



Parramatta Powerhouse Museum Early Works

Demolition Management Plan

Prepared by
Liberty Industrial Pty Ltd
For
Infrastructure NSW



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Specialist Deconstruction Services

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1 INTRODUCTION AND PROJECT BRIEF

The creation of the new Powerhouse Parramatta marks the NSW Government's largest cultural investment since the Sydney Opera House and for the first time, a State cultural institution will be located in Western Sydney – in Parramatta, the geographical heart of Sydney.

The new Powerhouse will reflect the communities and cultures of one of Australia's fastest growing regions. It will hold First Nations culture at its core and set a new national benchmark in culturally diverse programming. The new Powerhouse will be highly connected through multiple transport links and integrate into the fine grain of the city, presenting a program of new large-scale events that will expand the annual cultural calendar of Sydney

This Demolition Management Plan has been designed by the company, hereby referred to as Liberty Industrial, to provide the necessary methodologies and procedures for the decommissioning of existing services, demolition of nominated buildings, structures and footings, services diversions and installations for the Powerhouse Parramatta Site including the following areas:

- Riverbank Multistorey carpark
- Riverbank Ongrade carparks
- 36-38 Philip St
- 40 Philip St
- 42 Philip St (substation building)
- 44-54 Philip St (behind St Georges Terrace)
- Parramatta River bank Public Domain footpath
- Oyster Lane (Interface boundary Only)
- George Khattar Lane (Interface boundary Only)
- Dirrabarri Lane (Interface boundary Only)

The intent of this demolition management plan is to create an overarching document that details how the physical works required to meet the specifications will be managed and delivered.

In order to meet the specific requirements of AS 2601-2001 – The Demolition of Structures, site-specific Work Method Statements will be created by Liberty Industrial, through detailed inspection and consultation with Liberty Industrial staff undertaking the works, which will not occur until the site is established and hence will not be included in this management plan.

2 SCOPE OF WORKS

The scope of the Early Works includes the decommissioning of the sub-station and diversion of the HV feeders; demolition of the existing structures down to ground concrete slab level, segregation of waste streams, removal of piles in the sub structure, disposal of the demolition waste to the licensed landfill and remediation of the site.



Project site (Multi- Story Car park and adjoining buildings for demolition)

in addition to the physical demolition works, the following will be undertaken as part of the Early Works:

- Acquire necessary permits (in addition to the SSDA) to the demolition.
- Notify each Authority for the disconnection and capping off all utilities to each site.
- Install erosion control
- Manage all hazardous materials removal.
- Remove all equipment and strip out of all fittings, fixtures and furniture.
- Prepare pre-construction dilapidation reports.
- Provide air quality, noise and vibration monitoring as specified throughout the works.

3 REFERENCES

- SafeWork NSW Demolition Licensing;
- SafeWork NSW Friable Asbestos Licensing;
- Work, Health and Safety Act 2011;
- Work, Health and Safety Regulation 2011;
- Protection of the Environment Operations Act 1997 (NSW);
- Protection of the Environment Operations (Waste) Regulation 2005 (NSW);
- Protection of the Environment Operations (Noise Control) Regulation 2008 (NSW);
- Demolition Work Code of Practice;
- AS 2601 The Demolition of Structures;
- AS 4361.2 Guide to Lead Paint Management;
- AS 3000 SAA Wiring Rules;
- AS ISO 14004 - 2004-11-15: Environmental management systems - General guidelines on principles, systems and support techniques;
- AS/NZS ISO 14001:2004: Environmental management systems - Requirements with guidance for use;
- AS/NZS ISO 19011:2003 Australian/New Zealand Standard Guidelines for quality and/or environmental management systems auditing;
- Environmental Protection Authority Publication Environmental Guidelines for Major Construction Sites (1996);
- AS 1885.1 – 1990: Workplace injury and disease recording standard;
- AS/NZS 4801 - 2001: Occupational Health and Safety Management Systems - Specification with Guidance for use;
- How to Safely Remove Asbestos Code of Practice;
- AS/NZS ISO 9001:1994: Quality systems - Model for quality assurance in production, installation and servicing;
- AS/NZS 4581 - 1999: Management System Integration – Guidance to Business, Government and Community Organisations;
- AS/NZS 4804 - 2001: Occupational Health and Safety Management Systems - General guidelines on principles, systems and supporting techniques;
- National Code of Practice for Excavation Work;
- Asbestos Blueprint for NSW;
- Fire Brigades Act 1989;
- Local Government Act 1993;
- AS 2865 – 2009 Confined Spaces;
- AS 1319 Safety Signs for the Occupational Environment

