



Holcim Salt Ash Sand Operations | State Significant Development

SCOPING REPORT

Prepared for Holcim (Australia) Pty Ltd | 24 August 2020





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STATE SIGNIFICANT DEVELOPMENT | SCOPING REPORT

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24 August 2020

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Contents

1	INTRODUCTION	3
1.1	Overview	3
1.2	Background	3
1.3	Proponent	3
1.4	Purpose of this report	4
2	PROJECT OVERVIEW	9
2.1	Existing operations	9
2.1.1	Historical ownership	9
2.1.2	Site operations	9
2.1.3	Ancillary infrastructure	10
2.1.4	Site access and product transportation	12
2.1.5	Employment	12
2.1.6	Operating hours	12
2.1.7	Plant and equipment	13
2.1.8	Utilities and services	13
2.1.9	Planning approval history and licences	14
2.2	Project description	15
2.2.1	Sand extraction and additional site infrastructure	15
2.2.2	Processing	16
2.2.3	Importation of fill	16
2.2.4	Plant and equipment	16
2.2.5	Transport	16
2.2.6	Hours of operation	17
2.2.7	Employment	17
2.2.8	Final land use	17
2.3	Project site and study area	17
3	STRATEGIC CONTEXT	21
3.1	Site description	21
3.1.1	Site location	21
3.1.2	Land use, zoning and ownership	21
3.1.3	Sensitive receivers	21
3.1.4	Heritage	24
3.1.5	Biodiversity	24
3.1.6	Transport infrastructure	25
3.1.7	Topography and hydrology	25
3.1.8	Groundwater	26
3.1.9	Geology and soils	26
3.1.10	Climate	27
3.2	Hazards	27
3.2.1	Bushfire	27
3.2.2	Unexploded ordinance	28
3.2.3	Hazardous substances and dangerous goods	28
3.2.4	Public safety	28
3.3	Cumulative development	29
3.4	Need, justification and alternatives	29
3.4.1	Need and justification	29

3.4.2	Project alternatives	29
4	STATUTORY CONTEXT	33
4.1	Commonwealth legislation	33
4.1.1	Environment Protection and Biodiversity Conservation Act 1999	33
4.1.2	Native Title Act 1993	34
4.1.3	National Greenhouse and Energy Reporting Act 2007	34
4.2	New South Wales State legislation	34
4.2.1	Environmental Planning and Assessment Act 1979	34
	Planning pathway - State significant development	35
4.2.2	Other NSW legislation	35
4.3	Environmental planning instruments	38
4.3.1	State environmental planning policies	38
4.3.2	Local environmental plan	39
5	MATTERS AND IMPACTS	43
5.1	Scoping worksheet	43
5.2	Detailed assessment matters	43
5.2.1	Access – road network	43
5.2.2	Atmospheric emissions – particulate matter	44
5.2.3	Amenity – noise	44
5.2.4	Biodiversity	45
5.2.5	Economics	46
5.2.6	Hazards and risks	47
5.2.7	Heritage – Aboriginal cultural	48
5.2.8	Land – stability / structure	48
5.2.9	Social	48
5.2.10	Water	62
5.3	Standard assessment matters	63
5.4	Scoping only matters	64
5.5	Cumulative impacts	64
6	COMMUNITY AND OTHER STAKEHOLDER ENGAGEMENT	69
6.1	Project stakeholders	69
6.2	Completed community engagement	71
6.3	Proposed community engagement and communications	71
6.3.1	Community hotline and email address	71
6.3.2	Project website	72
6.3.3	Email blasts	72
6.3.4	Community information sessions	72
6.3.5	Frequently asked questions	72
6.3.6	Media releases	72
6.3.7	Community updates	72
6.3.8	Meetings with stakeholders and property owners	73
6.4	Communications processes and procedures	73
6.4.1	Contact record management	73
6.4.2	General enquiries, feedback and complaints management	73
7	CONCLUSION	77
8	REFERENCES	81

Tables

Table 1.1: Proponent details	3
Table 2.1: Planning approval history	14
Table 2.2: Licences and permits	14
Table 4.1: MNES considered in the EPBC Act	33
Table 4.2: Summary of NSW legislation	35
Table 4.3: SEPPs relevant to the project	38
Table 5.1: Socio-economic indicators	53
Table 5.2: ASI selection rationale.....	55
Table 5.3: Potential positive project social impacts to be further investigated.....	61
Table 5.4: Social matters and level of further assessment	61
Table 6.1: Project stakeholders.....	69
Table 6.2: Complaints management	73

Figures

Figure 1.1: Regional context	5
Figure 1.2: Local context	6
Figure 2.1: Existing operations.....	11
Figure 3.1: Land zoning.....	23
Figure 5.1: Area of social influence	52

Appendices

APPENDIX A SCOPING WORKSHEET	83
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CHAPTER 1

INTRODUCTION

1 INTRODUCTION

1.1 Overview

Holcim (Australia) Pty Ltd (Holcim) owns and operates the Salt Ash Sand Operations (the 'site' or the 'quarry'), a long standing operation that extracts, processes and transports sand products for use in the production of industrial and construction materials, such as glass and concrete.

Holcim is seeking approval for continued operations at the site through a State Significant Development (SSD) application under Part 4, Division 4.7 of the *NSW Environmental Planning & Assessment Act 1979* (EP&A Act).

Holcim propose to extract and process up to 550,000 tonnes per annum (tpa) of sand at the site using both dry extraction and dredging techniques. Holcim also propose to import up to 200,000 tpa of sand from their Tanilba Bay and Anna Bay operations, as well as other local extractive operations for processing at the site, resulting in a total of up to 750,000 tonnes of sand products processed and dispatched from the site per year (the project).

This scoping report has been prepared by Element Environment Pty Limited (Element) on behalf of Holcim for submission to the NSW Department of Planning, Industry and Environment (DPIE) to gain Secretary's environmental assessment requirements (SEARs) for the project.

1.2 Background

The quarry is at 8 Oakvale Drive, Salt Ash, New South Wales (Lot 4 DP 774726) and is approximately 20 kilometres (km) north east of Newcastle (refer to **Figure 1.1** and **1.2**).

Holcim acquired the site from Sibelco Australia Pty Ltd (Sibelco) in April 2020. Prior to Holcim's ownership and to date, sand extraction at Lot 4 DP 774726 has operated under two primary development consents granted by Port Stephens Council (Council) in 1980 and 1992 respectively.

The development consents permit extraction of sand to a depth of 5 metres (m) Australian Height Datum (AHD), with an undisturbed buffer of 30 m to be maintained along the boundary of the site.

1.3 Proponent

Holcim is the proponent for the project and its company and contact details are in **Table 1.1**.

Table 1.1: Proponent details

Item	Detail
Project contact	Luke Edminson, Planning and Environment Manager NSW
Postal address	Level 8 Tower B – 799 Pacific Highway Chatswood NSW 2067
ABN	87 099 732 297

Holcim has been delivering construction materials in Australia since 1901. Originally serving the industry under the well-known Readymix and Humes brands, Holcim today continues to supply essential construction materials including aggregates, sand, concrete and precast concrete products.

1.4 Purpose of this report

This report describes the following to assist DPIE prepare the SEARs for the environmental impact statement (EIS) accompanying the development application (DA):

- nature, scale and extent of the project;
- environmental context of the site;
- planning, legislative and policy context of the project;
- environmental matters likely requiring further assessment in the EIS; and
- community and stakeholder engagement for the scoping and EIS stages of the project.

Figure 1.1
Regional context

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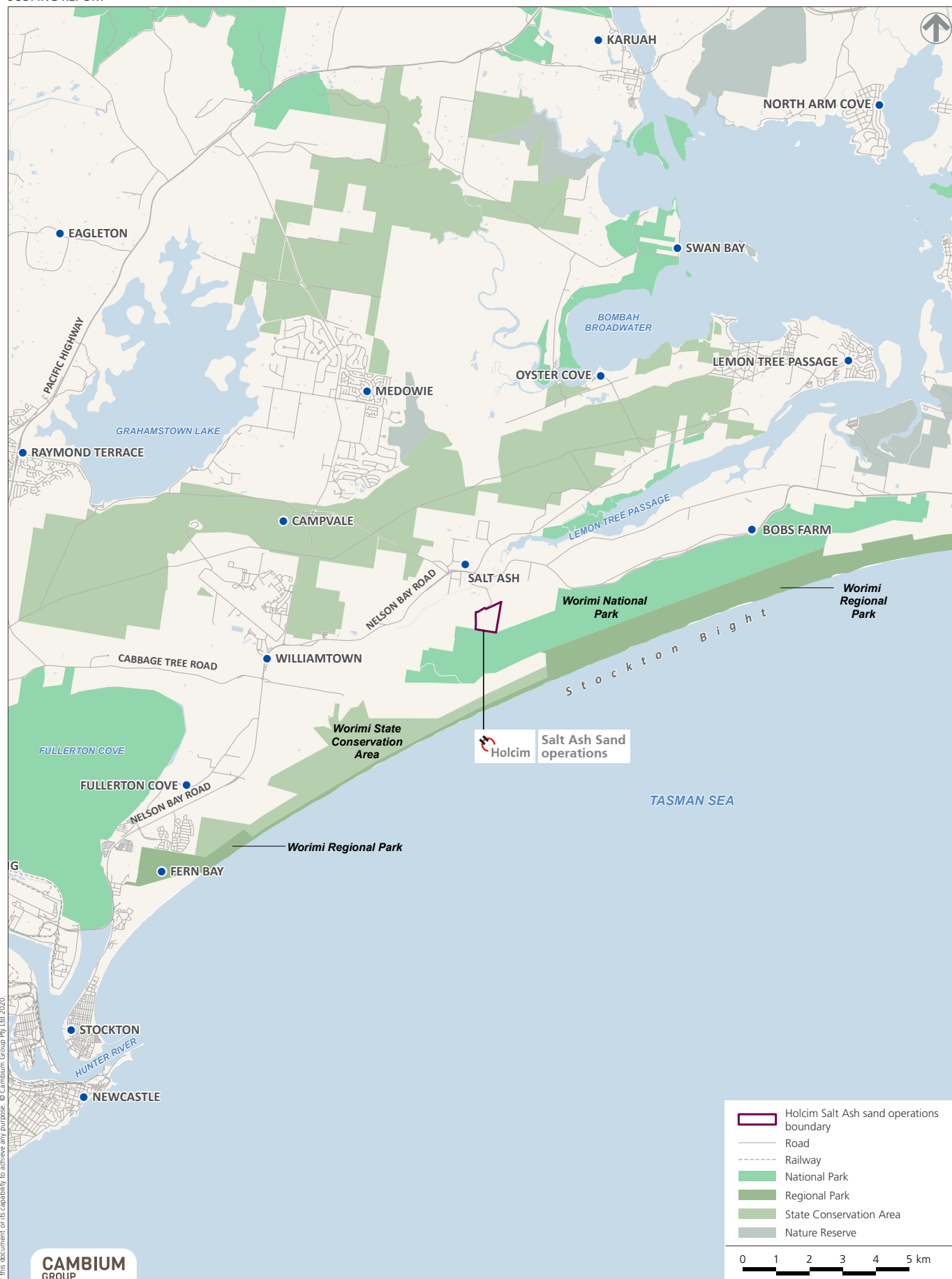


Figure 1.2
Local context

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CHAPTER 2

PROJECT OVERVIEW

2 PROJECT OVERVIEW

2.1 Existing operations

2.1.1 Historical ownership

The quarry has been in operation since the late 1970s and was previously owned by Sibelco. The quarry was recently acquired by Holcim as part of the Sibelco purchase in April 2020.

Initial development consent under the EP&A Act was granted to Australian Consolidated Industries (ACI) - Industrial Minerals Division Pty Ltd in 1980. The initial 1980 consent permitted the extraction of sand within the western portion of Lot 6 DP 600870, which was sub-divided in 1988 to Lots 3 and 4 DP 774726.

A development consent was granted in 1992 permitting the expansion of sand extraction into the former Lot 4 DP 774726 within the eastern portion of the site. In the time since 1992, the former Lots 3 and 4 DP 774726 have been consolidated into the current lot boundary and Lot 3 has been removed from the land title.

2.1.2 Site operations

Holcim produce a variety of dry form and wet processed sand at the site for glass and construction applications.

The existing operations at the site comprise:

- extraction of sand through dry excavation of the dune mass to a depth of 5 m AHD no greater than 30 m from the lot boundaries;
- importation of sand via the road network from Anna Bay, Tanilba Bay and Cabbage Tree Road quarry operations for processing on-site;
- processing of sand products extracted on-site and received from off-site at the processing plant;
- haulage of product from the quarry to Oakvale Drive, Nelson Bay Road and the wider road network; and
- progressive rehabilitation of extraction areas.

The existing sand receipt, extraction, processing and dispatch activities at the site includes:

- extracting sand using a dozer to clear vegetation within the extraction area.
- topsoil from cleared areas is stripped using a dozer and stockpiled on site for later re-use in rehabilitation;
- sand is removed with a front-end loader which pushes into the exposed sand face. Sand material falls towards the front-end loader at the natural angle of repose;
- where sand is imported from the Anna Bay, Tanilba Bay and Cabbage Tree Road quarry operations, the sand is unloaded from trucks into stockpiles;
- the front-end loader then transfers the extracted or imported sand to the processing plant;
- sand is loaded into the in-feed plant, where a conveyor belt feeds the sand into a trommel screen for sizing;
- sand is then fed as a slurry into the primary feed hopper. The slurry from the feed pump is fed through trommel screens. Oversize material and organic material from the trommels are discharged via a chute onto a stockpile;
- product from the trommel screens is discharged into a bin before it is then processed through a series of spirals which separate fractions of heavy mineral sand from the Tanilba Bay, along with other lower grade sand material from the final product sands;

- the product sand from the spirals is pumped to the stockpile area via product cyclone towers. The overflow water is returned to the settlement pond via a series of underground drainage pipelines;
- all by-product sands are collected into one bin where it is then pumped to a by-product sand cyclone tower. The overflow water is returned to the settlement pond via a series of underground drainage pipelines;
- following stockpiling, the sand products are then loaded into trucks for dispatch off site to the customer; and
- where required, sand material is processed within a drying plant to further dry the material before being loaded into bulk bags and dispatched from site.

2.1.3 Ancillary infrastructure

As illustrated in **Figure 2.1**, a depot was established in the northern part of the site and includes the following ancillary infrastructure:

- An amenities/office building providing an office, lunchroom, laboratory, toilet and shower.
- Weighbridge.
- Designated parking area for employees and visitors.
- Various processing plant and infrastructure.
- Vehicle wash down bay.
- Storage sheds for dry sand products.
- Bunded fuel storage facilities, oil storage shed and dedicated liquid petroleum gas (LPG) supply.
- Various maintenance sheds and workshops.
- Waste receptacles such as dumpsters and skip bins.

Figure 2.1
Existing operations

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2.1.4 Site access and product transportation

Access to the site is via Nelson Bay Road and Oakvale Drive. Oakvale Drive is a local roadway which terminates at the entrance to private property at 4 Oakvale Drive (Lot 8 DP833768). A private road then runs south through the property to the entrance of the quarry.

Holcim currently imports sand products to the quarry by road from their Tanilba Bay and Anna Bay quarry operations, along with Cabbage Tree Road quarry for processing.

