

Public Lighting: Minor Capital Works Request for Assessment & Guide

Fields marked with an * are mandatory and will be completed by the relevant Council and returned to Essential Energy at the address below.

* Council Name:	
* Council Representative Name:	
* Council Representative Title:	
* Email Address	
* Contact Telephone Number:	

*Light Location / Address	*Pole No.(if known)	*Lighting Amenity Description	*Applicable lighting subcategory (PR1-PR5 or V1-V5)	Outreach remarks
123 Jones Rd, Port Macquarie	CE1234	Light requested to provide illumination to jones road in front of nominated pole	PR3	Roadway reserve 17m and mounting height requested at 6.5m

Please return completed form to streetlighting@essentialenergy.com.au.

MCW Request Guide

Selection of Lighting Category

Lighting performance and design requirements are grouped into two main categories; Category P – Pedestrian area lighting, where the visual requirements of pedestrians are dominant and Category V – Vehicular traffic lighting, where the visual requirements of motorists are dominant. These are then further categorised into subcategories where the Light Technical Parameters (LTP's) are designed to specifically meet the application. The Roads authority (local council or Roads and Maritime Service) is responsible for determining the appropriate subcategory and Essential Energy is responsible for maintaining these levels.

To assist Road authorities in selecting appropriate lighting levels further information can be found in:

- ▶ AS/NZS 1158 - Lighting for roads and public spaces and
- ▶ Operational Standard: Public Lighting Maintenance CEOS5126.02.

Category P

Category P roadway lighting is defined as lighting where the visual requirements of pedestrians are dominant. There are five subcategories within Category P that have specific LTP's that are necessary and sufficient for the application. The table below is an extract from AS/NZS 1158.3.1 which explains the selection criteria for each of the Category P subcategories.

1	2	3	4	5	6
Type of road or pathway		Selection criteria ^{a,b}			Applicable lighting subcategory ^{c,d}
General description	Basic operating characteristics	Pedestrian/cycle activity	Fear of crime	Need to enhance amenity	
Collector roads or non-arterial roads which collect and distribute traffic in an area, as well as serving abutting properties	Mixed vehicle and pedestrian traffic	N/A	High	N/A	PR1
		High	Medium	High	PR2
		Medium	Low	Medium	PR3 ^f or PR4 ^f
		Low	Low	Low	PR5
Local roads or streets used primarily for access to abutting properties, including residential, commercial and industrial precincts		N/A	High	N/A	PR1
		High	Medium	High	PR2
		Medium	Low	Medium	PR3 ^f or PR4 ^f
		Low	Low	Low	PR5
Common area, forecourts of cluster housing		N/A	N/A	N/A	PR6 ^e
		N/A	High	N/A	PR1
		High	Medium	High	PR2
		Medium	Low	Medium	PR3 ^f or PR4 ^f
		Low	Low	Low	PR5

Table 1 - Category P design selection criteria

Lighting Subcategory	Manufacturer	Luminaire Description	Item Code
PR3	Sylvania	StreetLED 24W 3000K	510228
	OrangeTek	IGNIS MINI 27W 3000K	542450
PR5/PR6	Sylvania	StreetLED 14W 3000K	510165
	OrangeTek	IGNIS MINI 22W 3000K	542460
	GE	GE Evolve 14W 3000K	510197

Table 2 - Current default Category P LED luminaires

Category V

Category V roadway lighting is defined as lighting where the visual requirements of motorists are dominant. There are five subcategories within Category V that have specific LTP's that are necessary and sufficient for the application. The table below is an extract from AS/NZS 1158.1.1 that explains the selection criteria for each of the Category V subcategories. The most common categories used on Essential Energy's network are V1 and V3. V2 and V4 are available for use, however the operating characteristics are very similar to V1 and V5, respectively.

Typical applications		Applicable lighting subcategory
Description of road or area type	Operating characteristics	
Arterial or main roads in central and regional activity centres of capital and major provincial cities, and other areas with major abutting traffic generators	-Mixed vehicle and pedestrian traffic -High to very high vehicle volume -High to very high pedestrian volume -Moderate to low vehicle speeds -Stationary vehicles alongside the carriageway -Through and local traffic -High traffic generation from abutting properties	V1
Arterial roads that predominantly carry through traffic from one region to another, forming principal avenues of communication for traffic movement, with major abutting traffic generators	-Mixed vehicle and pedestrian traffic -High vehicle volume -High pedestrian volume -Moderate to high vehicle speeds -Stationary vehicles alongside the carriageway -Through and local traffic -High traffic generation from abutting properties	V2
Freeways, motorways and expressways consisting of divided highways for through traffic with no access for traffic between interchanges and with grad separation at all intersections	-Vehicle traffic only -High to very high vehicle volume -High speeds	V3
Arterial roads that predominantly carry through traffic from one region to another, forming principal avenues of communication for traffic movement.	-Mixed vehicle and pedestrian traffic -Moderate to high vehicle volume -High pedestrian volume -Moderate to low vehicle speeds -Stationary vehicles alongside the carriageway -Through and local traffic -Low traffic generation from abutting properties	
Sub-arterial or principal roads which connect arterial or main roads to areas of development within a region, or which carry traffic directly from one part of a region to another part	-Mixed vehicle and pedestrian traffic -Moderate vehicle volume -Low pedestrian volume -Moderate to low vehicle speeds -Low traffic generation from abutting properties	V4 or V5

