STANDARD FITTINGS 11
8 APPROVED NON-STANDARD PUBLIC LIGHTING FITTINGS 11
8.1 LIST OF APPROVED NON-STANDARD FITTINGS 12
8.2 RESPONSIBILITIES RELATED TO APPROVED NON-STANDARD FITTINGS 12
8.3 PROVISION OF TEMPORARY LIGHTING TO APPROVED NON-STANDARD FITTINGS 12
8.4 OWNERSHIP OF APPROVED NON-STANDARD FITTINGS 13
8.5 APPROVAL PROCESS FOR NON-STANDARD FITTINGS 13
9 NEW PUBLIC LIGHTING 13
9.1 NEW INSTALLATIONS - MAJOR PUBLIC LIGHTING PROJECTS 13
9.2 NEW INSTALLATIONS – MINOR PUBLIC LIGHTING PROJECTS 14
10 ALTERATION TO EXISTING PUBLIC LIGHTING ASSETS 14
11 PROVISION OF INFORMATION 14
11.1 PUBLIC LIGHTING DATA 14
11.2 METROLOGY AUDITING 14
12 BILLING 14
12.1 ASSIGNMENT OF NMI'S 14
12.2 ESTABLISHMENT OF OMR 15
13 MATERIAL STANDARDS 15
13.1 STANDARD FITTINGS 15
13.2 NON-STANDARD FITTINGS 18
13.3 SUBMISSION FOR APPROVAL REQUIREMENTS 18
13.4 PHOTO ELECTRIC SWITCH (PE CELL) SOCKET BASE REQUIREMENTS 19
14 RESPONSIBILITIES OF MANUFACTURER OF APPROVED FITTTINGS 19

15 GLARE CONTROL SHIELDING POLICY 19
16 LAMP & LUMINAIRE FAILURE REPLACEMENT 20
17 SMART PE CELL 21
18 LOAD TABLE 21
19 CONTACTS 22
19.1 PUBLIC LIGHTING CUSTOMER INTERFACE 22
19.2 TECHNICAL 22
19.3 FAULTS 22
APPENDIX A: APPROVED STANDARD FITTINGS 23
A1. MAJOR ROADS 23
A2. MINOR ROADS 33
A3. MISCELLANEOUS ITEMS 39
APPENDIX B: NON-STANDARD LUMINAIRE & ACCESSORIES CATALOGUE 40
B1. CATEGORY 'V' - MAJOR ROADS 40
B2. CATEGORY 'P' - MINOR ROADS - LED 43
B3. NON-STANDARD GLARE CONTROL VISORS 46
APPENDIX C: NON-STANDARD POLES AND BRACKETS CATALOGUE 50
C1. NON-STANDARD POLES - MAIN ROADS AND RESIDENTIAL STREETS 50
C2. NON-STANDARD BRACKETS - MAIN ROADS AND RESIDENTIAL STREETS 66
APPENDIX D: NON-STANDARD POLES – REFERENCE DRAWINGS 69
APPENDIX E: APPROVED PUBLIC LIGHTING CONSULTANTS 72
APPENDIX F: PUBLIC LIGHTING GLARE CONTROL REQUEST FORM 72
APPENDIX F: PUBLIC LIGHTING GLARE CONTROL REQUEST FORM 73

1 INTRODUCTION & SCOPE

Throughout Victoria, the majority of public lights are connected to the electricity distribution network via an unmetered supply connection. Public lights connected to the network in this manner are also often referred to as a VESI public lighting scheme. This document has been prepared to provide Jemena Electricity Networks (Vic) Ltd ('JEN') public lighting customers with information specific to JEN's public lighting technical standards and policies in respect to VESI public lighting schemes connected to the JEN network.

JEN is committed to providing best practice Public Lighting Service at the request of Public Lighting Customers in accordance with the Public Lighting Code issued by the Essential Services Commission of Victoria and currently administered by Australian Energy Regulator (AER).

The Public Lighting Code only applies to JEN's public lighting assets. It regulates the provision of public lighting by specifying minimum standards and certain obligations of distributors and Public Lighting Customers. This document should be read in conjunction with the Public Lighting Code.

This Public Lighting Technical Standard details the requirements that must be met before new or altered Public Lighting Assets can be connected to JEN's distribution system. It applies only to the public lighting assets approved, owned or maintained by JEN, and connected to JEN's distribution system.

Public Lighting Customers may also own and maintain their public lighting assets. These assets will be connected via a metered supply and shall be designed and constructed in accordance with the relevant Australian Standards.

2 DEFINITIONS & TERMINOLOGY

Throughout this document, we will continue to use a number of terminologies specific to public lighting. We recommend that you familiarise yourself with these terminologies to ensure that you fully comprehend the statements made within this document.

AER: Australian Energy Regulator is responsible for the economic regulation of the electricity distribution networks in the national electricity market (NEM). For more see www.aer.gov.au.

As built drawing or plan: Plan indicating all necessary as constructed details including relevant changes, offset and depths for underground assets.

Australian Standard or "AS" or "AS/NZ": a standard published by Standards Australia.

Distribution system: In relation to a distributor a system of electric lines (generally at nominal voltage levels of 66kV or below) which that distributor is licensed to use to distribute electricity for supply under its distribution licence, excluding public lighting assets.

Distributor: A person who holds a distribution licence under the Electricity Industry Act 2000 (Vic).

JEN: Jemena Electricity Network, a wholly owned business of Jemena Limited.

Lamp: A source made in order to produce an optical radiation.

Luminaire: Apparatus which distributes, filters or transforms the light transmitted from one or more lamps and which includes, other than the lamps themselves, all the parts necessary for fixing and protecting the lamps and where necessary circuit auxiliaries together with the means for connecting them to the distribution system.

Major road: A primary or secondary road depicted by a black, red, orange or grey red line in the current edition of the Melway street directory, or a road in the non-metropolitan area designated 'M', 'A' or 'B' by VicRoads.

Minor road: A local road depicted by a brown line in the current edition of the Melway street directory.

Non-standard Fitting: A fitting other than a standard fitting. Typically includes decorative type poles & fittings.

Public lighting standard: means the current version of AS/NZS 1158 series, SA/SNZ TS 1158 & AS/NZS 60598.2.3.

Public lighting technical standards: means standards published by a distributor which are consistent with the public lighting standards and deal with technical requirements for connection to the distributor's distribution system.

Public lighting customer means:

(a) VicRoads or a municipal council in its municipal district, as the case may be, in respect of public lighting of freeways or arterial roads within the meaning of the Road Management Act 2004;

(b) the Docklands Authority in respect of public lighting in the docklands area (as defined in the Docklands Act 1991 (Vic)) other than public lighting in sub paragraph (a); and

(c) a municipal council in respect of all other public lighting in its municipal district.

Public lighting services means any of the following services provided for the purpose of lighting public places:

(a) the operation of public lighting assets, including handling enquiries and complaints about public lighting, and dispatching crews to repair public lighting assets;

(b) the maintenance, repair, alteration, relocation and replacement of public lighting assets; and

(c) the installation of new public lighting assets.

SSL: Solid state lighting, including LED (light emitting diode) luminaires.

Standard Fitting: A lamp, luminaire, mounting bracket, public lighting pole, supply cable or control equipment, normally used by or approved by JEN.

Street Lighting Proposal: Street Lighting Proposal drawing indicating public lighting design that complies with requirements of JEN Public Lighting Technical Standard

Supply: in relation to electricity, means the delivery of electricity and related services.

VESI public lighting scheme: Victorian Electricity Supply Industry public lighting scheme where public lights are connected to the electricity distribution network via an unmetered supply connection.

3 REFERENCES

Australian Standards and Technical Specifications: AS/NZS 1158 series, SA/SNZ TS 1158 & AS/NZS 60598.2.3 – Lighting for roads and public spaces;

Victorian Government Electricity Safety Act 1998;

Victorian Government Electricity (Safety) Installations Regulations 2009;

Victorian Government Public Lighting Code, Essential Services Commission, April 2005;

Victorian Government Environmental Protection Act;

JEN Technical Specification - Steel Public Lighting Poles ;

SSL Street Lighting Design & Performance Guidelines – Victoria.

4 VESI PUBLIC LIGHTING – REGULATORY FRAMEWORK

4.1 PUBLIC LIGHTING CODE

Distributors and public lighting customers are required to comply with the obligations set out in the Public Lighting Code issued by the Essential Service Commission (ESC).

In essence, public lighting customers are responsible for the provision of street lighting including new installations and distributors provide a regulated public lighting service for the operation, maintenance, repair and replacement (OMR) of existing public lighting assets.

4.2 PUBLIC LIGHTING EXCLUDED SERVICE (OMR) CHARGES

All of a distributors charges for its public lighting services, (other than the installation of new public lighting assets), must be set out in a schedule of charges. This schedule of charges must be set out on a per luminaire per annum basis.

JEN's public lighting excluded service charges, otherwise known as Operational, Maintenance, Repair and Replacement (OMR) charges are available on the JEN's website at www.jemena.com.au or on request.

Unless otherwise indicated, JEN's OMR charges are charges approved on an annual basis by the Australian Energy Regulator (AER).

From time to time, the regulator has also issued decisions in respect to OMR charges and other public lighting matters. We recommend that public lighting customers familiarise themselves with all previous regulatory decisions made by the ESC and AER.

5 PUBLIC LIGHTING CONNECTION POLICY

JEN will only approve a VESI public lighting scheme to be connected in a road reserve or within unrestricted public land where vehicular access is available allowing for future maintenance activities.

JEN will not approve a VESI public lighting scheme for the following:

- Areas where JEN cannot reasonably access to meet future maintenance responsibilities.
- All private land.
- Footpaths and bike paths within parks and reserves.
- Other restricted access public land areas.
- On piers, tunnels, pedestrian underpasses and stairways. In these instances, JEN will provide a metered Point of Supply, and it is responsibility of the owner of the structure to provide the Lighting as per AS3000.
- A mixture of VESI lighting and metered schemes on the same pole, due to operational safety reasons.

For VESI public lighting schemes on bridges refer to Jemena Drawings SP15/214/116-119 for further details.

6 EXISTING PUBLIC LIGHTING - ASSET MANAGEMENT

6.1 MINIMUM SERVICE STANDARDS

In accordance with the Public Lighting Code, JEN's public lighting asset management plans includes the following minimum standards:

a) The operation of a 24-hour faults call centre (phone: JEN 131-626),
b) Repair and replace standard public lighting fittings within 7 business days of a fault report and use best endeavours to repair or replace non-standard fittings within 7 business days of a fault report subject to the availability of non-standard fittings from the public lighting customer,
c) Replace minor road lamps at least every 4 years (bulk lamp replacement),
d) Clean, inspect for damage and repair luminaires during any re-lamping,
e) Replace photo-electric (PE) switches at least every 8 years (completed every second bulk lamp replacement cycle),
f) Routinely patrol major roads at night to inspect, replace or repair luminaires at least 3 times per year; and
g) Replace pole or luminaires with appropriate new luminaires at the end of their economic life. For Non-standard luminaires the public lighting customer supplies a new luminaire.
h) Routine Pole Inspections:

All concrete, timber and steel poles with public lights attached are inspected every 3-4 years. The inspection procedure is detailed in the JEN Asset Inspection Manual.

6.2 GUARANTEED SERVICE LEVELS

JEN is also required to pay a Guaranteed Service Level (GSL) of $25 where it does not repair a public light within 2 business days of a fault report. A GSL is only payable to the person, who first reported the public lighting fault so long as that person is the occupier of an immediately neighbouring residence or business to the location of the public lighting fault. Refer to *Service Delivery Public Lighting Missed Lights Requirements Guideline* ELE AM GU 0010.

7 APPROVED STANDARD PUBLIC LIGHTING FITTINGS

In order to provide efficient and timely public lighting services to its public lighting customers, JEN maintains replacement stock of a number of public lighting fittings including lamps, photo-electric switches, luminaires, brackets, public lighting poles, supply cable and control equipment. These assets, which are primarily used in large scale across the JEN network are classified as approved standard fittings.

7.1 LIST OF APPROVED STANDARD FITTING

A list of current JEN approved standard fittings including lamps, pe switches, luminaires, poles and brackets has been included as Appendix A to this document.

7.2 RESPONSIBILITIES RELATED TO APPROVED STANDARD FITTINGS

JEN provides complete public lighting services in respect to approved standard fittings. As indicated, JEN maintains stock of all approved standard fittings, therefore, JEN is responsible to provide all replacement works and materials for failures, faults and for future replacements when the approved standard fitting (luminaire, poles and brackets) is deemed to have reached the end of its economic life.

7.3 OWNERSHIP OF APPROVED STANDARD FITTINGS

Following the initial installation of all approved standard fittings, ownership of the asset is vested to JEN.

7.4 APPROVAL PROCESS FOR NEW STANDARD FITTINGS

All new fittings and technologies which a public lighting customer/supplier proposes to be used as a standard public lighting fitting are assessed for compliance to relevant Australian Standards and any additional Jemena requirements.

For luminaires, this assessment is conducted by an independent Jemena Approved Public Lighting (APL) consultant engaged by the supplier and at a cost to the supplier. Refer to Appendix E for details of current APL consultants.

Assessment of the luminaire is based on compliance with Australian Standards and Technical Specifications, lamp and ballast life, spacing tables and any other Jemena's technical requirements.

The supplier provides Jemena with the APL consultant's assessment report together with a production sample of the luminaire for final approval.

Suppliers are advised to also present the proposed luminaire to Jemena for comment & feedback early in the approval process, particularly prior to committing to any costly modifications to gain Jemena's approval.

