

Purcell Park asbestos remediation and stormwater harvesting

COUNCIL NAME

Randwick City Council

WEB ADDRESS

randwick.nsw.gov.au

SIZE

37 square kilometers

POPULATION

156, 000

Overview

Legacy asbestos in the soils of public parks is an ongoing challenge for all councils, leading to expensive and complicated plans of management to keep the community safe, and keep the parks open for use. Randwick Council have taken an innovative approach to their remediation management by incorporating a water harvesting system in their earthworks to ensure ground cover prevents erosion and keeps asbestos capping in tip top shape.

Background

Purcell Park is located in the suburb of Matraville in the Randwick local government area. The park is approximately 1.27 hectares. The majority of the site is owned by Opal and the land has been leased to Council for the past 20 years for use as a park. A small section of the park is owned by Ausgrid.

In 2012, a detailed site investigation (DSI) was triggered following reports of illegal asbestos dumping at Purcell Park. The DSI also uncovered previously unknown asbestos contamination of the park soil necessitating the development of an Environmental Management Plan (EMP) and Remediation Action Plan (RAP) which stipulated the ongoing operational and long-term management strategy for the park. This case study details the actions taken by Randwick to ensure the long-term safe management of this valuable public resource.

Implementation

The works involved two major projects; the first to remediate the area following the discovery of asbestos, and the second to install a new stormwater harvesting system, which would repurpose stormwater and treated runoff from the nearby Opal paper mill to irrigate the park. Asbestos remediation work included the capping of existing soil, installation of membrane fabric and infill of fresh soil and new turf, all in accordance with NSW EPA requirements. The installation of the stormwater recycling system will provide a reliable water source to irrigate the park keeping the grass healthy and the soil stable. The new 260KL stormwater treatment system includes filtration units, pumps, treatment shed and an automatic irrigation system for the park and will save up to 20ML of potable water every year.

Council also implemented a complex multi project integration strategy to reuse imported excavated natural material (ENM) from the sister stormwater harvesting project at Maroubra Beach which would otherwise have been disposed of at landfill. This repurposed resource was used as capping material for the remediation which contributed to a zero-waste disposal initiative to landfill.

Furthermore, this strategy reduced the transportation of materials carbon footprint for this project. By bringing in 3700 tonnes of spoil materials from a local construction site the Council saved \$149,600. The project delivered within budget (\$2,487,915) and within the nominated 10 months construction program. The park was delivered back to the community for use by the end of 2020.



Figure 1: aerial photo of capping works at Purcell Park 2020

Council also consulted and communicated extensively with the broader local community, Opal and Ausgrid to gain acceptance by all impacted stakeholders. As Purcell Park serves a wide community and was required to be closed for 10 months during construction, ongoing discussions with stakeholders from project planning to delivery and the broader community consultation was essential. This included collaboration with Ausgrid to resolve issues surrounding capping adjacent to high voltage cables.

Key stakeholders were identified via the Stakeholder Management Plan created for the project and engaged via onsite meetings, letterbox drops and website information at project initiation to ascertain their needs during planning. These stakeholders were also constantly engaged during construction through formal meetings, phone calls, emails, and website updates to advise on progress and resolve any project related issues. Additional relationships were managed with other key stakeholders, eg principal contractors, design consultants, internal council staff, residents, and end users. These key working relationships were critical to the delivery of the project and its success.

Outcomes

The benefits of this project include the significant financial savings and environmental benefits by saving more than 1ML of potable water in the last seven months. It provided a long-term solution and safe open space for the community to enjoy through sustainable means. This project is an example of how to deliver quality outcomes for the community in an environmentally sensitive manner and with considerations of value for money. The environmental achievements include:

- Zero contaminated waste disposal off site (asbestos contaminated soil is now capped),
- Managing backwash wastewater onsite rather than disposing offsite,
- Using treated stormwater for irrigation,
- Using excavated materials from other construction sites for environmental, social, and financial benefits.

Key Learnings and Successes

This project faced many challenges during construction, managing high profile stakeholders and the project partners, Opal Paper Mill and Ausgrid. This involved flexibility around project design and implementation. One example of the challenges was to gain acceptance to install filtration plantroom in the park. Purcell Park is surrounded by residents who at the time opposed the installation of a 3m high filtration plant room in the park. Opal also didn't allow Council to construct the filtration plantroom in their nearby Long Dam site where Council is tapping stormwater for treatment. To solve this issue Council consulted extensively with residents by meeting onsite several times and agreeing to relocate the plant room from the designed cost-effective location to another location in the park.

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This project was the 2021 winner of the Asbestos Management Award at the LGNSW Excellence in the Environment Awards