

DRAFT REPORT

Construction Environmental Management Plan

Proposed Temporary Maritime Support
Facility, 5 Bank Street Pyrmont NSW

Date:

8 May 2017

Prepared for:

**UrbanGrowth NSW
Level 12, 19 Martin Place
Sydney NSW**

Prepared by:

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CONTENTS

1	INTRODUCTION	1
1.1	Objective	1
1.2	Persons referred to in this CEMP	2
2	SITE INFORMATION	3
2.1	Site Condition and Surrounding Environment.....	3
2.1.1	Site Identification and Description.....	3
2.1.2	Site History	3
2.1.3	Current Use and Proposed Use	3
2.1.4	Surrounding Land Use	4
2.1.5	Topography, Surface Water, Drainage and Flood Potential.....	4
2.1.6	Soils, Geology and Hydrogeology.....	4
2.2	Potential Areas and Contaminants of Concern	5
3	IMPLEMENTATION OF THIS CEMP	6
3.1	Timing for Implementation of CEMP	6
3.2	Responsibilities.....	6
4	GENERAL SITE OPERATION.....	9
4.1	Hours of Work	9
4.2	Traffic and Pedestrian Management.....	9
4.3	Site Access and Protection	9
4.4	Noise and Vibration.....	9
4.5	Odour and Dust	10
4.6	Occupational Health and Safety	10
5	SOIL, SEDIMENT AND WATER MANAGEMENT	11
5.1	General Works.....	11
5.1.1	Handling of Contaminated and Potentially Contaminated Materials	11
5.1.2	Generation of Excess Soils and Waters	14
5.1.3	Generation of Acid Sulphate Soils	14
5.1.4	Excavation and Stockpiling.....	15
5.1.5	Stormwater and Sediment Control	16
5.1.6	Erosion Prevention and Control	16
5.1.7	Excess/Accumulated Waters.....	17
5.1.8	Dust Control	17
5.1.9	Odour Control	17
5.2	Materials Handling and Tracking.....	18
5.3	Waste Management.....	19

5.3.1	Waste Stream Management and Handling	19
5.3.2	Beneficial Re-use of Excess Materials	19
5.3.3	Waste Classification and Disposal	19
5.4	Imported Materials	19
5.5	Environmental Incident Reporting	20
5.6	Complaint Reporting and Resolution	20
6	UNEXPECTED FINDS PROTOCOL AND CONTINGENCY PLAN.....	21
6.1	Key Risks	21
6.2	Unexpected Finds.....	21
6.3	Heritage Items	22
7	LIMITATIONS	23
8	REFERENCES	24

LIST OF TABLES

Body report

Table 1: Current Use and Proposed Use	3
Table 2: Responsibility Matrix	7
Table 3: MUL Action Levels for Benzene Equivalents	14

LIST OF APPENDICES

Appendix A: Proposed Development Plans

1 INTRODUCTION

CONSARA Pty Ltd (CONSARA) has been commissioned by UrbanGrowth NSW (UrbanGrowth) to prepare this Construction Environmental Management Plan (CEMP) that will be implemented during works to develop an area along the northern end of Blackwattle Bay for temporary facilities to support the occupation of a wharf/marina to be constructed over water at the northern end of Blackwattle Bay. The temporary facilities are proposed to be constructed within the northern to central area of a property identified as 5 Bank Street. The proposed development plans for the temporary facilities and the location of wharf/marina facility are presented on the figures included as Appendix A. For the purpose of this CEMP the area on which these temporary facilities are to be located is referred to as 'the Site' as shown outlined in heavy red line on drawing S75-W-05 in Appendix A.

This CEMP has been developed with reference to the relevant requirements of the NSW Office of Environment and Heritage (NSW OEH) (2011) *Guidelines for Consultants Reporting on Contaminated Sites*, the National Environment Protection Council (NEPC) (2013) *National Environment Protection Measures (NEPM)*, the NSW DEC (2006) *Guidelines for the NSW Site Auditor Scheme – 2nd Edition*, the relevant requirements of the *Work Health and Safety Regulation 2011 (WHS Regulation)* and on the information presented in documents provided to CONSARA by UrbanGrowth.

The results of previous investigations on the Site have identified the presence of materials in the sub-surface of the land based areas of the Site that potentially could be contaminated with Polycyclic Aromatic Hydrocarbons (PAHs), petroleum hydrocarbons (TPH), heavy metals and asbestos (land based areas of Site only). Disturbance of these environments during the construction works required for the establishment of the temporary facility brings with it the potential of risk to the surrounding environment, associated with the potential exposure of the potentially contaminated materials, the potential for the migration of any contamination that may be present off-site or within the Site, as well as to construction personnel. This CEMP will be implemented to manage these potential risks during the construction works.

The construction activities that require disturbance of potentially contaminated materials are summarised in general terms as follows:

- Minor and Major Excavation Land Based works – any works that will require the disturbance of the current surface and sub-surface of the Site and includes disturbance of fill materials, natural soils and/or sandstone bedrock.

This CEMP addresses environmental management measures to be employed during construction activities that disturb potentially contaminated materials only and a further Long Term Environmental Management Plan will be prepared to manage the risks associated with the potential presence of contaminated materials at the Site following completion of the works.

1.1 Objective

The objective of this CEMP is to set out the environmental management measures that are required to be implemented during construction works in order to manage identified risks to Site personnel and the environment to ensure that:

- Comprehensive control measures are implemented to prevent the migration of potentially contaminated materials or waters off-site or within the Site;
- Works that require disturbance of natural soils, sandstone bedrock or potentially contaminated fill materials are undertaken in a manner that protects the health of the workers and users of the Site; and
- Any potentially contaminated materials excavated from the Site are appropriately stored, handled and, where required, either beneficially re-used on the Site or disposed of off-Site.

1.2 Persons referred to in this CEMP

Within this CEMP the following persons are referred to:

- **UrbanGrowth NSW (UrbanGrowth)** – Developer;
- **Contractor** – the party contracted by UrbanGrowth to undertake the construction of the proposed development works and responsible for undertaking the works as described in this CEMP following the guidance given in this CEMP;
- **Environmental Consultant** – the environmental consultant engaged by UrbanGrowth to prepare this CEMP, undertake any required inspections, waste characterisation of any soils required to be removed from the Site, determination of suitability of any soils for beneficial reuse and validation of any materials to be imported to Site during construction works.

2 SITE INFORMATION

2.1 Site Condition and Surrounding Environment

2.1.1 Site Identification and Description

The Site is located in Pyrmont approximately 1km west of Sydney CBD and directly adjoins Blackwattle Bay. The Site consists of the northern to central section of a property known as 5 Bank Street, Pyrmont.

The property at 5 Bank Street is noted to be primarily unsealed and covered with gravels comprised of crushed sandstone and concrete. A seawall forms the boundary of the property with Blackwattle Bay and a boat launching ramp is also present. There is a narrow area covered with grass near the seawall that forms the boundary of the property with Blackwattle Bay and a small section of bitumen pavement is also present on the southern boundary leading to the existing boat ramp. No buildings are present on this property and the property is fenced and secured by a locked gate at Bank Street. Storage of Dragon Boats was noted to be undertaken on the southern end of the property.

2.1.2 Site History

The Site is located within a local region that between the mid 1800s to the 1960s was occupied by a large range of industrial activity that included power stations, wool stores, railway yards, wharfs, abattoirs, tanneries and mills. Large scale infilling of the area now known as Wentworth Park, previously a large swamp referred to as Blackwattle Cove, commenced in the late 1870s to form Blackwattle Bay. Historical reports indicate that sediments dredged from the harbour were used as the filling materials along with waste and ballast materials.

In the vicinity of the Site it is understood that significant dredging and reclamation and infilling activities were undertaken in the late 1800s as part of the construction of the first Glebe Island Bridge with some further reclamation undertaken in the late 1980s as part of the preliminary works for the construction of the ANZAC Bridge. Historical reports indicate that the areas surrounding the bridge were primarily utilised for maritime related activities and light industrial activities.

2.1.3 Current Use and Proposed Use

The current and proposed uses of the Site are summarised in the table below.

Table 1: Current Use and Proposed Use

Area of Site	Current Use	Proposed Use
Entire 5 Bank Street	Dragon boat storage and use otherwise generally vacant, no buildings present, surface covering comprises primarily large gravels with some minor areas of grassed or bitumen surface cover adjacent to the seawall that forms the boundary of the property with Blackwattle Bay. Buttresses of ANZAC Bridge pylons present in north-western area. Boat ramp exists to provide vessel access and launch to Blackwattle Bay.	The Site is located within the northern to central area of 5 Bank Street and will be covered by proposed demountable buildings, storage containers and other minor structures, equipment and carparking for the proposed marina support facilities. In areas not occupied by buildings or other structures, the existing surface covering will either be maintained or be improved via the installation of a new asphalt pavement and minor garden beds at frontage of Site to Bank Street.

2.1.4 Surrounding Land Use

The land uses surrounding the Site are as follows:

- North – Light commercial, High Density Residential and Open Space Recreational uses;
- East – Roadways and High Density Residential
- South – Light industrial and commercial land use
- West – Blackwattle Bay

2.1.5 Topography, Surface Water, Drainage and Flood Potential

The topography of the land based areas of the Site is moderately sloping with an elevation of approximately 7 to 9 m Australian Height Datum (m AHD) on the level areas proximal to Bank Street and then slopes from Bank Street downwards to elevations of approximately 3 to 4 m AHD at Blackwattle Bay. Constructed seawalls form the western boundary of the land based areas of the Site with Blackwattle Bay with the exception of the existing ramp from 5 Bank Street to the bay.

A constructed stormwater system comprising surface pits and sub-surface pipes is present along Bank Street and stormwaters present in this system is expected to discharge to Blackwattle Bay. It is understood that no constructed stormwater system is present on the 5 Bank Street property and that surface water drainage from this land based area of the Site would flow into Blackwattle Bay. However, given the slope and current and proposed surface coverings on 5 Bank Street it is unlikely that sheet flows to Blackwattle Bay would be generated.

Given that Blackwattle Bay is part of Sydney Harbour it is tidally influenced and it is considered that the risk of flooding is low to negligible.

2.1.6 Soils, Geology and Hydrogeology

The Site is located in an area that is the result of significant dredging and reclamation activities that commenced in the late 1800s. The Soils Landscapes of the Sydney 1:100000 Sheet (SCS, 2009) indicates that the natural soils on the Site have been subject to significant disturbance by human activity and that filling materials comprising rocks, building and waste materials are likely to be present. Prior to filling, the soil landscape of the Site is likely to have been comprised of rugged rolling to very steep hills and rocky outcrops dominated by shallow lithosols and siliceous sands with some podzolic soils present in less exposed areas (SCS, 2009).

The fill materials and soils at the Site and surrounding area are underlain by Middle Triassic aged Hawkesbury Sandstone of the Wianamatta Group (DMR, 1991). The Hawkesbury Sandstone consists of medium to coarse-grained quartz sandstone, very minor shale, siltstone and laminite lenses.

The 1:25 000 Prospect/Parramatta River Acid Sulfate Soil Risk Map (DLWC, 1997) indicates that there is a high probability of the occurrence of acid sulfate soils within the soil profile located on the Site. Given the presence of sediments, dredged materials or similar on the Site, it is considered that there is a moderate to high potential for acid sulphate soils to be present on the Site.

Regional groundwater is expected to be present at depth within the Hawkesbury Sandstone underlying the Site and is likely to be present as flow through fractures such as joints and bedding plane partings or via permeable lenses of siltstone or laminate. Thus, the transmissivity of the sandstone aquifer is dependent on the frequency, openness and orientation of the fracturing present. Groundwater present sandstone is expected to be generally of reasonable quality with low salinity, whilst groundwater present in any siltstone and laminite lenses is expected to be of higher salinity (Pells 1985). Groundwater in the local region is not known to have been extracted for any beneficial use likely due to salinity and the presence of a reticulated water system. Based on local topography and surface drainage, groundwater in the bedrock is expected to flow to the west to north-west toward Blackwattle Bay.

Previous investigations identified that some limited groundwater was present perched within the fill materials at some locations at depths of between 2 to 4 metres below ground surface (m bgs), however, this perched groundwater

was found to be very limited in its extent, had low to negligible recharge and appeared to be present within horizons of more permeable fill materials.

Given that no excavation works are required for the proposed development on the Site, neither perched groundwaters nor potential acid sulphate soils are not expected to be encountered during the construction of the proposed development.

2.2 Potential Areas and Contaminants of Concern

The results of previous investigations on the Site (namely 5 Bank Street) have identified the presence and potential presence of fill materials in the surface and sub-surface. Where intrusive investigations have been undertaken the fill materials have been reported to contain ash, coke, coal tars and slag. These fill materials have been identified, in some locations, to be contaminated and potentially contaminated with polycyclic aromatic hydrocarbons, petroleum hydrocarbons and heavy metals. No fibrous asbestos (FA) and asbestos-containing materials (ACM) has been previously identified, however, given the history of filling activities conducted at the Site there is the potential for these materials to be present in surface and sub-surface soils.

It is noted that the contamination present or potentially present on the Site is classified as diffuse contamination and maybe heterogeneous in its nature and extent. Given the history of the area it is expected that such contamination or potential for contamination is not unique to the Site and would be present underlying the properties directly surrounding the Site and is likely to extent across the majority of properties that adjoin Blackwattle Bay.

3 IMPLEMENTATION OF THIS CEMP

This CEMP has been prepared to be applied during the construction works to be undertaken for the proposed development works which include, but may not be limited, to the following:

- Establishment of new surface levels across parts of the Site;
- Establishment and/or refurbishment of new and existing pavements or other surface coverings on parts of the Site;
- Relocation of existing fences and installation of new fencing and gates on land based areas of the Site;
- Establishment of vegetation/planting at the frontage of the Site with Bank Street; and
- Any other works that may require the disturbance, movement, handling of or potential exposure of construction worker to potential contaminated fill materials, natural soils, waters or bedrock at the Site.

3.1 Timing for Implementation of CEMP

No earthworks or surface or sub-surface excavations disturbance works or other intrusive works are to be undertaken on the Site until the environmental management measures set out in this CEMP are installed and functional.

3.2 Responsibilities

UrbanGrowth is responsible for the overall implementation and maintenance of this CEMP and for ensuring that owners, occupiers, tenants and contractors working at the Site have been informed of the requirements of the CEMP prior to commencement of works.

The Contractor is responsible for implementing the requirements of the CEMP prior to commencement of and during construction works at the Site. It is noted that this CEMP requires the Contractor to prepare additional specific plans, as set out in Section 4 and 5, which must be prepared and provided to UrbanGrowth for approval prior to the commencement of works on the Site.

The specific responsibilities of UrbanGrowth, the Contractor and the Environmental Consultant are outlined in Table 1 below.