Typical requirements for poles and luminaires are outlined in Clause 13. For solid state lighting luminaires refer to SSL Street Lighting Design & Performance Guidelines – Victoria.

The lamp's total electrical energy consumption is determined by a NATA laboratory testing and submitted to the Australian Energy Regulator (AER) for inclusion on Victorian load tables.

8 APPROVED NON-STANDARD PUBLIC LIGHTING FITTINGS

An approved non-standard fitting is a luminaire, pole or bracket that has been approved by JEN for use in a VESI public lighting scheme but is not an approved standard fitting.

Approved non-standard fittings are also often referred to as a decorative fitting and are primarily used within underground estates or within retail areas to enhance the beautification of the local environment.

You will also note above that approved non-standard fittings are limited to only luminaires (including glare control shields), poles and brackets. Typical requirements for non-standard poles & fittings are outlined in Clause 13.

Approval process for non-standard luminaires is same as that described in Section 7.4

8.1 LIST OF APPROVED NON-STANDARD FITTINGS

A list of the current JEN approved Non-Standard fittings including luminaires, poles and brackets has been included as Appendix B to this document.

8.2 RESPONSIBILITIES RELATED TO APPROVED NON-STANDARD FITTINGS

8.2.1 PUBLIC LIGHTING CUSTOMER RESPONSIBILITIES

The public lighting customer is responsible for the supply of replacement parts for all approved non-standard poles, luminaires and brackets, and for all costs in respect to the provision of all replacement approved non-standard public lighting fittings on request from JEN. This includes supply of the non-standard fitting (pole and luminaire) both for initial installation (generally provided by a developer) and for all subsequent maintenance requirements.

Where JEN identifies the need for replacement of an approved non-standard fitting, either due to a report of an ad hoc failure or due to the inspection program undertaken by JEN, it will notify the relevant public lighting customer of this requirement.

Unless otherwise agreed, should the public lighting customer wish to inspect the damaged or faulty approved non-standard fitting, the public lighting customer is responsible for the collection of the fitting from the nearest JEN depot. The public lighting customer is also responsible for delivering the replacement or repaired approved non-standard fitting to the nearest depot. Supply of the replacement fitting should be provided within a reasonable period allowing JEN to meet its best endeavours obligations to repair and/or replace non-standard fittings within 7 business days of a fault report.

8.2.2 JEN RESPONSIBILITIES

On receipt of the approved non-standard fitting from the public lighting customer, JEN will complete all field replacement works to reinstate the lighting.

JEN will also continue to provide maintenance services to the lamp, PE switch, termination panel and supply cable connected to the approved non-standard fitting as these items are classified as approved standard fittings.

8.3 PROVISION OF TEMPORARY LIGHTING TO APPROVED NON-STANDARD FITTINGS

Where possible, and subject to material availability, JEN will attempt to install a temporary adaptor bracket and standard luminaire to an approved non-standard pole where a non-standard luminaire has been identified as faulty.

The intent of this process is to continue to provide public lighting illumination at the location until such time as the public lighting customer provides the replacement or repaired luminaire to JEN.

JEN confirms that this is not a regulatory obligation, and JEN will not always be able to provide temporary lighting.

8.4 OWNERSHIP OF APPROVED NON-STANDARD FITTINGS

All public lighting Customers who choose to install approved Non-Standard equipment (i.e. pole, luminaire or bracket) have an ongoing obligation to supply a replacement for all such non-standard equipment. Jemena is responsible for the operation, maintenance and provision of labour for the replacement of approved non-standard P/L equipment.

As the assets are connected to the electricity distribution network via a VESI supply, the supply cable, all lamps, photo-electric switches and termination panel are owned and maintained by JEN. The public lighting customer is not authorised to undertake any maintenance activities to the approved non-standard fittings unless done so in accordance with clause 4.4 of the Public Lighting Code.

8.5 APPROVAL PROCESS FOR NON-STANDARD FITTINGS

A public lighting customer/supplier may apply to JEN directly at any time for a new non-standard pole, luminaire or bracket to be added to the list of approved non-standard fittings.

In considering the acceptability of an application from a public lighting customer/supplier, JEN will have regard to its public lighting technical standards.

The customer/supplier may be required to pay a non-refundable application fee to JEN for assessment of an application and /or referred to an independent consultant to undertake the assessment, or part thereof, at JEN's discretion.

Approval process for non-standard luminaires is same as that described in Section 7.4.

Other than confirming that a new non-standard fitting meets JEN's technical standards, JEN makes no representation to the public lighting customer concerning the design, condition, suitability or performance of the approved non-standard fitting, the subject of an application by the customer.

9 NEW PUBLIC LIGHTING

The installation of new public lighting installations and all costs associated with the installation is the responsibility of the public lighting customer (or in some instances a third party such as a developer).

Where new public lighting is proposed to be connected to the JEN network as a VESI public lighting scheme, the installation must only use either approved standard fittings or approved non-standard fittings and must comply with all JEN required design and construction standards.

For more information in respect to new public lighting installations please refer to section 3 of the Public Lighting Code.

9.1 NEW INSTALLATIONS - MAJOR PUBLIC LIGHTING PROJECTS

Where a new VESI scheme including the installation of new infrastructure (poles) or any civil works is required, the project is deemed as a major public lighting project.

For major projects, the designated JEN project planner for the area will be your JEN project contact. Should you be unaware of the project planner's contact details for your area, the details can be obtained by contacting Jemena Network Connections, email: NetworkConnections@jemena.com.au, or refer to Clause 19 for further contact details.

9.2 NEW INSTALLATIONS – MINOR PUBLIC LIGHTING PROJECTS

Minor public lighting projects apply to small projects where a public lighting customer wishes to use existing infrastructure (poles) and where no civil works are required. For example, a project where a luminaire only is required to be installed, removed or altered on an existing pole. Another example of a minor project is a request for a public lighting shield to be installed or removed.

The JEN contact details for all minor public lighting project requests is provided in the Contact details of this document.

10 ALTERATION TO EXISTING PUBLIC LIGHTING ASSETS

Where a public lighting customer wishes to alter, relocate or replace (but not subject to failure) a public lighting asset then it may request JEN to provide a fair and reasonable offer in respect to the alteration, relocation or replacement works.

A public lighting customer may also choose for another person (JEN approved) other than JEN to undertake the alteration, relocation or replacement works. For more information in respect to the alteration of existing public lighting by third parties please refer to clause 4.4 of the Public Lighting Code.

11 PROVISION OF INFORMATION

11.1 PUBLIC LIGHTING DATA

In accordance with clause 5.1 of the Public Lighting Code, a public lighting customer may at reasonable intervals seek from JEN an electronic copy of its public lighting data. This information can then be stored in the customers own Geographical Information System to ensure that accurate data is held by the customer.

In addition to the provision of electronic public lighting data. JEN also provides the 2 representatives of each public lighting customer with access to a public lighting portal. This access provides a live snapshot of JEN’s public lighting information.

11.2 METROLOGY AUDITING

On an annual basis, JEN is required to undertake metrology audit/s of its public lighting data. This audit ensures that the energy consumption charged to customers from the data held in our GIS system matches the actual field inventory. The number and size of audits is dependent on previous audit results.

12 BILLING

12.1 ASSIGNMENT OF NMI’S

Public lighting customers are assigned with a number of unique National Meter Identifiers (NMI’s). The energy consumed by public lights linked to the NMI’s is derived from the inventory table and load table. Public lighting customers are free to choose a retailer for the purchase of the energy consumed.

12.2 ESTABLISHMENT OF OMR

The public lighting charges for the operation, maintenance, repair and replacement (OMR) of public lights are regulated by the AER. The charge recovers opex and capex spent by JEN on maintaining public lighting assets and replacing failed light components each year.

13 MATERIAL STANDARDS

Public Lighting Assets must meet JEN's requirements in order to be included on the list of Approved Fittings. These requirements comprise compliance with the JEN's material technical specification together with the additional requirements for luminaires and poles/outreach arms specified below.

A Public Lighting Customer seeking to use alternative non approved fittings must demonstrate to JEN's satisfaction compliance of the alternative fittings with JEN's public lighting standards.

Material technical specifications are available for public lighting customers on request.

13.1 STANDARD FITTINGS

The list of JEN's Standard Fittings in accordance with the Public Lighting Code is given in Appendix A.

New public lighting fitting/s may be added to JEN's approved Standard Fittings list provided the fitting/s comply with this document.

13.1.1 LUMINAIRES

In general, only luminaires approved below will be connected to the Public Lighting System.

Luminaires must comply with material technical specifications including the following requirements:

Category V Major Roads

Luminaires shall:

- Comply with SSL Street Lighting Design & Performance Guidelines – Victoria.
- Conform to Australian Standards and Technical Specifications.
- Be photo electrically controlled using NEMA 7 pin base.
- Be fitted with a DALI-2 D4i compliant driver,
- Comply with AS1158.1.1 clause 3.4 "Maintenance of Light Technical Parameters".

Category P Minor Roads

Luminaires shall:

- Comply with SSL Street Lighting Design & Performance Guidelines – Victoria.
- Conform to Australian Standards and Technical Specifications.
- Be photo electrically controlled using NEMA 7 pin base.
- Be fitted with a DALI-2 compliant driver,
- Comply with AS/NZS 1158.3.1 clause 3.5 "Maintenance of Light Technical Parameters".

In addition to SA/SNZ TS 1158.6 requirements, all luminaires shall have the following design features:

- Be easily installed and maintained.

- Be structurally sound and robust, have minimum, service life of 20 years.
- Maintain the specified Ingress Protection rating for the service life of the luminaire:
  - IP24 degree of protection for control chamber, and
  - IP6X degree of protection for lamp chamber.
- The terminal block access, and photo-electric switch must be easily replaced by an operator wearing linesmen's gloves.
- All luminaire components which need to be removed for the installation or maintenance of the luminaire shall be held captive during these operations.
- Comply with SA/SNZ TS 1158.6 for suppression of Radio Frequency Interference (RFI) and Television Frequency Interference (TVI).
- For LED luminaires the maximum luminaire spacing shall be not less than the maximum spacing given in the SSL Street Lighting Design & Performance Guidelines – Vic.
- For standard luminaires other than LED, the maximum luminaire spacing shall be not less than the maximum spacing of the current standard luminaires based on the following outputs:
  - Category V luminaires (with lamp lumens output of 14000lm for 150W HPS & 27000lm for 250W HPS),
  - Category P luminaires (with lamp lumens output of 3700lm for 80W MV).
- I-Tables in the CIE format shall be provided for each luminaire. An Isolux diagram is also to be supplied. (Data to be prepared by a NATA Registered Laboratory or equivalent and measured at 0° upcast)

13.1.2 POLES

Poles and outreach arms shall comply with material technical specifications including following requirements:

(a) Pole design.

- To be designed in accordance with AS1798 (Lighting poles and bracket arms-preferred dimensions) and AS4100 (Steel Structure).
- Poles may be either ground set or plate set type
- Calculation of force due to wind shall be in accordance with AS1170.
- A design wind velocity of 40 m/s (terrain category 2) shall be used.
- The working load at the top of the pole shall be 1kN and the minimum failure load 2kN.
- Deflection limits shall not exceed those shown in below table. Deflection limits are measured after 1kN is applied to the pole top in any direction. Permanent set measured at the pole top after 1.2kN is applied for one minute in any direction shall not exceed 10mm.

Pole Description	Load	Max Deflection at Pole Top in any Direction (mm)
Pole Steel 7 m/1kN, Ground Setting	1kN	220
Pole Steel 9 m/1kN, Ground Setting	1kN	300
Pole Steel 10.8 m/1kN, Ground Setting	1kN	360

- All non-standard (decorative) Category P and V steel public lighting poles and standard galvanized steel public lighting poles shall have a minimum wall thickness of 5 mm from the

bottom of the pole to a minimum distance of 600 mm above the permanent ground line mark. (This does not apply to impact absorbent and slip base type poles.)

(b) Poles must have provision for mounting JEN's standard URD termination panel, earthing connection, underground cable entry opening and door/locking screw with circlip and door lanyard. Pole requirements for approved non-standard poles are detailed on drawings; SP15/10, SP15/100/16 and SP15/100/15.

(c) Poles are to be galvanised to AS/NZS4680.

(d) Painting procedure

1) Clean all threaded holes.
2) Hot pressure wash using an alkaline based detergent to remove any oils or grease.
3) Lightly sand components and remove any galvanised excess.
4) Wipe surface with a solvent.
5) Apply a one pack etch primer, "Wattyl Super Etch", or equivalent.
   To be applied by spraying only and in accordance with the maker's instructions.
   (Only one thin coat is required. If applied too thickly, free acid may be left on the primer surface, which will prevent adhesion of the finishing coats.)
6) Apply finish with two coats of "Wattyl Parcel IFC", or equivalent.
   To be applied by spraying only and in accordance with the maker's instructions.
   Colours are to be selected with stable pigments, according to the maker's instructions.
7) The bottom 250mm of the pole is to remain as a galvanised finish only and not to be painted for earthing requirements.
8) Poles painted to the above specifications do not require the coal tar epoxy protective coating to the base of the pole as shown on drawing SP15/10.

13.1.2.1 Pole Identification

All poles are to be permanently labelled with a stainless steel identification plate. The identification plate is to be permanently secured to each pole directly above the cable termination access opening.

The identification plate is to be secured to the pole at the corners using stainless steel drive screws. Adhesive fixing is not acceptable. Labelling text shall be legible and permanent.

