

ITEM 4. GREEN ROOFS AND WALLS POLICY AND IMPLEMENTATION PLAN – ADOPTION**FILE NO: S100976****SUMMARY**

Green roofs and walls are systems where plants are integrated into the building design. Green roofs include layers of vegetation and growing medium installed on top of the building's water proofing layer. Green walls can either be free-standing or part of the wall structure.

The integration of greenery into the urban landscape is used throughout Europe, North America and Asia to help address significant environmental and public health issues, including air and water pollution, loss of open space, and as a climate change adaptation strategy.

Green roofs and walls have been recognised by the City of Sydney as making an important contribution to the urban environment and supporting the objectives of *Sustainable Sydney 2030*. Green roofs and walls help to mitigate the impacts of the urban heat island effect, slow and clean stormwater, improve air quality, increase habitat for biodiversity and create additional space for urban food production and recreation.

The City has taken a leadership role in promoting and advancing green roof and wall technology. The Green Roofs and Walls Strategy was adopted by Council in June 2012 and identified the need for the City to develop and adopt a green roofs and walls policy.

The draft Green Roofs and Walls Policy (the Policy) and Green Roofs and Walls Policy Implementation Plan (the Implementation Plan) were presented to Council on 18 November 2013, where Council unanimously resolved to place the draft Policy and Implementation Plan on public exhibition.

The draft Policy and Implementation Plan were exhibited from November 2013 until January 2014. This report sets out the feedback received and details how the documents have been modified to reflect community and industry feedback. Information is also provided on the City's progress to date and proposed future actions.

It is recommended that Council adopt the Green Roofs and Walls Policy and Implementation Plan.

RECOMMENDATION

It is resolved that Council adopt the Green Roofs and Walls Policy and the Green Roofs and Walls Policy Implementation Plan, as shown at Attachments A and B, respectively, to the subject report.

ATTACHMENTS

Attachment A: Green Roofs and Walls Policy (with additions underlined and deletions ~~struckthrough~~)

Attachment B: Green Roofs and Walls Policy Implementation Plan (with additions underlined and deletions ~~struckthrough~~)

Attachment C: Consultation process and feedback

BACKGROUND

1. Green roof and wall programs have been employed across Europe and North America as a remedy to significant environmental and public health issues.
2. Whilst Australia has not used green roof and wall technology to the same extent, local understanding and use of these technologies is increasing.
3. The City has taken a leadership role in supporting the uptake of green roofs and walls by unanimously adopting the Green Roofs and Walls Strategy in 2012. The Strategy identified the need for the City to develop and adopt a Green Roofs and Walls Policy.
4. In consultation with the City's Green Roofs and Walls Technical Advisory Panel and key stakeholders, the City prepared a draft Green Roofs and Walls Policy (the Policy) and draft Green Roofs and Walls Policy Implementation Plan (the Implementation Plan).
5. The draft Policy and Implementation Plan set out the strategic priorities and actions to advance the use of green roofs and walls in the City of Sydney Local Government Area.
6. On 18 November 2013, Council unanimously approved the draft Policy and Implementation Plan to be placed on public exhibition for a minimum of 28 days.

Public exhibition

7. The draft Policy and Implementation Plan were placed on public exhibition for 56 days from 22 November 2013 to 17 January 2014. The extended public exhibition period was provided to ensure sufficient time for feedback over the Christmas and New Year holiday periods.
8. To promote the public exhibition, the City contacted key stakeholders directly, provided media releases, website and social media updates and advertised in local newspapers. A summary of the consultation process and feedback is provided at Attachment C.
9. By the close of the public exhibition period, the Sydney Your Say website had received 1,756 unique visitors and the policy documents were downloaded 187 times. Social media and web coverage was strong, and direct feedback was received from eight individuals or organisations. Verbal feedback was also received from a number of additional sources.
10. The tone of feedback can be illustrated by the following quotes from the consultation period:
 - (a) *"We believe this [Policy] is adding to the defensible differences for a development and enabling a better return for the developer."*;
 - (b) *"we would like to express our support for the policy and for greater delivery of green roofs and walls to support urban ecology, amenity, thermal efficiency and microclimate management."*; and

- (c) *“This could be a great opportunity for anyone interested in sustainable residential real estate to make the move to the New South Wales capital city and embrace the growing state dedication to a cleaner, greener lifestyle.”*

Issues arising from submissions

11. The clear message from all feedback received is that green roofs and walls provide substantial environmental and social benefits for the City. In order to maximise these benefits, green roofs and walls need to be sustainably designed and built to ensure resources used to build these systems do not outweigh their benefits.
12. All comments and direct feedback received are supportive of the City’s proposed policy direction and much of the feedback reflected existing objectives in the draft Policy documents.
13. The key issues raised and the City’s responses are described below.