Table 2: Responsibility Matrix

Position and Company/Entity	Responsibilities
UrbanGrowth (Developer)	- Advise persons occupying and working at the Site of the requirements of the CEMP; - Ensure implementation of the CEMP requirements; - Undertake regular inspections to ensure Contractor compliance with CEMP; - Ensure appropriate consents and licences (as required) are obtained for the works; - Provide a copy of the CEMP to the Contractor who are undertaking the works; - Ensure relevant and appropriate site personnel and contractors comply with the requirements of the CEMP; - Ensure relevant and appropriate site personnel and contractors clearly understand the requirements of the CEMP and ensure that compliance with the CEMP is a condition of any agreement with these parties; - Obtain advice if the condition of the Site or the proposed construction works are changed, and, if necessary, arrange for an appropriately qualified party to update the CEMP, informing other relevant and appropriate parties, including the Contractor and Environmental Consultant, of the changes; - Provide approvals as required by this CEMP; - Provide direction as required by this CEMP
Contractor (Company engaged by UrbanGrowth to complete construction works required for the development works)	- Procure the training and induction of employees and sub-contractors before and during the works, as appropriate and relevant; - Implement the CEMP to ensure compliance; - Complete the registers, databases and records required by the CEMP; - Conduct works in an environmentally responsible manner; - Meet relevant Work Health and Safety regulatory requirements; - Implement the works in a safe and responsible manner; - If unexpected conditions are encountered during excavation works notify UrbanGrowth and the Environmental Consultant; - Complete non-conformance and corrective action reports as required and undertake follow-up corrective actions, as required; - Ensure monitoring is conducted as required in the CEMP; - Where required engage suitably qualified Occupational Hygienist to conduct any required air monitoring for asbestos fibres or other contaminants; - Undertake audits of activities in accordance with the requirements of the CEMP; - Ensure non-conformance and/or complaints are reported to UrbanGrowth; - Undertake corrective actions in response to requests made by UrbanGrowth regarding specific environmental or safety issues; - Ensure all works comply with relevant regulatory requirements; - Inform UrbanGrowth if conditions change significantly from those documented in the CEMP.

Position and Company/Entity	Responsibilities
Environmental Consultant (Company engaged by UrbanGrowth to ensure Contractor compliance with CEMP and to undertake any environmental monitoring and sampling required during the works as set out in this CEMP)	- Comply with the CEMP; - Provide advice to UrbanGrowth and Contractor concerning handling, storage and disposal of potentially contaminated soils and water; - Notify UrbanGrowth and Contractor of any CEMP non-compliances identified during any inspections conducted during the construction works; - Undertake any required environmental monitoring as set out in CEMP; - Characterise waste soils for disposal, if required; - Validate imported materials, if required; - Make an assessment and provide advice in the event of unexpected finds and/or non compliances with CEMP; - Provide approvals as required by this CEMP; - Provide direction as required by this CEMP

4 GENERAL SITE OPERATION

4.1 Hours of Work

The hours of construction, including the delivery of materials to and from the Site, shall be restricted as follows:

- Between 7:00 am and 6:00 pm, Mondays to Fridays inclusive;
- Between 8:00 am and 1:00 pm, Saturdays;
- No work on Sundays and public holidays; and
- Works may be undertaken outside these hours where:
 - The delivery of materials is required outside these hours by the Police or other authorities;
 - It is required in an emergency to avoid the loss of life, damage to property and/or to prevent environmental harm; or
 - Variation is approved in advance in writing by UrbanGrowth or as directed in the conditions of approval for the development.

4.2 Traffic and Pedestrian Management

Traffic and pedestrian management is the responsibility of the Contractor. Prior to the commencement of construction works a Traffic and Pedestrian Management Plan must be prepared in accordance with the relevant standards and the plan is required to address, but not be limited to, the following components:

- Ingress and egress of vehicles to the Site;
- Loading and unloading, including construction zones;
- Predicted traffic volumes, types and routes;
- Pedestrian and traffic management methods and controls;
- Any required controls on management of water traffic during over water works.

The Traffic and Pedestrian Management Plan must be provided to UrbanGrowth for their approval prior to the commencement of works on the Site by the Contractor.

4.3 Site Access and Protection

During the construction works effective site signage and security that will prevent the exposure of the general public to potentially contaminated materials and/or to hazards that may exist during the course of the works and prevent damage to environmental control structures is to be established and maintained by the Contractor. During works, barriers will be installed which will restrict access to the designated works area. Only authorised persons will be able to enter the work area.

Appropriate hording or fencing must be erected between the Site and areas accessed by the public during the works when the works are likely to cause obstruction or inconvenience to pedestrian or vehicular traffic in that public place or if the works require the enclosure of a public place. The installation, maintenance, management and removal of any required hoarding or fencing is the responsibility of the Contractor.

4.4 Noise and Vibration

The Site is located proximal to a residential area and therefore the noise that the works generate should be controlled by the Contractor by the following means:

- Ensure works are undertaken within appropriate hours of operation set out above;
- Restricting the operation of high noise plant and machinery such as pile driver, rock breakers and hydraulic hammers to within the following restricted hours of operation:
 - Between 9:00am -12:00pm and 2:00pm -5:00pm Monday to Friday; and
 - Between 8:30am – 12:00pm Saturdays
- Ensuring that no vehicles, machinery or equipment generate noise levels beyond applicable guidelines; and
- Ensuring that all equipment and machinery shall be operated in an efficient manner to minimise the emission of noise.

Construction work should be undertaken to comply, where relevant, with the guidance provided in the NSW Department of Environment and Climate Change (DECC)(2009) *“Interim Construction Noise Guideline”* and the Australian Standard 2436-2010 *“Guide to Noise Control on Construction Maintenance and Demolition Sites”* for the control of construction site noise. The Construction Contractor is required to notify UrbanGrowth of any activities that could exceed the construction noise management levels and how the noise generated from these activities will be managed. Where relevant such noise mitigation measures must be presented by the Contractor in a Construction Noise Management Plan that is provided to and approved by UrbanGrowth prior to commencement of works.

The Contractor should use advanced technology and the best practicable means to prevent or mitigate the effects of noise emissions from the works, and shall be prepared to demonstrate that plant, equipment and methods comply with these requirements at all times.

It is anticipated that the proposed works will not generate vibration such that any control measures will be required. However, any vibration caused by construction at any residence or structure outside the Site must be limited to:

- For structural damage vibration, German Standard DIN 4150 Part 3 Structural Vibration in Buildings. Effects on Structures;
- For human exposure to vibration, the evaluation criteria presented in British Standard BS 6472- Guide to Evaluate Human Exposure to Vibration in Buildings (1Hz to 80 Hz) for low probability of adverse comment;
- Vibratory compactors must not be used closer than 30 metres from residential buildings unless vibration monitoring confirms compliance with the vibration criteria specified above;

It is noted that these limits apply unless otherwise detailed by the Contractor in a Construction Vibration Management Plan that is provided to and approved by UrbanGrowth prior to commencement of works on the Site by the Contractor.

4.5 Odour and Dust

The requirements of this CEMP must be implemented by the Contractor to ensure that adequate measures are undertaken to adequately prevent odour and dust from the Site and affecting the amenity of the neighbourhood during construction. These measures are detailed in Sections 5.1.8 and 5.1.9 of this CEMP.

4.6 Occupational Health and Safety

The Contractor is required to prepare a detailed Site-specific Work Health and Safety Plan that is prepared and implemented in accordance with all relevant and applicable Health and Safety legislation, regulations, codes and guidelines. This plan must be prepared to adopt the personal protective equipment and control measures set out in this CEMP to ensure the protection of worker health due to the potential for contaminated materials to be exposed and handled during the construction works.

The Site-specific Work Health and Safety Plan must be provided to and approved by UrbanGrowth prior to the commencement of works on the Site by the Contractor.

5 SOIL, SEDIMENT AND WATER MANAGEMENT

The construction works shall be conducted in strict accordance with the soil, sediment and water management measures outlined in this section. The control measures set out below have been designed to mitigate soil erosion, sediment disturbance and control discharge of sediment, nutrients and other pollutants to the land and/or waters during works.

The objective of these measures is to ensure that the construction works do not contribute to sedimentation of waterways and drainage systems or cause wind blown soil loss or result in the discharge of contaminated or potentially contaminated sediments, soils or waters from the Site.

5.1 General Works

The construction works required to be undertaken on the Site must implement the following general measures:

- Prevent migration of any waters generated during the works, geosocks or similar will be placed around any newly disturbed surfaces/excavated areas where soils are exposed and stockpiled material to prevent sediment and contaminant laden runoff into nearby stormwater drains or surface water bodies;
- Any material which is collected behind the sediment control structures shall be either placed into a designated stockpile or incorporated back into the stockpiled material from which it was generated;
- Storage and stockpiling during construction works must not be located outside the boundaries of the Site;
- Any materials that require disposal off-site will require the Environmental Consultant to conduct appropriate sampling and analysis to determine the requirements for off-site disposal in accordance with NSW EPA (2014) *“Waste Classification Guidelines”* or equivalent. Waste Classification information must be obtained by the Contractor from the Environmental Consultant prior to any soil material or waters being disposed off-site;
- Any excess materials shall be treated and handled as per the requirements outlined in this CEMP.

5.1.1 Handling of Contaminated and Potentially Contaminated Materials

The results of previous investigations have identified the presence of fill materials in the surface and sub-surface of the Site that have been reported to contain ash, coke, coal tars and slag. These fill materials have been identified, in some locations, to be contaminated with polycyclic aromatic hydrocarbons, petroleum hydrocarbons and heavy metals. No fibrous asbestos (FA) and asbestos-containing materials (ACM) has been previously identified, however, given the history of filling activities conducted at the Site there is the potential for these materials to be present in surface and sub-surface soils.

Any solid or liquid materials excavated from the surface and sub-surface of the Site must be handled with care and in accordance with the requirements set out below.

5.1.1.1 Identifying Contaminated or Potentially Contaminated Materials

The contamination expected to be potentially present in the fill materials on the Site and the associated hazards are generally detectable through visual or olfactory means such as:

- Ash or coke or coal tar or slag contaminated soils through visual observation;
- Hydrocarbon or coal tar or other non-aqueous phase liquids or impacted materials through presence of slicks, sheens, staining and odours; and
- Construction /demolition associated waste through visual observation.

In the event that one or more of the above mentioned substances are encountered, the following steps should be undertaken:

- STEP 1: Immediately cease work and prevent access and exposure to workers.
- STEP 2: Contractor to contact UrbanGrowth.
- STEP 3: Contractor to contact Environmental Consultant to discuss nature of material encountered.
- STEP 4: Environmental Consultant will decide options for continued work based on discussion with Contractor and notify both UrbanGrowth and the Contractor:
 - Option 1: If material is consistent with ash, coke and slag contaminated fill known to exist on Site, Contractor will be advised to continue excavation, stockpile fill material separately with appropriate environmental controls as described in this CEMP and to ensure that all workers potentially in contact with potentially contaminated fill materials use appropriate PPE as described in Section 5.1.1.3 of this CEMP; or
 - Option 2: If material is observed to contain or potentially contain FA or ACM the Contractor may be advised to implement their Asbestos Management Plan (see Section 5.1.1.2 below) and to stop work until the Environmental Consultant can attend Site and assess the material.
 - Option 3: If material is not consistent with fill known to exist on the Site the Contractor may be advised to stop work until the Environmental Consultant can attend Site and assess the material.
- STEP 5: Environmental Consultant to undertake detailed inspection and sampling and analysis of material (if deemed to be required)(either in-situ or in stockpile).
- STEP 6: Environmental Consultant to assess analytical results against relevant guidelines made or endorsed by NSW EPA.
- STEP 7: Environmental Consultant to provide information and advice to UrbanGrowth and the Contractor on the outcomes of any inspections or assessment undertaken.
- STEP 8: Contractor to implement relevant advice.
- STEP 9: Contractor provides confirmatory evidence of implementation of required works to UrbanGrowth and Environmental Consultant.

5.1.1.2 Asbestos Management

Given the potential for FA and ACM to be present the Contractor must be appropriately licenced and shall prepare and implement an Asbestos Management Plan (AMP) in accordance with the requirements of the relevant WH&S regulations and NSW Workcover. NSW Work Health and Safety Regulation 2011 sets out the requirements for working with and removing asbestos. Additional guidance is found in the NSW WorkCover *Guide Working with Asbestos* 2008 and the Safe Work Australia *How to manage and control asbestos in the workplace*. Code of Practice. 2009. Works on the Site must not commence until the AMP is prepared and provided to the UrbanGrowth for review and approval.

The AMP must contain the following:

- The steps to be undertaken during excavation works to identify the presence of or potential presence of FA or ACM on the Site;
- The steps to be undertaken should excavation works uncover the presence of or potential presence of FA or ACM on the Site and the control measures that will be implemented to prevent release of asbestos fibres and to ensure:
 - The health of neighbouring occupants is being protected;
 - The health of workers is being protected.
- Health, safety and environmental management controls during excavation, transportation, stockpiling and placement of materials containing or potentially containing FA and/or ACM;
- Waste management practices for asbestos materials;
- Actions in the event of identification of significant asbestos contamination;

- An asbestos air monitoring program and dust monitoring program designed to meet the following objectives:
 - Determine if the health of occupants and workers is being protected;
 - Determine if control measures and preventative actions are effective;
 - Determine changes in airborne asbestos fibre levels;
 - Determine if changes to work practices and procedures result in increased levels of airborne asbestos fibre;
 - Promote the implementation of more effective preventative measures; and
 - Assess compliance with workplace and environmental goals.

It is noted that the AMP must also contain the following provisions:

- ACM that is encountered during works at the Site, as a precautionary measure, are to be considered as friable (meaning the materials can be reduced to a powder between the fingers), until it is proven not to be friable. However, common sense is required to be exercised. For example, if a few fragments of bonded asbestos cement materials (fibro) are present, it is safe to pick them up if appropriate PPE is utilised (disposable gloves, P2 dust mask), and to place them in double plastic bags for disposal in a dedicated container and subsequent disposal at a landfill licensed to receive this class of material;
- However, if a large number of ACM fragments or friable material is encountered, the possibility of friable asbestos being present is increased. If either a large quantity of ACM fragments and/or friable asbestos are identified or suspected during intrusive activities, excavation works should stop and the materials should be covered with substantial plastic sheeting that is securely anchored to the ground surface and be enclosed within a barrier to prevent access. Appropriate signage should be displayed to warn of the presence of these materials and the procedure described below is required to be implemented;
- Water blasting of asbestos-containing material is prohibited;
- Excavated soils containing or suspected of containing potentially friable asbestos must not be left unattended. If it is necessary to leave the Site unattended, the fill materials or soils are required to be dampened to prevent generation of dust, and placed back in the excavation and the surface cover reinstated so that exposure to these materials cannot be gained by casual users of the Site;
- Any placement and compaction of soils potentially containing asbestos must be undertaken in a manner that mitigates the potential release of fibres. Those contracted to carry out the work must be informed of the dangers involved and the precautions that should be taken. It is the Contractor's responsibility to determine the protocols to be undertaken during placement and compaction works are appropriate to protect worker health. Such measures must include appropriate dust control, suppression and monitoring; and
- At the earliest practical time after the identification of a large number of ACM fragments and/or potentially friable asbestos materials, the Contractor must contact UrbanGrowth for advice on how to proceed.

5.1.1.3 Personal Protective Equipment

Personnel working on Site must wear PPE that is specified by the Contractor in their WHS documentation. In addition, the following PPE is required to be worn when in the vicinity of operational machinery or when in contact with soil/water:

- Long Sleeved shirt and Long Pants;
- Safety glasses;
- Gloves.

If during construction works, particularly during excavation works, unusual or unexpected odours are noted by any personnel, the Environmental Consultant must be notified and a PID monitor must be made available on-site to

monitor the breathing zone of site personnel. Should the results of monitoring indicate a potential issue a half-face respirator fitted with relevant organic chemical filters and coveralls/tyvex (chemical resistant) must be made available for use in the event that significant contamination/odours are encountered. If the MUL Action levels and PPE requirements for benzene (most conservative and PID measures benzene equivalents) as presented in the table below are to be applied as a minimum within the breathing zone during the works.