4 SITE LOCATION

4.1 GENERAL DESCRIPTION OF THE SITE

The overall site covers approximately over 2 ha, and consists of a Class 7a multistorey structure with a footprint covering 4339 m² surrounded by Commercial buildings and various infrastructure.

5 GENERAL DEMOLITION TECHNIQUES

Prior to any works commencing, all relevant utility services will be disconnected through engagement of relevant subcontractors and utility authorities.

Soft strip out works will be conducted at the structure floor by floor starting from the top floor. An external drop zone will be created and used as a controlled drop zone for debris. Strip out works will be done utilising conventional demolition methods using hand and power tools with the aid of skid steer loaders and telehandler to manoeuvre debris.

Upon completion of soft strip out, the mechanical demolition works will commence using two 48t excavators with hydraulic concrete cracker, shear and grab attachments. The demolition works will be conducted in a top-down manner with segregation of waste streams to be completed by a following 25t excavator working concurrently.

Work will be conducted starting at the east and west end of the site. Liberty's demolition excavators have the attachments capable of reaching highest points and can therefore stand at a safe distance to perform the demolition works by mechanical means.

6 PLANNING

An investigation of the structures has been undertaken by the Liberty Industrial. Set out below are itemised actions that will be implemented during the course of the project.

6.1 PROJECT SUPERVISION

At all times during the demolition works, the demolition will be supervised by a competent Supervisor attached to an approved SafeWork NSW demolition licence.

6.2 SITE INVESTIGATION

The structures to be demolished consist primarily of concrete with some brick and a mix of general waste streams from the internal fittings and fixtures. The surrounding area is made up of concrete hardstands with the substructure assumed to be constructed of concrete as well

An investigation of the site has been completed with the following key points noted:

- The location and extent of items to be demolished have been clearly identified;
- Access to electricity and potable water is to be arranged;
- All services (including electrical) to the items to be demolished are to be disconnected prior to any demolition works commencing;
- The location of adjacent roadways and operational areas has been clearly defined; and
- Even though no impact on existing hardstands, pavements and surrounding areas is anticipated during the works, their general conditions have been recorded.

6.3 MANAGEMENT PLANS / PROJECT DOCUMENTATION

- Demolition Work Plan;
- Work Health and Safety Management Plan;
- Environmental Management Plan;
- Erosion and Sediment Control Plan;
- Quality Management Plan;
- Traffic Management Plan;
- Human Resources & Industrial Relations Management Plan;
- Emergency Management Plan;
- Waste Management Plan;
- Contract Program (Gantt Chart);
- Demolition Risk Assessment Workshop (DRAW);
- Work Method Statement(s) (WMS);
- Job Safety Analysis (JSAs);
- Waste Recycling Register;

6.4 WEATHER

Daily monitoring of the weather will be undertaken by accessing the online weather bureau website. This information will be conveyed to the worker(s) at the morning pre start and may have a bearing on the daily undertakings. More regular monitoring and communications will be undertaken whenever necessary.

Precautions will be taken to ensure that the stability of all parts of the structure and the safety of worker(s) on site will be maintained in the event of a sudden and severe change in weather.

In the event the wind reaches levels where the work is deemed to be unsafe or above the loading conditions (i.e. crane lifts), or when the debris cannot be effectively contained or captured, the work area will be made safe, and work shall cease, as directed by the Project Director or Demolition Supervisor.

6.5 SITE ACCESS

All internal traffic routes will be defined once the demolition work areas have been clearly identified.

All internal traffic will be as per Liberty Industrial's site traffic rules.