Guidelines and Industry Standards

14. Verbal and written feedback supports the need for technical guidelines and standards to support high quality green roof and wall installations. Concern is expressed that if standards are not developed, then future installations may be improperly designed leading to poor quality and short lived green roofs and walls.
15. The need for technical guidelines is articulated in the draft Policy and Implementation Plan and acknowledged as a barrier to the uptake of green roofs and walls.
16. The draft Implementation Plan includes the preparation and distribution of a range of technical guides for green roofs and walls, commencing this year.

Sustainable water management

17. Feedback was also provided on the need for sustainable resource and water management in the design and use of green roofs and walls.
18. Respondents recommended that the City consider the resources used for building green roofs and walls and ensure that they are contributing to the environment and not detracting from it. This includes the need to better understand the contribution green roofs and walls make to the nutrient load in stormwater runoff.
19. An additional policy objective is recommended in order to reflect this feedback and to better articulate the need for guidelines and standards.
20. The new objective states that the City of Sydney will *“Support sustainably designed green roofs and walls through research, education and the development of guidelines and standards.”*
21. The draft Implementation Plan has been updated to better reflect research that the City is currently supporting, which is looking at the water usage and nutrient runoff loads from green roofs.

22. The draft Implementation Plan has also been modified to include the preparation of design guides for sustainable water management on green roofs and walls.

Incentives and mandatory requirements

23. Submissions also requested that Floor Space Ratio bonuses and mandating a percentage of all new developments to include green roofs or walls be considered to encourage the uptake of green roofs and walls.
24. Mandating green roofs and walls and employing financial and non-financial incentives were considered as part of the research and development of the draft Policy and Implementation Plan. Due to the current high rate of installations, the lack of industry depth and the high cost of installations, mandating green roofs was not recommended.
25. Should installation rates decline, the use of financial and non-financial incentives or the adoption of mandatory installations could be reconsidered by the City.
26. The most current research and the information raised in submissions do not support mandating green roofs and walls or employing incentives at this time.

Planning controls

27. Feedback also requested that planning controls be strengthened to improve the uptake of green roofs and walls.
28. Significant progress has already been made in this area including the:
 - (a) development of standard consent conditions for green roofs and walls;
 - (b) provision of Development Control Plans for larger developments, such as Harold Park and Green Square Town Centre; and
 - (c) development of a draft Green Roofs and Walls Schedule and development control provisions for the employment lands area.

Policy and Implementation Plan amendments

29. The Policy at Attachment A and Implementation Plan at Attachment B are recommended for adoption. Where any substantive change has been made to the draft Policy or Implementation Plan, the additional text is shown underlined and deletions indicated as a ~~strike through~~. Other minor amendments have been made to update figures or improve the clarity of the text.

KEY IMPLICATIONS

Strategic Alignment - Sustainable Sydney 2030

30. *Sustainable Sydney 2030* is a vision for the sustainable development of the City to 2030 and beyond. It includes 10 strategic directions to guide the future of the City, as well as 10 targets against which to measure progress. This Policy and Implementation Plan are aligned with the following strategic directions and objectives:
- (a) Direction 2 provides a road map for the City to become A Leading Environmental Performer – increasing urban greening through green roofs and walls helps to lower the urban heat island effect, offset greenhouse gas emissions, improve the environmental performance of buildings, manage stormwater and improve habitat for biodiversity. It also demonstrates the City's commitment and leadership in environmental performance.
 - (b) Direction 9 - Sustainable Development, Renewal and Design – green roofs and walls are an innovative urban design technology. Continued research and work in this area will contribute to the integration of green infrastructure technologies, such as green roof and walls into the urban fabric.

Organisational Impact

31. The Implementation Plan sets out the actions the City will take to deliver the Policy objectives for green roofs and walls.
32. In the last year the following activities have advanced the uptake of green roofs and walls:
- (a) consulting with the green roofs and walls industry, academics and policy specialists;
 - (b) establishing baseline data and a register of green roofs and walls in the local area in order to monitor the number and quality of installations;
 - (c) developing a Research Priorities Plan to address gaps in our understanding of how green roofs and walls function in Sydney;
 - (d) commencing three research projects to advance our understanding of green roofs and walls in Sydney;
 - (e) conducting presentations for almost 1,000 people in order to promote Sustainable Sydney 2030 and the benefits of green roofs and walls. Presentations were provided to the building industry, architects, building owners, councils, industry service providers and residents;
 - (f) providing site specific advice to residents, businesses and building owners to ensure appropriately designed and cost effective green roof and wall installations;
 - (g) providing advice to internal stakeholders on appropriate green roof and wall treatments for City properties;

