



Glen Eira City Council

- 80 MCGs of parklands
- enough footpaths to reach Sydney
- enough drains to reach Mildura
- enough roads to reach South Australia
- \$170m of town planning projects
- 2,000 food safety inspections
- 3,400 off-street car spaces
- 11,000 tonnes of recycling
- 40,000 tonnes of waste
- one million library loans
- care for 4,800 elderly
- services for 5,000 children
- 6,200 immunisations
- 44 school crossings
- 46,000 street trees
- 8,500 street lights
- 45 sportsgrounds
- 45 playgrounds
- and much more

20 February 2012

Anne Gibbs
IPWEA Vic Awards
PO Box 115
Oakleigh South Vic 3167

Dear Anne,

RE: IPWEA (Victoria) Excellence Awards 2012 – Capital Project Award

We have pleasure in nominating the Glen Eira City Council’s Major Projects Team for the management of the design and construction of the Glenworks Truck Wash Bay & Road and Drainage Waste Handling Facility (Refer attached nomination form and submission).

This project responds to the community’s call for Council to deliver infrastructure projects which produce environmental benefits such as water and energy saving and delivers benefits for both the organisation and the Glen Eira community.

Yours sincerely

PETER WAITE
DIRECTOR ASSETS & FACILITIES

ANDREW NEWTON
CHIEF EXECUTIVE OFFICER

Invitation to Nominate *Awards Programme*

Name of IPWEA (Vic) Member/s MARK JUDGE*, FRANK ROMANIA

Nominated for Award MARK JUDGE, FRANK ROMANIA, PETER HORTIS

(In the case of a team nomination, at least one member of the team must be a member of IPWEA Vic.
The name of the IPWEA Vic member must be clearly identified in the space provided)

Position * GROUP MANAGER; MAJOR PROJECTS & INFRASTRUCTURE RENEWAL

Organisation/Council GLEN EIRA CITY COUNCIL

Address P.O. Box 42, CAULFIELD SOUTH 3162

Telephone 9524 3262 Facsimile 9524 3387

Email mjudge@gleneira.vic.gov.au

Nominators (1) PETER WAITE; DIRECTOR ASSETS & FACILITIES, GECC

(2) ANDREW NEWTON; CEO, GECC.

CATEGORY (please tick one box only)

- | | |
|---|---|
| <input checked="" type="checkbox"/> Capital Project Award | <input type="checkbox"/> People Award – Engineer/Technician of the Year |
| <input type="checkbox"/> Asset Management Award | <input type="checkbox"/> People Award – Young Engineer/Technician of the Year |
| | <input type="checkbox"/> Innovative Practice / Service Delivery Award |

INFORMATION TO BE PROVIDED:

1. SUMMARY OF THE PROJECT (Maximum 100 words)

A short paragraph or dot-point summary of the key aspects of the Project.

2. DESCRIPTION OF PROJECT ATTAINING EXCELLENCE IN THE NOMINATOR(S) VIEW, INCLUDING THE POSITIVE IMPACT ON THE LOCAL COMMUNITY BEING SERVED (Maximum 1000 words)

Identify:

- Project objectives
- Project outcomes
- Innovative features of the project
- Distinguishing features of the project
- Barriers overcome to achieve success
- Costs/Benefits associated with the Project (where appropriate).

3. YOUR OPINION AS TO THE SPECIFIC CONTRIBUTION MADE BY THE INDIVIDUAL / TEAM YOU HAVE NOMINATED (300-500 Words)

4. ANY GENERAL COMMENTS YOU MAY WISH TO ADD (300-500 words)

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Engineering Australia
Victoria Division



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IPWEA (VIC) AWARDS – Capital Project Award

Glen Eira Truck Wash & Wet Waste Handling Facility

1. Project Summary

Glen Eira City Council has over 22,000 drainage pits, 535 km of underground drains and receives approximately 1,000 complaints per year from its residents in relation to flooding issues.

Council has a fleet of approximately 160 commercial vehicles across its parks and infrastructure maintenance operations which include street sweepers, mowers and specialised drain cleaning units.

With an ever increasing emphasis on environmental protection, risk management including flood mitigation; efficient operations are required to ensure Council meets community expectations.

The Glen Eira Truck Wash & Wet Waste Handling Facility is a new facility for Glen Eira that meets these expectations. It improves the efficiency of Council's drainage maintenance operations, it reduces energy and potable water use and it is built with safety in mind.

