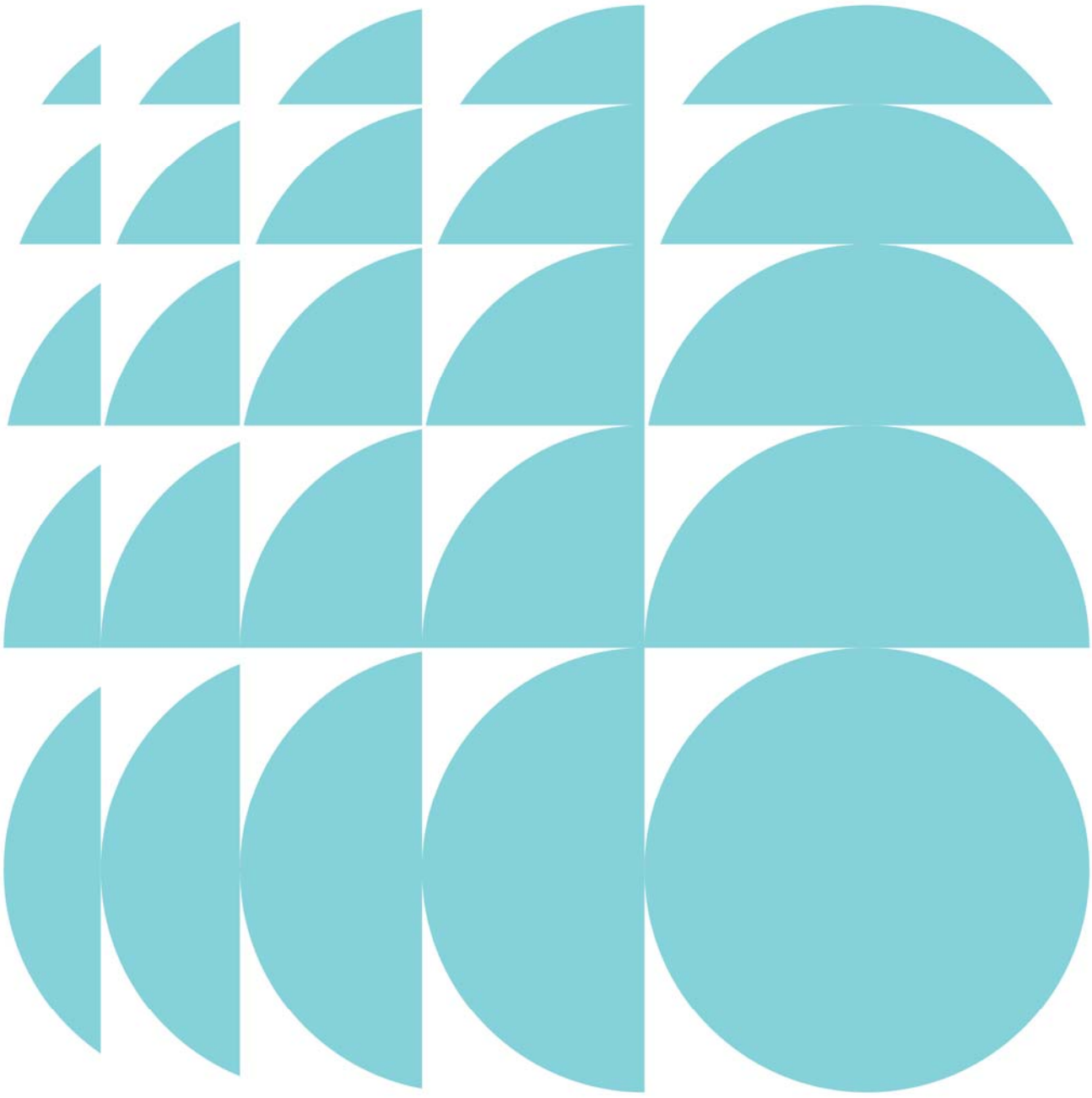
ETHOS URBAN

Environmental Impact Statement
State Significant Development Application (8544)

Glebe Island
Concrete Batching Plant

Submitted to Department of Planning & Environment
On behalf of Hanson Construction Materials Pty Ltd

14 March 2018 | 17142



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Development Application Details	
Applicant name	Hanson Construction Materials Pty Ltd
Applicant address	Level 18, 2-12 Macquarie Street, Parramatta, NSW, 2150
Land to be developed	Berth 1, Glebe Island (Lot 10 in DP 1170710)
Proposed development	Concrete Batching Plant as described in Section 3.0 of this Environmental Impact Statement
Prepared by	
Name	Harry Quartermain
Qualifications	MA URP, MRTPI, MPIA
Address	173 Sussex Street, Sydney
In respect of	State Significant Development - Development Application
Certification	
	I certify that I have prepared the content of this EIS and to the best of my knowledge: it is in accordance with Schedule 2 of the *Environmental Planning and Assessment Regulation 2000*; all available information that is relevant to the environmental assessment of the development to which the statement relates; and the information contained in the statement is neither false nor misleading.
Signature	
Name	Harry Quartermain
Date	15/03/2018

Executive Summary

Purpose of this Report

This submission to the Department of Planning and Environment (the Department) comprises an Environmental Impact Statement (EIS) for a Development Application under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP& A Act) for an aggregate handling and concrete facility at Glebe Island.

Development with a Capital Investment Value (CIV) in excess of $10 million on land identified under Schedule 2 as 'Bays Precinct Site' is State Significant Development (SSD) for the purposes of the EP&A Act by way clause (8) of the *State Environmental Planning Policy (State and Regional Development) 2011* (SEPP SRD). The CIV for the proposed development exceeds this threshold and so it is SSD.

A request for the issue of Secretary's Environmental Assessment Requirements (SEARs) was sought on 8 June 2017. Accordingly, the SEARs for the proposed development were issued on 7 July 2017. This submission is in accordance with the Department's guidelines for SSD applications lodged under Part 4 of the EP&A Act, and addresses the issues raised in the SEARs.

Overview of the Project

Hanson seeks to develop a new aggregate handling facility and concrete batching plant (the 'proposed development') at Glebe Island. Accordingly, this application seeks approval for construction of:

- a concrete batching plant with the capacity to produce up to 1 million cubic metres of concrete per annum; and
- a new aggregate handling facility with a shipping terminal at GLB1 that will receive and handle aggregates delivered by ship.

The Site

The Site is located at Glebe Island adjacent to Glebe Island Berth one (GLB1), legally described as Lot 10 in Deposited Plan 1170710 (referred to as 'the Site').

The Site, being located on the GLB1 berth, will facilitate the co-location of a concrete batching plant with aggregate shipping facilities. Co-location of these two uses offers several logistical benefits including minimisation of aggregate deliveries made via the surrounding road network. As such, the location of the Site enables the proposed development to operate in a more efficient and sustainable manner.

Planning Context

Section 4.0 of the EIS considers all applicable legislation in detail. The proposed development is consistent with the requirements of all relevant SEPPs. The Site is zoned 'Port and Employment' under the *Sydney Regional Environmental Plan No. 26– City West (City West Plan)*. The proposed development is permissible with consent and meets the objectives of the subject zone.

Environmental Impacts and Mitigation Measures

This EIS provides an assessment of the environmental impacts of the project in accordance with the requirements of the SEARs, and sets out the undertakings made by Hanson Construction Materials Pty Ltd (Hanson) to manage and minimise potential impacts arising from the development. It demonstrates that the proposed development is satisfactory in relation to:

- Strategic planning and land use – as the site is consistent with the current zoning and existing uses of Glebe Island and, is in accordance with relevant directions and actions of key strategic planning policies for the Bays Precinct. Refer to **Section 3.4** and **Section 5.2** of this report;
- Noise and Vibration – as noise associated with the development can be managed appropriately in accordance with the EPA's Noise Policy for Industry 2017. Refer to **Section 5.6** or **Appendix D** of this report;
- Transport and Accessibility – as the development will not alter current or forecasted traffic conditions. The proposed infrastructure upgrades associated with Westconnex, Western Harbour Tunnel is expected to further

alleviate traffic impacts and improve the performance of key intersections in the vicinity of the Site. Refer to **Section 8.8** of this report or **Appendix H**;

- Visual Impacts and Views – as the proposed development is consistent with the existing working harbour theme and character of Glebe Island. The development is also consistent with the adopted Glebe Island and White Bay masterplan which permits development of comparable bulk and scale on the site. While the Visual Impact Assessment undertaken by AECOM identifies some visual impact as result of the development, the moderate to high impact is in part due to the high sensitivity of these observer locations to any change in views. Suitable mitigation measures are proposed to assist in 'bedding down' the structures into the surrounding landscape. Refer to **Appendix E** or **Section 5.3** of this report;
- Water Management;
- Marine Traffic, Navigation and Safety;
- Built form;
- Water Management;
- Marine Traffic, Navigation and Safety;
- Built form;
- Lighting;
- Heritage;
- Consultation;
- Utilities;
- Ecologically Sustainable Development (ESD);
- Contamination;
- Building Code of Australia;
- Biodiversity;
- Hazard and Risks;
- Sea Level Rise and Climate Change;
- Cumulative Impacts; and
- Environmental, Construction and Site Management.

All measures that have been recommended as part of the detailed technical studies to mitigate potential environmental impacts have been incorporated into the proposed development, or are included in the Mitigation Measures at **Section 6.0**.

Conclusion and Justification

In considering economic and social impacts, including the principles of ecologically sustainable development, proposed development is justified for the following reasons:

- While some visual impact is noted as result of the development, the high to moderate rating is due to the high sensitivity of receptors to even minor changes in their views, rather than the magnitude or significance of the visual impact itself. Notwithstanding this, the proposed development is consistent with the existing and previous industrial use and character of the Glebe Island. Mitigation measures are proposed to ameliorate visual impact and allow the development to integrate with its setting and appear less visually stark or prominent. Aside from visual impact, no significant environmental impacts are predicted;
- The proposed use is in keeping with the existing industrial land uses and working harbour character of the Glebe Island for the immediate and short-medium term (10 – 15 years);
- The proposed development will ensure adequate supply of concrete in proximity to areas earmarked for extensive renewal and development, with capacity to meet future demand and avoid unnecessary delays in construction timing;

- The proposed development will offset job losses resulting from the closure of the other aggregate/concrete batching facilities in the Bays District Area;
- The proposed development, owing to the aggregate shipping terminal facility, is more efficient and sustainable than other typical concrete batching facilities which would depend on extensive deliveries of raw materials via Sydney's road network; and
- The proposed development will improve the efficiency and sustainability of Hanson's other concrete batching facilities in the area by removing extensive deliveries of raw materials via regional road networks.

The potential impacts of the proposed development are acceptable and are able to be managed. Given the planning merits of the proposed development, the proposed development warrants approval by the Minister for Planning.

1.0 Introduction

This Environmental Impact Statement (EIS) is submitted to the Department of Planning and Environment (DP&E) pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) in support of a State Significant Development (SSD) Development Application (DA) for an aggregate handling and concrete batching facility (the 'proposed development') located at Glebe Island, Sydney.

Development with a Capital Investment Value (CIV) in excess of $10 million on land identified under Schedule 2 as 'Bays Precinct Site' is State Significant Development (SSD) for the purposes of the EP&A Act by way clause (8) of the *State Environmental Planning Policy (State and Regional Development) 2011* (SEPP SRD). The CIV for the proposed development exceeds this threshold and so it is SSD.

The report has been prepared by Ethos Urban on behalf of Hanson Construction Materials Pty Ltd (Hanson), and is based on proposed plans prepared by Hanson (see **Appendix B**) and other supporting technical information appended to the report (see Table of Contents).

This EIS has been prepared in accordance with the requirements of Part 4 of the EP&A Act, Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation), and the Secretary's Environmental Assessment Requirements (SEARs) for the preparation of the EIS, which are included at **Appendix A.** This EIS should be read in conjunction with the supporting information and plans appended to and accompanying this report.

1.1 Background to the Development

Hanson, and its subsidiary Hymix, currently provide 30-35% of Sydney's concrete demand from the two existing and nearby sites (Blackwattle Bay and Pyrmont). The proposed development will allow Hanson to continue its supply of concrete to a range of concrete intensive projects around Central Sydney, in a way that is efficient, reduces overall environmental impact, and that minimises regional road traffic impacts by securing ongoing aggregate shipping terminal capability.

The NSW Government has identified the area around both of these existing sites as part of the Bays Market District, as identified in **Figure 1** below.

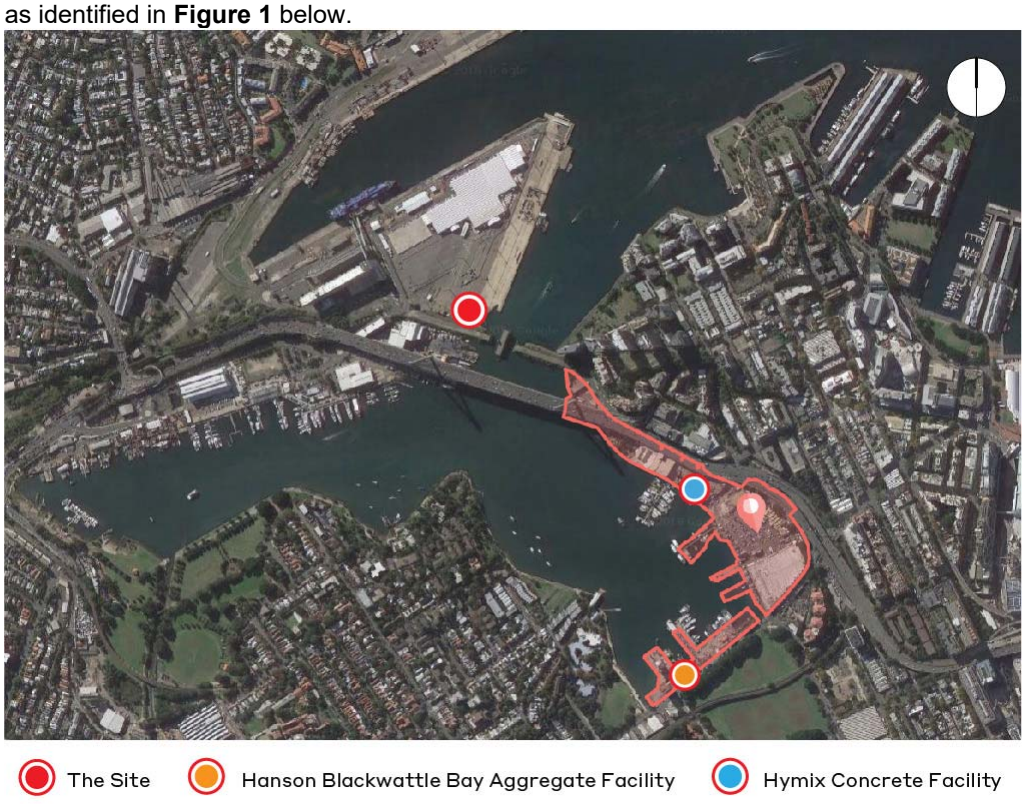

Figure 1 - The Bays Market Precinct

Urban Growth NSW

According to The NSW Government, "*the Bays Market District will widen Sydney's food and dining offering, creating a new food and dining attraction for Sydney – in the way that Borough Markets in London and La Boqueria in Barcelona attract day-to-day shoppers as well as tourists".* As part of the future development of this precinct, changes to the operation of the existing Hymix and Hanson facilities are inevitable. The effect of this change will be immediately felt by the existing Blackwattle Bay facility, which is due to imminently cease operation.

The redevelopment of The Bays Market District, is just one of the significant infrastructure and urban regeneration projects that are planned in the vicinity of Glebe Island in the coming years. Other projects, such as the WestConnex M4/M5 Link, the Western Sydney Metro, Iron Cove Link and Western Harbour Tunnel all have the potential to fundamentally change the appearance and operation of the local area. Importantly, all of these planned future infrastructure projects will require a significant amount of concrete and aggregates for their construction.

The purpose of the proposed development is to secure the continued supply of concrete through the period of development in a way that it sensitive to the fluctuating needs of the surrounding area as it evolves over the next twenty years.

1.2 The Bays Precinct

As noted above, Glebe Island is located within The Bays Precinct. In addition to being affected by the major infrastructure projects that are planned in the immediate area of the Site (including WestConnex M4/M5 Link, the Western Sydney Metro, Iron Cove Link and Western Harbour Tunnel), Glebe Island itself is expected to be transformed into a vibrant mixed-use area centred on a new metro rail station.

The NSW Government is still in the early planning phases of many of these projects and, as such, no specific information is currently available as to the future character of the area. It should be noted that the NSW Government's 2015 document, *The Transformation Plan: The Bays Precinct Sydney*, Glebe Island a 'longer term' priority and will be investigated in a period following 2022. The Transformation Plan notes that Glebe Island will become a *"Strategic deep-water port and potential technological and innovation campus".*

The Bays Precinct project website notes that Glebe Island *"is currently an integral part of Sydney's logistics capability for essential construction materials and working harbour services"*. It is understood that NSW Government agencies are working together to investigate how changes to Glebe Island could occur in the future and that any significant change to the form or function of Glebe Island will not affect the Site for 10 to 15 years.

It is understood that the Government is currently working towards a 10 year horizon for development of the Bays Precinct, with change around the Site expected to be occurring by the late 2020s. Given the strategic importance of the Site, and Glebe Island more broadly, in relation to the construction materials supply chain, it is not anticipated that the urban form immediately around the Site will significantly change until 10-15 years.

Below **Figure 2** provides a context of the Site within The Bays Precinct investigation area.

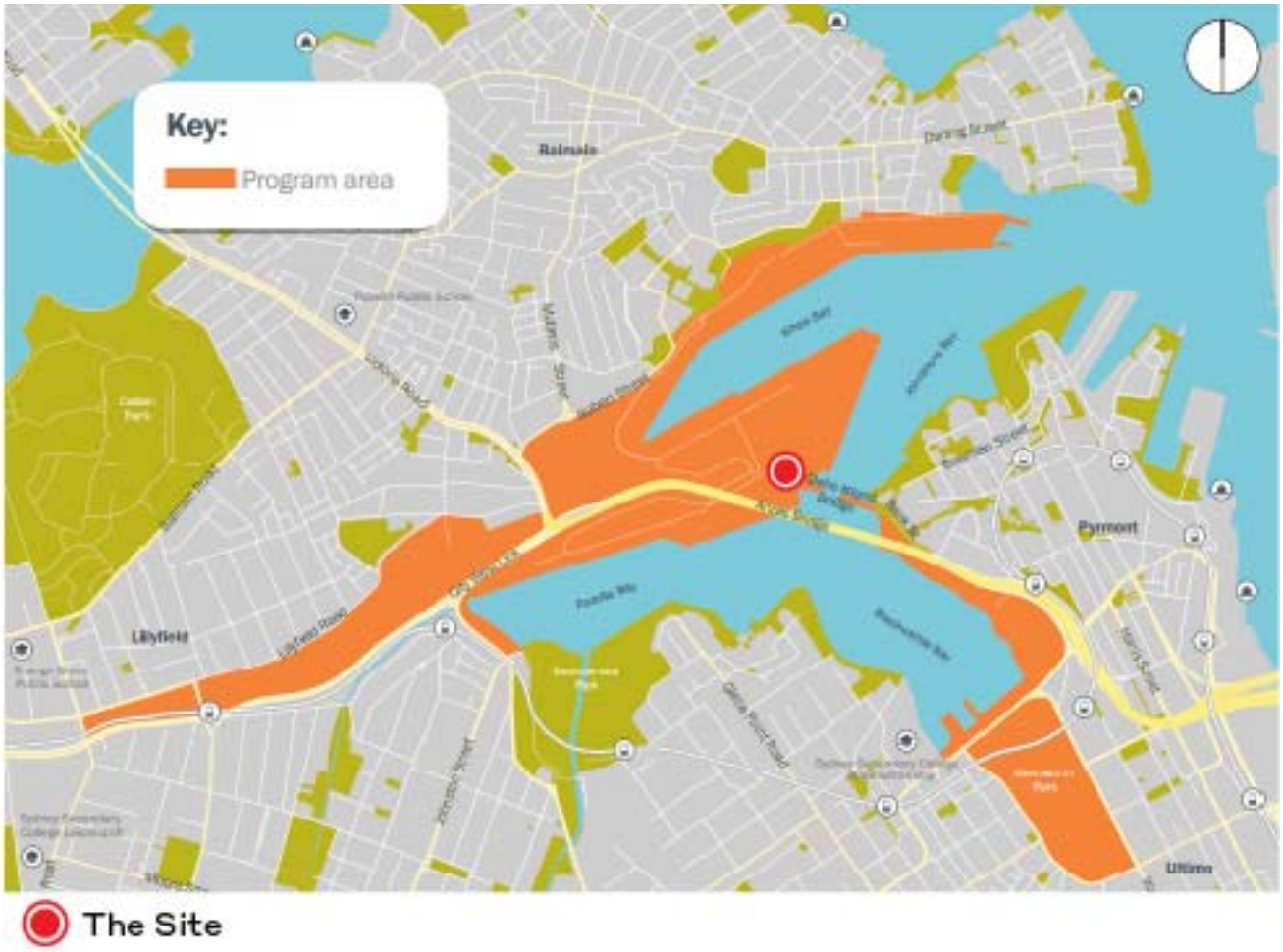

Figure 2 - Bays Precinct (Location marker identifies the indicative location of the Site)

Source: Bays Precinct Urban Transformation Program (Jan 2017), Urban Growth

1.3 Overview of Proposed Development

Hanson propose to develop a new aggregate handling and concrete batching facility plant adjacent to Glebe Island Berth One (GLB1) (the Site), as shown in **Figure 1**. The proposed plant will serve two purposes:

- To act as a shipping facility that will support a number of Hanson (and Hymix) concrete batching plants by improving the delivery of aggregates into the city centre and surrounds; and
- To operate as a concrete batching plant with a capacity to produce up to 1 million cubic metres of concrete per annum and meet demand from future development and infrastructure projects in the CBD and inner city suburbs.

The concrete batching plant will be supported by new aggregate shipping terminal facilities at GLB1 with the capacity to manage up to 1 million tonnes of concrete aggregates per annum delivered by ship primarily from the Hanson Bass Point Quarry and other facilities if deemed viable.

The batching plant is proposed to adopt a low profile design sympathetic to its surrounding environs. The majority of the batching activities will be undertaken in an enclosed area in order to limit the noise and air quality impacts of the proposed plant. The highest structures will be the aggregate silos which will be approximately 34m tall, substantially lower than the adjacent heritage listed Glebe Island Silos. Cement silos will also be installed on the Site, these will be approximately 25m tall.

The components proposed include:

- Cement silos;
- Aggregate silos;
- Sand silos;
- Water tanks;
- Weigh hoppers;
- Slump stand;
- Conveyors,
- Truck parking;
- Car parking;
- Weigh bridges;
- Water tanks;
- Building enclosure; and
- Ancillary offices and staff areas.

A detailed description of the proposed development, and the operational processes proposed to be carried out on the Site, is provided in Section 3 of this report.

1.4 Objectives of the Development

The objective of this development is to facilitate the construction of an efficient and modern concrete batching facility with a streamlined production, supply and delivery process co-located with an aggregate handling facility. As two functions will be serviced by the proposed development, the objectives of each of these functions is explored below.

1.4.1 Aggregate Handling Facility

The proposed location of the facility at Glebe Island presents a unique opportunity to improve logistical performance of the concrete supply chain by relying on ships for supply of aggregate. Aggregate will be able to be delivered into the heart of the Sydney CBD, where demand is greatest, without significantly affecting the wider road network with on road deliveries.

Aggregate is an essential ingredient in concrete batching and are also important building materials. Aggregates delivered to the Site by sea will be able to be used for the manufacture of concrete on the Site, as well as delivered by road to other local users. Aggregates will be able to be delivered by sea from, amongst other places, Hanson's quarry at Shellharbour.

1.4.2 Concrete Batching Facility

Concrete is essential for almost all construction projects, such as commercial, industrial and residential buildings, schools, hospitals and major infrastructure, such as roads, bridges, airports and rail projects. This proposed development will ensure ongoing supply of concrete commensurate to growing demand associated with renewal of the Bays precinct's 'immediate priority' areas, several infill projects and large-scale infrastructure projects including WestConnex (M4-M5 link) and Sydney Metro projects within the Sydney CBD. The co-location of the concrete batching plant with the aggregate shipping terminal will also significantly increase the efficiency and sustainability of the plant.

A critical factor in locating concrete batching plants is proximity to demand. Generally batching plants need to be located either on Site or within good proximity to areas of demand for two main reasons:

- Transport of wet concrete on roads is inefficient because concrete agitator trucks are limited in their volume (approximately 6m^3 per vehicle). This means that the greater the distance between the batching plant and the destination, the greater the impact on the road network as more agitator trucks are required to transport the wet concrete.
- Concrete is considered a 'live' product with a very limited shelf life. The distance that premixed concrete can travel is limited as the concrete starts to hydrate as soon as the water is added to the mix of materials. Concrete will normally harden within a period of 2 to 3 hours after the addition of water to the mix of materials, if concrete has to travel long distances it can lead to a deterioration of the consistency and quality of the concrete.

Australian Standard AS 1379 Specifications and Supply of Concrete specifies that concrete shall be delivered and placed on Site within a maximum of 90 minutes from the time of the addition of water to the other constituents. This limits the travel time for agitator trucks to little more than one hour between batching facility and development site. Industry best-practise further limits the journey time allowed by agitator trucks to no more than 45 minutes as this allows for site preparation and placement of concrete once the delivery has arrived. These best-practice

requirements are event more restrictive for technically challenging projects (including most RMS and major infrastructure projects), which further imposes the need for short travel distances between the batching facility and the development site.

A reliable local concrete supply is critical to the success of the construction and development sector in NSW. The proposed development will therefore be vital to the success to planned regeneration projects in the inner west of Sydney, particularly given the changes to the operation of the existing facilities at Blackwattle Bay and Pyrmont that may be necessary in the near future.