- (h) providing specialist advice on more than 70 development applications to ensure appropriate design standards are met on developments;
 - (i) reviewing planning controls and consent conditions for green roofs and walls, including improving the green cover objectives for the employment lands area, developing a draft Development Control Plan for green roofs and walls and developing a draft Green Roof and Wall Schedule to inform and support applicants;
 - (j) promoting the City's support of green roofs and walls via print, visual and social media through interviews, conference and academic presentations, writing articles for publication and award nominations for City projects;
 - (k) developing the Green Roofs and Walls Policy and Implementation Plan; and
 - (l) developing and distributing educational material on green roofs and walls through fact sheets, website tools, residential and technical workshops.
33. Key activities to be implemented include:
- (a) representation on the Cooperative Resource Centre (CRC) for Low Carbon Living – the Senior Project Officer Green Roofs and Walls is the City's representative for the CRC and coordinates the City's involvement in the project including assessing and reporting on proposed and actual research projects, budget and project administration and representation at CRC workshops and events. The City has signed the Project Agreement for this research program to provide a 0.3 Full Time Equivalent (FTE) position for 2014/2015, 0.4 FTE in 2016-2018 and 0.5 FTE for 2018/2019.
 - (b) contract management of two existing research projects – the Green Roofs and Walls Senior Project Officer currently manages two research contracts that are due for completion in September and October 2014.
 - (c) hosting the Green Roofs and Walls Technical Advisory Panel – the current term for this group is to January 2015. This group has played an important role in contributing to the direction of the Green Roofs and Walls Policy. They will continue to have oversight of the Policy until the end of the current financial year. After that time, members of the Advisory Panel will continue to be consulted on green roofs and walls on a more informal basis.
 - (d) development application process – currently, the Senior Project Officer Green Roofs and Walls reviews and comments on all development applications that include a green roof or wall. After 30 June 2014, this work will be provided by the Landscape Assessment Officer, however specialist or more detailed advice may be provided by contractors for larger or more complex developments.
 - (e) monitoring and reporting – outcomes from the monitoring of local green roofs and walls is currently reported quarterly through the Green Report and annually in the State of the Environment Report. A final report will be prepared for the 2013/2014 Green Report and State of the Environment Report. Future green roof and wall installations will continue to be monitored through the development assessment process.

- (f) development and dissemination of technical guides and standards – this is a key gap for the progression of green roofs and walls in Sydney. This gap was identified through international and local research and further reinforced through feedback on the draft Policy. This piece of work is a key consideration to ensure green roofs and walls are designed sustainably and maintained at a high quality. Technical guidelines for waterproofing buildings with green roofs and walls are due for completion by June 2014. Additional technical guidelines on sustainable green roof and wall designs will be resourced through external consultants.

Social / Cultural / Community

- 34. Human interaction with green spaces and plants has long been identified as a key to positive mental health and wellbeing. The City's green roofs and walls program has articulated the specific role green roofs and walls play in supporting a positive social, cultural and community life in the city.

Environmental

- 35. Green roofs and walls make a positive environmental contribution through:
 - (a) slowing and cleaning stormwater;
 - (b) reducing the impacts of the 'urban heat island' effect;
 - (c) improving the efficiency of solar panels;
 - (d) creating additional space for urban food production and private open space;
 - (e) improving air quality;
 - (f) improving amenity and liveability of the city;
 - (g) absorbing carbon dioxide from the atmosphere;
 - (h) increasing habitat to support biodiversity; and
 - (i) reducing energy consumption through building efficiency and insulation.

Economic

- 36. Where cities have integrated green roof policies and programs into their annual programming, there has been a resultant increase in this industry sector. Recent reports have indicated that the Green Roofs and Walls industry in the United States, for example, will be worth \$7.7 billion annually by 2017.
- 37. During the consultation period, support for the Policy by several construction and real estate firms indicated that the inclusion of green roofs and walls could provide a competitive advantage and increase property values for owners.

BUDGET IMPLICATIONS

- 38. Preparation of technical guidelines by specialist consultants will be accommodated within the current budget.

PUBLIC CONSULTATION

39. The draft Green Roofs and Walls Policy and Policy Implementation Plan were placed on public exhibition for 56 days from 22 November 2013 to 17 January 2014.
40. All feedback received has been positive of the proposed Policy's direction and much of the feedback is reflected in the draft Policy documents.
41. As a result of the feedback, an additional Policy objective of encouraging sustainable green roof and wall designs is recommended. The Policy Implementation Plan has also been updated to reflect the need to more rapidly progress the development of design guidelines and technical standards.

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