Holcim uses the following transport routes for importation of products to the site:

- **Tanilba Bay quarry** – trucks exit the Tanilba Bay operations and travel south along Oyster Cove Road and then proceed south west along Lemon Tree Passage Road to the intersection at Nelson Bay Road. Trucks then proceed down Oakvale Drive and enter the quarry.
- **Anna Bay quarry** – trucks exit the Anna Bay quarry via the easement trail north to Nelson Bay Road, before proceeding west along Nelson Bay Road to the intersection with Oakvale Drive. Trucks then proceed down Oakvale Drive and enter the quarry.
- **Cabbage Tree Road quarry** – Holcim also imports sand from the Cabbage Tree Road Sand Quarry. Trucks exit the Cabbage Tree Road Quarry and proceed east along Cabbage Tree Road, north west along Nelson Bay Road to Oakvale Drive and then enter the site.

Holcim currently transports sand products by road from the quarry to local and regional consumers. These sand products are processed from sand extracted at the site and sand products imported from the Anna Bay, Tanilba Bay and Cabbage Tree Road quarry operations.

Holcim uses the following transport routes for dispatch finished sand products from the site:

- **Newcastle supply contracts (approximately 6% of supply contracts)** – trucks exit the site via Oakvale Drive and travel south west along Nelson Bay Road towards Kooragang Island and Newcastle via Cormorant Road and Tourle Street.
- **Sydney, Central Coast and Hunter Valley supply contracts (approximately 90% of supply contracts)** – trucks exit the site via Oakvale Drive and travel south west along Nelson Bay Road to the intersection with Cabbage Tree Road, before proceeding west along Cabbage Tree Road and Tomago Road, and then left onto the Pacific Highway and M1 south towards Sydney via Hexham. Trucks may also proceed via the New England Highway and/or Hunter Valley Expressway to the Hunter Valley and beyond. Trucks may also take an alternate route and exit the site via Oakvale Drive and travel south west along Nelson Bay Road to the intersection with Richardson Road, before proceeding north west along Richardson Road to Raymond Terrace, and then south onto the Pacific Highway and M1 south towards Sydney via Hexham.
- **North Coast supply contracts (approximately 3% of supply contracts)** – trucks exit the site via Oakvale Drive and travel south along Nelson Bay Road to the intersection with Richardson Road, before proceeding north west along Richardson Road, north along Medowie Road, and then right onto the Pacific Highway northbound.
- **Port Stephens supply contracts (approximately 1% of supply contracts)** – on very rare occasions, trucks exit the site via Oakvale Drive and travel east along Nelson Bay Road towards Port Stephens.

2.1.5 Employment

Holcim employ 10 full time staff and five contractors at the quarry.

2.1.6 Operating hours

The typical existing operating hours include:

- Monday to Thursday – 6 am to 10 pm;
- Friday – 6 am to 6 pm;
- Saturday – 6 am to 2 pm; and
- no operation on Sundays or Public Holidays.

Holcim typically operate two shifts on Monday to Thursday; 6 am to 2 pm; and 2 pm to 10 pm. Site management and office personnel typically work a staggered work day between 6 am and 5 pm.

2.1.7 Plant and equipment

Fixed plant at the site includes:

- In-feed plant.
- Wet plant.
- Dry plant.
- Cyclone towers.
- Dry sand silos.

Refer to **Figure 2.1** for the location of fixed plant at the site.

Mobile equipment operated at the site comprises:

- Three front-end loaders (capacity nine tonnes).
- Articulated dump truck.
- Two wheel loaders.
- Forklift.
- Excavator (as required).
- Elevated work platform (for maintenance tasks).
- Crane (for maintenance tasks).
- Dozer.
- Utility front-end loader.

2.1.8 Utilities and services

The following section sets out the availability of existing services and utilities at the site.

Electricity

The site is connected to mains electricity, which is distributed via a kiosk substation and network of underground electrical cables to power the site office, weighbridge, processing plant, workshop and lighting.

Solar panels on the roof of the office building supplement power supply.

Water

Rainwater tanks were installed adjacent to the office building to capture water for use in on-site ablutions. A water truck is also used on a campaign basis to provide dust suppression and top up rainwater tanks in extended dry periods. Bottled potable water is brought to site.

Wastewater

A 2,500 litre (L) septic tank captures wastewater from the site office and amenities.

2.1.9 Planning approval history and licences

The following section presents the licences and approvals that Holcim hold to operate the quarry.

The quarry has been the subject of several development consents and various licences as outlined in **Table 2.1** and **2.2**.

Table 2.1: Planning approval history

Development consent	Date	Details	Status
DA 73/80	26 March 1980	Extraction of sand within the western portion of Lot 6 DP 600870, covering an area of 12.15 hectares.	Current and operational
BA 1321/87	18 December 1987	Approval for construction of a store and wash room building at Lot 6 DP 600870.	Current and operational
DA 575/88	24 May 1988	Erection of a storage shed and workshop on the site. On 16 August 1988, amended plans, including the sand treatment plant were granted building approval by Council.	Current and operational
DA 73/80	28 August 1991	Modification of DA 73/80 to allow for the removal and processing of sand at Lots 3 and 4 DP 774726.	Current and operational
DA 5499-91	23 December 1992	Approval for the extension of sand extraction operations into Lot 4 DP 774726, permitting the extraction of 180,000 tpa to 5 m AHD, with a 30 m width of undisturbed areas to be maintained.	Current and operational
BA 1729/93	11 January 1994	Approval for construction of a sand drying plant and storage silos at Lot 4 DP 774726.	Current and operational
F 1831/94	15 December 1994	Approval for construction of four sheds and a septic tank system at Lot 4 DP 774726.	Current and operational
DA 481/95	26 June 1995	Approval for the consolidation of sand processing operations at the site.	Current and operational
E 1471/96	12 November 1996	Approval for construction of a silo on Lot 4 DP 774726.	Current and operational
DA 16-2006-739-1	11 January 2007	Approval to install sand processing plant and stockpile towers.	Current and operational
DA 16-2008-210-1	31 July 2008	Approval to install four additional silos.	Surrendered
DA 16-2006-24-1	19 February 2009	Approval to construct office building.	Current and operational
DA 16-2008-210-2	3 January 2013	Modification to DA 16-2008-210-1, permitting the construction of four additional silos.	Current and operational

Table 2.2: Licences and permits

Description	Licence number and authority	Comments
Water Access Licence	WAL5962	<p>Water access licence (WAL) with a 174 unit share allocation for the Stockton Groundwater Source under the North Coast Coastal Sands Groundwater Sources Water Sharing Plan 2016.</p> <p>The WAL permits extraction of up to 174 megalitres (ML) of groundwater per annum, with 0.2 ML per unit per annum carried over</p>

Description	Licence number and authority	Comments
		for any unused annual portion of the share allocation.
Water Supply Works	20WA202377	Water supply approval for five spearpoints within the quarry, issued on 1 July 2004 and expiring on 30 June 2027.
Environment Protection Licence (EPL)	EPL 11685	Permits the scheduled activities of 'crushing, grinding or separating' and 'land based extractive activity'. The EPL permits the extraction, storage and processing of 100,000-500,000 tonnes per annum.

2.2 Project description

2.2.1 Sand extraction and additional site infrastructure

Sand from the site is currently extracted to 5 m AHD under the original 1980 and 1992 development consents. Significant sand resource remains below 5 m AHD.

Holcim is seeking SSD approval to extract and process an estimated minimum of 4 million tonnes of sand from the quarry at a rate of up to 550,000 tpa. Additionally, the importation of up to 200,000 tpa of sand from Anna Bay, Tanilba Bay, Cabbage Tree Road Quarry and other local extractive operations as required will continue for the project. This sand would be processed at the site and dispatched as per the existing operations. As such, the project will seek to process and dispatch up to 750,000 tpa of sand products from the quarry.

Given the existing operations, infrastructure and services at the site, there will be little work required to establish the project, with existing fixed and mobile plant and equipment continued to be used.

Where additional infrastructure or establishment works are required, this will be delivered as part of the initial stages of the project and may include:

- relocation and upgrade of utility infrastructure;
- construction of new internal haul roads;
- upgrade of existing processing plant and associated infrastructure;
- establishing a diesel-powered dredge; and
- construction of processing plant for the dredge, and associated diesel generators to power the plant.

Similar to existing operations, sand extraction will first involve clearing and grubbing of vegetation and stripping and stockpiling of topsoil for later reuse in rehabilitation. The sand will be extracted by front-end loader to a nominated depth, followed by an excavator above and below the aquifer within its reach. The excavated sand will then be transferred by front-end loader and/or dump trucks to the existing processing plant for subsequent processing.

As groundwater is encountered, a pond would be created and will be made large enough to float a dredge.

The dredge would commence immediately south of the processing area of the quarry and will then progressively extract sand in a southerly direction away from the processing plant in a staged process.

The dredge will move backwards and forwards across the dredge pond, vacuuming (dredging) away the underwater sand resource. A slurry containing a mixture of sand and water will be pumped from the dredge via a floated pipeline to a processing plant to be established. The dredge will manoeuvre around the pond and will be secured to the pond banks via wires.

Once the dredge pond is formed, as the dredge vacuums away the underwater sand resource, surface sand would slump into the dredge pond at the natural angle of repose and be captured by the dredge. It is envisaged that this process would reduce the need for manual handling of material, however if required sand adjacent to the pond edges may also be placed into the dredge pond by excavator or front-end loader to then be captured by the dredge.

Sand may be extracted within the entire project site (refer to **Section 2.3**) via a combination of dry extraction and dredging operations to a minimum anticipated depth of 12 m below the water table (-12 m AHD). However, the final quantity of sand resource, disturbance footprint and maximum depth of sand extraction will be determined following the completion of ongoing resource investigations, inputs from environmental investigations and the development of project design. It should be noted that Holcim are currently conducting resource investigations to a maximum depth of -35 m AHD, which may in turn form the maximum depth of extraction.

2.2.2 Processing

Sand extracted by front-end loader or excavator will be transported to the in-feed plant for processing as per existing operations.

A processing plant and stockpile area will be established for the dredging operations in the processing area within the northern portion of the site. Depending on the desired particle sizing, the sand will be pumped through a cyclone and stockpiled for directly loading into trucks for dispatch off site, or further processed as per existing operations.

2.2.3 Importation of fill

The importation of Virgin Excavated Natural Material (VENM) by road would be required during the project on an as required basis to aid in bank stabilisation and ground stability.

The quantity of fill required would be determined as part of the EIS following final design of the project.

2.2.4 Plant and equipment

The fixed and mobile plant and equipment currently operated at the quarry (refer to **Section 2.1.7**) will continue to be used during the project.

In addition, the following plant and equipment will be acquired and used:

- suction dredge and associated equipment;
- a processing plant for the dredge; and
- diesel generator(s).

2.2.5 Transport

Holcim would maintain the same access and transportation routes for the project as described in **Section 2.1.4**.

2.2.6 Hours of operation

The proposed operating hours for the project are:

- Monday to Friday – 24 hour operations;
- Saturday – 6 am to 6 pm; and
- no operation on Sundays or Public Holidays.

Holcim proposed to operate three shifts on Monday to Friday; 6 am to 2 pm; 2 pm to 10 pm; and 10 pm to 6 am. There would be a single day shift between 6 am to 6 pm on Saturdays.

Site management and office personnel work a standard 8 am to 5 pm work day during weekdays.

2.2.7 Employment

The project will provide employment for an additional six full time personnel, bringing the total employment for the quarry to 16 full time and five casual employees.

2.2.8 Final land use

Holcim are currently investigating options regarding final use of the site following completion of the project.

Upon completion, the dredge pond may be left in place, with the pond edges rehabilitated with a mixture of aquatic and riparian plant species to stabilise the edge of the pond and underwater interface, thereby minimising the potential for ongoing erosion and instability.

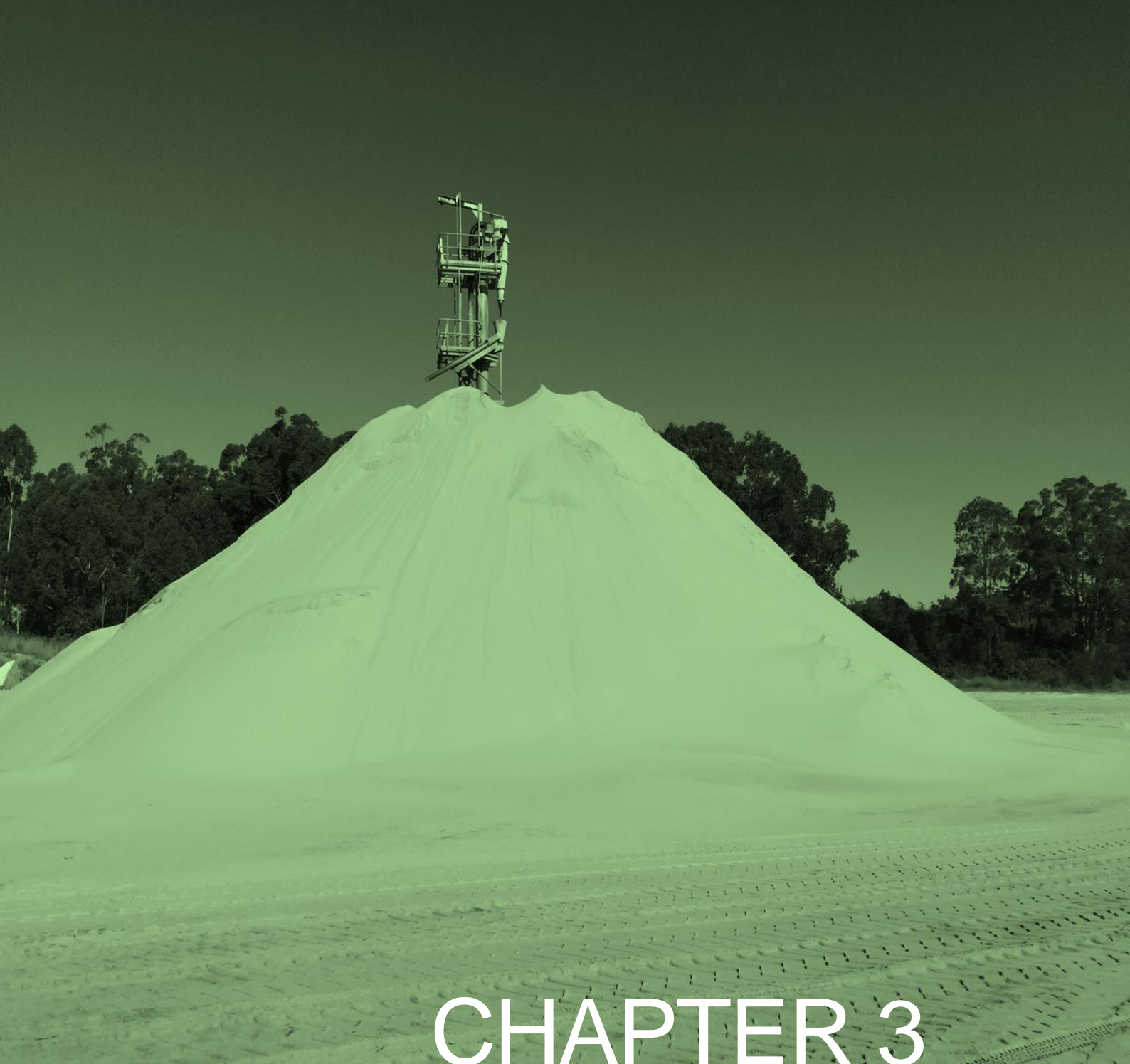
Alternatively, the dredge pond may be backfilled with VENM material and redeveloped for future residential or tourism land uses, or topsoils spread and the site rehabilitated to restore native vegetation communities at the site.