The facility was built between May 2011 and September 2011 at a total project cost of about \$600,000.

This facility provides multiple benefits for both the organisation and the Glen Eira community.



2. Project Attaining Excellence

a. Project Objectives

Council's aim was to build a modern facility that would provide environmental, financial, risk management and productivity improvements in operational service delivery whilst catering to the needs of the community.

Objectives included:

- Provide infrastructure which responds to the community's call for water and energy saving through Council's Environment Advisory Committee.
- Treat polluted storm water before it leaves Council's Glenworks site
- Improve Council's corporate image through cleaner plant working throughout the city
- Improve OH&S in work shop maintenance operations
- Improve operational efficiency in sweeper and drain clearing operations via reduced down time and increased productivity thus making operating cost savings
- Create a potential source of income from external customers which wish to use such a facility.
- Consult neighbouring Council's with similar facilities to ensure that appropriate research is conducted into operational improvements to enable GECC to deliver a state of the art facility.

b. Project Outcomes

Economic:

Council has reduced its annual costs of utilising an outside facility by an estimated \$80,000 per annum including disposal costs of around \$28,000 and the balance in lost productivity associated with travel time turnaround.

There are ongoing savings in the use of potable water by utilising reclaimed stormwater from the roof surfaces of the Glenwork's buildings which currently discharge to storage tanks with a 101,000L total storage capacity with the option for future expansion.

Rainwater storage is catered for in two main 45,000 Litre tanks and three minor storage tanks which total 11,000 Litres.

No potable water has been used to date at the facility since it commenced operations.

Environmental:

A main driver for this project was to respond to the community feedback to provide infrastructure which is more sustainable incorporating ESD to improve environmental performance.

This project delivers on this in the following ways:

- Stormwater harvesting from building roofs for storage and re-use in the wash bay reduces potable water use. Storage capacity is 101,000L with options to expand.
- The facility uses water efficient fixtures and fittings for hydraulics (reducing water use).
- A computer-controlled system limits the truck wash cycle to reduce water and energy use.
- Sensors and timers control the lighting within the facility to reduce energy use.
- Water heaters in the facility are energy efficient using 75% less energy than a conventional system. The heaters absorb heat from the air and can operate between -10 and 40 degrees Celsius.
- A beach pit first stage filter, a silt pit second stage filter pit and triple interceptor pit third stage filter, minimises the amount of pollutants discharging off-site.
- Turnaround times for major plant are now much quicker reducing fuel use and associated carbon footprint.

Social

The following social benefits have been delivered via this project:

- The community has a sense of achievement given its indication to Council that it wants to see infrastructure projects delivered which improve environmental performance.
- Council's image in the community is improved as well as worker morale due to a cleaner commercial fleet.
- OH&S performance is improved in the work shop as fleet can be cleaned and / or degreased prior to maintenance activities for a safer working environment.
- Anxiety in the community can be reduced as drain cleaning operations are more productive to improve Council's road and drainage system prior to peak flows which result in flooding.

c. Innovative Features

- Water harvesting of all roof areas into storage tanks (Total Capacity 101,000L) with room for expansion
- Audible and visual low water level alarms on water storage tanks.
- 2 x 340L thermally efficient hot water systems used to heat water for washing
- Triple stage silt and sediment retention system
- Beach pit for dewatering of trucks before dumping
- The Standard South East Water Silt pit has been redesigned by Council and approved by South East Water to allow for greater sediment and silt trap storage and flows.
- Silt pit has been placed to the front of the beach pit area instead of the rear as has been normal practice in other facilities.
- Dry Waste Storage / transfer area is used to store wet waste materials allowing it time to slowly free drain, resulting in a dry material for disposal to tip sites.
- Wash Bay for cleaning of trucks and equipment after dumping.
- Weather proof flood lights to rear of wash bay wall to illuminate inside the rear of trucks and tippers for easy inspection and cleaning.



d. Distinguishing Features

The facility is comprised of precast concrete walls with a steel roof at a height of 7.1m. The facility is compartmented into five areas being:

- i. Water Storage
- ii. Ancillary Equipment Storage
- iii. Wash Bay
- iv. Beach Pit
- v. Dry Waste Storage



The facility has the following features:

