AW EDWARDS

Airtrunk SYD2 Data Centre
at Lane Cove

Construction and Site Management Plan
ATSYD2-SITE-MAP-AWE-0006

Author: Tim Dekruif
Revision: D
Status: For Approval

Prepared By:
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AWE Project No.	TBA
Project Name	Airtrunk SYD2
Client	Airtrunk
Client Project Manager	Brendan Homer
Project Location	1 Sirius Road LANE COVE WEST, NSW 2066
DA No.	SSD 9741
AWE Project Director	Justin Smith
Phone No.	9958 1474
Scope of Works	Site establishment and site clearing including tree removal and excavation works, the construction of a suspended driveway, and three separate buildings comprising of data halls and associated base build operational infrastructure and facilities. Each building will be constructed in stages, and the associated plant, equipment and leasable floor space will be fit out upon the client's customer engagement. The facility has a total data hall capacity of 89MW of cloud storage capacity, and all required infrastructure is to be installed to accommodate these operational requirements.
Timing of the Works	2019 – 2021

Revision Register:

REVISION	Date	Status	Author	Approved By	Comments
A	15-May-19	Draft	BC	JS	CDC Submission
B	27-Jun-19	Draft	TD	JS	Revised for Review
C	20-Aug-19	For Approval	TD	JS	Revised for SSD Approval
D	10-Sep-19	For Approval	TD	JS	Revised design added to cover page
	Date	Status			
	Date	Status			

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1 INTRODUCTION

1.1 DESCRIPTION OF THE WORKS

1.1.1 PROJECT OVERVIEW

The proposed Airtrunk SYD2 Lane Cove West Data Centre facility is located on an undeveloped site at 1 Sirius Road, Lane Cove West. The project involves designing and constructing a secure, technology rich Data Centre, along with associated support infrastructure. The completed facility is designed to accommodate the requirements of current and prospective cloud-based data storage and distribution companies and their respective clients. In essence, the building will provide "storage" facilities for electronic information.

Figure1 below shows the site location with reference to surrounding landform features and the neighboring built environment.

Figure 1 - Site Location

The construction of the Data Centre will be staged as per the descriptions below, and indicative staging diagram in Figure 2:

CDC – Bulk Earthworks for Suspended Driveway and Shell A.
Stage 1 – Construction of the suspended access roadway. Construction of Shell A and associated plant, equipment and infrastructure.
Stage 2 – Construction of Shell B and associated plant, equipment and infrastructure.
Stage 3 – Construction of Shell C and associated plant, equipment and infrastructure.

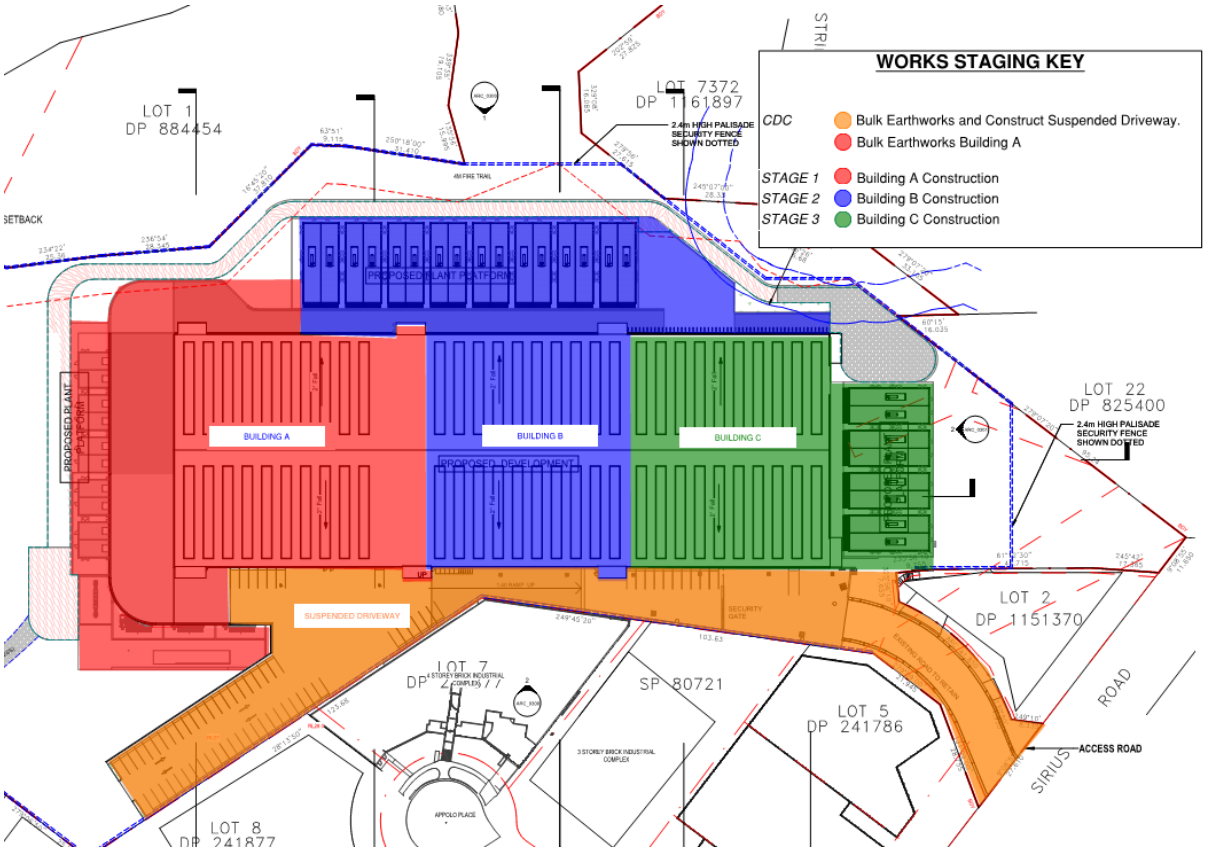


Figure 2 – Staging Diagram

Due to the extent of the bulk excavation and project delivery timing for Stage 1, it is intended that excavation for Building A and the Suspended Driveway, as well as construction of the Suspended Driveway will be carried out under a Complying Development Certificate (CDC) whilst the State Significant Development (SSD) approval is assessed.

Permissible works under the CDC approval would allow for site clearing, excluding tree removal, and excavation up to 3.00m in depth, and back-filling up to 2.00m in depth. The suspended driveway will be supported on concrete columns built off piles socketed into rock. Along with these works, a Fire Access Trail will be created along the north-western boundaries of the site to provide access for the F&R N.S.W. and the Rural Fire Service, for firefighting purposes.

1.2 PURPOSE OF THIS PLAN

This Construction Management Plan (CMP) has been prepared in response to the design development and probable engagement by Airtrunk for AW Edwards to construct the Airtrunk SYD2 Project. This plan is one of a number of plans that will be developed to manage our obligations as part of the project delivery.

This Construction Management Plan is written with the purpose of communicating to our client, Airtrunk, our construction management objectives, strategies, methodologies and actions for the execution of the works under the contract. It should be read in conjunction with the Construction Planning Diagrams provided in Appendix A.

This document is a sub-plan of the Project Management Plan (PMP). The Project Management Plan is based on the A W Edwards Management System which is accredited to AS/NZS ISO 9001:2000 (Quality), AS/NZS ISO 14001:2004 (Environmental) and AS/NZS 4801:2001 (WHS). The A W Edwards Management System provides detailed procedures for the undertaking of our regular construction activities. This CMP should also be read in conjunction with the other sub-plans and management plans that will be prepared for this project.

As part of the Construction process, AWE will provide further detailing and/or revision of this CMP to meet Airtrunk's requirements. This CMP will be reviewed and updated as necessary, to reflect design development, and our developing construction methodology.

This CMP has been developed to ensure all the members of the A W Edwards team and other project stakeholders understand the objectives, procedures and processes in place as necessary for the successful execution of works under the contract.

1.3 OBJECTIVES

The primary objective of this CMP is to meet the obligations set out in the Contract documents.

Our project objectives can be summarised as follows:

- Develop a strong working relationship with Airtrunk;
- Exceed the expectations of Airtrunk to the greatest degree possible;
- Develop and retain a cooperative and harmonious environment from commencement through to completion across all levels of the project;
- Complete the project in accordance with the requirements of the Contract documents;
- Complete the project within the timeframes identified in the Contract;
- Provide a safe and accident free workplace;
- Avoid disputes wherever possible. In the event of disputes arising at any level on the project, to resolve them in a mutually beneficial manner;
- Deliver a product which displays a high quality of workmanship.

1.4 REFERENCE DOCS

AWE Management System
Inspection and Test Plans
General Conditions of Contract
Design Drawings and Specifications (Tender issue)

1.5 PRECEDENCE

Where ambiguity is detected between the procedures and requirements in this CMP and the A W Edwards Management System, then the procedures nominated in this CMP will take precedence.

1.6 INTERFACE WITH OTHER PROJECT PLANS AND PROCEDURES

The Construction Management Plan forms part of an integrated set of Project Management Plans and should be read in conjunction with the Management Plans described in the Project Management Plan.