2.3 Project site and study area

The proposed disturbance footprint of the project covers an area of approximately 39.5 hectares (ha), and encompasses all areas to within 50 m of the southern lot boundary and 10 m of the northern, eastern and western lot boundaries. The disturbance footprint comprises all areas to be disturbed by sand extraction operations (dry extraction and dredging), including areas of vegetation clearing.

The site has been subject to varying degrees of previous disturbance associated with ongoing quarrying. The nature of disturbance associated with the project will include tree clearing, installation of site infrastructure, access roads, earthworks and dredging operations.

In order to assess the potential for both direct and indirect impacts, the lot boundary will be adopted as the 'study area' for all technical investigations outlined in this scoping report that will inform the EIS. It should be noted that indirect impacts may occur beyond the site boundaries and these impacts would be investigated in the relevant studies.



CHAPTER 3

STRATEGIC CONTEXT

3 STRATEGIC CONTEXT

3.1 Site description

Baseline information presented in this chapter has been informed from:

- Holcim.
- Interrogation of latest Nearmap aerial photography.
- Government databases.
- (Element, 2020) Stockton Sand Quarry Dredging State Significant Development Environmental Impact Statement – February 2020.
- (Umwelt, 2012) Modifications to Mackas Sand Extraction Operations on Lot 218 & Lot 220 Salt Ash, NSW – October 2012.
- (Outline, 1991) Proposed Extension to Existing Sand Extraction Area – ACI Salt Ash Operations: Environmental Impact Statement – August 1991.

3.1.1 Site location

The quarry is at 8 Oakvale Drive, Salt Ash, NSW (Lot 4 DP 774726) and is approximately 20 km north east of Newcastle (refer to **Figure 1.1** and **1.2**).

3.1.2 Land use, zoning and ownership

Land use surrounding the site is a mixture of rural residential, agriculture, tourism, public recreation and environmental conservation.

The site is owned and operated by Holcim and within the Port Stephens local government area (LGA). Under the provisions of the Port Stephens Local Environmental Plan 2013 (LEP), the site is zoned RU2: Rural Landscape. Land to the north of the site to Nelson Bay Road is also zoned RU2.

Land to the south of the site is zoned E1 – National Parks and Nature Reserves and is associated with the Worimi Conservation Lands. A portion of land adjacent to the east of the site (Lot 220 DP 1049608) is also zoned E3 – Environmental Management.

Figure 3.1 shows LEP zoning boundaries within proximity to the quarry.

3.1.3 Sensitive receivers

The quarry is positioned within the rural residential area of Salt Ash, which comprises a mix of residential properties, commercial, agricultural, tourism and extractive industry premises. The main access for these properties is via Oakfield Road, David Drive and Oakvale Drive to and from Nelson Bay Road.

The majority of residential properties are separated from the quarry by agricultural operations and Tilligerry Creek. To the south of Tilligerry Creek are scattered residential properties of large rural lots, with the closest resident approximately 465 m north west of the quarry.

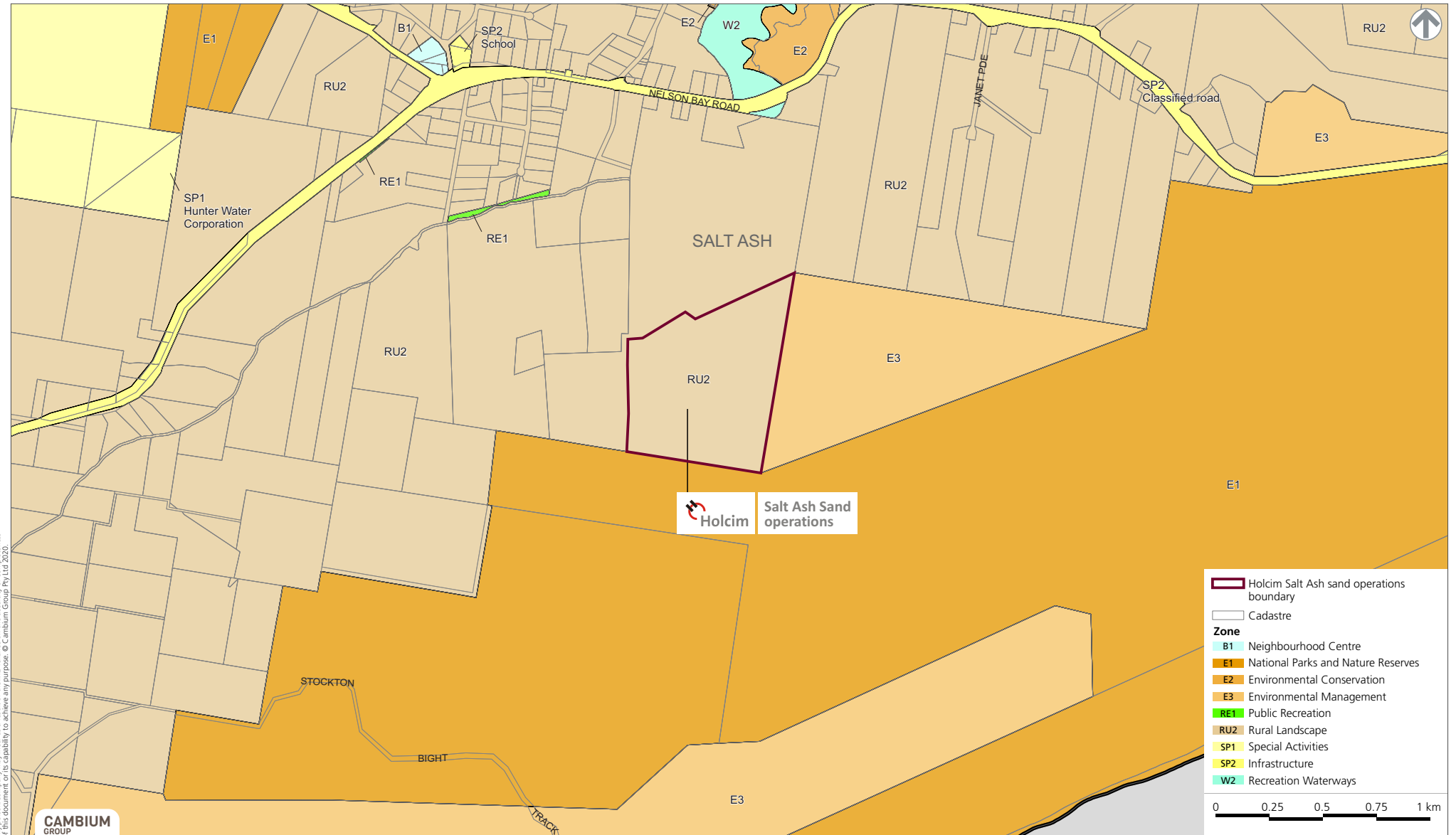
The Oakvale Wildlife Park is a prominent tourist attraction for the Port Stephens region. The Park is located approximately 540 m north of the quarry, with the access route to and from the quarry running along the northern boundary of the Park to Oakvale Drive.

Sensitive receivers are shown in **Figure 1.2**.

The environmental conservation areas to the south of the site extend along the Stockton Bight beach and dune system, which is predominantly utilised for recreational purposes including fishing, four-wheel driving, quad bike riding, hiking and horse riding.

Figure 3.1
Land zoning

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SCOPING REPORT



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Source: Port Stephens Council. LZN_004 (Amendment No 15) (2016), Land and Property Information (2016), Cambium Group (2020).

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3.1.4 Heritage

Non-Aboriginal heritage

The National Heritage List, Australian Heritage Database, NSW State Heritage Register, State Heritage Inventory and LEP were searched in June 2020.

The only listed heritage item located within 500 m of the project is the 'Stockton Beach Dune System', which is heritage listed on the Port Stephens LEP. The curtilage of the heritage listing lies directly adjacent to the south of the quarry boundary.

As identified in Umwelt (2012), an alignment of tank traps associated with the Northern Defence Line traverses a section of Lot 220 DP 1049608 to the east of the quarry.

Following anecdotal advice from quarry personnel, tank traps also likely extended into the site, however, were previously removed as part of historical extraction operations at the site.

The site has been previously heavily disturbed throughout and is unlikely to contain remaining items of historical heritage significance.

Aboriginal heritage

The quarry is in an area represented by the Worimi Local Aboriginal Land Council (LALC).

An archaeological survey was carried out by Outline (1991) and predicted that the following site types could be expected in and within the vicinity of the quarry:

- Middens, with or without stone artefacts.
- Open sites containing stone artefacts, shell and faunal remains.
- Open sites containing hearths.
- Open sites containing large numbers of artefacts.
- Burial sites.

A total of three archaeological sites were found, two (Site 2 and 3) within the sand extraction area of the former Lot 3 and the other at the north-west extremity of the former Lot 4 (Site 1). Site 1 was an extensive midden site containing a large quantity of stone artefacts, whilst Sites 2 and 3 were disturbed midden deposits containing a few stone artefacts.

Site 1 was considered to be significant because it contained archaeological significance to the Aboriginal community and generally contained value to the public as an educational resource. The site was thought to be associated with several other large middens further to the north-east just outside the boundary of the quarry and could have formed part of a site complex.

Sites 2 and 3 were determined to be disturbed and contained little archaeological or scientific significance.

A total of seven registered Aboriginal sites were identified within 200 m of the project via a search of the Aboriginal Heritage Information Management System (AHIMS) on 19 June 2020.

The presence of numerous recorded sites within and near the project site demonstrates that the local landscape was used by Aboriginal people in the past and that material traces of this landscape use have survived in the form of Aboriginal objects and archaeological deposit.

3.1.5 Biodiversity

The quarry is within a significant tract of Coastal Sand Apple – Blackbutt Forest (Umwelt, 2012). As described in LMCC (2016), this vegetation community is dominated by Blackbutt (*Eucalyptus pilularis*) with Smooth barked apple (*Angophora costata*), Red bloodwood (*Corymbia gummifera*)

and Old man banksia (*Banksia serrata*) also prominent. The understorey includes species such as *Bossiaea rhombifolia*, Bracken Fern (*Pteridium esculentum*), Golden wattle (*Acacia longifolia*), Wedding bush (*Ricinocarpus pinifolius*) and Sunshine wattle (*Acacia terminalis*), over a sparse ground layer of Blue-flax lilly (*Dianella caerulea*), Spiny-head mat-rush (*Lomandra longifolia*) and Tussock grass (*Poa affinis*).

The site has the potential to contain species (inclusive of potential habitat), populations and communities afforded protection under the *NSW Biodiversity Conservation Act 2016* (BC Act) and Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The quarry is adjacent to the 4438 ha of Worimi Conservation Lands and Worimi National Park to the south and east, which contain similar and higher quality vegetation communities to those of the project site.

3.1.6 Transport infrastructure

Access to the site is via Nelson Bay Road and Oakvale Drive.

Oakvale Drive is a local roadway which terminates to the north of Oakvale Wildlife Park before continuing as a private service road to the entrance to the quarry at its northern boundary. Nelson Bay Road is a major arterial roadway which links the Newcastle CBD to Newcastle Airport, Nelson Bay and the wider Port Stephens area to the north.

3.1.7 Topography and hydrology

Topography in the previously disturbed portions of the quarry is approximately 5 m AHD, reflective of former sand extraction limits in these areas. Within the remnant vegetated areas in the centre and perimeter of the quarry, topography ranges from 5-10 m AHD, with the south eastern corner of the quarry at a maximum elevation of 35 m AHD. This point marks the highest elevation at the quarry, with the northern side of this dune previously extracted.

Elevations of the dunes adjacent to south of the quarry range from 10-35 m AHD, while the lowest interdunal areas are approximately 5 m AHD.

Other than the two previously constructed ponds, there are no permanent streams or waterbodies in the site indicating that surface runoff is minimal, and infiltration occurs quickly through porous sands contributing to high groundwater recharge.

Some temporary ponding of water is evident within the site. However, it is likely this ponding is associated with naturally low lying interdunal swales where there is interaction with shallow groundwater.

A drainage channel is positioned adjacent to the northern boundary of the site and runs north alongside the private access road to the quarry where it meets Tilligerry Creek approximately 510 m north of the site. It is likely that this drainage channel was previously constructed as part of a series of irrigation channels for agricultural land uses to the north of the site.

The site is bordered by flood prone areas associated with Tilligerry Creek; however the site is not flood prone.

The Pacific Ocean is approximately 1.9 km south-south east of the site, and surface water at the quarry predominantly infiltrates to the underlying aquifer, which ultimately flows towards Tilligerry Creek to the north (Umwelt, 2012).

3.1.8 Groundwater

The site is within the Stockton sandbeds, which consists of quartzose sand deposits and form an outer barrier dune system. The Stockton sandbeds form part of the Tomago sandbed of the Tomago groundwater source, which form the inner barrier dune system.

The Stockton sandbeds and transgressive dune sands are the main aquifer at the site and comprise the Stockton Groundwater Source of the Water Sharing Plan for the North Coast Coastal Sands Groundwater Sources (Element, 2020).

3.1.9 Geology and soils

Geology

The site is part of a dual sand dune barrier system known as the Stockton Bight.

Stockton Bight is a wide south facing coastal embayment bordered by Nobbys Head at Newcastle in the south, and Birubi Point at Anna Bay in the north. The beach is approximately 32 km long and the Quaternary sand barrier system extends up to 10 km inland (Element, 2020).

The bedrock of Nobbys Head and the higher relief of Newcastle CBD border the southern side of Stockton Bight. The rocks consist of Permian aged coal measures and some sandstone. The Hunter River has been deflected to the south by the Stockton Bight sand barrier system and enters the sea at Nobbys Head. The Bight sediments abut the sedimentary Permian rocks of the Tomago coal measures and Mulbring siltstone between Raymond Terrace and Big Swan Bay, and at the northern end of the Bight abut the Carboniferous Nerong Volcanics at Birubi Point. Between the Stockton training wall of the Hunter River and Birubi Point is the Stockton sand barrier system (Element, 2020).

Soils

The site contains three soil landscapes, described as Bobs Farm soil landscape, Boyces Track soil landscape and Hawks Nest soil landscape. Most of the site is confined to the Boyces Track soil landscape unit, with the central southern portion of the site encompassing the Hawks Nest soil landscape unit. A small strip of Bobs Farm soil landscape is found along the northern perimeter of the site.

The soils of the area are highly susceptible to wind erosion when exposed.

The Boyces Track soil landscape is an aeolian landscape characterised by steep Quaternary Holocene sand dunes on the Tomago Coastal Plain, with tall open forest. Soils are deep (>300 centimetres (cm)) well-drained, weakly developed podzols.

The Hawks Nest soil landscape is an aeolian landscape characterised by low Holocene sandsheets and low transgressive dunes, with dry scrubland, woodland and tall open forest. There are small shallow swamps that occur in the low-lying, poorly drained swales and depressions. Soils are deep (>300 cm) well-drained podzols and siliceous sands and podzols on dunes.

