CONSTRUCTION METHODOLOGY & TRAFFIC MANAGEMENT PLAN

Installation of a 265kW Solar Photovoltaic cell system on the roof of Manly Andrew 'Boy' Charlton Aquatic Centre

1 Kenneth Road, Manly

August 2019

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Contents

1. SUMMARY & BACKGROUND

This Construction Methodology and Traffic Management Plan accompanies plans and details as follows:

Waste Management Site Plan and Traffic Management Plan dated 13/09/2019

Plan of Roof Survey over Andrew Boy Charlton Aquatic Centre, Kenneth Road, Manly, Sheets 1, 2, & 3, Revision B drawn by LTS and dated 13/09/2019

Statement of Environmental Effects prepared by Gina Hay September 2019

Northern Beaches Council Renewable Energy Options Study – Prepared by 100% Renewables, dated 31 August 2017

Revised Modelling of Solar PV on Roofs at Manly Andrew Boy Charlton Aquatic Centre – Prepared by 100% Renewables dated 22 July 2019

The proposal is for installation of a 265kW Solar Photovoltaic (PV) cell system on the roof of the Manly Andrew 'Boy' Charlton Aquatic Centre (MABC).

The building is owned by Northern Beaches Council.

2. RELEVANT PLANNING LEGISLATION

The following planning legislation is

- Environmental Planning & Assessment Act, 1979 (as amended)
- Environmental Planning & Assessment Regulations 2000
- Manly Local Environmental Plan 2013
- Manly Development Control Plan
- Protection of the Environment Operations Act 1999
- Work Health and Safety Act 2011

3. PROPERTY DESCRIPTION & LOCATION

The subject site is known as Manly Andrew 'Boy' Charlton Aquatic Centre and is located at 1 Kenneth Street Manly. It is located at the intersection of Kenneth Road and Balgowlah Road with recreational uses, being LM Graham Oval and Manly Golf Course to the west and north, and mixed residential including apartment blocks and single houses to the south and east.

The site itself comprises two outdoor pools, 25 metres and 50 metres, and a paddling area while the main building comprises a 25 metre pool, program pool children's water play, spa, sauna, fitness centre and associated offices.

The main public pedestrian and vehicular access to the site is via Kenneth Road, with onsite parking available for 54 vehicles and additional public parking available along Kenneth Road. Vehicular access is also provided via Balgowlah Road to the site for service vehicles with limited parking.

Figure 1: Aerial photo of Manly Andrew 'Boy' Charlton Aquatic Centre and surrounds

4. PROPOSAL

The proposal is to install a 265 kW solar photovoltaic cell system on the roof of the main building at the MABC. The main building of MABC has a sawtooth roof with the sloping panels facing north, and a flat roof on the western side. The cells will be located on each of the roof panels on the building, with associated infrastructure being located within the existing building.