Table 3: MUL Action Levels for Benzene Equivalents

Chemical Hazards:	Risk: H - High M - Med L - Low	TWA (ppm)	STEL (ppm)	MUL Action levels (75% safety margin worked into MUL)				LEL (%)
				No APR	½ face APR	full face APR	IDLH reached	
☒ Benzene	L	0.7	2.5 ^(a)	3	26	53	1000	5
Max Use Limit (MUL) = (Protection Factor x Exposure Limit) x 75% ** PF= 10 for ½ face, 50 for full face, 10000 for SCBA (a). No Occupational Exposure Standard exists as an STEL. This is calculated to be a maximum of 2.5 times the unadjusted TWA of 1 TWA Concentrations are based on a maximum 10 hr day								

As set out in Section 5.1.1.1 above, the Contractor is to prepare an AMP that will provide the relevant requirements for the handling of asbestos containing or potentially asbestos containing materials, if they are uncovered during the works. In the event that FA or ACM is uncovered the requirements for personal protective equipment and the requirements for an asbestos air monitoring program set out in the AMP will be implemented.

5.1.2 Generation of Excess Soils and Waters

The construction works will require excavation of the surface and into the sub-surface of parts of the Site and as such excess materials will be generated. Excess materials are likely to primarily consist of fill materials though some natural soils/sands or bedrock may also result. Excess soils generated will be required to be stockpiled and managed in accordance with the requirements of this CEMP.

It is expected that the excavation works required would not impact on any perched groundwater table that maybe present in the fill materials at depth and it is not expected that dewatering of excavations would be required.

Given the current gradient across the Site and the surface coverings, it is not expected that sheet flow or large volumes of surface water flows could be expected to be generated on the Site during the construction works. Where excess/accumulated waters are generated on the Site then they will be required to be stored and managed in accordance with the requirements of this CEMP.

5.1.3 Generation of Acid Sulphate Soils

As stated above, it is anticipated that the construction works on the Site will not require the lowering of the ground surface level or the shallow groundwater table such that dewatering of excavations would be required or that potential acid sulfate soils will be encountered or that acid sulphate soils could be generated.

As such, an acid sulphate soils management plan is not required for the construction works. However, if during construction works, potential acid sulphate soils are encountered then the Contractor is required to notify UrbanGrowth to seek advice on how to proceed.

5.1.4 Excavation and Stockpiling

5.1.4.1 Excavation Works

Excavation works are any works that involve the disturbance of the current surface and/or sub-surface of the Site and includes disturbance of fill materials, natural soils and/or sandstone bedrock.

Any excess soils and/or rock generated must be transferred to a designated area for stockpiling for sampling and analysis to be undertaken by the Environmental Consultant to either determine the stockpiled materials suitability for beneficial re-use elsewhere on the Site (preferred) or to determine if they require disposal off-site by the Contractor.

Care should be taken during excavation and stockpiling to ensure that soil materials from distinctly different horizons are not mixed and that different types of materials are stockpiled separate from each other in order to maximise the potential beneficial re-use and/or minimise the volumes requiring off-site disposal.

Excavation works will require the Contractor to ensure the following:

- Implementation of necessary environmental protection measures in accordance with the requirements of this CEMP; and
- Documenting and recording the works.

5.1.4.2 Stockpiling Works

During the excavation and earthworks on the Site, stockpiles are required to be established in designated areas, to be nominated by the Contractor and approved by UrbanGrowth or the Environmental Consultant. All stockpiles will be maintained in an orderly and safe condition according to the requirements of this CEMP. The movement of stockpiles will need to be undertaken in accordance with the materials tracking requirements of this CEMP.

As stated above, if excess soils and/or rock are generated then these should be transferred and placed to a designated area for stockpiling to allow for sampling and analysis to be undertaken by the Environmental Consultant to either determine the stockpiled materials suitability for beneficial re-use elsewhere on the Site (preferred) or to determine if they require disposal off-site by the Contractor.

Care should be taken during excavation and stockpiling to ensure that soil materials from distinctly different horizons are not mixed and that different types of materials are stockpiled separate from each other in order to maximise the potential beneficial re-use and/or minimise the volumes requiring off-site disposal.

It is preferred that stockpiling works are undertaken on any available existing hardstand (bitumen, concrete or similar) on the Site, however, should unsealed areas of the Site be required to be used for stockpiling then the Contractor is required to establish a ground cover using HDPE plastic or similar, to protect the ground surface, prior to the placement of the stockpiled materials. If such an approach is undertaken, confirmation sampling would not be required after removal of the stockpiled material. If, however, stockpiles of contaminated or potentially contaminated materials are placed directly onto the ground surface (i.e. not on the concrete pads), then sampling may be required to be conducted by the Environmental Consultant after the removal of the stockpiled materials, however, the requirement for such sampling works would be determined by the Environmental Consultant.

Where stockpiling is required the stockpiling of excavated material will comprise the following:

- Establishment of stockpiles in designated areas;
- Implementation of necessary environmental protection measures in accordance with the requirements of this CEMP;
- Documenting the location and observations of stockpiles and any other activities relevant to the works such as:
 - Following the implementation of any environmental control measures; and

- Following storm/rainfall events to assess the potential for sediment (and contaminant) laden run-off.

5.1.5 Stormwater and Sediment Control

Stormwater and sediment control is needed to prevent flows of surface water and/or deposition of sediments off-site either onto neighbouring properties or to Blackwattle Bay and must include the following:

- Installation and maintenance of perimeter control barrier measures and fencing up-slope but along the line of the seawalls if they form the boundary of the Site with Blackwattle Bay for the duration of the works. These control measures must be constructed to minimise migration of sediment and waters, primarily as a component of surface run-off to Blackwattle Bay. These measures should be constructed as silt fences constructed of filter fabric or mesh. Should conditions require it, straw bales may also be needed;
- Installation and maintenance of perimeter control barrier measures along the boundary of the Site with the surrounding properties. These control measures must be constructed to minimise migration of sediment and waters, primarily as a component of surface run-off into neighbouring properties and roadways and to other parts of the Site. These measures should be constructed as silt fences constructed of filter fabric or mesh;
- Installation and maintenance of perimeter control barrier measures around designated stockpile areas and water retention areas for the duration of the works. These control measures must be constructed to minimise migration of soils as sediment and waters, primarily as a component of run-off from the surface of the stockpiles to the surrounding areas of the Site. These measures should be constructed as silt fences constructed of filter fabric or mesh. Should conditions require it, straw bales may also be needed surrounding the stockpiles;
- Perimeter control barriers may require scour protection or similar to divert surface runoff away from the boundaries of the Site. The requirement for such measures is to be determined by the Contractor. Surface run-off generated within the Site will be diverted by a series of bunds into temporary stormwater retention areas to be constructed by the Contractor. These retention areas will be located away from the boundaries of the Site and must be constructed with a minimum storage capacity to contain a 10 year ARI storm event of 6 hours duration, as per the recommendation in the CALM *Urban Erosion and Sediment Control Guideline* (1992) and the *'Blue Book - Managing Urban Stormwater: Soils and Construction'*, Landcom (2004). Following completion of the earthworks, the retention areas and associated bund structures are to be assessed by the Environmental Consultant. The Environmental Consultant will collect samples from the floor and walls of the pond and analyse samples for the chemicals of concern.

All stormwater and sediment control should be checked for damage, regularly and immediately after periods of significant rainfall to ensure their effective functioning. Deposited sediments must be removed by the Contractor and transferred to the designated stockpile area and retained within a separate stockpile to allow for the Environmental Consultant to determine the options for either beneficial re-use or disposal off-site. Accumulated waters outside of the designated stormwater retention areas must be transferred by the Contractor to the retention areas to allow for the Environmental Consultant to determine options for disposal.

5.1.6 Erosion Prevention and Control

It is noted that the construction works on the Site are assessed as being of moderate erosion hazard due to the very moderate slope gradient across the areas of the Site where excavation works are to be undertaken. The Site currently has no topsoil or vegetative cover and is surfaced with either bitumen, concrete or gravel roadbase. As such general erosion control measures are considered to be adequate to prevent erosion during construction works as follows:

- Where possible ensure that only minimum areas of land are disturbed at any one time and where disturbed surfaces remain unsealed during the works , ensure that they are left with a scarified surface to inhibit soil erosion;
- Ensuring that during periods of high wind, to prevent wind blown soils and dust, that all disturbed areas and stockpiled materials that may create dust are wetted down or covered;
- Ensuring that during construction that excavations that are deeper than 0.5 m are not left open for a period of more than 12 hours or overnight;
- Ensure stockpiles are:
 - Located only within the designated stockpile area away from the boundaries of the Site;
 - Located on liners or hardstand and any bunding must also be located either within the liner footprint or on hardstand;
 - Formed to be protected from run-on water upslope and with sediment filters immediately downslope to protect areas from runoff from the stockpiles; and
 - Not greater than 3 metres in height and stabilised by covering or hydro seeding or spraying if retained for longer than 10 days to minimise runoff and sediment transportation.

All erosion prevention and control measures should be implemented for the duration of the works and where physical controls are installed, they need to be regularly checked and immediately after periods of significant rainfall to ensure their effective functioning.

5.1.7 Excess/Accumulated Waters

Any accumulated waters encountered during works require handling with appropriate PPE as set out in Section 4.1 of this CEMP. Large volumes of excess waters are not to be disposed onto unsealed areas of the Site or to Blackwattle Bay without the Environmental Consultant providing confirmation that the waters are of an appropriate quality for this activity to be acceptable. Any excess waters deemed not appropriate to be disposed onto unsealed areas of the Site or Blackwattle Bay must be disposed off-site. Any liquids that require disposal off-site will require the Environmental Consultant to conduct appropriate sampling and analysis to determine the requirements for off-site disposal in accordance with NSW EPA (2014) guidelines or equivalent.

5.1.8 Dust Control

The Contractor is required to ensure that adequate measures are undertaken to prevent dust from affecting the amenity of the neighbourhood during construction. In particular, the following measures must be adopted:

- Physical barriers to be erected at right angles to the prevailing wind direction or being placed around or over dust sources to prevent wind or activity from generating dust emissions;
- Earthworks and scheduling activities shall be managed to ensure that only minimum areas of land are disturbed at any one time and where disturbed surfaces remain unsealed during the works , ensure that they are left with a scarified surface to inhibit soil erosion;
- Ensuring that during periods of high wind, to prevent wind blown soils and dust, that all disturbed areas and stockpiled materials that may create dust are wetted down or covered;
- Vehicles carrying spoil or rubble to or from the Site shall at all times be covered to prevent the escape of dust or other materials;
- All equipment wheels shall be washed before exiting the site using manual or automated sprayers and drive through washing bays (if applicable);
- Gates shall be closed between vehicle movements and shall be fitted with shade cloth; and
- Cleaning of footpaths and roadways shall be carried out regularly by manual dry sweep or by use of a cleaning vehicle.

5.1.9 Odour Control

The objective of odour control measures implemented on the Site is to take all practicable measures to ensure that odours emanating from within the Site are minimised such that nuisance odours cannot be detected outside the Site boundaries and the ambient air quality is not adversely impacted.

Odour and air quality is to be managed by the Contractor adopting the following procedures:

- If during excavation works odours are noted to be present the Contractor must notify the Environmental Consultant for an assessment to be undertaken and to determine the response measures which may include the following:
 - Minimising the areas of exposed materials within excavations and covering excavated materials with plastic sheeting, etc;
 - Securely covering loads of contaminated or waste materials leaving the Site ;
 - Where excavations are open to the environment and odours are being generated such that controls are required, setting the area under direct supervision, with mist sprays and where (and if) required movable mist sprays to be set up on the site boundary fences to provide additional odour suppression;
 - Undertaking excavation activities in favourable weather conditions; and
 - Adequate maintenance of equipment and machinery to minimise exhaust emissions.

Excavations and stockpiled materials that have been confirmed by the Environmental Consultant to have the potential to emit odour must be monitored with a PID unit (equipped with high intensity lamp) on a regular basis. Section 5.1.1.3 of this CEMP specifies the PID criteria that would require work to cease and additional protective measures to be implemented.

5.2 Materials Handling and Tracking

The movement of materials within the Site must be tracked and the Contractor is required to prepare a Materials Tracking Plan, in which records of the following must be kept and maintained:

- Any materials imported onto the Site;
- Any movement and placement of materials within the Site; and
- Any materials disposed off-site.

All loading and unloading associated with the construction activity must be accommodated on the Site, unless relevant approvals have been sought by the Contractor from the local council or other relevant authorities.

Transfer of excess materials to the designated stockpiling areas for beneficial re-use or for off-site disposal will occur via the use of either off-road articulated dump trucks or scrapers or other appropriate equipment nominated by the Contractor. During the transfer of the materials due care will be taken to ensure that the loads do not exceed the capacity of the vehicles, and that spillages of materials are prevented.

All appropriate site rules shall be observed during the transfer of material including obeying restricted speed limits, vehicles to proceed in a forward direction only (i.e. reversing to be avoided where practicable) and trucks to remain on designated site routes where possible.

Any soils, sediments and excess/accumulated waters encountered during construction works require handling with appropriate Personal Protection Equipment (PPE) as set out in Section 5.1.1.3 of this CEMP.

The Environmental Consultant will determine the options for either beneficial re-use or disposal off-site of stockpiled materials. Materials sourced from different areas of the Site or from different sources on the Site must be subject to segregated stockpiling to ensure that contaminated materials are not mixed with uncontaminated materials. The segregation of stockpiled materials is to be managed by the Contractor and assessed by the Environmental Consultant. Where sediments are required to be stockpiled, these materials must be kept separate from materials generated from land-based works and are to be classified by the Environmental Consultant for the purpose of off-site disposal

Any excess/accumulated waters are not to be disposed onto unsealed areas of the Site or to Blackwattle Bay without the Environmental Consultant providing confirmation that the waters are of an appropriate quality for this activity to be acceptable. Any excess/accumulated waters deemed not appropriate to be disposed onto unsealed areas of the Site or to Blackwattle Bay must be disposed off-site.

Any materials (solid or liquid) that require disposal off-site will require the Environmental Consultant to conduct appropriate sampling and analysis to determine the requirements for off-site disposal in accordance with NSW EPA (2014) guidelines or equivalent. Waste Classification information must be obtained by the Contractor from the Environmental Consultant prior to any material being disposed off-site. Details of any off-site disposal of soil or other materials from the Site during the constructions works will be required to be recorded by the Contractor in the Materials Tracking Plan and must be provided to UrbanGrowth.

5.3 Waste Management

5.3.1 Waste Stream Management and Handling

The Contractor is responsible for the management and handling of the different waste streams that may be generated during the works on the Site.

Materials sourced from different areas of the Site or from different sources on the Site must be subject to segregated stockpiling to ensure that contaminated materials are not mixed with uncontaminated materials. The segregation of stockpiled materials is to be managed by the Contractor and assessed by the Environmental Consultant.

5.3.2 Beneficial Re-use of Excess Materials

Any stockpiled materials generated from land based areas of the Site will be subject to assessment by the Environmental Consultant to determine if the materials can be beneficially re-used on the Site. It is UrbanGrowth's preference to re-use excess materials where appropriate and deemed suitable by the Environmental Consultant. The Contractor must not determine the end-point for stockpiled materials. This work is to be undertaken by the Environmental Consultant.