1.5 Analysis of Alternatives

1.5.1 Strategic Need

As described above, there is a considerable amount of development planned for the inner west of Sydney over the next twenty years, all of which will require a reliable supply of concrete. This development is likely to affect the future operation of the existing Hanson and Hymix facilities located within The Bays Market District. The proposed development will ensure a reliable supply of concrete to meet the future demand associated with infrastructure and development projects currently in Sydney's planning and approval pipeline. The co-location of the proposed batching facility with an aggregate handling facility will reduce impacts on the wider road network by allowing aggregate to be delivered to the heart of the Sydney CBD, Inner West and Central suburbs of Sydney.

1.5.2 Alternative Options

Four options are available to Hanson in responding to the identified need for a new and upgraded concrete batching facility. These are described further below:

Option 1: Do Nothing

Given the likely disruption to the existing facilities in the local area, including the imminent closure of the Blackwattle Bay facility, and the planned increase in demand for concrete, failure to provide a new concrete batching plant will disrupt timely delivery of several large-scale infrastructure projects, supply of housing and commercial buildings. This scenario has the potential to impede the construction and development industry sector, implicate the economy and slow down growth.

Because of the lack of existing batching plants in the area, and the lack of identified viable sites, the 'Do Nothing' option would likely result in more aggregate trucks and concrete agitator vehicles travelling further distances. Additionally, if Hanson were to fail to provide a new facility, it could also reduce competition within this market and potentially result in increased costs for concrete, causing overall higher construction costs.

Option 2: Consider an Alternative Site

The proposed development is for an aggregate handling and concrete batching facility. The co-location of these facilities requires certain spatial characteristics, including:

- Access to a deep water port to enable bulk aggregate import by sea;
- Direct access to the arterial road network to allow for distribution of aggregate and batched concrete;
- A location that is proximate to demand to enable batched concrete to ideally be delivered within 45 to 60 minutes.

No other site close to the future demand near the Sydney CBD area is able to offer these three attributes and therefore this option has not been considered further.

Option 3: Alternative Design

The proposed design seeks to offer an efficient building plan to allow for streamlined concrete manufacturing and delivery. The building is designed to minimise adverse environmental (noise, air quality, stormwater) impacts by containing the batching facility within an enclosed building.

Several alternative site plan options were considered during early design phase. The design of the proposed development sympathetically integrates with its surroundings to reduce bulk, scale and view impacts. A summary of

the development of the design has been provided in **Section 3.0**. This section demonstrates that, although other designs were considered, the design of the proposed development is the most appropriate for the Site.

Option 4: The Proposed Development

The Site at Glebe Island, being an operational working port, is zoned for industrial and port related uses that are consistent with the proposed development. Hanson has undertaken a careful Site vetting process to select the Site at Glebe Island. This nominated site is strategically located to supply concrete to the several ongoing and future projects envisaged in and around the city.

1.6 Secretary's Requirements

In accordance with Section 4.39 of the EP&A Act, the Secretary of the Department of Planning and Environment issued the requirements for the preparation of the EIS on 7 July 2017. A copy of the Secretary's Environmental Assessment Requirements (SEARs) is included at **Appendix A**.

Table 1 provides a detailed summary of the individual matters listed in the SEARs and identifies where each of these requirements has been addressed in this report and the accompanying technical studies.

Table 1 – Secretary's Requirements

Requirement	Location in Environmental Assessment
General	
The Environmental Impact Statement (EIS) must address the *Environmental Planning and Assessment Act 1979* and meet the minimum form and content requirements in clauses 6 and 7 of Schedule 2 the Environmental Planning and Assessment Regulation 2000.	Environmental Impact Statement
Notwithstanding the key issues specified below, the EIS must include an environmental risk assessment to identify the potential environmental impacts associated with the development.	Section 5.4
Where relevant, the assessment of the key issues below, and any other significant issues identified in the assessment, must include: • Adequate baseline data • Justification of impacts • Measures to avoid, minimise, and if necessary, offset the predicted impacts, including detailed contingency plans for managing any significant risks to the environment; and • The EIS must also be accompanied by a report from a qualified quantity surveyor providing: – a detailed calculation of the capital investment value (CIV) of the development (as defined in clause 3 of the Environmental Planning and assessment Regulation 2000), including details of all assumptions and components from which the CIV calculation is derived; – a close estimate of the jobs that will be created by the development during construction and operation; and – verification that the CIV was accurate on the date that it was prepared.	Section 4.0– Section 7.0 Section 6.0
Key Issues	
Environmental Planning Instruments, Policies and Guidelines • Address the relevant statutory provisions applying to the Site contained in the relevant EPis, including: – State Environmental Planning Policy (State Significant Precincts) 2005; – State Environmental Planning Policy (State & Regional Development) 2011; – State Environmental Planning Policy (Infrastructure) 2007; – State Environmental Planning Policy No 33 - Hazardous and Offensive Development; – State Environmental Planning Policy No. 55- Remediation of Land; – Leichhardt Local Environmental Plan 2013;	Section 4.0

Requirement	Location in Environmental Assessment	
– Sydney Regional Environmental Plan No. 26 - City West; and – Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005 and Foreshores and Waterways DCP. • Address the relevant provisions, goals and objectives in the following: – NSW 2021; – NSW State Plan; – Plan for Growing Sydney; – Towards our Greater Sydney 2056; – Draft Central District Plan; – Bays Precinct Transformation Plan – Growth Centres (Development Corporations) Act 1974 – NSW Long Term Transport Master Plan; – Sydney's Walking Future; – Sydney's Cycling Future; – Sydney's Bus Future 2013; – Sydney's Light Rail Future 2013; and – NSW Freight and Ports Strategy 2013.		
Strategic Planning and Land Use • Demonstrate the strategic need for the proposed development having regard to the Bays Precinct Transformation Plan and other relevant documents. • Outline how the proposal (and its associated impacts) demonstrates an appropriate use of the land having regard to the Bays Precinct Transformation Plan, other relevant documents and future potential users of the Bays Precinct. • Consideration of the lifespan of the facility having regard to the Bays • Precinct Transformation Plan, other relevant documents and future potential uses of the Bays Precinct.	**Section 5.2** of this report	
Key Issues	**Report / EIS**	**Technical Study**
Air Quality • The application must include an Air Quality Impact Assessment prepared in accordance with the relevant Environment Protection Authority guidelines, including: – identification of the pollutants of concern, including individual toxic air pollutants, dust and odours	**Section 5.4**	**Appendix I**
– identification and assessment of all relevant fugitive and point source emissions, including cumulative impacts of the operation of the plant in relation to other construction activities – potential health impacts, including details of human exposure scenarios and demonstration that the project will not have unacceptable acute or chronic health effects – proposed air quality management and monitoring procedures during construction – dust management with an emphasis on PM10 which can result from general construction activities as well as plant operations and maintenance • consideration of potential impacts on nearby sensitive receivers and detail of proposed mitigation and monitoring measures.		

Requirement	Location in Environmental Assessment	
Waste Management • Provide details of the quantity and type of liquid and non-liquid waste generated, handled, processed or disposed of on-site. Waste must be classified according to the EPA's *Waste Classification Guidelines 2014.*	**Section 5.5**	**Appendix J**
• Provide details of the quantity, type and specifications for all output products proposed to be produced. The description should include the physical, chemical and biological characteristics (including contaminant concentrations) of those output products as well as relevant accredited standards against which the products would comply. • Provide details of intended (or potential) end uses for output products and the relevant product standards used against which those products would be assessed. • Provide details of the layout, the treatment process and the environmental controls of the proposal. • Provide details of liquid waste and non-liquid waste management, including: – the transportation, assessment and handling of waste arriving at or generated at the site; – any stockpiling of wastes or recovered materials at the site; – any waste processing related to the proposal, including reuse, recycling, reprocessing or treatment both on- and off-site; – the method for disposing of all wastes or recovered materials; – the emissions arising from the handling, storage, processing and reprocessing of waste; and – the proposed controls for managing the environmental impacts of these activities. • Provide details of spoil disposal (if applicable) with particular attention to: the quantity of spoil material likely to be generated – proposed strategies for the handling, stockpiling, reuse/recycling and disposal of spoil – the need to maximise reuse of spoil material in the construction industry – concrete and cement/fly ash spillage and clean-up arrangements – identification of the history of spoil material and whether there is an likelihood of contaminated material, and if so, measures for the management of any contaminated material – designation of transportation routes for transport of spoil. • Provide details of procedures for the assessment, handling, storage, transport and disposal of all hazardous and dangerous materials used, stored, processed or disposed of, in addition to the requirements for liquid and non-liquid wastes. • Provide details of the type and quantity of any chemical substances to be used or stored and describe arrangements for their safe use and storage.		
Noise and Vibration • The application must include a Noise and Vibration Impact Assessment prepared in accordance with the relevant Environment Protection Authority guidelines. The assessment must consider the potential noise and vibration impacts from all marine and land-based activities during construction, operation (particularly operational noise from traffic (including marine traffic), plant and equipment) and cumulative noise impacts.	**Section 5.6**	**Appendix D**
• The assessment must consider both existing and potential future users of • the Bays Precinct. • The assessment must consider potential impacts on nearby sensitive receivers and outline proposed mitigation and monitoring measures.		

Requirement	Location in Environmental Assessment	
Water Management Undertake an assessment on surface water, groundwater and water quality in Sydney Harbour, including: – a water balance for the site – erosion and sediment control plan for the works and operations – stormwater management plan for the plant and site, including any bunding of dangerous goods or fuel depot; – groundwater management, including measures for preventing groundwater pollution – details on any wastewater management, disposal, re-use and disposal – arrangements – water quality management focusing on potential impacts of the proposed development on Sydney Harbour – water quality monitoring and mitigation measures.	**Section 5.7**	**Appendix G**
Transport and Accessibility • Include a transport and accessibility assessment which details, but is not limited to, the following: – the existing and proposed pedestrian and bicycle routes and facilities within the vicinity of and surrounding the Site and to public transport facilities as well as measures to maintain road and personal safety in line with CPTED principles; – an estimate of the total daily and peak hour trips generated by the proposal, including vehicle, public transport, pedestrian and bicycle trips; – details of anticipated shipping movements on Sydney Harbour; – the adequacy of public transport to meet the likely future demand of the proposed development; – impact of the proposed development on existing and future public transport and walking and cycling infrastructure within and surrounding the site; – measures to promote travel choices that support sustainable travel, such as a location-specific sustainable travel plan, provision of end-of trip facilities, green travel plans and wayfinding strategies – the daily and peak (AM and PM) vehicle movements impact on nearby intersections (including intersection level of service modelling), with consideration of the cumulative impacts from other approved developments in the vicinity, and the need/associated funding for upgrading or road improvement works (if required) – the proposed walking and cycling access arrangements and connections to public transport services – the proposed access arrangements and heavy vehicle routes, including car pick-up/drop-off facilities, and measures to mitigate any associated traffic impacts and impacts on public transport, pedestrian and cycle networks – proposed car and bicycle parking provision, including consideration of the availability of public transport and the requirements of the relevant parking codes and Australian Standards – provision of end of trip facilities (i.e. showers, lockers, change rooms etc.) for the use of employees who choose to walk or cycle to/from work as well as undertake activities during work hours – service vehicle access, delivery and loading arrangements and estimated service vehicle movements (including vehicle type and the likely arrival and departure times) • in relation to construction traffic: – assessment of cumulative impacts associated with other construction activities – an assessment of road safety at key intersection and locations subject to heavy vehicle construction traffic movements and high pedestrian activity	**Section 5.8**	**Appendix H**

Requirement	Location in Environmental Assessment
– details of construction program detailing the anticipated construction duration and highlighting significant and milestone stages and events during the construction process – details of anticipated peak hour and daily construction vehicle movements to and from the site – details of access arrangements of construction vehicles, construction workers to and from the site, emergency vehicles and service vehicle – details of temporary cycling and pedestrian access during construction – details of proposed construction vehicle access arrangements at all stages of construction – traffic and transport impacts during construction and how these impacts will be mitigated for any associated traffic, pedestrian, cyclists, parking and public transport, including the preparation of a draft Construction Traffic Management Plan to demonstrate the proposed management of the impact (which must include vehicle routes, number of trucks, hours of operation, access arrangements and traffic control measures for all demolition/construction activities).	

Requirement	Location in Environmental Assessment	
Marine Traffic, Navigation and Safety • Undertaken an assessment of the proposed development on water-based traffic, marine structures, marine safety and navigation and Provide details of vessel movements including frequency and vessel size.	**Section 5.9**	
Built Form • Outline all built form elements of the proposal and provide specific consideration of the site's character, layout, setbacks, design, materials and finishes, views and vistas, open spaces and public domain and connectivity; and Address the height, bulk and scale of the proposal development within the context of the locality and its surrounds.	**Section 3.0**	
Visual Impact and Views A Visual Impact Assessment is to be provided of the proposed development and other significant structures, when viewed from key vantage points. Photomontage images are to be prepared to demonstrate the impact of the proposed works.	**Section 5.3**	**Appendix E**
Lighting Consideration of the lighting impacts of the proposed development on nearby sensitive receivers (particularly at night).	**Section 5.18**	**Appendix E**
Heritage • A Heritage Impact Assessment prepared in accordance with the guidelines in the Heritage Manual. The assessment must consider the potential impacts of the proposal on any heritage items in the vicinity of the Site including a view impact assessment and details of any mitigation and conservation measures; and • A Historical Archaeological Assessment prepared in accordance with the relevant Office of Environment and Heritage (Heritage Division) Guidelines.	**Section 5.10**	**Appendix C**
Pre-submission Consultation The EIS must include a report describing pre-submission consultation undertaken, including consultation with the local community and other key stakeholders, issues raised during that consultation and how the proposal responds to those issues.	**Section 4.0** of this report	
Utilities • Address the existing capacity and any augmentation requirements of the development for the provision of utilities, including staging of infrastructure and additional licence/approval requirements in consultation with relevant agencies; and • Identify any potential impacts of the proposed construction and operation on existing utility infrastructure and service provider assets, and demonstrate how these will be protected or impacts mitigated.	**Section 5.7**	**Appendix O**
Contamination • Identify any contaminated material on Site and demonstrate compliance with the requirements of SEPP 55. • If remediation works are required, the EIS must include a Remedial Action Plan (RAP) accompanied by a Site B audit statement prepared by an EPA accredited Site auditor. The RAP must be prepared in accordance with the contaminated land planning guidelines under section 145C of the Environmental Planning and Assessment Act 1979 and relevant guidelines produced or approved under section 105 of the Contaminated Land Management Act 1997.	**Section 5.16**	**Appendix F**

Requirement	Location in Environmental Assessment	
Building Code of Australia • Prepare a report demonstrating compliance with the Building Code of Australia including fire safety and accessibility provisions.	**Section 5.19**	**Appendix K**
Biodiversity • Assessment of the potential direct and indirect biodiversity impacts of the proposed development on terrestrial and marine flora and fauna, including threatened species, populations or communities or their habitats. • Recommendation of appropriate avoidance, mitigation and management measures during construction and operation.	Section 5.13	Appendix
Hazards and Risks • Assessment of potential hazards and risks in accordance with the Department's Applying SEPP 33 Guideline and a Preliminary Hazards Analysis (if required).	**Section 5.14** of this report	
Sea Level Rise and Climate Change • An assessment of the risks associated with sea level rise and climate change on the proposal in accordance with the relevant guidelines and policies.	**Section 5.15** of this report	
Cumulative Impacts • Assessment of the potential cumulative impacts (noise, traffic, air etc) of the proposed development with other developments in the vicinity of the Site during construction and on-going operation. In particular, this assessment shall have regard to: – major infrastructure projects such as WestConnex, the Western Harbour Tunnel, the Iron Cove Link and the West Metro – potential future development in the Bays Precinct – Hymix Concrete Batching Plant, Pyrmont.	**Section 5.20** of this report	
Environmental, Construction and Site Management Plan • • The EIS shall provide an Environmental and Construction Management Plan for the proposed works, and is to include: – community consultation, notification and complaints handling – impacts of construction on adjoining development and proposed measures to mitigate construction impacts	**Section 5.17**	**Appendix N**
– noise and vibration impacts on and off site – air quality impacts on the neighbourhood including dust controls – odour impacts – erosion and sediment controls in accordance with the relevant guidelines – water quality management for the site – construction waste classification, transportation and management methods in accordance with the EPA's Know Your Responsibilities: Managing Waste from Construction Sites Guideline.		
Consultation During the preparation of the EIS, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners. In particular, you must consult with: • Inner West Council • City of Sydney Council • Port Authority of NSW • Office of Heritage and Environment - Environmental Protection Authority • Office of Heritage and Environment - NSW Heritage • Sydney Water	Refer to **Section 4.0** of this report	

Requirement	Location in Environmental Assessment
• Transport for NSW • Roads and Maritime Services • Department of Primary Industries • Urban Growth NSW Development Corporation • Port Authority of NSW • Infrastructure NSW • Fire and Rescue NSW • Local Aboriginal Land Council and stakeholders, if relevant • Local heritage groups, if relevant. The EIS must describe the consultation process and the issues raised, and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided.	

2.0 Site Analysis

2.1 Site Location and Context

The Site is located at Glebe Island, Rozelle which is located within the Inner West Council Local Government Area. Glebe Island is surrounded by White Bay (north), Johnston Bay (east) and Rozelle Bay (south). Glebe Island connects to mainland areas of Rozelle to its west.

Glebe Island is one of the last remaining industrial port facilities within 2km of Sydney City. The port has historically been used for car imports and in the transportation of bulk construction materials such as cement and gypsum. Glebe Island currently functions as a deep water port for common user berths, dry bulk imports and cruise ships. White Bay and Glebe Island are among a few deep water wharves west of Sydney Harbour Bridge. The Site's locational context is shown at **Figure 3**.

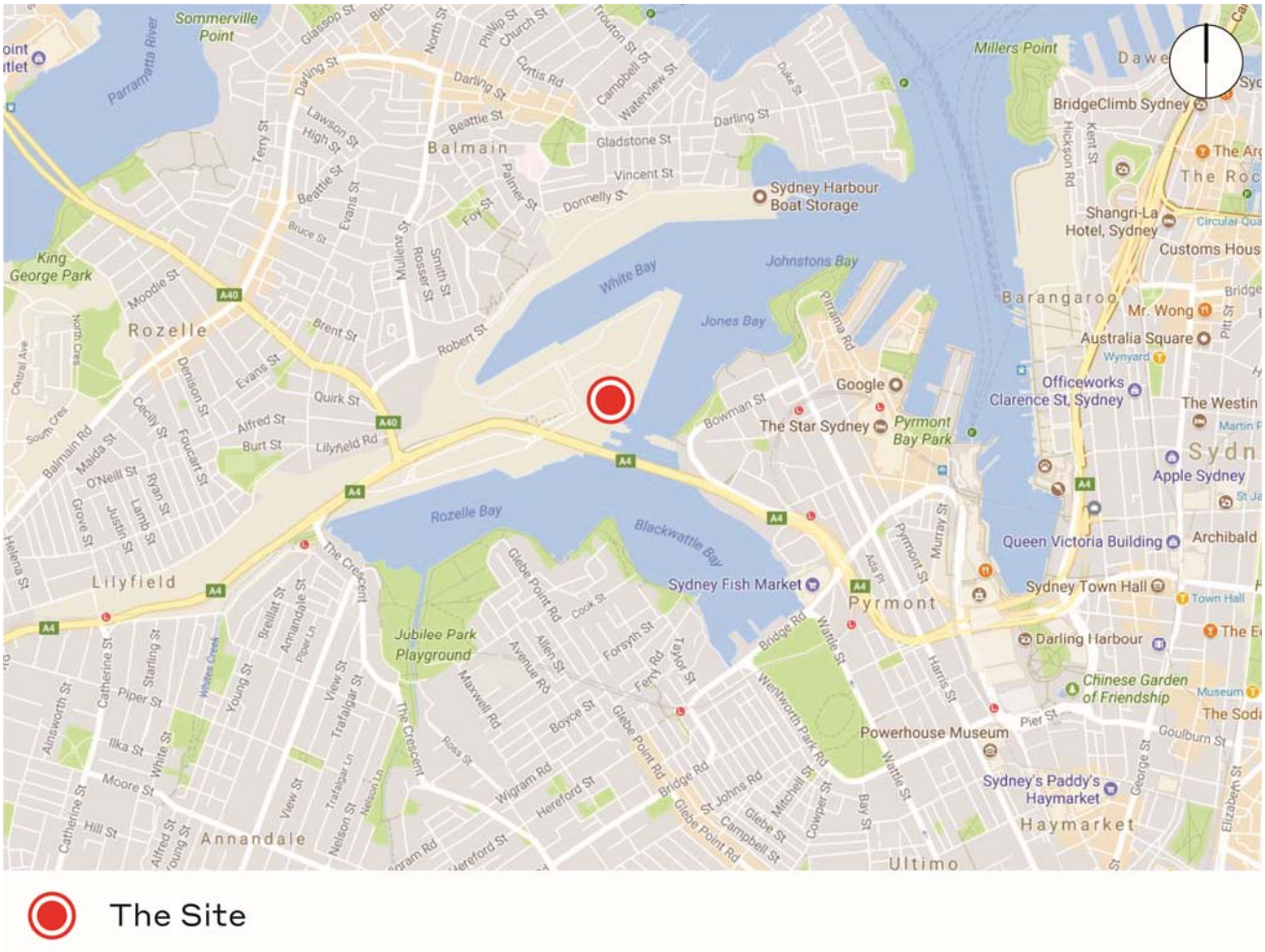

Figure 3- Locational context

2.2 Site Description

The Site is located within the southern end of Glebe Island, adjacent to Glebe Island Berth One (GLB1). Glebe Island comprises of a single lot, legally described as Lot 10 under Deposited Plan 1170710. The Site is owned by the Newcastle Port Corporation (a State Owned Corporation) and administered on their behalf by the Port Authority of NSW. The Site has a total area of approximately 16,198m^2.

An aerial photo of the Site is shown at **Figure 4**, identifying the extent of the proposed development within the Glebe Island Port and the surrounding context.

Figure 4 -Site context (the Site of the proposed development is shown outlined in red)

Figure 5- View of Glebe Island facing north towards the proposed Site at GLB1 (left); View of Site grounds along the western extent (right)

Source: AECOM

Topography

The Site is relatively level and comprises of a concrete and asphalt hardstand ground cover. A strip of mounted landscaping is noted along the south-western boundary.

2.3 Site access and Parking

The Site is accessed from Victoria Road/The Crescent via James Craig Road.

2.3.1 Public Transport

The area is generally well serviced by public transport including bus services and light rail.

Bus Services

Various bus routes service the immediate area. Victoria Road is the main transport corridor connecting the suburbs of Gladesville, Drummoyne, Rozelle and Balmain and Sydney City. Approximately 17 services stop within 1 km of the Site. The services are frequent with one every 5 mins or less during peak hours. Services operating along this route include 441, 442, 500, 501, 502, 504, 505, 506, 507, 508, 510, 515, 518, 520, L37, M50, and M52. The stop nearest to Glebe Island (approximately 1 km by foot) is located at Victoria Road, opposite Hornsey Street.

Light Rail

Rozelle Bay light rail stop is located approximately 1.3 km west of the Site. The light rail route services Sydney's inner west suburbs from Dulwich Hill (100 metres from Dulwich Hill Railway Station) to Sydney CBD and Central Station. Frequency of this service is one every 7-8 minutes during AM and PM peak hours.

Pedestrian Routes

Pedestrian access to the Site is available via the following routes:

- Footpaths along the Anzac Bridge with a walkway down to Sommerville Road;
- Footpath access along James Craig Road and The Crescent; and
- Footpath access along Victoria Road.

Cycling

The Site is accessible via several existing off -road shared or separated cycle routes. **Figure 6** illustrates existing cycle routes available close to the Site.

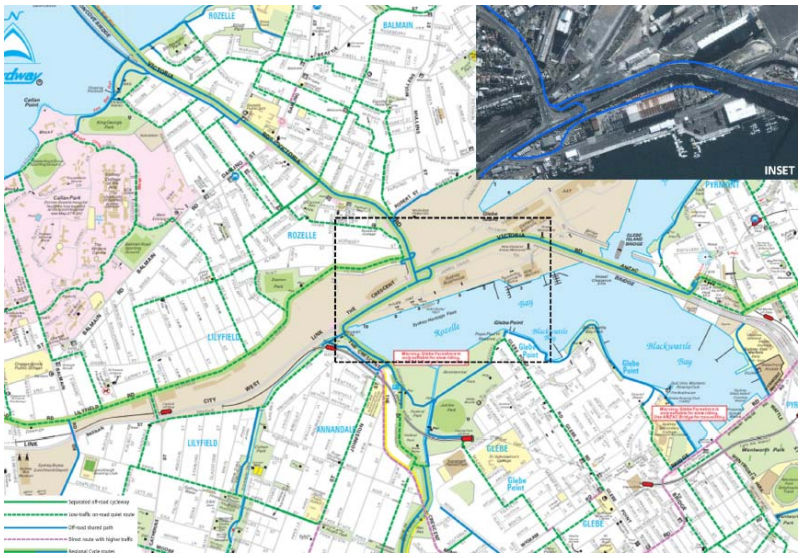

Figure 6- Existing cycle routes

Source: Traffic Impact Assessment, AECOM

2.4 Heritage

The Site is not heritage-listed, however, it is within the vicinity of other heritage-listed items. The heritage items, their respective heritage significance, and location in context to the Site, is provided below:

- Glebe Island Bridge a State-listed heritage item (SHR: 01914) (20 metres south of the Site);
- White Bay Power Station a State-listed heritage item (SHR: 01015) (740 metres west of the Site); and
- The Glebe Island Silos listed as an item of Local heritage significance under the Glebe Island and White Bay Masterplan (Sydney Port Corporations, 2000) (120 metres west of the Site).

2.5 Surrounding Development

Within Glebe Island, the western extent of the Site is demarcated by James Craig Road, which runs an internal circuit through Glebe Island. Further north is White Bay, of which Berths 4 and 5 are used for shipping and the Cruise Passenger Terminal, and the vacant White Bay Power Station. Beyond the port area the residential suburbs of Rozelle and Balmain are located to the north and north-west.