5. SITE PLAN

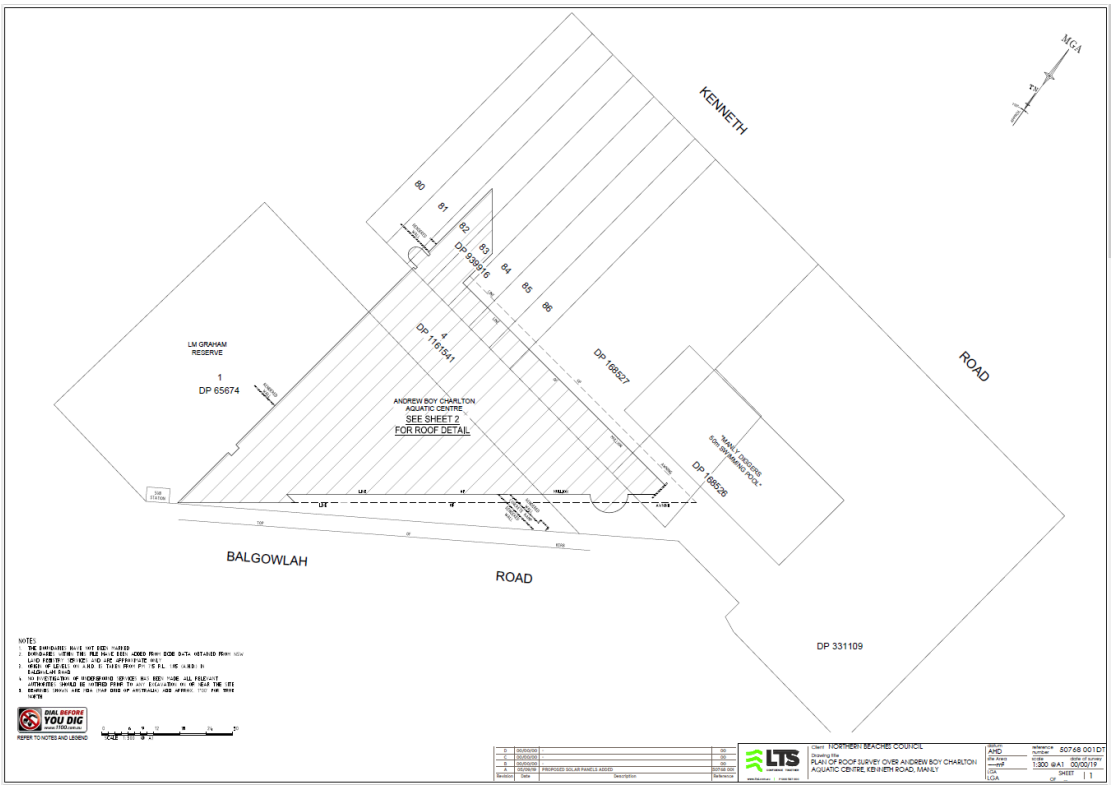

Figure 6. Site Plan

6. CONSTRUCTION METHODOLOGY

6.1 Timing

The installation of the 265 kW solar photovoltaic cell system is expected to be completed within eight weeks and will include site preparation, installation and testing/commissioning. The installation will be timed to coincide with the off-peak usage of the MABC (approximately April to October) to minimise any potential disruption to users and staff.

Normal construction hours will be observed with workers onsite from 6.30am and works undertaken between 7am and 5pm Monday to Friday; and potentially 7am to 1pm Saturdays.

6.2 Construction traffic management

Traffic associated with construction will largely be contained within the MABC site with negligible disruption to local traffic. Vehicles will enter the site from Kenneth Road for the purposes of loading and unloading and delivery of materials and removal of waste from the site. Vehicle movements will be scheduled to minimise any potential impacts on MABC customers and local traffic and are most likely to occur at the commencement of each work day (6.30am- 7.00am) and at the end of each work day (4.30-5pm).

Access will be maintained for pedestrian and vehicular traffic to enter and exit via the main carpark at all times and to all premises adjoining and surrounding the site.

Adequate traffic management and control will be provided during the course of the works. This includes but is not limited to the provision of adequate barricades, traffic signs and flagmen in accordance with AUSPEC Specification 1101: Control of Traffic at all times.

Materials will be delivered via the main public carpark off Kenneth Road with two spaces to be allocated for off-loading of materials and parking for construction vehicles. Parking will also be provided for construction vehicles at the end of the rear service driveway, accessed via Balgowlah Road.

There will be a loss of approximately four parking spaces in the main carpark during construction hours and a loss of approximately two spaces in total for the duration of the works. Alternate parking for the public is available off Kenneth Road (refer to Waste Management Site Plan and Traffic Management Plan).

Figure 2. Two temporary spaces adjacent to the grassed area to be allocated for off-loading of materials.

Figure 3. Construction vehicles will be allocated parking on the western side on the Aquatic Centre accessed via the service driveway off Balgowlah Road.

6.3 Storage of materials and equipment

Equipment and materials associated with the works will be stored temporarily and securely on site on the grassed area located adjacent to the indoor pool hall and main public carpark. All surplus materials and equipment arising from the works will be regularly removed from the site.

A scissor lift will be craned into place with materials and located on this grassed area to load panels and other materials onto the roof for installation, with alternate roof access available on the western side of the MABC adjacent to LM Graham Reserve if required (refer to Waste Management Site Plan and Traffic Management Plan).

