

**Services Infrastructure Decommissioning Report
Barangaroo Demolition**

4 July 2007

REVISION F

Client

Sydney Harbour Foreshore Authority (SHFA)

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Authorised for Issue

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EXECUTIVE SUMMARY

The Decommissioning Report outlines the proposed methodology for the elemental demolition or capping of existing services on site.

The existing electrical systems are to be made safe or demolished across the site in accordance with two stages. The existing below ground pit and cabling system will be retained as will electrical supplies to systems required to maintain the operation of the site for safety purposes. Existing services above ground will be demolished in accordance with the two stages.

The sewer and stormwater services to the site and buildings are to be capped in accordance with the two stages.

Stormwater running across the site will be retained.

Existing communications cabling and security cameras will be removed above ground.

Mobile cells will be removed or relocated.

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1 Introduction

1.1 Plan of Works

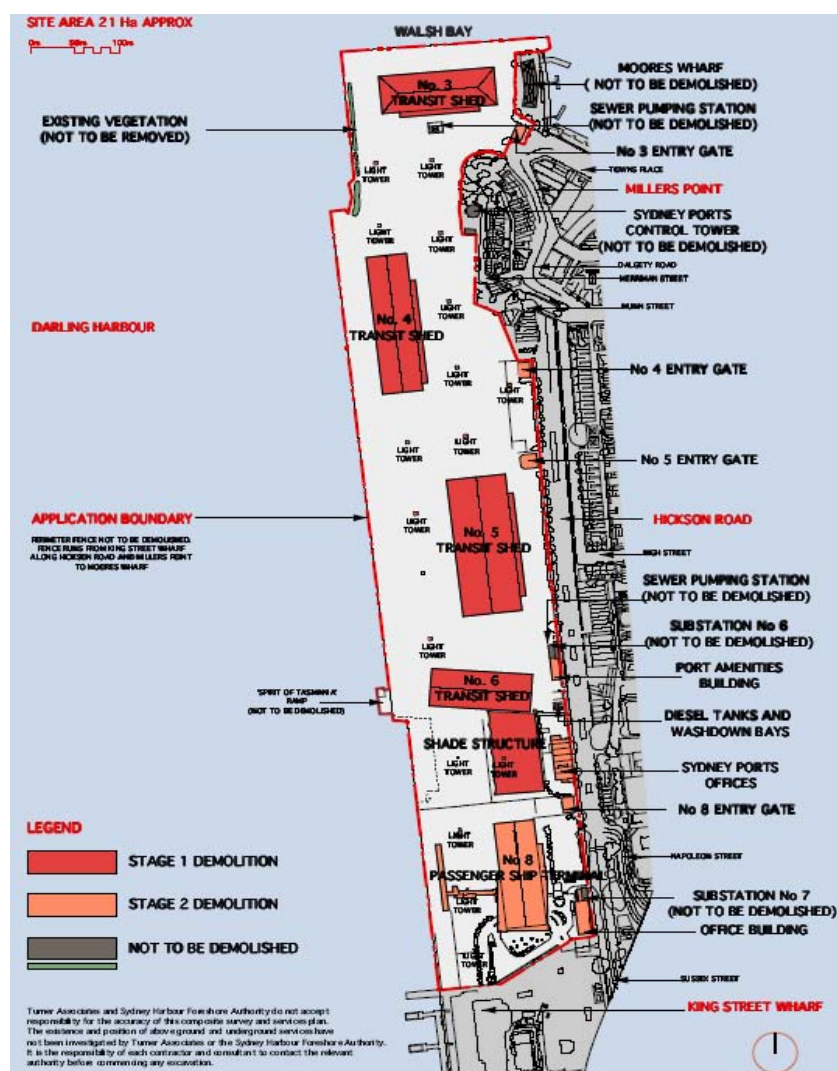
As part of the demolition of structures on the Barangaroo site, certain services will require decommissioning, capping or removal. The demolition of the various buildings and structures will take place in two stages (refer attached plan).

1.2 Background Information

Sydney Harbour Foreshore Authority (SHFA) has requested Lincolne Scott to investigate and review the following existing site services:

- Electrical Services
- Communications Services
- Sewer Services
- Potable Water Services
- Gas Services
- Stormwater Service

1.2.1 Project Application Staged Demolition Plan – Revised



The following Elemental demolition breakdown forms the basis of the following services report:

ELEMENT TO BE DEMOLISHED	NOTES
Sheds 3, 4, 5 and 6	Note Shed 3 may not be demolished until early 2008 due to shipping movements.
Substations and switchrooms in Sheds 3, 4, 5 and 6 (see below for power to Moores Wharf and Control Tower).	
Services decommissioning and temporary supplies: re-routing power and other services (fibre / comms) to Moores Wharf and Control Tower.	New services to Moores Wharf and Control Tower will be from outside the site.
Light towers remain in Stage 1 with a new, temporary electrical feed.	Towers will be removed in Stage 2.
Ports Amenities Building	Building remains in use during Stage 1 demolition, removed in Stage 2. Substation No.6 is not part of the works.
Four Gatehouses and gates / operable bollards	Gatehouse 5 will be main access point during demolition and will remain in use during Stage 1 demolition. All gatehouses will be removed in Stage 2.
Sydney Ports Offices	Will be removed in Stage 2.
Wharf 8 buildings and structures (Passenger Ship Terminal)	To demolished in Stage 2. Substation No.7 is not included in the works – see below. Buildings and parking remain operational during Stage 1 demolition.

ELEMENT – ITEM NOT IN DEMOLITION WORKS (EITHER STAGE)	NOTES
Moores Wharf Building	Existing power supply comes underground from site substations via transit shed number 3. An alternative power source from outside the site will be provided.
Harbour Control Tower	Existing power supply comes underground from site substations via transit shed number 4. An alternative power source from outside the site will be provided.
Heritage Sewer Pumping Station by Shed 3 (No SP 14)	Power supply needs to be retained.
New Sewer Pumping Station on Hickson Road (No SP 1129)	Power supply needs to be retained.
Substation No.6 adjacent to Hickson Road next to Ports Amenities Building	The substation is in a room that is contiguous with the other rooms in the Amenities building. The substation is to be retained for future use
Substation No.7 on Sussex Street opposite Wharf 8	The Energy Australia incoming service and adjacent Sydney Ports substation are located in a building adjacent to the two storey office block. Careful demolition of this office block is required to retain these electrical infrastructure assets

1.3 Considerations

Sources of information for this report are:

- Physical inspection of site, conducted 03.04.07
- MSB DH Berths 3-9 Design Plans A1800F-4350C
- Survey information provided by SHFA
- Discussions with authority service providers
- Discussions with ground staff and maintenance contractors

1.4 Limitations

This report has been prepared based on information provided at a level relative to the scope of works and extent of service.

Further investigations are proposed prior to tender documentation and works beginning:

- Further site inspections;
- Liaison with the relevant supply authorities;
- Circuit surveys to retained equipment (navigation lights);
- Dial Before You Dig;
- Liaison with the Sydney Harbour Foreshore Authority (SHFA);
- Existing communications to remain under demolition works.

1.5 Existing Electrical System

The electrical system for the site is provided by a 5 KV high voltage supply. This HV supply enters at Hickson Road on the southern end of the site and terminates onto an Energy Australia HV switch in the building adjacent to transit shed number 8 (Substation No.7). The HV supply is then taken into the adjacent Sydney ports HV switch rooms where the HV is fed via an 'open ring' arrangement to each of the transformer chambers around the site.

The HV ring main is reticulated (Substation No.6) to the amenities building between transit sheds 5 and 6 and runs to transit sheds 5, 4 and 3 respectively, with the return leg from transit shed 3 to the Sydney Ports HV switchroom. The Sydney Ports HV switchroom feeds an HV supply to adjacent transformers and a transformer kiosk outside the Wharf 8 shed.

Several buildings contain HV switchgear and transformers which feeds low voltage switchboards for distribution of power within that building and immediate area. Refer table A for further details.

The transformer chambers are located adjacent to the Low Voltage switchboards which generally feed the following types of services:

- Power and lighting to masts within the site;
- Navigation lights where local to the wharf;
- Area lighting to the buildings;
- Power and lighting to the shed structures and internal office spaces;
- Power and lighting to adjacent sheds / buildings (amenities building, Ports offices);
- Secondary LV switchboards are located in the larger transit sheds for local circuit distribution.

1.6 Existing Sewer Drainage

Sydney Water Corporation is the Sewer authority for this area.

There is existing sewer infrastructure piping and pumping equipment within the site footprint and adjacent to the site in Hickson Road. Each shed and occupied office buildings are serviced by sewer.

Each existing shipping berth zone is served by:

- An authority sewer connection and boundary trap;
- In-ground piping systems draining dedicated areas.

Trade waste systems have been provided, relative to application.

1.7 Existing Water Supply

Sydney Water Corporation is the water authority for this area.

There is an existing water infrastructure piping adjacent to the site in Hickson Road. Each shed and occupied office buildings are serviced by potable water.

In addition, each existing shipping berth zone is served by:

- An authority domestic mains connection;
- Domestic consumer billing meter for land usage;
- Industrial consumer billing meter for filling ships;
- In-ground piping reticulates domestic water to dedicated areas.