The Bobs Farm soil landscape is characterised by Holocene estuarine flats with poorly drained hydrosol soils. Vegetation is predominantly cleared with some areas of remnant swamp woodland remaining.

Acid Sulfate Soils (ASS) generally occur in low lying areas in and around coastal swamps, estuaries, and other coastal water bodies. If these soils are disturbed or exposed to oxygen, they have the potential to oxidise over time, resulting in acidic water leaching from these soils and

scalding vegetation or killing aquatic fauna. ASS can also react with concrete and steel infrastructure.

The ASS maps contained within the Port Stephens LEP were reviewed in June 2020 and identified that the majority of the quarry is positioned within risk Class 4, with a small pocket of the northern boundary of the quarry mapped within risk Class 3.

The project site was also reviewed in the Port Stephens 1:50,000 Acid Sulfate Soils Map (1996) produced by NSW Department of Land and Water Conservation. The Class 4 corresponds to areas of low probability of ASS occurring at depths of greater than 3 m Below Ground Level (BGL), whilst the small pocket of Class 3 representing high probability of ASS between 1–3 m BGL.

According to the *Strategic Agricultural Land Map - Sheet STA_047* (DP&E, October 2013), the nearest Biophysical Strategic Agricultural Land (BSAL) is approximately 13.7 km to the west north west of the site, west of Raymond Terrace.

3.1.10 Climate

The site is in Australia's cool temperate climatic region, which is characterised by mild to warm summers and cold winters, with common frost and occasional snow fall at higher elevations.

Rainfall data was obtained from Bureau of Meteorology (BoM) Station 061078 (Williamstown RAAF), approximately 6.3 km to the north west of the site.

The BoM weather station shows an average annual rainfall of 1118 mm. The mean maximum and minimum temperature in January is 28.3°C and 18.2°C, while the mean maximum and minimum temperature in July is 17.2°C and 6.4°C.

A review of historical rainfall data over 78 years indicates that rainfall is relatively evenly spread over the first 6 months of the year, with average rainfall ranging from 98.3 mm in January to 124.5 mm in June. The latter half of the year is typically drier, with average rainfall ranging from 81.9 mm in November to 70.3 mm in July.

A review of recent rainfall data recorded during 2019 indicated that the highest monthly mean rainfall of 2019 was 157.2 mm, recorded in June 2019. For the 2019 period, the total rainfall of 729.4 mm was below the historical annual mean of 1118 mm (BoM, 2020).

3.2 Hazards

3.2.1 Bushfire

The majority of the site and the heavily wooded adjacent environmental conservation areas to the south are mapped as 'Vegetation Category 1', which is considered to be the highest risk for bush fire. This vegetation category has the highest combustibility and likelihood of forming fully developed fires including heavy ember production.

A Bushfire Risk Management Plan was developed in 2009 for the Lower Hunter region by the Lower Hunter Bushfire Management Committee. The plan identifies land areas and associated community assets within the Port Stephens LGA at risk of bushfire and recommends measures to reduce these risks. The quarry itself is not listed within the plan.

The bushfire season in the Lower Hunter region predominantly occurs during the hotter months of the year, between October and March. The prevailing weather conditions associated with the bushfire season are north westerly winds accompanied by high day time temperatures and relative low humidity.

The Lower Hunter region has an average of 200 bush fires per year, with three of these fires considered to be major fire events.

The main sources of bushfire ignition within the region include:

- arson;
- car dumping;
- fugitive embers from legal burn off events;
- fugitive embers from illegal burning; and
- arcs from power lines in high winds.

3.2.2 Unexploded ordinance

As highlighted by Umwelt (2012), the site is not positioned within an area at risk of encountering unexploded ordinance associated with Stockton Beach Artillery Proof Range, which was used from 1942 to 1944.

The site is approximately 1.4 km north east of the mapped area of the former range.

3.2.3 Hazardous substances and dangerous goods

Minimal quantities of hazardous and dangerous goods, including fuels, are stored and used at the quarry.

A diesel tank with capacity of 5,000 L is positioned at the rear of the weighbridge in a sealed above ground tank with bunding.

Waste oils are collected and stored in a small enclosed storage shed adjacent to the diesel tank. A total of five 205 L petrol drums are also stored within this storage shed.

Three bulk liquid petroleum gas (LPG) tanks with total capacity of 22,500 L are adjacent to the east of the dry plant, with the LPG used to heat and dry sand.

Various other chemical substances are consumed in minor quantities and stored within the workshop and site office building.

All vehicles are refuelled off-site or within the bunded fuel storage adjacent to the diesel tank.

3.2.4 Public safety

A vehicle gate is positioned at the entrance the quarry. This gate is closed and locked overnight when the site is unoccupied but left open during operating hours to permit the entry and exit of heavy and light vehicles from the site office and weighbridge.

The perimeter of the quarry is fenced with rural fencing.

Heavy vehicles accessing the quarry traverse along Oakvale Drive, which is a common roadway shared with customers of Oakvale Wildlife Park. As such, there is an ongoing risk of heavy vehicle interaction with members of the public and driver awareness is an ongoing topic of training at the quarry.

The quarry has experienced occasional site access breaches with members of the public accessing the rear of the quarry, usually by accident and unaware of the presence of a quarry. Such members of the public have included motorcycle riders and a lost pedestrian.

3.3 Cumulative development

The quarry is directly adjacent to other sand extraction operations to the east and west.

Despite the project being in proximity to other extractive land uses, there are no anticipated significant cumulative risks as a result of the proximity of the project to these operations. All technical assessments of the potential impacts of the project, would where relevant, consider the cumulative impacts of the development combined with existing activities in the area thereby assessing the cumulative impacts of the project.

3.4 Need, justification and alternatives

3.4.1 Need and justification

The growth of development in the Hunter region is driven by the Hunter Regional Plan 2036 (NSW Department of Planning and Environment, 2016). As detailed in the plan, the Hunter region is the largest regional economy in Australia, with the population of the region expected to grow by approximately 600,000 people over 20 years. The plan estimates an additional 70,000 dwellings would be required by 2036 to house the expanding population, together with forecast major commercial and health infrastructure development including proposed expansions of the University of Newcastle and John Hunter Hospital, and upgrades to transport infrastructure at Newcastle Airport, Port of Newcastle and strategic road networks (e.g. Nelson Bay Road duplication and extension of the Newcastle Inner City Bypass).

These projects would be reliant on concrete and other construction materials, of which fine sand resources, such as those to be extracted at the site are a vital component. Silica sands derived from Tanilba Bay are also processed at the site and are integral in glass manufacture.

Construction materials sought by many major infrastructure projects in NSW are also subject to strict design specifications. Natural sand, such as that extracted at the site, has unique structural characteristics which is essential to meet these design specifications.

Holcim propose to meet part of the increased forecast demand in natural sand in the Hunter region and beyond by maximising the extraction of remaining sand resource from the existing quarry rather than establish a new greenfield development in an alternate location. In continuing sand extraction and sand processing operations on a site already established for this purpose, the requirement for relocation to other potentially more environmentally sensitive locations will be avoided. Furthermore, the Salt Ash community is already accustomed to sand extraction operations at the site, which have been occurring for over 40 years and the continuation of operations is not anticipated to result in significant social impacts.

The project will ensure the optimal utilisation of a regionally significant resource and assist with the supply of essential natural sand to major infrastructure and associated development projects, thereby contributing benefits to the NSW and Australian economies.

3.4.2 Project alternatives

Do nothing

The sand deposit at the site is highly suitable for use in production of concrete products and is close to the source of demand in the Hunter and Sydney regions. Additionally, sand processed at the site from Holcim's nearby operations is a vital component in glass manufacture, with silica sands in high demand.

If the project is not approved, sand extraction at the site would be reduced and the quarry would focus on the importation and processing of sand from Holcim's other local operations until such time that these sand reserves are exhausted. The quarry would then cease to operate, resulting in loss of employment, reduced expenditure in the local economy, sterilisation of a valuable resource and shortages of raw materials for essential NSW infrastructure and development projects.

Alternative locations

Holcim considered a number of factors regarding whether to continue operations at the existing quarry, relocate operations or establish a new operation in an alternative location within the Port Stephens LGA or beyond. Such factors included:

- **Glass and concrete industry specifications:** Sand suitable in the manufacture of concrete, amber glass and in foundry and fibreglass products must conform with rigid specifications.
- **Need for new plant/operational aspects:** In general, when assessing potential alternative sand deposits, consideration has to be given to the need for setting up of new plant and ensuring that processing can occur within acceptable environmental guidelines.
- **Cost implications:** Typically, the costs involved in setting up new operations at any extraction site are significant. These costs, including the large capital investment required in plant and infrastructure, roads and gaining development consents are an important criteria by which to assess the feasibility of any potential alternative location.
- **Transport costs:** Transport costs comprise a major component of the final price of the finished sand product. As such, it is desirable to locate sand extraction sites as close as possible to the final market source.
- **Minimum resource size:** For any resource to be economic it should be of suitable size to meet future needs and to ensure project viability.
- **Timing/uncertainty:** In assessing alternative sites, there needs to be certainty regarding the availability of the deposits within a reasonably short time span and the existence of legal consents and approvals.
- **Compliance with planning controls and authorities:** In considering alternatives, there is a need to ensure that the alternative site and subsequent sand extraction which may occur on that site are capable of meeting relative local, regional and state planning controls and guidelines.
- **Environmental issues:** All potential alternatives must be considered in terms of the ability to minimise adverse environmental impacts. In the case of well-run and located operations, most environmental problems can be overcome by way of good site planning, design and effective management.
- **Land use issues:** Existing valuable sources of amber sand and other sands required for industry purposes are being rapidly depleted or alienated by competing land uses. A consideration of alternatives must have regard for the likelihood of any resource being capable of coming into operation prior to potential future conflicts arising.

Given that there are millions of tonnes of remaining sand suitable for production of construction materials remaining at an established site, and close to the current and forecast source of demand, despite the consideration of alternative scenarios, the project represents the most environmentally, socially and economically sensible option.

Alternative materials

There are few alternative materials to replace natural sand in the production of construction materials. Whilst alternative materials (such as manufactured sand) exist which can supplement natural sands, given the unique structural characteristics of natural sand required for strict design specification of construction materials, these alternative materials cannot replace natural sand reserves entirely.



CHAPTER 4

STATUTORY CONTEXT

4 STATUTORY CONTEXT

This section identifies the applicable local and regional planning instruments, the relevant State and Commonwealth environment and planning legislation, and discusses the relevant planning approval process applicable to the project.

4.1 Commonwealth legislation

4.1.1 Environment Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is the primary environmental legislation at the Federal level. The EPBC Act is administered by the Commonwealth Department of Agriculture, Water and the Environment (DAWE), and provides a legal framework to protect and manage national and international important flora, fauna, ecological communities and heritage places, defined under the EPBC Act as matters of national environmental significance (MNES). The EPBC Act also confers jurisdiction over actions that have a significant impact on the environment where the actions affect, or are taken on, Commonwealth land.

An action that has, will have or is likely to have a significant impact on a MNES or Commonwealth land may not be undertaken without prior approval from the Commonwealth Minister, as provided under Part 9 of the EPBC Act.

The Protected Matters Search Tool (PMST) is managed by DAWE and is used to identify MNES within the proximity of a project. A search was undertaken in June 2020, with the results in **Table 4.1**. This data, combined with local knowledge and records and further technical studies where relevant, will be used to assess whether the project will have, or is likely to have, a significant impact upon a MNES or on Commonwealth land.

Table 4.1: MNES considered in the EPBC Act

MNES	Commentary
World heritage properties	There are no World Heritage properties in the vicinity of the project.
National heritage places	There are no National Heritage places in the vicinity of the project.
Wetlands of international importance (listed under the Ramsar Convention)	<p>The Hunter Estuary wetlands are within 10 km of the project.</p> <p>The Hunter Estuary wetlands are divided into two components, Kooragang Nature Reserve (now part of Hunter Wetlands National Park) and the Hunter Wetlands Centre.</p> <p>The Kooragang component includes wetlands at Kooragang Island and Fullerton Cove. Fullerton Cove wetlands are located approximately 9.25 km west of the project site.</p> <p>Potential impacts of the project on the wetlands will be considered in the environmental assessment process.</p>
Listed threatened species and ecological communities	<p>There are three threatened ecological communities which have been recorded within the search area, namely:</p> <ul style="list-style-type: none">Coastal Swamp Oak Forest of NSW and South East Queensland (Endangered);Lowland Rainforest of Subtropical Australia (Critically Endangered); and

MNES	Commentary
	<ul style="list-style-type: none"> Subtropical and Temperate Coastal Saltmarsh (Vulnerable Ecological Community). <p>The PMST lists a total of 38 threatened species. Potential impacts of the project on these listed threatened species will be considered in the environmental assessment process.</p>
Migratory species protected under international agreements	The PMST lists a total of 18 migratory species. Potential impacts of the project on these listed migratory species will be considered in the environmental assessment process.
Commonwealth marine area	There are no Commonwealth marine areas in the vicinity of the project.
The Great Barrier Reef Marine Park	The Great Barrier Reef Marine Park is not in the vicinity of the project.
Nuclear actions (including uranium)	There are no nuclear actions within the vicinity of the project.
A water resource, in relation to coal seam gas development and large coal mining development	This is not applicable to the project.

4.1.2 Native Title Act 1993

The *Native Title Act 1993* recognises that Aboriginal people have rights and interests to land and waters which derive from their traditional laws and customs. Native title may be recognised in places where Indigenous people continue to follow their traditional laws and customs and have maintained a link with their traditional country. It can be negotiated through a Native Title Claim, an Indigenous Land Use Agreement or future act agreements.

The National Native Title Register, Register of Native Title Claims, and Register of Indigenous Land Use Agreements were searched in June 2020 for reported native title claimants in the LGA. There are no results for declared native title in the LGA.

4.1.3 National Greenhouse and Energy Reporting Act 2007

The *National Greenhouse and Energy Reporting Act 2007* provides a single national framework for the reporting and dissemination of information about the greenhouse gas emissions, greenhouse gas projects, and energy use and production of corporations. It makes registration and reporting mandatory for corporations whose energy production, energy use or greenhouse gas emissions meet specified thresholds.

Holcim triggers the threshold for reporting under the NGER Act, and reports energy use and greenhouse gas emissions from its operations, including the Salt Ash Sand Operations.

4.2 New South Wales State legislation

4.2.1 Environmental Planning and Assessment Act 1979

The EP&A Act provides the statutory framework for planning approval and environmental assessment in NSW. Implementation of the EP&A Act is the responsibility of the Minister for Planning, statutory authorities and local councils. It contains three parts that impose requirements for planning approval.

Part 4 of the EP&A Act provides for control of 'development' that requires development consent from the relevant consent authority. A division of Part 4 (Division 4.7) provides for the assessment

of SSD where the Minister for Planning (or delegate) or the Independent Planning Commission is the consent authority.

Planning pathway - State significant development

Part 4, Division 4.7 of the EP&A Act relates to the assessment of development deemed to be significant to the State (i.e. SSD). Under Section 4.36(2) a development is SSD if it is declared by a SEPP. The relevant SEPP to the project is the State Environmental Planning Policy (State and Regional Development) 2011 (SRD SEPP).

