

**ITEM 3. PITT STREET MALL REFURBISHMENT – CATENARY LIGHTING –
CONCEPT DESIGN****FILE NO: S066995****SUMMARY**

On 10 August 2009, Council resolved to endorse the detailed design for the refurbishment of Pitt Street Mall, and that the concept of a permanent catenary structure be further investigated and the outcome reported back to Council.

The concept design for the catenary lighting has now been prepared. Further investigations have also been carried out for a smart lighting system, which would allow statutory lighting to be switched on incrementally and only if insufficient ambient lighting is available.

RECOMMENDATION

It is resolved that Council endorse:

- (A) the proposed smart lighting system in connection with the statutory lighting for Pitt Street Mall; and
- (B) the concept design for the catenary lighting in Pitt Street Mall, as shown at Attachment A to the subject report, for progress to detailed design and construction documentation.

ATTACHMENTS

Attachment A: Catenary Lighting Concept Report

BACKGROUND

1. On 10 August 2009, Council resolved to endorse the detailed design for the refurbishment of Pitt Street Mall, and that the concept of a permanent catenary structure be further investigated and the outcome reported back to Council.
2. The design for the catenary structure has been further developed (refer Attachment A), and the concept design was presented to the City's Design Advisory Panel on 1 September 2009.
3. The Design Advisory Panel supported the concept design for the catenary and noted that it is an elegant proposal, which will give Pitt Street Mall an iconic quality where the public realm is defined by the pavement and the plane above it rather than the buildings.

Catenary System

4. The proposed catenary provides an integrated system which will provide the statutory as well as decorative lighting and, in addition, provide an opportunity for seasonal displays and decorations to be attached.
5. The central catenary ribbon will be supported by cables attached to buildings on either side of the Mall. The design is simpler than the earlier concept of a flat cable net as it requires fewer and less complicated attachment points.
6. The ribbon catenary will be attached at a height of approximately 14 metres which would allow it to continue over the top of the proposed new two story bridge at the southern end of the Mall.
7. The ribbon consists of three metre tall vertical light tubes, approximately 200mm in diameter and spaced 3.5 metres apart.
8. Each vertical element provides decorative lighting along its entire length in the form of LED lights. These can be programmed to provide changing colour value, temperature and sequencing of the decorative lighting, while being energy efficient. The lower of each element contains a metal halide light fitting which will provide the statutory lighting and required lighting levels.
9. A Development Application and owner's consents will be required for attachment of the catenary structure to the buildings.

Statutory Lighting

10. The development consents for the separate redevelopments of the Mid City Centre and the Centrepoint / Imperial Arcade complex include requirements to provide public domain lighting to the Mall in accordance with the City's Lighting Policy and Australian Standards. The City is responsible for providing public domain lighting to the remainder of the Mall.
11. The existing public domain lighting in the Mall is of a purely decorative nature (up lighting under trees). This lighting does not comply with lighting levels set out in the City's Lighting Policy (Sydney Lights Design Code 2006) or Australian Standards.

12. The City's Lighting Policy and Australian Standards currently set out that the required lighting levels must be achieved by statutory lighting which is controlled independently. They do not allow ambient lighting, such as light emanating from shop windows, to be taken into account to achieve the required lighting levels.
13. Higher levels of ambient lighting are expected when the redevelopment of the Mid City Centre and the Centrepoint / Imperial Arcade are completed, as these include expansive window areas at ground level.

Smart Lighting System

14. To avoid over lighting of the Mall and reduce energy consumption, a smart lighting system is proposed. This system includes sensors at regular intervals which measure the available lighting levels provided by ambient light.
15. The statutory public domain lighting would be switched on incrementally as the measured lighting levels drop below a specified value.
16. The smart lighting system could be implemented in connection with either the catenary lighting or an alternative under awning lighting.

Seasonal Displays

17. Prior to the redevelopment of the Mid City Centre and the Centrepoint / Imperial Arcade complex, a temporary system of individual cables attached to buildings on either side of the road was used for Christmas decorations in the Mall. Many of the attachment points have been lost due to the redevelopment of these sites.
18. The proposed catenary lighting system has been designed so that seasonal displays, such as Christmas decorations, can be attached to it in a variety of ways. This allows for maximum flexibility of any future decorations while eliminating the need for additional attachment points.
19. Seasonal displays can be integrated into the central ribbon or suspended below the attachment cables and form a second tier below the ribbon and permanent lighting elements.