5.3.3 Waste Classification and Disposal

Any materials (solid or liquid) that are deemed by the Environmental Consultant (or if the materials are sediments) to require disposal off-site the Environmental Consultant will conduct appropriate sampling and analysis to determine the requirements for off-site disposal in accordance with NSW EPA (2014) guidelines or equivalent. Waste Classification information must be obtained by the Contractor from the Environmental Consultant prior to any material being disposed off-site. Details of any off-site disposal of soil or other materials from the Site during the constructions works will be required to be recorded by the Contractor in the Materials Tracking Plan and must be provided to UrbanGrowth.

5.4 Imported Materials

Materials to be imported onto the Site by the Contractor for the purposes of achieving RLs, re-instatement, establishing a suitable sub-grade for pavement or landscaping or similar must be subject to assessment by the Environmental Consultant to determine whether certification documentation supplied with the materials is deemed to appropriate or whether confirmation sampling and analysis is required.

Materials to be imported on the Site must satisfy the following criteria:

- Virgin excavated natural materials (VENM) must satisfy the criteria stated in NSW EPA (2014) and NSW DEC (2006) guidelines and be demonstrated to be:
 - Natural material (such as clay, gravel, sand, soil or rock fines);

- Materials that has been excavated or quarried from areas that are not contaminated with manufactured chemicals or process residues, as a result of industrial, commercial, mining or agricultural activities; and
- Materials that do not contain any sulfidic ores or soils or any other waste.
- Topsoils, growing media, mulch etc. for landscaping purposes must be visually inspected (at source and upon delivery at the Site) for foreign substances, suspicious staining and/or odours;
- Materials that are permitted to be brought onto the Site via an exemption issued under the POEO Act. The requirements of any such exemption, prior to, during and/or after importation of materials must be fully complied with;
- Any materials proposed to be imported to the Site must not contain any of the following:
 - Marine mud, peat, vegetation, timber, organic, soluble or perishable materials,
 - Dangerous or toxic material or material susceptible to combustion;
 - Metal, rubber, plastic or synthetic material or other forms of general rubbish; and/or
 - Construction/demolition debris.

Materials are not to be imported onto the Site until the Environmental Consultant has provided to the Contractor approval. If materials are imported on the Site then their use and placement is to be recorded in the Materials Tracking Plan for the Site in accordance with Section 5.3 of this CEMP.

5.5 Environmental Incident Reporting

The Contractor is required to prepare a Pollution Incident Response Management Plan for the works on the Site. This plan must set out the procedures to be undertaken during the works to:

- Ensure timely reporting about a pollution incident to: UrbanGrowth and where relevant to the Environment Protection Authority (EPA), Fire and Rescue NSW, NSW Ministry of Health, WorkCover NSW, local councils and surrounding properties that may be affected by a pollution incident;
- Minimise and control the risk of a pollution incident during the works by identifying the risks and the development of planned actions to minimise and manage those risks.
- Ensure that the plan is properly implemented by personnel, identifying persons responsible for implementing it, and ensuring that the plan is tested for accuracy, currency and suitability.

Works on the Site must not commence until the plan is prepared and provided to the UrbanGrowth for review and approval.

5.6 Complaint Reporting and Resolution

Complaints from any parties will be directed initially to the Contractor. Following that, discussion with UrbanGrowth and the complainant will investigate the issue and remedy it as required or applicable. The Contractor is required to keep a detailed record of any complaints received and their resolution.

6 UNEXPECTED FINDS PROTOCOL AND CONTINGENCY PLAN

6.1 Key Risks

The purpose of this contingency plan is to outline procedures for the identification and management of unexpected issues or events that may occur during the construction works on the Site.

The key risks that have the potential to arise during the works include:

- Unexpected finds;
- Seawall discovery; and
- Heritage (archaeological) discovery.

The contingency measures that will be implemented in the event of the above are discussed below.

6.2 Unexpected Finds

Given the historical nature of the filling activities conducted on the land based areas of the Site and the historical dredging activities likely to have been undertaken in the over water areas of the Site there is a potential for unanticipated contamination (i.e. gross contamination, contaminated soil, water or debris) and/or potential source structures such as underground fuel storage tanks to be encountered.

Should contamination not of the nature described in this CEMP or other unexpected finds be uncovered by the Contractor during the works the following steps should be undertaken:

STEP 1: Immediately cease work and contact UrbanGrowth.

STEP 2: Contractor to form an exclusion zone through the use of barricading or similar to prevent access and exposure by workers.

STEP 3: Contractor to contact Environmental Consultant (if not already on Site) to arrange for inspection of encountered material/conditions.

STEP 4: Environmental Consultant to undertake detailed inspection and conduct an assessment to determine appropriate management of conditions encountered.

STEP 5: Environmental Consultant to provide instruction and advice to UrbanGrowth and Contractor as to approach to rectify/manage conditions encountered.

STEP 6: If deemed required, Environmental Consultant to supervise any active 'remediation' or other rectification/management works if they are required.

STEP 7: Once any rectification/management works are completed Contractor to remove barricades for exclusion zone.

STEP 8: Where required Environmental Consultant to prepare a report to provide to UrbanGrowth on the unexpected find and the works undertaken to rectify/manage the conditions encountered.

6.3 Heritage Items

Cultural heritage sites are easily damaged or destroyed by natural processes such as erosion, as well as disturbance. While it is not possible to prevent the slow destruction of cultural heritage sites, it is possible to prevent unnecessary damage by the implementation of careful work practices.

Due to the location and nature of the Site, there is a potential for heritage items, such as the former seawall, to be encountered during the works. Should potential heritage items be encountered unexpectedly, the following contingency measures should be implemented:

STEP 1: Immediately cease all activities that could in any way interfere with or disturb the encountered site and/or object(s).

STEP 2: Promptly report the discovery to UrbanGrowth who will in turn notify the relevant regulatory authorities. Until further instructions are received:

- DO NOT disturb the Site;
- DO NOT collect any artefacts as this may alter the scientific value;
- DO NOT touch or interfere with painted art as this may cause the pigmentation to deteriorate, and similarly;
- DO NOT touch up painted art or enhance engravings for the purposes of photographs.

STEP 3: Details of the find should be documented by the Contractor including:

- Location of find;
- Person(s) whom encountered the find;
- Time and date of find;
- Description of find including number of objects, shape, colour etc;
- Actions taken; and
- Without touching or interfering with the site and/or objects, obtain photograph for record of find.

7 LIMITATIONS

This CEMP has been prepared for the sole purpose of setting out the environmental management measures that will be implemented on the Site during the construction works required for the Stage 1 works in accordance with generally accepted consulting practice. No other warranty or guarantee, expressed or implied is made as to the advice indicated in this report.

This report should not be used for any other purpose without our prior written consent. Accordingly, neither CONSARA nor any member or employee of CONSARA accepts responsibility or liability in any way whatsoever for the use of this report for any purpose other than that for which it has been prepared.

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CONSARA has relied upon and presumed accurate information provided by UrbanGrowth NSW and/or any third party (or absence thereof) in making the assumptions made in this report. Nothing in this report should be taken to imply that CONSARA has verified or audited any of the information supplied to us other than as expressly stated in this report. We have assumed this information to be both adequate and accurate for the purposes of this report.

Where findings, observations and conclusions are based solely upon information provided by UrbanGrowth NSW and/or a third party and CONSARA do not accept, to the maximum extent permitted by law, any liability for any losses, claims, costs, expenses, damages (whether in statute, in contract or tort for negligence or otherwise) suffered or incurred UrbanGrowth NSW or any third party as a result of or in connection with CONSARA's reliance on any such the information to the extent that such information is false, misleading or incomplete and CONSARA give no warranty or guarantee, express or implied as to such findings, observations and conclusions.

If further information becomes available, or additional assumptions need to be made, CONSARA reserves its right to amend any statements or opinions made in this report.

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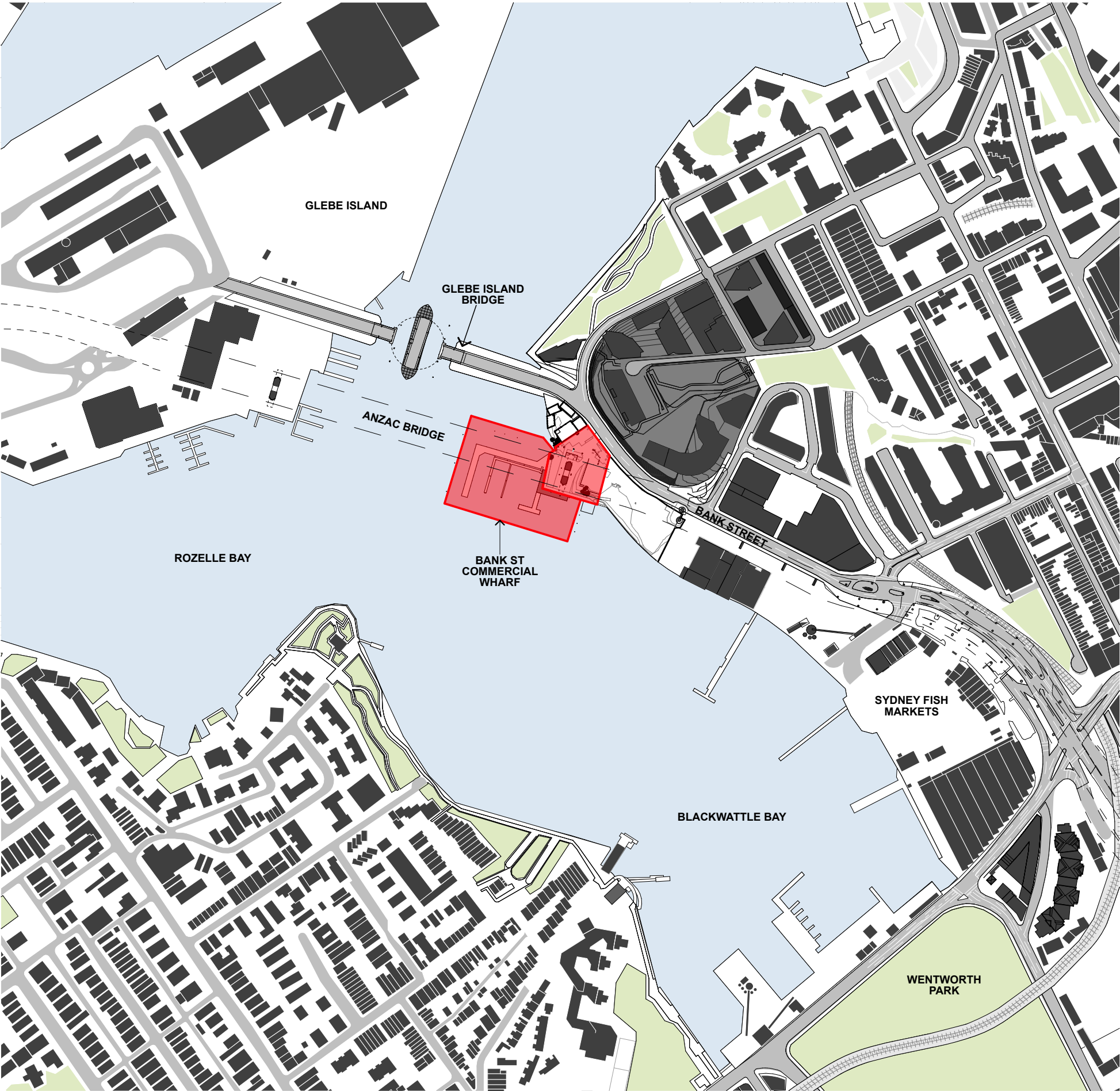
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APPENDIX A: PROPOSED DEVELOPMENT PLANS

BANK STREET COMMERCIAL WHARF S75W APPLICATION

Drawing No:

S75W-01	CONTEXT
S75W-02	SITE ANALYSIS
S75W-03	CONSTRAINTS PLAN
S75W-04	SITE PROGRAM
S75W-05	SITE PLAN
S75W-06	LANDSCAPE PLAN
S75W-07	ADMINISTRATION PLAN
S75W-08	ADMINISTRATION ROOF PLAN
S75W-09	NORTH SITE ELEVATION
S75W-10	ELEVATIONS 1
S75W-11	ELEVATIONS 2
S75W-12	SECTIONS
S75W-13	VEWS
S75W-14	VEWS
S75W-15	VEWS



1
CONTEXT PLAN
1:5000

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SO ARISING.

ISSUE: DATE: FOR:
DRAFT FOR DISCUSSION 11.04.17
DRAFT FOR DISCUSSION 03.05.17

GENERAL NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH THE BUILDING CODE OF
AUSTRALIA, AUSTRALIAN STANDARDS, AND WITH MANUFACTURERS
RECOMMENDATIONS AND INSTRUCTIONS.
2. CONTRACTOR TO CHECK ALL DIMENSIONS ON SITE BEFORE
FABRICATION OR SET OUT.
3. CONTRACTOR TO CONFIRM STRUCTURAL INTEGRITY OF ALL MEMBERS
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PROJECT NUMBER
160316

CLIENT
URBAN GROWTH NSW

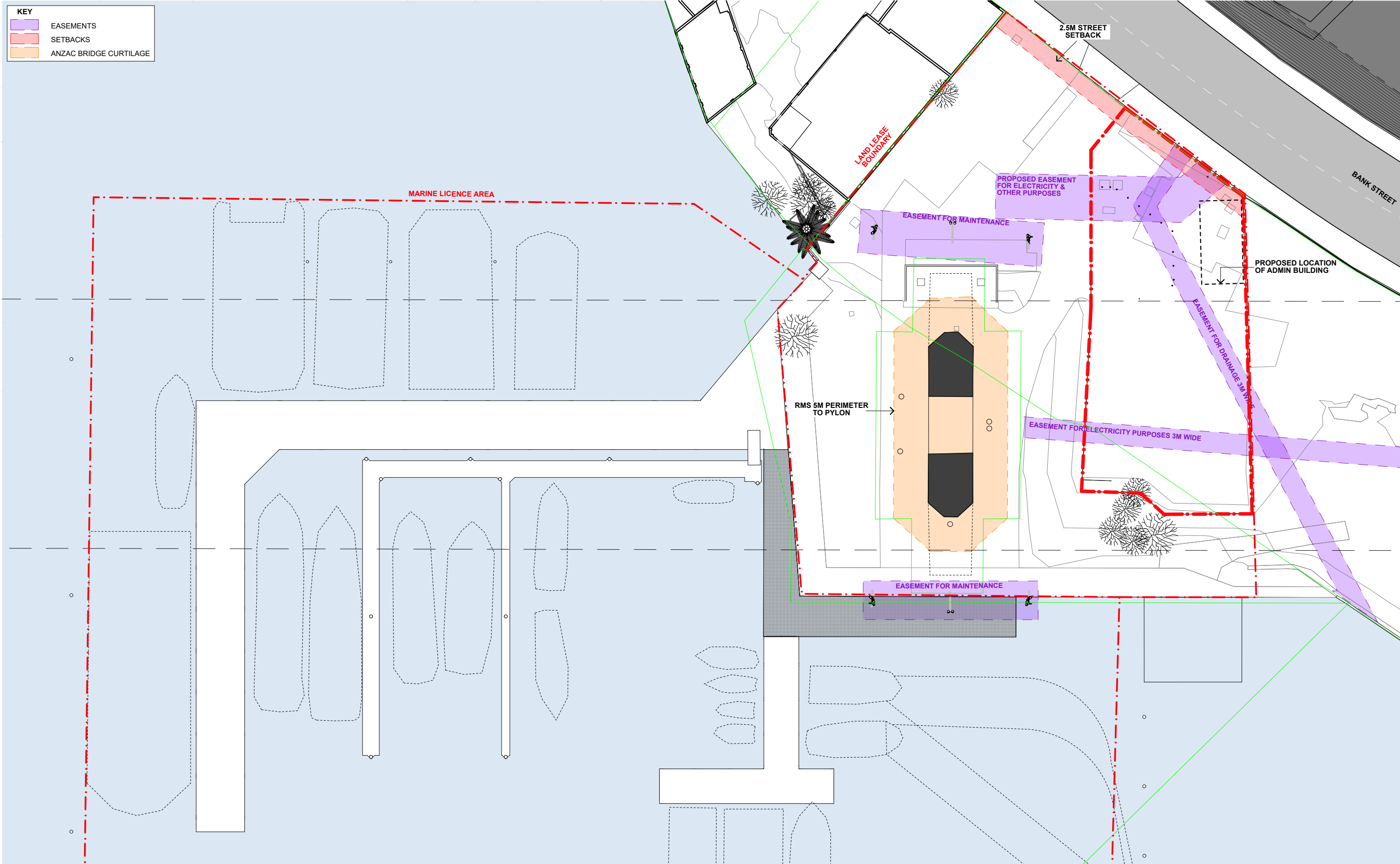
PROJECT NAME
**Bank St Commercial Wharf
S75W Application**