In relation to SSD, clause 8(1) of the SRD SEPP states the following:

8 Declaration of State significant development: Section 4.36

- 1. Development is declared to be State significant development for the purposes of the Act if:*
 - 1. the development on the land concerned is, by the operation of an environmental planning instrument, not permissible without development consent under Part 4 of the Act, and*
 - 2. the development is specified in Schedule 1 or 2.*

Clause 7 of Schedule 1 of the SRD SEPP declares the following development to be SSD:

- 1. Development for the purpose of extractive industry that:*
 - a. extracts more than 500,000 tonnes of extractive materials per year, or*
 - b. extracts from a total resource (the subject of the development application) of more than 5 million tonnes, or*
 - c. extracts from an environmentally sensitive area of State significance.*

The project will involve extraction of greater than 500,000 tonnes of sand product per year. Therefore, the project is SSD and Division 4.7 of Part 4 of the EP&A Act is the appropriate assessment pathway.

Under Section 4.36 of the EP&A Act, the Minister for Planning and Public Spaces is the consent authority for SSD.

A development application (DA) for SSD must be accompanied by an EIS in accordance with Section 4.12(8) of the EP&A Act and the EIS must be prepared in accordance with the EP&A Regulation. Before preparing an EIS, an applicant must request the SEARs, which specify the issues to be addressed in the EIS.

4.2.2 Other NSW legislation

In addition to the requirements under Part 4 of the EP&A Act, the Project will require additional approvals, licences and/or authorisation under various other pieces of NSW legislation. **Table 4.2** summarises the key pieces of NSW legislation, potentially relevant to the project.

Table 4.2: Summary of NSW legislation

Legislation	Overview
<i>NSW Protection of the Environment Operations Act 1997</i> (POEO Act)	<p>The Act aims to protect, restore and enhance the quality of the environment in the context of ecologically sustainable development and to reduce risks to human health and prevent degradation of the environment.</p> <p>Section 48 of the Act outlines that an environment protection licence (EPL) (separate approval) is required for any scheduled activities to be undertaken at a premise at which Schedule 1 of the Act indicates that a licence is required.</p> <p>Environment Protection Licence (EPL) 11685 applies to existing operations at the quarry. The need for a new licence or variation to the existing EPL as a result of the project would be discussed with the EPA during consultation for the EIS.</p>

Legislation	Overview
Environmental Planning and Assessment Regulation 2000 (EP&A Regs)	<p>Part 6 of the EP&A Regs provides greater detail than provided in the EP&A Act about the processing of development applications under Part 4 of the EP&A Act. SSD has special public notification requirements which are spelt out in the EP&A Regs. The EP&A Regs generally provide the operational framework consistent with requirements stated in the EP&A Act in respect of the making and assessment of development applications including SSD applications.</p> <p>Schedule 2 (clause 6 and 7) of the EP&A Regs define general provisions of environmental impact statement requirements prepared under Section 4.12 (8) of the Act.</p>
<i>NSW Crown Lands Act 1989</i>	<p>The <i>Crown Lands Act 1989</i> provides for the administration and management of Crown land in the eastern and central divisions of NSW. Crown land may not be occupied, used, sold, leased, dedicated, reserved, or otherwise dealt with unless authorised by this Act or the Crown Land (Continued Tenured) Act 1989.</p> <p>The project would not directly impact or require access across Crown land.</p>
<i>NSW Water Management Act 2000 (WM Act)</i>	<p>The WM Act is intended to ensure that water resources are conserved and properly managed for sustainable use benefitting both present and future generations. Water sharing plans prepared in accordance with the WM Act include rules for protecting the environment and administering water licencing and trading.</p> <p>Water sharing plans (WSP) have commenced for most of NSW. Licensing of monitoring bores continues under the <i>Water Act 1912</i> until a regulation for aquifer interference gives a mechanism to approve these activities. Licensing of reinjection into groundwater systems is also still currently managed under the <i>Water Act 1912</i>.</p> <p>Groundwater in the project site is managed under the Stockton Groundwater Source zone of the Water Sharing Plan for the North Coast Coastal Sands Groundwater Sources.</p> <p>The NSW Aquifer Interference Policy (AIP), published by the NSW Office of Water in 2012, outlines the water licensing and assessment processes for aquifer interference activities under the WM Act and other relevant legislative frameworks. The project will intercept an aquifer and consideration of the AIP would be required as part of the EIS.</p> <p>Under Section 4.41 of the EP&A Act, SSD does not require a water use approval under Section 89, a water management work approval under Section 90, or an activity approval (other than an aquifer interference approval) under Section 91 of the WM Act.</p> <p>The project will expose the aquifer and result in extraction of groundwater resources via evaporation of the open dredge pond and outgoing moisture content of dispatched sand products. Groundwater extraction and aquifer interference activities are permitted via an aquifer interference approval under Section 91 of the WM Act, and require an authorisation under the WSP via a WAL or some form of exemption.</p>
<i>NSW National Parks and Wildlife Act 1974 (NPW Act)</i>	<p>The NPW Act contains provisions for the protection and management of national parks, historic sites, nature reserves and Aboriginal heritage. The Environment, Energy and Science Division of DPIE administers the NPW Act. The NPW Act provides statutory protection for Aboriginal objects by making it illegal to move, damage, deface or destroy a relic without written permission from the DPIE.</p> <p>Under Section 4.41 of the EP&A Act, SSD does not require an Aboriginal Heritage Impact Permit under Section 90 of the NPW Act.</p>
<i>NSW Biodiversity Conservation Act 2016 (BC Act)</i>	<p>The BC Act provides protection for threatened plants and animals native to NSW (excluding fish and marine vegetation) and integrates the conservation of threatened species into development control processes under the EP&A Act.</p> <p>Given the requirement to clear native vegetation, the project has the potential to impact on species, populations and communities listed under the BC Act.</p>
<i>NSW Heritage Act 1977</i>	<p>Historical archaeological relics, buildings, structures, archaeological deposits and features are protected under the <i>Heritage Act 1977</i>.</p> <p>The only listed heritage item located within 500 m of the project is the 'Stockton Beach Dune System', which is heritage listed on the Port Stephens LEP. The curtilage of the heritage listing lies directly adjacent to the south of the quarry boundary.</p> <p>Whilst the project would not result in direct impact to this heritage listed landscape, the EIS will examine the potential for indirect impacts associated with</p>

Legislation	Overview
	potential impacts to groundwater flows and quality, and potential visual amenity impacts.
<i>NSW Roads Act 1993</i>	<p>Section 138 of the <i>Roads Act 1993</i> requires consent to be obtained prior to disturbing or undertaking work in, on or over a public road.</p> <p>No upgrades are likely to be required to the local road network to accommodate the project.</p>
<i>NSW Contaminated Lands Management Act 1997</i>	<p>This Act establishes a process for investigating, and where required remediating contaminated lands, that pose a risk to human health and the environment.</p> <p>A search of the EPA's Contaminated Land Record and List of Contaminated Sites notified to the EPA was undertaken in June 2020 for the Port Stephens LGA. No recorded contaminated sites within proximity to the project were identified in the search.</p> <p>Other than an unforeseen localised hydraulic oil leak from vehicles or machinery associated with the proposed sand extraction, the project is unlikely to result in contaminating activities.</p>
<i>Hunter Water Act 1991 (HW Act)</i>	<p>The drinking water catchments of Hunter Water Corporation are located within the Port Stephens LGA.</p> <p>Under Section 51 of the HW Act, consent authorities, including the DPIE, are required to refer development applications that may significantly impact on water quality in the drinking water catchments to Hunter Water for comment.</p> <p>Following the introduction of the Hunter Water Regulation 2015, Hunter Water published the <i>Guidelines for developments in drinking water catchments</i> (Hunter Water, 2017) to provide guidance for development activities within the drinking water catchments and to consent authorities about matters of concern to Hunter Water regarding protection of drinking water quality.</p> <p>The project site is not positioned within a drinking water catchment, however, is located to the immediate north of the North Stockton Catchment Area. In accordance with the guidelines, development which warrants referral to Hunter Water under Section 51 of the HW Act include development which has potential to significantly alter groundwater tables, and extractive industries.</p> <p>Despite not being directly positioned within a drinking water catchment, as the project involves dredging sand below groundwater adjacent to the North Stockton Catchment Area, Hunter Water will be consulted.</p>
<i>NSW Coastal Management Act 2016 (CM Act)</i>	<p>The objectives of the CM Act are to manage the coastal environment of NSW in a manner consistent with the principles of ecologically sustainable development for the social, cultural and economic well-being of the people of the State.</p> <p>The CM Act defines the coastal zone, comprising four coastal management areas:</p> <ol style="list-style-type: none"> 1. coastal wetlands and littoral rainforests area 2. coastal vulnerability area 3. coastal environment area 4. coastal use area. <p>The CM Act establishes management objectives specific to each of these management areas, reflecting their different values to coastal communities.</p> <p>The CM Act is supported by the SEPP (Coastal Management) 2018, which maps coastal zones within NSW.</p> <p>A review of the SEPP mapping indicates the site is directly adjacent to the north and south of a coastal environment area, which partially extends into the northern perimeter of the quarry.</p> <p>Considerations would be provided in the EIS for the potential to indirectly impact upon the management objectives of the adjacent coastal environment area.</p>
<i>NSW Waste Avoidance and Resource Recovery Act 2001 (WARR Act)</i>	<p>The purpose of the WARR Act is to encourage the most efficient use of resources and to reduce environmental harm in accordance with the principles of ecological sustainable development. The WARR Act provides for the making of policies and strategies to achieve these ends.</p> <p>The WARR Act promotes a hierarchy of avoidance of unnecessary resource consumption; resource recovery (including reuse, reprocessing, recycling and energy recovery), and disposal (as a last resort).</p> <p>The EIS would examine strategies in which the project could assist in achieving the actions and goals for the management of waste in accordance with the WARR Act.</p>

4.3 Environmental planning instruments

Environmental planning instruments (EPIs) such as State environmental planning policies (SEPPs), regional environmental plans (REPs) and local environmental plans (LEPs) are legal documents that regulate land use and establish requirements for development consent in NSW.

4.3.1 State environmental planning policies

SEPPs deal with issues significant to the State and people of NSW. They are made by the Governor on the recommendation of the Minister for Planning and Public Spaces and may be exhibited in draft form for public comment before being gazetted as a legal document.

The SRD SEPP, which declares the project as SSD has been discussed in **Section 4.2.1**.

The SEPPs relevant to the project are summarised in **Table 4.3**.

Table 4.3: SEPPs relevant to the project

SEPP	Overview
SEPP No. 33 – Hazardous and Offensive Development	<p>SEPP No. 33 requires the consent authority to consider whether a proposal is a potentially hazardous industry or a potentially offensive industry.</p> <p>Whether SEPP 33 applies to the project will be determined by applying the screening process specified in <i>Applying SEPP 33 – Hazardous and Offensive Development Application Guidelines</i> (NSW Department of Planning, 2011).</p>
SEPP No. 55 – Remediation of Land	<p>SEPP No. 55 aims to provide a state-wide planning approach to the remediation of contaminated land and to reduce the risk of harm to human health and the environment by consideration of contaminated land as part of the planning process. Under SEPP No. 55 a consent authority must not consent to the carrying out of development on land unless it has considered potential contamination issues.</p> <p>A search of the EPA's Contaminated Land Record and List of Contaminated Sites notified to the EPA was undertaken in June 2020 for the Port Stephens LGA. No recorded contaminated sites within proximity to the project were identified in the search.</p> <p>Other than an unforeseen localised hydraulic oil leak from vehicles or machinery associated with the proposed sand extraction, the project is unlikely to result in contaminating activities.</p>
SEPP (Mining Petroleum Production and Extractive Industries) 2007	<p>This SEPP regulates the permissibility of mining, extractive industries and related development and specifies matters that must be considered in assessing extractive industry developments requiring consent under Part 4 of the EP&A Act. The SEPP outlines various activities that are permissible both with and without development consent and defines developments that are prohibited, exempt or complying development.</p> <p>In accordance with Part 2 of the SEPP, the project is not considered exempt or complying development and therefore requires consent in accordance with clause 7. Accordingly, the Minister for Planning and Public Spaces is the consent authority for the project under Part 4 of the Act.</p> <p>Part 3 of the SEPP stipulates matters for consideration by the consent authority before determining an application for consent in respect of development for the purposes of extractive industry. Specifically, clauses 12 to 17 (inclusive) require consideration to be given to the compatibility of projects with other surrounding land uses, including existing and potential extraction of minerals, natural resource management and environmental management, resource recovery, transportation and rehabilitation.</p> <p>The EIS would provide consideration of all matters stipulated in Part 3 of the SEPP.</p>
State Environmental Planning Policy (Koala Habitat Protection) 2019	<p>State Environmental Planning Policy (Koala Habitat Protection) 2019 replaced the former State Environmental Planning Policy 44 – Koala Habitat Protection. Vegetation in the project site would be assessed for potential core koala habitat values and any subsequent considerations required under the SEPP.</p>

SEPP	Overview
SEPP (Infrastructure) 2007	<p>The SEPP (Infrastructure) 2007 provides a consistent planning regime for infrastructure and the provision of services across NSW, along with providing for consultation with relevant public authorities during the assessment process. This SEPP facilitates the development of State infrastructure, including telecommunication facilities, sewerage works and storm water management, and specified when development consent is (and is not required) for such development when carried out in certain zones.</p> <p>The project does not trigger traffic generating development under Schedule 3 of the SEPP. Regardless, Transport for NSW (TfNSW) would be consulted by DPIE during formation of the SEARs and further consulted during preparation of the EIS.</p>
SEPP (Coastal Management) 2018	<p>The SEPP aims to promote an integrated and co-ordinated approach to land use planning in the coastal zone in a manner consistent with the objects of the <i>Coastal Management Act 2016</i>, including the management objectives for each coastal management area, by:</p> <ul style="list-style-type: none"> managing development in the coastal zone and protecting the environmental assets of the coast, and establishing a framework for land use planning to guide decision-making in the coastal zone. <p>A review of the SEPP mapping indicates the site is adjacent to a coastal environment area, directly to the north and south. The coastal environment area, directly to the north, is partially within the project boundary.</p> <p>Considerations would be provided in the EIS for the potential to indirectly impact upon the management objectives of the adjacent coastal environment area.</p>

4.3.2 Local environmental plan

Port Stephens Local Environmental Plan

The project is within the Port Stephens LGA. The site is zoned RU2 – Rural Landscape under the Port Stephens LEP, in which extractive industries are permissible with consent.

In accordance with clause 8 of the SEPP (Mining Petroleum Production and Extractive Industries) 2007, the application is not subject to the provisions of the LEP.



CHAPTER 5

MATTERS AND IMPACTS

5 MATTERS AND IMPACTS

5.1 Scoping worksheet

The scoping worksheet was used to determine the environmental matters requiring detailed or standard assessment in the EIS, and those matters which will not require further assessment (**Appendix A**).

This chapter describes how the level of proposed assessment was determined for environmental matters, and why certain matters are not proposed to be assessed further (these will still be acknowledged in the EIS with an explanation of why they were not assessed in detail).

5.2 Detailed assessment matters

The scoping worksheet determined the following to be key matters requiring detailed assessment for the EIS. Assessment reports will be prepared for these key matters, which will be appended to, and summarised in the EIS.

5.2.1 Access – road network

The project will transport additional sand products both east and west along Nelson Bay Road and beyond via the same transportation routes as existing operations.