A dedicated unmetered fire hydrant system has also been provided for each berth area. Each system comprises of:

- An authority domestic mains connection;
- Booster assembly;
- In-ground piping to dedicated areas;
- External fire hydrants.

1.8 Existing Gas Supply

Alinta is the Natural Gas network authority for this area.

There is existing low-pressure gas infrastructure in Hickson Road.

There are no known gas services within the site footprint of significant impact.

1.9 Existing Stormwater Drainage

The site is situated at the bottom of a larger catchment that drains directly into the harbour via a network of stormwater pipes and pits.

There are a large number of stormwater pits located along Hickson Road which drain under / through the Barangaroo site. These pits traverse through the site, typically from one pipe per pit and drain into the harbour.

1.10 Existing Electronic Security

Several of the large lighting columns provide locations for CCTV cameras, thought to be monitored and controlled by Customs and AQIS.

1.11 SHFA CCTV Installation

Several of the large lighting columns provide locations for CCTV cameras, thought to be monitored and controlled via the Port Authority.

1.12 Existing Mobile Phone Transmitters

Transmitters are located at the Control Tower and the several lighting columns adjacent. Further investigation will be required to ascertain the ownership and extent of installation.

1.13 Existing Communications

Existing communications will generally be terminated where buildings are demolished in each stage.

The Control Tower is currently supplied from a fibre optic service which is located within the site area.

2 Electrical Works

Demolition works will be undertaken in two stages. Refer to the Demolition Plan, Section 1.2.1 on Page 2 of this report.

2.1 Stage 1 – Demolish Electrical Switch Room Structures within Transit Sheds

Stage 1 demolition generally includes the removal of all transit sheds with the exception of Shed 8.

The High voltage ring main which serves the site emanates from Substation Numbers 6 and 7 which are not due for demolition in either stage are not part of this application.

Demolition includes the following Scope:

- Isolate and make safe all Electrical services across the site from Substation Number 6 adjacent the Port Amenities building;
- Demolish Low voltage switchrooms in stage 1 demolition plan
- Demolish HV switchrooms in stage 1 demolition plan
- Provide additional LV infrastructure for existing services required to be retained:
 - o Navigation lights;
 - o Area light towers required for general lighting;
 - o Communications and surveillance equipment if required;
 - o Moores Wharf;
 - o Sydney Ports Control Tower;
 - o Provide new fibre link to Harbour Control Tower from outside the site.
- Remove all refrigeration circuits and pillars;
- Retain all electrical supplies to sewer pump out structures and pits SP 14 and SP1129.

2.2 Stage 2 – Demolish Remaining Electrical Infrastructure

Stage 2 demolition generally includes the removal of transit shed No.8, three low rise office buildings, the light towers and gatehouses (see Plan on Page 2).

Demolition includes the following Scope:

- Isolate and make safe Electrical services across the site from Substation Number 7.
- Retain Substation Number 6 and all HV link cabling between Substation Number 6 and 7;
- Demolish Low voltage switchrooms in stage 2 demolition plan;
- Demolish HV switchrooms in stage 2 demolition plan;
- Maintain LV infrastructure for existing services required to be retained:
 - o Navigation lights;
- Retain all electrical supplies to sewer pump out structures and pits SP 14 and SP1129.

3 Hydraulic Works

3.1.1 Sewer Drainage Works

Existing redundant sewer drainage works will be capped at an accessible location prior to demolition works commencing.

3.1.2 Water Supply Works

Existing redundant water supply works will be capped at an accessible location prior to demolition works commencing.

3.1.3 Gas Works

There is no foreseeable gas disconnection work associated with demolition scheme.

3.1.4 Stormwater Works

As the site is situated at the lower end of the catchment area, there are no-down stream infrastructure flow impact considerations imposed by the proposed demolition works.

Main stormwater service pipework capacities shall be maintained to ensure that upstream catchments are catered for. Should a service require diversion, pipe sizing will be designed accordingly.

Stormwater harbour discharge quality is addressed in the Environmental and Construction Management Plan.

Existing stormwater pipework feeding into the system from the site will be capped to ensure demolition waste does not block the existing system.

Existing Grated drains at the entry to the Transit sheds will be retained to assist in the drainage of stormwater to areas currently occupied by Transit sheds.

Rainwater falling on now exposed shed floors will flow into the existing grated drains at the perimeter of the sheds and to existing external stormwater pits. Note most shed floors have cross-falls for drainage. No increase in site run-off is expected as a result of the demolition works.

3.2 Communications

Negotiations with mobile cell providers will take place to remove and relocate transmitters as appropriate.

3.3 Security

CCTV cameras and recording equipment will be disconnected when the columns are removed in Stage 2. Until then, they will remain operational and monitored by Ports Authority and SHFA.

4 Existing Site Schematic