Immediately to the south of the Site is the State Heritage-listed Glebe Island Bridge. On the southern side of Glebe Island Bridge a marina is located that is currently used by Sydney City Marine as a boat repairs facility, and then the ANZAC Bridge.

The north-western edge of Pyrmont peninsula is located east of the Site and is separated from the port facility by the foreshore water of Jones Bay. The residential dwellings in Bowman Street, Pyrmont are the closest residential dwellings to the Site. However, it should be noted that these dwellings were constructed on the basis of continued port operations at Glebe Island, and so have been designed and constructed at the time of their development with additional acoustic treatments to account for these port-related activities.

West of the Site is the existing Cement Australia Plant facility comprising of the bulk storage heritage listed Glebe Island silos.

Figure 7 to **Figure 10** below provides the surrounding context of the Site within Glebe Island and the surrounding locality.

Figure 7- View facing north west of the Site towards the cement processing plant (west) and the White Bay locality further beyond

Source: AECOM

Figure 8- View looking south of the Site towards Glebe Island Bridge

Source: AECOM

Figure 9- View of Pyrmont Waterfront Park and Pyrmont Peninsula across Jones Bay east of the Site

Source: AECOM

Figure 10- View north east of White Bay shipping terminal and Balmain East further beyond

Source: AECOM

3.0 Description of the Development

This chapter of the report provides a detailed description of the proposed development. Detailed plans of the proposed development are provided at **Appendix B**.

This SSD development application seeks consent for the construction and operation of an aggregate handling and concrete batching facility, co-located at Glebe Island. The proposed facility will comprise of the following main components:

- Six (6) aggregate silos located along the southern edge of the island with a roof structure and a conveyor feed for aggregates to be delivered by ship;
- A fully enclosed double height warehouse facility that will accommodate:
  - Heavy vehicle tipping bin area along the northern edge of the warehouse;
  - A concrete loading area with separate ingress and egress points for agitator trucks and cement tankers;
  - A truck wash bay; and
  - A concrete batch room;
- A separate site office building;
- At grade car parking with 64 spaces (for 59 employees, 4 visitors, and one accessible space).

The layout of the proposed development is shown in plan below in **Figure 11.**

Figure 11- Layout plan of proposed development

Source: Hanson

3.1 Proposed structure

The proposed development comprises of an aggregate handling and concrete batching facility, made up of the following elements, which are discussed in more detail below:

- Aggregate storage silos and Handling facility;
- Enclosed concrete batching facility; and
- Site Office Building, ancillary infrastructure, and parking.

Figure 12 illustrates elevations of the proposed development and **Figure 13** below provides a photomontage of the facility. Technical drawings are provided in **Appendix R**, shadow plans are provided as an attachment to **Appendix E**.

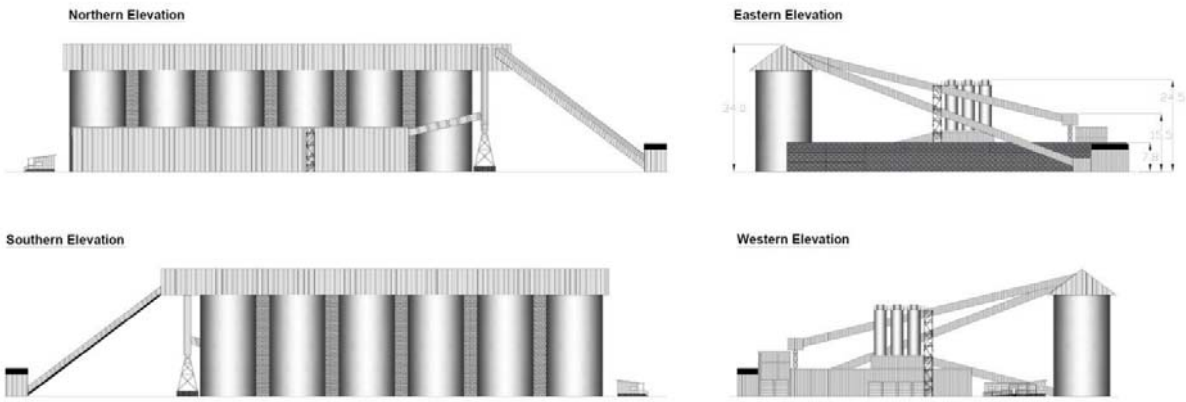

Figure 12 – Elevations of the proposed development

Source: Hanson

Figure 13 – Photomontage of the proposed development when viewed from the open space parks at Pyrmont

Source: AECOM, Landscape and Visual Impact Assessment Report at Appendix E

3.1.1 Aggregate Storage and Handling Facility

A total of six aggregate storage silos are proposed. The silos are proposed to be constructed as 34 metre high structures with a roof component that accommodates an enclosed loading conveyor feed. The conveyor feed will provide a seamless transfer path for aggregate from delivery ships into the large silos. The overall height of the proposed structure (aggregate storage silos and the roof element) is 34 metres from the existing ground level. Each aggregate silo has a capacity of 4,333 Tonnes. Collectively, the silos will hold a total aggregate volume of approximately 26,000 Tonnes.

The proposed aggregate handling facility will enable aggregate deliveries by ship via the existing berth at GLB1. A receiving bin is proposed to be located at the northern end of the Site. The aggregate handling facility will allow for aggregate to be dispatched directly from the aggregate storage silos into tipper trucks for delivery to other concrete batching facilities as demand requires.

3.1.2 Enclosed Concrete Batching Facility

The concrete batching process will be undertaken within a double height enclosed building. The building will be up to 15m high above the existing ground level with the exception of six silos (two cement and four aggregate silos). These silos are located in the centre of the building and reach a height of 25m above the existing ground level. The silos will used to store cement and aggregate (from the larger aggregate holding silos) for use in the short to immediate term.

The enclosed building will be constructed in steel frame with colourbond walls and roof and will have a total footprint area of approximately 4,100m^2. High-speed Roller doors will be installed on the east and west side of the building to allow for vehicular access through the building during the batching process, or for delivery of cement by truck. Two doors will be located on the west of the building and six doors will be located on the east of the building. The roller doors will be closed when not needed for access.

The building will be ventilated to ensure that the inside of the building complies with Work Health and Safety (WHS) air quality standards, filters will be applied to the ventilation system to ensure that the expelled air is able to meet EPA standards. Water storage tanks, sand silos and fly ash silos will all be located within the enclosed building.

3.1.3 Site Office Building, Ancillary Infrastructure, and Parking

The proposed development includes a modular site office building, which will be located at the south western end of the Site, located adjacent to the staff and visitor entrance to the Site, accessible from James Craig Road.

A separate drivers room and amenities building is provided to the south of the site office building, adjacent to the employee car parking area and the six aggregate silos.

Two weigh bridges are proposed to be installed at the south of the Site.

64 staff and visitor car parking spaces will be provided as at grade parking east of the Site office building. Parking for 55 concrete agitator trucks will also be available on the Site, car parking spaces vacated by concrete agitator trucks can be used for overflow car staff parking if required as the majority of staff associated with the facility would be the drivers of the concrete agitator trucks.

Figure 14- Indicative site office building example

Source: Hanson

3.1.4 Site Vehicles

Three main types of commercial vehicles will operate at the plant:

- A total of 55 concrete agitator trucks – delivering concrete mixed at the plant on-site to building sites throughout the city. Some of these are standard rigid-axle agitator vehicles and some are articulated agitator vehicles.
- Cement tankers – delivering cement to the Site, this cement will most likely come from the Cement Australia Glebe Island facilities and therefore will not have to access the public road network. Cement tankers may also deliver flyash from regional power stations.
- Aggregate trucks – two tipper trucks will be based at the Site, trucks based at other concrete batching plant facilities may also access the plant. Aggregate trucks dispatch aggregates and sand to other concrete batching plant facilities – including the Hymix plant at Pyrmont. These are truck and dog trailer and semi-trailer combinations.

Other on-site vehicles will include a forklift, a bobcat and two loaders. Cement deliveries are expected to be made by B-Double tankers.

3.2 Description of the Process

This section provides a description of the processes that are proposed to be carried out at the Site during the operational phase of the proposed development.

3.2.1 Delivery

The delivery of various ingredients associated with the operation of the proposed development is outlined below:

- Cement will be delivered by cement tanker. Cement tankers will enter the facility at the north of the Site and drive around the north of the enclosed building to enter from the east. Cement tankers will then hydraulically dispense their load into the Cement storage silos located within and above the enclosed building. Once the cement tanker has dispensed its load it will exit the enclosed building from the west and exit the Site from the south western corner. In future, there may be an opportunity for cement to be delivered to the Site directly via a pipeline from the Cement Australia silos, which are located to the north of the Site. This direct connection does not form part of this application but may be investigated in future. The frequency of cement deliveries will vary depending on demand for concrete. Consent is sought for up to 45 deliveries of cement per day. It is noted that this frequency of delivery is anticipated to be infrequent.
- Aggregate will be delivered by ship to the GLB1 berth at Glebe Island. Ship deliveries are anticipated three times per week and each delivery will last approximately 12 hours. Approximately 10 ships are anticipated each month. The aggregate receiver bin will receive aggregate transferred directly from ships. From the receiving bin aggregate will be transferred via enclosed conveyor belt to the top of the proposed aggregate silos. In some instances, when aggregates are not able to be delivered by ship. They will be delivered by road. This may happen from time-to-time depending on the availability if the ship.
- Process water will be provided through a combination of mains water supply, recycled water and reclaimed rain water. Further information on the water cycle management is available in **Section 5.7** of this report and **Appendix G.**

All road delivery vehicles will access the Site from Victoria Road/The Crescent via James Craig Road.

3.2.2 Aggregate Dispatch

As part of the Site's proposed function as an aggregate storage and handling facility, aggregate will be dispatched from the aggregate storage silos to aggregate delivery trucks for dispatch to other facilitates in the surrounding area. Empty aggregate trucks will enter the Site from the north west and circumnavigate the enclosed building and parking areas to arrive at the aggregate loading point located inside the enclosed building. From here the empty aggregate trucks will be filled before travelling west to be weighed on the weigh-bridges prior to exiting to James Craig Road at the south west corner of the Site.

The frequency and destination of aggregate deliveries will depend on demand. Consent is sought for a maximum of 241 aggregate deliveries per day. This frequency of delivery would only be achieved when the proposed development is operating at full capacity, which is anticipated to be an infrequent occurrence.

3.2.3 Concrete Batching

Concrete is composed of a number of dry ingredients (aggregate, cement, sand, fly ash and/or ground slag), mixed with water. The concrete batching process involves the precise delivery of a certain ratio of the dry ingredients to the concrete agitator trucks, and the addition of water, to create the correct consistency of mixture. The correct consistency of mixture will vary depending on the type of concrete required, and the distance that the concrete agitator truck must travel before the delivery is made.

To start the concrete batching process, concrete agitator trucks will move from their holding area, which is located the east of the enclosed building, through the eastern doors, to the loading point within the enclosed building. Aggregate, sand and cementitious material will be transported from their storage silos to the loading point via an enclosed conveyor system. Each of the ingredients will be dispatched first into a weigh hopper, to ensure that the precise ratio of ingredients is maintained, and from here the ingredients will be transferred to the concrete agitator truck.

The concrete agitator trucks then move from the loading point to the slump stand (within the enclosed building) for final inspection of the load to complete the batching process. Water may be added manually at the slump stand to ensure that the correct consistency is maintained to meet the specific delivery requirements for the batch.

Once the concrete is loaded into the concrete agitator trucks the trucks will be washed down within the enclosed building before exiting the enclosed building from the western door and exiting the Site from the south west into James Craig Road. When the plant is operating at peak capacity, up to 120 concrete deliveries can be made from the plant each hour. It should be noted that peak operation is anticipated to be reached rarely and that under normal operation the number of concrete dispatch events each hour will be significantly lower.

3.2.4 Hours of Operation

The facility is proposed to have the capacity to operate 24 hours a day, seven days a week. The majority of the concrete agitator trucks associated with the proposed development will be parked on the Site overnight, day shift drivers will arrive to the Site in the morning typically between 5am and 8am to start the shift, leaving the Site between 3pm and 6pm in the evening. Night shift workers will arrive to the Site in the afternoon as required by demand. It is not anticipated that a regular night shift will be required by the operation of the Site. The operation of the facility during the night will generally be driven by market demand.

3.3 Construction

Due to the historical port-related uses of the Site minimal site-preparation is required prior to the commencement of construction. Footings will be prepared on the Site in preparation of the delivery of construction components.

The proposed aggregate silos will be constructed via the slip forming method; where concrete is poured into a continuously moving form. This method must be uninterrupted from start to finish and may take approximately 24 hours. Other than the aggregate silos, the majority of the components will be delivered as individual modules and assembled on the site. Component modules will be delivered by road and by sea via the GLB1 berth.

Other than the pouring the aggregate silos (which must be undertaken continuously over a 24 hour period) and any shipping deliveries, construction activities will be undertaken within standard construction hours.

3.4 Duration of Consent

As noted above in Section 1.2, the Site and its surrounding area is in a state of flux and the character of the surrounding area will change as the NSW Government redevelops the Bays Precinct over the next 10-15 years. The design and operation of the proposed development has been prepared with this changing context in mind. It is anticipated that the facility would be modified in future to allow the operations to co-exist with future land uses in the surrounding area as they are determined and delivered.

As the Site is owned by the NSW Government, who are also responsible for overseeing and delivering the redevelopment of the Bays Precinct, it is anticipated that the tenure of the Hanson operation on the Site can be controlled via the leasing arrangements that will be in place between Hanson and the Ports Authority of NSW. Contractual arrangements, built into the lease between the NSW Government and Hanson, can control the future

operation of the proposed development, including future amendments to operational parameters, as and when they are required.

This ongoing control over the tenure of the proposed development, which is not usually available when development consent is sought on land that is not owned by the NSW Government, means that placing an expiration date on any development consent associated with this application is not necessary in this instance.

4.0 Consultation

In accordance with the SEARs issued for this project, consultation was undertaken with relevant public authorities, the community and Council. A Consultation Summary Report has been prepared and is provided as **Appendix Q**.

4.1 Public Authorities and Community Groups

A summary of the consultation undertaken to-date with Council, and relevant public and local agencies is provided below. Several consultants have undertaken additional consultation with relevant parties during the preparation of their reports.

Table 2 – Summary of Issues Raised and Response

Consultation Required by SEARs	Summary of Consultation	Response
Transport for NSW	Transport for NSW attended a meeting with Hanson, Port Authority of NSW and UrbanGrowth on Thursday, 9 November 2017.	Please refer to **Appendix Q**
Inner West Council	A letter was issued to the Inner West Council on: - Thursday 28 September 2017 - Tuesday, 9 January 2018	Inner West Council requested additional requirements to the SEARs, relating to Contamination and Water Quality Management. Please refer to the Water Cycle Quality Management Plan in **Appendix G** for further detail.
City of Sydney Council	A letter was issued to the City of Sydney on: - Thursday, 28 September 2017 - Thursday, 11 January 2018	City of Sydney confirmed that they had no requirements in addition to the SEARs.
Port Authority of NSW	Hanson has met with Ports Authority of NSW (as the Landowners), on an ongoing basis. Meetings have been held on: - Monday 28 August 2017 - Thursday 7 September 2017 - Thursday 28 September 2017 - Wednesday 4 October 2017 - Wednesday 11 October 2017 - Wednesday 25 October 2017 - Thursday 23 November 2017 - Tuesday 5 December 2017	Port Authority of NSW reviewed the Environmental Impact Assessment (EIS) prior to its submission. Port Authority of NSW provided Land Consent for the proposal. Ports Authority of NSW have no requirements in addition to the SEARs.
NSW Environmental Protection Agency (EPA)	Ongoing phone calls were formalised in a letter issued on Friday 6 October.	The NSW EPA requested additional requirements to the SEARS, relating to Water Quality and Waste Management. Please refer to the Water Cycle Quality Waste Management Plan in **Appendix G** for further detail.
Heritage Council	AECOM were engaged to prepare the Statement of Heritage Impact for the proposal.	Please refer to the Statement of Heritage Impact included in **Appendix C** for further detail.
Sydney Water	A letter was issued to Sydney Water on: - Friday 6 October 2017 - Tuesday, 6 February 2018	Sydney Water had no additional requirements to the SEARs. Please refer to the Water Cycle Quality Management Plan in **Appendix G** for further detail.

Consultation Required by SEARs	Summary of Consultation	Response
Roads and Maritime Authority (RMS)	A letter was issued to RMS on: - Friday 6 October 2017 - Monday, 30 October 2017.	RMS (Road Team), have no additional requirements to the SEARs. RMS (Maritime Team) Awaiting response. Please refer to the Water Cycle Quality Management Plan in **Appendix G** for further detail.
Department of Industries (DPI)	A letter was issued to DPI (Water) on Friday 6 October 2017 A letter was issued to DPI (fisheries) Wednesday 27 September 2017	DPI has no additional requirements to the SEARs. Please refer to the Water Cycle Quality Management Plan in **Appendix G** for further detail.
UrbanGrowth	UrbanGrowth met with TfNSW and Hanson, Port Authority of NSW on Thursday, 9 November 2018	Please refer to **Appendix Q**.
Infrastructure NSW (INSW)	An email was issued to IFNSW on Monday, 30 October 2017	INSW declined participation and recommended that discussions be held directly with the relevant agencies.
Fire and Rescue NSW (FRNSW)	A letter was issued to FRNSW on Friday 6 October 2017	FRNSW will provide comment on the project upon submission of the EIS.
Local Aboriginal Groups	As noted in the Heritage Impact Assessment provided in Appendix C, the project site has been significantly altered thought land reclamation since European Settlement and no items of indigenous heritage significance are likely to be associated with the site. As such, consultation with Aboriginal representatives was not considered to be relevant.	The Statement of Heritage Impact identifies that there are no heritage constraints relating to Aboriginal archaeology. For further detail please refer to the Statement of Heritage Impact in **Appendix C.**
Local Heritage Groups	Letters have been issued to the following Local Heritage Groups: - City of Sydney Historical Association - Pyrmont History Group - The Glebe Society	Any input received during the exhibition process will be addressed within a response to submissions.

4.2 Community

As discussed in the Community Consultation Summary report (**Appendix Q**), Ports Authority NSW held a community workshop on Tuesday 5 December 2017 to inform community representatives and groups about development in the precinct and gather their feedback. Representatives were in attendance from the following groups:

- Balmain Precinct Committee and White Bay/Rozelle Precinct
- Bays Area Community Coalition
- Council of Ultimo/Pyrmont Associations
- Glebe Point Residents Group (part of the Coalition of Glebe Groups)
- Jackson's Landing Community Association
- Jackson's Landing 'Evolve' Strata
- Jackson's Landing 'Reflections' Strata

- Jackson's Landing 'Regatta Wharf' Strata
- Jackson's Landing 'Silk' Strata
- Jackson's Landing 'Sugar Dock' Strata
- Pyrmont Community Group
- Glebe Island/White Bay Community Liaison Group

Table 3 provides a summary of this issues raised by attendees that are relevant to the proposed development.

Table 3 Community Consultation Workshop, Tuesday 5 December 2017

Date	Issues raised	Project team response
Tuesday 5 December 2017 *Meeting 3*	• Members indicated support for taller silos that have a smaller footprint.	• It was confirmed that the new silos will be 34 metres high. • Please refer to the Landscape and Visual Impact Assessment included in the EIS.
	• Frequency of ships using the facility.	• The Port Authority has approval to bring 30 ships and associated trucks in to the precinct. • Future use of the GLB1 terminal associated with the proposed development will be consistent with this approved use.
	• Members requested the estimated number of trucks coming from each ship.	• It was confirmed that a maximum of 500 trucks will access the precinct per day. • Please refer to the Traffic Impact Assessment included as Appendix H of the EIS.
	• Members asked whether proposed noise levels they will exceed current noise levels.	• Day to day noise will be within acceptable noise levels. Any uncharacteristic noise will be managed to mitigate impacts to local residents. • Please refer to the Noise Impact Assessment included as Appendix D of the EIS.
	• Members suggested that updated traffic studies should be mandatory.	• Please refer to the Traffic Impact Assessment included in the EIS.
	• Members suggested that their main concern was emissions from trucks (dust, fuel, tyres).	• The potential air quality impacts associated with the project will be below ambient air quality impact assessment criteria. • The Project is not anticipated to result in any additional exceedances of the impact assessment criteria. • Please refer to the Plant Air Quality Assessment.
	• Members indicated concern about proposed additional lighting.	• The addition of night lighting will be mitigated with several strategies outlined in the Landscape and Visual Impact Assessment. • Please refer to the Landscape and Visual Impact Assessment included in the EIS.
	• Members indicated concern about the possible visual impact of the silos.	• The visual impact of the silos will be mitigated with a combination of alternative roof forms, and a proposed public art strategy that could include a mural on the silos. • Please refer to the Landscape and Visual Impact Assessment included in the EIS.

4.3 Post Exhibition Consultation

The proposed development will be placed on public exhibition for 30 days in accordance with clause 83 of the *Environmental Planning and Assessment Regulation 2000*. During the public exhibition period Council, State agencies and the public will have an additional opportunity to make submissions on the project.

5.0 Environmental Assessment

This section of the report assesses and responds to the anticipated environmental impacts associated with the construction and operation of the proposed development to address the matters for consideration set out in the SEARs (see Section 1.6). The Mitigation Measures proposed at **Section 6.0** complement the findings of this section.

5.1 Relevant EPIs, Policies and Guidelines

The relevant strategies, environmental planning instruments, policies and guidelines as set out in the SEARs are addressed in **Table 4**.

Table 4 – Summary of consistency with relevant Strategies, EPIs, Policies and Guidelines

Instrument/Strategy	Comments
Strategic Plans	
NSW 2021	The NSW 2021 is the State's 10 year plan which sets out clear goals, targets and priorities to facilitate economic growth and transform the State. The plan identifies five key strategies to bring about development being: • Rebuild the economy; • Return quality services; • Renovate infrastructure; • Strengthen our local environment and communities; and • Restore Accountability to government. The proposed development is consistent with NSW 2021 as it seeks to bring about new efficiencies by co-locating an aggregate handling facility with a concrete batching facility. The proposed development will ensure ongoing availability of concrete locally as future developments affect the operation of the existing Hymix and Hanson facilities in the vicinity of the Site and local State Significant Infrastructure projects drive increased demand for concrete. It also supports renovation of infrastructure which is generally concrete intensive, by providing for a nearby and efficient source of the building material.
NSW State Plan	*The State Plan, A New Direction for NSW* is a document prepared by the New South Wales Premier's Department and released on 14 November 2006. The plan sets priorities for the state government over a ten-year period to 2016. The NSW State Plan has been long superseded and is no longer relevant to this development application.
Plan for Growing Sydney	*The Plan for Growing Sydney* is the overarching metropolitan planning strategy which sets out the 20 year vision for the State. Under the strategy, the Site forms a part of the wider Bays Precinct, which is earmarked for renewal. Glebe island is identified as a medium to long-term priority under the plan. Notwithstanding this, the direction under the strategy identifies the State's intent to maintain working port functions on Site and provide opportunities for maritime activities. The proposed development will contribute to achieving the four goals identified in the plan, as follows: Goal1: *A competitive economy with world-class services and transport* This proposed development is located close to several large-scale development projects currently in Sydney's approval pipeline. These include infrastructure projects (WestConnex and Sydney Metro) which are concrete and aggregate intensive, and require a steady supply to avoid construction delays and meet the generally tight construction deadlines that apply to these projects. As such, this proposed development is consistent with the intent of this goal and will be able to supply large quantities of concrete commensurate to forecasted demand. *Goal 2: A city of housing choice, with homes that meet our needs and lifestyles* This proposed development will ensure adequate supply of concrete and aggregates for all types of development including residential development. *Goal 3: A great place to live with communities that are strong, healthy and well connected* The proposed development seeks to locate the aggregate handling facility and concrete batching plant away from sensitive land uses while still being in proximity to the several large scale strategic development projects that rely on a steady supply of good quality concrete. *Goal 4: A sustainable and resilient city that protects the natural environment and has a balanced approach to the use of land and resources.*

Instrument/Strategy	Comments
	The proposed development presents opportunities for new efficiencies associated with logistics of aggregate materials and cement required for the concrete, minimising impacts such as traffic, noise, air quality generally associated with most concrete batching plants.
Draft Greater Sydney Regional Plan 2017	The *Draft Greater Sydney Region Plan* is a new overarching vision for Sydney as a three City Metropolis. The strategy sets out new objectives for intensive growth and development of Sydney commensurate to population growth. The strategy is underpinned by four key goals to promote productivity, liveability, sustainability and infrastructure collaborations across Sydney. The strategy identifies the renewal opportunities for Bays Precinct but also includes directions to protect and enhance Sydney's industrial and urban services land supply (Objective 23). This application will allow a currently vacant site at Glebe Island to be utilised for purposes consistent with existing uses of the port. A batching plant at this location will also benefit several concrete intensive developments in proximity to the Site.
Draft Central District Plan	The *Draft Central District Plan* has been amended and changed into the *Revised Draft Eastern City District Plan*. While Glebe island forms part of the wider Bays precinct, it is identified as 'urban services and industrial land' under the District Plan. The *Revised Draft Eastern City District Plan* includes specific actions to manage industrial land by *'protecting all industrial zoned land from conversion to residential development, including conversion to mixed use zones' (Action 50).* Figure 23 of the draft district plan report maps Glebe Island as an industrial and urban services land. Retention of urban services lands (port facility and concrete batching plants) within Eastern City District is necessary as the district is currently being transformed by several large-scale renewal projects, infill projects and infrastructure projects. The District Plan also identifies the Bays Precinct as a low-emission and environmentally efficiency future precinct. It identifies opportunities for renewal and increased housing supply, however, no additional strategic direction or action is provided under the Plan.
Bays Precinct Transformation Plan (2015)	The proposed development is generally consistent with the Bays Precinct Transformation plan given that: • It is consistent with the staging programme which identifies Glebe island as a long term priority for renewal while nominating areas along Blackwattle Bay and Wentworth Park as an immediate priority; • It is also generally consistent with the directions of the plan to retain Glebe Island as a working port. Refer to **Section 5.2** of this report for more details.
Growth Centres (Development Corporations) Act 1974	The Act identifies the Urban Growth NSW as the development corporation for 'The Bays Growth Centre'. The Act generally outlines the responsibilities, powers and duties of Urban Growth Development Corporation in relation to developing The Bays Growth Centre. Nothing under this Act restricts the submission of an application for a concrete batching plant and aggregates supply facility at the Bays Precinct.
NSW Long Term Transport Master Plan	This master plan sets the framework for the NSW Government to deliver an integrated transport system and identifies those needs to be addressed in order to support the State's economic and social performance over the next 20 years. The proposed development is consistent with this document as: • Staff will be provided with a green travel plan and informed of various sustainable options to access the Site. • The Site is located in proximity to several high frequency bus routes along Victoria Road. The proposed development will promote travel by public transport, cycling and car share schemes.
Sydney Walking Future	Sydney Walking Future outlines measures to promote walkability, connectivity and pedestrian safety across Sydney. The proposed development is consistent with the policy as: • Staff with be provided with a green travel plan identifying pedestrian access routes to and from public transport stops; and • It will promote active transport and encourage good travel behaviour.
Sydney Cycling Future	Sydney Cycling Future sets out the business case for improved cycle infrastructure across Sydney. The Site is highly accessible by existing separate or off road cycle infrastructure. The proposed development will include an end of trip facility, storage lockers and bicycle parking to encourage cycling.
Sydney Bus Future 2013	The Site is highly accessible by bus with a frequency of one bus every 7 to 8 minutes during peak hours. Based on an assessment of current travel behaviours in the locality, it is expected that a number of workers will rely on bus transport to access the Site. This, in turn, will improve bus patronage in the locality and any public transport infrastructure investment for these routes.