Potential traffic risks associated with the project include:

- future traffic generation, together with existing traffic volumes on the road network, cumulative impacts of all existing and approved quarries in the area, and other future growth and development may contribute to potential impacts on the condition of the existing road network to accommodate heavy vehicles generated by the project;
- road safety deficiencies; and
- required upgrade measures and costs to upgrade the road network to current Transport for NSW/Austrroads Standards and address any identified deficiencies.

Traffic and transport impacts will be assessed in accordance with RMS's (2002) *Guide to Traffic Generating Development* addressing the key heads of consideration for traffic generation and impacts, transport issues, road safety, parking and internal circulation.

The assessment will involve:

- Review of historical development consents regarding the importation of sand products from other Holcim operations in the Port Stephens LGA to determine current approval limits and determine any requirements to incorporate assessment of heavy vehicle movements associated with importation to the site.
- Examination of the road network near the site and the roads that form the transport routes including principal intersections.
- Traffic volume and vehicle classification counts as well as intersection counts as required to establish baseline traffic conditions.
- Assessment of the existing road network comprising road widths, intersection treatments, compliance with current standards, existing traffic volumes and vehicle classifications, road safety and identified deficiencies.
- Assessment of the traffic and transport impacts of construction and operation of the project including physical condition of the roads, road safety issues (including potential public safety risks associated with the interaction of heavy vehicles along Oakvale Drive with visitors to Oakvale Wildlife Park), the impact of the project on the road network, potential cumulative

impacts associated with any other approved projects in the area, and recommendations on any road upgrades required.

5.2.2 Atmospheric emissions – particulate matter

The air quality in the area immediately surrounding the site is influenced by prevailing meteorological conditions, traffic, topography, agricultural activities and the site and neighbouring sand quarry operations.

As the project seeks to increase sand extraction, processing and dispatch there is the potential to increase dust emissions from the site and exposure of sensitive receivers to dust.

Particulates could cause human health and nuisance impacts if they exceed regulated levels at sensitive receivers. Particles are classified primarily by size, as TSP (total suspended particulates), PM₁₀ (particulate matter with an aerodynamic diameter up to 10 µm) and PM_{2.5} (particulate matter with an aerodynamic diameter up to 2.5 µm).

Other potential pollutants could be products of fuel combustion from the on-site vehicles and mobile/fixed equipment contributing to atmospheric emissions. The project is unlikely to significantly increase ambient concentrations of these pollutants given the small quantity of emissions and the distances between the site and sensitive receivers.

Air dispersion modelling will be used to assess air quality impacts in accordance with EPA's (2016) *Approved methods for the modelling and assessment of air pollutants in NSW*. The air quality assessment will include:

- Review of existing air quality monitoring data to characterise site meteorology and background dust levels and to determine criteria and potential constraints for the project.
- Characterisation of air quality in the regional air shed considering approved and foreseeable projects based on publicly available information.
- Identification of the project and neighbouring sources of air emissions.
- Development of an air dispersion model to determine the extent and severity of operational air quality impacts.
- Quantitative analysis and assessment of operational air quality, including reference to measured background levels which include the emissions from other activities.
- Quantitative analysis and assessment of greenhouse gas generation.
- Description of pollution control equipment and processes to be employed at the site to suppress or minimise emissions.

5.2.3 Amenity – noise

The quarry is surrounded by rural and environmental conservation land uses, which are generally characterised by low background noise levels. Noise sources in the local area include natural sources (waves, birdsong, insects and livestock), recreational activities along Stockton Bight and operations at the site and adjoining sand extraction operations.

Traffic noise along Nelson Bay Road is also a dominant influence upon background noise levels. Heavy vehicle movements are common along Nelson Bay Road.

The proposed increase in production and transportation has the potential to increase noise levels experienced at Oakvale Wildlife Park and residences within Salt Ash to the south of Nelson Bay Road.

Operational noise will be assessed using a quantitative method in accordance with:

- EPA's (2017) *NSW Noise Policy for Industry* (NPfI).
- EPA's (2011) *NSW Road Noise Policy*.

The noise assessment will comprise:

- Characterisation of background noise adjacent to the site through background noise monitoring as well as a review of any publicly available monitoring data.
- Assessment of prevailing weather conditions using historical weather data from the nearest BoM weather station over a minimum period of 12 months to derive metrological parameters for prediction of noise during calm and noise enhancing weather.
- Identification of noise-sensitive receivers surrounding the site.
- Determination of plant and equipment sound power levels.
- Use of Environmental Noise Model software or equivalent to predict noise levels for day, evening and night and determine compliance with relevant noise criteria. This will involve:
 - Developing operational noise modelling scenarios.
 - Importing digital topographic data, including nearby residential areas and detailed site development plans.
 - Predicting contributed noise emissions for calm and noise enhancing weather using modelling.
 - Predicting site intrusive noise levels for daytime, evening and night-time for the operating scenarios to sensitive receivers.
 - Producing noise contours to clearly indicate the impact of noise emissions.
 - Identifying noise mitigation measures including noise reduction equipment and control processes.
 - Description of how the project noise trigger levels would be achieved, monitored and audited, and how corrective action would be taken when needed.
- Road transportation noise impacts would be assessed using existing traffic with project truck and employee vehicle movements.

5.2.4 Biodiversity

The clearing of vegetation within the former Lot 4 (eastern half of the current site) was approved as part of the 1992 development consent in which sand extraction (inclusive of vegetation clearing) is permitted to within 30 m of the lot boundary. Similarly, clearing of vegetation in the majority of the former Lot 3 (western half of the current site) was also permitted in the original 1980 development consent boundary. As such, the majority of remnant vegetation located within the centre of the site has current approval for removal via the 1980 and 1992 development consents.

The project requires the clearing of native vegetation, not currently approved via historical development consent, which has the potential to contain threatened flora species or their habitat and suitable habitat for threatened fauna species. The native vegetation communities may also meet the classification of a Threatened Ecological Community (TEC) and may require biodiversity offsetting.

As such, where clearing of vegetation is required outside of the current approved extraction areas (e.g. between 30 m and 10 m of the lot boundaries), the project has the potential to impact on species, populations and communities listed under the BC Act and/or the EPBC Act.

Potential impacts to biodiversity as a result of the project may include:

- vegetation clearing resulting in direct and indirect loss of habitat and associated impacts on threatened fauna; and
- direct loss of threatened flora and TECs.

Other potential biodiversity impacts may include edge effects and weed dispersal.

In order to fully understand the potential ecological impacts of the project, a Biodiversity Development Assessment Report (Biodiversity Development Assessment Report (BDAR)) will be prepared in accordance with relevant legislation and the Biodiversity Assessment Method and comprise:

- Review of historical development consents to confirm the approved limits of vegetation clearance and the proposed extent of vegetation clearing associated with the project.
- Review of threatened species records and listings via searches of State and Commonwealth databases.
- A combination of targeted flora and fauna surveys, along with habitat based field assessments to identify threatened biodiversity and their habitats.
- Mapping of survey locations, vegetation, key habitat features and any threatened species records.
- Determining the extent of any identified TEC.
- Identification of opportunities for impact avoidance and appropriate adaptive management actions to avoid significant impacts, as well as opportunities to enhance existing biodiversity values along the perimeter of the project site.
- Reporting on the findings of the survey, including methodology, and threatened species and/or their habitat recorded. The report will include formal Assessments of Significance under the BC act and/or EPBC Act for identified species.
- If required, a biodiversity offset strategy will be developed and reported on, taking into account the NSW Biodiversity Offsets Policy for Major Projects (OEH, 2014).

5.2.5 Economics

An economic assessment will be prepared in accordance with the Guidelines for Economic Assessment of Mining and Coal Seam Gas Proposals (NSW Government 2015). Although the guidelines are not specifically for extractive industry projects, they provide information to assist proponents with providing the necessary information to meet the requirements in the EP&A Act.

The economic assessment will comprise:

- A cost benefit analysis to examine the costs and benefits of the project, involving:
 - Specification of the base case or “without” approval scenario;
 - Specification of the “with” project scenario;
 - Identification of potential incremental costs and benefit categories;
 - Physical quantification of incremental costs and benefits based on other technical assessments;
 - Valuation of production costs and benefits i.e. net production benefits based on financial data provided by Holcim;
 - Consideration of environmental costs including qualitative consideration from the technical reports and where possible monetary valuation;
 - Consideration of the overall net social benefits of the project (i.e. net production benefits less environmental costs); and
 - Analysis of the distribution of costs and benefits and the net benefits of the project to NSW.
- A regional economic impact assessment to assess the regional economic activity provided by the project, involving:
 - Development of an input-output model of the regional economy;
 - Collation of spatial expenditure data and employment data from Holcim;
 - Modelling of the direct and indirect economic activity of the project on the regional economy; and
 - The economic assessment will contain substantial explanatory information to clarify the scope and role of economic assessment techniques in the decision-making process.

5.2.6 Hazards and risks

Hazardous substances and dangerous goods

The storage and consumption of additional hazardous substances or dangerous goods is not required for the project, and the site will continue to use similar quantities to existing operations.

A screening assessment will be carried out in accordance with the requirements of *Applying SEPP 33 – Hazardous and Offensive Development Application Guidelines* (NSW Department of Planning, 2011) to consider whether the project is a potentially hazardous industry or a potentially offensive industry and would require the preparation of a preliminary hazard analysis (PHA) report in accordance with SEPP 33.

Bushfire

New development in NSW is assessed for bushfire risk in accordance with the RFS (2019) Planning for Bushfire Protection (PBP). Extractive development is regarded as 'other' development in PBP and must satisfy the aim and objective of PBP. The site is identified on bushfire planning maps as 'Vegetation Category 1' requiring the preparation of a bushfire assessment and fire management plan. The assessment will:

- assess bushfire attack to the site from surrounding bushland;
- consider existing services at the site and ensure they comply with PBP;
- map constraints and vegetation surrounding the site;
- identify which level of construction Holcim will need to implement for any proposed new built structures on the site as per the requirements of the Building Code of Australia and relevant Australian Standards; and
- identify any Asset Protection Zones that Holcim will need to adhere to, as well as the implication on the method of construction of any new built structures and/ or proposed the landscaping/revegetation.

A Fire Management Plan will be prepared as part of the bushfire hazard assessment and involve reviewing firefighting capacity and response from employees and risk mitigation.

Acid Sulfate Soils

The majority of the quarry is mapped as ASS risk Class 4, with a small pocket of the northern boundary of the site mapped within risk Class 3.

As the proposed dredging activities would extract sand from below the water table and could potentially encounter ASS and expose them to oxygen, an assessment of potential ASS constraints at the site is required.

Oxidation of sulphides in soils and associated acidification can be caused either by:

- groundwater drawdown caused by dredging exposing ASS outside the dredge pond footprint to oxygen; or
- encountering ASS while dredging and exposing them to oxygen.

The Tilligerry mud member (estuarine muds) are close to the northern boundary of the site. These muds are potential acid sulphate soils (PASS). There is the potential for these muds to be exposed to oxygen and become acid forming if the dredging caused groundwater drawdown outside of the site boundary.

It is recommended that ASS testing is conducted on the northern boundary of the property to confirm the extent of the Tilligerry mud member and any PASS.

An ASS assessment report would be prepared to accompany the EIS and will use the ASS test results to inform this assessment.

5.2.7 Heritage – Aboriginal cultural

The presence of numerous recorded sites on and near the quarry demonstrate that the local landscape was used by Aboriginal people in the past and that material traces of this landscape use have survived in the form of Aboriginal objects and archaeological deposit.

Previous archaeological investigation of adjoining sand extraction operations to the east of the site identified an area of archaeological potential associated with low-relief dune ridges which may extend into undisturbed portions of the quarry. Investigation of the neighbouring lot to the east also identified Aboriginal objects in a range of landform types, not all of which were associated with areas of archaeological potential.

As such, an Aboriginal Cultural Heritage Assessment would be required to identify whether areas of archaeological sensitivity occur within the site. An Aboriginal Cultural Heritage Assessment Report (ACHAR) will be prepared in accordance with the OEH *Aboriginal cultural heritage consultation requirements for proponents 2010* (consultation guideline).

5.2.8 Land – stability / structure

Rehabilitation of the area of disturbance associated with the project and stabilisation of the edge of the dredge pond are matters requiring consideration in the EIS to address potential long-term land stability, safety, air quality and biodiversity impacts.

The project may present engineering/geotechnical stability risks associated with the proposed final landform. The rehabilitation strategy will address the justification for final landform design and long term geotechnical stability measures applied to ensure this becomes a very low long term risk. This will require consultation with geotechnical experts, previous studies review and past examples of successful rehabilitation.

A rehabilitation strategy will be devised and provide a detailed plan and justification of proposed revegetation techniques and methods of monitoring and management. High level completion criteria will also be included to provide a framework against which to continually develop a closure plan. As there are no guidelines specific to extractive industry, the rehabilitation strategy will be developed in accordance with the Strategic Framework for Mine Closure.

5.2.9 Social

Scoping the Social Impact Assessment (SIA) for the project was conducted according to the DPIE SIA Guideline (NSW Department of Planning and Environment, 2017) (the guideline). The guideline provides a framework for assessing social impacts associated with state significant mining, petroleum production, and extractive industry development.

According to the guideline, social impacts can involve changes to:

- way of life, including:
 - how people live, (e.g. how they get around, access to adequate housing);
 - how people work (e.g. access to adequate employment, working conditions and/or practices);
 - how people play (e.g. access to recreation activities); and
 - how people interact with one another on a daily basis;
- community, including its composition, cohesion, character, how it functions and sense of place;

- access to and use of infrastructure, services and facilities, whether provided by local, state, or federal governments, or by for-profit or not-for-profit organisations or volunteer groups;
- culture, including shared beliefs, customs, values and stories, and connections to land, places, and buildings (including Aboriginal culture and connection to country);
- health and wellbeing, including physical and mental health;
- surroundings, including access to and use of ecosystem services, public safety and security, access to and use of the natural and built environment, and its aesthetic value and/or amenity;
- personal and property rights, including whether their economic livelihoods are affected, and whether they experience personal disadvantage or have their civil liberties affected;
- decision-making systems, particularly the extent to which they can have a say in decisions that affect their lives, and have access to complaint, remedy and grievance mechanisms; and
- fears and aspirations related to one or a combination of the above, or about the future of their community.

Social impacts vary in their nature, and can be:

- positive (e.g. increased local and regional job opportunities) or negative (e.g. increased prevalence of certain physical health conditions);
- tangible (e.g. availability of affordable housing) or intangible (e.g. social cohesion);
- direct (that is, caused by the project), indirect (that is, caused by a change that is caused by the project), or cumulative;
- directly quantifiable, indirectly or partly quantifiable, or only able to be described and assessed in qualitative terms;
- experienced differently:
 - by different people and groups within a community (eg an increase in the cost of housing may be positive for homeowners wanting to rent out or sell their properties, but negative for individuals and families wanting to enter the same market);
 - by different communities (e.g. people neighbouring a project may experience most of the noise and dust impacts, while people in the region's nearest town may experience most of the job opportunities); and
 - at different times and stages of the project (for example, construction and commissioning, operation, decommissioning and closure, and post closure management).

The principle of environmental impact assessment (EIA) requires consideration of social, environmental, economic and other relevant effects in accordance with the EP&A Act. In this regard, SIA is a component of EIA.