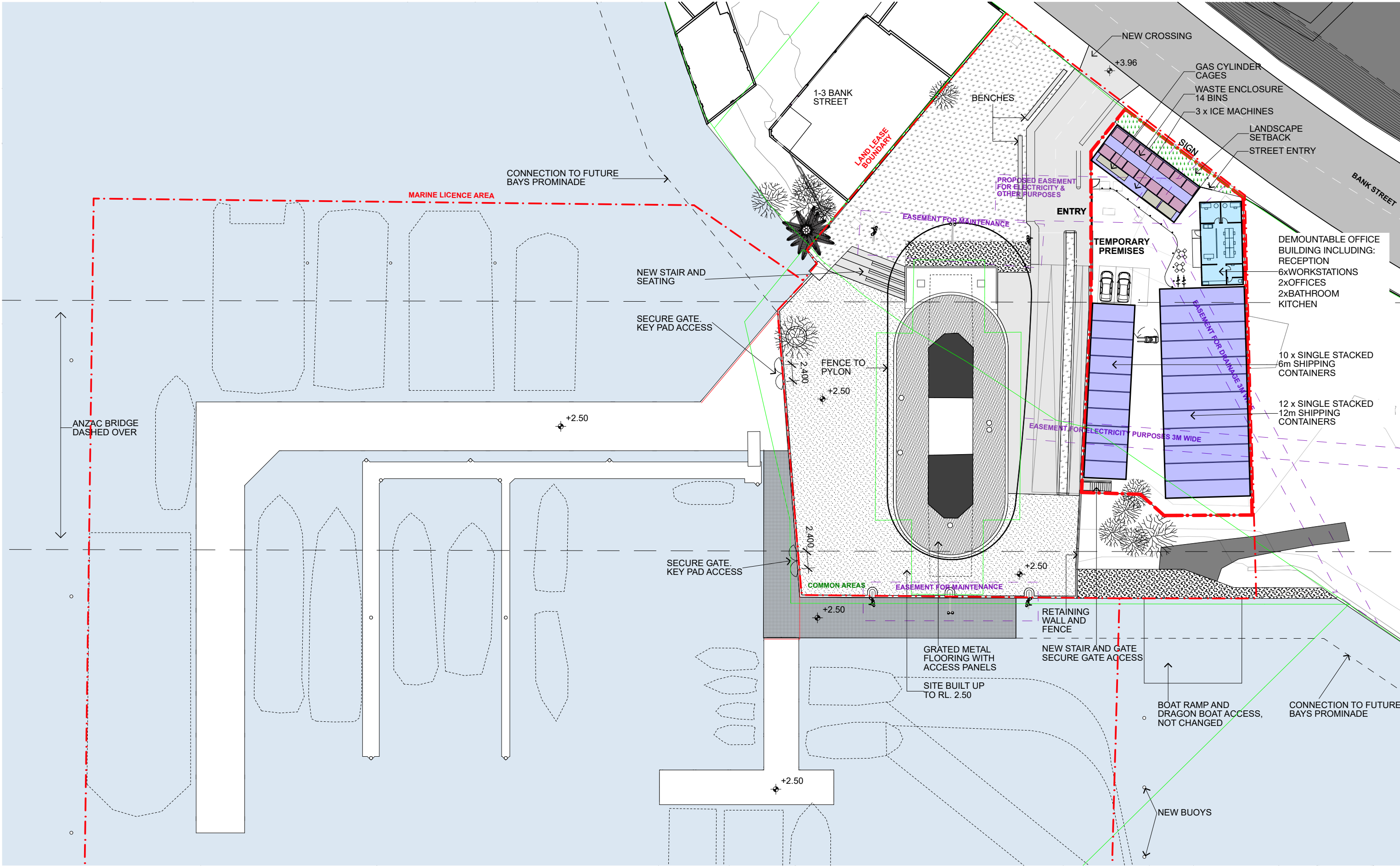
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SCALE:
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STATUS
PRELIMINARY

DRAWING TITLE
CONTEXT

DRAWING NUMBER
S75W-01
REVISION





1 SITE PLAN
1:500

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ISSUE: DATE: FOR:
DRAFT FOR DISCUSSION 11.04.17
DRAFT FOR DISCUSSION 03.05.17

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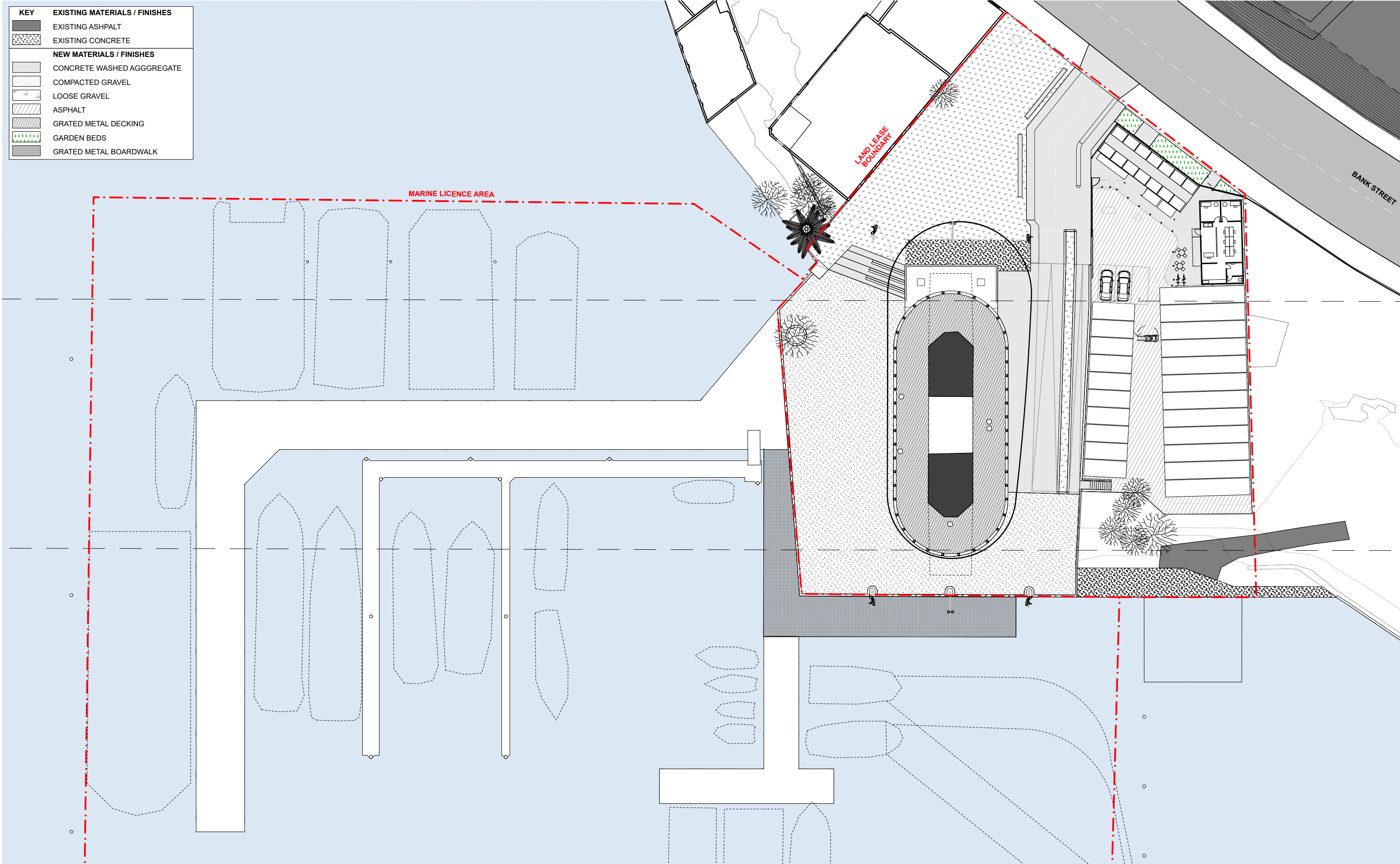
CLIENT
URBAN GROWTH NSW

PROJECT NAME
**Bank St Commercial Wharf
S75W Application**

PROJECT NORTH
SCALE:
1:500 @A3
STATUS
PRELIMINARY

DRAWING TITLE
SITE PLAN

DRAWING NUMBER REVISION
S75W-05



1 LANDSCAPE PLAN
1:500

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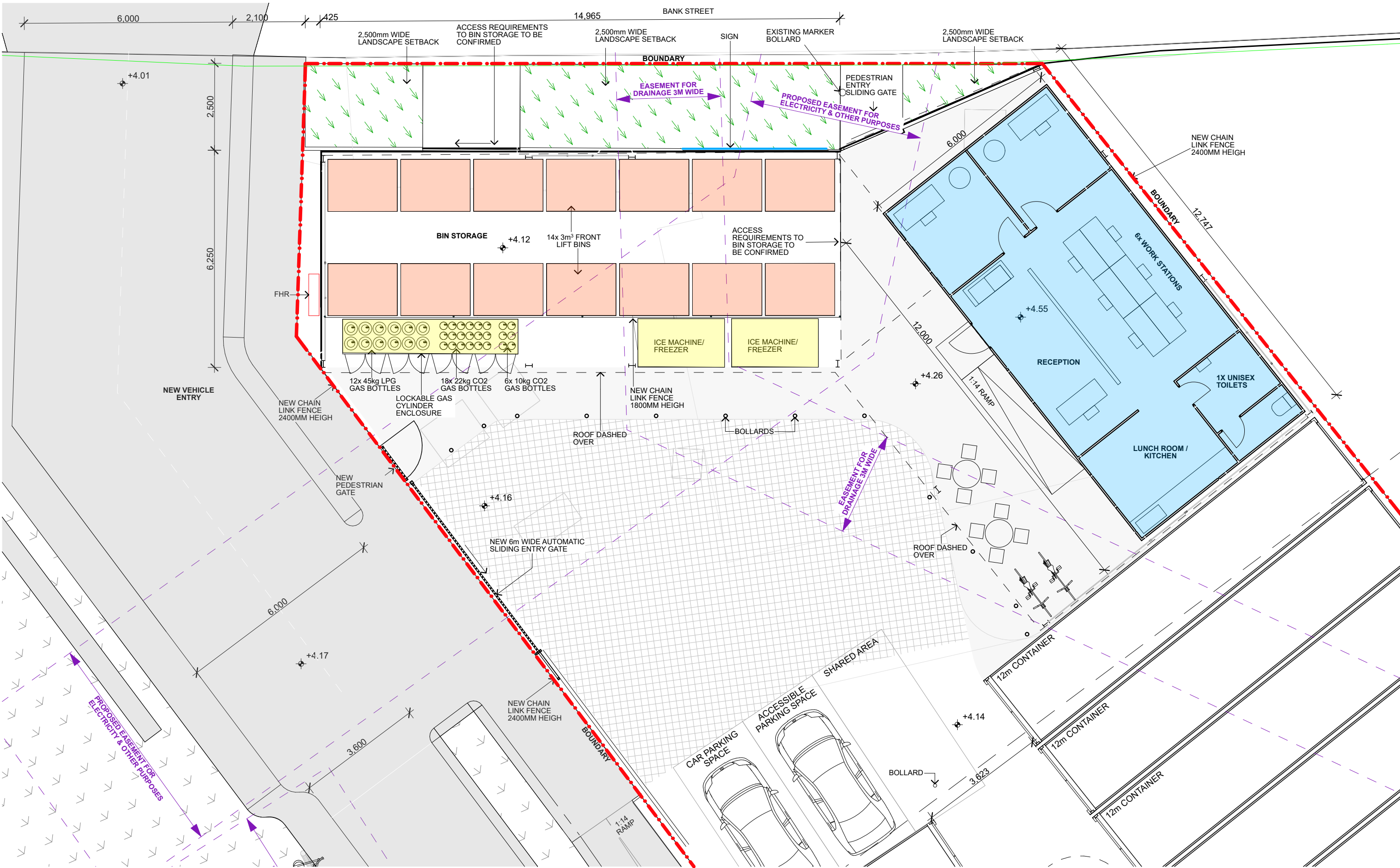
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CLIENT
URBAN GROWTH NSW
PROJECT NAME
Bank St Commercial Wharf
S75W Application