<table>
<tr><th>Instrument/Strategy</th><th>Comments</th></tr>
<tr><td>Sydney Light Rail Future 2013</td><td>The Site is also located approximately 1 km from Rozelle Bay Light rail station. Pedestrian access from the station to Glebe Island is available via Railway Parade. This provides opportunity for some workers to access the Site via Sydney's existing light rail network. A green travel plan pack will be provided to staff, identifying light rail stops in proximity to the Site and convenient access paths from these stops.</td></tr>
<tr><td>NSW Freight and Ports Strategy 2013</td><td>The NSW Freight and Ports Strategy outlines the 20 year vision for Sydney's freight and logistics network including Sydney's Port facilities. This proposed development is consistent with the strategy which identifies Glebe Island as an ideal location to accommodate Hanson's Concrete Batching Plant. The strategy also recognises benefits associated with relocation including new efficiencies in the supply chain, compatibility with port facilities and existing uses at the port.</td></tr>
<tr><td colspan="2">State Legislation</td></tr>
<tr><td>EP&A Act</td><td>The proposed development is consistent with the objects of the EP&A Act for the following reasons:
It will facilitate the co-ordination of the orderly economic use and development of land; and
It will minimise environmental impact by consolidating two industrial uses, being the aggregate handling and concrete batching facility within a compatible location.
The proposed development is consistent with Division 4.1 of the EP&A Act, particularly for the following reasons:
the development has been declared to have state significance;
the development is not prohibited by an environmental planning instrument; and
the development has been evaluated and assessed against the relevant heads of consideration under Section 4.15.</td></tr>
<tr><td>EP&A Regulations</td><td>The EIS has addressed the specification criteria within clause 6 and clause 7 of Schedule 2. Similarly, the EIS has addressed the principles of ecologically sustainable development through the precautionary principle (and other considerations), which assesses the threats of any serious or irreversible environmental damage.

As required by Clause 7(1)(d)(v) of Schedule 2, the following additional approvals will be required in order to permit the proposed development to occur.
<table>
<tr><th>Act</th><th>Approval Required</th></tr>
<tr><td colspan="2">Legislation that does not apply to State Significant Development</td></tr>
<tr><td>Coastal Protection Act 1979</td><td>The Site is not identified as a coastal zone, no coastal zone management plan applies to the Site and hence approval is not required under this Act.</td></tr>
<tr><td>Fisheries Management Act 1994</td><td>No dredging, reclamation activities, or permit sought is sought for works to marine vegetation or public water land or aquaculture lease under this application. As such approval is not required for the proposed development under this Act.</td></tr>
<tr><td>Heritage Act 1977</td><td>The Site is not listed as a heritage item of State significance. As such approval under Section 57 of the Heritage Act is not required</td></tr>
<tr><td>National Parks and Wildlife Act 1974</td><td>The Site is not considered to have aboriginal archaeological significance and as such no approval is necessary under this Act.</td></tr>
<tr><td>Biodiversity Conservation Act 2016</td><td>Part 7 of the Biodiversity Conservation (Saving and Transitional) Regulations 2017 sets out instances in which the provisions of the new Act do not apply. This includes EIS applications where the SEARs was issued (7 July 2017) prior to the commencement of the Biodiversity Conservation Act 2016 (25 August 2017).
Also, nothing under the former Acts (Native Vegetation Act 203, Threatened Species Conservation Act 1995 and the Nature Conservation Trust Act 2001) require approval (under the former Acts) for the proposed development.</td></tr>
<tr><td>Rural Fires Act 1997</td><td>The Site is not considered to be bush fire sensitive land and as such approval is not required under this Act for development of the Site.</td></tr>
<tr><td>Water Management Act 2000 (except for an aquifer interference approval)</td><td>The proposed development will not require water use approval, or an activity approval, and will not involve carrying out of any water management work.</td></tr>
</table>
</td></tr>
</table>

Instrument/Strategy	Comments	
	Legislation that must be applied consistently	
	Fisheries Management Act 1994	No aquaculture permit is sought under this development and as such no approval is necessary.
	Mine Subsidence Compensation Act 1961	This application does not relate to a mining proposal.
	Mining Act 1992	No mining lease is sought as part of this application and no approval is required under this Act.
	Petroleum (Onshore) Act 1991	No production lease is required under this Act and concurrence is not required.
	Protection of the Environment Operations Act 1997	Pursuant to clause 37 of Schedule 1 of the PoEO Act an Environment Protection Licence from the Environment Protection Authority (EPA) will be required for the aggregate terminal, as it comprises 'shipping in bulk' of rocks with a capacity to handle (a) more than 500 tonnes of agricultural crop products, rock, ores, minerals or chemicals per day, and (b) more than 50,000 tonnes of agricultural crop products, rock, ores, minerals or chemicals per year.
	Roads Act 1993	No works are proposed in, on or over a public road and as such no approval is required.
	Pipelines Act 1967	No licence is sought under this Act and as such approval is not required.
SEPP 55	The Site is located on reclaimed land and has a history of industrial uses. A Phase I Environmental Site Assessment has been prepared by Martens Consulting Engineers for the Site (see **Appendix F**). That report confirms that the Site is suitable for the proposed development given that the existing ground is sealed, and post development will return to a sealed state. As such, contact with the existing fill is only expected during the excavation phase which is minimal. Investigation of excavated soil is recommended for the purpose of ensuring that the excavated fill is handled and disposed accordingly. Refer to **Section 5.16** for more detail.	
SEPP (Infrastructure)	While the proposal is not traffic generating development in accordance with Schedule 3 of the SEPP, however, given the EIS and the Traffic Impact Assessment report (**Appendix H**) undertakes a detailed assessment of the proposed facility's traffic impact on the surrounding road network.	
SEPP (State and Regional Development)	This development has a CIV of $ 20,249,978.26 (excl. GST). A Quantity Surveyor Report, prepared by ACP Quantity Surveyor is provided at **Appendix M** to this application. Development with a Capital Investment Value (CIV) in excess of $10 million on land identified under Schedule 2 as 'Bays Precinct Site' is State Significant Development (SSD).	
SEPP (State Significant Precincts) 2005	The Site forms a part of the 'Sydney Harbour Port and Related Employment Lands' which includes the wider locality of White Bay, Rozelle Bay and Blackwattle Bay. Under this SEPP, any development on Glebe Island with a CIV below $10 million requires development consent from the Minister when the development is carried out by a person other than a public authority. As mentioned above, the CIV for this development is well above $10 million. The Minister is the consent authority for application by way of SEPP (State and Regional Development).	
SEPP No 33- Hazardous and Offensive Development	A screening assessment of the dangerous goods that will be stored at the Site against the requirements of SEPP 33 and the SEPP 33 Guidelines is provided in **Section 5.14** The Site would not be a Potentially Hazardous or a Potentially Offensive facility therefore a Preliminary Hazard Assessment is not required.	
Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005 and Foreshores and Waterways DCP	Glebe Island forms a part of the Sydney Harbour Catchment. The proposed development is designed in accordance with the planning principles outlined under clause 13 and the relevant matters under Division 2.	
	Clause 21 – Biodiversity, ecology and environment protection	An integrated water management plan is has been prepared by Martens (refer to **Appendix G**) and is provided with this application. This outlines a strategy to capture and re-use stormwater run off on the Site. Collected stormwater will be used for the concrete batching activities. Capturing stormwater will effectively minimise run off entering the waterways. The quality of the collected stormwater is to be regularly monitored. A quality management monitoring plan is provided as part of the integrated water management plan.

Instrument/Strategy	Comments	
		The proposed mitigation measures set out in **Section 6** will ensure the development will not have any impact on Sydney Harbour's biodiversity, ecology or environment
	Clause 22 - Public access to, and use of foreshores and waterways	Glebe Island is currently zoned for, and used for, industrial port related activities. As such, providing public access for recreational purposes is inconsistent with the objectives for which the land is currently zoned.
	Clause 23 – Maintenance of a working harbour	The proposed development will not alter the boundary of the existing port facility and introduces a use that is consistent with the existing uses of the port facility.
	Clause 24 – Interrelationship of water and foreshore uses	The proposed development is designed to minimise adverse impacts on the foreshores and waterways in the vicinity of the Site. Appropriate measures have been identified to manage any impacts resulting from the development. As such the proposed is consistent with the matters of this provision.
	Clause 25 – Foreshore and waterways scenic quality	The proposed development will be carried out generally in accordance with the provisions of the White Bay and Glebe Island Master Plan, prepared by the Ports Authority of NSW, which guides and coordinates development of the port facility. The master plan includes considerations for setting and built form (height, scale) provisions. Any future additional development will also adhere to the master plan and, as such, cumulative impact of the development on the character of the waterways and foreshores is considered acceptable.
	Clause 26 – Maintenance, protection and enhancement of views	A detailed Visual Impact Assessment of the development from surrounding foreshore areas has been undertaken (refer to **Appendix E** or **Section 5.3** of this report).
	Clause 27 – Boat storage facilities	No boat storage facilities are proposed under this application.
Foreshores and Waterways DCP	The Foreshores and Waterways DCP applies to the Bays Precinct. An assessment of the proposed development against the objectives of the DCP is carried out below.	
	Part 2 – Ecological Assessment	No specific ecological community is identified on Glebe Island under the Foreshores and Waterways Area DCP map. Accordingly, a site-specific investigation is undertaken by AECOM to assess potential biodiversity impacts. The assessment concludes that potential impact of the proposal on biodiversity is limited given the existing urban/industrial nature of the site. Mitigation measures and recommendations to further manage impacts are outlined within the report. These will accordingly be adopted as part of the Site's Management Plan. Refer to **Section 5.13** or the Biodiversity Assessment Report at **Appendix L** for more detail.
	Part 3- Landscape Assessment	The Site does not form a part of a particular landscape character area identified under the DCP
	Part 4 Design Guidelines	The provisions do not apply to industrial buildings.
Sydney Regional Environmental Plan No. 26- City West (SREP City West)		
Clause 11 Planning Principles of regional significance for City West	A consent authority is to consider the consistency of a development with the planning principles for City West set out under Part 2 of the SEPP prior to the approval. This development is in line with its requirements:	
	Regional Role	This development will facilitate improved efficiencies in supply of large quantities of concrete in proximity to areas and precincts earmarked for renewal. In accordance with the objectives of this part, it will contribute and augment timely construction and delivery of new developments and infrastructure projects within the area. This will have a positive flow on effect to the City's economic progress, growth and development.
	Land Use Activities	Use of land within City West precinct for port functions is permissible. This development is sympathetic to the existing

Instrument/Strategy	Comments	
		uses of Glebe Island as a working port and is consistent with the objectives of the zoning applied to Glebe Island.
	Environmental Issues	As outlined within **Sections 5.4** and **Section 6.0** of this EIS report, the proposed development will be designed to minimise and mitigate any adverse environmental impact and has been designed in accordance with ESD principles, intergenerational equity and precautionary principles. Refer to **Section 7.0** of this report.
	Urban Design and Public Domain	The proposed facility is designed to minimise visual bulk and scale. Accordingly, It comprises of a single warehouse facility, accommodating all the concrete batching equipment. Only aggregate and cement silos and relevant support structure will protrude above the warehouse facility. Complementary materials and finishes are proposed for all structures including the silos to minimise visual prominence and offer a sympathetic presentation. (refer to **Appendix E** or **Section 5.3** of this report)
	Heritage	A heritage impact assessment of the proposed development on surrounding heritage listed items has been carried out by AECOM. The assessment confirms that the development will have an acceptable impact on the heritage items. A copy of the assessment report is provided at **Appendix C**
Division 3 Planning Principles for Precincts	The proposed development is located within Bays Precinct which is earmarked for urban renewal. The proposed use is consistent with the existing land activities envisaged for the precinct and the ongoing port uses of Glebe Island. The built form and setting of the proposed facility is designed in consideration with the planning principles set out under this part. Refer to View Impact Study at **Appendix E** of this application for a detailed view impact assessment. A summary of the assessment and recommendation of the assessment is provided at **Section 5.3** of this report.	
Division 4- Zoning	The Site is zoned for Port and Employment uses. The proposed development is consistent with the objectives of the zone to facilitate continuation of commercial port uses at Glebe Island. It proposes a use compatible with the existing Port uses and will introduce employment generating land use opportunities.	
Height of Building	The maximum height of building is identified under the Glebe Island and White Bay Master Plan dated November 2000. The maximum of 12-25 metres is permitted towards the south western edge of Glebe Island. The maximum height does not apply to silos, container cargos, roof top vents etc. The proposed development is consistent with this requirement. Maximum height of the proposed buildings on the Site is 15m.	
Division 6 Heritage Conservation	The Site itself is not listed as a heritage item but contains items of local and state significance. These include the Glebe Island Grain Silos and Glebe Island Bridge. A Heritage Impact Statement is provided with this application at **Appendix C** and confirms that the development will not adversely impact the heritage items. The visual impact assessment of the development has also been carried out. The assessment confirms that proposed facility will not detract the quality of the heritage significant views.	
Division 7 Urban Development Plans	Not applicable to the proposed development as no Urban Development Plan applies to Glebe Island.	
Division 8 Master Plans	*Glebe Island and White Bay Master Plan*, prepared by The Ports Authority of NSW, is the adopted master plan for the area. The master plan generally sets out the overarching vision for improvements within the wider Sydney Port. It outlines the provisions for signage, the port's heritage, environmental matters, landscaping, access to the site. Development within Glebe Island is thereby subject to the development guidelines set out within this document. While Glebe Island and the wider locality has significantly evolved since the adoption of this plan, the proposed development is largely consistent with its requirements and is consistent with the zoning, building height requirements.	
Leichhardt Local Environmental Plan 2013	While Glebe Island forms a part of the Inner West City Council (former Leichhardt Municipal Council), the SREP City West is the principal planning instrument for the area and sets out the land use, height and heritage considerations for development at Glebe Island.	
Leichhardt Development Control Plan 2013	It is noted that Development Control Plans are not a matter for consideration in the assessment of SSDA by virtue of Clause 11 of SEPP SRD, which states that "*Development control plans …do not apply to…state significant development*".	

5.2 Strategic Planning and Land Use

As outlined in Section 1.2, the Site forms a part of the wider Bays Precinct, which is proposed to undergo planned urban renewal over the coming 10 – 15 years. Parts of the precinct have been categorised as an immediate, medium or long-term priority. The Glebe island area, including the Site, is identified as a long-term priority (10 -15 years).

It is noted that the *Bays Precinct Transformation Plan* identifies Glebe Island as a working port with the intention to retain important features of the port. While the details of what this means for the area are not yet publicly available, the proposed development is consistent with the overall staging programme outlined under the Transformation Plan which identifies Glebe Island redevelopment as a long term priority (10 - 15 years).

This development is also consistent with the directions of other strategic documents including *Draft Greater Sydney Regional Plan 2036*, *Draft Eastern City District Plan* and the *NSW Freight and Ports Strategy*, for the following reasons:

- By developing a concrete batching facility at Glebe Island, existing and growing demand for concrete by the strategic inner city developments, including infrastructure projects (WestConnex, Sydney Metro, etc.) can be met locally.
- The development is consistent with the *Draft Greater Sydney Regional Plan* and *Draft Eastern City District Plan's* strategic planning directions to protect and preserve industrial and urban services land within inner city areas. This proposed development will enable the currently vacant Site at Glebe Island Port to accommodate uses that complements existing industrial uses of the Site and the port facility.
- The development is in accordance with the *NSW Freight and Ports Strategy 2013* which identifies benefits from locating a concrete batching plant and an aggregate handling facility at Glebe Island Port. The Ports strategy emphasised the strategic importance of Glebe Island for the NSW's dry bulk industry (cement, gypsum etc). This development will complement existing uses of port (sourcing cement, a key ingredient in concrete batching directly from the Cement Australia plant located at Glebe Island). It thereby presents opportunities for new synergies, improving efficiency in the supply chain and minimising environmental impacts generally associated with the materials supply process.

As previously mentioned within this report, the proponent is aware of the NSW Government's 10 – 15 year transformation plans for Bays Precinct. The design and operation of the proposed development has been prepared with this changing context in mind. It is anticipated that the facility would be modified in future to co-exist with future land uses in the surrounding area as they are determined and delivered.

5.3 Visual Impact and Views

A detailed Landscape and Visual Impact Report (LVIR) has been prepared by AECOM and is provided at **Appendix E** of this application.

5.3.1 Existing

Glebe Island is largely flat and provides clear views to the surrounding foreshore areas. Significant built structures in proximity to the Site include Anzac Bridge, the White Bay Power Station, Glebe Island Silos and residential buildings (13-23 storeys) at Pyrmont.

Development to the northern side of White Bay consists of low industrial and maritime uses. Further north are residential dwellings, and mid rise apartment buildings. This land slopes up from the foreshore.

5.3.2 Landscape Character Impact Assessment

The report identifies seven Landscape Character Zones (LCZs) within the area of visual impact. **Figure 15** below identifies the study area and the various LCZs in context to the proposed Glebe Island Site. The LCZs have been grouped primarily using the development pattern and grain as the identifying features. Visual impact to the landscape character of an area as a result of the proposed development is provided in **Table 5** below.

The assessment impact was determined against a visual assessment matrix that assessed sensitivity and magnitude of impact to ascertain landscape character impact.

Table 5 – Landscape Character Assessment

Landscape Character Zone (LCZ)	Sensitivity	Assessment	Magnitude	Landscape Character Impact
LCZ 1: Infrastructure Corridor	High	LCZ1 is primarily a transport corridor. However, it provides significant views to the surrounding bays. The architecture of the bridge adds to the unique character. This elevates the sensitivity of the bridge. The proposed development will be located within close proximity to this LCZ. The development will also comprise of tall industrial silo structures and may increase the frequency of ships berthed near the eastern wharf (GLB1). The development is seen to compete with the form of the bridge.	High	High
LCZ 2: Industrial / Commercial Waterfront	Moderate	This character zone comprises industrial and commercial structures includes the Glebe Island Silos and White Bay Power Station. It contains little vegetation and the ground is mostly sealed hardstand, concrete decking and other industrial structures. The proposed development is generally in line with the existing character of the zone.	Moderate	Moderate
LCZ 3: Residential Development (low - medium)	Moderate	The character of this zone is attributed to its picturesque setting against the waterway, some tree cover and sloping topography. The proposed development is located away from this zone.	Low	Moderate to Low
LCZ 4: Residential Development (medium - high)	Moderate	This zone is relatively small in area and is characterised by residential uses, waterfront development, picturesque headland. The development is set away from this zone, although the developments in this zone are oriented to address the waterways and foreshores, including Glebe Island.	Moderate	Moderate
LCZ 5: Mixed Use / Commercial Development (low)	Low	This zone is characterised by commercial and medium density residential but is located away from the project development. Given the physical separation of the project zone and LCZ5, impact is negligible.	Low	Low/Negligible
LCZ 6: Mixed Use / Commercial Development (high)	Low	This zone is characterised by mix of uses, large scale buildings and harbour views. The project development is located away from the zone of impact for LCZ6.	Low	Low/Negligible
LCZ 7: Public Open Space	High	This zone comprises of open spaces along Jackson Landing, Birrung Park. The development will be visible from these open spaces.	Moderate	High to Moderate

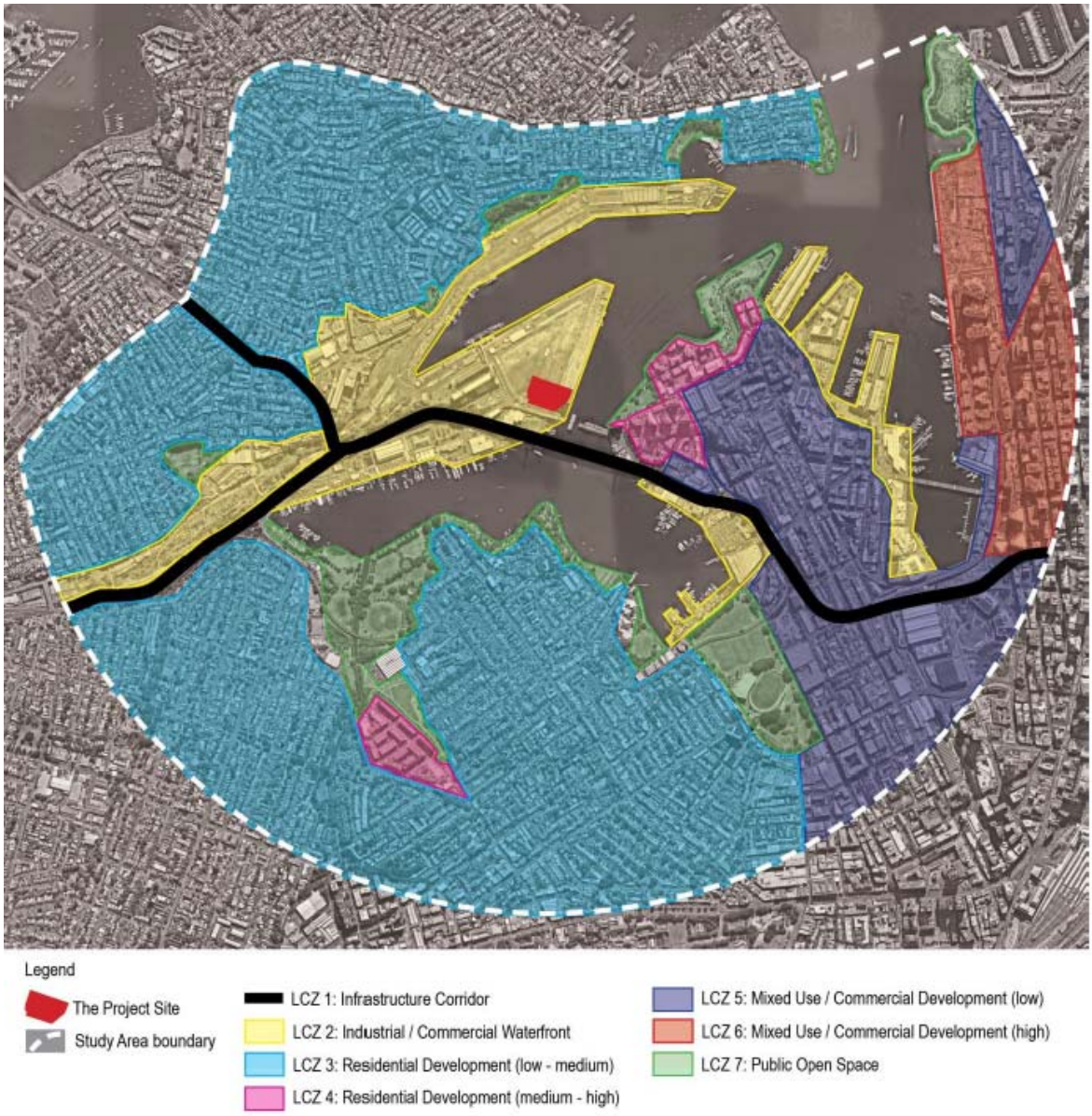

Figure 15- Landscape Character Zones within the study area

Source: AECOM

5.3.3 Visual Impact Assessment

The visual catchment area for the Site comprises of suburbs to the north being Balmain and East Balmain (limited to homes to the south of Darling Street), apartments in Pyrmont and Jacksons Landing (limited to west facing apartments), receptors travelling across ANZAC Bridge, workers in waterfront industries with views of the Glebe Island Site and recreational receptors in the waterfront park areas and the Glebe Foreshore Walk.

Similar to the Landscape Character Assessment, the visual impact assessment was determined against a visual assessment matrix that assessed sensitivity and magnitude of impact to ascertain potential visual impact.

Figure 16 identifies representative observer locations within the catchment area.