The identification plate shall contain the following information:

- Manufacturers Name
- Manufacturers Pole Catalogue/Part Number
- Pole Serial number
- Month and Year of Pole Manufacture
- Pole Length and Strength

13.1.3 OUTREACH ARMS

The outreach arms may vary in shape, size or appearance. They may form part of the pole or be designed as an addition to a pole. Luminaire mounting requirements must be taken into account.

The arms should be designed in accordance with AS1798 (Lighting poles and bracket arms-preferred dimensions) and AS4100 (Steel structures).

Galvanising and painting are as for poles, clause 13.1.4 (c) & (d).

13.2 NON-STANDARD FITTINGS

JEN will permit non-standard fitting/s to be installed on its public lighting system under the following conditions:

a) The fitting/s must be submitted to JEN for approval.
b) The fitting/s must comply with the same technical specifications as standard fitting/s (see clause 13.1).
c) JEN will undertake maintenance of the standard lamp (legacy), photo-electric switch, termination panel and the supply cabling to a non-standard fitting.
d) The customer shall provide replacement parts of all non-standard components such as decorative luminaires and poles.

13.3 SUBMISSION FOR APPROVAL REQUIREMENTS

Full details of the new poles and/or fitting/s must be submitted to JEN for approval. Following Technical information shall be provided:

13.3.1 LUMINAIRES

Suppliers shall:

1. Approved Public Lighting consultant's assessment report, refer Clause 7.4.
2. Submit NATA Registered Laboratory test reports and documentation.
3. Submit dimensional outline drawings of luminaires.
4. Submit photometric data for the luminaires meeting the requirements of AS/NZS1158.3.1 and AS/NZS1158.1.1 for Category P or Category V luminaries respectively. Data shall include total, downward and upward light output. The photometric data shall be provided in CIE format.
5. Submit evidence of compliance to CISPR 15.
6. Submit details and fitting instructions of any accessories, e.g. glare shields and replacement spare parts including visors, control gear etc.
7. Submit a list of all accessories and replacement parts.
8. Submit the cost for the luminaires, accessories and replacement parts.
9. Submit details on recycling and disposal requirements.
10. Submit a production sample luminaire. Note that approval will only be given on a production Luminaire. Non-production samples may be submitted for comments only.
11. Submit endorsement of intended use of the luminaire by a public lighting customer (e.g. Council).

Where luminaires are supplied with a pre-installed length of supply cable for internal use, the cable shall be circular orange 2C+E, 1.5-2.5mm^2 Cu, as shown in Clause A3.1. TPS flat electrical type of cable is not approved for this application.

13.3.2 POLES AND BRACKETS

Suppliers shall provide the following documentation:

1. Description of the pole and/or bracket. Item description should be clear and consistent throughout the documentation supplied.
2. Item catalogue number.
3. Pole identification plate details.
4. Dimensional outline drawings, including metal thickness spigot size, and terminal door size & locking details.
5. Pole fabrication drawings certified by your pole design engineer.

6. Engineering computations certified by an independent qualified engineer and based on a design wind velocity of 40m/s (terrain category 2) in accordance with AS1170.
7. Compliance statement / summary shall include details of luminaires that pole/bracket has been designed to support and that design complies with the relevant Standards and this specification.
8. Pole foundation details
9. Installation details.
10. Lifting instructions
11. Weight.
12. Corrosion protection and finish details.

In addition, for approval of non-standard (i.e. decorative) poles & brackets suppliers shall provide a written endorsement by the public lighting customer (i.e. Council) of the particular item.

For a frangible pole, e.g. slip-base, approval by VicRoads will be acceptable. If there is no VicRoads approval, a report by a Vic Roads accredited Structural Engineer certifying that the pole meets the VicRoads specification 'For The Supply of Frangible Street Lighting Poles, Spec No TCS 014-3-2001' and VicRoads drawing ‘TC-1065 Street Lighting Slip Base Pole Ground Set Mounted’ will be required.

13.4 PHOTO ELECTRIC SWITCH (PE CELL) SOCKET BASE REQUIREMENTS

To provide for future adaptive lighting control all new “standard” and “non-standard” LED luminaires submitted for approval should have a 7-pin NEMA PE cell socket base complying with ANSI C136.41. The 7-pin NEMA socket base shall be wired as per the requirements of ANSI C136.41. The luminaire shall be supplied with a variable (dimming) control gear wired to pins 4 and 5 (violet and grey wires) of the NEMA base.

14 RESPONSIBILITIES OF MANUFACTURER OF APPROVED FITTTINGS

Jemena’s approval of any fitting is based on a representative sample of the fitting submitted for technical evaluation. Should the fitting design or manufacture be altered in any way, or part number changed, this approval will be void.

In the event of a product or part number alteration the manufacturer must notify Jemena in writing as soon as possible, as a further assessment may be necessary.

15 GLARE CONTROL SHIELDING POLICY

Glare control shields (visors) are approved for use on the JEN public lighting system, as an Approved Non-standard fitting, refer to Clause 8.2. Note that any glare control can affect the level of illumination as required by AS/NZ1158.

JEN’s policy on glare reducing measures such as shielding of streetlights is, that only manufacturer made and endorsed, and JEN approved shielding options will be permitted. Refer to Appendix B4 for a list of approved Non-standard Glare Control Visors.

In the process of retrofitting (i.e. bulk lantern replacement) or fault replacement, JEN will replace any existing luminaires with glare control with current stocked Standard luminaires. Standard aeroscreen luminaire will be preferred subject to stockholding at the time. All existing shields attached to original luminaires will be removed with the luminaire and not replaced, unless a replacement is provided by the Council / VicRoads.

All applications for glare control shall be via the local Council / VicRoads using the “Glare Control Request” form addressed to Jemena’s Network Connections, email: NetworkConnections@jemena.com.au, refer Appendix F.

16 LAMP & LUMINAIRE FAILURE REPLACEMENT

Due to Australia’s adoption of the Minamata Convention and a general market shift to LED luminaires, MV, MH & CFL lamps are no longer readily available for Jemena to purchase.

As a result of these changes the following Jemena policy will apply:

‘Standard’ Cat P (Minor Road) Luminaires:

- All new lighting schemes (including single luminaires or additional luminaires within an existing lighting scheme) utilizing standard Category P luminaires must only use LED approved fittings.
- Jemena in conjunction with the 2024-2027 bulk re-lamping cycle will replace any existing ‘Standard’ Minor Road luminaires (MV, MH and CFL) with a currently Jemena approved and stocked LED luminaire.
- Jemena will replace any existing ‘Standard’ Minor Road luminaires (MV, MH, T5 and CFL) due to luminaire failure with a currently Jemena approved and stocked LED luminaire.
- Jemena will replace any existing ‘Standard’ Minor Road luminaires (MV, MH and CFL) due to lamp failure with a currently Jemena approved and stocked LED luminaire.
- Currently, while supply of T5 lamps continues to be available Jemena will continue to re-lamp T5 luminaries.

‘Non-Standard’ Cat P (Minor Road) Luminaires:

- All new lighting schemes utilizing non-standard (decorative) Category P luminaires must only use approved LED luminaires listed in Appendix B2.
- Non-standard (decorative) MV, MH, CFL and T5 luminaires of any description must not be used for new lighting schemes (including single luminaires or additional luminaires within an existing lighting scheme).
- Due to the implementation of the Minamata Convention it is no longer possible to source MV and CFL lamps.
- Any replacement of an existing MV, MH, CFL or T5 luminaire due to failure, maintenance or repair shall be with a suitable approved LED luminaire.
- Short term, Jemena will continue to re-lamp MV luminaires while Jemena’s stocks of MV lamps last.
- Jemena will consult with its public lighting customers regarding the transition of MV & CFL decorative luminaires to LED.

- Currently, while supply of T5 lamps continues to be available Jemena will continue to re-lamp T5 luminaries.

'Standard' Cat V (Major Road) Luminaires:

- Jemena will replace any existing 'Standard' Cat V luminaires due to luminaire failure with a Jemena approved and stocked LED luminaire.

17 SMART PE CELL

Contact Jemena for the latest approved "smart" PE cell for use with Cat V & Cat P LED luminaires that have a 7 pin PE cell base.

While the smart cell has many in-built functions, Jemena has not enabled new services except for the cell communicating to Jemena's Advanced Metering Infrastructure system. Prior to installation any customer should contact Jemena for the activation process, and have the activation process agreed before any actual site installation is to take place.

Any new service request to enable the smart cell functions will be subject to an agreement between Jemena and its public lighting customer.

Note as a non-standard item Jemena do not hold stock – Public Lighting Customer to supply.

18 LOAD TABLE

The Public Lighting Load Table can be found on the Australian Energy Market Operator- AEMO web site : http://www.aemo.com.au. (Search for Load Tables for Unmetered Connection Points - spreadsheet version).

The Load Table shows the lamp load (in Watts) for use in calculating interval energy data for each luminaire type. The load per luminaire type is the Wattage of the lamp and associated control gear.

The Customer must ensure that any new luminaire type is included in the Load Table prior to installation of the device. Changes to the Load Table must be agreed by the affected National Electricity Code Participants and approved and published by the Metrology Coordinator.

Where possible, the luminaire load should be derived from measurement tests conducted by a NATA accredited laboratory or overseas equivalent.

19 CONTACTS

19.1 PUBLIC LIGHTING CUSTOMER INTERFACE

General public lighting enquiries regarding pricing, regulatory, shielding or other public lighting inquiries should be directed to:

Jemena Service Desk on 1300 131 871 - Monday to Friday 8.00 am to 6.00 pm EST.

Or to Network Connections at email address: NetworkConnections@jemena.com.au

19.2 TECHNICAL

General public lighting technical enquiries regarding the approval of new luminaires, poles, brackets or fittings should be directed to:

Max Demko

Principal Distribution Standards Engineer, Network Assets Distribution,

Asset & Operations Electricity,

Email: max.demko@jemena.com.au

Phone: (03) 9173 7931

19.3 FAULTS

JEN Public lighting faults can be reported via one of the following methods:

- Report a street light fault via internet (https://streetlighting.jemena.com.au/)
- Call the faults and emergencies line on 131 626
- Email us at PublicLighting@jemena.com.au

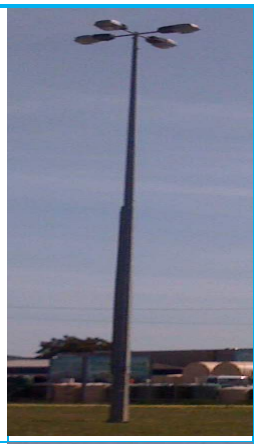
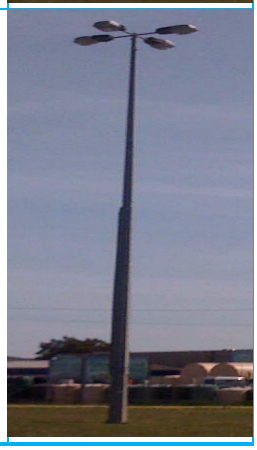
APPENDIX A: APPROVED STANDARD FITTINGS

A1. MAJOR ROADS

A1.1 POLES (SPIGOT TOP) CONCRETE

JSAP ID	Description	Supplier & Part No.	Photo / Drg No
11000083	10 metre/1.5 kN, Ground setting, (10 metre luminaire mounting height)	Rocla Part No: SL-10	
11000084	13 metre/3 kN, Ground setting, (12.5 metre luminaire mounting height)	Rocla Part No: SL-13	
Special order	15 metre/5 kN, Ground setting, (14.5 metre luminaire mounting height)	Rocla Part No: SL-15	

A1.2 POLES - CENTRE HINGED

11000133	12.5 metre, Plate setting	Coslee: JEMMHLP12.5BPM INGAL EPS: CPH125F-9850 Plasgain: PG12.5CH	
11002207	15 metre, Plate setting	Coslee: JEMMHLP15BPM INGAL EPS: CPHPH15F-9849 Plasgain: PG15.0CH	

Note: Smaller size poles may be used within transmission line easements subject to approval of the transmission line owners.