2 AUTHORITY APPROVALS

As part of the regulatory and statutory requirements for designing and constructing the proposed Lane Cove Data Centre, approval is sought from the following Authorities listed in the table below. The approval required and stage of the development cycle in which this approval is also noted listed with each respective approval.

Authority	Type of Approval	Project Stage
NSW Govt' Department of Planning and Environment	State Significant Development Approval (SSDA)	Design
Sydney Water	Supply Water Services Connection	Design

Authority	Type of Approval	Project Stage
Sydney Water	Waste water Discharge Connection Approval	Design
Lane Cove Council	Stormwater Connection and Discharge	Design
Ausgrid	Electrical Supply Connection	Design
Principal Certifying Authority	Construction Certificate	Construction
Principal Certifying Authority	Occupation Certificate	Handover

2.1 LICENCES AND PERMITS

The site has within it an area of contaminated ground which has been capped and surveyed. The details of this area of containment have been registered with the EPA. This area will be identified and fenced off and no work will take place in this location. When works eventually are undertaken in this area, the EPA will be notified, a preliminary Remediation Action Plan has been developed, and a Final RAP will be developed following further investigations. An independent auditor will be engaged to oversee the works and confirm compliance.

2.2 PRINCIPAL CERTIFYING AUTHORITY (PCA)

The Client will be responsible for appointing the PCA and managing the PCA's input throughout the course of the project.

2.3 HOURS OF WORK

Lane Cove Council permit the following hours of work.

Working Day	Working Hours
Monday to Friday	7:00am to 5:30pm
Saturday	7:00am to 4:00pm
Sunday and Public Holidays	Not permitted

2.4 OUT OF HOURS WORKS

During the course of this project, out of hours works may be necessary to undertake activities such as delivery of oversized loads and the completion of concrete pours. These activities will be planned in consultation with the client's representative to ensure all aspects of the works are clearly understood by all parties.

3 REGULATIONS AND LEGISLATIVE REQUIREMENTS

3.1 LEGISLATION AND REGULATION

All work shall be conducted, as appropriate, in accordance with (but not limited to) the following environmental regulatory and legislative requirements:

- Environmental Planning and Assessment Act 1979 and Regulations
- Protection of the Environment Operations Act 1997 and Regulations
- Environmental Protection and Biodiversity Conservation Act 2000 (Cth)
- Heritage Act 1997 and Regulation
- Heritage Amendment Act 2001 and Regulation;
- Australian Heritage Commission Act 1975 (Cth)
- Contaminated Land Management Act 1997 and Regulation
- Soil Conservation Act 1939 and Regulation
- Threatened Species Conservation Act 1995 and Regulation
- Endangered Species Protection Act 1992 (Cth)
- Noxious Weeds Act 1993 and Regulation
- Native Vegetation Conservation Act 1997
- Companion Animals Act 1998
- Dangerous Goods Act 1975 and Regulation
- Environmentally Hazardous Chemicals Act 1985 and Regulation
- Sydney Water Act 1994 and Regulation
- Water Act 1912 and Regulation
- Water Management Act 2001 and Regulation;
- Waste Avoidance and Resource Recovery Act 2001
- Local Government Act 1993
- Worker compensation legislation
- Work Health and Safety Act 2011
- Work Health and Safety Regulation 2011
- Building Code of Australia

3.2 CODES OF PRACTICE AND AUSTRALIAN STANDARDS

All work shall be conducted, as appropriate, in accordance with (but not limited to) the following environment and construction-related codes of practice and Australian Standards:

- Australian Standard AS 2436-1981: Guide to Noise Control on Construction, Maintenance and Demolition Sites;
- Australian Standard AS 2601 – 2001: Demolition of Structures;
- Australian Standard AS 4576 – 1995 Scaffolding

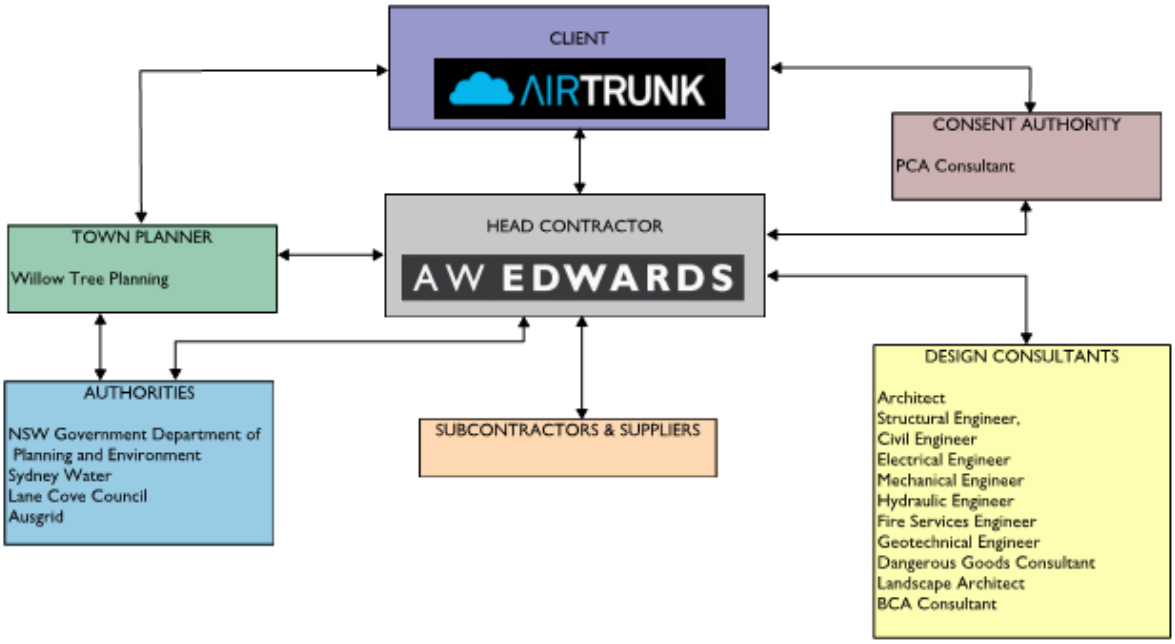
- Australian Standard AS 2601 – 2001 Demolition
- Australian Standard AS 3610 – 1995 Formwork
- Australian Standard AS 3600 - 2001 Concrete Structures
- Australian Standard AS 2865 - 2009 Safe Working in a Confined Space
- Australian Standard AS 4839 – 2001 Safe Use of Portable & Mobile Oxy-Fuel Gas Systems
- Australian Standard AS/NZS 3012- 2003: Electrical Installations - Construction and Demolition sites
- Australian Standard AS2436 – 1981: Guide to Noise Control on Construction, Maintenance and Demolition Sites;
- BS6472 – 1992: Evaluation and Human Exposure to Vibration in Buildings (1 to 80 Hz);
- BS7385 Part 2 – 1993: Evaluation and measurement of Vibration in Buildings Part 2;
- Manual Handling NOHSC: 1001 – 1990
- Synthetic Mineral Fibres NOHSC: 1004 – 1990
- Management and Control of Asbestos NOHSC: 2018 - 2005
- Department of Conservation and Land Management, CALM (1992): Urban Erosion Control and Sediment Control;
- NSW DEC (2007): Noise Guide for Local Government;
- National Environment Protection Council (1998): National Environment Protection Measure (NEPM) on Ambient Air Quality;
- NSW Department of Housing (1998): Managing Urban Stormwater – Soils and Construction;
- NSW DEC (2004): Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-Liquid Wastes;
- DEC, NSW (2005): Approved Methods for the Modelling and Assessment of Air Pollutants in NSW.
- DEC, NSW (2007): Approved methods for the Sampling and Analysis of Air Pollutants in NSW;
- Code of Practice – How to Manage Work Health & Safety Risks
- Code of Practice – Work Health & Safety Consultation, Co-ordination and Co-operation
- Code of Practice – Excavation Work
- Code of Practice – Formwork
- Code of Practice – Labelling of Workplace Chemicals
- Code of Practice – Moving Plant on Construction Sites
- Code of Practice – Mono-strand Post – Tensioning of Concrete Buildings
- Code of Practice – How to Safely Remove Asbestos
- Code of Practice – How to Manage & Control Asbestos in the Workplace
- Code of Practice – Work in Hot or Cold Environments
- Code of Practice – Amenities for Construction Work
- Code of Practice – Overhead Protective Structures
- Code of Practice – Electrical Practices for Construction Work
- Code of Practice – Pumping Concrete

- Code of Practice – Cutting & Drilling Concrete and other Masonry Products
- Code of Practice – Safe Handling of Timber Preservatives and Treated Timber
- Code of Practice – Safe Use of Synthetic Mineral Fibres
- Code of Practice – Confined Spaces
- Code of Practice – Managing the Risk of Falls at Workplaces
- Code of Practice – Hazardous Manual Tasks
- Code of Practice – Managing the Work Environment & Facilities
- Code of Practice – Managing Noise & Preventing Hearing Loss at Work
- Code of Practice – Work Near Overhead Power Lines
- Safe Erection, Altering & Dismantling Scaffolding – Industry Safety Standard
- Protection of the Environment Operations Act 1997 and Regulations

4 PROJECT TEAM

4.1 PROJECT DELIVERY TEAM

We understand the structure of the project delivery team to be as follows:



4.2 KEY CONTACTS

The key personnel who have been proposed for deployment on this project are identified in the Project Management Plan.