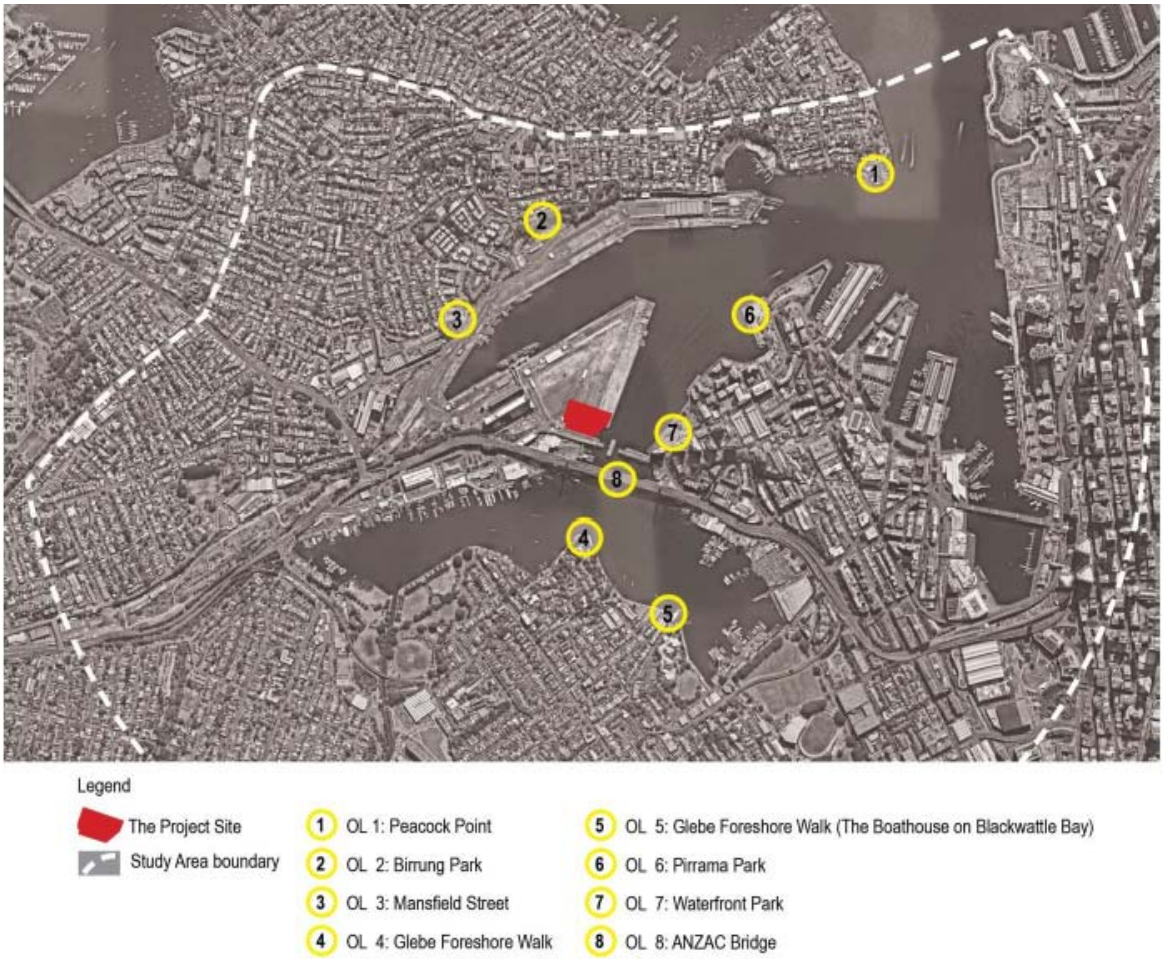

Figure 16- Observer Locations surrounding the Project

Source: AECOM

Table 6 - Observer Location Visual Impact

Observer Location	Sensitivity	Assessment	Magnitude of Visual Effects	Visual Impact
Observer Location 1: Peacock Point, Balmain East	High	Receptors at this point comprise a number of residential observers. Views from this point include views of Johnston Bay and White Bay waterways, White Bay Power Station, Balmain waterfront, Glebe Island, Anzac Bridge, Jackson Landing. Change in views as a result of the development will be evident from this point	Moderate	High to Moderate
Observer Location 2: Birrung Park, Balmain	High	This point comprises a string of parks and residences along Balmain foreshore. Views from this point include commercial developments at Barangaroo and CBD, residential development at Jackson landing and views to Anzac Bridge. Glebe island is viewed as along low concrete platform. Change to surrounding views post development will be evident at this point.	Moderate	High to Moderate
Observer Location 3: Mansfield Street, Rozelle;	High	This point includes high to moderate number of receptors from residential homes and a few parks at Balmain.	Moderate	High to Moderate

Observer Location	Sensitivity	Assessment	Magnitude of Visual Effects	Visual Impact
		The project would be difficult to see from this point due to elevation or ships berthed at GLB2 and White Bay.		
Observer Location 4: Glebe Foreshore Walk	High	Receptors at this location include residents at Glebe, visitors to Glebe Foreshore and users of the recreational boating facilities along the foreshore. Glebe Island along with Anzac Bridge and Glebe Island Bridge is visible from this location. The project development would be viewed as a new large industrial complex. The frequency of ships visiting GLB1 would also alter views from this location.	High	High
Observer Location 5: Glebe Foreshore Walk (The Boathouse on Blackwattle Bay)	High	Similar to OL4, receptors at this location include residents at Glebe, visitors to Glebe Foreshore and users of the recreational boating facilities within Rozelle Bay. Glebe Island along with Anzac Bridge and Glebe Island Bridge is visible from this location. However, the view is dominated by the ANZAC Bridge itself. The project would be viewed as a new large industrial complex from this view point.	Low	Moderate
Observer Location 6: Pirrama Park, Pyrmont	High	Receptors from this location consist of residents living in homes in Jackson Land and Pyrmont and visitors to public open spaces at Pyrmont. Glebe island is clearly visible from this location and the most prominent structures of the project development (cement silos, wharf infrastructure) will also be visible. The project development would be viewed as a new large industrial complex from this view point	Moderate	High to Moderate
Observer Location 7: Waterfront Park, Pyrmont	High	Similar to OL6, receptors at this location include residents living in Jackson Landing and visitors of nearby open spaces. Existing views from this point include Anzac Bridge, Glebe Island and the White Bay Cruise Terminal. The project development will be seen with a high level of detail from this viewpoint given its close proximity to the project site.	High	High
Observer Location 8: ANZAC Bridge.	High	Receptors include motorists, cyclist and pedestrians travelling across the bridge. Existing views include that od surrounding waterways, Glebe Island, Balmain Shoreline, views north to Barangaroo and the Harbour Bridge.	Moderate	High to Moderate

As outlined in **Table 6** above, visual impact is assessed on both sensitivity of an observer location to any change in views and the magnitude of visual change from development of the site. In this instance the high to moderate visual impact rating is due to the high sensitivity of receptors to any change in views rather than the corresponding magnitude of visual effect, which in most instances fall within a low to moderate category.

The development is consistent with existing working harbour character of the area. The industrial nature of the aggregate storage silos and concrete batching plant are sympathetic with previous Glebe Island development and existing structures adjoining the site within Glebe Island. The proposed development is also comparable to scale, size and footprint permitted on site by the adopted by the *White Bay and Glebe Island Master Plan 2000*. As such,

visual impact is considered acceptable on the basis that the development is consistent with scale and industrial use envisaged along this part of Glebe Island. Mitigation measures, as outlined below, will be undertaken to ameliorate visual impact and allow the taller and more intrusive components such as the silos, roof structure and shipping container walls integrate with its setting and not appear visually prominent.

In addition, the LVIA notes that in the coming years, the landscape surrounding and including Glebe Island will be subject to substantial changes, including WestConnex, the Bays Precinct, and the Glebe Island Multi-User Facility. Within the context of this changing setting, the proposed development is considered to be visually representative given the surrounding working harbour character, and would be viewed in conjunction with construction activity due to local development.

5.3.4 Mitigation measures

Mitigation measures to minimise visual impact include:

- Design modifications are suggested to reduce the visual impact of the gable roof above the silos. The visual prominence of this structure against the Anzac Bridge setting should be minimised;
- Investigate public art opportunities such as a mural on the concrete silos to minimise the industrial character of the development;
- Consider opportunities to improve aesthetic presentation of shipping container walls;
- Preparation of a Public Art Strategy for the mural and treatment of the shipping container wall; and
- Preparation of an urban design and landscape masterplan that addresses all key elements of the site, including issues such as the nature of any screening and finishes to structures.

5.4 Air Quality

An Air Quality Assessment Report has been prepared by Pacific Environment and is included at **Appendix I.** The assessment has been undertaken in accordance with the specific requirements set out by the SEARs. A summary of the assessment and proposed mitigation measures are provided below.

5.4.1 Existing Environment

Background air quality data has been measured during 2015 and 2016 from the EPA's Rozelle monitoring station, and these recorded background levels have been adopted as the baseline data for the Air Quality Impact Assessment. This data has been supplemented by Port Authority of NSW's air quality station installed at the White Bay Cruise Terminal. **Table 7** below provides the adopted background concentration levels.

Assessment was undertaking using AERMOD, a dispersion simulation model to predict off site particulate matter (PM) and gaseous air quality metrics.

Table 7 Summary of background data

Pollutant	Averaging Period	Adopted Background Concentration
Nitrogen dioxide	1 hour	123 µg/m^3
	Annual	21 µg/m^3
Sulphur dioxide	10 minute	146 µg/m^3
	1 hour	71 µg/m^3
	24 hour	18 µg/m^3
	Annual	1 µg/m^3
PM^{10}	24 hour	17 µg/m^3
	Annual	44 µg/m^3
$PM^{2.5}$	24 hour	7µg/m^3
	Annual	19 µg/m^3
Deposited Dust	Annual	2/g/m^2 month

Source: AQA, Appendix I

5.4.2 Construction Assessment

A risk analysis was undertaken as part of the assessment to determine construction impacts on air quality. During the construction phase, impacts are anticipated to be limited to dust emission generated from construction. Impacts were categorised based on three categories being dust soiling impacts, human health impacts, and ecological impacts. The assessment confirmed that impacts associated with the construction activities on the above categories are generally negligible and low. During construction phase potential risk of dust impacts on the ecology was classified as medium. Mitigation measures are provided to manage and ameliorate all impacts. Refer to **Appendix I** or **Section 5.4.4** below.

5.4.3 Operational Assessment

Air Quality Criteria

The NSW Environment Protection Authority's (EPA) document titled *"Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in NSW"* specify air quality assessment criteria relevant for assessing impacts from air pollution (NSW EPA, 2016). These criteria are health-based (i.e. they are set at levels to protect against health effects).

For the purposes of this assessment and based on the anticipated operational requirements of the proposed development, it is anticipated that the primary air emissions from the Site will comprise those associated with particulate matter (PM10, PM2.5 and deposited dust), nitrogen dioxide (NO2) and sulfur dioxide (SO2).

The EPA specifies air quality assessment criteria relevant for assessing impacts from air pollution (NSW EPA, 2016). These criteria are health-based (i.e. they are set at levels to protect against health effects). These levels are outlined in **Table 8.** The EPA criterion for dust deposition allows an annual average increase of 2 µg/m^2/month and a maximum cumulative level of 4 µg/m^2/month.

Table 8 Air Quality Criteria

Pollutant	Averaging Period	Assessment	Concentration
Nitrogen dioxide	1 hour	Cumulative	246 µg/m^3
	Annual	Cumulative	62 µg/m^3
Sulphur dioxide	10 minute	Cumulative	712 µg/m^3
	1 hour	Cumulative	570 µg/m^3
	24 hour	Cumulative	228 µg/m^3
	Annual	Cumulative	60 µg/m^3
PM^{10}	24 hour	Cumulative	50 µg/m^3
	Annual	Cumulative	25 µg/m^3
PM $^{2.5}$	24 hour	Cumulative	25 µg/m^3
	Annual	Cumulative	8 µg/m^3
Deposited Dust	Annual	Cumulative	4/g/m^2 month

Source: AQA, Appendix J

Sensitive Receivers

A total of 35 potential sensitive receptor locations were selected based on their setting, use (residential, office, schools, and public recreational areas) and proximity to the Site. Potential air quality impacts were analysed at these points in accordance with the approved EPA methods and air quality assessment criteria for particulate matters (PM10, PM2.5, and deposited dust), Nitrogen Dioxide, and Sulfur Dioxide.

Figure 17- Sensitive Receptor Locations

Source: Pacific Environment, Air Quality Assessment Report

Odour Assessment

It is noted that the SEARs include a requirement for odour assessment. The concrete batching plant facility will not involve the use or production of any products that could result in odorous emissions and, as such, no odour assessment has been carried out.

Air Quality Assessment

The assessment examined operational air quality impacts from three emission sources, these are:

- Particulate emission from operations of the facility – these are considered fugitive dust source emissions from vehicle movements, material handling and bag house emissions.
- Emissions from vehicle exhaust – these emissions would be a result of diesel combustion emissions from trucks visiting the Site.
- Emissions from ships – these emissions would arise from use of the auxiliary engine and auxiliary boiler while at berth delivering aggregate to the Site.

The air emissions were modelled using the AERMOD dispersion model. Two scenarios have been considered as part of the assessment, these being:

- a peak 24 hour operational scenario (worst case); and
- an average production day.

Modelling for an average production day and during peak operation confirmed that particulate matter, Nitrogen Dioxide and Sulphur Dioxide are within the acceptable range of the EPA air quality criteria. A contemporaneous assessment of cumulative PM10 concentrations and a cumulative NO2 concentration using Ozone Limiting Method was used to determine levels at the sensitive receptors. The findings confirmed that all levels will be compliant with relevant criteria.

Further detail including the methodology, detailed assessment and local air quality metrics used is provided at **Appendix I** of this application.

5.4.4 Mitigation Measures

This section outlines the suggested mitigation measures associated with the Air Quality Assessment.

Construction Phase

The Air Quality Assessment report includes a list of recommendation to ameliorate potential dust impacts to surrounding sensitive receptors (refer to Table 9-2 in **Appendix I**). The report recommends that these are adopted into the Construction Environmental Management Plan to address any significant impact and ensure air quality in the locality is maintained.

Operational Phase

Mitigation measures are proposed to ameliorate dust and particulate emissions and reduce air quality impacts associated with the proposed concrete batching facility. These include undertaking aggregate, cement and fly ash delivery transfer and storage in enclosed areas (enclosed conveyors and holding hoppers, transfer points). General recommendations for the Site include limiting vehicle speed on site, covering loads, washing down area for agitator trucks and raw material delivery trucks leaving the Site to prevent dust tracking on public roads.

Other recommendations for cement and fly ash delivery include:

- Use of dry dust collection and filtering;
- Use of an enclosed pneumatic transfer system when filing silos and loading agitator trucks; and
- Automatic silo fill system that shuts the fill pipe near the tanker connection if the silo is full.

Ongoing management practices and performance monitoring can also reduce pollution and emission generated during the operation of the facility and are recommended under the Air Quality Assessment Report (refer to Section 8.3 in **Appendix I**). All recommended mitigation measures will be included as part of the Site's Operational Environmental Management Plan.

5.5 Waste Management

A Waste Management Plan has been prepared by Martens & Associates and is provided with this application (refer to **Appendix J**) to ensure sustainable management of both solid and liquid waste generated during the operational and construction phases of the development. The plan outlines the proposed waste storage systems and recovery methods to minimise waste production on Site and documents procedures for handling, classification and disposal of waste from all anticipated waste streams.

5.5.1 Construction Waste

Demolition waste generated by the Site will be minor given the Site is largely unbuilt. Extent of site preparatory work is also minimal relative to other standard construction projects. Construction waste streams associated with the development include excavation waste (concrete, asphalt pavement and underlying, potentially contaminated, soil and fill), bricks, gyprock, metal and timber. Estimated construction waste volumes for each of the above streams were calculated to determine quantity of waste using rates for factory buildings under the Hills Shire DCP 2012 because no relevant guidance is provided by the Leichhardt DCP.

Skip bins shall be utilised to manage solid waste generated during the construction phase. These bins shall be covered overnight and during windy conditions to prevent material being lost and spread over the site.

Access for waste management service vehicles is proposed to be via existing and construction entrances from James Craig Road beneath the old Glebe Island Bridge abutment. Removal of waste is anticipated to be carried out during approved hours.

Further discussion on the handling and disposal of potentially contaminated soil associated with construction is provided in Section 5.16.

5.5.2 Operational Waste

The following waste streams are anticipated to be generated by the Site during the operation of the proposed development:

- Waste concrete: Non putrescible waste generated on site largely comprises of waste concrete. Accurate measuring, production and quality control of required amounts of concrete can minimise waste generation. Unhardened concrete returned to the Site can be used to create concrete blocks. Solid washout is a mixture of aggregates and sand and can at any time be reused for batching or transported off site to create recovered aggregates. Hardened waste concrete may need to be transported offsite for crushing to create recovered aggregates.
- Waste water: Waste water generated on the Site can be reused for concrete batching and other processes creating a self-contained system. Water used for dust suppression (approximately 1kL/day), washing down work areas (61.5kL/day) and the barrels of concrete agitator trucks (220 k/L day) are proposed to be re-collected within the stirrer pit to be reused to supplement other supplies. Waste water generated from staff amenities (7kL/day) on site is proposed to be disposed of to a Sydney Water Sewer.
- Bulk packaging waste: Waste generated from the onsite office includes cardboard/packaging, and toner/printer cartridges will be recycled where possible or disposed through regular waste collection and landfill facilities.
- General waste and co-mingled recycling: Staff amenities waste, such as food scraps, aluminium cans, glass bottles, plastic and paper containers and putrescible waste, are generated by employees and contractors while onsite. Recyclable office waste includes general office paper, photocopy paper, office stationery and paper from other sources. This waste will be sorted and recycled where practical or otherwise disposed of offsite by a licensed contractor.

5.6 Noise and Vibration

A Noise and Vibration impact report has been prepared by SLR Consulting and is included at **Appendix D**. The report provides a detailed assessment of potential noise and vibration impacts during construction and operational phases of the proposed development. A summary of the assessment and proposed mitigation measures are provided below.

The SEARs require that an assessment of noise impacts be carried out in accordance with the relevant EPA guidelines. The relevant EPA guidelines for this application is the EPA's *Noise Policy for Industry 2017* and therefore this guideline has been applied instead of the superseded *Industrial Noise Policy 2000.*

5.6.1 Existing Environment

Background noise levels for this assessment have been established based on historical data, the most recent noise surveys undertaken near the Site were for the Glebe Island Interim Exhibition Facility project (Report 610.11854 *Interim Exhibition Facility Glebe Island White Bay & Wharves 4 & 5 Noise Impact Assessment* prepared by SLR Consulting and dated 2012) and the CBD metro project (Report 10-7795 *CBD Metro Noise and Vibration Assessment Construction, Operations and Maintenance'* prepared by Heggies and dated August 2009). The 2012 survey was conducted over a nine day period when berths GI-7 and GI-8 were both occupied and unoccupied and accordingly accounts for noise from operations of the port facility.

The ambient background noise levels include noise contributions from traffic and port facilities including ship movement and other local activities. From the data acquired, it is reasonably clear that much of the ambient noise level is attributable to non-industrial noise sources and, in particular traffic noise emitting from the Anzac Bridge and Western Distributor/City West Link.

A total of six potential noise sensitive receivers located in proximity to the Site (refer to **Figure 17**) were identified being:

- 1 Batty Street, Balmain;
- Roberts Road, Balmain;
- 17 Donnelly Street, Balmain;
- 22 Refinery Drive, Pyrmont;
- Refinery Drive, Pyrmont;
- 53 Leichhardt Street, Glebe

Figure 18- Location of nearest noise sensitive receivers

Source: Noise Impact Assessment, SLR consulting

5.6.2 Assessment Methodology

Construction Noise

Construction activities are anticipated to be minimal. The facility will be delivered largely as a modular facility with no extensive excavation works necessary. Construction is proposed to be carried out in the following three stages:

- Enabling works;
- Building construction; and
- Silo construction.

Necessary construction equipment and power tools required are identified as part of the noise assessment and have informed the predicted noise levels.

The noise criteria for the construction noise is determined in accordance with the *Interim Construction Noise Guidelines* (ICNG) which is the background noise levels + 10 d(B)A.

As outlined in **Table 9** below, construction noise levels generally comply with the noise criteria levels, the exception to this is at the Bowman Street, Pyrmont receiver where the predicted exceedance is limited to 1– 2dB, which is less than the 3dB threshold limit of perceptible human hearing. Notwithstanding this, the predicted noise levels at all locations are well below the maximum construction noise management levels.

Table 9 - Construction noise level assessment

Noise sensitive receivers	ICNG Noise criteria (background noise + 10dB(A))	Predicted construction noise levels	Compliance
17 Donnelley Street, Balmain	57	43-46	Complies
1 Batty Street, Balmain	61	48-51	Complies
Bowan Street, Pyrmont	60	61- 62	Nominal exceedance by up to 1– 2dB(A)
22 Refinery Drive, Pyrmont	60	53-56	Complies
53 Leichhardt Street, Glebe	56	46-49	Complies

Operational Noise

The EPA's Noise Policy for Industry introduces the concept of Noise Management Precincts. Given the proximity of the Site to the existing GLB1 Berth and the repurposed Multi-user Facility (adjacent GIB1 and GIB2) it's reasonable to consider the potential cumulative noise amenity impact from both facilities. The precinct amenity noise levels are based on the recommended $LA_{eq(period)}$ amenity noise level for the receiver area land use determined in accordance with the NPfI Table 2.2 *Amenity Noise Levels*.

Project specific noise trigger levels (PTNLs) for daytime, evening and night time hours are derived for the above residential receivers in accordance with the NSW EPA's *Noise Policy for Industry 2017* (NPfI). These noise levels are provided below in **Table 10**.

Table 10 Project Amenity and Intrusiveness Noise Levels and Resulting PTNLs (dBA re 20 µPa)

Noise sensitive receivers	NPfI Noise Amenity Area	Project Amenity $LA_{eq(period)}$			Project Intrusive $LA_{eq(15minute)}$			Resulting PTNL $LA_{eq(15minute)}$		
		Daytime	Evening	Night	Daytime	Evening	Night	Daytime	Evening	Night
Donnelley Street, Balmain	Urban Industrial Interface	60	50	45	52	50	45	52	50	45
Batty Street, Balmain	Urban Industrial Interface	60	50	45	56	53	50	56	53	50
Refinery Drive, Pyrmont	Urban Industrial Interface	62	52	47	55	54	52	55	54	52
Leichhardt Street, Glebe	Urban	55	45	40	51	51	45	51	50	45

Source/Notes Refer to SLR report in Appendix D

The $LA_{eq(period)}$ project amenity and $LA_{eq(15minute)}$ project intrusiveness noise levels and resulting PTNLs are presented in **Table 8** for assessing the operational noise from the facility to the nearest residential localities in Balmain, Pyrmont and Glebe.

An assessment of the predicted noise levels caused by the operation of the proposed development against the PTNLs established for the projects has been undertaken, using noise modelling software SoundPLAN**.** A summary of this assessment is provided below in **Table 11**, which shows the project noise levels and highlights whether those

noise levels comply with the $LA_{eq(period)}$ project amenity and $LA_{eq(15minute)}$ project intrusiveness PTNLs presented in **Table 8**. As shown in **Table 9**, the predicted operational noise levels associated with the proposed development is either well below, or complies with, both the project amenity $LA_{eq\ (period)}$ noise level and the project trigger $LA_{eq\ (15minute)}$ noise level at all six of the nearby sensitive receiver locations.

Table 11 Noise Impact Assessment

Noise sensitive receivers	NPfI Noise Amenity Area	Project Noise $LA_{eq(Period)}$ [1]			Project Noise $LA_{eq(15minute)}$ [1,4]			Sleep Disturbance Noise Levels	
		Daytime	Evening	Night	Daytime	Evening	Night	Predicted Maximum Noise Level	SDNL LAF(max)
Donnelley Street, Balmain	Urban Industrial Interface	40	36	34	43	41	39	47	55
Batty Street, Balmain	Urban Industrial Interface[1]	43	40	37	46	45	42	46	57
Refinery Drive, Pyrmont	Urban Industrial Interface[2]	51-52	47-48	45-46	54-55	52-53	50-51	64	62
Refinery Drive, Pyrmont	Urban Industrial Interface[2]	48-48	44-44	42-42	51-51	49-49	47-47	60	62
Leichhardt Street, Glebe	Urban[2]	37-38	33-34	32-33	40-41	38-39	37-38	50	55

Note 1 The higher noise level from receivers at Batty Street and Roberts Road is shown
Note 2 The range of noise levels to the different floors at multilevel apartment buildings is shown
Note 3: Predicted noise level complies with the project amenity LAeq(period) noise level
Note 4: Negligible residual noise exceedance 1 to 2 dBA above SDNL LAF(max)

Sleep Disturbance

The proposed development will not result in noise levels that exceed sleep disturbance criteria identified for each of the noise sensitive receivers with an exception to receivers at Bowman Street, Pyrmont where the predicted noise level exceeds the criteria by 2 dB(A). The Noise Policy for Industry provides that in cases where the noise assessment criteria are not achieved, it does not automatically follow that all people exposed to the noise would find the noise “unacceptable”. In cases (such as this) where the residual noise exceedance is 0-2 dBA above the PTNL, then noise impacts are considered to be negligible (i.e. not noticeable by all people).

In addition, it is understood that façade treatment of residential development at this location have been conditioned to more stringent noise attenuation measures to mitigate noise up to 63dB(A), effectively reducing noise exceedance to a nominal 1 dB(A).

Traffic Noise

Traffic noise arising from additional traffic generated by the proposed development along key access roads (Anzac Road, Victoria Road, City West Link Road and The Crescent) to nearby sensitive receivers during both operational and construction phases have been assessed for both daytime and night time hours. The existing traffic noise levels at all assessed locations exceed the established noise criteria (75 dBA). In cases where the nominated criteria are already exceeded traffic associated with a development is not permitted to increase the existing noise traffic levels of more than 2 dBA

The assessment of operational traffic noise impacts from resulting additional traffic are nominal (0.1 dBA- 0.2 dBA for daytime and 0.1 dBA- 0.4 dBA for night time) and are well below the additional 2dBA criterion. Construction traffic generated by the development is considered to be nominal in comparison to operational traffic. Accordingly, construction traffic noise will also be well below the acceptable additional 2 dBA. As such, any traffic noise impacts via Anzac Road, Victoria Road, City-West Link Road and The Crescent are therefore considered acceptable.

Berth Activity and Combined Operating Noise Levels

The predicted GIB1 activity and the estimated amenity noise levels from the combined operation of GIB1 activity and the facility operation to the nearest residential localities are generally consistent with existing use and associated noise environment. Cumulative noise levels only marginally increased by 1 dBA–4 dBA for daytime, evening and night time activities.