KEY IMPLICATIONS

Strategic Alignment

20. The design for Pitt Street Mall recognises work recently undertaken by the City, namely Sustainable Sydney 2030 and Jan Gehl's Public Spaces Public Life study. These highlight Pitt Street as one of the primary pedestrian priority streets, connecting Circular Quay with Central Station.
21. Sustainable Sydney 2030 projects to deliver the Liveable Green Network and for the public domain in the city centre, will reduce loading and parking in the city centre.

22. The project aligns with the following strategic directions of Sustainable Sydney 2030:
- 1 – A lively, engaging city centre;
 - 2 – Vibrant local communities and economies;
 - 3 – A cultural and creative city;
 - 4 – Sustainable development, renewal and design; and
 - 5 – Implementation through effective governance and partnerships.

Environmental Strategy

23. Environmentally Sustainable Design principles have been applied throughout the design. These include:
- (a) energy efficient lighting, including investigating the use of LED technology for the decorative lighting component;
 - (b) the use of a smart lighting system which measures the available ambient light before switching on the statutory public domain lighting, thus avoiding over lighting the mall and conserving energy; and
 - (c) the use of LED technology has been explored for the provision of the statutory lighting but has been found not to be feasible. The large number of LED lights required to provide the required lighting levels would be less efficient than the proposed metal halide lights.

Economic

24. The refurbishment of Pitt Street Mall with a simple, uncluttered design; the inclusion of specific event infrastructure; and the removal of delivery and loading, will provide opportunities for a wide a range of events to take place in the Mall.
25. The provision of public domain lighting will facilitate the use of the Mall beyond retail trading hours.

BUDGET IMPLICATIONS

26. An updated cost plan has been prepared by an external quantity surveyor for the detailed design, including design and construction costs.
27. The catenary system is not currently part of the design scope. The City will incur additional costs for consultant fees to prepare the detailed design, documents for the Development Application and construction documentation. These will include structural investigations of the existing buildings to determine appropriate attachments points.
28. The current estimates for the design and construction of the catenary are within current available funding for the project comprising developer contributions from both Lend Lease and Westfield and funding allocations in the City's 2010-13 Corporate Plan.

RELEVANT LEGISLATION

29. Environmental Planning and Assessment Act 1979.
30. Local Government Act 1993.
31. Roads Act 1993 (Pitt Street Mall is classified as a 'road').

CRITICAL DATES / TIME FRAMES

32. The program for the works has been further refined with Westfield and Lend Lease. To achieve the critical deadline for the Mid Cit Centre opening in April 2010 and Westfield opening in October 2010, the start of the construction works has been brought forward to October 2009.
33. The program for the project is:

Documentation	July 2009 – September 2009
Paving and civil works tender (by Westfield)	August 2009
Planning Agreement executed	August 2009
Commence construction (stage 1, 2 and 3)	October 2009
Completion of Stage 1, 2 and 3 (Mid City opening)	April 2010
Completion of balance of works (Westfield opening)	October 2010

OPTIONS

34. Council has the option not to proceed with the smart lighting system and instead provide the statutory public domain lighting as required the City's Lighting Policy and Australian Standards.
35. Alternative to the catenary lighting, the required statutory lighting could be provided as under-awning-lighting. Under awning lighting would also require a Development Application and the consent of individual building owners. This option is not recommended for the following reasons:
 - (a) it does not provide the opportunity to incorporate decorative lighting;
 - (b) it does not provide an integrated solution for seasonal displays;
 - (c) installing lights at this lower height increases the risk of creating glare issues for pedestrians and is not favoured by building owners; and
 - (d) under awning lighting would require a greater number of light fittings to compensate for the varying heights and situations in each location. This would make under awning lighting less energy efficient.

PUBLIC CONSULTATION

36. A project update was distributed via letter/email on 30 June 2009 to key stakeholders providing a project update and information on the Planning Agreement and construction program.
37. City representatives attend the monthly Westfield Construction Liaison Committee meetings and provide regular updates.
38. The City has engaged a dedicated Community Liaison Officer to carry out one-on-one engagement with retailers/business in the Mall on an ongoing basis. The Officer's contact details are publicly available.
39. A dedicated Pitt Street Mall webpage has been established on the City's Website and will be continually updated.
40. A range of communication tools will be used to keep stakeholders updated and thoroughly informed throughout the project, including targeted mail-outs, print media updates, on-site displays and website updates.

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