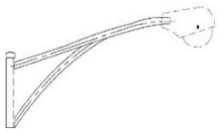
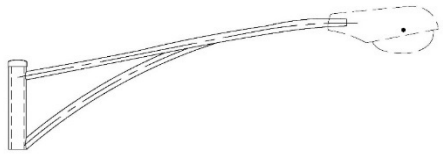
A1.3 FRANGIBLE POLES

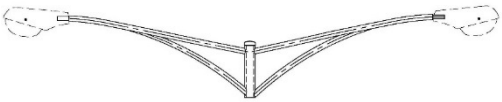
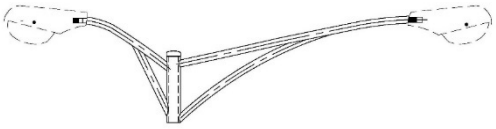
JSAP ID	Description	Supplier	Photo / Drg No
11002821	8.5 metre – Slip Base (10 metre luminaire mounting height with Standard spigot mounting brackets, Appendix A1.4,	Coslee: SB8.5 (VR:PA030 0086) INGAL EPS: VRSB3-86 (Drg: GA769) (VR:PA030 0122)* Saferoads: F18-VR-SB10.0/11.0/G (VR:PA030 0234)	
11002822	8.5 metre – Impact Absorbent (10 metre luminaire mounting height with Standard spigot mounting brackets, Appendix A1.4) Note: Impact Absorbent poles are: Ingal #1 - flange/stub type two piece. Ingal #2 - direct buried single piece. Saferoads - direct buried single piece. Coslee - flange/stub type two piece. (Flange/stub type two piece shown on photo.)	Coslee: IMP85 (VR:PA030 0105) INGAL EPS #1: VRIA3-86 (Drg: GA4800, VR:PA030 0123) INGAL EPS #2: VRIA9-86 (Drg: GA5700, VR:PA030 0274) Saferoads: F18SAFE8.5 (VR:PA030 0227)	
11002824	11 metre – Slip Base (12.5 metre luminaire mounting height with Standard spigot mounting brackets, Appendix A1.4)	Coslee: SB11 (VR:PA030 0085) INGAL EPS: VRSB4-86 (Drg: GA770, VR:PA030 0122) Saferoads: F18-VR-SB12.5/13.0/G (VR:PA030 0234)	
11002823	11 metre – Impact Absorbent (12.5 metre luminaire mounting height with Standard spigot mounting brackets, Appendix A1.4) Note: Impact Absorbent poles are: Ingal #1 - flange/stub type two piece. Ingal #2 - direct buried single piece. Saferoads - direct buried single piece. Coslee - flange/stub type two piece	Coslee: IMP11 (VR:PA030 0105) INGAL EPS #1: VRIA4-86 (Drg: GA4569, VR:PA030 0123) INGAL EPS #2: VRIA8-86 (Drg: GA5697, VR:PA030 0274) Saferoads: F18SAFE11.0 (VR:PA030 0227)	

11001980	13.5 metre – Slip Base (15 metre luminaire mounting height with Standard spigot mounting brackets, Appendix A1.4)	Coslee: SB13.5 (VR:PA030 0099) INGAL EPS: VRSB20-86 (Drg: GA771, VR:PA030 0122) Saferoads: F18200330F (Drg: SR35-SBCX135-00XS, VR:PA 030 234)	
NSI Non-Standard	5 metre overall height – Slip Base c/w 1.8 inground stub - flange/stub type two piece	Coslee: SB5 (VR:PA030 0463)	Can be used on DTP projects in exceptional cases where clearances from overhead services cannot be achieved with standard street lighting pole heights. Will be assessed and approved by DTP on a case-by-case basis.

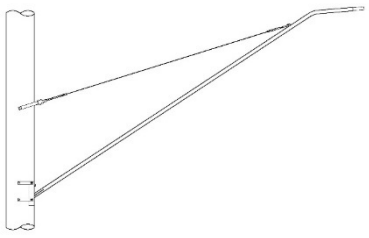
(* VIC ROADS / DTP Product Evaluation Number)

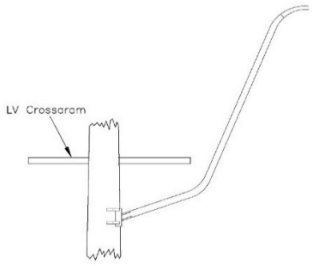
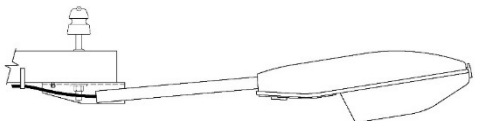
A1.4 BRACKETS FOR SPIGOT MOUNTING POLES

NSI	Single, 1.5m outreach, 1.5m raise Spigot mounting with single 1.5m outreach, cap, cable support and clamp 	Coslee: VESISOR1.5	Similar to VX15/153/19G, VX15/160/4A VX15/160/5D VX15/160/7C
11000325	Single, 3m outreach, 1.5m raise Spigot mounting with single 3m outreach, cap, cable support and clamp 	Coslee: VESISOR3.0 Dooza Eng: DZ.2049 Plasgain: VD-3.0-350631 Urban: 12293	VX15/153/2R VX15/160/4A VX15/160/5D VX15/160/7C
11000338	Single, 4.5m outreach, 1.5m raise Spigot mounting with single 4.5m outreach, cap, cable support and clamp.	Coslee: VESISOR4.5 Dooza Eng: DZ.4000 Plasgain: VD-4.5-350632 Urban: 12295	VX15/153/10R VX15/160/4A VX15/160/5D VX15/160/7C

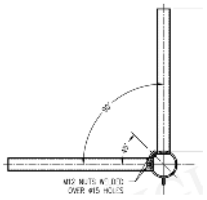
11000219	Double, 3m outreach, 1.5m raise Spigot mounting with double 3m outreach, cap, cable support and clamp. 	Coslee: VESIDOR3.0 Dooza Eng: DZ.6212 Plasgain: VD-3.0-350629 Urban: 12292	VX15/153/3S VX15/160/4A VX15/160/5D VX15/160/7C
11000283	Double, 4.5m outreach, 1.5m raise Spigot mounting with double 4.5m outreach, cap, cable support and clamp.	Coslee: VESIDOR4.5 Dooza Eng: DZ.1578 Plasgain: VD-4.5-350630 Urban: 12294	VX15/153/14M VX15/160/4A VX15/160/5D VX15/160/7C
11000117	Asymmetrical, 1.5m/4.5m, 1.5m raise Spigot mounting with double 1.5m/4.5m outreach, cap, cable support and clamp. 	Coslee: VESIDOR1.5/4.5 Plasgain: VD-1.5-4.5-350628 Urban: 12646	VX15/153/19G VX15/160/4A VX15/160/5D VX15/160/7C
11001563	Asymmetrical, 3m/4.5m, 1.5m raise Spigot mounting with double 3m/4.5m outreach, cap, cable support and clamp.	Coslee: VESIDOR3/4.5 Dooza Eng: DZ.0360 Urban: 12849	VX15/153/17 VX15/160/4A VX15/160/5D VX15/160/7C 100mm dia pole mounting socket, 40mm dia light mtg spigot

1.5 BRACKETS FOR DISTRIBUTION POLES

11000148	3 metre outreach, 2.5 metre uplift Inclined arm with pole straps and stay clamps. 	Coslee: INC2.5x3.0 Dooza Eng: DZ.5820	VX15/2294/16G (Item1/1) VX15/2294/5V VX15/174/5B

11000238	4.5 metre outreach, 2.5 metre uplift Inclined arm with pole straps and stay clamps.	Coslee: INC2.5x4.5 Dooza Eng: DZ.7630	VX15/2294/16G (Item1/2) VX15/2294/5V VX15/174/5B
11000072	6 metre outreach, 2.5 metre uplift Inclined arm with pole straps and stay clamps	Coslee: INC2.5x6.0 Dooza Eng: DZ.7635	VX15/2294/16G (Item1/3) VX15/2294/5V VX15/174/5B
11000116	4.2 metre outreach, 3.5 metre high uplift Inclined arm with pole straps and stay clamps	Coslee: INC3.5x4.2 Dooza Eng: DZ.7645	VX15/2294/17D VX15/2294/5V VX15/174/5B
11000115	5 metre outreach, 4.2 metre high uplift Inclined arm with pole straps and stay clamps	Coslee: INC4.2x5.0 Dooza Eng: DZ7640	VX15/2294/18D VX15/2294/5V
11000000	Cobra, 3 metre outreach, 3.5 metre uplift 	Coslee: COBRA Industrial Galvanizers Pole Division Cobra Bracket	VX15/174/9 VX15/174/5C
11000364	Crossarm mounted, traffic route luminaire, 1.0 metre outreach 	Coslee: ARM1.0MAJOR	VX15/307/6

A1.6 BRACKETS FOR CENTRE HINGED POLES

11000118	4 arm, 90º apart, 0.5 metre outreach	Coslee: JEMORSAQ500 INGAL EPS: SEVXSAQ500-6620 Plasgain: PG-0.5-42Q	
11002210	3 arm, 120º apart, 0.5 metre outreach	Coslee: JEMORSAT500 INGAL EPS: SEVXSAT500-6620 Plasgain: PG-O.5-42T	
11002209	2 arm, 180º apart, 0.5 metre outreach	Coslee: JEMORSAD500/180 INGAL EPS: SEVXSAD500-6620 Plasgain: PG-O.5-42D90	
11002208	2 arm, 90º apart, 0.5 metre outreach	Coslee: JEMORSAD500/90 INGAL EPS: SEVXSAD90500-6620 Plasgain: PG-O.5-42D	

Note: Similar 3 & 4 arm 0.5m outreach brackets are also approved for use on standard concrete spigot top poles as per Appendix A1.1, and VicRoads impact absorbing poles.

A1.7 STANDARD LUMINAIRES

11011997	L1, LED, Cat V Luminaire, 4000K, complete with NEMA PE switch & 7 pin PE Base & 1-10V driver. Suits applications equivalent to 150W HPS Roadster.	**Sylvania-Schreder,** **RoadLED Midi 70,** 69.6 Watt (System), Standard Visor, SPD, PECN7 Part No: PM99A06L70	
11012120	L1, LED, Cat V **Aeroscreen** Luminaire, 4000K, 7 pin PE Base	**Sylvania-Schreder,** **RoadLED Midi 66,** Aeroscreen Visor, DALI-2 D4i Part No: PM99A18L66 (no PE cell) Part No: PM99A19L66 (with PE cell) 65.6 Watt (System), (Meets spacing requirements of the Standard L1)	
		Aldridge-FOS, VLED Mark II 75W, 74 Watt (System), 216 LED module, 1-10V driver Part No: V21675WT5N7PPEC (Meets spacing requirements of the Standard L1)	
		GE Evolve, Cat V Leopard LED 68W, 67.6 Watt (System), 68 LED module, DALI-2 D4i driver Part No: LEO068V40D2SG442 (Meets spacing requirements of the Standard L1)	
11011848	L2, LED, Cat V Luminaire, 4000K, complete with NEMA PE switch & 7 pin PE Base & 1-10V 1-10V driver. Suits applications equivalent to 250W HPS Roadster.	**Sylvania-Schreder,** **RoadLED Midi 150,** 151.2 Watt (System), Standard Visor, SPD, PECN7 Part No: PM99A06L150	
11012119	L2, LED, Cat V **Aeroscreen** Luminaire, 4000K, 7 pin PE Base	**Sylvania-Schreder,** **RoadLED Midi 115,** Aeroscreen Visor, DALI-2 D4i Part No: PM99A18L115 (no PE cell) Part No: PM99A19L115 (with PE cell) 113.4 Watt (System), (Meets spacing requirements of the Standard L2)	

	NOTE: Unless otherwise noted, these require specific lighting design based on luminaire CIE table.	**Aldridge-FOS, Aero VLED Mk II 155W,** 155.4 Watt (System), 144 LED module, 1-10V driver Part No: V155 WT5N7PPEC	
		GE Evolve, Cat V Leopard LED 122W, 121.9 Watt (System), 122 LED module, DALI-2 D4i driver Part No: LEO122V40D2SG442 (Meets spacing requirements of the Standard L2)	
11011996	L4, LED, Cat V Luminaire, 4000K, complete with NEMA PE switch & 7 pin PE Base & 1-10V driver. Suits applications equivalent to 400W HPS Roadster.	**Sylvania-Schreder,** **RoadLED 275,** Standard Visor, SPD, PECN7 Part No: PL99A06L275 275.1 Watt (System),	 
11012118	L4, LED, Cat V **Aeroscreen** Luminaire, 4000K, 7 pin PE Base. NOTE: Unless otherwise noted, these require specific lighting design based on luminaire CIE table.	**Sylvania-Schreder,** **RoadLED 210,** Aeroscreen Visor, DALI-2 D4i Part No: PL99A18L210 (no PE cell) Part No: PL99A19L210 (with PE cell) 208.9 Watt (System), (Meets spacing requirements of the Standard L4)	 
		GE Evolve, Cat V Leopard LED 221W, Aeroscreen Visor, DALI-2 D4i 221.1 Watt (System), 192 LED module, DALI-2 D4i driver Part No: LEO221V40D2SG442 (no PE cell) (Meets spacing requirements of the Standard L4)	 Sample photo
		Aldridge-FOS, Aero VLED Mk2 265W, 258 Watt (System), 216 LED module, 1-10V driver Part No: V216 265WT5N7PPEC	

A1.9 LAMPS – MAINTENANCE ONLY

11000782	150 Watt, High Pressure Sodium, E40, double arc, clear, tubular, 2000K. Minimum Lamp Output 14,000 lumens.	Sylvania-Schreder, Part No: 673135TA MV Technology P/L, Part No: LU150/100SBY/T/40	
11000736	250 Watt, High Pressure Sodium, E40, double arc, clear, tubular, 2000K. Minimum Lamp Output 26,000 lumens.	Sylvania-Schreder, Part No: 673138TA	
11000356	400 Watt, High Pressure Sodium, E40, double arc, clear, tubular, 2000K. Minimum Lamp Output 48,000 lumens.	Sylvania-Schreder, Part No: 672035TA MV Technology P/L Part No: LU400/SBY/T/40	

HPS lamps - Only externally ignited twin arc clear tubular lamps are to be used with a minimum service life of 4 years and with performance equal to:

Sylvania-Schreder, SHP-T-150/SBY, SHP-T-250/SBY, SHP-T-400/SBY.