Hanson will coordinate with ship operators and the Port Authority of NSW to coordinate ship deliveries. Measures to minimise berth activity noise levels associated with unloading of raw materials, ventilation systems, ships engine will be considered by Hanson in consultation with the Port Authority of NSW.

Vibration Impacts

Vibration impacts during construction would be negligible given the distance separating the Site from residential (300 metres) and commercial receivers (100 metres) in the vicinity. The closest building to the Site is the cement Australia facility (100 metres), but is located outside of the minimum damage risk safe distance (3- 22 metres) and annoyance risk safe distance (49-71 metres).

5.6.3 Mitigation Measures

The Acoustic Assessment Report sets out measures to address and curtail noise impacts through:

- Implementation of a Construction Noise and Vibration Management (CNVM) measures outlined under the Construction Environmental Management Plan or a separate CNVM Plan prepared in accordance with Industrial Construction Noise Guideline requirements and operator-attended monitoring;
- Implementation of an Operating Noise Management Plan (ONMP) prepared in accordance with NPfI requirements, including operator-attended noise monitoring; and
- Noise from ships can be addressed through the Port's existing management plan which manages ship deliveries, port use and reduces water traffic and in turn noise generated from these uses.

5.6.4 Precinct Management Noise Measures

The NPfI 2017 released by the NSW EPA sets out a new mechanism to manage cumulative noise at a precinct scale. The mechanism provides a flexible approach to coordinate noise between activities within a single site with multiple users and offers an opportunity to manage noise levels at a precinct scale.

The traditional noise monitoring approach creates incremental increases in noise levels with every new development. The outcome is that new developments are subject to more onerous noise conditions at approval stage.

Alternatively, the new noise management precinct method caps cumulative precinct scale noise levels and therefore ensures the noise is managed holistically and the amenity of surrounding residentials or noise sensitive receivers are not compromised as a result of a new development.

Under this approach, landowners have the flexibility to develop and manage the site by reducing noise emissions by other means such as relocating a use away from sensitive interfaces or staging certain noise generating activities so precinct noise emissions are not exceeded.

Further, the noise management approach is applied on top of a suite of standard noise management measures adopted by individual projects, and as such offers an opportunity to ameliorate precinct scale noise emissions.

A Noise Management Precinct approach is proposed to be adopted by Port Authority of NSW for all new approvals within the Glebe Island Port, enforced by way of contractual clauses in new lease agreements. This is consistent with the preferred noise management approach adopted for the new Glebe Island Multi User Facility and under the Review of Environmental Factors report dated January 2018.The management precinct will be prepared in accordance with the objectives, principles and essential elements of Section 2.8 of the Noise Policy for Industry 2017.

Under a Precinct Management approach, Port Authority of NSW would operate Glebe Island Port as a single precinct and noise emissions associated with all existing and future Port uses, including noise emissions form the proposed aggregate facility and concrete batching plant, would be managed using a precinct approach.

Using this method, precinct amenity will be equitably shared between the proposed development and the new multi user facility. Accordingly, the resulting night time project noise levels for the proposed development is set at 47 LAeq which is consistent with the night time noise criteria.

5.7 Water Cycle Management

Forecasted water demand for the facility was calculated to determine a suitable water supply strategy. A detailed Water Cycle Management Plan has been prepared by Martens Consulting Engineers and is included at **Appendix G.**

5.7.1 Existing Environment

As previously discussed, the Site is relatively flat at 3 metre AHD. Overland flow is currently drained via grated drains which discharge to the adjacent bay. As illustrated in **Figure 19** below, the western portion of the Site is affected by flooding up to 0.4 metres during a 1 in 100 year ARI event.

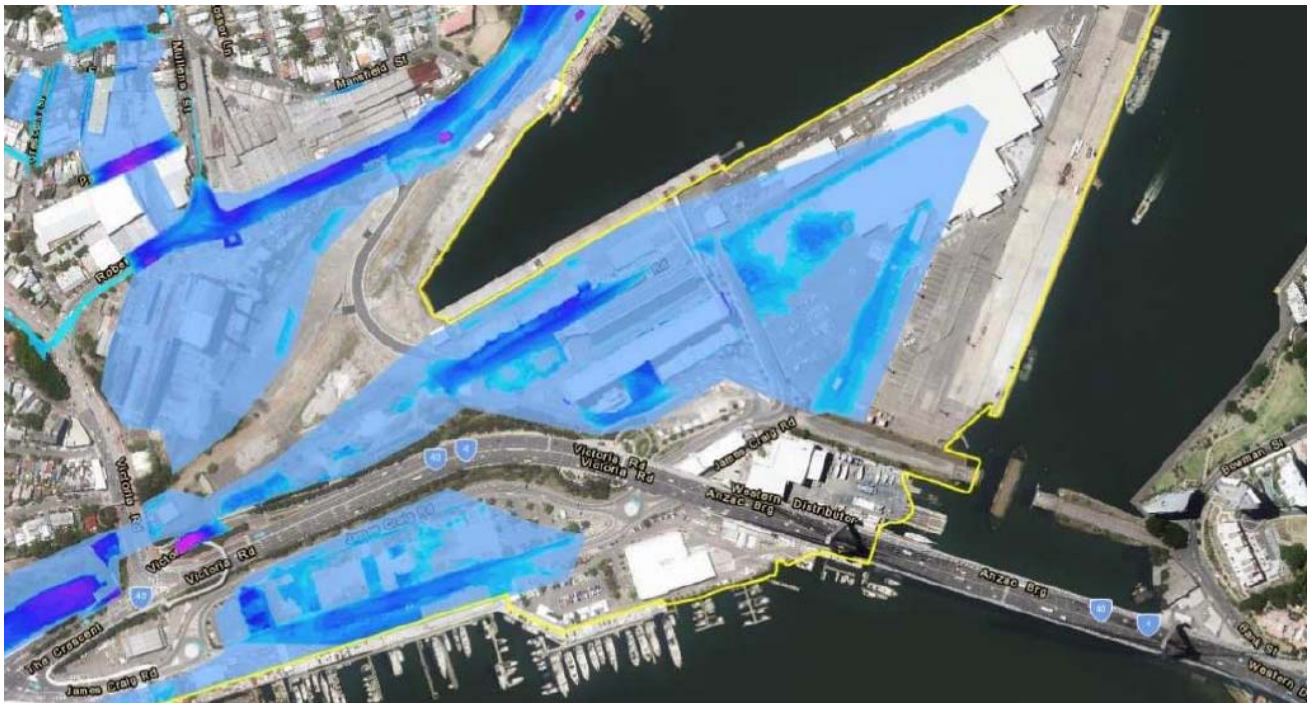

Figure 19- Flood Map (1 in 100 ARI event)

Source: Martens Consulting Engineers, Water Cycle Management Report

5.7.2 Water Demand and Supply

Total water demand for the operation of the Proposed Development is 596.3kL/day. Of this, 194.21 kL/day is proposed to be met by waste water reuse. Approximately 30.42 kl/day is proposed to be supplied by stormwater capture. The resulting balance, being 371.64 kL/day will need to be supplied by the mains water supplies.

While consent is sought for 365 days operation, for the purposes of calculating water demand, an average annual production of 250 days is applied on the basis that in reality, the facility is unlikely to operate on Sundays and most public holidays. The consent for 365 days will provide flexibility to Hanson to operate the facility and meet the demand for certain time sensitive development projects.

Industrial waste water generated on site from dust suppression, wash-down and barrel washout will be re-collected and reused on site. No industrial waste water requires off-site disposal. Approximately 7kL/day of wastewater is proposed to be generated from the staff amenities provided on site and will be disposed offsite to the nearest available Sydney Water sewer.

5.7.3 Stormwater Management

Stormwater quality objectives have been adopted in accordance with stormwater provisions set out under the Leichhardt DCP 2013. The modelling was also undertaken in accordance with Leichhardt DCP 2013. The methodology and treatment train philosophy are set out in detail under the Water Cycle Management Plan (**Appendix G**).

MUSIC modelling was undertaken to determine stormwater quality from resulting run-off. Results confirm that proposed stormwater treatment system can adequately meet the Leichhardt DCP 2013 water quality provisions and objectives. **Table 12** below outlines the projects pollutant reduction targets and the MUSIC treatment train effectiveness results.

Table 12 - Stormwater Quality Assessment

Pollutant Types	Average Annual Load Reduction Targets (Post Development)	Assessment Findings (% of Reduction)
Total gross pollutants (GP)	90%	93.9%
Total suspended solids (TSS)	85%	85%
Total Phosphorus (TP)	65%	74.3%
Total Nitrogen	45%	70.6%

Stormwater runoff from hardstand areas will be diverted to Enviropods to capture hydrocarbons, litter, debris and other pollutants. A high flow bypass parameter of 20 l/s for each Enviropod has been applied as per the manufacturer's specifications.

Six rainwater tanks with a total volume of 275kL will be installed to collect a total volume of 275kL. It is proposed that rainwater from the drivers' lunch room and amenities will be connected to a 4kL rainwater tank with an average reuse rate of 4kL/day for supplying toilet flushing demands. A concept stormwater design is provided as an Attachment A to the Water Cycle Management Plan (**Appendix G**).

Runoff from the western catchment is diverted to the northern discharge points via pit and pipe network and stormwater collection tanks. The eastern catchment discharges into the surrounding bays via a separate pit and pipe network, a stormwater collection tank and overland flow. Captured stormwater will be treated to reduce pollutant load prior to discharge.

The final design of the system will be undertaken at the construction certificate stage by a suitably qualified engineer.

5.7.4 Mitigation Measures

Given the open nature of the Site, stormwater run-off quality should be monitored regularly to avoid potential nutrient contamination, water quality impact or degradation of the marine ecosystem. Accordingly, the following management measures are proposed:

- Annual monitoring of water quality from stormwater run-off. Refer to Section 8 of the Water Cycle Management Plan in **Appendix G** for the assessment criteria and methodology of the monitoring process. Regular monitoring will ensure high water quality standards consistent with performance standards under the Leichhardt DCP 2013. Recommended stormwater run-off criteria is:
  - Total suspended solids: 114.8 mg/L
  - Total Phosphorous: 0.35 mg/L
  - Total Nitrogen: 2.02 mg/L
  - PH: 6.5- 8.5
- Sediment and erosion control measures will be implemented during construction of the site;
- Vehicles accessing the Site will be regularly inspected and maintained;
- Access should be maintained at all times to spill prevention and response equipment.

5.8 Transport and Accessibility

A Traffic Impact Assessment of the proposed development on surrounding road network has been undertaken by AECOM. The assessment includes an assessment of both the construction and operational traffic, including cumulative impacts. A copy of the Traffic Impact Assessment is provided at **Appendix H** of this report and a summary of the assessment's findings is provided below.

5.8.1 Existing Environment

The surrounding road network comprises of City West Link Road, James Craig Road, The Crescent, Victoria Road and Sommerville Road. Data on existing traffic volumes at three main intersections on these roads were obtained from Roads and Maritime Services (RMS) being:

- The Crescent/ City West Link Road;
- James Craig Road/ The Crescent; and
- Victoria Road/ The Crescent.

These intersections were selected based on proximity and Hanson's vehicles intended route of travel.

Other intersections including Johnston Street/ Booth Street, Booth Street/ Wigram Road, Robert Street/Victoria Road, Darling Street/Victoria Road were not analysed as part of this assessment given that:

- Any aggregate delivery truck movements to the north / NW would travel via ANZAC Bridge and M2;
- Concrete agitator trucks would only travel along Victoria Road for accessing work sites in and around Balmain, Drummoyne and Rozelle. Any such concrete agitator trucks would need to travel along these routes irrespective of the location of the Hanson Glebe Island facility, as they are a function of the location of the work site, and not the location of the facility;
- There are no Hanson or Hymix concrete batching plants along the Johnston St, Booth St route, and so there will be no aggregate delivery truck movements from the facility along these streets; and
- Concrete agitator trucks would only travel along these routes for accessing work sites in and around Glebe and Annandale. Any such concrete agitator trucks would need to travel along these routes irrespective of the location of the Hanson Glebe Island facility, as they are a function of the location of the work site, and not the location of the facility.

Table 13 below sets out the existing intersection performance based on AM and PM counts that were undertaken on 21 September 2017.

Table 13 - Existing Intersection Traffic Volumes

Heading	Intersection	Degree of Saturation	Average Delay	Level of Service
AM Peak	Victoria Road/ The Crescent.	0.862	23.2	B
	The Crescent/ James Craig Road	0.903	9.8	A
	The Crescent/ City West Link Road	1.008	30.7	D
PM Peak	Victoria Road/ The Crescent.	0.949	29.9	C
	The Crescent/ James Craig Road	0.771	8.6	A
	The Crescent/ City West Link Road	0.885	30.6	C

Source: TIA, AECOM

5.8.2 Operational Daily Trip Generation

There are three specific vehicle types expected to be used for site operation. These are:

- Concrete Truck – there are two different concrete trucks that service the Site. These include:
  - Type 1 – 8.8 metre rigid vehicle
  - Type 2 – 14 metre articulated semi-trailer (3 axle prime mover + 3 axle trailer)
- Aggregate truck – 19 metre tipper (3 axle prime mover + 4 axle dog trailer).
  - Cement Truck – a 25 metre B-Double

Based on predicted daily trip generation of three vehicle types including employee vehicles the peak hour trip generation rates are provided in **Table 14** below. Predicted trip generation resulting from the proposed development has been assessed as approximately 189 vehicles (in and out) and 98 vehicles (in and out) during AM and PM peak hours respectively.

Table 14- Truck Peak Hour Trip Generation

Truck Type	Peak Hour Vehicle			
	AM Peak (7:30- 8:30)		PM Peak (16:30 – 17:30)	
	In	Out	In	Out
Concrete Truck	66	66	24	24
Cement	3	3	2	2
Aggregate Truck	22	22	7	7
Employees	7	0	11	21
Total	**98**	**91**	**44**	**54**
	189 (in+out)		**98 (in+out)**	

Source: TIA, AECOM

5.8.3 Trip Distribution and Intersection Capacity

Trip distribution from the Site has been determined using existing Journey to Work patterns (BTS data) and forecasted origin and destination movements for trucks (provided by Hanson). Intersection performance was modelled using SIDRA analysis for both AM and PM peak hours. The four scenarios were modelled for each of the intersections being:

- Base year 2018 (without development);
- Base year 2018 (with development);
- Design year 2029 (without development); and
- Design year 2029 (with development);

5.8.4 AM Peak Scenario

For AM peak hours minimal change is noted between the two base year scenarios for 2018. The level of service is maintained across all three intersections with some minor increases to the predicted average delays.

The Level of Service (LOS) is also maintained across all scenarios (with and without development) for 2029. However, the level of services for The Crescent/City West Link Road intersection is predicted to be operating at a LOS F (with and without development). The development will result in an increase in the average delay by approximately three seconds. While the intersection at Victoria Road/The Crescent operates with an acceptable level of service both with and without development, further analysis showed that the right hand turn at this intersection experiences high average delays.

Although the traffic impact assessment has noted no LOS change on local intersections as a result of the development, The Crescent/City West Link Road intersection will already be operating beyond its current capacity

by 2029. Numerous infrastructure projects (including WestConnex M4-M5 Link) are planned to affect the operation of this intersection before 2029. These projects will fundamentally change the operation and capacity of surrounding intersections. These planned infrastructure upgrades are therefore expected to alleviate traffic on these road and improve performance at The Crescent/City West Link Road intersection.

5.8.5 PM Peak Scenario

During PM Peak hours, changes between both scenarios (with/without development) for the base 2018 year and design 2029 year operation levels are minor. The LOS is generally maintained across all of the intersections with only minor increases in forecasted average delays.

The intersection at Victoria Road/The Crescent reaches a LOS F as it approaches the 2029 design year both with and without development. As with The Crescent/City West Link Road intersection in the AM peak, it is anticipated that that planned changes to the road network in the vicinity of the Site can improve conditions through the increase in network capacity provided before 2029.

5.8.6 Construction Traffic

Due to the limited amount of site preparation required by the proposed development and the largely modular construction methodology, the construction phase of the proposed development is anticipated to last approximately six months.

The traffic impacts associated with the construction phase of the proposed development will be largely consistent in nature to the operational phase. This is because, as an operation that is largely concerned with facilitating construction through the supply of concrete, many of the operational routes and types of vehicles utilised will be consistent through the construction and operational phases of the development. Further, traffic volume generated by the development is likely to be significantly smaller during the construction phase when compared to the operational phase.

As noted in Section 5.8.2 to Section 5.8.5, a full traffic impact assessment of the operational phase of the proposed development has been undertaken. No specific traffic impact assessment has been undertaken for the construction period as any impact associated with this phase of the development would have a significantly reduced duration and severity of impact compared to that assessed.

By assessing only the impacts associated with the operational phase of the development, and applying these findings to both the construction and operation phases, this assessment has adopted a conservative and 'worst-case' assessment strategy.

5.8.7 Mitigation Measures

- Outline Construction Traffic and Pedestrian Management measures under the site's Construction Environment Management Plan or a separate Construction Traffic Management Plan to manage construction traffic impacts;
- Prepare a Green Travel Plan to encourage use of active travel options to access/leave the facility; and
- Prepare a Parking Management Guide to ensure minimal conflict between employee vehicles, delivery vehicles and medium rigid vehicles (MRV).

Construction Traffic Management Measures

Construction Traffic and Pedestrian Management measures proposed for the site will be included in the site's Construction Environmental Management Plan prior to issue of a Construction Certificate. Whilst specific details are not available at the current time the construction traffic management measures will include documentation and information for the construction of the proposed development to be able to:

- provide an appropriate and convenient environment for pedestrians;
- minimise the impact on pedestrian movements;
- maintain appropriate capacity for pedestrians at all times on footpaths around the Site;
- maintain appropriate public transport access;

- minimise the loss of parking;
- maintain access to/from adjacent buildings;
- restrict construction vehicle movements to designated routes to/from the Site;
- manage and control construction vehicle activity in the vicinity of the Site; and
- carry out construction activity during approved hours of works.

Parking Management and Design

All parking spaces comply with relevant parking design standards with the exception of parking spaces 54 and 55 for medium rigid vehicles (MRV). Under the Australian standards these require a minimum width of 3.5 metres and a length of 8.8 metres. These spaces are proposed to provide a width of 3 metres and be predominantly used as wash bays. The design of the wash bay incorporates an elevated platform that workers use to wash vehicles. If the spaces were widened this would create an unsafe environment for the workers as they would have to reach across the gap to wash the vehicle

A Parking Management Guide is proposed to be prepared for the Site to manage vehicular circulation and parking within the Site particularly for MRVs. The guide is proposed to be developed in full and enforced prior to the opening of the site. Measured proposed include:

- Restricting the use of certain parking spaces to ensure adequate circulation till all other parking spaces have been utilised.
- Provision of an overflow car park (spaces 16-25) within the truck parking space area.
- All cement trucks are to be managed to ensure that they circulate within the Site one at a time. To minimise the likelihood of two trucks on site at the same time, delivery times should be staggered throughout the peak periods.
- A site manager will be present at all times to manage vehicle movements across the Site

Refer to Section 4.6 of the Traffic Impact Assessment report at **Appendix H** for a list of measures proposed to better manage parking on site.

5.9 Marine Traffic, Navigation and Safety

The proposed development will include the lease and operation of an existing deep-water berth (GLB1). GLB1 is owned and managed by the Ports Authority of NSW and will continue to be managed on behalf of the Ports Authority of NSW in line with their Standard Operating Procedures. The number of maritime movements to GLB1 as a result of the proposed development is consistent with the number maritime movements previously approved by the Port Authority of NSW. As such, there will be no additional impacts associated with the proposed development when compared to the Port Authority of NSW's, and the NSW Government's current approvals and long-term vision for Glebe Island's operation as an operational deep water port within a working harbour.

Port Authority of NSW is responsible for managing port safety functions in Sydney Harbour in accordance with the *Ports and Maritime Administration Act 1995*. Port Authority of NSW operates a port communications systems within Sydney Harbour for the safe control of vessel traffic. The port communication system is operational 24 hours a day, seven days a week, throughout the year. Port Authority of NSW maintains and regularly inspects navigational aids throughout Sydney harbour, and advises ship operators of navigational aids which may be malfunctioning, out of position or missing at any time.

Port Authority will continue to maintain the navigational channels and ship berths. Maintenance of the channels and berths includes surveying and monitoring the depths of the channels and berthing boxes, and sharing the information with port users to aid the safe movement of the variety of commercial ships utilising our ports.

Any deliveries associated with the proposed development will navigate in accordance with existing navigational aids and communications systems. No new navigational aids will be required. The proposed development will not require any specific channel or berth maintenance or management over and above NSW Ports standard current maintenance activities.

Operational statistics of Sydney Harbour revealed that approximately 1,169 visits (859 of which were made by trade vessels) traversed Sydney Harbour waters in 2015-2016[1]. This is an additional 86 visits more than in the 2014-2015. The Ports Authority of NSW Harbour Control is responsible for managing the vehicle traffic and safe movement of all ships visiting the ports of Sydney Harbour and Botany Bay. Harbour Control closely monitors the movement of all commercial and trade ships within the ports using radar, Automatic Identification System (AIS), CCTV and VHF radio in order to avoid any adverse interaction between commercial ships, trade ships, recreational boats and cruise ships on the harbour.

All aggregate delivery ships (trade ships) will be made by an experienced helmsman (pilot) steering the ship to berth. The use of appropriately qualified pilots is required by the *Marine Safety Act 1998*. Approach and deliveries by these ships will be in accordance with the 'Harbour Master's Directions', the latest report version at the time of writing this EIS being July 2016. The frequency of aggregate deliveries proposed by ship, using GLB1 facility is up to three (3) ships per week. Further, coordination of ships can easily be managed by Harbour Control to minimise any potential conflict between deliveries and other water vessels around the harbour.

5.10 Heritage

A Statement of Heritage Impact (SoHI) has been prepared by AECOM in accordance with the requirements of the SEARs and is included at **Appendix C**. The report undertakes a detailed assessment of the proposed development against the assessing guidelines of the NSW Heritage Manual, heritage provisions of the SREP City West, *SREP (Sydney Harbour Catchment) 2005* and relevant policies under the White Bay Power Station CMP.

5.10.1 Existing Environment

The Site itself is not listed as a heritage item, but is in vicinity of items of State and local heritage significance, being Glebe Island Bridge, White Bay Power Station and Glebe Island Silos. **Table 15** below outlines the level of significance and statutory listing of each of these heritage items, and their distance from the Site.

Table 15 - Significance of heritage items in the vicinity of the Site

Heritage Item	Statutory Listing	Level of Significance	Distance from the Site
Glebe Island Bridge	State Heritage Register	State	20 metres
White Bay Power Station	Sydney Harbour Foreshore Authority Section 170 Heritage and Conservation Register	State	740 metres
Glebe Island Silos	Sydney Ports Corporation Section 170 Heritage and Conservation Register	Local	120 metres

Source: SoHI, AECOM

A summary of the Site's heritage, heritage views and archaeological assessment is provided below:

5.10.2 Heritage Impact of Development on Surrounding Heritage Items

The Site is separated from the Glebe Island Silos by approximately 120 metres and is thereby not considered to impact the significance of these structures. The proposed aggregate silos will be substantially lower than the Glebe Island Silos and as such will not dominate the heritage listed silos.

The proposed development will have no direct or indirect impact on the heritage significance of the White Bay Power Station given that the power station is located approximately 740 metres from the Site. The proposed development will not impede or obstruct any of the significant views identified under the relevant CMP (Design_5_Architects, 2013).

The proposed development is also physically separated from the Glebe Island Bridge and as such will have no direct physical impact on the heritage item.

[1] Annual Report (2015-2016), Port Authority of New South Wates - https://d2bp0c2skoohvn.cloudfront.net/media/1810/port-authority_annual-report_15-16.pdf

5.10.3 Heritage View Impact Assessment

The Glebe Island Bridge CMP (Department of Public Works and Services, 2000) outlines several heritage significant views both 'from the bridge' and 'of the bridge' (refer to **Figure 20**). The views from on the bridge will not be affected as these generally relate to views towards the southern or north eastern direction. Potential impact of existing views towards Glebe Island Bridge from the surrounding locality, particularly the foreshore areas and waterfront parks has been carefully assessed. Potential heritage impact on these views is assessed in detail as part of the Heritage Impact Report. A summary of its findings is provided below:

- The proposed development will not impact views from East Balmain (Peacock Point). The views of the bridge from the east side of Johnston Bay are currently obscured by existing port/waterfront infrastructure and Anzac Bridge.
- Views of the bridge from Pirrama Park will generally be unaffected given that the proposed development is located west of the bridge. The proposed silos will, however, block the view to the western approach to the bridge. The presence of the new concrete batching plant will also create a large scale structure immediately adjacent to the Glebe Island Bridge. While this may have the potential to over crowd the area, the reality is that the Anzac Bridge and the Apartments at Regatta Wharf already appear as imposing items from this viewpoint.
- Views from Balmain (Birrung Park) are likely to be obscured slightly from the placement of the shipping containers along the eastern boundary of the Site. The shipping containers will serve as a sound and visual barrier to the batching plant from the east. Moving further east from Birrung Park, the view to the bridge would become less obscured from this shipping container wall. A view from Grafton Street, where the view outlined in the CMP was identified from, will not have this impact as the view looks directly down Johnstons Bay to the bridge.
- Views of the bridge along Sommerville Road are likely to be affected by the proposed development. Because views from Sommerville Road are only possible from the intersection with the approach to the Glebe Island Bridge, and not further along Sommerville Road, the impact to this view has been assessed as being of minor significance.

The White Bay Power Station CMP (Design_5_Architects, 2013) identifies six significant views towards the Station. Of these significant views, views from the Anzac bridge western approach (View D) and views from White Bay, are the closest views to Glebe Island and the Site (View C) (refer to **Figure 20**). The proposed development will not obstruct these views as neither looks across Glebe Island.