Figure 4. Grassed area for temporary storage of materials.

Figure 5. Fence can be temporarily removed for ease of off-loading panels to temporary storage area.

6.4 Typical construction programme

The typical process involved for installation of a solar PV system of this size is:

1. Site preparation (e.g. installation of temporary secure fencing and signage)
2. Solar array and electrical infrastructure installation (e.g. delivery of materials, installation of array frame, cabling, mounting of panels, installation of inverters)
3. Testing and commissioning.
4. Completion Works (e.g. removal of temporary structures, fencing, waste facilities and site clean-up.

6.5 WH&S

The Contractor undertaking the works will acknowledge and warrant that it is a 'person conducting a business or undertaking' (PCBU) as defined in the Safety Law.

The Contractor shall:

a) comply with the obligations of a PCBU under the Safety Law;

b) comply with the Principal's safety policies, procedures and requirements;

c) ensure that all its employees and subcontractors engaged in the performance of the WUC and the Works comply with the provisions of the Safety Law and the Principal's safety policies, procedures and requirements; and

d) comply with the Superintendent's reasonable directions regarding compliance and the Safety Law and the Principal's safety policies, procedures and requirements.

The Principal Contractor has the meaning set out in the Work Health and Safety Regulation 2011 (NSW) (WHS Regulation). The Principal appoints and engages the Contractor as the Principal Contractor for the WUC and authorises the Contractor to:

a) have the management or control of the workplace to the extent required by the Work Health and Safety Act 2011 (NSW); and

b) discharge the duties of the Principal Contractor under Chapter 6 of the WHS Regulation.

7. ENVIRONMENTAL MANAGEMENT AND PROTECTION

The *Contractor* and its employees and subcontractors shall, at all times, comply with Federal and State environmental legislation in force in New South Wales and any other environmental requirements applicable to *the Works*.

The *Contractor* shall:

a) prepare and implement a site-specific environment management program for *the Works*, which shall be submitted to the *Superintendent* prior to commencing any *work* on the *site*;
b) ensure that all its employees and subcontractors working on the *site* are provided with environmental training to achieve a level of awareness and competence appropriate to their assigned activities. Persons, including subcontractors' personnel, without appropriate environmental training shall not be permitted to work on the *site*;
c) train relevant employees to use plant and materials on the *site* efficiently and so as to minimise all potential environmental impacts including noise, air quality, water quality, waste and contamination; and
d) establish and maintain a register of environmental training carried out, including names of persons trained, dates of training and trainer details.

7.1 Noise

The level of construction noise is controlled to suitable levels so as not to cause undue disruption to areas surrounding the *site*. Works will be undertaken in a manner that limits noise to an acceptable level, which shall not cause injury or discomfort to the Contractor's staff, or other personnel and staff in the area.

Should a noise complaint be received, the *Contractor* shall consult, negotiate and take all reasonable measures to remove or silence the source, and resolve with the *Superintendent's Representative* any concerns, conflicts or complaints about work noise levels.

7.2 Materials Storage and Waste Disposal

Waste generated during construction (primarily packaging such as cardboard, bubble wrap and wooden pallets) will be removed from the site as soon as practicable, recycled appropriately where possible, minimising waste to landfill. Any general waste will be disposed of at an authorised tip site or disposed of by another legal method in accordance with the Waste Management Plan submitted as part of the DA.

A designated secure area (on site) in the main public carpark will be provided for temporary storage of waste arising from the works. Alternatively, waste can be temporarily stored on the grassed area on the western side of the Aquatic Centre (see figures below). Adequate secure fencing, barricades, screens and notices will be provided to remove any danger to the public.

All works including plant and materials associated with the works shall be contained within the boundaries of the site. The Contractor is not to store plant or materials on adjoining public land unless approved by the Superintendent.

On completion of the works:

- The areas used during the works will be cleaned to a standard which existed prior to commencement.
- All waste and surplus equipment and materials arising from the works will be removed from the site or any other public place.

Figure 7. Area of the main public carpark to be secured for temporary storage of waste.

Figure 8. Alternate location for temporary storage of waste on the grassed area on the western side of the Aquatic Centre.