PROJECT NORTH
SCALE:
1:500 @A3
STATUS
PRELIMINARY

DRAWING TITLE
LANDSCAPE PLAN
DRAWING NUMBER
S75W-06
REVISION



1 ADMINISTRATION PLAN
1:100

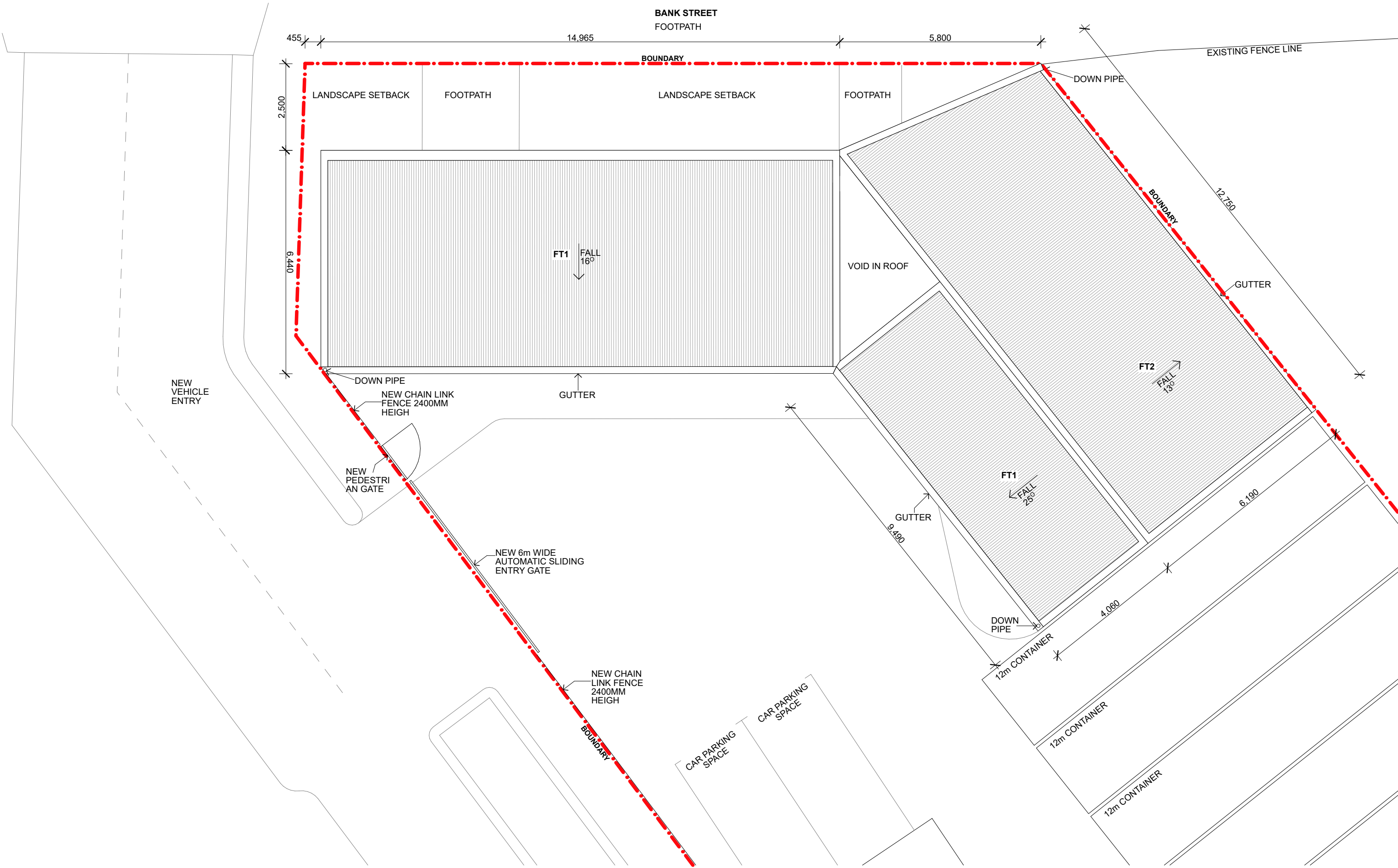
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PROJECT NUMBER	CLIENT	PROJECT NORTH	DRAWING TITLE
160316	URBAN GROWTH NSW		ADMINISTRATION PLAN
	PROJECT NAME	SCALE	
	Bank St Commercial Wharf	1:100 @A3	
	S75W Application	STATUS	
		PRELIMINARY	
			DRAWING NUMBER
			REVISION
			S75W-07



1 ADMINISTRATION ROOF PLAN
1:100

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FT1- CORRUGATED METAL SHEETING,
ZINCALUME FINISH
FT2- TRANSLUCENT CORRUGATED
POLYCARBONATE SHEETING

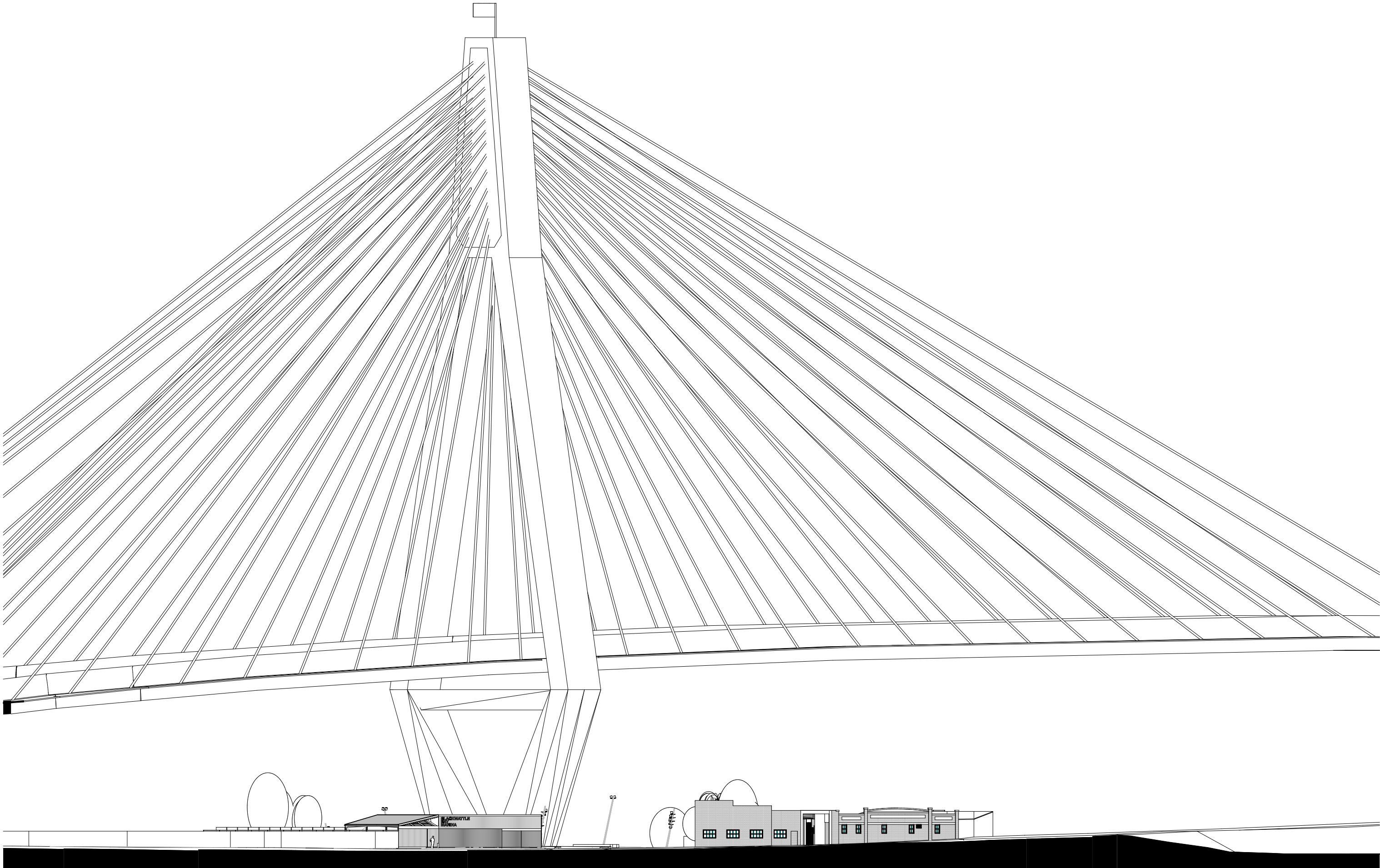
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PROJECT NUMBER
160316

CLIENT
URBAN GROWTH NSW
PROJECT NAME
Bank St Commercial Wharf
S75W Application

PROJECT NORTH
SCALE:
1:100 @A3
STATUS
PRELIMINARY

DRAWING TITLE
ADMINISTRATION ROOF
PLAN
DRAWING NUMBER
S75W-08
REVISION



1

BANK STREET ELEVATION

1:500

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CLIENT

URBAN GROWTH NSW

PROJECT NAME

Bank St Commercial Wharf S75W Application

PROJECT NORTH

SCALE:

1:500 @A3

STATUS

PRELIMINARY

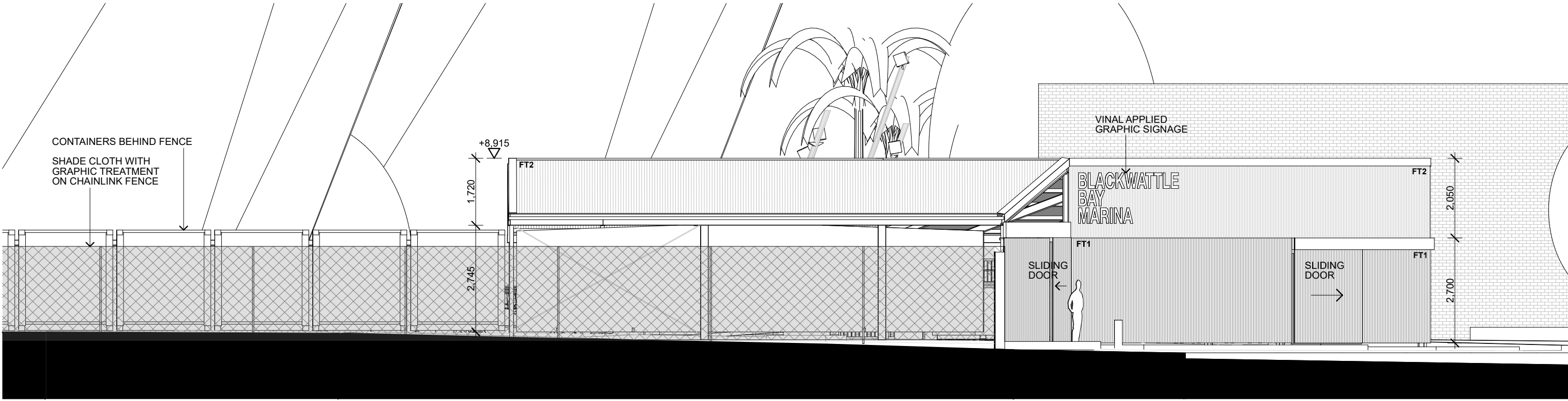
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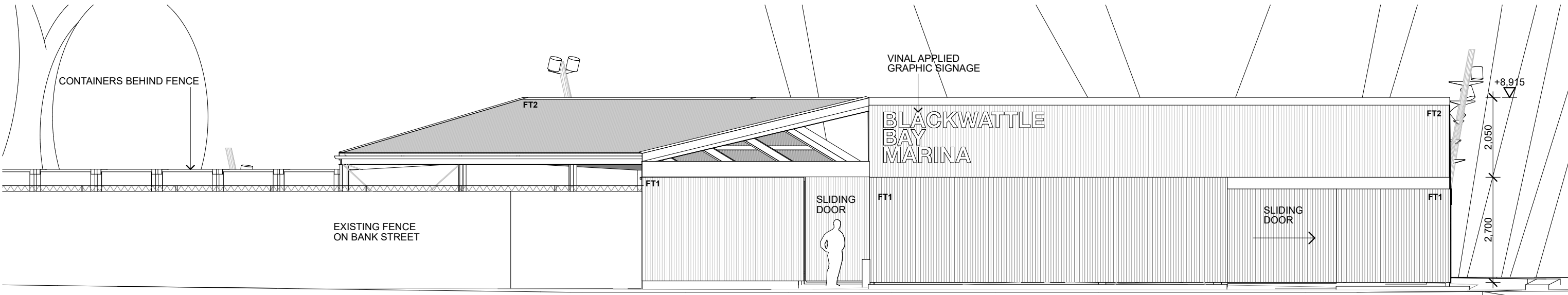
DRAWING NUMBER

S75W-09

REVISION



1 EAST ELEVATION
1:100



2 NORTH ELEVATION
1:100

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ZINCALUME FINISH
FT2- TRANSLUCENT CORRUGATED
POLYCARBONATE SHEETING

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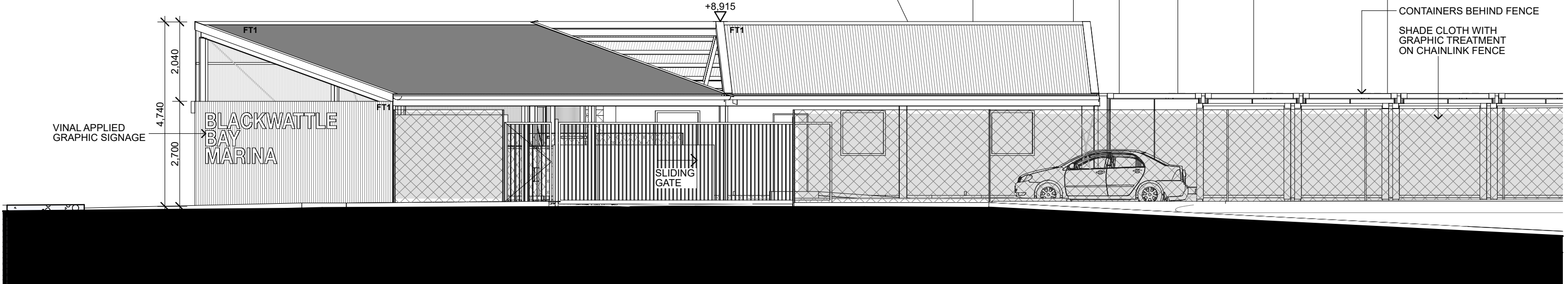
PROJECT NAME
**Bank St Commercial Wharf
S75W Application**

PROJECT NORTH

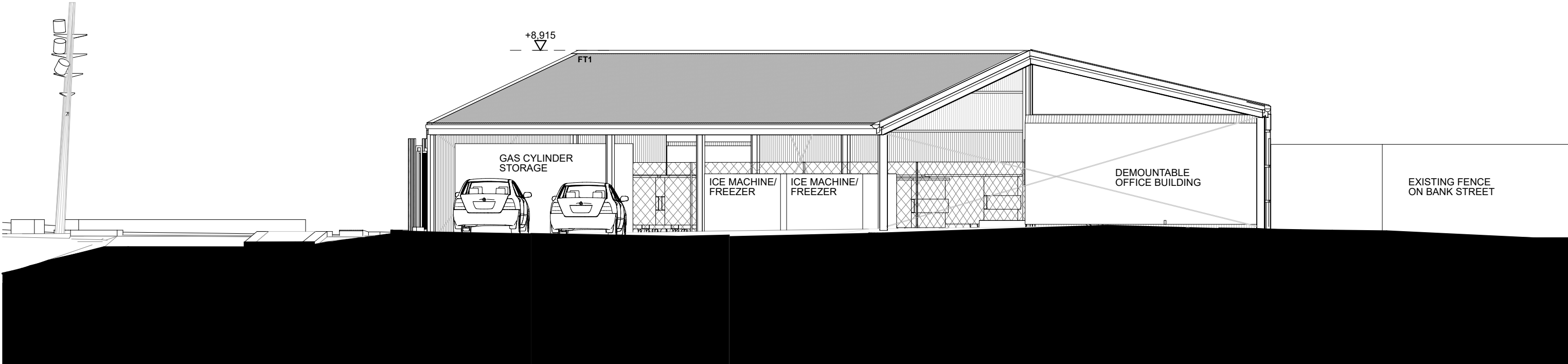
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DRAWING TITLE
ELEVATIONS 1