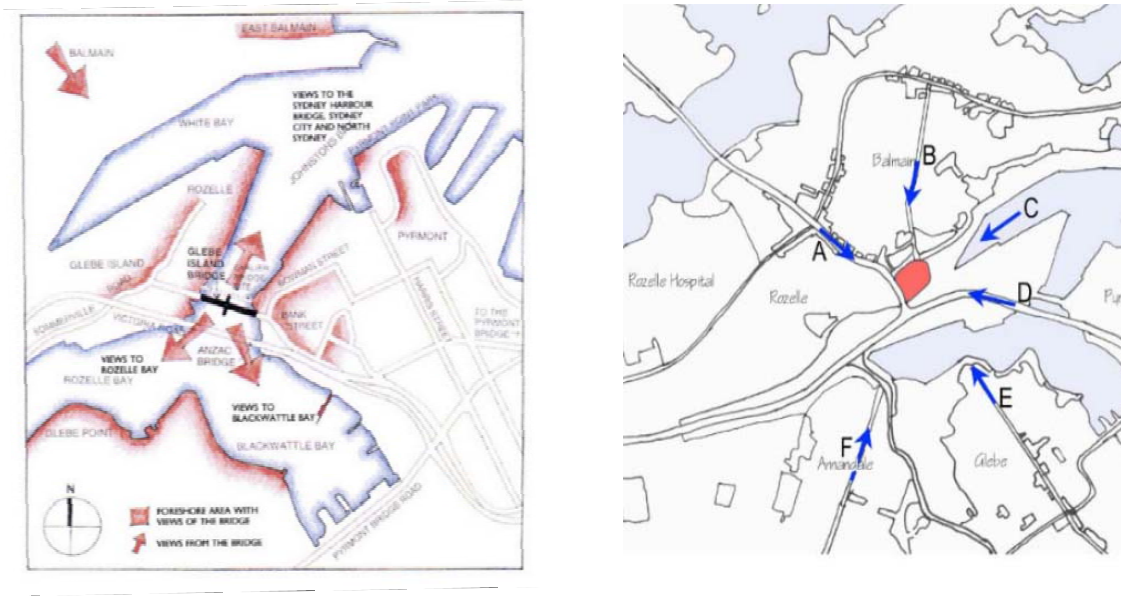

Figure 20- Identified views and vistas to and from the Glebe Island Bridge (left) and White Bay Power Station (right)

Source: SoHI, AECOM

5.10.4 Archaeological Potential

The south western extent (refer to **Figure 21**) of the Site is identified to have some archaeological potential associated with the former Glebe Island bridge, which was constructed in 1862. This portion of the Site is proposed to accommodate the six aggregate silos. Potential archaeological items include piles and other support structures associated with the former bridge's western approach. These items can provide information relating to the construction of this bridge which is not available in existing documented records. As such an archaeological monitoring program should be established and carried out concurrent to any excavation works below the existing hardstand on this portion of the Site. The monitoring works will need to be carried out by a qualified historical archaeologist.

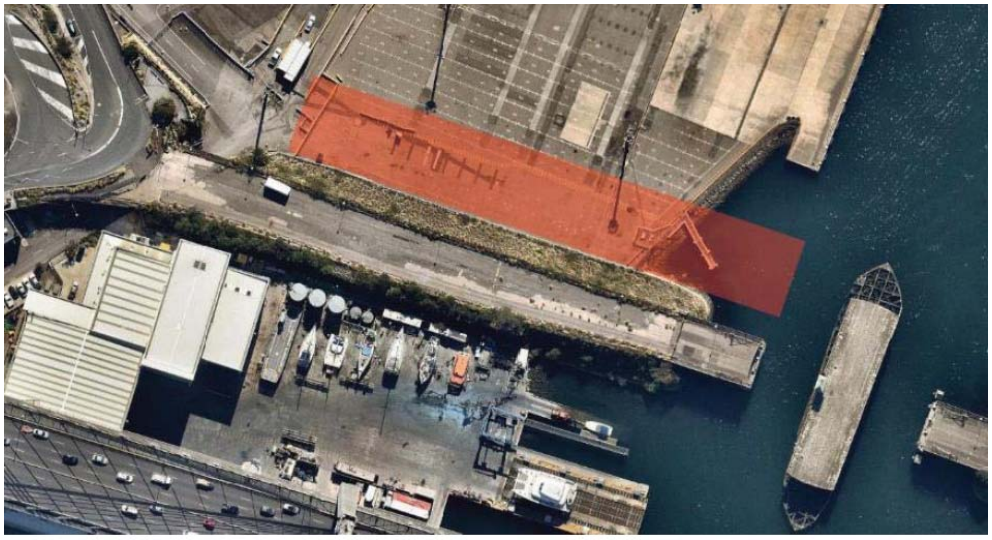

Figure 21- Area of identified archaeological potential (shown in red)

Source: SoHI, AECOM

5.10.5 Mitigation Measures

- A historical archaeological monitoring program should be undertaken concurrently with any excavation works below the existing hardstand in the vicinity of the proposed silo.
- Prepare a Research Design and Methodology Report outlining the archaeological monitoring methodology, recording procedure of any remains or relics that are uncovered, and research questions and reporting requirements. The archaeological monitoring works must be undertaken by a suitably qualified historical archaeologist under the approved Research Design and Methodology document, and the document included in detailed construction program.
- A report of the findings from the monitoring works should be prepared and submitted to the Heritage Division for their record at the end of the excavation phase.

5.11 Essential Utilities and Services infrastructure

5.11.1 Existing Infrastructure

The Site currently contains two main utility services lines, a DN150 CI sewer main and a DN250 CICL watermain that traverse the western extent and run north-south across the Site (refer to **Figure 22**). Both these pipes are Sydney Water owned infrastructure.

A second DN 150 sewer line intercepts and connects with the north-south sewer line along the Site's northern boundary (near the proposed tipping bin area).

A second DN 150 water line intercepts the DN250 watermain and runs along the Site's southern boundary. The line terminates near the proposed aggregate storage silos and contains a water meter at this location. The DN 250 CICL line contains a hydrant and stop valve 8 metres from the proposed filter press.

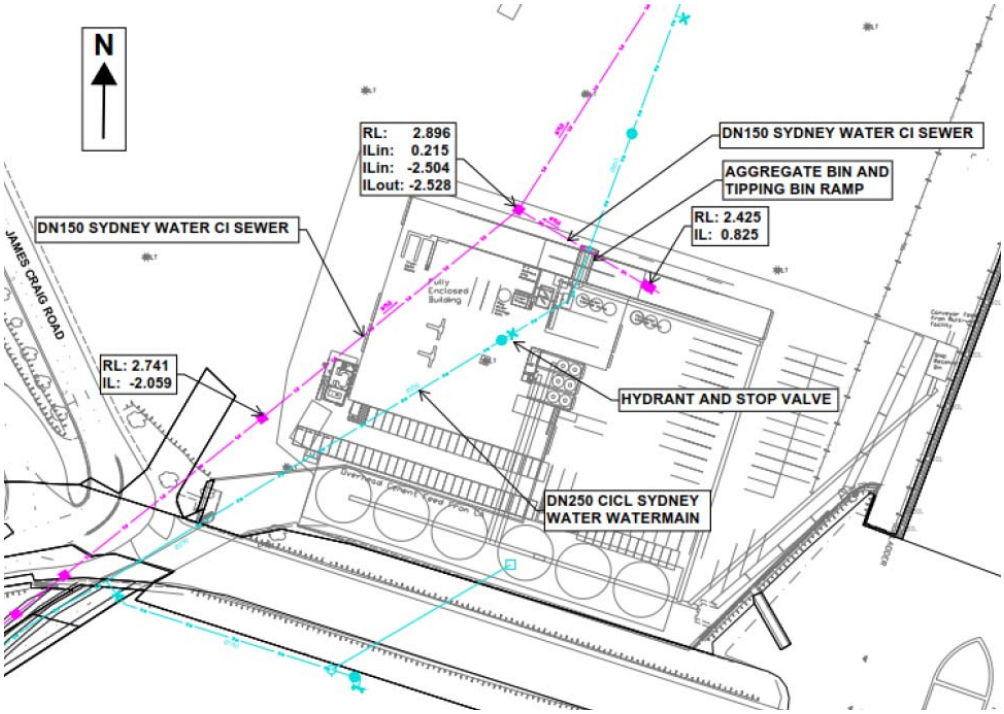

Figure 22- Existing utilities and services infrastructure on Site

Source: WSP

5.11.2 Proposed Infrastructure Amendments

Watermain Line

The DN250 watermain (including the hydrant and stop valve) runs through the proposed enclosed batching facility and as such is proposed to be relocated to run around the Site along its western and northern boundary (see **Figure 23**). The watermain should be installed maintaining a 750mm thick asphalt cover.

The water metre at the end of the DN150 watermain line is to be relocated away from the aggregate silos.

Sewer Line

The DN 150 sewer line also runs through the proposed redevelopment and will thereby need to be deviated around the future buildings on site (similar to the DN250 watermain) or is to retain the existing alignment and provide maintenance free concrete encasement of the existing pipe through the length of the proposed building (enclosed batching facility).

Further investigation will need to be undertaken to determine the purpose of the second DN 150 sewer line located under the proposed tipping bin area. Three recommendations are proposed based on the intent/ use of the pipe to manage the sewer line:

- If the sewer line is found to not be required, the sewer line can be cut off from the ramp; or
- If the sewer line is in use, it will either require concrete reinforcement and require the maintenance hole to be incorporated into the ramp design to allow access if necessary; or
- The sewer line will need to be moved to north of the Site boundary with a new maintenance hole installed and services it was supplying will need to be reconnected.

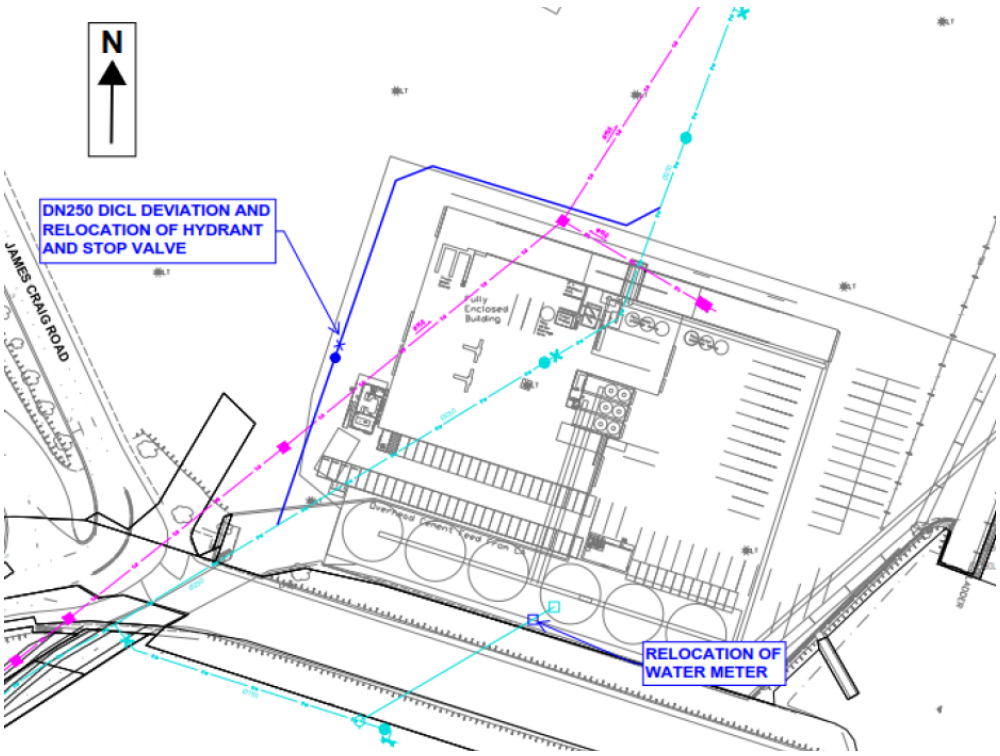

Figure 23 – Proposed infrastructure changes

Source: WSP

5.12 Ecologically Sustainable Development

The proposed development is consistent with the principles of an Ecologically Sustainable Development (ESD). Due to the location of the Site, the proposed development is more sustainable than other typical concrete batching plant facilities, which would generally rely on vehicular truck deliveries of large amounts of aggregate. The proposed development, by relying on deliveries of aggregate made by ships, would reduce the number of trips and minimise vehicular traffic impacts in the locality. **Section 7.3** of this report assesses the development against the four ESD principles set out under the EP&A Regs. Other ESD measures proposed as part of this development are discussed below.

Climate Change Measures

The Air Quality Assessment provides a quantitative analysis of potential Green House Gas (GHG) emissions generated during the operation of the facility. The findings confirmed that resulting carbon emissions from the project is nominal (2,170 tonnes CO2-e). This would account for 0.0000004% of Australia's total emissions being 1.5% of global emissions in 2005. Recommendations to further ameliorate GHG through operational management and maintenance practices include:

- Development of strong performance indicators based around plant efficiency
- Selection of energy efficient equipment and plant installation.
- Recycling of all concrete, water and aggregates will indirectly reduce GHG when considering the overall life cycle impact

Water Efficiency Measures

- Industrial waste water used for dust suppression, barrel washout and washdown of the facility will be collected and reused in the concrete batching process. The wastewater system for the facility is considered a 'closed' self -sufficient system, where wastewater is recollected and reused onsite. As such, no offsite disposal of industrial waste water is proposed.
- Six rainwater tanks with a total volume of 275kL will be installed to collect a total volume of 275kL. Rainwater from the drivers' lunch room and amenities will be connected to a 4kL rainwater tank with an average reuse rate of 4kL/day for supplying toilet flushing demands.

Other ESD Measures

- A green travel plan will be developed to encourage travel and access of the Site through alternative sustainable modes (public transport, car-pooling, cycle, walking). An end of trips facility, bicycle parking, locker facilities, shower and change room amenities are proposed to be provided on site to improve convenience of cycle travel and encourage uptake.
- Non-putrescible waste generated on site during the concrete batching process can be reduced. Unhardened concrete returned to the Site will be used to create concrete blocks. Solid washout (mixture of aggregates and sand) and can be reused in the batching process.

5.13 Biodiversity

A biodiversity assessment of the Site and its surrounds has been undertaken by AECOM as part of the assessment for this proposal. A copy of the findings is documented in the Biodiversity Assessment Report provided at **Appendix L** of this application.

5.13.1 Existing Conditions

The Site is located within a highly urbanised setting. The development footprint is completed cleared of remnant vegetation and covered in hardstand paving. Desktop research of relevant NSW databases and a field survey were used determine the biodiversity potential of the Site. A summary of the Site's existing condition as noted under the biodiversity assessment report is provided below:

- Some vegetation clusters including ground cover were observed within a 200 metre buffer of the Site near the Glebe Island Bridge approach and embankment area. These were categorised as exotic species or common native vegetation. The nearest substantial vegetation observed along the approach of Anzac Bridge approximately 200 metres west;
- A NSW Wildlife Atlas and Commonwealth protect matters search revealed five threatened ecological communities within a five km radius. Of these communities none were identified as having moderate or high potential of occurring within the Site;
- No vegetation protected under the *Fisheries Management Act 1994* was present within the vicinity of the Site;
- The fauna habitat value of the Site was low given the limited presence of vegetation on site. The habitat value associated with the groundcover along the Glebe Island bridge approach is low. The ground cover comprises of exotic grasses (Foxtail grass) and Latana and is not considered to form a viable habitat for fauna species; and
- Sydney Rock Oysters and scattered outcrops of algae were observed along the shoreline. However, the seabed rapidly increased in depth along the shoreline, presumably to accommodate ships. The shoreline may occasionally be used by migratory birds and bats.

Figure 24 and **Figure 25** below illustrate the vegetation ecological communities mapped within five km radius of the Site.

Figure 24 - Vegetation mapped within 5 km radius of the proposal (The Native Vegetation of the Sydney Metropolitan Area (2013))
Source: Biodiversity Assessment Report, AECOM

Figure 25 - Threatened species records within the vicinity of the proposal area (NSW Wildlife Atlas 2016)
Source: Biodiversity Assessment Report, AECOM

Flora

A NSW Wildlife Atlas search identifies 27 threatened ecological communities within a five km radius of the Site, 16 of which were also listed as threatened under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

A search of the NSW Flora online identified seven Rare or Threatened Australian Plant species. However, based on the nature of the study area, including the overall lack of any exposed soil, the Site is not considered likely to provide potential habitat for any threatened ecological community or threatened flora species.

The Commonwealth Protected Matters search revealed 16 flora species protected under the EPBC Act which is also protected under the Biodiversity Conservation Act;

Fauna

A NSW Wildlife Atlas search for threatened fauna species identified 55 fauna species for a radius of 5 km from the Site, 31 of which are also protected under the EPBC Act. However, no threatened fauna species were observed on site or were considered to have the potential to utilise the Site. Given the absence of foraging and roosting resources available, the Site is not considered to have the potential to provide a habitat for any threatened ecological community or threatened fauna species.

The database search also identified 14 migratory species with potential for habitats in areas around the wider vicinity of the Site. The shoreline adjacent to the Site was devoid of any substantial shallow intertidal mud or sand flats, which would support migratory species, and the Site was found to lack a habitat to support the identified 14 species.

Pest species

Given the absence of any substantial vegetation on site, the degree of pest species is likely to be low.

5.13.2 Impact Assessment

Impact of the proposed development was found to be limited for the following reasons:

- No threatened ecological community identified in proximity to the Site, or on the Site itself;
- The proposed development would not result in direct removal or disturbance of native vegetation on the Site. There is limited territorial habitat opportunities on the Site, given the absence of vegetation;
- While weed species were identified on the Site (Fireweed and Lantana), the potential for the development to facilitate the spread of weeds and pathogens is considered to be low, given that the operation of the proposed development will generally occur on sealed hardstand ground cover. Appropriate mitigation measures will also be used to keep in check potential spread of these species;
- The proposed development is anticipated to have a neutral effect with respect to the baseline scenario on pests (fauna) that may graze in and around the Site area;
- Impact of noise, vibration, construction and night lighting on biodiversity is minimal given the absence of flora and fauna species on the Site. Under certain scenarios, these activities may discourage certain bird and bat species from approaching/flying over the Site. This is not considered to be significant given the wider highly urbanised setting of the Site. During the operational phase of the development, most batching activities will also be carried within the contained building and will minimise external impacts; and
- Run -off and sedimentation impacts is proposed to be actively managed by way of the stormwater capture and treatment and other mitigation measures outlined under the report.

5.13.3 Mitigation Measures

Relevant mitigation measures are outlined below.

Construction Phase

- Minimise any unnecessary intrusion of the waterway during construction so as to minimise impacts upon marine species;
- Manage any contamination (spills) that may affect the adjoining marine environment by ceasing operation and contacting relevant environmental personnel for advice;
- If unexpected threatened fauna or flora are discovered during construction, cease activities and contact environmental personal;
- Reduce off-site impacts arising from sedimentation, dust and noise through implementation of measures outlined under the Construction Environmental Management Plan (refer to **Appendix N**); and
- Contact WIRES should any injured fauna be encountered.

Operation Phase

- Monitor operational activities and implement all necessary mitigation measures to ameliorate potential operational impacts (air quality, noise, stormwater quality);
- All pollution control devices (traps, sumps, bunds) utilised on site must be serviced regularly by licensed contractors and waste collected, deposited in a licenced landfill site. No material is to be disposed of on or near the Site;
- Careful monitoring of aggregate and other material transfer, loading and unloading processes from delivery vehicles to storage silos, to ensure necessary action is executed should any equipment malfunction (conveyor belts) and cause spillage into surrounding waterways;
- All vehicle tyres should be inspected and wash-down prior to exiting the Site to prevent tracking of materials onto local roads;
- Minimise disturbance of soils to avoid spread/colonisation of weeds; and
- Ensure appropriate management measures are in place to handle.

All waste materials generated during construction and operational phases are to be appropriately disposed at a licenced waste facility.

5.14 Hazard and Risks

State Environmental Planning Policy Number 33 - Hazard and Offensive Development (SEPP 33) establishes a protocol for planning for development that can be categorised as Hazardous or Offensive Development. The Department of Planning's SEPP 33 Guidelines (2011) establish screening thresholds for Dangerous Goods stored on site, above which a Preliminary Hazard Analysis must be carried out to accompany a development application.

Site Assessment

Substances proposed to be stored onsite include chemical admixtures (for concrete production), AdBlue, automotive diesel fuel, automotive lubricants and truck washing products. Of these, the substances that are classified as a Dangerous Goods are listed in **Table 16**, along with the screening thresholds applicable under the SEPP 33 Guidelines.

Table 16 - Dangerous Goods Summary and SEPP 33 Screening Assessment

Substance	ADG Classification (and Packaging Group)	Applying SEPP 33 Screening Threshold	Site Storage Capacity
Truck Washing/ Cleaning Fluids (Proprietary name- Barrell Kleen Safe)	Class 8 (PG II)-	25 tonnes	1,000L (approximately 1 tonne)

In addition to the above chemicals, the concrete batching plant will include the storage of diesel in an aboveground tank with a capacity of 26,500L. Diesel is a C1 combustible liquid, but is not considered to be a Dangerous Good if it is stored separately from Class 3 flammable liquids. No Class 3 flammable liquids will be stored at the Site. As such, the diesel fuel storage is not assessed as a Dangerous Good under the SEPP 33 Guidelines.

Transport Assessment

Transport of Dangerous Goods (Barrell Kleen Safe and Diesel) to the Site will be undertaken by a regulated contractor and in accordance with standard safety procedures for each product.

Mitigation Measures

Mitigation measure relevant to hazard and risks include:

- Standard handling procedures relevant to each product will be maintained.
- Transport of potentially hazardous or dangerous goods to the Site will be undertaken by licenced contractors.
- The Site Operational Environmental Management Plan will include a standard procedure for the management of spills and emergency clean-up protocols.

5.15 Sea Level Rise and Climate Change

The current height of the edge of the wharf apron at Glebe Island is approximately +3m AHD. This means that it is approximately 3 metres above the mean sea level. The NSW Government's *NSW Coastal Planning Guideline: Adapting to* Sea *Level Rise, August 2010* identifies that sea levels are expected to rise by 40cm by 2050 and 90 cm by 2100 over 1990 sea levels. This increase is well below the current height of the wharf apron and so no mitigation is required to account for sea level rise.

5.16 Contamination

A preliminary site investigation was carried out by Martens Consulting Engineers to identify potential contamination risks on the Site, suitability for proposed use and need for further investigation. The findings of the investigation have been documented in a report prepared in accordance with the SEARs requirements (refer to **Appendix F**). A summary of the findings is provided below.

5.16.1 Existing Environment

The proposed use is generally consistent with previous use of the Site for similar port related uses. Historical review of the Site's former uses reveals that the Site has been used for port and marine operations since 1930. Historical advice provided by the Port Authority of NSW indicates that the Site has operated as multipurpose port since the nineteenth century and, at points, has been used as an army depot, container ship berthing and container handling facility, new motor vehicle storage area, and berths.

The Site has accommodated several different buildings and uses over the years. The Site is underlain with fill material of unknown quality and character. Additional fill was used to reclaim further land near the south eastern boundary around 1970 and 1986. Additional fill material may also have been used to regrade the Site across the years. Potential contamination sources based on the site's historical uses are:

- Storage of fuels, oil or other chemicals, leading to hydrocarbon contamination in former buildings on site. Lead based paint, asbestos and galvanised steel may have been used during construction of early buildings. Building treated with heavy metals or pesticides for pest control.
- Imported fill material may have introduced soil with contaminates including heavy metals, hydrocarbons, asbestos etc.

The existing ground cover comprises of a fully sealed hardstand surface and, as such, contact with underlying soil and fill material is only likely during the limited construction excavations. Generally, excavation is not required for the proposed facility, except for foundations, drainage infrastructure and footings for new structures.

5.16.2 Assessment

It is not anticipated that there will be extensive excavations required as part of the construction of the proposed development, with the exception of some piling and excavation that will be required to provide support for certain elements of the development e.g. enclosed building and silos.

As such, the Site is suitable for the proposed use without the need for further remediation given that the existing ground is sealed with hard stand and will remain sealed following construction of the development. It is also noted that the proposed use of the Site is also consistent with historical port-related uses.

Where removal of hardstand and excavation is not required, no further investigation is warranted given that the existing surface is sealed. Where development works result in temporary or permanent removal of infill, further investigation for Chemicals of Potential Concern (COPC) associated with the Areas of Environmental Concern (AEC) are recommended. The intent of this testing is to ensure appropriate management of construction works and suitable disposable of excavated fill.

Soil excavated is to be classified in accordance with NSW EPA Classifying Waste Guidelines and disposed at an appropriately licensed landfill facility.

Mitigation Measures

The scope of the pre-construction intrusive investigations is to be prepared based on final development plans and in accordance with the NSW EPA (1995) Sampling Design Guidelines and a risk based assessment. Assessment shall address areas where works require hardstand removal and the potential for AECs and associated COPCs identified under the Preliminary Site Investigation Report (**Appendix F**).

5.17 Environmental Construction and Site Management Plan

A Construction Environmental Management Plan (CEMP) has been prepared by Hanson to ensure that construction and all ongoing operational activities are managed carefully throughout the life of the project. A copy of the CEMP is provided with this application at **Appendix N** and is prepared in accordance with the requirements set out under the SEARs.

The CEMP sets environmental objectives and targets for the development and best practice management guidelines to implement on site. It also outlines the framework for reviewing and monitoring all operational activities and includes mitigation measures that will apply should any exceedance be detected in the process. The mitigation measures proposed are expert advice recommendations and management measures provided by the various technical consultant reports that inform this application (**Appendix C – Appendix O**). The mitigation measures covered under the CEMP include:

- Air quality;
- Noise and vibration;
- Soil, contamination and water quality;
- Flora and fauna;
- Waste;
- Heritage;
- Consultation;
- Public and Visual Amenity; and
- Traffic

The mitigation measures are also outlined under **Section 6.0** of this EIS and has informed the Environmental Risk Assessment (see **Section 5.22**) of this report.

The CEMP also identifies and assigns roles and responsibilities for the Project Managers, Site Engineer and Site officer. The Regional Risk Manager will regularly monitor any legislative or regulatory changes to environmental requirements and communicate the information to the Project Manager and Development Manager.