Details of the roles and responsibilities of the key members of the site team can be found in Section 1.7 of the AWE Project Management Plan.

4.3 24 HOUR CONTACT

The 24 hour contact person for this project will be;

AWE Site Manager Barton Green (0413 735 441)

5 PRE CONSTRUCTION PLANNING

5.1 COMMUNICATION

5.1.1 PRO-ACTIVE & CO-OPERATIVE MANAGEMENT

A W Edwards apply a pro-active approach to all aspects of our projects to ensure a high level of control is exercised and any potential problems can be identified, and responded to, as early as possible.

Our project team will pro-actively manage this project by focusing closely on planning, programming, forecasting and monitoring activities. This focus minimises the potential for problems to occur. We will continue to develop contingency plans to address the possibility of problems actually arising. This approach is fundamental to the successful delivery of any project.

Despite the best endeavours of all stakeholders, problems or unforeseen circumstances may arise. We will actively resolve, or help to resolve, such problems in the most expedient and efficient way possible. Project staff with the experience and skills needed to solve complex problems in projects of this nature will remain committed to this project. In the event that unforseen problems were encountered, the team will immediately initiate and implement a problem resolution plan to minimise any impacts.

We will encourage and promote a co-operative and harmonious project environment. This applies to relationships between clients, employees, consultants, suppliers, subcontractors, unions and other stakeholders. Our objective will be to eradicate conflict wherever possible and at all levels, as this can be a major impediment to progress and meeting project objectives.

5.1.2 GOOD COMMUNICATION

Success for the project will rely on good and effective communication between all parties. This means rapidly sharing and exchanging information with all project stakeholders and developing cooperative relationships with Airtrunk, the Design Team and the neighbouring community as a whole.

Systems for both formal and informal communications will be agreed. We will commit to ensuring our communications are timely and any surprises are minimised. We will ensure the Client and its representatives are comfortable with the information provided to make timely and appropriate decisions.

5.2 CONSTRUCTION COMMUNICATIONS

A Construction Communications Plan (CCP) will be developed to provide details of the coordination and management of communications activities that will be undertaken during the construction phase of the project. This CCP will provide the framework for communication between Airtrunk and the Project Team.

In particular, the aim of the plan will be to:

- Identify all proposed communication and consultation tools to be used i.e. information, notifications and signage;
- Ensure that there are procedures in place for managing issues if/as they arise;
- Provide policies and procedures for handling local community complaints and enquiries, and for handling of media enquiries;
- Provide details of the Contractors nominated 24-hour contact for management of complaints and enquiries;
- Ensure all communication strategies are approved by the Council before implementation.

5.3 STAKEHOLDER AND COMMUNITY LIAISON

A W Edwards has a history of excellent relationships with stakeholders and communities surrounding their projects as a result of open and transparent communication. We acknowledge the high profile nature of this project for Airtrunk.

We understand the responsibilities of the Principal Contractor in relation to stakeholder consultation and community relations management for the Project. A W Edwards will support Airtrunk in communicating and consulting with relevant stakeholders and communities throughout the course of the Project to meet the following key objectives;

- Ensure the reputation of Airtrunk and their stakeholders are maintained during the Project;
- Provide a framework, including policies, processes and procedures for communications management to ensure they are timely, relevant, accurate and consistent;
- Ensure all workers and Subcontractors are aware of and comply with these policies and procedures;
- Ensure relevant, accurate and timely information is provided on construction activities and potential impacts to the local community;
- Manage all correspondence, complaints and community contacts in a professional, efficient, timely and effective manner;
- Develop and maintain robust relationships with local communities, stakeholders, Council, the Principal, so the project can be delivered on time and on budget.

5.3.1 AVOIDING DISRUPTION TO THE LOCAL COMMUNITY

Fortunately, the project is within an Industrial area, however, to ensure a harmonious relationship with the local community, the AW Edward's site management team will liaise with the surrounding business',

attend any community meetings during which any issues will be discussed and undertake public education exercises such as 'letterbox' drops to mitigate the impact of the construction process on the area.

5.3.2 COMPLAINTS RESPONSE PROCESS

The client will be notified of any complaints received within 48 hours. Any complaints will be recorded in the monthly Client report, with a record of actions taken.

5.4 LIAISING WITH LANE COVE COUNCIL

Liaising with Lane Cove Council for any requirements for permits, inspections, information and the like will require prompt and professional communication. This will help ensure that Council (administration) are informed as to the progress of the building works and matters that require notice to be given to Council and its staff.

5.5 ADJOINING PROPERTIES

5.5.1 DILAPIDATION SURVEY

A W Edwards will undertake a dilapidation survey which will detail the current structural condition of the site and adjoining properties, including all existing fences, adjoining buildings, infrastructure, roads, crossovers etc. The dilapidation survey will include a written description and comprehensive photographic record of existing conditions.

Prior to the commencement of any works onsite, A W Edwards will arrange a joint inspection of the site with the Client's authorised representative.

A W Edwards will undertake periodic re-inspections of adjoining properties and infrastructure to confirm no damage has occurred as a result of the execution of the works.

At the completion of construction of the new internal driveway, a post-construction dilapidation report will be completed and provided to Client.

5.6 SAFETY AND ENVIRONMENT

5.6.1 PUBLIC SAFETY AND AMENITY

The safety of the general public is paramount. A W Edwards will ensure that the general public is protected from activities occurring on the site.

If not managed correctly, construction sites can create risk to the general public when moving around the site. Examples of the hazards that need to be managed include;

- Changes to the surface level

- Excavations, holes and trenches
- Plant and equipment
- Dust, vapours or other hazardous substances
- Noise and Vibration
- Movement of vehicular traffic

The entrance to the site will be kept neat and tidy to maintain public safety and local amenity. Where activities occur outside of the site boundaries such as works to local authority assets and any works to kerbs and footpaths, steps will be taken to ensure the impact of the work is kept to a minimum.

5.6.2 WORK HEALTH & SAFETY

A W Edwards will develop a Work Health and Safety Management Plan (ATSYD2-SITE-MAP-AWE-0007) that complies with the WHS Act 2011 and WHS Regulations 2011. The WHS plan will be based upon our Management System which is accredited to AS/NZS 4801:2001 (Safety) and the requirements of Part E of the General Conditions of Contract.

A 'For Construction' Work Health and Safety Management Plan will be submitted to the Client prior to construction work commencing on site.

Further to the WHS plan, A W Edwards will include WHS details in our Client Monthly Report.

As evidence of commitment to WHS Management, A W Edwards will:

- Carry out all activities in compliance with the Work Health & Safety Act 2011, and the Work Health & Safety Regulation 2011;
- Hold and maintain an accredited occupational health and safety & rehabilitation management system by a NSW Government agency that complies with the WHS&R Guidelines, for as long as any activities are carried out;
- Comply with all WHS policies, procedures and measures implemented or directed by the Principal or the occupiers of any premises at or within which AW Edward's activities will be undertaken;
- Carry out all activities in accordance with A W Edwards Safety Management Plan;
- Create a safe working environment for all activities, ensure the safety of all authorised personnel on the Site and other work sites, and ensure no unauthorised individuals gain access to the site or other work sites; and
- Regard and ensure the safety of the public especially at all times.

5.6.3 ENVIRONMENTAL MANAGEMENT

A W Edwards will operate in accordance with environmental legislation and A W Edwards Management System, which is accredited to AS/NZS ISO 14001:2004 (Environmental) and the requirements of Part F of the General Conditions of Contract.

A W Edwards will provide certainty of delivery of the prescribed environmental outcomes during all phases of the project construction and to implement a system for compliance with all applicable requirements, obligations and commitments for the project to ensure:

- The company is compliant with all obligations and commitments from the pre-construction environmental assessment process;
- The company is compliant with the Conditions of Approval;
- The company meets all relevant legislative requirements;
- All licences, approvals and/or permits needed to construct and/or operate the project have been granted;
- Compliance with other non-legislative requirements and commitments including:

    - ISO 14001:2004 Environmental Management Systems;
    - Australian Standards and Guidelines; and
    - Best practice environmental management
    - Section 4 of the NSW Environmental Management System Guidelines 1998.

5.6.4 ECOLOGICALLY SUSTAINABLE DEVELOPMENT

A W Edwards is committed to delivering ecologically sustainable outcomes throughout the construction period.

During construction, we will identify strategies and objectives to reduce pollutants, greenhouse gas emissions and demand on non-renewable resources such as energy sources and water.

5.6.5 NOISE & VIBRATION MANAGEMENT

A W Edwards is committed to ensuring that no works significantly impact on local background noise or vibration limits at the Airtrunk SYD2 Project.

The objectives of the construction approach will be to:

- Ensure that construction works do not significantly impact background noise levels around the site, and that applicable guidelines and regulations are met;
- Ensure all equipment operates within the applicable noise levels;
- Ensure that construction works do not cause sufficient vibration to damage surrounding buildings and complies with the applicable guidelines and regulations;
- Ensure vibration does not affect occupiers of the adjoining buildings and infrastructure.
- Ensure there is no impact on the Lane Cove Western Ventilation Shaft and Control Centre.