6.6 HOURS OF WORK

The hours of work from Monday to Friday will be 7:00am to 6:00pm, with a prestart meeting beginning at 6:30am, and Saturdays from 8:00 AM to 1:00 PM. Works on-site will not commence until 7:00 am and there will be no work on Sundays unless permission is expressly given by the consent authority.

7 UNDERSTANDING OF SPECIFIC PROBLEMS

The following table details specific issues that may arise during the course of the works and proposed solutions:

#	Identified Problem	Proposed Solutions
1	Interactions with, and disturbance of public (incl. machine-to-machine and machine-to-personnel interactions)	<ul style="list-style-type: none"> ▪ Project planning; ▪ Extensive communication with Client & Council for the Project; ▪ Liberty & Council Permits; ▪ Worker(s) induction(s).
2	Traffic interactions (incl. machine-to-machine and machine-to-personnel interactions)	<ul style="list-style-type: none"> ▪ Project planning; ▪ Adherence to the Traffic Management Plan; ▪ Barricading and flagging wherever necessary; ▪ Ensure local traffic control needs are communicated; ▪ Liberty & Council Permits; ▪ Worker(s) induction(s).
3	Manual Handling	<ul style="list-style-type: none"> ▪ Induct worker(s) into proper lifting/handling techniques; ▪ Use mechanical aid whenever possible (e.g telehandler); ▪ Use correct PPE.
4	Working at heights	<ul style="list-style-type: none"> ▪ Induct worker(s) into WAH procedure; ▪ Ensure worker(s) are trained in WAH; ▪ Liberty Permits; ▪ Edge and / or fall protection (100% hook-up when working close to a live edge); ▪ Spotter(s) whenever required.
5	Objects falling from heights	<ul style="list-style-type: none"> ▪ Maintain proper housekeeping; ▪ Exclusion and drop zones in place.
6	Working in a constricted area (Not a Confined Space)	<ul style="list-style-type: none"> ▪ Adequate project Planning; ▪ Housekeeping; ▪ Progressive waste removal.
7	Crane lifts	<ul style="list-style-type: none"> ▪ Project planning;

		<ul style="list-style-type: none"> ▪ No work under suspended loads; ▪ Engineered lift studies for complex / critical lifts; ▪ Management of interaction between demolition and crane lifts; ▪ Liberty Permits; ▪ Exclusion zones.
8	Sub-contractor engagement on site	<ul style="list-style-type: none"> ▪ Induct sub-contractor into Company policies; ▪ Refer to Liberty Procedure PRO-016 Sub-Contractor Management.
9	Public concerns	<ul style="list-style-type: none"> ▪ Refer public contact to Liberty Industrial; ▪ Induct worker(s) into Communication Protocol.

8 SITE ORGANISATION

8.1 PERIMETER FENCING

Hoardings will be used along the site perimeter during the demolition phase of the project.

8.2 DEMOLITION CONTROLLED ZONE(S)

The demolition work zones within the site will be physically separated from other operational and public areas. Only worker(s) who have been inducted with the authority of the Demolition Supervisor may enter the Demolition Controlled Zone(s).

8.3 BARRICADING AND SIGNAGE

The site will be barricaded and signposted at the perimeter to define the area and prevent access from unauthorised personnel.

Barricading will consist of a combination of existing barriers (fences etc.) as well as temporary fencing and scaffold hoarding. Appropriate signage will be installed where applicable.

Barricading will be checked regularly to ensure it is fit for purpose.

8.4 MATERIALS PROCESSING AREA(S)

A materials processing area will be set up within the fenced perimeter. The exact location(s) will vary dependent on the location of the particular item or structure being demolished at any given time.

Materials (concrete and bricks, etc.) will be locally stockpiled per task within close proximity of its origin, but allowing for safe processing, segregation, and loadout works as to avoid disruption of demolition progress. The location of each processing area will be clearly identified in the specific Work Method Statement(s) and at the Daily Pre-Start Meetings.

8.1 FIRST AID

At a minimum one certified First Aid worker(s) shall be on site full time during the works to administer First Aid in the event of an incident. The Company will ensure that enough First Aid Kits are made available for the workers on site.