A1.10 PHOTO ELECTRIC SWITCH

11000776	10 Amp Photo Electric Switch	- Legend/CABAC: HNS910J-NEMA - Legend/CABAC: HNS950J-NEMA - TE Connectivity: ALR-2072-NP1T - TE Connectivity: ALR-8090-VFS	

Only NEMA type switches are to be used with switching levels of:

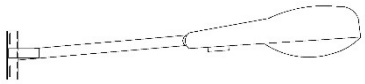
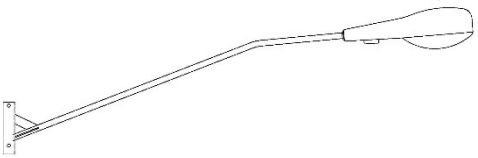
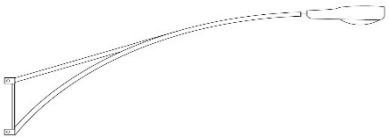
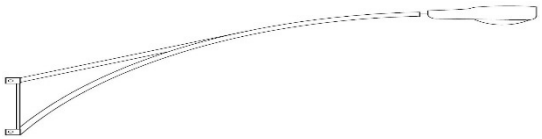
'ON' 10 lux +/- 20%, 'OFF" 45 lux +/- 20%

A2. MINOR ROADS

A2.1 POLES URD STEEL

JSAP ID	Description	Supplier & Part No.	Photo / Drg No
11000591	7 metres/1 kN, Ground setting, (5.5 metre luminaire mounting height) *Spigot: 27mmOD*	Urban: 11555, Drg: ADL-20363 Coslee: URD5.5 (one piece 5mm thick) Ingal EPS: JEMSAL55GS450-86 Plasgain: SP-5.5 URD (two piece, overlap, welded) Saferoads: F18SP-URD5.5/7.0/GF Vicpole: VP7M/1KN (one piece 5mm thick) 7M/1KN (taper lock, 5mm bottom piece)	
11004355	9 metre /1 kN, Ground setting, (7.5 metre luminaire mounting height) *Spigot: 42mmOD* *Use reducer for CAT P luminaires* *(42-35mm, SAP ID: 11002225)*	Urban: 12036, Drg: ADL-20188 Coslee: URD7.5-42.4 (one piece, 5mm) Ingal EPS: JEMSAL75GSO15-86 Plasgain: PC-SP-7.5 URD201 (two piece, overlap, welded) Saferoads: F18PCSP-URD7.5/9.0/GF Vicpole: VP9M/1KN (one piece 5mm thick) 9M/1KN (taper lock, 5mm bottom piece)	
11001981	10.8 metre/1 kN, Ground setting, (9 metre luminaire mounting height) *Spigot: 42mmOD*	Urban: 11693, Drg: ADL-20190 Coslee: URD9.0 (one piece, 5mm) Ingal EPS: JEMSAL9GSO15-86 Plasgain: PC-SP-9.0 URD008 (two piece, overlap, welded) Saferoads: F18PCSP-URD9.0/10.8/GF Vicpole: VP10.8/1KN (one piece 5mm thick) 10.8M/1KN (taper lock, 5mm bottom piece)	As above

A2.2 BRACKETS FOR DISTRIBUTION POLES

11000404	Pole mounting, 0.5 metre outreach 	Coslee: MLORSA500 RJ & EV Mott Part No: 53409206219	VX15/228P or SP15/100/8
11005182	Pole mounting, 2 metre outreach 	Coslee: JEMORSA2000	SP15/100/3B
11000113	Pole mounting, Single Sweep, 3.0 metre outreach, 1.5 uplift 	Coslee: SWEEP1.5X3.0 Dooza Engineering Part No: Ref to Drg No's	VX15/214/32, VX15/174/1 L, VX15/174/5 C
11000146	Pole mounting, Single Sweep, 4.5 metre outreach, 1.5 uplift 	Coslee: SWEEP1.5X4.5 Dooza Engineering P/No: Ref to Drawing No's	VX15/214/32, VX15/174/4 J, VX15/174/5 C
11000660	Cross-arm mounting, short outreach 	Coslee: XARM0.5MINOR RJ & EV Mott Part No: 53400343827	VX15/307
11000590	Cross-arm mounting, 1.5 metre outreach 	Coslee: XARM1.5MINOR RJ & EV Mott Part No: 53406633484	VX15/307/5E

A2.3 STANDARD LUMINAIRES

11006235	**Standard** Category P LED Luminaire, 4000K, 7 pin NEMA base, complete with NEMA PE switch Suits spacing requirements of a **Standard** light output luminaire for P4 & P5 categories, equivalent to MV80W, 2x14 T5, 32W CFL.	**Sylvania-Schréder, StreetLED3,** 11W, 14 LED module, Semi Cut-off visor, DALI-2 Part No: JLC99A09L11 (with PE cell) Part No: JLC99A08L11 (no PE cell) (11.5 System Watts)	
		Braums PX 12W, 12W, 16 LED module, Semi Cut-off visor Part No: PX12C5R2 (12.5 System Watts)	
11006237	**Standard** Category P LED Luminaire, 4000K, **Aeroscreen** visor, 7 pin NEMA base, complete with NEMA PE switch	**Sylvania-Schréder, StreetLED3,** Aeroscreen, 12W, 14 LED module, DALI-2 Part No: JLC99A19L12 (with PE cell) Part No: JLC99A18L12 (no PE cell) (11.9 System Watts) (Meets spacing requirements of the Standard P LED)	
		Aldridge-FOS, PLED.II.13W, Aeroscreen, 13W, 24 LED module P/No: Aero PLED.II.13W (13.3 System Watts) (Meets spacing requirements of the Standard P LED)	
		Braums PX 12W, Aeroscreen, 12W, 16 LED module Part No: PX12C5R2A (12.5 System Watts)	

11006559	**High Output** Category P LED Luminaire, 4000K, 7 pin NEMA base, complete with NEMA PE switch. Suits spacing requirements of a **high output** luminaire for P4 & P5 categories, equivalent to MV125W, 2x24 T5, 42W CFL.	**Sylvania-Schréder, StreetLED3 HO**, 17W, 14 LED module, Semi Cut-off visor, High Output, DALI-2 Part No: JLC99A09L17 (with PE cell) Part No: JLC99A08L17 (no PE cell) (16.9 System Watts)	
		Braums PX 21W HO, Semi Cut-off visor, 21W, 16 LED module Part No: PX21C5R2 (20.8 System Watts)	
11012298	**High Output** Category P LED Luminaire, **Aeroscreen** visor, 4000K, 7 pin NEMA base, complete with NEMA PE switch.	**Sylvania-Schréder, StreetLED3 HO,** Aeroscreen, 17W, 14 LED module, DALI-2 Part No: JLC99A19L17 (with PE cell) Part No: JLC99A18L17 (no PE cell) (16.9 System Watts) (Meets spacing requirements of the HO P LED).	
		Aldridge-FOS, Aero PLED.II.30W HO, Aeroscreen, 30W, 36 LED module, P/N: PLED.II.30W-AE-PEC (29.2 System Watts) (Meets spacing requirements of the HO P LED).	
		Braums PX 21W HO, Aeroscreen, 21W, 16 LED module, Part No: PX21C5R2A (20.8 System Watts)	

Note: LED luminaires are marked externally with their Nominal Device Rating (based on approximate System Wattage), all other luminaires are marked with their nominal lamp wattage.

A2.4 LAMPS – MAINTENANCE ONLY

11002844	Lamp T5 14 Watt fluorescent, 4000K	Philips: Master TL5 HE 14W/840 Sylvania-Schreder: T5 Luxline Plus FHE 14W/840 - P/No: 200761	
11002129	Lamp T5 24 Watt fluorescent, 4000K	Philips: Master TL5 HO 24W840 Osram : FQ24W/840 HO CONSTANT FLH1	
11000825	Lamp 80 Watt mercury, elliptical, E27, coated, 4000K		
11000466	Lamp 125 Watt mercury, elliptical, E27, coated, 4000K		
11001721	Lamp 100 Watt HPS, elliptical, coated, double arc, E40, 2000K,	Sylvania-Schreder Part No: 673144TA	

A2.5 PHOTO ELECTRIC SWITCHES

11000776	10 Amp Photo Electric Switch ***NEMA cells and 7 pin base for all new LED luminaires.***	***New LED luminaires: 'long life'*** - Legend/Hendon: HNS950J-NEMA - TE Connectivity: ALR-8090-VFS ***Maintenance & Non-LED luminaires:*** - Legend/Hendon: HNS910J-NEMA - Legend/Hendon: HNS950J-NEMA - TE Connectivity: ALR-2072-NP1T - TE Connectivity: ALR-8090-VFS	
11000831	2 amp photo electric switch, D2 PE Switch. ***Maintenance and legacy replacements.***	Legend/Hendon Semiconductors Part No: HSC-PE2 TE Connectivity Ltd Part No. ALR-D2A-E22T-30 (30s Delay ON / OFF)	

A3. MISCELLANEOUS ITEMS

A3.1 CABLES

11000889	XLPE double insulated, PVC sheathed, black, 2 core, 2 x 16 mm^2, 7/1.7mm	Olex Cables: DEVP15SJ002CXHF Prysmian Cables : 5050691	
11000921	XLPE double insulated, PVC sheathed, black, 4 core, 4 x 16 mm^2, 7/1.7mm	Olex Cables: HEVP15SJ004CXEM Prysmian Cables: 5012804	
11000912	Insulated, black, 2 core, parallel web, flat, 6 mm^2, 7/1.04mm, U/V stabilised	Olex Cables: DAAP11SU002AABK Prysmian Cables: 5030365	
11003212 See Note below	Cable, Orange, 2 core & earth, circular, 2.5mm^2 Cu, V-90 insulated, PVC sheathed to AS/NZS 5000.	Olex Cables: CNHP07AA002	

Note: Where luminaires are supplied with a pre-installed length of supply cable for internal use, the cable shall be circular orange 2C+E, 2.5mm^2 Cu. TPS flat electrical type of cable is not approved for this application

A3.2 FUSE HOLDERS

11001466	Sub-surface fuse holder for frangible poles, (kit) 11000688 : 8Amp (10.3mm dia x 26mm long) fuse link.	Haycolec Part No: ILF.20	
11002724	Sub-surface fuse IPC, Michaud D-K199. Connector not supplied with a fuse link. 11011942 : 10Amp Size “2A” (22mm dia x 58mm long) fuse link.	Michaud In-Line-Fuse Connector Part No: K199	
11000732	URD pole Din mounted fuse, cable terminations and panel	Australmold P/L Part No: AUST-SLP Flowline Ind. P/L Part No: ECV 1056 IPD P/No : STLPVX20	

APPENDIX B: NON-STANDARD LUMINAIRE & ACCESSORIES CATALOGUE

All luminaires shall be fitted with Jemena approved standard lamps and PE switches.

B1. CATEGORY 'V' - MAJOR ROADS

Description	Photo / Drg. No.	Comments / Status
Candela, Toorak Major LED Top entry, 1-10V driver L1: 70W (System 74.8W) – LFC-50 L2: 140W (System 140.4W) – LFC-58		1/7/2022: Approved.
Candela, Toorak Major Alpha LED Top entry, 1-10V driver L1: 70W (System 74.8W) – LFC-59 L2: 140W (System 140.4W) – LFC-60		1/7/2022: Approved.
Sylvania-Schréder **Parkville Mk2 LED,** Top entry, DALI-2 D4i **4000K** **L1**: 58W (System 58.8W) - S3T4A018L58 **L2:** 117W (System 115.9W) – S3T4A018L117 **3000K** **L1**: 58W (System 58.8W) - S3T3A018L58 **L2:** 117W (System 115.9W) – S3T3A018L117		29/1/2024: Approved. 9/10/2025: Approved 3000K

Sylvania-Schréder **Parkville Mk2 LED** Side entry, DALI-2 D4i **4000K** **L1**: 58W (System 58.8W) - S3S4A018L58 **L2:** 117W (System 115.9W) – S3S4A018L117 **3000K** **L1**: 58W (System 58.8W) - S3S3A018L58 **L2:** 117W (System 115.9W) – S3S3A018L117		29/1/2024: Approved. 9/10/2025: Approved 3000K

CATEGORY V – SPECIFIC PROJECTS

WE-EF Lighting **ASP530,** **118W/132W# 4000K LED luminaire** **Top entry,** 1-10V driver Part No: 127-8395+Approved D2 PE Switch, (ASP530 9R65-6A60.BEAM 45 LED 118W/800mA 840 (4000K) POST TOP IP66 ALU LEC PEC D2)		30/9/2014 – Approved. Luminaire to be supplied pre-wired with 12m length of 2.5mm^2 3C circular cable (see A3.1). Note: Not approved for use with Figure 8, 6mm^2 PL cable due to potential of water entry.
WE-EF Lighting **ASP530,** **118W/132W# 3000K LED luminaire** **Top entry,** 1-10V driver Part No: 127-8403+8060 (Approved D2 PE Switch), (ASP530 HY R65/27F+A60/18F 45 LED 118W/800mA 830 (3000K) POST TOP IP66 ALU LEC PEC D2)		17/4/2020 – Approved. Luminaire to be supplied pre-wired with 12m length of 2.5mm^2 3C circular cable (see A3.1). Note: Should not be used with Figure 8, 6mm^2 PL cable due to potential of water entry.
WE-EF Lighting **VFL530,** **24W/28.6W# 4000K LED luminaire** **Post Top entry,** 1-10V driver Part No: 108-1142+A8080 (NEMA PE Switch),		8/8/2023 – Approved for Mooney Valley Racing Club precinct only. Luminaire to be supplied pre-wired with 6m length of 2.5mm^2 3C circular cable (see A3.1).

System Wattage.