Our approach to the management of noise and vibration will include:

- Observing Council's & other Authorities acceptable noise levels and durations, and vibration levels in accordance with standard DA requirements; and where appropriate, implement monitoring to verify actual noise & vibration levels during construction;
- Carry out vibration monitoring for works in close proximity to the Lane Cove Western Ventilation Shaft and Control Centre.

- Observing Council's specified times for undertaking noisy works;
- Devising construction methodologies which will minimise the impact of noise, dust and vibration;
- Maintaining noise and vibration levels below agreed limits and durations;
- Non-tonal reversing alarms will be used;
- Reduce throttle settings and turn off equipment when not in use;
- For machines with enclosures around engine bays etc, check that doors and door seals are in good working order every week;
- Selection of the quietest equipment and plant with quieter mufflers and enclosures, where feasible and reasonable;
- Inspect and maintain equipment to ensure it is in good working order. Also check the condition of mufflers;
- No radios outdoors;
- Avoid shouting, talking loudly and slamming vehicle doors.

5.6.5.1 Vibration Management

The nature of the works to be undertaken do not indicate any likely issues with vibration (no demolition), with only minor localised vibration due to piling, detail excavation and vehicle movements.

5.6.6 DUST MANAGEMENT

The management of construction activities is important to ensure dust and exhaust emissions of plant and equipment is controlled to an acceptable level.

A W Edwards will develop a strategy for dust control, which will be in accordance with the A W Edwards Management System. This strategy will include control measures and document how these measures are to be implemented and monitored.

A W Edwards understands that we must ensure that excessive dust is not generated by our works to the extent that it may interrupt the normal operations, place at risk or diminish the amenity of staff or occupants of surrounding buildings. Minimum considerations include:

- Implement measures which prevent the generation of dust during excavation and construction works; and
- Implement measures to prevent the creation of dust due to vehicle movements around the site from exposed dirt surfaces and stockpiles.

5.6.7 SOIL & WATER MANAGEMENT

A comprehensive Soil and Water Management Plan will be implemented on the project to ensure that no works significantly impact soil and water in and around the construction site.

The objectives of the Soil & Water Management Plan will be to:

- Ensure that construction works do not significantly impact on the movement of sediment and soil across the site in the form of erosion;
- Ensure that construction works do not significantly impact on the quality of site run-off, causing potential turbidity and chemical contamination in stormwater and local waterways

5.6.8 HAZARDOUS MATERIALS

5.6.8.1 Ground Contamination

Based on reports by Senversa and Douglas Partners, we believe that the potential for significant widespread soil contamination is relatively low. We are aware of a capped area of contaminated fill at the north-eastern end of the site. This has been surveyed and registered with the EPA. This area will be fenced and signposted, with no works to be undertaken in the area. Consultation with the EPA will be required to allow for excavation in this zone during construction of Shell C.

The classification of material is expected to be identified as: General Solid Waste (GSW) and Virgin Excavated Natural Material (VENM).

As the civil works will eventually involve detailed excavation and removal of some material from site, we clearly understand the Office of Environment and Heritage (NSW OEH) requirements surrounding the identification, testing and tipping of different waste classifications.

We understand the Client wishes to limit the costs of disposing of the fill and it is proposing to contain the material in available areas on site which are to be determined on site.

We are happy to work with the principal to achieve this outcome, so long as our mutual obligations under the Office of Environment and Heritage requirements are complied with.

5.6.9 UNEXPECTED DISCOVERY

If any hazardous substance not specified in work under the Contract is discovered on the Site A W Edwards will suspend all work which may result in exposure to such hazardous substance and notify the Principal immediately of the type of substance and its location.

The initial notification to the Principal will include the following details:

- The additional work and additional resources estimated to be necessary to deal with the substance so that work and subsequent use of the Works may proceed safely and without risk to health;
- Estimation of the cost of the measures necessary to deal with the substance; and
- Other details reasonably required by the Principal.

Direction from the Principal will be sought prior to undertaking any work, unless the unexpected discovery poses an immediate risk to the health and safety of workers onsite, in which case works will be undertaken to reduce or eliminate the immediate risk.

5.6.10 WASTE MANAGEMENT

A W Edwards is committed to ensure appropriate methods of waste minimisation, recycling and disposal and spoil management are implemented.

The objectives of our waste strategy will be to:

- Ensure that waste generation is avoided as a priority;
- Ensure that environmentally sensitive work practices are followed within waste minimisation programs;
- Ensure that, wherever practicable, waste materials are recycled/re-used;
- Ensure that the disposal of all liquid and non-liquid wastes is in accordance with the EPA regulations;
- Ensure that spoil from the site is managed appropriately to minimise environmental and health risks;
- Ensure that the air quality surrounding the site is appropriately managed;
- Ensure that all spoil is disposed of to prevent contamination of any lands.

Strategies to achieve these outcomes will be developed prior to commencement on site.

5.7 QUALITY MANAGEMENT

The A W Edwards Management System, which is accredited to AS/NZS ISO 9001:2008 (Quality), will be the basis for development of the project specific Quality Management Plan.

The plan will include the processes and activities that determine quality policies, objectives and responsibilities so that the Project will satisfy the level of quality required. The Quality Management Plan and the wider range of Project Management Plans are to be read in conjunction with the overall requirements of the A W Edwards Management System.

The primary quality processes to be established and implemented for the project are as follows:

- Quality Planning
- Quality Control
- Quality Assurance

These requirements are tabulated and the results captured in our Inspection and Test Plan (ITP) system.

5.8 WORKPLACE RELATIONS

A W Edwards has an exemplary Workplace Relations record and a stable, long-serving work force in a company environment where there is mutual respect for all. We also engage subcontractors with whom we have close relationships. These relationships are strong at both management and on-site levels. Site staff are actively encouraged to apply practical and fair industrial relations practices.

A W Edwards complies with the NSW government *Industrial Relations Management Guidelines* and manage all aspects of Industrial Relations in accordance with the Contract.

The objectives of our approach to Workplace Relations are as follows:

- Provide a base for the successful completion of the Project in relation to safety, cost, quality, community and environmental outcomes;
- Clearly identify responsibilities for industrial relations management on the project;
- Ensure that there is minimal disruption to the construction program due to industrial issues;
- Identify real and perceived industrial risks to the project, processes and actions, to manage them and any emergent industrial risks;
- Provide a positive impact to the workplace culture;
- Enhance positive relationships with industry parties; and
- Ensure compliance with the applicable framework.

5.9 GENDER EQUALITY ACT

The Equal Opportunity for Women in the Workplace Act 1999 (EOWW Act) has been renamed the Workplace Gender Equality Act 2012 (WGE Act) to put a focus on promoting & improving gender equality & outcomes for both women and men in the workplace. Similarly, the Equal Opportunity for Women in the Workplace Agency has been renamed the Workplace Gender Equality Agency (Agency).

The principal objects of the WGE Act are to:

- Promote and improve gender equality (including equal remuneration between women and men) in employment and in the workplace;
- Support employers to remove barriers to the full and equal participation of women in the workforce, in recognition of the disadvantaged position of women in relation to employment matters;
- Promote, amongst employers, the elimination of discrimination on the basis of gender in relation to employment matters (including in relation to family and caring responsibilities);
- Foster workplace consultation between employers and employees on issues concerning gender equality in employment and in the workplace; and
- Improve the productivity and competitiveness of Australian business through the advancement of gender equality in employment and in the workplace.

A W Edwards supports Workplace Gender Equality and provides annual reporting in accordance with the Act.

5.10 TRAFFIC & PEDESTRIAN MANAGEMENT PLAN

A Traffic and Pedestrian Management Plan will be developed which will detail how traffic, pedestrian and cyclist access will be managed onsite and on adjacent roadways and footpaths. With the site accommodation being located at 2 Apollo Place, it is intended that all pedestrian access will be through this building, and vehicular access will be via Sirius Road. This arrangement will allow for clear segregation and Traffic Controllers will be staged at the vehicular entry gates, and part of their responsibility will be to direct pedestrians to enter the site via 2 Apollo Place.

Key issues for traffic, pedestrian and cyclist management during construction include:

- Minimise environmental nuisance and impact as a result of construction traffic;
- Ensure construction traffic does not unnecessarily interrupt existing traffic flows on the local road network;
- Safe operation of buses and other transport services during construction;
- Establish strict scheduling of vehicle movements to ensure there are no vehicles waiting off the site;
- Have no vehicles arrive at the site outside the site working hours, unless required by the RMS, in which case the Council will be notified.
- Timely and effective implementation of traffic management measures;
- Fulfilling the Council and Roads and Maritime Services requirements.

Project specific traffic management measures will be documented ahead of works commencing on site.