Scoping is the first phase in both EIA and SIA. When effectively carried out, scoping highlights what elements of the natural or human environment ('social matters') are expected to be impacted upon by activities associated with a SSD project (whether positively or negatively), how those impacts should be assessed and to what level of detail. It is used to focus the SIA on the most relevant and important issues for each project and ensures the scale of assessment required is proportionate to the importance of the expected impacts.

To scope potential social impacts, an understanding of the project's Area of Social Influence (ASI) is required. This should include an analysis of:

- the scale and nature of the project, its associated activities (including ancillary infrastructure), potential direct impacts, potential indirect impacts that may extend from the Project site (eg transport routes) and potential cumulative impacts;
- who may be affected by the project, how they are expected to be affected, and their relevant interests, values and aspirations;
- any potentially affected built or natural features located on or near the project site or in the surrounding region that have been identified as having social value or importance, including key social infrastructure, facilities and amenities;

- any relevant social trends or social change processes being experienced by communities near the project site and within the surrounding region, for example, trends in availability of rented accommodation, changes to relative employment in different industries, changing land uses over time, population and demographic changes; and
- the history of the project and how communities near the project site and within the surrounding region have experienced the project and others like it to date.

The guideline presents a scoping tool which is used to identify:

- potentially affected people and the project's ASI; and
- social impacts needing further investigation in the EIS and assignment of an appropriate level of assessment.

Area of social influence development

The ASI for the project was developed in accordance with 'locality' considerations outlined in the guideline. The term 'locality' does not have a prescribed meaning or refer to a fixed, pre-defined geographic boundary. In the context of the project, care was taken to determine the ASI comprising the area within the actual project boundary, but also the geographies external to the site where social impacts may arise.

The ASI was developed on the premise that relationships within and between scales will affect what people understand as impacts (Vanclay & Esteves, 2011). This means that people may not perceive social impacts created by a project to be those felt exclusively within or immediately adjacent to the project boundary, or at a time when operations are conducted onsite. Instead, it is possible for impacts to be felt at locations outside the project boundary and at any time of day (particularly in the event of long-distance haulage routes or complex supply chains). These time and space relationships between the project site and communities, economies, infrastructure, and resources (both human and natural), were explored using a mixed-methods approach.

The specific methods adopted were a:

1. workshop with key project personnel familiar with the existing operations on site;
2. analysis of complaints received by the quarry operator;
3. semi-structured interview with two Council representatives; and
4. literature review of previous studies relevant to the project.

The development of the ASI considered factors including but not limited to:

- supply chains;
- haulage of resources;
- transport of goods;
- materials and equipment;
- movement of workers (drive-in-drive-out/fly-in-fly-out working arrangements);
- natural features and recreational values (e.g. sand dunes adjacent to the site);
- ancillary infrastructure; and
- reputation of other extractive industries in the area.

Data sources used to develop the area of social influence

Both primary and secondary data was collected and analysed for the ASI development. Primary data derived from the workshop and the semi-structured interview was reliable given that the participants had a strong knowledge of the project or the Salt Ash community (or both).

Secondary data sourced from historical sand quarry studies, and a local transport study (Transport for NSW, 2020) was used to further develop an understanding of the ASI. This data

provided an insight into the issues that the community have raised in relation to past planning applications, and general community sentiment towards the project. The socio-economic studies included:

- *Environmental Assessment Sand Extraction Operations from Lots 218 and 220, Salt Ash (Macka's Sand)* (Umwelt, 2009);
- *Fullerton Cove Sand Quarry Modification to Project Approval* (GHD, 2015); and
- *Social Impact Assessment for Proposed Bobs Farm Sand Mine* (Tattersall Lander, 2018).

Nominated area of social influence

The ASI proposed for the project is illustrated in **Figure 5.1**. The area is comprised of a polygon containing the site and the nearest residential and business properties in Salt Ash. The polygon is also comprised of linear areas associated with the main transport route proposed to be used by the project, as described in **Section 2.1.4**. There are no remote locations considered to be indirectly impacted.

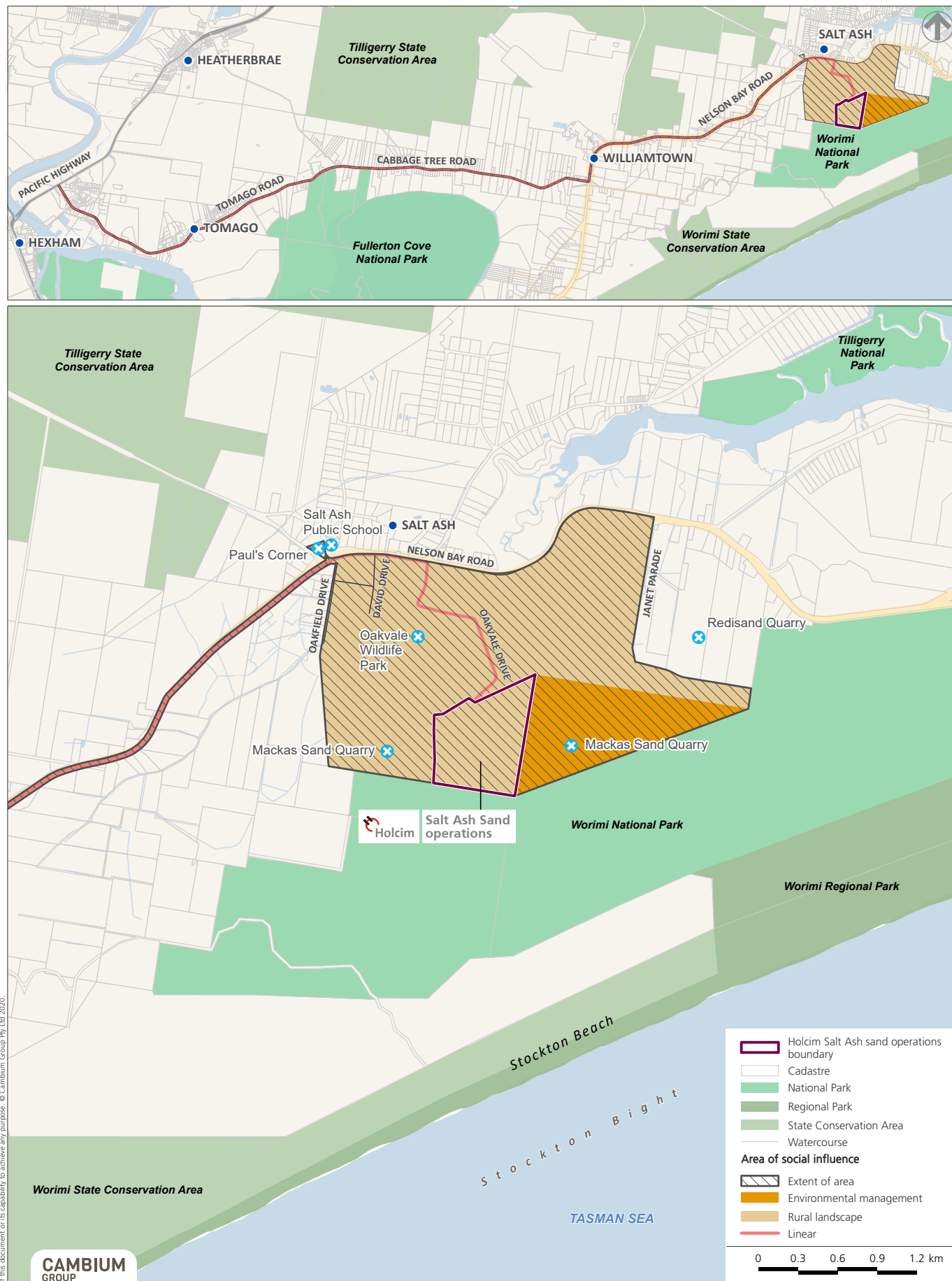
In the ASI, the area immediately to the south of the project consists of environmental conservation areas associated with Worimi Conservation Lands. Immediately to the east and west of the project are competitor-owned sand quarries. Agricultural land uses attached to rural residential property are immediately to the north of the project. The land is predominantly used for cattle farming. The closest residential community comprised of smaller holdings (around David Drive) is around 950 m away. Salt Ash Primary School and a small number of retail convenience stores are at Paul's Corner, around 1.6 km from the project. Prominent businesses supporting tourism in the ASI are Hellfire Paintball on Janet Parade and Oakvale Wildlife Park on Oakvale Drive.

Beyond the ASI, Salt Ash has unique socio-economic characteristics described in its socio-economic profile (see below). It is also comprised of diverse industrial, residential, business (both large and small scale), and recreational land uses such as:

- cattle farming and small-scale agricultural operations;
- sand quarries (e.g. Mackas Sand Quarry and Redisand Quarry);
- parts of the Tilligerry State Conservation Area and Worimi Regional Park, both near the project;
- tourism enterprises including adventure sports (e.g. quad biking and four-wheel-driving along Stockton Beach sand dunes); and
- coastal bush tracks and the Alexander Park Dressage Club used for equestrian activities.

Figure 5.1
Area of social influence

HOLCIM SALT ASH SAND OPERATIONS
SCOPING REPORT



Existing socio-economic profile

Socio-economic data derived from the 2016 Australian Census of Population and Housing (Australian Bureau of Statistics, 2018) defines the population profile in the local area. The ASI is entirely in the Salt Ash state suburb census (SSC) geography which was selected as the basis of the analysis below. The Salt Ash SSC is considered suitable for SIA scoping as it provides a good starting point for understanding a local suburb or rural locality and provides data on small geographic areas (Australian Bureau of Statistics, 2018).

The socio-economic variables discussed below align with the community profile measures adopted by the Australian Bureau of Statistics. Table 5.1 provides a comparison of Fern Bay and NSW populations in respect to a range of socio-economic indicators derived from the respective community profiles.

An obvious difference between the Salt Ash and NSW population is the median age. At a median age of 43 years, the Salt Ash population is slightly older and if this scenario is carried through to older age groups, there may be implications for social infrastructure. For example, an older population might require specialist health care services, accessible housing stock, or a greater reliance on public transport. The adjacent coastal census geography (Stockton-Fullerton Cove) has a median age of 51 years old which substantiates an ageing population in the broader local area.

Household incomes, accommodation expenses and motor vehicle ownership are also inconsistent for the Salt Ash and NSW populations. Salt Ash residents reported a median weekly household income of \$1,289, around \$200 less than the equivalent income for the NSW population. Considering the relatively low income of the neighbouring Stockton-Fullerton Cove population and the larger number of vehicles per dwelling shown in **Table 5.1**, the data suggests a degree of financial disadvantage for Salt Ash residents compared to the NSW population.

Low Salt Ash household incomes are perhaps offset by relatively low accommodation expenses. The Salt Ash population reported paying less rent and mortgage repayments (\$300 and \$1,733 respectively) than the broader NSW population.

Table 5.1: Socio-economic indicators

Socio-economic indicator	Salt Ash SSC	Stockton – Fullerton Cove (statistical area 2)	NSW
Total population	1,128	566	7,467,527
Male	50.1%	49.90%	49.30%
Female	49.9%	50.10%	50.70%
Median age	43	51	38
Average children per family for families with children	1.8	1.7	1.9
Average people per household	2.7	2.3	2.6
Median weekly household income	\$1,289	\$1,164	\$1,486
Median monthly mortgage repayments	\$1,733	\$2,000	\$1,986
Median weekly rent	\$300	\$330	\$380
Average motor vehicles per dwelling	2.4	1.6	1.7

Community values

A preliminary investigation into the values and aspirations of the Salt Ash community was assisted by a review of Council's strategic community plan (Port Stephens Council, 2018) and the semi-structured interview with Council representatives. An online survey distributed via a project introduction letter (discussed below) also sought to investigate community values, however, it failed to attract a sufficient number of participants to determine community sentiment.

Council's plan establishes four focus areas for Port Stephens. Each focus area has a sub-set of 'key directions' which outline its priorities. Subsequent to each focus area, there are also a range of objectives and outcomes which guide practitioners in implementing the plan until 2028.

The four focus areas of the plan are:

1. our community - Port Stephens is a thriving and strong community respecting diversity and heritage;
2. our place - Port Stephens is a liveable place supporting local economic growth;
3. our environment - Port Stephens' environment is clean, green, protected and enhanced; and
4. our council – Council leads, manages and delivers valued community services in a responsible way.

A semi-structured interview was used to explore how applicable these focus areas are to the Salt Ash community. The interview results illustrate that the values and aspirations are wide ranging and potentially undefined:

SIA Lead: "There is a guideline requirement to look at the values and aspirations of the community, and I'm aware that Council has a community plan.... the visions for the community are covered in that plan. Would they be the aspirations and values applicable to Salt Ash that should be top of mind for this assessment? Or are there other, for a smaller subset of the population, values and aspirations of the community in Salt Ash that we need to consider in terms of what they [citizens] might value long-term, and how a quarry approval might impact those values?"

Council representative #1: "Yes you can look to the community strategic plan as a very high-level understanding of what our community values, but there are obviously in each of our local areas, there is a local context. We don't have hard data for that local context. Salt Ash is a small and disparate community. It is quite broken up and it doesn't have your traditional town centre approach. So certainly...finding a collective value for that place is challenging".

Council representative #2: "This is reflected in what the land uses are there as well. There is the tourism component, there is some light industrial (a small component of that), there is some rural residential, the quarries...so there really is quite a wild mix of things in a relatively rural or low density community".

SIA Lead: "So on that basis would you say the values would be wide ranging?"

Council representative #2: "I would imagine they would be"

Council representative #1: "Yes".

Salt Ash community values and aspirations would be further explored in the SIA.

Rationale for selecting the area of social influence

The ASI was selected by considering and discussing a range of ASI factors in the:

- workshop with key project personnel familiar with the existing operations on site;
- analysis of complaints received by the quarry operator;

- semi-structured interview with two Council representatives; and
- literature review of previous studies and a consultation report relevant to the project.

Table 5.2 contains each ASI factor considered and a summary of the information obtained.