B2. CATEGORY 'P' - MINOR ROADS - LED

Description	Photo / Drg.	Comments / Status
Streetworx **OzLite 12W LED, Top Entry,** 4000K, 7 Pin NEMA Base, 1-10V driver 12 LED module, Part No: SWOZ12T (top entry) Standard; Part No: SWOZ12TA (top entry) Alpha; Part No: SWOZ12TC (top entry) Classic; (11.5 System Watts)	  	09/05/2024: Approved. Luminaire may be supplied pre-wired with a length of 2.5mm^2 3C circular cable (see A3.1). Luminaire includes a 7 pin NEMA base & dimmable driver.
Vicpole / Candela Toorak **Toorak T/E 14W LED** **Top Entry,** 4000K, 7 Pin NEMA Base, 1-10V driver 12 LED module, Part No: LCF-51 (14.8 System Watts)	 	17/12/2021: Approved Luminaire may be supplied pre-wired with a length of 2.5mm^2 3C circular cable (see A3.1). Luminaire includes a 7 pin NEMA base & dimmable driver.

Vicpole / Candela Toorak **Toorak Alpha T/E 14W LED** **Top Entry**, 4000K, 7 Pin NEMA Base, 1-10V driver 12 LED module, Part No: LCF-57 (14.8 System Watts)		17/12/2021: Approved.
Sylvania-Schréder **Kensington Mk2 LED** **Post Top Luminaire,** Satin Black, DALI-2, 7 Pin NEMA Base, 2x9 LED modules, Part No's: **4000K** **16W** (16.4 System Watts) - KX47A202L16 **30W** (30.1 System Watts) **HO** - KX47A202L30 **3000K** **16W** (16.4 System Watts) - KX37A202L16 **30W** (30.1 System Watts) **HO** - KX37A202L30		 Luminaire supplied pre-wired with a 5m length of 1.5mm^2 3C circular cable. Other colours and Heritage bars are approved. 9/12/2022: Approved 3/10/2025: Approved 3000K
Sylvania-Schréder **Bourke Hill Mk2 LED** **Top Entry Luminaire,** Satin Black, DALI-2, 7 Pin NEMA Base, 24 LED module, Part No's: **4000K** **14W** (13.7 System Watts) - S2T4A202L14 **24W** (23.6 System Watts) **HO** - S2T4A202L24 **3000K** **14W** (13.7 System Watts) - S2T3A202L14 **24W** (23.6 System Watts) **HO** - S2T3A202L24		Other colours are approved. 9/12/2022: Approved 3/10/2025: Approved 3000K

Sylvania-Schréder **Bourke Hill Mk2 LED** **Side Entry Luminaire,** Satin Black, DALI-2, 7 Pin NEMA Base, 24 LED module, Part No's: **4000K** **14W** (13.7 System Watts) - S2S4A202L14 **24W** (23.6 System Watts) **HO** - S2S4A202L24 **3000K** **14W** (13.7 System Watts) - S2S3A202L14 **24W** (23.6 System Watts) **HO** - S2S3A202L24		Other colours are approved. 9/12/2022: Approved 3/10/2025: Approved 3000K

B3. NON-STANDARD GLARE CONTROL VISORS

Supplier & Part No.	Luminaire CAT P	Glare Control Visor Description*	Photo
STREETWORX Part No: SWET5AS	Streetworx Enviro, 2x14W T5, 2x28W T5	Visor Kit, Glare shield, Aeroscreen	
STREETWORX Part No: SWET5RH	Streetworx Enviro, 2x14W T5, 2x28W T5	Visor Kit, Glare shield, Right Hand Cut-off	
STREETWORX Part No: SWET5LH	Streetworx Enviro, 2x14W T5, 2x28W T5	Visor Kit, Glare shield, Left Hand Cut-off	
STREETWORX Part No: SWET5TL	Streetworx Enviro, 2x14W T5, 2x28W T5	Visor Kit, Glare shield, Transverse Front & Rear	
STREETWORX Part No: SWET5TLF	Streetworx Enviro, 2x14W T5, 2x28W T5	Visor Kit, Glare shield, Transverse Front Cut-off	
STREETWORX Part No: SWET5TLR	Streetworx Enviro, 2x14W T5, 2x28W T5	Visor Kit, Glare shield, Transverse Rear Cut-off	

Sylvania-Schreder Part No: JLB00003	Sylvania-Schreder StreetLED Mark II & III 17W & 14W	Visor, Semi Cut-off, Rear Glare shield,	
Sylvania-Schreder Part No: JLB00004	Sylvania-Schreder StreetLED Mark II & III 17W & 14W	Visor, Pathway, Rear and Front Glare shield,	
Sylvania-Schreder Part No: JLB00005	Sylvania-Schreder StreetLED Mark II & III 17W & 14W	Visor, 360° (Rear, Front, Side), Glare shield,	
Sylvania-Schreder Part No: JLB00006	Sylvania-Schreder Mark II StreetLED 17W	Louvre, Front & Rear Cut-off	
Sylvania-Schreder Part No: JLC00006	Sylvania-Schreder Mark III StreetLED 14W	Louvre, Front & Rear Cut-off	
Braums Part No: PXA007 PX	Braums PX 12W, PX 21W HO	Glare shields kit, front and rear incl screws.	

Supplier & Part No.	Luminaire CAT V	Glare Control Visor Description*	Photo
Sylvania-Schreder Part No: PM00006	Sylvania-Schreder Roadled Midi	Louvre, Rear Cut-off	
Sylvania-Schreder Part No: PM00008	Sylvania-Schreder Roadled Midi	Visor, Right Glare shield	
Sylvania-Schreder Part No: PM00009	Sylvania-Schreder Roadled Midi	Visor, Left Glare shield	
Sylvania-Schreder Part No: PM00010	Sylvania-Schreder Roadled Midi	Visor, Back Glare shield	
Sylvania-Schreder Part No: PM00012	Sylvania-Schreder Roadled Midi	Visor, Front Glare shield	
Sylvania-Schreder Part No: PM00021	Sylvania-Schreder Roadled Midi	Visor, 360° Glare shield	
Sylvania-Schreder Part No: PL00003	Sylvania-Schreder Roadled	Visor, Rear shield	

Sylvania-Schreder Part No: PL00005	Sylvania-Schreder Roadled	Visor, Front & Rear Glare shield	
Sylvania-Schreder Part No: 99032428	Sylvania-Schreder Roadled	Louvre, Rear Cut-off (Factory Fittted)	

* Contact suppliers for further details.

APPENDIX C: NON-STANDARD POLES AND BRACKETS CATALOGUE

C1. NON-STANDARD POLES - MAIN ROADS AND RESIDENTIAL STREETS

Pole name	Manufacturer	Category	Height (ground line to luminaire)	Outreach (from centreline) (D: double)	Lantern type (Top/Side/Bottom Entry)	Manufacturer's part Number / Drawing No.	Pole photo / drawing	Status / Comments
Boulevard Inground mount	Vicpole	V V P	8.5m 8.5m 5.5m	2000mm D: 2000mm 900mm	TE TE TE	VPB8.5SG VPB8.5DG VPB5.5SG		4.8mm thick base 4.8mm thick base 5mm thick base
	Saferoads	V V P	8.5m 8.5m 5.5m	1500mm D: 1500mm 900mm	TE TE TE	F18GB8.5/1.5/11.0/GF Drg: STSD1023. F18GB8.5/1.5/11.0/GF/D		5mm thick base 5mm thick base 5mm thick base
Silhoutte/ **Boulevard**	Urban Lighting Group	V V V V P	10.0m 10.0m 8.5m 8.5m 5.5m	D:1500mm 1500mm D: 1500mm 1500mm 900mm	TE TE TE TE TE	70051, Drg: ADL-20018A & ADL-20016 70050, Drg: ADL-20018A & ADL-20016 70049, Drg: ADL-20018A & ADL-20016		5mm thick base 5mm thick base 5mm thick base 5mm thick base 5mm thick base
Boulevard Post -top	Vicpole	P	5.5m	NA	Bottom Entry	VPB5.5PG		5mm thick base

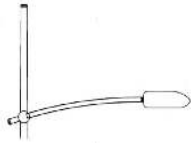
	Saferoads	P	5.5m	NA	Bottom Entry	F18GB5.0/6.4/GF Drg: STSD1013.		5mm thick base
Silhouette **Boulevard**	Urban Lighting Group	P	5.5m	NA	Bottom Entry	10373		
Promenade Inground mount	Vicpole	V V P	8.5m 8.5m 5.5m	4410mm D: 4410mm	TE TE TE	VPP8.5SG VPP8.5DG VPP5.5SG		4.8mm thick base 4.8mm thick base 5mm thick base
	Saferoads	V V P	8.5m 8.5m 5.5m	2200mm D: 2200mm 1300mm	TE TE SE	F18PR8.5/2.2/11.0/GF Drg: STSD1351 F18PR8.5/2.2/11.0/GF/D Drg: STSD1352 F18PRSE5.5/1.3/7.6GF Drg: STSD2267		5mm thick base 5mm thick base 5mm thick base
	PlasGain (Base Plate Mount)	V	8.5	2200mm	SE	PR8.5/BPM & PR2.2M/SE Dg: PPR 8.5-v1 & PPR8.5/10.0-OSS2.2-v1		Approved 3/12/2021

Silhouette/	Urban Lighting Group	V V V V P	10.0m 10.0m 8.5m 8.5m 5.5m	D:1500mm 1500mm D: 1500mm 1500mm 1500mm	TE TE TE TE TE	70055, Drg: ADL-20018A & ADL-20035 70054, Drg: ADL-20018A & ADL-20035 70053, Drg: ADL-20018A & ADL-20035 70052, Drg: ADL-20018A & ADL-20035 70014, Drg: ADL-20088 & ADL-20094		5mm thick base 5mm thick base 5mm thick base 5mm thick base 5mm thick base
Albert Park Inground mount	Vicpole	V V P	8.5m 8.5m 5.5m	3000mm D: 3000mm 1800mm	TE TE TE	VPAP8.5SG VPAP8.5DG VPAP5.5SG (also includes “no-ring” outreach variations)		4.8mm thick base 4.8mm thick base 5mm thick base
Royal Park Inground	Saferoads	P	5.5m	1500mm	TE	F18RP5.5/1.4/7.7/GF Drg: STSD2232.		5mm thick base
Silhoutte/ **Albert Park/ Lakes** Inground mount	Urban Lighting Group	V V V V P	10.0m 10.0m 8.5m 8.5m 5.5m	D:3000mm 3000mm D:3000mm 3000mm 1500mm	TE TE TE TE TE	70039, Drg: ADL-20018A & ADL-20017 70038, Drg: ADL-20018A & ADL-20017 70037, Drg: ADL-20018A & ADL-20017 70036, Drg: ADL-20018A & ADL-20017 70009, Drg: ADL-20088 & ADL-20104		5mm thick base 5mm thick base 5mm thick base 5mm thick base 5mm thick base

Tandara Inground mount	Vicpole	P	5.5m	840mm	SE	VPT5.5SG		Approved 26 May 2009 5mm thick base
Elop	Saferoads	V P	8.5m 5.5m	1300mm 800mm	SE SE	EL8.5/1.3/11.3/GJ Drg No: STS2272-A EL5.5/0.8/7.5/GF Drg No: STS2252-A		5mm thick base 5mm thick base
Esplanade Inground mount	Vicpole	V V P	8.5m 8.5m 5.5m	2200mm D: 2200mm 900mm	TE TE TE	VPE8.5SG VPE8.5DG VPE5.5SG		4.8mm thick base 4.8mm thick base 5mm thick base
Avendon Inground mount	Saferoads	V V P	8.5m 8.5m 5.5m	1500mm D: 1500mm 900mm	TE TE TE	F18AV8.5/1.5/11.3/GJ Drg: SR30-AVPT085-15SG F18AV8.5/1.5/11.3/GJD Drg: SR30-AVPT085-15DG F18AV5.5/1.0/7.6/GF Drg: SR30-AVPT055-10SG		5mm thick base 5mm thick base 5mm thick base

Silhoutte/ **Bayside** Inground mount	Urban Lighting Group	V	10.0m	D:1700mm	TE	70047, Drg: ADL-20018A & ADL-20036		5mm thick base
		V	10.0m	1700mm	TE	70046, Drg: ADL-20018A & ADL-20036		5mm thick base
		V	8.5m	D:1700mm	TE	70045, Drg: ADL-20018A & ADL-20036		5mm thick base
		V	8.5m	1700mm	TE	70044, Drg: ADL-20018A & ADL-20036		5mm thick base
		P	5.5m	900mm	TE	70012, Drg: ADL-20088 & ADL-20106		5mm thick base

Lincoln Inground mount	Vicpole	V V P P	9.0m 9.0m 6.5m 5.5m	3000mm D: 3000mm 1200mm 1200mm	SE SE SE SE	VPL9.0SG VPL9.0DG VPL6.5SG VPL5.5SG		5mm thick base 5mm thick base 5mm thick base 5mm thick base
	Saferoads	V V V P	10.0 9.2 8.5 5.5m	3000mm 3000mm 3000mm 1500mm	TE SE TE TE	F18LC10.0/3.0/13.4/GJ Drg: STSD2340 F18LCSE9.2/3.0/11.8/GJ Drg: STSD2338 F18LC8.5/3.0/11.8/GJ Drg: STSD2339 F18LC5.5/1.5/8.4/GF Drg: STSD2300		5mm thick base 5mm thick base 5mm thick base 5mm thick base
Manor/ **Lincoln**	Urban Lighting Group	V V V V P	10.0m 10.0m 8.5m 8.5m 5.5m	D:3000mm 3000mm D:3000mm 3000mm 1500mm	SE SE SE SE SE	70027, Drg: ADL-20079 & ADL-20203 70026, Drg: ADL-20079 & ADL-20203 70025, Drg: ADL-20005 & ADL-20203 70024, Drg: ADL-20005 & ADL-20203 10351, Drg: ADL-20174 & ADL-20383		5mm thick base 5mm thick base 5mm thick base 5mm thick base 5mm thick base Approved 14 May 2009