5.11 ARCHAEOLOGY

An Aboriginal Archaeological Survey report, completed by Biosis Pty Ltd and dated 14th December 2018, has been provided. The conclusion of this report was that the assessment had identified a low potential for Aboriginal sites to be present within the study area, owing primarily to the heavy disturbance and landscape modification across the study area, as well as the landforms within it, with large portions of the study area located across moderate slopes. Other landforms within the study area included ridges and flats, however it is understood that these areas have been subject to disturbance in the form of cut and fill actions. No further archaeological work is required in the study area due to the entire study area assessed as having low archaeological potential.

We understand that should Aboriginal objects be identified during development of the subject land, works must stop and a suitably qualified archaeologist notified immediately to assess the finds. The finds must be reported to OEH and further approvals may be necessary prior to the recommencement of works. If human remains were to be discovered during any works on the project, the finding would need to be reported immediately to the New South Wales Coroner's Office and/or the New South Wales Police. If the remains are suspected to be Aboriginal, the OEH would also need to be contacted and a specialist consulted to determine the nature of the remains.

5.12 COMMISSIONING

In order to ensure compliance with all the requirements of the contract A W Edwards will implement a Building Commissioning and Witness Test Plan (BCWTP) which will embrace all activities under the contract, specifically relating to inspections and the testing necessary for commissioning.

The BCWTP will be developed as systems are specified and design details are refined. The Plan will provide;

- Presentation of commissioning procedures for the project installations to the Principal's Representative;
- A commissioning program;
- Identification of systems to be commissioned;
- Verification of installed system performance and compliance with the specified design for each installation as defined within the Contract;
- Certification as required by the Contract;
- A Test Record Sheet management process;
- Witness testing requirements for each discipline;
- Implementation of corrective processes and action, where this is deemed necessary under the Contract;
- Acceptance criteria;
- The roles and responsibilities of key owner operator stakeholders in the commissioning process;
- A confirmation that completed building works complies with all requirements of the Building Code of Australia (BCA) the Fire Strategy and Safety Assessment Report (FSSAR) and applicable Australian Standards;
- Ensuring owner/operator staff receive appropriate training before handover;
- An equipment handover process.

A W Edwards have allocated a specific resource to manage commissioning of the facility. His role will be to develop the BCWTP in consultation with our subcontractors, and the client's design consultants.

5.13 SUBCONTRACTOR ASSESSMENT

The thorough assessment of subcontractors is critical to the successful completion of the Project. We have a reputation for regular repeat business with subcontractors that have good track records. There are numerous subcontractors who have the capacity, the necessary pre-qualifications and preference for working with A W Edwards.

The A W Edwards Management System includes procedures for the careful assessment of subcontractors during the letting process. The contract documentation given to all tendering subcontractors outlines the project requirements, should the tenderer be successful.

During our projects, established procedures are implemented for verification of the subcontractor's compliance with the industry schemes and the appropriate awards and workplace arrangements.

Key trades for careful selection at this stage of the project will include;

- Civil Contractor
- Piling Contractor
- Formwork Contractor
- Reinforcement Supply
- Reinforcement Fixing
- Concrete Supply and Placement

5.14 DELIVERABLES SCHEDULE

This Construction Management Plan is prepared to address the requirements set out in the Conditions of Tendering, Preliminaries documents and the contract.

A detailed deliverable schedule will be developed during the early phases of the project.

6 SITE MANAGEMENT STRATEGY

6.1 SURVEY AND SETOUT

A registered surveyor will be engaged to set out the works and verify the building location to the property boundaries and the approved alignment levels.

At the completion of the project, A W Edwards will provide a final survey, completed by a registered surveyor, which will document the relationship of the works to any relevant property boundaries and easements.

6.1.1 AS CONSTRUCTED SURVEY

An "As Constructed survey" of the work will be certified by a Licensed Surveyor.

Items to be shown on the "As –Constructed" survey will include:

Position of all marks, surrounding buildings, roadways and the like;
Positions of all in-ground services;
All as-constructed surveys and details as required by Local Authorities and other statutes.

The external works elements will be surveyed for the following:

- Pavements, Kerbing, Retaining Walls and Landscaping: Surveyed to represent any changes of grade or 10 metre intervals, whichever is the lesser;
- Above and Below Ground Services: Surveyed for position and level;

- Underground Cabling: Surveyed for change in direction and levels at critical points;
- Pipes: All pipe diameters and invert levels shown;
- Manhole lids and Chambers: Manhole lid types and chamber sizes recorded;
- Signage: All located for position and type.

6.2 SAFETY

6.2.1 INDUCTION

All employees and sub-contractors must undertake a site induction prior to their commencement of works on the site.

The site induction will cover the following:

- Objective and purpose of the project
- Site details, including working hours, deliveries and parking
- General safety requirements
- Equipment, plant and tools
- General environmental requirements
- First aid and emergency procedures
- Fire and evacuation emergency procedures
- Discrimination
- Workplace Relations
- Noise and vibration management
- Dust management
- Site specific requirements, including community liaison, media, students & staff in adjoining buildings etc.

At completion of the site induction, all personnel must complete a site induction attendance record and provide a copy of their general industry induction card and any other certificate of competency they hold. By completing the induction attendance record, personnel declare their acknowledgement of the site rules and their responsibilities towards them.

The site induction will be updated to reflect changes in the site conditions or the introduction of new procedures and controls.

Regular toolbox meetings will be used to advise site personnel of changes to the induction.

All personnel completing the site induction will be issued with an induction sticker that is to be placed on their hard hat. The induction sticker will record the site, their induction number and date of induction.

6.2.2 INCIDENT REPORTING

Incidents are to be reported and recorded in accordance with the following management plans;

- Health and Safety incidents are to be reported in accordance with the AWE Project Work Health and Safety Plan;
- Environmental incidents are to be reported in accordance with the Environmental Management Plan;
- Community related incidents are to be reported in accordance with section 5.3.2

Incidents may fall under more than one of the above categories and the reporting of such incidents will need to comply with all of the relevant plans.

6.2.3 SAFE WORK METHOD STATEMENTS

A Safe Work Method Statement (SWMS) will be completed for each construction activity as prescribed in the Work Health and Safety Regulations 2011.

A W Edwards will complete an internal review of each subcontractors SWMS and if acceptable, provide a Permit to Work. Once a Permit to Work has been issued, a subcontractor may commence work.

A W Edwards will periodically check a subcontractor's compliance with their SWMS, and direct action to be taken as necessary.

6.2.4 PERSONNEL PROTECTIVE EQUIPMENT

A W Edwards requires the use of Personnel Protective Equipment (PPE) by all subcontractors and visitors to the site.

All PPE must comply with the relevant Australian Standards.

Mandatory Personnel Protective equipment includes:

- Hard hats
- Steel capped boots
- Hi-Visibility clothing

Other PPE must be worn as identified in the associated safe work method statement.

6.2.5 DRUG AND ALCOHOL POLICY

A W Edwards's policies provide for a total ban on the possession and consumption of alcohol and drugs on all construction sites.

A W Edwards will continue this policy on the Airtrunk SYD2 Project

The main objectives of the policy are:

- Maintain or improve the health of our workforce,
- Prevent injury to workers and bystanders
- Prevent injury to the public
- Create a more harmonious workplace

The A W Edwards Site Manager and contractors will enforce a total ban on the possession and consumption of alcohol and illegal drugs during working hours and shall ensure that all persons in the work place who appear to be affected by drugs or alcohol are immediately removed from risk of danger to themselves and others and then counselled.

6.3 TEMPORARY WORKS

Temporary works will be designed, planned, engineered and implemented to ensure they are suitable for the application. Works will be coordinated with the ongoing construction activities.

Temporary works may include;

- Propping / strutting (Structural Steel installation)
- Formwork design
- Scaffolding
- Loading platforms
- 3rd party verifications
- Piling Platforms
- Temporary Excavation Shoring & Battering

6.4 SIGNAGE

Site Notices will be erected at the boundary of the site. The site notices will include details of:

- A W Edwards Details
- Name of the Site Manager and 24 hour contact number
- Approved hours of work
- Details of the PCA
- Details of the Structural Engineer

Additional notices may be placed on Sirius Road to assist deliveries to locate the approved access to the site.

Safety related statutory signage will also be erected on the boundary of the site in accordance with WorkCover requirements.

The Project signboard will be erected at commencement of works on site.

For works within public areas, signage related to pedestrian traffic, vehicular traffic etc. will be addressed in the Traffic Management Plan.

6.5 VISUAL AMENITY

In order to protect the visual amenity of the site, the following practices will be implemented:

- Materials will be stored in a safe and organised manner and prevented from dispersing into public areas;
- Excavated soil will be relocated shortly after excavation, rather than temporarily stockpiled for lengthy periods;
- Vehicles leaving the site will be cleaned to prevent spilling of mud and debris on to adjoining traffic routes
- Site hoarding and/or shade cloth will be well maintained.
- Any graffiti on site hoardings or fences will be removed within 48 hours

6.6 IDENTIFICATION OF SERVICES

Services shown on drawings can be indicative. A W Edwards will complete a Dial Before You Dig (www.1100.com.au) investigation to understand the extent of services in the immediate area.

If services are identified within the works area, a services location consultant will be engaged to identify the location of the services onsite. Once the services have been identified, a surveyor will survey the location of the services and provide a drawing which will be issued to the relevant subcontractors.