DRAWING NUMBER
S75W-10



1 WEST ELEVATION
1:100



2 SOUTH ELEVATION
1:100

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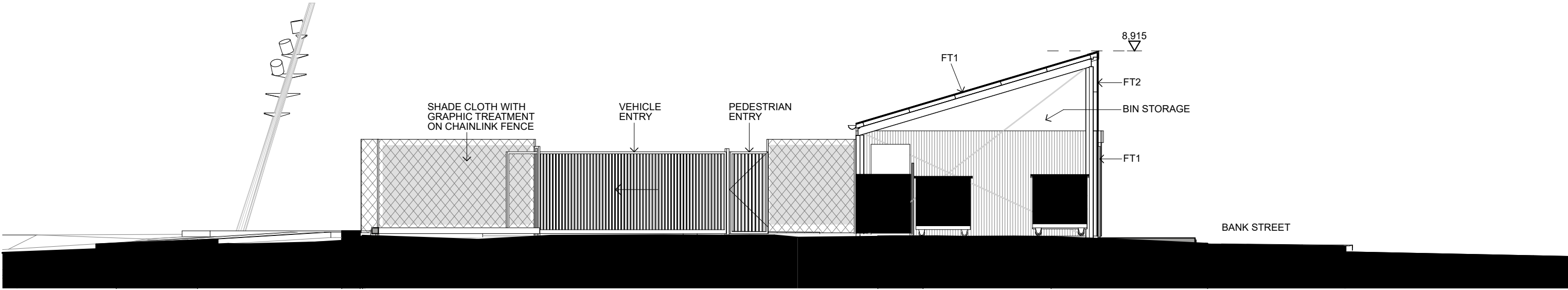
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**Bank St Commercial Wharf
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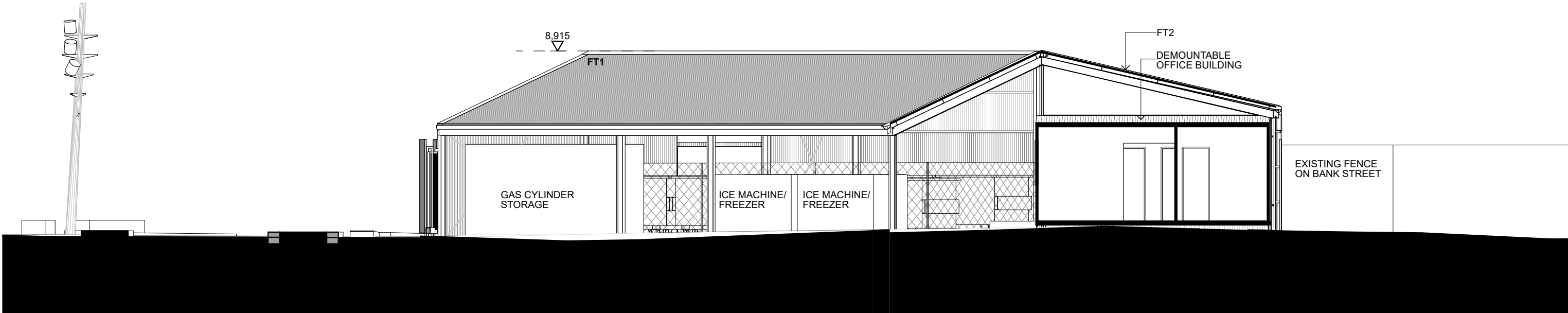
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STATUS
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DRAWING TITLE
ELEVATIONS 2

DRAWING NUMBER REVISION
S75W-11



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1:100



2 Section 2
1:100

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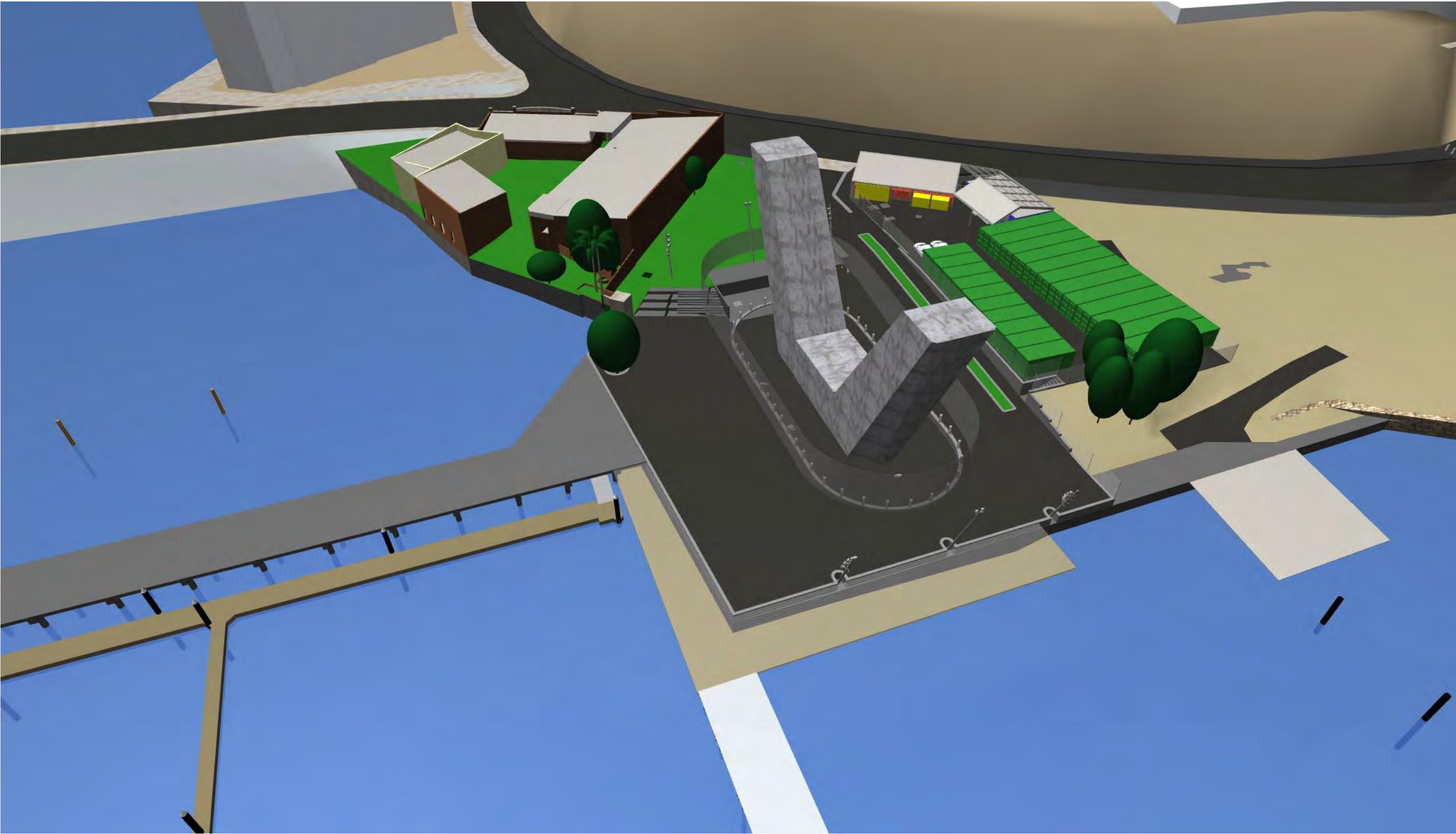
PROJECT NAME
**Bank St Commercial Wharf
S75W Application**

PROJECT NORTH

SCALE:
1:100 @A3
STATUS
PRELIMINARY

DRAWING TITLE
SECTIONS

DRAWING NUMBER REVISION
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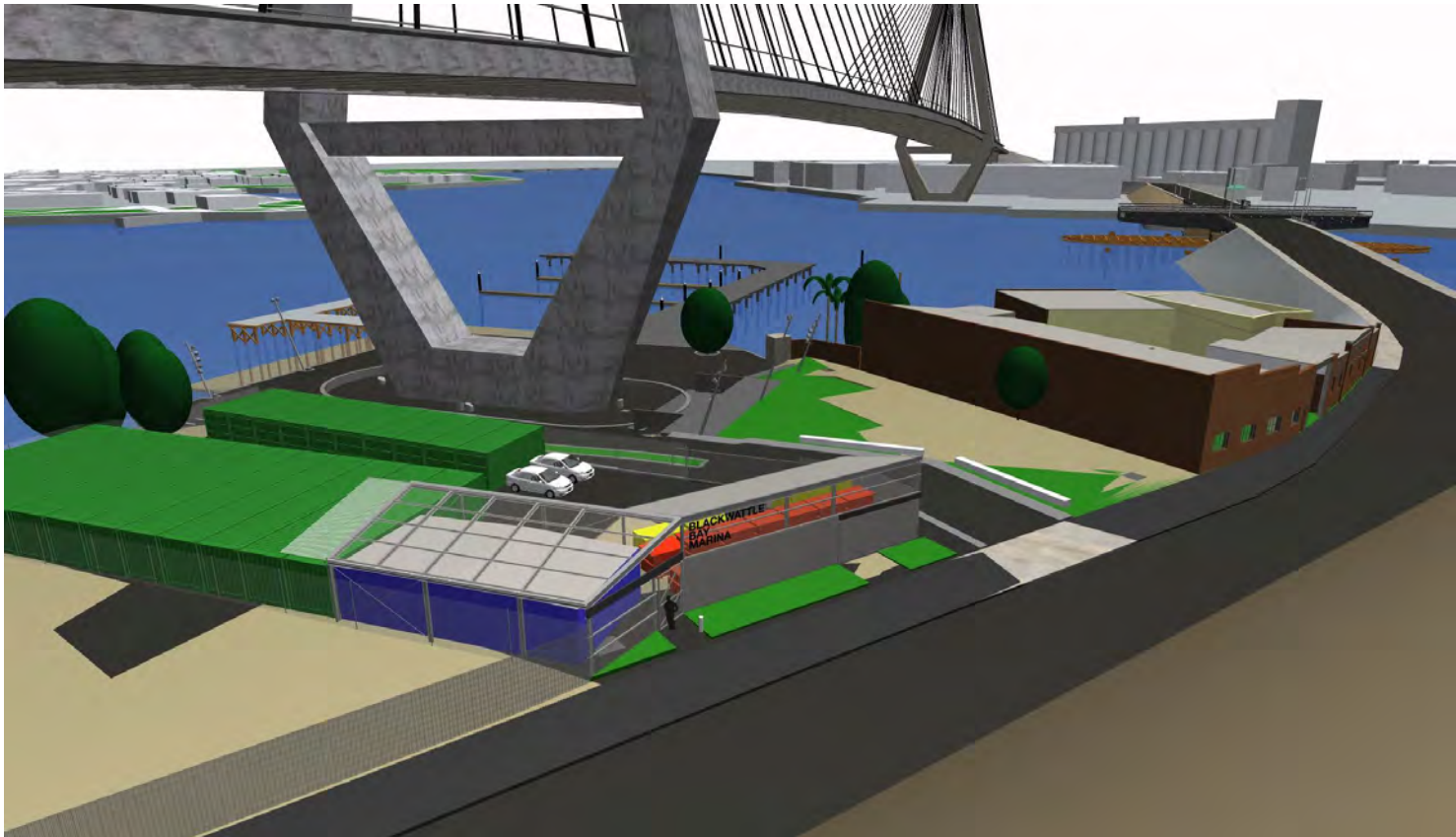
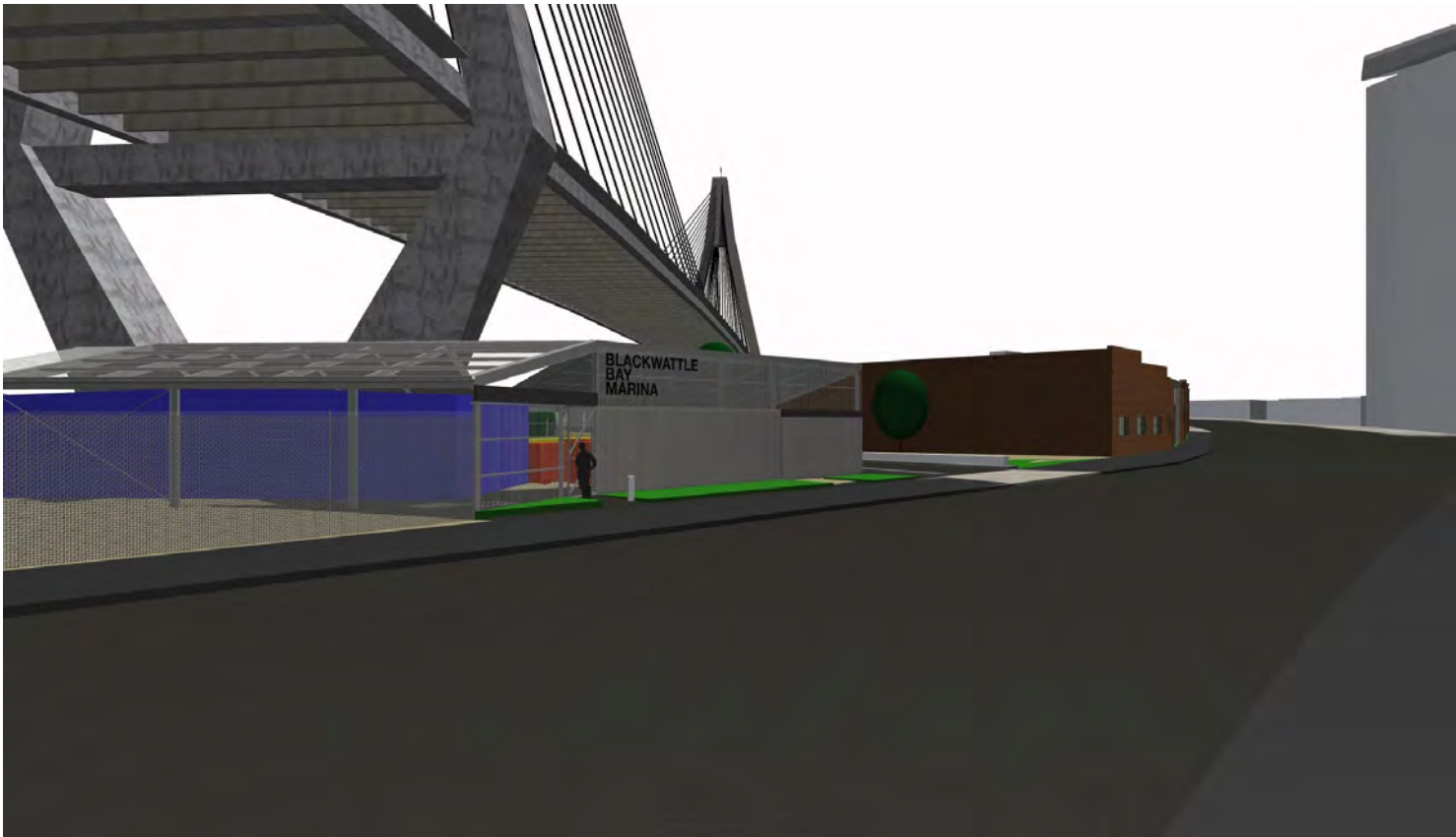
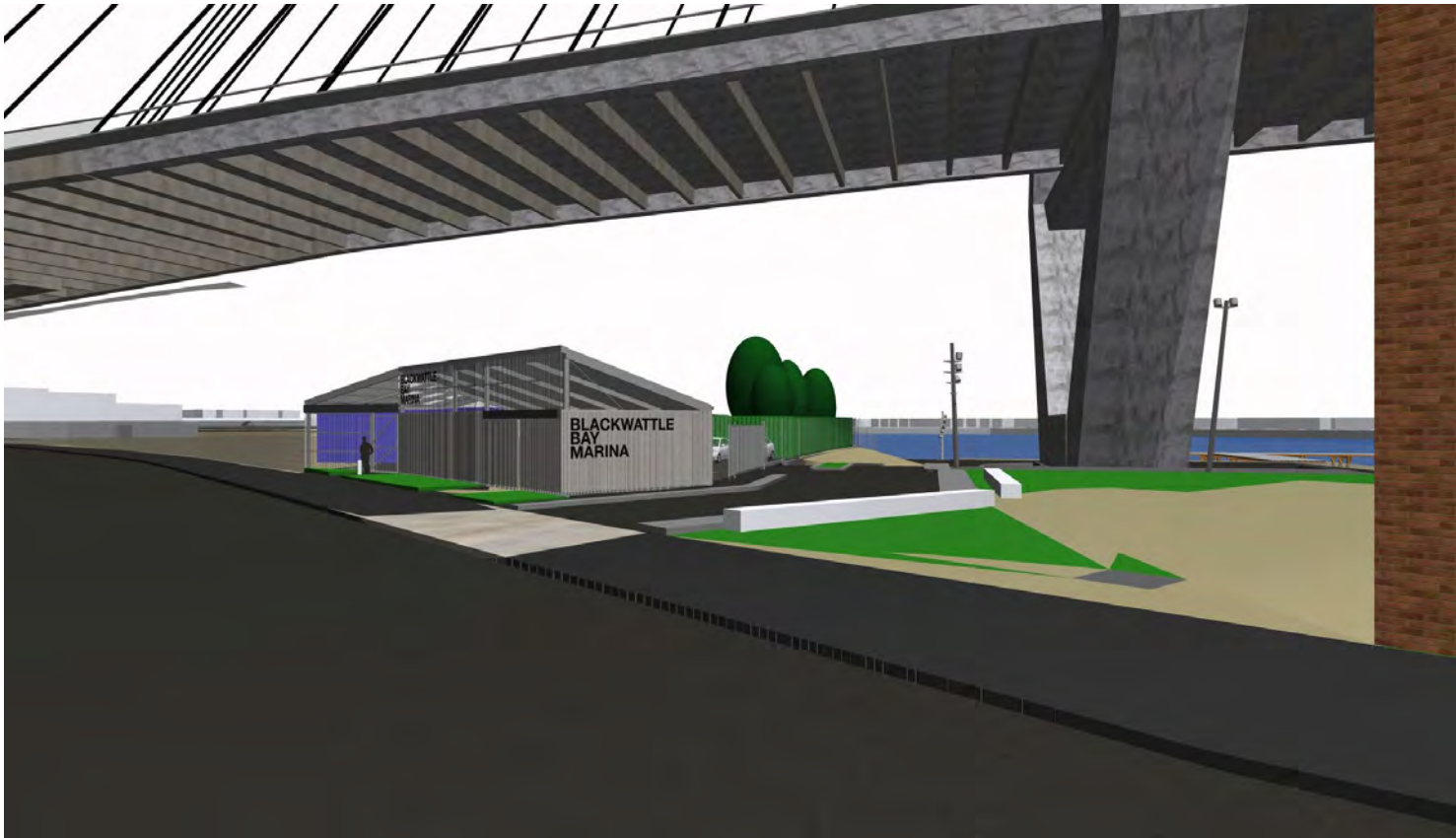
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STATUS
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DRAWING TITLE
VIEWS