- Transfer pumps used to move water from ancillary storage tanks to main storage tanks.
- Manual switchover available from harvested water to potable water.
- Check meters on all incoming and outgoing water lines to measure water usage.
- Digital “Magflow” meter on outgoing sewer line to measure discharge rates into sewer system
- High pressure low volume water wash guns for cleaning of trucks, cars and equipment (selectable with washing detergent or degreaser)
- High volume high pressure wash hose for cleaning out of hard to reach areas on trucks, reducing the need and risk of entering into confined or hard to get places.
- Wash bay has an air compressor hose and connections for use of associated equipment.
- All paved surface areas within the facility have been designed with flat grades to reduce water flow rates to facilitate the deposit of silts and sediments.
- Due to larger silt pit storage capacity, the frequency of cleaning out of the pit has been decreased. The silt pit size has been designed to allow for cleaning out with a drainage truck suction hose.

- A 4,000L triple interceptor pit has been installed to trap unwanted contaminants from entering into the sewer system. (larger pit than required was used to reduce cleaning frequency)
- Dry Waste Storage area has an additional 2m high sacrificial wall to the inside face to allow for debris and rubbish to be pushed up against it and scooped up by front end loaders.
- The Dry Waste Storage area has been designed to accommodate a considerable amount of waste material as well as a 12m³ waste bin.
- All lighting on sensors and timers
- All equipment on timers to restrict time usage and hours of operation.
- The roof height of the facility has been designed to allow for trucks to fully raise tipper trays for cleaning.
- Ancillary Services area for storage of equipment.



e. Barriers overcome to achieve success

A number of barriers were overcome to achieve success on this project which required service authority approval and management of a site with poor soil conditions.

Some of the major barriers were as follows:

- Approval of South East Water for a new methodology with respect to beach pit layout and operation.
- Management of Category C soil and unknown underground services on an old industrial fill site.
- Wet weather during construction phase.
- Town planning requirements.



f. Cost / Benefits

As discussed in previous sections; the benefits of this project are many and varied and include greater production in operations leading to reduced risk in relation to drainage assets and potential for flooding from rain events. This has a secondary benefit as it can reduce anxiety on residents who live in higher risk areas within the Municipality.

Health benefits exist in work shop maintenance operations as plant can be appropriately cleaned / degreased reducing exposure to rotting vegetation and animal faeces etc.

The facility incorporates a number of ESD initiatives designed to reduce energy use, conserve water and improve water quality prior to discharge from the site.

Operating costs have been reduced and the payback period for Council's investment in this project is expected to be less than 10 years.

3. Project Team Contribution

The project team has made a major contribution to the success of this project from concept to completion. Highlights of some of the contribution the team made to the project are:

- Review and critique of similar operational facilities at other Council's obtaining feedback from end users.
- Consultation with Council's proposed end users i.e. Glenworks staff including feedback and reporting of options features etc.
- Management of soil investigation and classification to reduce exaction risks during construction and allowance for disposal of contaminated soil.
- Consultation with service Authorities i.e. South East Water and Jemena to obtain approvals and consents.
- Preparation of a design brief, and management of the design phase of the work via the consultant team including; Architectural, Structural Engineering, Hydraulics, and Electrical.
- Review of structural and construction details to ensure a smooth construction phase and improved longevity.
- Review and improvements to hydraulic layout and function via feedback to hydraulic consultants
- Design of the adjacent civil works including drainage and pavements.
- Special design of the proposed beach pit and associated drainage pit to improve operational efficiency. This was undertaken following a review of similar facilities and in consultation with Council's Works Department staff. The configuration of the beach pit has been set up to be more effective and efficient.
- Preparation of tender documentation and construction and contract management.
- Dealing with Town Planning issues and engagement of the Building Surveyor.
- Management of commissioning and training of Council staff in the operation of the facility and handover to Buildings and Properties staff of the new asset.
- Managing a variety of internal stakeholders through the running of a project control Group (PCG) during the various phases of the project through to completion.



4. General Comments

Since opening in October 2011, the facility has been in constant use and is delivering benefits to organisational and community expectations. Since opening; not one litre of potable water has been used in operations associated with this facility.

The project team would like to extend a special thanks to officers at Stonnington and Monash City Councils for providing an informative tour of similar facilities at their respective depot sites. This exercise provided an excellent source of information from an “end user” perspective of such facilities which positively influenced the design development phase of Glen Eira’s project.

This step of the design and feasibility stage was critical for ensuring that the facility at Glen Eira delivers successful project outcomes in an efficient and effective manner.