When undertaking excavation works near an asset, information will be obtained from the asset provider regarding safe digging practices. Not all services are captured by Dial Before You Dig, and therefore the possibility exists that services within the site are not documented on the Dial Before You Dig Survey.

A visual inspection of the site will be undertaken to identify services and risers, manholes, pits, poles, drains etc., that are not identified on the Dial Before You Dig survey.

6.7 SECURITY

Control of people and vehicles during the construction stages is critical to the safety and smooth delivery of construction and the security of the works.

We will maintain the site in a safe and secure manner. The site will be fenced and sign-posted in a manner, which will assure the safety of the public and those working on the project.

Safety lighting will be provided throughout the project, to provide a visible means of identifying trespassers.

A monitored alarm system will be setup in the site office.

Our supervision staff will also monitor the effectiveness of the site security and safety measures on a daily basis, via the Site Survey of Hazards inspection process, implemented by the Site Manager.

6.8 VISITOR CONTROL

Casual visitors to the site will be discouraged due to safety considerations. All visits will need to be scheduled and arranged through the Site Manager or his appointed assistant.

A W Edwards will maintain a visitor log book, and all visitors will be required to complete a visitor's induction and sign the register. The Site Manager will ensure that visitors wear appropriate safety equipment during their visit.'

It is A W Edwards's policy, that all visitors are escorted by A W Edwards's personnel.

6.9 HARASSMENT AND INAPPROPRIATE LANGUAGE

A W Edwards maintains strict policies against harassment and inappropriate language. All forms of harassment are unacceptable. Offensive behaviour and/or language includes all behaviour that reinforces inappropriate, demeaning or discriminatory attitudes or assumptions about persons based on age, race, sex, sexual orientation, transgender status, marital status or disability. Behaviour such as whistling or unsolicited remarks of a sexual nature is prohibited.

The site induction explains A W Edwards's policy with regards to harassment and inappropriate language. If any personnel are found to be harassing a fellow worker, visitor, student or staff member, they will be immediately removed from site.

6.10 MEDIA ENQUIRES

High profile projects can attract media attention. If handled poorly, adverse media attention can result. AW Edwards understands that all media enquires must be directed to the Principal's representative. As part of the site induction all site personnel will be advised that any media enquiries should be directed to A W Edwards, who will advise the Principal's representative accordingly. The Principal's Representative may provide written consent for A W Edwards to respond to media enquiries.

7 PROJECT ADMINISTRATION, PROGRAM AND TIME MANAGEMENT

7.1 DOCUMENT MANAGEMENT

A W Edwards will adopt Procore as the document management system for the Project. Procore provides a platform for the transfer of all correspondence, design documents and contractor documentation. It is intended that all correspondence will be issued via Procore.

This is the first project A W Edwards has experienced using Procore and a thorough Document Management Plan (refer ATSYD2-SITE-MAP-AWE0-0001) is being prepared to issue to our project team to tailor the way in which the software is used to ensure its most effective processes and functions are adopted. AW Edwards has ample experience in using Aconex, which is a similar document controlling & distribution cloud software. Similar approaches and principals will be adopted.

We remain flexible to discussion regarding the use of other systems should the Principals representative require.

7.2 MEETINGS

7.2.1 MEETING SCHEDULE

In accordance with the contract Preliminaries (9.5), A W Edwards will coordinate, minute and attend weekly / fortnightly meetings with the Principal and other representatives as required.

The meeting agenda will be developed in collaboration with A W Edwards and the Principal.

7.2.2 COORDINATION MEETINGS

A number of meetings will be required to ensure the construction activities are progressing in accordance with the construction program. A W Edwards will call and chair these meetings which will provide a co-ordination interface with the construction team and our subcontractors.

These meetings may include:

- Enabling Works Meetings
- Communication Meetings
- Commissioning Meetings
- Logistics Meetings
- Statutory Authorities

7.3 CONSTRUCTION PROGRAM

A construction program will be developed, based on the tender construction program submitted with the tender. This will develop most activities into more significant detail, and in particular develop relationships between activities.

The construction program is the primary tool to identify the key procurement activities, design and construction activities on the project. Regular discussions and workshops with our project team, subcontractors and suppliers will be used to adjust and monitor the construction program to ensure the project objectives are achieved.

The Site Manager will actively review the program on a regular basis and implement strategies to ensure the project objectives are met or improved upon.

7.3.1 ITEMS FOR INCLUSION IN CONSTRUCTION PROGRAM

The construction programs will identify the following activities;

- Authority Approvals
- Appointment of major subcontractors
- Commencement and completion dates for design activities
- Commencement and completion dates of construction activities
- Dated for milestones and contractual completion dates
- Provision and approval of shop drawings, samples or other product data;
- Submission and review periods to the Principal's representative
- Any off-site activities such as fabrication;
- Procurement of major plant;
- Logical relationships between activities
- Lead times and Lags
- Critical path activities
- Supply of furniture and equipment
- Commissioning durations
- Supply of draft and final operating and maintenance manuals and instructions;
- Supply of as-built and installed information;
- Principal training;
- Contractor's rectification of defects.

7.3.2 SUBMISSION TO THE PRINCIPAL'S REPRESENTATIVE

In accordance with the contract documents, a construction program will be issued to the Principal's Representative. The program will be developed in Microsoft Project, and will be distributed in the following formats;

- PDF
- Microsoft Project (upon request)

On a monthly basis, as part of our Client Monthly Report, or whenever directed by the Principal's Representative, the construction program will be updated. The revised program will take into account any changes or instruction from the Principal's Representative. These changes may include the following;

- Significant change in scheduling
- Instruction from the Principal's Representative
- Extensions Of Time granted by the Principal's Representative,
- Actual progress made,
- Variations,
- Any other changes to the activities.

Detailed programs for specific activities will be submitted to the Principal's Representative for review, as required.

7.4 MONTHLY REPORT

A W Edwards, in accordance with the contract Preliminaries (9.6) will issue a Monthly report including as a minimum:

- Progress of all elements of the works;
- Summary of outstanding issues;
- Updated project program, including phases of design, as applicable;
- Updated three month detailed forward program;
- Details of all meetings, workshops, inspections and the like;
- Inspections required in the next three months;
- Client approvals, decisions and directions made, and required within the next 3 months;
- WHS reporting;
- Updated project risk register, where possible quantifying the potential implications of those risks; and
- Contract financial summary, showing the initial contract price and all adjustments anticipated, submitted, approved and outstanding, together with a schedule of payment claims submitted and payments made.

7.5 SITE DIARY

A site diary will be maintained by A W Edwards, which will record;

- General progress and significant events
- Subcontractors and number of personnel on site
- Temperature and weather conditions
- Meetings, visits and inspections
- Delays
- Unusual events
- Accidents and near misses

7.6 WORKS AS EXECUTED DRAWINGS

Works as executed drawings will be progressively produced for design work undertaken by AW Edwards (i.e. workshop drawings). The drawing print size where possible will match that of the contract drawings and be submitted in both CAD and PDF format. These will be provided along with the Operation and Maintenance Manuals.

8 PROJECT SPECIFIC REQUIREMENTS

We have identified the following requirements which are specific to this project and provide our methodology to address each issue.

8.1 MOBILISATION

After the award of contract, A W Edwards will:

- Submit site specific management plans for the following areas:
  - Project Management
  - Construction Management (this Plan)
  - Traffic Management Plan
  - Work Health and Safety
  - Quality Assurance Plans
  - Environmental Plans
  - Waste Management Plans
- Let primary subcontract trades as approved by the Principal's Authorised Person
- Prepare a Dilapidation Survey, as detailed in this Construction Management Plan
- Confirm the Site Representatives and the 24 hour contact person
- Confirm the location of site facilities and amenities
- Submit to the Principals Authorised Person documentation as required for the issue of the Construction Certificate

8.2 TRAFFIC & PEDESTRIAN MANAGEMENT

A W Edwards will liaise with Harley Davidson to gain a clear understanding as to the pedestrian and traffic movements that exist for access to their rear loading dock and any traffic management that may be required to allow these movements to be maintained. Existing logistics and vehicular traffic paths will be maintained at all times during the works where possible.

During certain phases of the works, the access arrangement will change to allow particular external construction activities to be undertaken. Detailed staging plans will be prepared following consultation with the local Council and Harley Davidson to communicate any changes.

A Traffic and Pedestrian Management plan will be developed to support the staging plans.

Clean and Clear Access on the shared site entry roadway

Access into the site via the private road off Sirius Road will be kept clear of dirt, mud and obstructions. Shaker Grids (provided by the civil contractor) and wash down bays will be installed as required within the site while the site has any unsealed surfaces. Construction signage will be installed to direct delivery drivers into the site.

Contractor Parking

We acknowledge that unrestricted parking is *not* available for A W Edwards or its subcontractors within or adjacent to project grounds. We will encourage the use of public transport or carpooling and the use of street parking. A W Edwards will promote this objective through the site induction.