8.2 SITE AMENITIES

The site amenities and office will be supplied by Liberty Industrial along with potable water and electricity.

The amenities will be maintained in a clean and hygienic manner during the course of the Project.

9 HAZARDOUS MATERIALS & SUBSTANCES

Site will be inspected prior to demolition works and all hazmat removal works will be conducted following establishment on site.

All residual ACMs and any other contaminants discovered during the demolition processes will be removed in accordance with statutory requirements and specific Work Method Statements will be developed for their removal.

Disposal of these materials will occur at a licensed facility and will be tracked under the current EPA waste tracking requirements for asbestos.

10 DEMOLITION METHODOLOGY

Note: A Job Safety Analysis (JSA) will be undertaken with the work crew for each activity. Each JSA, along with the associated WMS (if required) and supporting documentation (work permits and sub-permits, engineering drawings & specifications, lift studies etc.) will form part of the “Work Pack” which will be generated prior to commencement of any activity.

The general staging and sequencing of the works is outlined below:

10.1 SITE ESTABLISHMENT

In this stage of works, activities such as setting up of the Demolition Controlled Zone(s) and Processing Area(s), mobilisation of plant and equipment, establishment of site amenities and offices will be completed.

10.2 ISOLATION OF UTILITY SERVICES

Liberty Industrial will engage specialist contractors to disconnect all required utility services prior to any demolition works commencing.

Any services that are identified to remain will be protected.

10.3 SOFT STRIP OUT

Liberty Industrial will manually strip out furniture (salvaging where possible) and all internal fittings and fixtures using hand and power tools in a floor-by-floor manner. The demolished debris will be transported to ground floor using a controlled drop zone(s). Here, the assistance of mechanical aids (skid steer and telehandler) will be used to manoeuvre the demolished debris into stockpiles and load out to an appropriately licensed disposal facility.

10.4 ASBESTOS REMOVAL

Asbestos containing buildings facing Philip street will be isolated and then removed from the interior as recorded in the HAZMAT surveys. These removal works will be performed concurrently with soft strip out works, these works will be completed as per SafeWork Code of Practice: How to Safely Remove Asbestos and a Clearance Certificate will be issued by a Licenced Asbestos Assessor to verify removal upon completion of works.

10.5 DEMOLITION WORKS

The structure will be demolished using a 48t excavator with concrete cracker and shear attachments for the concrete and steel respectively. These attachments shall help minimise any loose or flying debris that may result from the demolition.

The excavators will commence at the top of the structure working down. Demolition will be conducted such that the floors above will not be undermined structurally causing any unplanned movements.

Following these 38t excavator will be a 25t excavator which will clean up demolished materials to ensure housekeeping and waste segregation takes place concurrently with the demolition process.

10.6 ARCHAEOLOGICAL STUDY

Liberty will provide assistance in the archaeological study by providing machinery, plant, labour and operators to the Project Archaeologist. A safe facility for storage of the artefacts and tools will also be provided. Temporary fencing and barriers will be also procured.

10.7 DEMOBILISATION

When all the works have been completed, work areas made good and handed over to INSW, the plant and equipment will be progressively removed from site and relocated to another project site or to the Company main laydown yard.

10.8 STRUCTURAL ENGINEERING REQUIREMENTS

There is no foreseen requirement for structural engineering on this project.

10.9 MAJOR PLANT & EQUIPMENT

The following outlines a list of the proposed plant and equipment to be used for the works:

- 2 x 48t Volvo Excavator with Concrete Cracker, Shear, Grab, Hammer, Pulveriser and Bucket Attachments;
- 1 x 25t Volvo Excavator with Grab, Hammer, Pulveriser, Magnet and Bucket Attachments;
- 1 X 8t Excavator with Grab and Bucket Attachments;
- 1 x Skid Steer with 4 in 1 Bucket;
- 1 x 3-4t Telehandler with Forks and Bucket;
- 2 x 4WD Site Vehicles;
- Site Amenities.

10.10 TRANSPORTATION

Brick and concrete will be loaded into truck and dogs and transported offsite for recycling.