Lincoln	Plasgain	V V V V V V V P	10.0m 10.0m 9.2m 9.2m 8.5m 8.5m 5.5m	D:3000mm 3000mm D:3000mm 3000mm D:3000mm 3000mm 1500mm	SE SE SE SE SE SE SE	LCSE-10.0-3.0D, Drg: PL 8.5-10.0-OSD3.0-v1 & PD 10.0-v2 LCSE-10.0-3.0S, Drg: PL 8.5-10.0-OSS3.0-v1 & PD 10.0-v2 LCSE-9.2-3.0D, Drg: PL 8.5-10.0-OSS3.0-v1 & PD 9.2-v1 LCSE-9.2-3.0S, Drg: PL 8.5-10.0-OSS3.0-v1 & PD 9.2-v1 LCSE-8.5-3.0D, Drg: PL 8.5-10.0-OSD3.0-v1 & PD 8.5-v2 LCSE-8.5-3.0S, Drg: PL 8.5-10.0-OSS3.0-v1 & PD 8.5-v2 LCSE-5.5-1.5S, Drg: PL 5.5-OSS1.5-v2 & PD 5.5-v2		Approved 8/1/2021 9.2m 30/9/2021 8/1/2021
Lincoln **without decoy** Inground mount	Vicpole	P	5.5m	1200mm	SE	VPL5.5SG		5mm thick base

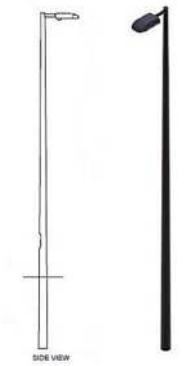
Waterford	Vicpole	P	5.5m	1200mm	TE	VPW5.5SG		5mm thick base
Waterside	Saferoads	P	5.5m	1200mm	TE	F18W5.5/1.2/8.8/GF Drg: STSD1233.		5mm thick base
Manor/ **Waterside**	Urban Lighting Group	V V P	10.0m 8.5m 5.5m	3000mm 3000mm 150mm	TE TE TE	70034, Drg: ADL-20079 & ADL-20204 70032, Drg: ADL-20205 & ADL-20204 70008, Drg: ART061205 & ADL-20146		5mm thick base 5mm thick base 5mm thick base

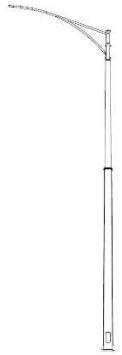
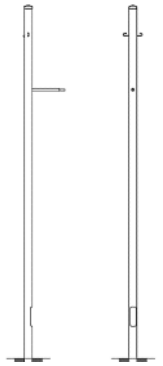
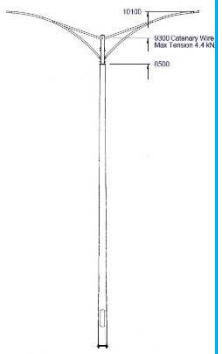
Manningham	Saferoads	P	5.5m	1241mm	TE SE	F18M5.5/1.2/8.4/GF Drg: SR30-AVPT055-10SG		5mm thick base 5mm thick base
Manningham Manor	Urban Lighting Group	V V V V P	10.0m 10.0m 8.5m 8.5m 5.5m	D:3000mm 3000mm D:3000mm 3000mm 150mm	TE TE TE TE TE	70031, Drg: ADL-20079 & ADL-20080 70030, Drg: ADL-20079 & ADL-20080 70029, Drg: ADL-20205 & ADL-20080 70028, Drg: ADL-20205 & ADL-20080 70003, Drg: ART061205 & ADL-20090		5 mm thick base 5 mm thick base 5 mm thick base 5 mm thick base 5 mm thick base
Manningham	Plasgain	V V V V P	10.0m 10.0m 8.5m 8.5m 5.5m	D:3000mm 3000mm D:3000mm 3000mm 1200mm	SE SE SE SE SE	MSE-10.0-3.0D, Drg: PM 8.5-10.0-OSD3.0-v1 & PD 10.0-v2 MSE-10.0-3.0S, Drg: PM 8.5-10.0-OSS3.0-v1 & PD 10.0-v2 MSE-8.5-3.0D, Drg: PM 8.5-10.0-OSD3.0-v1 & PD 8.5-v2 MSE-8.5-3.0S, Drg: PM 8.5-10.0-OSS3.0-v1 & PD 8.5-v2 MSE-5.5-1.2, Drg: PM 5.5-OSS1.2-v2 & PD 5.5-v2		Approved 8/1/2021

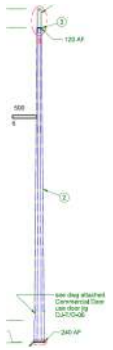
Terrace Inground mount	Saferoads	V V P	10.0m 8.5m 5.5m	3000mm 3000mm 1500mm	TE TE TE	F18T10.0/3.0/13.2/GJ Drg: STSD2135. F18T8.5/3.0/11.7/GJ Drg: STSD2134. F18T5.5/1.5/8.4/GF Drg: STSD2055.		Approved 1/6/2011 5mm thick base 5mm thick base
Aero	Urban Lighting Group	V V V V P	10.0m 10.0m 8.5m 8.5m 5.5m	D:3000mm 3000mm D:3000mm 3000mm 1350mm	TE TE TE TE TE	70023, Drg: ADL-20079 & ADL-20081 70022, Drg: ADL-20079 & ADL-20081 70029, Drg: ADL-20205 & ADL-20081 70028, Drg: ADL-20205 & ADL-20081 70001, Drg: ART061205 & ADL-20061		5 mm thick base 5 mm thick base 5 mm thick base 5 mm thick base 5 mm thick base

Pole name	Manufacturer	Category	Height	Outreach (from centreline) (D: double)	Lantern type (Top/Side/Bottom Entry)	Manufacturer's part Number / Drawing No.	Pole photo / drawing	Status / Comments
Sherwood	Vicpole	P	5.5m	600mm	TE	SYLS5.5SG		5mm thick base
Slimline	Vicpole	P	5.5m	200mm	TE	VPSL5.5SG VPSL5.5PG		
Taylors Hill	Saferoads	V V P	8.5m 8.5m 5.5m	D:3000mm 3000mm 1500mm	TE TE TE	TH8.5/3.0/12.5/GJD Drg: STS2426-A TH8.5/3.0/12.5/GJ Drg: STS2353-B TH5.5/1.5/8.5/GB Drg: STS2298-D		5mm thick base 5mm thick base 5mm thick base
Vista	Vicpole	V P	8.5m 5.5m	2904mm 400mm	SE SE	VPV8.5SG VPV5.5SG		5mm thick base 5mm thick base

Waverley	Vicpole	P	5.5m	600mm	TE	SYLW5.5SG		5mm thick base
King St	Vicpole	V	10.0m	2500mm	SE	VPNS-326A		5mm thick base Base plate rag bolt mounted Approved 22 July 2015
Manor **Column only**	Urban Lighting Group	P	4.0m		No bracket, Φ76.1 spigot	Drg No: 110472 Drg: ART061205		Approved 26 May 2009 5mm thick base

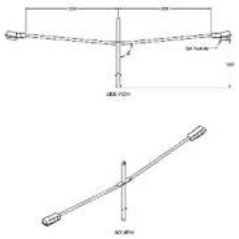
Glenvill	Vicpole	V V P	8.5m 8.5m 5.5m	D:3000mm 3000mm 200mm	SE	VPNS-329C VPNS-329B VPNS-329A		5mm thick base Approved 15 Nov 2016 
Centre Hinge	Vicpole	P	5.5m	S: 400mm	SE	VP7M1KN-CH		5mm thick base IGM Approved 27 Feb 2017

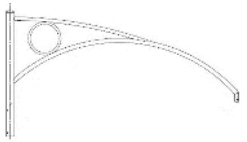
Centre Hinge	Vicpole	V	10m	S: 3000mm	SE	VPTO8.5BCH		5mm thick base Base Plate Mount Approved 19 July 2018
Laneway Column lgm **c/w 2.5kN LVABC service attachment at 6.0m**	Vicpole	P	5.0m	S: 500mm	SE	VPNS-76 (Height above gnd - 6.5m; OH service – 6.0m; Light - 5.0m; Total length - 8.0m)		Min 5mm thick base IGM Approved 15 May 2018
8.5m Tapered Round BPM **Column only**	Vicpole	V	10m	D: 3000mm Spigot mount	SE	VPTR8.5BVESICAT4.4kN - with door VPTR8.5BVESICAT4.4kNND - without door OH service – 4.4kN @9.3m		Base Plate Mount Suit VESI spigot mount outreach brackets Approved 11 April 2021

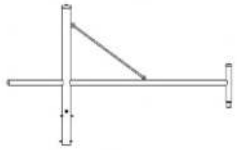
Vesa **8.5m Tapered Round BPM** **Column & 3m outreach**	Vicpole	V	10m	S: 3000mm Spigot mount	SE	8.5 TBO B VESA 3.0m Sgl Vesa Outreach		Base Plate Mount Suit VESI spigot mount outreach brackets Approved 11 Nov 2021
Rigid Tapered Octagonal BPM Column	Coslee	V	10m 12.5m 15m	suit VESI spigot mount outreach brackets	SE	PSVR8.5 8.5m Rigid Streetlighting Pole (10m luminaire mounting height) PSVR11 11m Rigid Streetlighting Pole (12.5m luminaire mounting height) PSVR13.5 13.5m Rigid Streetlighting Pole (15m luminaire mounting height)	 8.5m pole shown	Base Plate Mount M24CGx350x4 – M24 Commercial Grade Rag Bolt Assembly M24CGx350x4 – M24 Commercial Grade Rag Bolt Assembly M30x350x4 – M30 Commercial Grade Rag Bolt Assembly

Plaspole **5.5m Column & 1.0m outreach**	Plasgain	P	5.5	S: 1000mm Spigot mount	SE	5.5m MH Plaspole, PP5.5/1.0/6.8 (Plaspole is a composite structural pole made from a thin aluminium exterior and filled internally with recycled plastic.)		4/08/2025

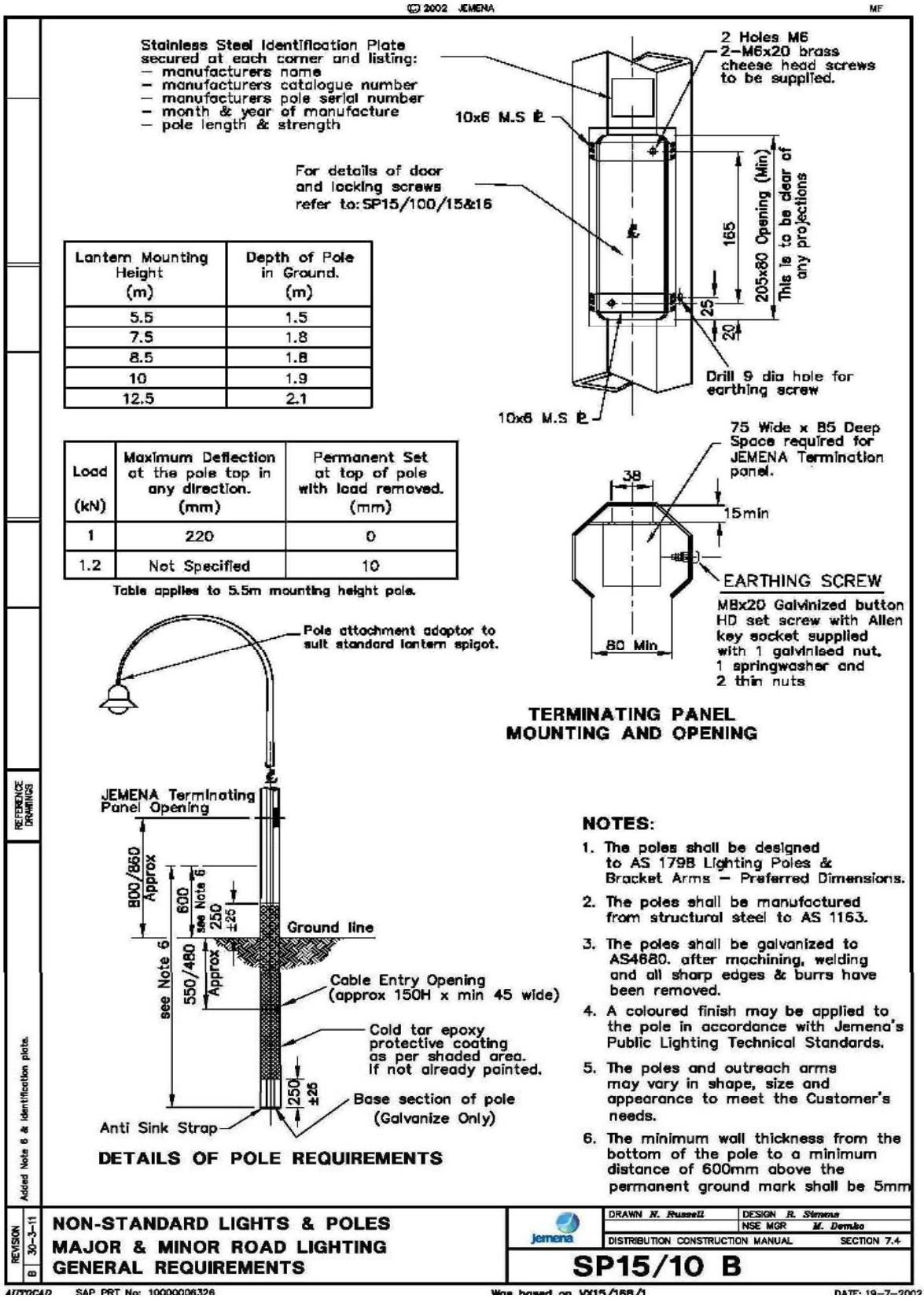
C2. NON-STANDARD BRACKETS - MAIN ROADS AND RESIDENTIAL STREETS

Manufacturer	Bracket name	Description	Manufacturer's part or drawing number	Photo / drawing	Status / Comments
Vicpole	Tandara	Single bracket, 3000mm outreach, 1500mm uplift. Suit horizontal mount luminaire.	VPT 3.0S		26/5/2009
Vicpole	Tandara	Double bracket, 3000mm outreach each, 1500mm uplift. Suit horizontal mount luminaire.	VPT 3.0D		26/5/2009 
Vicpole	Logis	Single bracket, 2500mm outreach. Houses double Pierlite Greenstreet (one on timer). Mounted on Ingal EPS VicRoads 8.5 Impact Absorbing Column. Suit horizontal mount luminaire.			3/8/2009