Pedestrian Access

Pedestrian access along Sirius Road footpaths will be maintained. All new road cross overs and associated works will be carefully considered and planned to have the least impact on public access to footpaths surrounding the site. In an effort to eliminate any potential vehicular and pedestrian collisions, site accommodation has been located at 2 Apollo Place, which is a neighboring property to the site, but will allow for alternative pedestrian access and mitigate any need for pedestrians to walk down the vehicular access from 1 Sirius Road.

Vehicle Entry

The site will be established to allow vehicles to drive in and out of the site.
The configuration of the site should allow for the forward movement of vehicles throughout the construction period.

There will be some instances where large vehicles will not be able to turn around within the site and will be required to reverse in from the street or leave site under traffic control. These instances could include;

- Piling Rig
- Tower crane erection and dismantle (if applicable)
- Some structural steel deliveries
- Some Precast Deliveries

Deliveries

Deliveries will be staggered to ensure that vehicle access adjacent to the site is not restricted by queuing trucks. We understand that access arrangements will change through the duration of the project. We have endeavoured to reflect these arrangements in our Planning Diagrams in Appendix A. A memo will be issued to all trucks / deliveries to inform the drivers that trucks are not allowed to stand / obstruct public roads around the site.

Frequent delivery activities, such as concrete pours, will require a detailed delivery schedule to ensure the roads adjacent to the site are not restricted, but regular service is maintained to the concrete pump. Our experienced structure foreman is familiar with the coordination required during concrete pours.

Loading and Unloading

All loading and unloading of vehicles is expected to occur within the site, by either Crane, Forklift or truck mounted crane. There may be instances during external works to the site, where unloading from the street may be required. These are likely to be for utility connections, in which traffic control will be used. We have identified an area within the site boundary as an appropriate location for the delivery and unloading of vehicles. This zone will allow the forward movement of vehicles through the site during all phases of construction.

8.3 PARKING

The issue of contractor parking will be addressed in the Traffic Management Plan and is touched on in Section 8.2 above.

Contractors will be advised in the site induction that there is limited vehicle parking within the project grounds. In particular, worker parking is not to block the shared access road or hinder the neighbouring business'.

A W Edwards will undertake surveillance on car parking within the area to verify our compliance with this requirement.

8.4 MATERIALS LOADING

During the all phases of the works, vehicles will be unloaded within the site boundaries.

8.5 FIRE PROCEDURES

Workers will be advised of the evacuation procedures during the site induction.

Items to be included in the site induction include:

- Workers to respond to A W Edwards evacuation procedures,
- Follow direction from any emergency services,
- Emergency egress paths from the Site are to be kept clean and clear at all times.

A W Edwards will complete evacuation drills during the course of the project. A W Edwards will provide the necessary firefighting equipment for the construction works. This equipment will be selected for the type of work being conducted and kept in good working order.

8.6 EMERGENCY ACCESS

We understand that access must be maintained for emergency vehicles, service and utility vehicles to the adjacent roads. We will include in our site induction the requirements for clear access and be vigilant in checking compliance.

The areas will be signposted to ensure no construction activities block the adjacent roads without written approval.

8.7 NON SMOKING POLICY

In accordance with the company's smoking policy, A W Edwards will enforce a non-smoking policy within all enclosed areas on the site. The non-smoking policy will be part of the site induction.

8.8 PROTOTYPES

We understand that prototypes may be required under the Contract. These will be provided per the requirements of the specifications.

9 SITE LAYOUT AND LOGISTICS

We have undertaken a detailed study of the roadway design, and the data hall shell structure design, and have developed a practical, efficient and cost-effective construction methodology.

During the excavation and structural phases of this project, traditional and well-established construction methodologies will be adopted. We have based our initial planning, sequencing, programming and development of materials handling strategies, on a concrete roadway structure with structural concrete columns supported on reinforced concrete piles socketed into rock.

The key focus of the construction methodology revolves around the notion of constructing the suspended concrete roadway, working west to east. Whilst at the same time providing access for the civil contractor to advance bulk excavation, working from west to east.

We have developed our programme and methodology around this objective and have applied a balanced approach to ensure the optimum construction strategy and outcome for both activities.

9.1 SITE ACCOMMODATION

The site office and worker accommodation will be established within an adjoining building, upon possession of the site. Final locations of all amenities and site offices will be determined during pre-commencement planning.

If possible, a covered walkway will be erected between the site accommodation and the site, to provide dry access during periods of inclement weather. This will be less relevant at this stage of the works, however, will be very important during the 'main build' stage. The site accommodation will be kept tidy with a cleaning regime and daily disposal of food scraps to designated bins to prevent vermin.

The layout of the site accommodation will need to cater for approximately 250 men.

Provision will be made in the site amenities layout for a client work space, two or three large meeting rooms for the purpose of holding Site Meetings and Design Coordination Meetings and the appropriate amenities for site workers.

9.2 HOARDING / FENCING

Refer to the Site Layout in Appendix A.

Perimeter fences will be erected to the whole site to provide compliant site security. The majority of these fences will be constructed of permanent style fixed chain wire fencing, with some temporary fencing which will be installed per the relevant standards. A maintenance regime will be implemented where daily inspection of the fencings will occur.

These perimeter fences will remain in place for the main works, and will eventually be replaced with permanent security fencing.

9.3 MATERIALS HANDLING

9.3.1 EXTERNAL MATERIALS HANDLING - CRANEAGE

Tower cranes and mobile cranes will be used to efficiently handle construction materials, plant and equipment on the site. The flexible nature of the cranes will provide and allow for maximum coverage of the site, which is important on large site areas.

The cranes will be sized to lift all anticipated materials, plant and equipment required to successfully construct the project to meet the project delivery requirements. Careful consideration for tower crane locations is critical to ensure that all major plant can be installed, all large precast elements can be lifted, and any other miscellaneous lifts can also be undertaken. The intent is to minimise the need to use mobile cranes where appropriate, as the logistics and site access will restrict opportunities to stage mobile cranes at critical stages in the project.

9.3.2 FORK LIFT

Given the significant size of the site footprint, an all-terrain tele-handler/fork lift will be allocated for the unloading of vehicles and horizontal movement of materials around the site.

The folk lift will work in conjunction with the cranes to provide an alternative form of materials handling should the mobile crane be busy or affected by inclement weather.

9.4 MATERIALS STORAGE & STAGING AREA

Deliveries will be carefully managed and coordinated to avoid congestion both on site and in the shared access road, whilst ensuring materials are available when required.

9.5 ELEVATED WORKING PLATFORMS

Scissor lifts, boom lifts and scaffolds systems will be provided to ensure safe and efficient access where required for high level services, to the u/s of the roadway and for façade works.

9.6 RUBBISH REMOVAL

Rubbish will be removed from work areas using skip bins at ground level. During the structure phase, construction bins which can be craned off the decks will be used.

A waste management strategy will be implemented in accordance with our waste management plan. During the structure phase, additional bins will be provided for timber and concrete waste, for recycling. All other bins will be general rubbish.

9.7 TEMPORARY SERVICES

9.7.1 ELECTRICAL SERVICES

Temporary electrical services will be supplied from the adjoining building. Temporary power will be distributed across the site, with temporary electrical boards positioned in strategic locations. Generators may need to be used for outlying works.

The temporary power will be installed, tested and regularly maintained in accordance with AS3000 and the WorkCover Code of Practice – Electrical Practices for Construction Work.

It is anticipated that temporary power in the order of 150A - 200A will be required to power the site.

9.7.2 HYDRAULIC SERVICES

We will make use of the permanent connections to the sewer main and extend temporary water service out from the building used for the site establishment.

Toilets will be provided adjacent the site office and amenities. These toilets will be connected to the sewer. The Site Layout diagram included in Appendix A illustrates the proposed location of amenities.

Temporary water will be provided at various locations around the site.

Facilities will be provided for contractor washout and washing up which will capture wastes and prevent their entry to the sewerage system.

9.7.3 NURSE CALL SYSTEM

A fully wireless and battery operated nurse call system will be installed. The wireless system provides greater flexibility in the relocation of the nurse call stations as the works fronts change throughout the project. The nurse call system is integrated with the site 2-way radios, which will announce the location of the nurse call station in alarm. This combined system will ensure a prompt response when the nurse call is activated.

Wireless controlled sirens including strobe lights will be installed throughout the project for evacuations. The sirens are powered with 240v and include a 6 hour battery backup. The evacuation trigger will be a keyed switch located in the site office.

9.7.4 FIRE CONTROL MEASURES

All work amenities, offices, vehicles, plant and storage facilities, including those of contractors, will have a suitable type and number of fire extinguishers available for use in the event of a fire.

An assessment of the suitability of firefighting equipment will be undertaken on the project and implemented as required.

10 CONSTRUCTION METHODOLOGY

A series of Site Layouts (Appendix A) have been developed which provides a detailed overview of the key aspects of the construction methodology to be implemented on the project. These construction planning diagrams should be read in conjunction with the text within this section.

10.1 SITE ESTABLISHMENT

Upon site possession, we will erect perimeter fences around the site and commence the establishment works which include:

- Mobilization of site amenities and safe access,
- Identification of trees requiring protection,
- Signage,
- Establish contract protocols,
- Environmental controls,
- Site survey & existing services identification,
- Geotechnical investigations to establish detailed Ground Conditions.

