

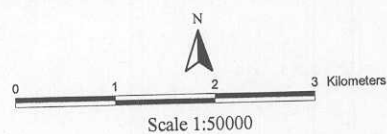


## Legend

-  City of Joondalup Localities
-  Area of lots with overhead power



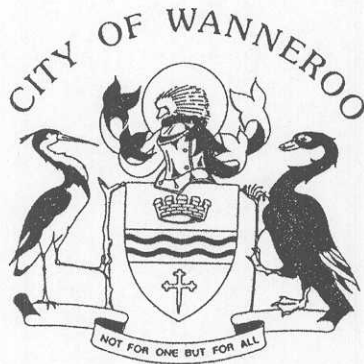
Author:	Date: 20/7/2000	DRAWING No
Drawn By:		

## ATTACHMENT 2

### OPTIONS FOR ENHANCING THE CITY'S STREET LIGHTING NETWORK

OPTION A	COST	TIMEFRAME	COMMENT
<ul style="list-style-type: none"> <li>Upgrade existing overhead power lighting as part of future SGUGPP</li> <li>Upgrade existing underground power lighting as part of the Capital Works Program</li> </ul>	<p>\$4m</p> <p>\$10M</p>	<p>38 years</p> <p>Various</p>	<p>Based on the current SUGPP budget rate of \$5,000 per lot, the total cost of the overhead to underground power conversion across the City is approximately \$95M. This is funded 50% State and 50% property owner, and assuming a successful project every round (ie 2 years), it would take <math>\approx</math> 38 years to complete, of which Council would contribute \$4M to upgrade its street lighting in the affected areas.</p> <p>The upgrade of existing underground power would be a direct cost to the City of <math>\approx</math> \$10M.</p>
<b>TOTAL COST</b>	<b>\$14M</b>		

OPTION B	COST	TIMEFRAME	COMMENT
<ul style="list-style-type: none"> <li>Upgrade existing overhead power lighting with additional outreaches</li> <li>Upgrade existing underground power lighting as part of the Capital Works Program</li> </ul>	<p>\$2m</p> <p>\$10M</p>	<p>Various</p> <p>Various</p>	<p>This option offers greater flexibility to the City from a timing perspective, noting that if SUGPP proceeds in future, the street lighting will be replaced on a like for like basis as part of that program.</p>
<b>TOTAL COST</b>	<b>\$12M</b>		



# CITY OF WANNEROO

## *Report On Review Of Street Lighting*

DECEMBER 1992



**Lincolne Scott**  
Consulting Engineers



## 1.0 EXECUTIVE SUMMARY

### 1.1 AIM

The aim of this report is to provide details of the findings of the Street Lighting Review, and present the Engineering Handbook.

### 1.2 SCOPE

This report covers the inspection and review of streets in the City of Wanneroo locations. A total of some 16 streets were inspected.

The streets reviewed have been compared with the requirements of Australian Standards and those of other municipalities in Metropolitan Perth.

A mini survey regarding public opinion about street lighting was also undertaken.

### 1.3 RESULTS

The City of Wanneroo streets reviewed produced a mixed set of results. In almost every street there were some aspects that did not comply with the Code requirements or good design/installation practice (though in many cases these are minor deviations).

Emphasis during the review was placed on qualitative as well as quantitative aspects of the installation. Whilst a relationship was drawn between the figures required by the Code and subjective analysis, some of the areas considered inadequate did not follow this rule.

In summary, the street numbers considered to be provided with inadequate lighting are:-

<u>Category</u>	<u>Inadequate</u>	<u>Marginal</u>
A	33%	-
B1	40%	40%
B2	60%	20%





The reasons for inadequacies are various:-

- (a) Inappropriate light fitting installed.
- (b) Spacing of fittings too wide.
- (c) Lamp selection too small.
- (d) Fitting distribution inadequate.
- (e) Excessive lighting.
- (f) Outreach arm too short.
- (g) Fitting height too low.
- (h) Fitting orientation incorrect.
- (i) Light output diminished due to lamp nearing end of life
- (j) Light output diminished due to dirty fittings
- (k) Light distribution affected by obstructions.

When compared with other Perth streets, the City of Wanneroo streets were considered to be of approximately the same standard. In each area inspected, there were examples of streets lit just as poorly as some of the Perth streets. There were also examples of good design solutions to particular problems.

The results of mini-public survey showed:

- (a) Public opinion holds that Street Lighting is poor both from a pedestrian as well as driver's viewpoint. This opinion does not vary according to the age of the population of households.  
The number of written comments supplementing the survey questions indicates the extent of public concern for the matter.
- (b) There is no strong preference for the colour of light to be either mercury vapour lighting - (bluish white) or sodium lighting (yellow).
- (c) The issue of aesthetics of light fitting design is not a big issue to the majority, however, the preference to run power lines underground was.
- (d) The majority of people wish for lighting to operate all night.







- (e) There was a preference for clashes of trees and lights to be resolved by pruning or adding extra lighting. This is a highly topical subject and attracted much written comment about the conservation of trees. As a consequence, the issue should be handled in a politically sensitive manner.
- (f) The majority of people consider that rates paid already should cover any changes necessary. This topic also requires consideration of the highly volatile political nature of people over the matter of spending money.

#### 1.4 HANDBOOK

A draft copy of the Engineering Handbook has been prepared. this document is very similar to the City of Perth handbook, but has been updated to incorporate further details and development arising from the survey and reviews.