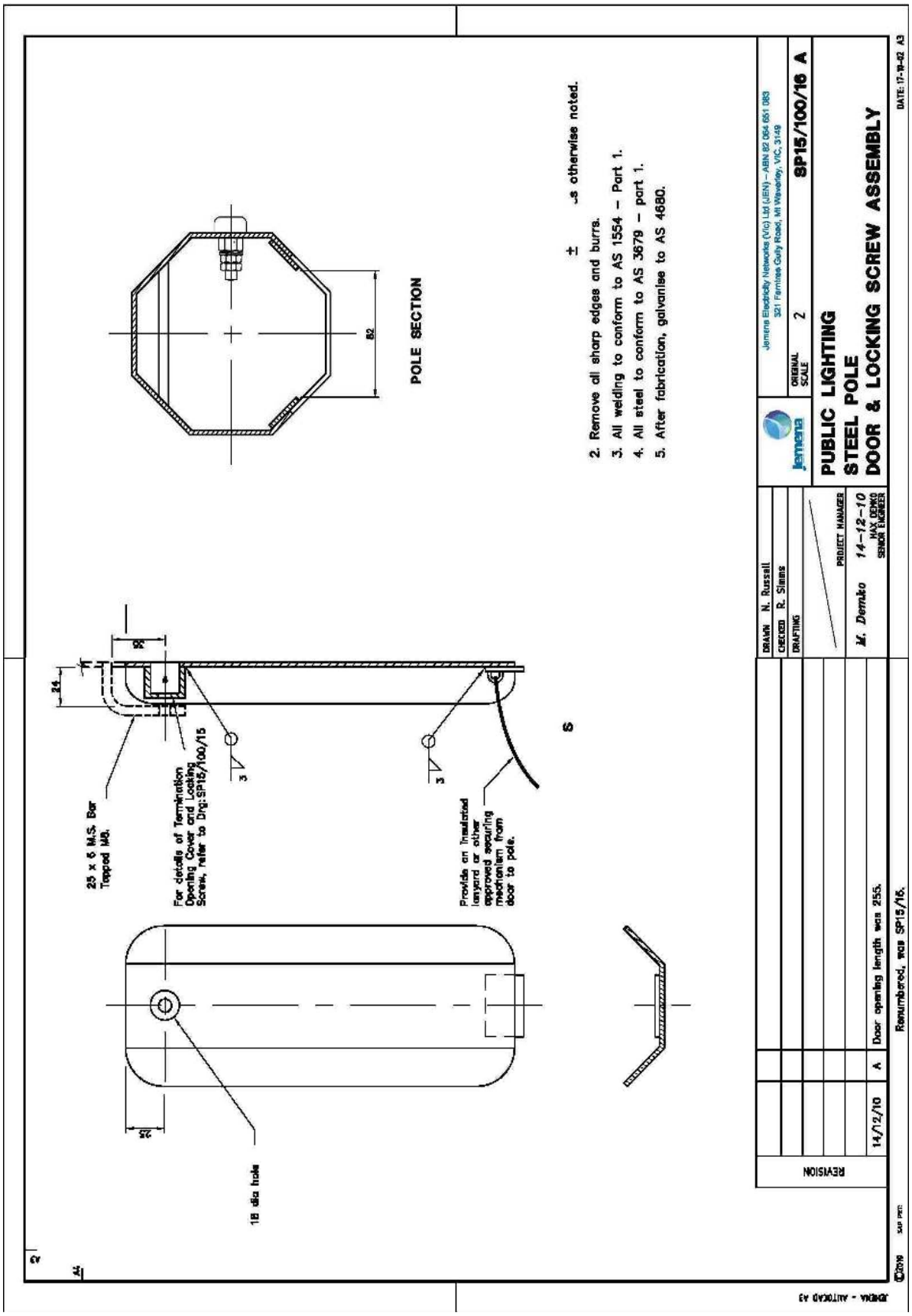
Vicpole	Curved	Single & double bracket, 4500mm outreach, 2150mm uplift. Suit horizontal mount luminaire. Certified for AD COOTE VICROADS 8.5 & 11M Slip Base & Impact Columns.			6/7/2009
Vicpole	Curved	Double bracket, 4500mm outreach, 2150mm uplift. Suit horizontal mount luminaire. Certified for AD COOTE VICROADS 8.5 & 11M Slip Base & Impact Columns			6/7/2009
Saferoads Inground mount	Helios	Single & double bracket, 2200mm outreach, 200/1370mm uplift. Suit horizontal mount luminaire. Certified for VicRoads 8.5 & 11M Slip Base & Impact Columns	F18H/2.2/3.0 /OJ F18H/2.2/3.0 /OJD STS2390 & STS2392	 	29/12/2009
Urban Lighting Group	Coburg	Single bracket, 3300mm outreach, 500mm uplift. Suit vertical mount luminaire. Certified for PTC Tram steel pole (6.5kN/11m).	ADL-20223 – 1 & 2		26/5/2009

Vicpole	Promenade	Single bracket, 2200mm outreach, top & side entry. Single bracket, 30000mm outreach, top entry. Double bracket, 2200mm outreach, top & side entry. Double bracket, 3000mm outreach, top entry. Certified for: INGAL EPS 8.5m VicRoads Impact Absorbing Pole (VRIA3-86) INGAL EPS 11.0m VicRoads Impact Absorbing Pole (VRIA4-86)	2.2m Sgl 3.0m Sgl 2.2m Dbl 3.0m Dbl Promenade		31/5/2013

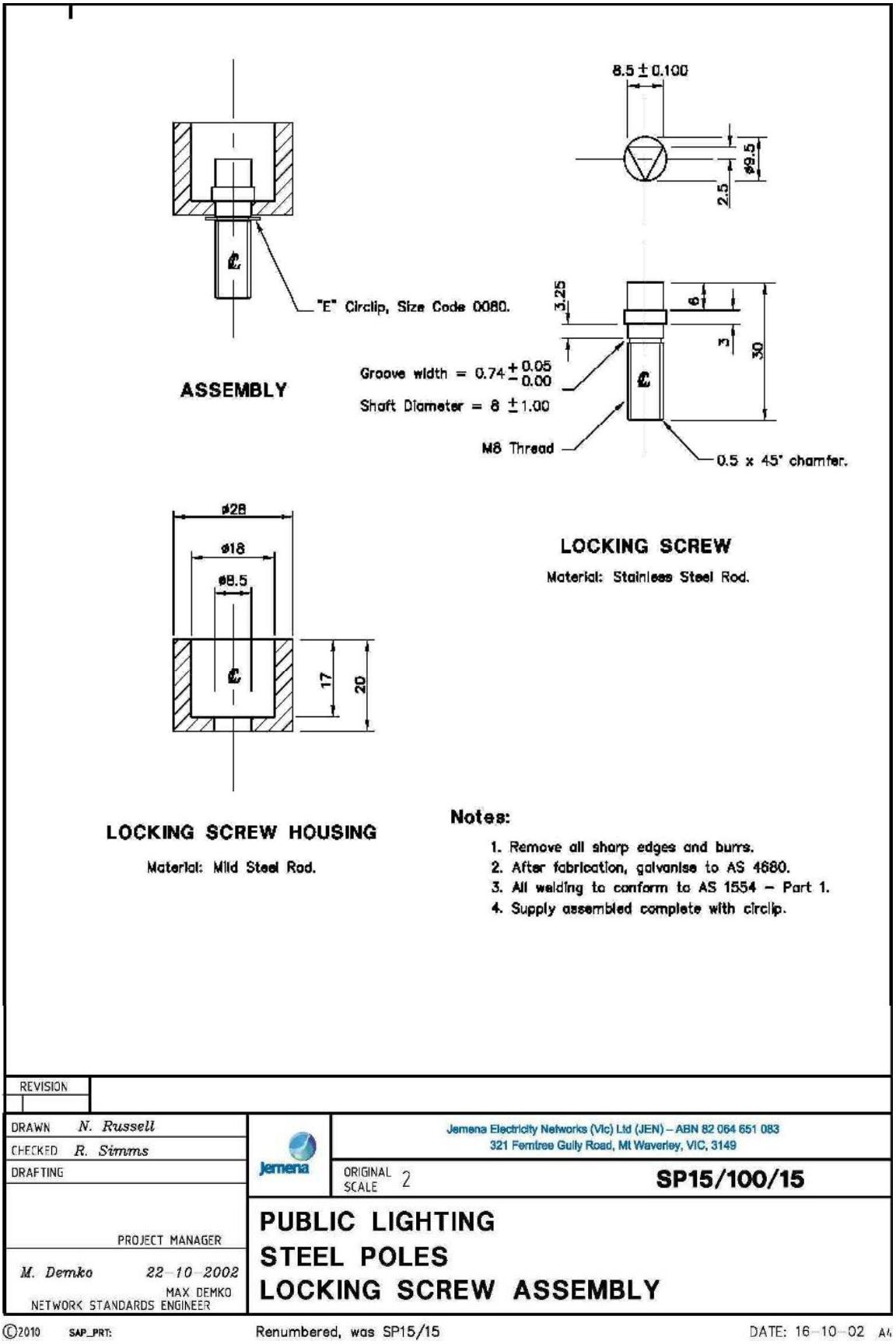
APPENDIX D: NON-STANDARD POLES – REFERENCE DRAWINGS



SP15/10: Non-Standard Lights & Poles, Major & Minor Road Lighting, General Requirements



SP15/100/16: Public Lighting Steel Poles, Door & Locking Screw Assembly



SP15/100/15: Public Lighting Steel Poles, Locking Screw Assembly

APPENDIX E: APPROVED PUBLIC LIGHTING CONSULTANTS

Below listed consultants are currently approved to carry out part of the luminaire assessment for Jemena, refer to Clauses 7 & 8 for further details.

Ironbark Sustainability Address: Suite 8, 70-80 Wellington St, Collingwood, Vic 3066 **Paul Brown** Managing Director Mob: 0419501494 Email: paul@realaction.com.au www.realaction.com.au
Steve Jenkins and Associates Pty Ltd Factory Two, 21-29 Railway Ave Huntingdale, Vic 3166 **Steve Jenkins** Managing Director Tel: +61 3 9568 1879 Mob: +61 421 351 002 Fax: +61 3 9568 4667 www.stevejenkins.com.au

APPENDIX F: PUBLIC LIGHTING GLARE CONTROL REQUEST FORM

All applications for glare control shall be submitted by the local Council or VicRoads, addressed to Jemena's Network Connections, at email address: NetworkConnections@jemena.com.au using the "Glare Control Request" form, refer Clause 15.

Form attached at end of this document.

APPENDIX F: PUBLIC LIGHTING GLARE CONTROL REQUEST FORM

All applications for glare control shall be submitted by the local Council or VicRoads, addressed to Jemena's Network Connections, at email address: NetworkConnections@jemena.com.au using the "Glare Control Request" form, refer Clause 15.

GLARE CONTROL REQUEST

This form is to be completed by an applicant for glare control of existing Jemena Electricity Networks (Vic) Ltd ABN 82 064 651 083 ("Jemena") public lighting assets at the supply address.

Please complete all sections of this form or mark "Not Applicable" as required.

Council Acknowledgement, Release and Indemnity

Council expressly acknowledges and agrees that the installation of internal or external shields or other such glare reducing measures (**Glare Controls**) to public lighting may, as a result of such installation, no longer comply with AS1158 or other applicable public lighting standards. By making this request to alter a public lighting asset, the Council accepts all responsibility for the Glare Controls set out in this Glare Control Request and agrees to release Jemena from, and indemnify it against, any claims, causes of action, fines, suits or proceedings, including but not limited to any claims arising out of the injury or death of any person or any property damage whatsoever, following the installation of the Glare Controls

Council/Authority details

Authority Name: _____ ABN (if applicable): _____

Postal Address: _____

Office Address: _____

Authorised Council/Authority Representative

Printed Name: _____ Signature: _____ Date: _____

Email: _____

Mobile: _____ Phone: _____ Fax: _____

Installation Address Details

Street Number: _____ Street Name: _____

Suburb: _____ Postcode: _____

Pole Number (if existing pole): _____ (A12345678)

Description of Glare Control Requested

Select from JEN PR 0026 – Public Lighting Technical Standard _____

Description of Issue

_____

_____

_____

_____

Please the completed form and any attachments to:

Network Connections

Email: NetworkConnections@jemena.com.au **Address**: PO Box 16182, Melbourne VIC 3000

Jemena Electricity Networks Ltd ABN: 82 064 651 083
Glare Control Request – 1 June 2017