10.2 COMPLETION OF BULK EXCAVATION AND PILING

Following site clearing, with the exception of trees, we will commence bulk excavation and then pad footings and piling.

As piles are completed, we will commence detailed excavation. It may be necessary to form minor ramping from the excavated material to facilitate access for the piling rig.

Material recovered from detailed excavation and piling will be stockpiled at a location to be nominated on the site.

10.2.1 DETAILED EXCAVATION

Detailed excavation and pad footing construction will progress through areas immediately following the completion of the bulk excavation. Detailed excavation associated with lift pits and stair bases will also progressively commencing at the Western end of the site, and move towards the Eastern end of the site.

The priority will be to complete the works associated with Shell A, before commencing any works to the central and eastern areas of the site.

10.2.2 STRUCTURE SEQUENCE

Formwork for the roadway structure, and then concrete placement, will commence from the Western end of the site moving toward the East. The suspended roadway will be broken up into five pours as per the structural design. This will assist in ensuring a smooth and continuous flow of work for the structural trades. Refer to Appendix A.

During the substructure works, it is anticipated that the concrete will be placed using a concrete boom pump. Suspended roadway slabs will be poured by a mobile boom pump located within our site area. Should the area become congested with activity, we will employ a concrete line pump to place the concrete from another location within the site boundary.

Concrete trucks will enter the site from Sirius Road. A spotter will be used onsite for all reversing trucks as required.

10.2.3 IN GROUND SERVICES

The in-ground services will commence immediately after pad footings are cast, again working from West and move progressively toward the East.

Detailed coordination of inverts and locations of services will be surveyed to ensure the services are installed in the correct location.

Prior to the casting of any concrete structure of in ground hydraulics, the services will be tested in accordance with the specification.

The surveyor will work from a coordinated CAD drawing to set out the services.

11 CONSTRUCTION RISKS AND MITIGATION MEASURES

11.1 EARLY RISK IDENTIFICATION AND MITIGATION

Our approach to risk management is to identify, at the earliest possible opportunity, risk and governance issues that could impact the Project and seek innovative solutions to minimise them. The risk management process will be consistent with processes that are embedded in management activities throughout the Project.

A W Edwards will provide oversight and give assurance that all prudent risk management measures are taken. Senior managers will be responsible for risk management and assurance activities within their spheres of control. Specialist advisers will be appointed where required to support A W Edwards' managers and provide additional assurance to the Project Team.

11.2 RISK MANAGEMENT STRATEGIES

The critical objective of our risk management strategy is to minimise the risk exposure of both the Principal and A W Edwards.

Various risk management strategies will need to be considered to assist in achieving this objective, consisting of the following;

- Identify risks to the Project before they occur; that is, events or circumstances that may have an impact on one or more of the Project's objectives. This will be done by regular project team reviews of the Project Risk Assessment (SE-4131)
- Treatment plans for the key risks are developed and implemented
- Accountability for the management of the key risks is allocated to an appropriate Manager
- Eliminate risks wherever possible or reduce the likelihood of their occurrence through proven mitigation strategies
- New and/or emerging risks are identified and considered
- Assess cost and program effect of any agreed risk

To ensure the objective of our risk management strategy is achieved, A W Edwards will prepare a Project Risk Assessment. This will provide the necessary framework needed to continuously identify, assess and minimise risks throughout the various stages of the project. This framework also aligns people, processes and interoperates with other organisational systems required for the project, namely procurement, delivery, program management, stakeholder management, design management, safety and environmental management.

To ensure the successful execution of the risk management, a broad level of commitment will be required by all parties and stakeholders to the Project to ensure the effective management of risk is achieved within a collaborative environment;

- A partnership approach. The project stakeholders, including project team (both in-house and contractor), the business and contextual influencers such as related projects must work closely together to identify and manage risks.
- Commitment at all levels. The commitment to managing a project's risks must start with the agency's senior management and continue through all participants and stakeholders in the project.
- Communication and consultation. The project must maintain contact with their internal and external stakeholders at every stage of the risk management process and concerning the process as a whole. Risks are prone to varying perceptions and it is important to reflect and reconcile these.
- Risk ownership. Each identified risk must be assigned to the person, role, team or agency best able to manage it in terms of their responsibilities. They must have the overall responsibility and authority for managing the risk.
- A continuous approach. Risk management is a continuous process throughout all stages of a project. The project team must constantly monitor the project's risks to assess the effectiveness of the risk management measures, to identify any new or changing risks, and develop revised risk treatments as appropriate.
- Effective system engineering and project management. The project must ensure that there are plans and processes for managing the project's risks. The project's management team should, through participation in similar projects, have a good understanding of the risks that the project may face and of appropriate methods for managing those risks.
- An appropriate risk management process. The use of proven methods can significantly increase the effectiveness of the risk management process. Appropriate methods and techniques, used by experienced managers and team members, will guide the identification and analysis of risks and will assist with the development of effective risk treatments.

11.3 PROJECT RISKS

We have identified a number of construction related risks and mitigation measures. The mitigation measure will be implemented through planning, training, site inductions, tool box talks and Safe Work Method Statements.

RISK	Mitigation Measures
Dust	Use of perimeter site fencing with shade cloth Hosing down of excavation plant and vehicles Street sweeper vacuum truck to regularly clean external roads Trucks transporting materials off site shall be covered Stockpiles shall be kept damp or stabilised, or covered or turfed, to prevent generation of dust
Stormwater runoff	Use of silt socks and filter fabric in stormwater runoff pits and gutters

RISK	Mitigation Measures
	Silt fences and sediment ponds to prevent runoff of sediment into Stringy Bark Creek.
Flora and Fauna	Tree protection zones established around all trees on the site which are to be retained until the SSD approval. Equipment storage areas and stockpile areas located away from tree protection zones
Hazardous materials removal	If discovered, works to remove hazardous materials is not to commence until the hazardous material assessment has been completed and approved removal and disposal methods developed.
Wastewater	Waste water from construction activities collected and treated prior to disposal
Construction traffic	Ensure appropriate traffic control measures are employed to ensure separation of construction activities and the public Pre-agreed safe public access pathways to be established and maintained Provide alternative parking for construction workers
Visitors and general public	Access to site and site office entrances to be well signposted Erect pedestrian way-finding signage as necessary, Construction hoardings and fences to be in good, sound condition and provide visual and physical barriers to the construction areas Construction areas to be sign posted as 'no unauthorised entry', with directions to the site office for visitors Construction staff to look out for and be aware of visitors and provide guidance
Noise	Work in accordance with approved working hours. Undertake noisy works intermittently.

11.4 PROJECT RISK ASSESSMENT

A Project Risk Assessment will be developed which will identify all the WHS risks on the project and how each risk will be controlled.

The Project Risk Assessment becomes the base document for reviewing all Safe Work Method Statements (SWMS) and Risk Assessments (RA). The Project Risk Assessment will be continually updated to capture any new hazards.

Risk items identified by the Design Team (as part of their Safety in Design processes) will be incorporated into the Project Risk Assessment.

Copies of the Project Risk Assessment will be issued to subcontractors, to ensure the relevant identified risks are included in their SWMS.

12 RECORDS

Records of compliance with this Construction Management Plan shall be maintained in accordance with the detailed procedures in the A W Edwards Management System.

13 AUDITING

It is expected that this project will be the subject of internal audits as part of our review processes. This A W Edwards Project Construction Management Plan and A W Edwards' related obligations and actions arising from it are to be audited every 12 months.

14 APPENDICES

APPENDIX A – PLANNING DIAGRAMS

PROJECT STAGING DIAGRAM

1 SITE PLAN
1 : 500

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Issue	Date	Description
1	12.12.18	ISSUE FOR APPROVAL
2	13.12.18	ISSUE FOR APPROVAL
3	14.12.18	ISSUE FOR SSD SUBMISSION
4	24.06.19	FOR REVIEW
5	28.06.19	ISSUED FOR RESUBMISSION
6	07.08.19	REVISED SSD
7	16.0819	REVISED SSD SUBMISSION

Project Manager

Services Design

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GREENBOX ARCHITECTURE PTY LTD
ABN: 79 139 779 098

ISO 9001 CERTIFIED QUALITY SYSTEM

- Use written dimensions only
- Do not scale from drawing
- Contractors shall confirm all dimensions on-site prior to commencing any work or producing any shop drawings
- All materials to be used in accordance with the manufacturer's specifications and instructions and shall comply with the relevant Australian Standards
- Copyright of this drawing and design remain the property of Greenbox Architecture Pty Ltd
- Nominated Architect - Gerard Page; NSW reg No.7247, NZ reg No.3715, Vic reg No.17664, SA reg No.3061, QLD reg No.4538, WA reg No.2489

Client

Project
ATSYD2
1 SIRIUS ROAD LANE COVE WEST

Drawn By: PL,WG
Scale: 1 : 500 @ A1
Checked By: DW
Approved By: AO
Date: 16.0819
Job Number: 180095
Project Status: SSD

Drawing Title
MASTER PLAN

Drawing Number: ATSYD2_SSD_DRG_ARC_0050
Issue: 7

A1
21-Aug-19 5:28:19 PM

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