5.18 Lighting

Night time lighting is necessary to ensure safe operation of the facility after daylight hours. Changes are proposed to the existing external lighting system for the ship deck, vehicle parking and driveway areas.

5.18.1 Proposed Design

The lights will be directed down, producing no light spill outside the Site boundary. Lighting would be of sufficient brightness to achieve night time work safety requirements and security on site. To minimise lighting issues, open deck lighting with multi-zone functionality, standby operations and as discharge operations are recommended. The Visual Impact Assessment Report makes the following recommendations for the lighting system:

- Directional flood LED lighting for mooring decks (controllable / variable for mooring operations and discharge to variable level of lighting) (Zone 1)
- Ambient local lighting for main deck areas (controllable / variable to meet local requirements to various Lux levels as required) (Zone 2)
- Ambient local lighting for accommodation open decks (controllable to 2 levels only) (Zone 3)
- Directional flood LED lighting for LSA areas (raft and boat) (Zone 4)

All of the above should be overridden by main lighting control in the event of an incident or compliant with class requirements. The four zones listed would be controllable as different “scenes” depending on the operation activity.

5.18.2 Assessment

Outdoor lighting at the Project Site would be limited to vehicle parking and driveway areas, with all lights directed down, producing no light spill outside the Hanson lease boundary. Ships would be lit when berthed during the night.

Lighting would be minimised with controllable and dimmable open deck lighting, with multi-zone lighting control to allow work within different areas of the ship without excessive lighting. Some directional flood lighting would be required, but would be minimised to mooring decks and light sensitive areas (raft and boat).

The impact of night lighting on the surrounding areas was assessed using the Landscape and Visual Impact Assessment Report. The eight observer points nominated to assess visual impacts within the visual catchment study area were also used to assess night lighting impacts. While no detailed design of the lighting system is available at this stage, the assessment undertakes a high level review to ascertain likelihood of a change to night lighting in the locality. The visual impact matrix was used to examine sensitivity and magnitude to determine potential lighting impacts on nearby receivers. **Table 17** below provides a summary of the assessment findings.

Table 17- Lighting Impact Assessment

Observer Location	Sensitivity	Magnitude of Visual Effects	Night Lighting Impact
Observer Location 1: Peacock Point, Balmain East	Moderate	Moderate	Moderate
Observer Location 2: Birrung Park, Balmain	Moderate	Moderate	Moderate
Observer Location 3: Mansfield Street, Rozelle;	Moderate	Low	Moderate to Low
Observer Location 4: Glebe Foreshore Walk	Moderate	Moderate	Moderate
Observer Location 5: Glebe Foreshore Walk (The Boathouse on Blackwattle Bay)	Moderate	Low	Moderate to Low
Observer Location 6: Pirrama Park, Pyrmont	Moderate	Moderate	Moderate
Observer Location 7: Waterfront Park, Pyrmont	High	High	High
Observer Location 8: ANZAC Bridge.	Moderate	High	High to Moderate

Mitigation Measures

A detailed lighting design plan will be prepared as part of the detailed design. The final plan will incorporate the recommendations set out under this assessment.

5.19 Building Code of Australia

The buildings placed on site, including the enclosed warehouse facility and the site office, are pre-fabricated structures that are designed to satisfy Deemed To Satisfy BCA provisions. The proposed structures come with independent compliance certificates. As such, only an accessibility assessment of the development is provided with this application at **Appendix K**. The Accessibility Statement, prepared by MSK Architects demonstrates compliance with all relevant access requirements under the BCA.

5.20 Wind Impact

A Wind Impact Statement has been prepared by Vipac. A copy of this report is provided at **Appendix P** of this report. The report assesses the current wind conditions on site and impacts of the proposed development on local wind conditions. The report identifies post development effects on pedestrian wind comfort levels.

5.20.1 Existing Condition

The Site is relatively exposed to winds from most directions, particularly to the north east and south east. Developments in the vicinity of the Site are generally 10-55 meter high buildings including industrial silos and residential buildings.

5.20.2 Post Development

Given the scale of the development and its setting, the proposal is predicted to alter existing wind conditions at ground level. The aggregate storage silos, being 34 metres, are the tallest structures on site. The structures will catch prevailing westerly and southerly winds, and channel westerly winds between the silos and the enclosed warehouse building. The round shape of the silos is expected to ameliorate impact and offer some shielding. The stacked shipping containers are expected to offer additional relief and shelter at pedestrian level.

The Visitor and Employee entry/exit area meet the pedestrian wind comfort criteria for walking. The heavy vehicle parking area meets the criteria for fast walking/walking.

The building entrance area of the site office building will meet the standing criteria.

Most exposed/open areas of the Site satisfy the pedestrian wind comfort criteria for walking and standing. As such, Vipac do not recommend any further design changes to the proposed development.

5.21 Cumulative Impact Assessment

5.21.1 Assessment Methodology

An assessment of cumulative impact is a receptor led assessment, i.e. in order to have a cumulative impact, two projects or impacts need to affect the same receptor. Cumulative effects can be antagonistic, synergistic or additive. They are often caused by an action in combination with other past, present, and reasonably foreseeable future human actions.

The first stage in any cumulative impact assessment is to understand the adverse residual impacts from the proposed development. The second stage is to identify any other projects nearby that may affect similar receptors. Other relevant projects that may have a cumulative impact with the proposed development have been identified using the following assessment parameters:

- Spatial parameter – The spatial parameter will depend on the characteristics of the environmental impact and the likely distance that any residual impact would travel. For example, an air quality impact would potentially affect a wider area than a noise impact and would therefore affect different human or environmental receptors in different ways.
- Temporal Parameter - Developments that are on exhibition, have completed exhibition but are not yet determined, have gained development approval, or have gained development approval but are not yet operational have been considered. Developments that are operational have been considered as part of the baseline for the assessment. Developments that are not on exhibition do not contain enough detail on residual effects or final design to allow a robust cumulative assessment to take place.

5.21.2 Assessment Scoping

Spatial Parameter

As discussed, for a cumulative effect to occur, two impacts need to affect the same receptor. The key areas for which a cumulative impact is possible, and for which a cumulative impact assessment has been carried out are as follows:

- Air Quality;
- Traffic and Transport; and
- Noise and Vibration.

For other study areas, either the environmental impacts anticipated from the proposed development are negligible, or there is no way to tangibly assess a cumulative impact.

Temporal Parameter

A number of significant infrastructure projects are planned in the vicinity of the Site, some of which have been specified within the SEARs to assist in scoping the cumulative impact assessment. Amongst these projects are WestConnex, the Western Harbour Tunnel, the Iron Cove Link, and West Metro, as well as The Bays Precinct

Transformation and the Hymix Concrete Batching Plant in Pyrmont. The relevance of these projects to the temporal parameter of the cumulative impact assessment is outlined below.

Hymix Concrete Batching Plant, Pyrmont

The Hymix facility in Pyrmont is an existing facility and its environmental impacts are therefore captured within the baseline assessments. It is therefore not appropriate to include this facility within the cumulative impact assessment.

The Bays Transformation

As noted in Section 1.2, the transformation of The Bays Precinct will be managed in line with the NSW Government's The Bays Precinct Transformation Plan. Currently no specific plans are available, and no development has been approved, within The Bays Precinct, therefore no cumulative impact assessment is possible at this time. As noted in Section 3.4, the leasing arrangements of the Site are controlled by the NSW Government, who are also responsible for the transformation of The Bays Precinct. It is anticipated that any potential for conflicting land uses, or cumulative impacts, could be managed through future leasing arrangements. It is not appropriate to include this development within the cumulative impact assessment at this time.

WestConnex and Iron Cove Link

A State Significant Infrastructure application for the M4-M5 Link is currently under assessment by the NSW Department of Planning and Environment. The most up to date information about this project is from the Environmental Impact Assessment prepared by RMS, which exhibited until 16 October 2017.

The majority of the motorway will be below ground, with the visible features of the motorway at Rozelle contained within the disused Rozelle Rail Yards. The Rozelle Interchange would provide connections to the surface road network at City West Link and ANZAC Bridge.

The works at the Rozelle Interchange are likely to have the greatest impact on the Site. Construction has been targeted to run from 2018 to 2023, although will be subject to the assessment process and other external factors. Where possible and appropriate, an assessment of the proposed development, alongside the proposed WestConnex project has been undertaken as part of the cumulative impact assessment.

The Western Harbour Tunnel

The Western Harbour Tunnel and Beaches Link was announced by the NSW Government in March 2017, with a State Significant Infrastructure Application lodged, and SEARs requested. As no formal assessment of this project is available, no cumulative impact can be undertaken at this point.

West Metro

An underground metro rail that will link the Parramatta and Sydney CBD. The project is at the preliminary planning stage with little information available. It is not appropriate to include this development within the cumulative impact assessment at this time.

Ports Authority of NSW Multi User Facility

The Multi User Facility is being developed by the Ports Authority of NSW adjacent to the Site of the proposed development. The Review of Environmental Factors was released for public exhibition during the preparation of this EIS and its findings have been considered.

5.21.3 Cumulative Air Quality Impact

As discussed in the Air Quality Assessment Report (**Appendix I**), cumulative air quality impact is considered acceptable given that each development, industry and infrastructure project such as the WestConnex, Sydney Metro West, and the adjacent Multi User Facility will be subject to demonstrate compliance with air quality standards. Each of these projects have their own management measures to curtail and control air quality standards in the vicinity.

The air quality assessment report for the Multi User Facility (AECOM, 2018) contains a qualitative evaluation of air quality impacts. The report outlines standard construction and operational mitigation measures to manage impacts.

It is also noted that the air quality impacts from the periodic use of the Glebe Island berths (GLB1 and GLB2) is already captured in the measured background air quality data. As such, resulting project concentration levels, which comply with the EPA air quality criteria, account for cumulative impact from existing uses.

5.21.4 Cumulative Traffic Impact

As part of the Traffic Impact Assessment provided in **Appendix H**, AECOM have undertaken a cumulative traffic and transport assessment. AECOM have undertaken a careful review of the WestConnex Environmental Impact Statement to determine traffic impacts on the road network.

During the construction phase of the WestConnex project, the LOS deteriorates at the intersection of City West Link / The Crescent during the PM peak period. However, the anticipated traffic impact of the proposed development is marginal at this intersection.

Following the completion of WestConnex construction the intersection performance is forecast to significantly improve during PM peak hours for Victoria Road / The Crescent (from intersection failure to LOS C) and The Crescent/ James Craig Road (from LOS C to LOS A) During the AM peak period, all of the intersection maintains a satisfactory LoS ranging from B to D.

In summary, the cumulative impact of the proposed development and the WestConnex project on traffic impacts in the area will be positive in light of the significant improvements and upgrades proposed to intersections.

5.21.5 Cumulative Noise Impacts

Construction and delivery program of the proposed facility, the Multi User Facility and the WestConnex M4-M5 Link (Rozelle) may coincide for a period of approximately nine to six months respectively. Accordingly, cumulative construction noise impact is assessed under the Noise Impact Assessment Report at **Appendix D**.

Predicted construction noise levels associated with the Multi User Facility were used to determine cumulative construction noise levels to the nearest residential receivers. The resulting cumulative noise levels are generally below the maximum Construction Noise Management Level criteria (60dBA), with the exception of receivers near Refinery Drive, Pyrmont (62 dBA- 67dBA) where an exceedance of 2- 7dBA is noted during building works and enabling plus establishment phases respectively. The noise level is still below the highly noise affected criteria (75dBA). It is also noted that the exceedance drops to 2 dBA during silos plus formwork and building work phases.

Cumulative construction noise impacts associated with WestConnex will be minimal due to the separation of the respective construction sites and the absence of common residential receivers in the Rozelle area.

5.22 Environmental Risk Assessment

The Environmental Risk Assessment (ERA) establishes a residual risk by reviewing the significance of environmental impacts and the ability to manage those impacts. The ERA for the proposed development has been adapted from Australian Standard AS4369.1999 Risk Management and Environmental Risk Tools.

In accordance with the SEARs, the ERA addresses the following significant risk issues:

- the adequacy of baseline data;
- the potential cumulative impacts arising from other developments in the vicinity of the Site; and
- measures to avoid, minimise and offset the predicted impacts where necessary involving the preparation of detailed contingency plans for managing any significant risk to the environment.

Figure 26 indicates the significance of environmental impacts and assigns a value between 1 and 10 based on:

- the receiving environment;
- the level of understanding of the type and extent of impacts; and
- the likely community response to the environmental consequence of the project;

The manageability of environmental impact is assigned a value between 1 and 5 based on:

- the complexity of mitigation measures;
- the known level of performance of the safeguards proposed; and
- the opportunity for adaptive management.

The sum of the values assigned provides an indicative ranking of potential residual impacts after the mitigation measures are implemented.

Significance of impact	Manageability of impact				
	5 Complex	4 Substantial	3 Elementary	2 Standard	1 Simple
1 – Low	6 (Medium)	5 (Low/Medium)	4 (Low/Medium)	3 (Low)	2 (Low)
2 – Minor	7 (High/Medium)	6 (Medium)	5 (Low/Medium)	4 (Low/Medium)	3 (Low)
3 – Moderate	8 (High/Medium)	7 (High/Medium)	6 (Medium)	5 (Low/Medium)	4 (Low/Medium)
4 – High	9 (High)	8 (High/Medium)	7 (High/Medium)	6 (Medium)	5 (Low/Medium)
5 – Extreme	10 (High)	9 (High)	8 (High/Medium)	7 (High/Medium)	6 (Medium)

Figure 26 – Risk Assessment Matrix

				Risk Assessment		
Item	**Phase**	**Potential Environmental Impact**	**Proposed Mitigation Measures and / or Comment**	**Significance of Impact**	**Manageability of Impact**	**Residual Impact**
Noise	C+O	Marginal increase in noise levels during construction and road traffic noise levels (existing background levels exceed adopted noise criteria).	• Implementation of a Construction Noise and Vibration Management measures prepared in accordance with Industrial Construction Noise Guideline requirements, and operator-attended monitoring; • Staging site access, delivery timings and concrete trucks leaving the Site; • Noise from ships can be addressed through the Port's existing management plan which manages ship deliveries, port use and reduces water traffic and in turn noise generated from these uses.	2	2	4 (Low/Medium)
Traffic and parking	C+O	Increase in cumulative construction and operational traffic impacts on key intersections in the immediate vicinity of the Site On-site parking for 64 employees and 55 trucks associated with deliveries.	• Preparation of a Construction Traffic Management measures to manage construction traffic impacts; • Prepare a Green Travel Plan to encourage use of active travel options to access/leave the facility; and • Prepare a Parking Management Guide to ensure minimal conflict between employee vehicles, delivery vehicles and MRVs.	2	2	4 (Low/Medium)
Water Quality	C+O	Nutrient high run-off can affect water quality and the marine ecosystem	• Regular monitoring, carried out as per the process outlined under Section 8 of the Water Cycle Management Plan, will ensure high water quality standards; • Implement and manage sediment and erosion control measures during construction of the Site; • The enclosed design of the batching facility will reduce instances of stormwater run-off coming in contact with cementitious material and varying the pH quality of run-off; and • Regular inspection and maintenance of vehicles and accessibility to spill prevention and response equipment will mitigate increased hydrocarbons in run off.	2	1	3 (Low)
Air Quality	C+O	Potential particulate and dust emissions during operation and construction phases	• The Air quality Assessment Report includes a list of recommendations to manage potential particulate and dust emissions. These measures can be adoped into the site management plan and CEMP.	2	2	4 (Low/Medium)

				Risk Assessment		
Visual Impact	O	Visual impacts from bulk, scale and location of the facility	• Change the proposed 'gable roof' design above the aggregate storage silos to reduce bulk and scale. • Reduce the industrial character of the development by considering public art opportunities to improve the overall aesthetics and presentation of the concrete silos and shipping containers. • Preparation of an urban design and landscape masterplan that addresses all key elements of the site, including issues such as the nature of any screening and finishes to structures.	3	2	5 (Low/Medium)
Contamination	C	Contamination of excavated fill	• The scope of the pre-construction intrusive investigations is to be prepared based on final development plans and in accordance with the NSW EPA (1995) Sampling Design Guidelines and a risk based assessment. Assessment shall address areas where works require hardstand removal and the potential AEC and associated COPC identified under the Preliminary Site Investigation Report. • Excavation of any fill will be appropriately managed and disposed of in accordance with relevant EPA guidelines	2	1	3 (Low)

6.0 Mitigation Measures

The collective measures required to mitigate the impacts associated with the proposed works are detailed in **Table 18** below. These measures have been derived from the previous assessment in Section 5.0 and those detailed in appended consultants' reports.

Table 18 – Mitigation Measures

Mitigation Measures
Construction and Operational Noise • Construction Noise and Vibration Management measures will be developed and implemented to manage noise during the construction phase. Noise from road traffic is proposed to be managed by staginig site access and deliveries. • Operating Noise Management measures prepared in accordance with Noise Policy for Industry requirements, with particular reference the noise mitigation measures proposed under the Noise Imapct Assessment (Table 13 of **Appendix D**), and include operator-attended noise monitoring. • Road Traffic Management measures will be prepared in accordance with the requirements of the Traffic Impact Assessment and any associated project approval conditions to manage noise levels. • Hanson will coordinate with the ship operator(s), to ensure that the ship's engine, raw material unloading conveyor mechanism and associated ventilation systems (the main berth operating noise sources) are minimised where feasible and reasonable to do so.
Traffic and Parking • Management measures as outlined under Traffic Impact Assessment report will be exercised on site inlcuding the preparation of a Construction Traffic Management Measures, Green Travel Plan and Site Parking Management Plan
Water Quality Impact • Regular monitoring, carried out as per the process outlined under Section 8 of the Water Cycle Management Plan, will ensure high water quality standards; • Implement and manage sediment and erosion control measures during construction of the Site; • The enclosed design of the batching facility will reduce instances of stormwater run-off coming in contact with cementitious material and varying the pH quality of run-off; and • Regular inspection and maintenance of vehicles and accessibility to spill prevention and response equipment will mitigate increased hydrocarbons in run off.
Visual Impact • Modify the proposed 'gable roof' design above the aggregate storage silos to reduce visual bulk and prominanence. • Preparation of an urban design and landscape masterplan that addresses all key elements of the site, including issues such as the nature of any screening and finishes to structures. • Preparation of a Public Art Strategy to improve presentation and aesthetics of industrial structures on site.
Air Quality Impact • The Air Quality Assessment Report includes a list of recommendations to manage potential particulate and dust emissions. These will be adoped into the site management plan and CEMP.
Construction and Environmental Management Plan • The management plan protocols and associated sub-plans should be implemented during the construction phase of the development.
Heritage – Archaeological • A historical archaeological monitoring program should be undertaken concurrently with any excavation works below the existing hardstand in the vicinity of the proposed silo. • Prepare a Research Design and Methodology Report to guide the archaeological excavation process

7.0 Justification of the Proposed Development

In general, investment in major projects can only be justified if the benefits of doing so exceed the costs. Such an assessment must consider all costs and benefits, and not simply those that can be easily quantified. As a result, the EP&A Act specifies that such a justification must be made having regard to biophysical, economic and social considerations and the principles of ecologically sustainable development.

This means that the decision on whether a project can proceed or not needs to be made in the full knowledge of its effects, both positive and negative, whether those impacts can be quantified or not.

The proposed development involves delivery of an aggregate handling and concrete batching plant facility at Glebe Island. The assessment must therefore focus on the identification and appraisal of the effects of the proposed change over the Site's existing condition.

Various components of the biophysical, social and economic environments have been examined in this EIS and are summarised below.

7.1 Social and Economic

If approved, the development will employ 67 full time employees and mitigate job loss in the locality from the closure of the existing Blackwattle Bay facility at Bridge Road, Glebe. It will also mitigate any concrete supply loss in the locality from closures of the above facility.

The proposed development has many economic benefits given strategic location in proximity to several large development projects including infrastructure project which are concrete intensive including WestConnex, The Bays District Area Renewal, Sydney Metro Project among others. The proposed development will ensure construction activities of these planned development and other future development currently in the planning pipeline progress without unnecessary delays due to potential concrete shortages.

The concrete manufacturing is also considered to have a high multiplier effect on the construction and development sector and the wider economy as it is a key material in all construction and development projects and any supply shortages can slow down delivery of projects, result in several indirect economic impacts and hinder the overall growth of an economy.

The location of the Site is also seen to enable the proposed development to operate more efficiently than other typical concrete batching plant and aggregate supply facilities across NSW. Much of the raw materials and aggregates required for the batching process will be delivered either by ship (aggregates) or by internal roads (cement from the neighbouring Cement Australia facility). The development will thereby ameliorate traffic generally associated with the delivery of concrete by concrete agitator truck from other batching plants. Reducing traffic impacts is considered to have a positive economic impact.

7.2 Biophysical

Section 5.0 of this EIS contains a thorough assessment of the likely biophysical impacts of the proposed development. The environmental risk assessment contained at **Section 6.0** demonstrates that the proposed development will not result in any significant environmental impacts that cannot be appropriately addressed through standard conditions of consent or the current mitigation measures included at **Section 7.0**.

The environmental impact assessment of the proposed development has demonstrated that:

- All environmental impacts associated with the construction phase of the development can be appropriately managed and mitigated including any potential view impacts, operational traffic impacts, parking management, construction and operational noise impacts and air quality impacts;
- Water management measures will be implemented to ensure that there are no adverse water, drainage, stormwater or groundwater impacts; and
- The Site is appropriate for the proposed use given its current zoning and land use activities that immediately surround the Site.

7.3 Ecologically Sustainable Development

The EP&A Regulation lists 4 principles of ecologically sustainable development to be considered in assessing a project. They are:

- The precautionary principle;
- Intergenerational equity;
- Conservation of biological diversity and ecological integrity; and
- Improved valuation and pricing of environmental resources.

An analysis of these principles follows.

Precautionary Principle

The precautionary principle is utilised when uncertainty exists about potential environmental impacts. It provides that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. The precautionary principle requires careful evaluation of potential environmental impacts in order to avoid, wherever practicable, serious or irreversible damage to the environment.

This EIS has not identified any serious threat of irreversible damage to the environment and therefore the precautionary principle does not prevent the approval of the proposed development.

Intergenerational Equity

Inter-generational equity is concerned with ensuring that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations. The proposed development has been designed to benefit both the existing and future generations by:

- implementing safeguards and management measures to protect environmental values;
- facilitating job creation to mitigate job loss from closure of the other aggregate/concrete batching facilities in Bays District Area; and
- ensuring timely availability of adequate quantities of concrete for large development projects (WestConnex and Sydney Metro, large residential projects etc), essential to addressing forecasted housing demand and increasing infrastructure capacity in Sydney.
- Reducing traffic generation and associated environmental impacts through the use of shipping to transport aggregates to the facility instead of trucks i.e. reducing up to 65,000 truck movements per annum from the Sydney road network.

The proposed development has integrated short and long-term social, financial and environmental considerations so that any foreseeable impacts are not left to be addressed by future generations. Issues with potential long term implications such as waste disposal, air quality would be avoided and/or minimised through construction planning and the application of safeguards and management measures described in this EIS and the appended technical reports.

Conservation of biological diversity and ecological integrity

The principle of biological diversity upholds that the conservation of biological diversity and ecological integrity should be a fundamental consideration. The potential impacts associated with development identified by the expert consultant reports (see **Section 5.0**), particularly those associated with construction impacts, have been incorporated into the mitigation measures at **Section 6.0** of this EIS.

Improved valuation, pricing and incentive mechanisms

The principles of improved valuation and pricing of environmental resources requires consideration of all environmental resources which may be affected by a proposal, including air, water, land and living things. Mitigation measures for avoiding, reusing, recycling and managing waste during construction and operation would be implemented to ensure resources are used responsibly in the first instance.

Additional measures will be implemented to ensure no environmental resources in the locality are adversely impacted during the construction or operational phases.

8.0 Conclusion

The Environmental Impact Statement (EIS) has been prepared to consider the environmental, social and economic impacts of the proposed Hanson aggregate handling and concrete batching facility at Glebe Island.

The proposed development has been specifically designed to mitigate and ameliorate potential impacts that may be associated with developments of this type, including visual impacts, air quality impacts, traffic impacts, and noise impacts. Within the proposed development, the concrete batching facility (with the exception of the aggregate storage silos, the on-site office building and site parking area) is largely enclosed in a warehouse structure to further address the above impacts. As demonstrated by this EIS, the location of the Site will also offer several advantages to the various development projects proposed around Sydney CBD and inner west to further address and minimise impacts.

The EIS has addressed the issues outlined in the Secretary's Environmental Assessment Requirements (**Appendix A**) and accords with Schedule 2 of the EP&A Regulation with regards to requirements for EIS. Having regard to biophysical, economic and social considerations, including the principles of ecologically sustainable development, the carrying out of the project is justified for the following reasons:

- While some visual impact is noted as result of the development, the high to moderate rating is due to the high sensitivity of receptors to even minor changes in their views, rather than the magnitude or significance of the visual impact itself. Notwithstanding this, the proposed development is consistent with the existing and previous industrial use and character of the Glebe Island. Mitigation measures are proposed to ameliorate visual impact and allow the development to integrate with its setting and appear less visually stark or prominent. Aside from visual impact, no significant environmental impacts as predicted;
- The industrial nature of the Site is in keeping with the existing surrounding land uses in the immediate and short-medium term;
- The development will ensure adequate supply of concrete in proximity to areas earmarked for extensive renewal and development, with capacity to meet future demand and avoid unnecessary delays in construction timing;
- The development will offset job loss resulting from the closure of the other aggregate/concrete batching facilities in Bays District Area;
- Due to the co-location of the aggregate shipping terminal facility and the concrete batching operation, the proposed development is more efficient and sustainable than other typical concrete batching facilities which would depend on extensive deliveries of raw materials via the Sydney's road network; and
- The aggregate shipping terminal facility will improve the efficiency and sustainability of Hanson's other concrete batching facilities in the area by removing extensive deliveries of raw materials via the regional road network.

Given the merits described above it is requested that the application be approved.