General demolition waste material will be loaded into truck and dogs for disposal at a licensed facility.

10.11 RECYCLING AND WASTE MANAGEMENT

It is estimated that 95% of waste produced will be recycled.

All scrap steel material will be transported to an offsite scrap recycling facility.

All general demolition waste will be transported offsite by licensed contractor(s) to a lawful disposal landfill. All waste will be tracked with disposal dockets recorded.

10.12 REGULATORY AUTHORITY NOTIFICATION

SafeWork NSW will be notified on the prescribed form and in the prescribed manner of the intention of the Company to undertake the following Demolition and Asbestos Removal Works.

The regulator will be provided with a notification at least five (5) days prior to work commencing as prescribed.

11 REGULATORY AUTHORITY NOTIFICATION

SafeWork NSW will be notified on the prescribed form and in the prescribed manner the intention of the company to undertake the following works:

- Demolition Works;
- Asbestos Removal Works.

The regulator will be provided with a notification at least 5 days prior to work commencing as prescribed.

12 SAFETY AND ENVIRONMENTAL RISK CONTROL

15.1 DEMOLITION RISK ASSESSEMENT WORKPSHOP

A Demolition Risk Assessment Workshop (DRAW) workshop will be undertaken prior to work commencing to identify the high-level Safety and Environmental risks that are likely to be encountered during the works.

The site team undertaking the DRAW will include, but not be limited to, the following:

- Project Director;
- Site Supervisor;
- HSEQ Representative;
- Client Representatives.

The DRAW will then be used by the site team as the foundation for the development of a Job Safety Analysis (JSA) for each specific task involved with the project.

The DRAW is a live document and will undergo review/changes as additional risks are identified or the job changes.

15.2 PROTECTIVE MEASURES

Barricading

The perimeter of the defined Demolition Controlled Zones will be barricaded and sign posted to prevent unauthorised access. Only persons with the authority of the Site Supervisor may enter the areas. Call-up signs will be installed at each entry to the Demolition Controlled Zone.

Spotters

During the demolition works, spotters may be stationed as required for specific activities, as determined by the management team.

Environmental Controls

See Environmental Management Plan under separate cover.

15.3 EMERGENCY RESPONSE

An emergency response plan will be developed prior to the commencement of work. An emergency muster point will also be identified on site.

15.4 DAILY CHECK ITEMS

15.4.1 Before Commencing

- All openings and elevated free edges are properly guarded.
- Any temporary bracing or propping and the like are stable and secure.
- All fire and safety services are operational where required and other services not required have been safely disconnected.
- Any hazardous substances have been removed and correctly disposed of.
- Lines of communication to the supervisor are clear and operational.
- All emergency access routes are clear of debris and clearly marked.

15.4.2 Before Leaving Site

- All partly demolished plant and or structures are secure and stable.
- All demolished materials have been removed or secured against high winds.
- All fires or burning embers have been properly extinguished.
- All emergency access routes are clear of debris and clearly marked.
- All boundaries have been secured against unlawful entry.
- All areas outside of the deconstruction zone are clear of demolished materials and any hazard is properly lit, guarded and clearly marked.
- A daily close out meeting will be held to confirm all of the above.

15.5 SITE INDUCTIONS

All workers shall undergo a Liberty Industrial site-specific induction prior to commencing work.

All visitors will undergo a Liberty Industrial Visitor's Induction prior to entering the site and will remain with a fully inducted person at all times.

15.6 WORK PERMITS

The company will use its own Work Permit (WP) system.

The WP register will be made available to Hanson's nominated representative on request. It will include, but not limited to:

- Hot work (drilling, grinding, cutting);
- Working at height (above 2 m);
- Confined space entry;
- Excavation and Penetrations;
- Hazardous Work Permit;
- Crane work box.

15.7 WORK AREA INSPECTION

Work area inspections shall be undertaken on a weekly basis by Supervisor and HSEQ personnel as a minimum.

15.8 ASBESTOS AIR MONITORING (WHERE FRIABLE IS PRESENT)

No friable asbestos has been identified in the "HAZARDOUS MATERIALS MANAGEMENT REGISTER".