DRAWING NUMBER
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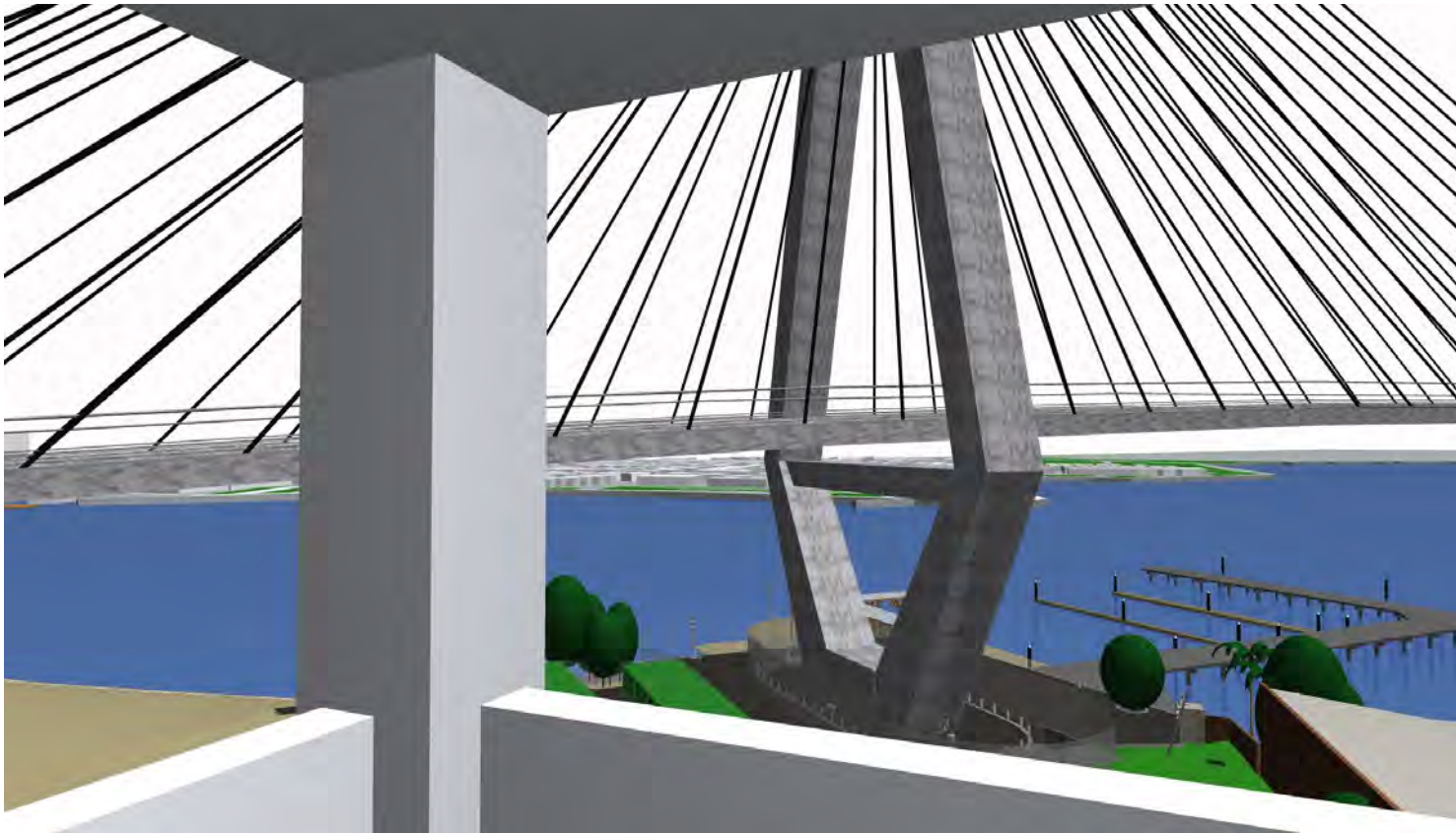
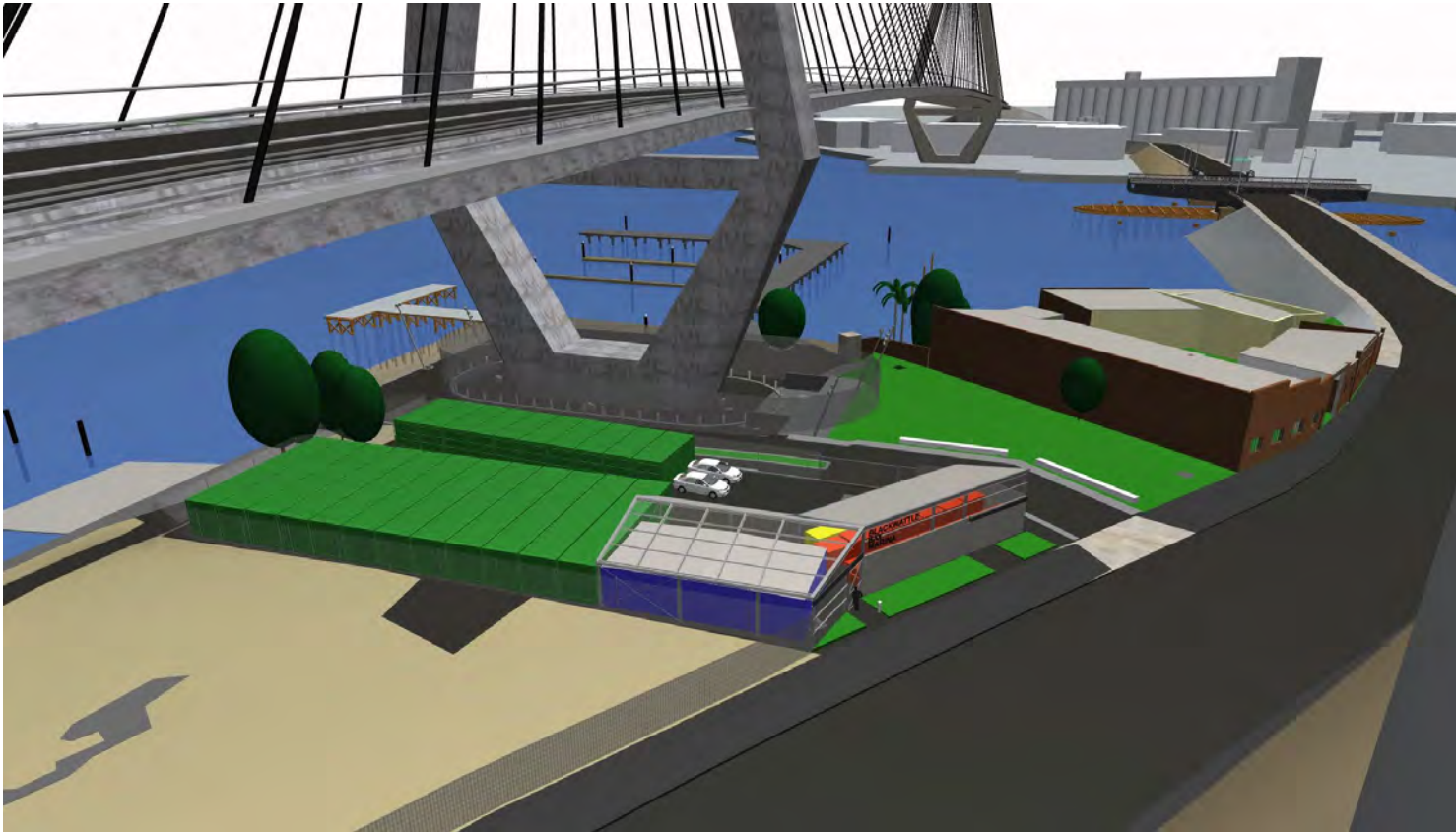
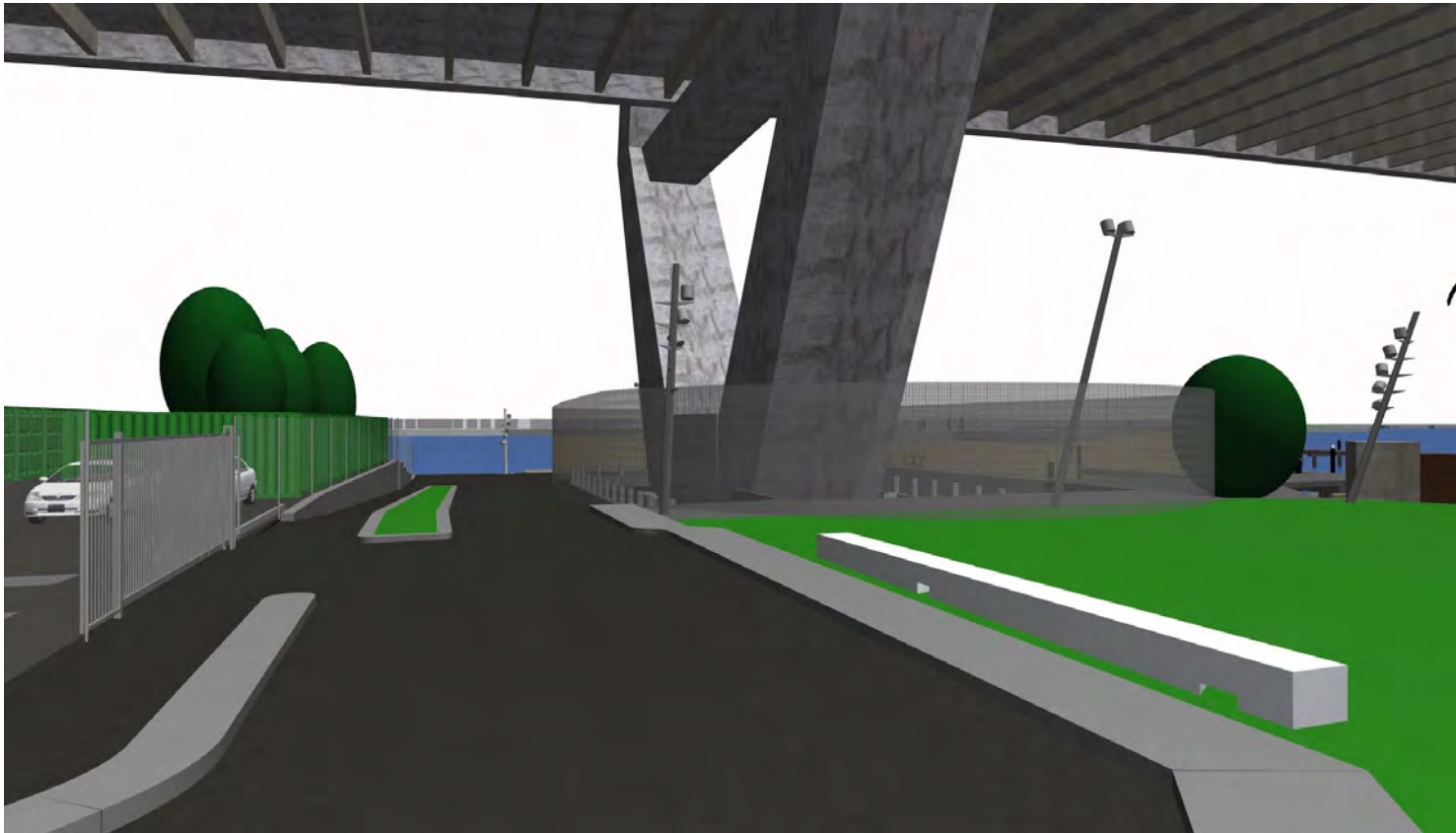
PROJECT NORTH

SCALE:
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PRELIMINARY

DRAWING TITLE
VIEWS

DRAWING NUMBER
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REVISION



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GENERAL NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH THE BUILDING CODE OF
AUSTRALIA, AUSTRALIAN STANDARDS, AND WITH MANUFACTURERS
RECOMMENDATIONS AND INSTRUCTIONS.
2. CONTRACTOR TO CHECK ALL DIMENSIONS ON SITE BEFORE
FABRICATION OR SET OUT.
3. CONTRACTOR TO CONFIRM STRUCTURAL INTEGRITY OF ALL MEMBERS
AND CONNECTIONS PRIOR TO FABRICATION.
4. SHOP DRAWINGS TO BE PROVIDED AND APPROVED BY ARCHITECT
PRIOR TO CONSTRUCTION.

PROJECT NUMBER
160316

CLIENT
URBAN GROWTH NSW

PROJECT NAME
**Bank St Commercial Wharf
S75W Application**

PROJECT NORTH

SCALE:
1:187.15 @A3
STATUS
PRELIMINARY

DRAWING TITLE
VIEWS

DRAWING NUMBER REVISION
S75W-15