Table 3 - Category V design selection criteria

Lighting Subcategory	Manufacturer	Luminaire Description	Item Code
V1 High	Sylvania	RoadLED 300W 4000K	510263
V1	Sylvania	RoadLED Midi 150W 4000K	510244
V3	Sylvania	RoadLED Midi 80W 4000K	510241
	OrangeTek	IGNIS 71W 4000K	542490
V5	Sylvania	RoadLED Midi 50W 4000K	510236
	OrangeTek	IGNIS 49W 4000K	542500

Table 4 - Current default category V LED luminaires

Selection of Outreach

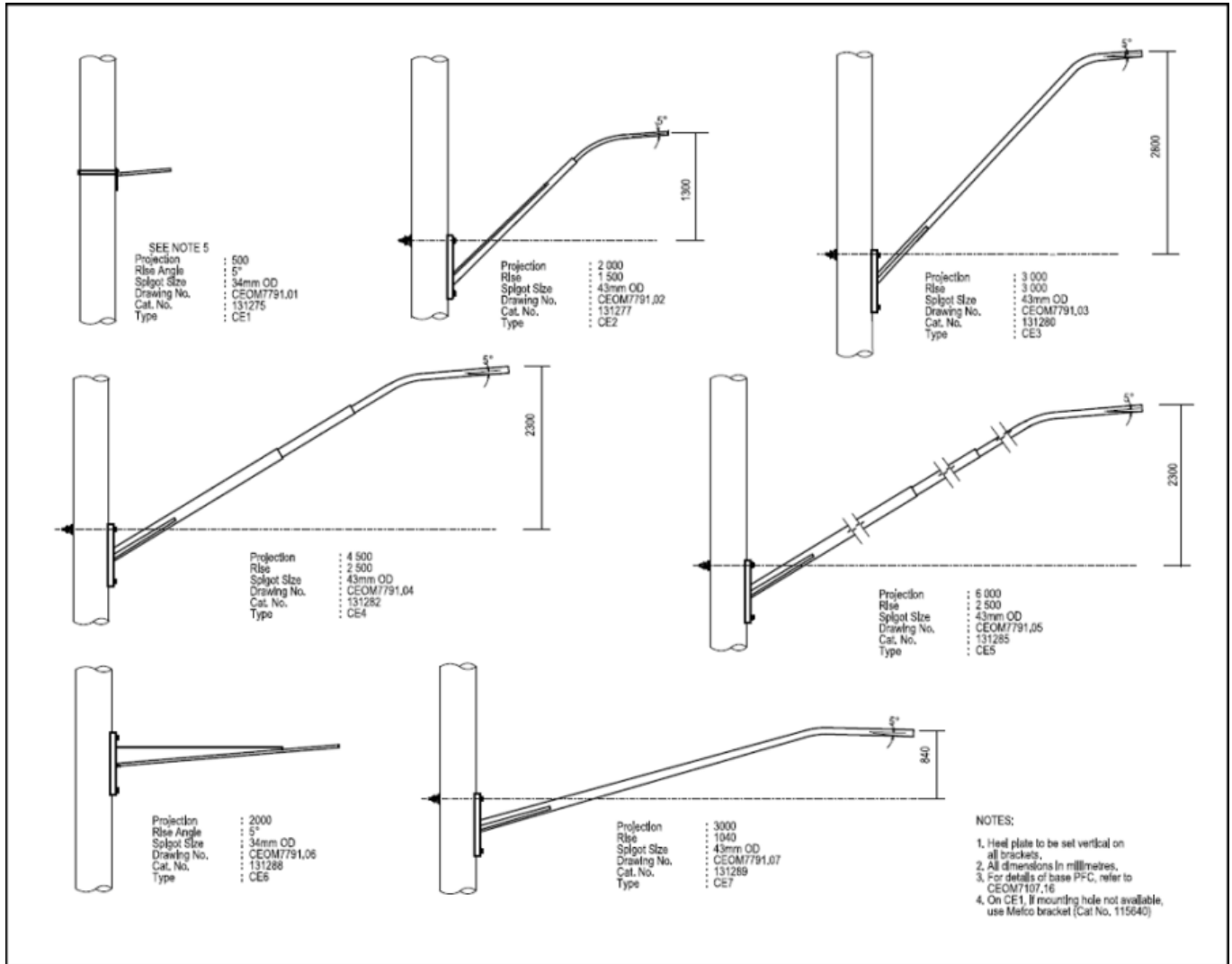
The selection of an outreach will determine the luminaires mounting height and overhang; of which both will have significant impact on the effectiveness and compliance of the lighting installed. Where installing on existing infrastructure, the suitability of outreaches will need to be assessed on a case-by-case basis to ensure appropriate roadway and electrical clearances can be maintained. The tables below summarise standard roadway configurations for both Lighting Categories and the outreaches available for selection.

Lighting Subcategory	Road Reserve Width (m)	Mounting Height (m)	Offset Distance (m)	Upcast Angle (°)	Maximum Spacing (m)
PR3	20	7.5	5	5	59
PR3	20	7.5	5	5	65
PR5/PR6	20	7	5	5	75

Table 5 - Standard roadway configuration for Category P

Lighting Category	ARR	Wk (m)	H (m)	OH (m)	Upcast Angle (°)	Required spacing (m)
V1 High	3	13	12	3	5	46
	3	13	13.5			46
	4	23	12			61
	4	23	13.5			65
V1	3	13	10.5	3	5	33
	3	13	12			30
	4	23	10.5			42
	4	23	12			40
V3	3	13	9	2	5	29
	3	13	10.5	3		32
	4	23	9	2		45
	4	23	10.5	3		44
V5	3	13	9	2	5	31
	3	13	10.5	3		35

Table 6 - Standard roadway configuration for Category V


Table 7 - Available outreaches