Table 5.2: ASI selection rationale

ASI factor considered	Information used in selecting the ASI
Supply chains	<p>If the project is approved, the supply chain would be the same as the one currently used for the quarry. The exception would be the one-off procurement of specialist dredge equipment at start-up (refer Section 2.2.4).</p> <p>It is expected that operational expenditure following the initial start-up procurement activities would be exclusively for consumables (e.g. fuel) and maintenance. Manufacturing businesses and local or regional suppliers would not be influenced by the project beyond existing arrangements.</p> <p>The workforce supply chain would be increased by four full-time personnel if the project is approved. Holcim has indicated its intention to retain locally based employees currently working at the quarry.</p>
Haulage of sand and transport of other goods	<p>Section 2.2.1 explains that Holcim is seeking to extract a larger quantity of sand from the quarry. This would require additional heavy-vehicle movements. Holcim would maintain the same access and transportation routes for the project as described in Section 2.1.4.</p> <p>It was acknowledged during ASI development that the potential for perceived or actual cumulative traffic impacts exists in relation to the project due to the presence of a number of sand quarries in the Port Stephens area. Accordingly, the ASI was designed to accommodate the project transport routes.</p> <p>The project would not require transport of any goods apart from sand.</p>
Materials and equipment	<p>Materials and equipment required by the project would largely be limited to that which would support dredging operations. A dredge, barge, and pump would be the major items required. These items should have a minor influence on the extent of the ASI.</p>
The movement of workers (drive-in-drive-out [DIDO] and fly-in-fly-out [FIFO] working arrangements)	<p>The project would provide employment for an additional four full-time personnel, bringing the total employment for the quarry to 14 full-time and five casual employees. No FIFO workers and the associated ASI expansion would be required.</p>
Natural features and recreational values (e.g. dunes at Stockton)	<p>It was not deemed necessary to include the Tilligerry State Conservation Area and Worimi Regional Park in the ASI, however, the proximity of the project to these features was acknowledged during the ASI development.</p>
Ancillary infrastructure	<p>Section 2.1.3 and Section 2.1.4 describe ancillary infrastructure associated with the current quarry. There would be no change to this scenario if the project is approved.</p>
Reputation of other operations in area	<p>The reputations of quarry operators in the Port Stephens area are understood to be most influenced by local traffic conditions. Accordingly, the ASI was designed to accommodate the project transport routes.</p>
History of the quarry	<p>Section 2.1.1 outlines the historical ownership of the quarry. The ASI recognises the long-term operation at the site and the absence of any complaints from the community.</p>
Relevant social trends or social change processes	<p>Two matters influencing social change near the project were identified.</p> <p>The first is the negative impact that per- and poly-fluoroalkyl substances (PFAS) contamination is having on the well-being of residents living around the PFAS management zone. Residents have experienced detrimental impacts to their livelihoods, property, financial affairs, and health as a result of the PFAS contamination. Whilst the site is located within proximity to the management zone, there was no justification to align the ASI with it.</p> <p>The second matter is the NSW government proposed Nelson Bay Road Duplication. The duplication may have positive and negative implications for the community (refer Transport for NSW, 2020) however the process is in its infancy. Accordingly, it was decided that no justification exists to recognise the duplication in the ASI.</p>

Social impacts scoping exercise

In accordance with the guideline, an SIA scoping exercise was conducted to identify and assess social impacts associated with the project. The methodology adopted for the scoping exercise is described below.

Scoping exercise methodology

As a subset of the guideline, the DPIE scoping tool guides proponents in conducting their SIA scoping exercise. The scoping tool is designed to ensure a consistent approach to identifying which of the social impacts associated with a project need to be investigated in the SIA component of the EIS.

The scoping tool was adopted for the scoping exercise and a copy is provided in **Appendix A**. The scoping tool process involved:

1. considering each 'matter' (i.e. amenity, access, built environment, heritage, community and economic) and its subcategories, and determining how likely it is that project will cause an impact to it;
2. for each matter, considering and assessing the material characteristics of any likely impact;
3. for each matter, considering stakeholder/community opinions and sentiment towards the project;
4. for each matter, determining whether or not a social impact will arise from the project, and then developing a rationale for the decision; and
5. for each matter, determining the following level of assessment (and engagement) which is required in the EIS preparation phase:
 - desktop: another specialist study or section of the EIS will provide all the information and analysis needed to predict, evaluate and develop a response to the social impact, including relevant primary and secondary research, qualitative and quantitative data, and appropriate engagement with potentially affected people, to establish a baseline and support predictions. If this is the case, the SIA component of the EIS only needs to review the data and findings from the other sources through a SIA lens and cross-reference and integrate them into the overall social baseline and assessment.
 - Standard: most information and analysis needed to predict, evaluate and develop a response to the social impact will be provided by another specialist study or section of the EIS, but it will need to be supplemented with further evidence gathering and analysis to fill any gaps and obtain a complete picture from a SIA perspective.
 - Comprehensive: only limited or no information and analysis will be provided by another specialist study or section of the EIS. If so, the author/s of the SIA component of the EIS will need to undertake the evidence gathering and analysis needed to predict, evaluate and develop a response to the social impact.

The early engagement methods implemented to support the above process included:

- identification of project stakeholders. This was undertaken in the workshop with key project personnel familiar with the existing operations on site, via the literature review and analysis of individuals or groups that made submissions on other sand quarry EIS documents, and via online searches. See **Chapter 6** for a list of the project stakeholders;
- a project introduction letter inviting feedback about Holcim's proposed operations via a link to an online survey. The letter and survey was distributed to approximately 125 properties in the ASI during early July 2020. The letter was hand delivered and doorknock conversations were held to collect community feedback;
- a semi-structured interview with two Council representatives in early July 2020;
- a meeting with Kate Washington MP designed to introduce and invite feedback about the project, and identify community sentiment about sand quarries generally.

It is important to note that meeting invitations were also sent to three other business and property owners in the ASI. No response to the invitation was received from these stakeholders, despite conveying the invitation on subsequent occasions.

Scoping exercise outcomes

Outcomes of the SIA scoping exercise are listed below under the relevant matter in the DPIE scoping tool. In the scoping tool, each matter has a number of subcategories. For example, the amenity matter contains subcategories including acoustic, visual, odour, and microclimate. For the purposes of this report, where it was determined that the project would be unlikely to impact a particular matter or subcategory, that matter or subcategory is not discussed below. Only those applicable to the project receive attention herein.

Social matter 1: Amenity

Acoustic amenity is the first social matter applicable to the SIA. The preliminary assessment of the project's noise impacts in **Section 5.2.3** describes the potential for increased noise levels from changes to production and transportation. A quantitative noise assessment will be conducted to more accurately ascertain acoustic impacts derived from sources both in the site and along transport routes.

Alongside the specialist noise assessment, a need to investigate noise and vibration impacts is warranted for the SIA. This precautionary decision is made on the basis of feedback from Kate Washington MP, and Umwelt's (2009, p. 1.5) findings "that noise and vibration caused by increased truck movements" were raised by the local community in relation to Macka's Salt Ash Sand Quarry. It is worth noting that the Umwelt (2009) study was undertaken more than ten years ago but nevertheless, the precautionary approach for the SIA is warranted.

There was no feedback via the doorknock conversations or the online survey that noise impacts from the current quarry are a concern. This is also true in relation to the proposed future operations.

Taking into account the early engagement and literature review results, and the proximity of sensitive receivers (refer **Figure 1.2**), the scoping exercise determined that a desktop SIA will be required to assess acoustic amenity, alongside the quantitative noise assessment required for the project.

Social matter 2: Access

As a subset of the access social matter, the scoping exercise identified potential impacts to the road network as being relevant to the SIA. **Section 5.2.1** explains that the project will transport additional sand product both east and west along Nelson Bay Road and beyond via the same transportation routes as those being used by the existing quarry operations. To investigate traffic and transport impacts of the project, a specialist traffic and transport assessment will be conducted as part of the EIS. The SIA will rely upon the traffic study to investigate two main aspects to the project's use of the road network.

The first aspect is how future and cumulative quarry traffic would contribute to impacts on the condition of the road network. Feedback obtained from residents during the doorknock indicated social unease about such impacts created by heavy vehicles (note: these statements did not explicitly nominate project-related vehicles as the source of social unease):

Resident #1: "They've [heavy vehicles hauling sand from quarries] put massive holes in roads around here".

Business owner #1: referred to some heavy-vehicle operators as "cowboy drivers" that "create giant pot-holes".

Council representative #1: in relation to quarry traffic, “there is definitely a cumulative consideration...and one of the main issues we run into is along the haulage routes”.

The second aspect relates to heavy vehicles complying with quarry conditions of approval. Allegations of non-compliance with vehicle weight and hours of operation conditions were made by residents during the doorknock. The project proposes to increase heavy vehicle movements and this scenario creates the potential for increased instances of non-compliance. Again, the comments below did not specifically relate to project-related vehicles:

Resident #1: “I’m up feeding the baby and they’re [heavy vehicles hauling sand from quarries] up to something dodgy, because it’s around 1-2 [am] in the morning”.

Resident #3: “We’ve had double-bogeys going down here [Oakfield Drive] on a daily basis at times”.

Business owner #1: “We’ve had trucks on Marsh Road and they break the two tonne rules when hauling”.

Resident #4: “The number of trucks are an issue”.

It is evident from the doorknock results that negative social impacts related to the road network may potentially be created by the project. The scoping exercise determined that a standard SIA would be required to further assess these impacts and supplement the specialist traffic assessment.

Social matter 3: Heritage

Aboriginal cultural heritage is a sub-category of the heritage social matter that emerged in scoping as one requiring further investigation in the SIA. **Section 3.1.4** identifies the Worimi LALC as the custodians of the land upon which the site and its surrounds exist. It describes Outline’s (1991) survey results and the presence of numerous recorded sites in and near the project site over time. As part of the EIS, an ACHAR would be required to identify whether areas of archaeological sensitivity occur within the site.

The significance of Aboriginal cultural heritage to the Worimi LALC is recognised by the existence of the Worimi Conservation Lands adjacent to the site. It was also evident in the literature review. Worimi LALC own the Macka’s Salt Ash Sand Quarry adjacent to the site. In the environmental assessment it prepared for Macka’s quarry, Umwelt (2009) outlined the intention of Worimi LALC to leverage its revenue to protect and promote Aboriginal culture. For example, Worimi LALC pursued the following objectives as part of Macka’s sand quarry development and operation:

- Development of the Murrook Aboriginal Culture Centre including:
 - education, employment and training initiatives (Vocational Education and Training Centre);
 - cultural exchange and cultural tours (including coastal 4WD sand tours);
 - > tourism development;
 - > education providers including: primary, secondary and tertiary;
 - > corporate groups, both Government and non-government organisations;
 - > wider community and social organisations including dance, theatre, arts and music, and revitalisation of (Ghaddung) language
- product development and production including:
 - native honey;
 - native Aboriginal bush food propagation for retail;
 - aquaculture; and
 - arts and crafts.

- Protection and promotion of Aboriginal culture including:
 - green teams and land management;
 - Aboriginal cultural surveys and sites management; and
 - seed collection and propagation.

The scoping exercise acknowledges the numerous recorded Aboriginal sites within and near the project, and the logical connection between the Worimi LALC and the site. Accordingly, the scoping tool identified a desktop SIA as being adequate for the assessment of this matter. The desktop SIA would supplement the ACHAR.

Social matter 4: Community

Two community sub-categories qualified for further investigation in the SIA. The first subcategory is health. During the ASI development (refer to **Table 5.2**), the mental health of Salt Ash residents was recognised as being negatively affected by PFAS contamination originating at the Williamstown RAAF base. The site is located within proximity to the PFAS management zone and given the project's logical connection to groundwater via the proposed dredging operation, adverse perceptions about the further contamination may arise from the project.

Feedback from Salt Ash residents during the doorknock suggested this perception may exist. For example, one resident (a cancer survivor who attributed the health condition to PFAS) referred to household stress, families being separated due to prolonged groundwater contamination in the area, and the prospect that the project would be “another thing to deal with”. Another resident commented that the “Council won’t even dig the creek out due to contamination, but the quarries can do it”. Contrary to the above comments, it must also be acknowledged that two residents completely dismissed the presence of PFAS contamination in the local area and confirmed their disbelief in groundwater contamination studies and reports.

The effect of PFAS contamination on the local community was also emphasised in the semi-structured interview with Council representatives, and during the meeting with the Kate Washington MP. On both occasions the negative health impacts were identified and the vulnerability of the community was implied.

The above SIA scoping results were considered and used as inputs to the DPIE scoping tool. Noting that a groundwater impact assessment would be conducted for the EIS, the scoping tool determined that a supplementary approach (i.e. a standard SIA) is required to investigate health impacts.

The second community sub-category nominated for further investigation in the SIA is safety. **Section 3.2.3** describes public safety aspects of the project and in particular, the risk of heavy-vehicle interaction with members of the public and occasional site access breaches are relevant to the SIA.

Literature reviewed for the scoping report substantiated potential public safety issues. Although completed more than ten years ago, Umwelt’s (2009) study cited quarry vehicles exceeding the speed limit on Oakvale Drive and vehicle safety around Oakvale Farm (now Oakvale Wildlife Park) as a key issue of the Macka’s Sand Quarry development. It also identified as hazards the recreational vehicle users, horse riders, and pedestrians breaching the quarry boundary. A more recent SIA (Tattersall Lander, 2018) conducted for a sand quarry at Bob’s Farm also cited the perception of conflict between mine trucks and pedestrians as a community safety issue.

Feedback from stakeholders provided an additional data source for the purposes of scoping the safety sub-category. Kate Washington MP emphasised the risks associated with the interface between heavy-vehicles and pedestrians, and the precedence of this issue in the community previously. In addition, two comments were provided via a doorknock conversation and the online survey in relation to the matter:

Survey respondent #1: “I have concerns for the safety of people (children in particular) entering and exiting Oakdale Farm. There is seemingly a possibility of increased traffic on a poor road”.

Resident #6: “I walk of a morning and Oakvale [Drive] is full of trucks. I noticed some children walking back from Oakvale Farm [Oakvale Wildlife Park] and there is no footpath”.

The above data was incorporated into the DPIE scoping tool which determined that a standard SIA is required to further assess the potential impact of the project on community safety. The standard SIA would be supplementary to the specialist traffic assessment required for the EIS.

Social matter 5: Biodiversity

The final social matter that emerged from the SIA scoping is biodiversity. Potential impacts to native vegetation and fauna were raised as a community concern. These impacts, discussed in **Section 5.2.4** as biodiversity impacts associated with the project, include proposed vegetation clearing resulting in direct and indirect loss of habitat and potential associated impacts on threatened fauna. It is acknowledged that a specialist BDAR would be prepared to assess these impacts, however there is an inherent social dimension that could be supplemented with further investigation in the SIA.

Community sentiment in relation to the potential native vegetation and fauna impacts were both positive (see below) and negative in the early engagement activities. Negative sentiment emerged in doorknock conversations which referred to quarries generally (i.e. cumulative impacts) rather than at the site in particular:

Resident #3: “I’m against quarries as they rape and pillage the environment, taking sand and causing habitat destruction”

Resident #6: In reference to the collective area of land subject to sand quarrying in Salt Ash – “We all need sand, but when does it [sand extraction] stop?”

Alongside the BDAR required for the EIS, the SIA scoping exercise determined that further investigation of the social dimensions of these matters is warranted. The DPIE scoping tool confirmed that a desktop SIA is required for the assessment.

Assessment of positive social impacts

The DPIE scoping tool is designed with a negative impact (and impact mitigation) focus and therefore the potential positive impacts of the project were not discussed above. However, a number of potential positive project social impacts that require further investigation in the SIA were identified in the scoping exercise. These impacts will be assessed by adapting the DPIE scoping tool during the SIA. The positive impact categories are listed in **Table 5.3** with the supporting statements obtained during the doorknock.

Holcim has indicated its intention to retain and develop a local workforce for the project, acknowledging that a minor increase to the total number of quarry staff would occur if the project is approved. This is a positive impact that can be readily monitored. It appears that the project also provides an opportunity to enhance social benefits, particularly in relation to community cohesion. Based on the commentary shown in **Table 5.3**, the quarry currently provides benefits to local households in terms of sand supply. Quarries in the area have also been recognised for the ‘pro-bono’ drainage channel maintenance. There is an opportunity to continue and enhance such community benefits if the project proceeds, and an objective of the SIA would be to develop a Holcim community initiative(s) focussing on the Salt Ash community. Any initiative developed by Holcim would be formalised in a community relations plan (or similar) and assigned a target for monitoring purposes.

Table 5.3: Potential positive project social impacts to be further investigated

Social matter (and relevant subcategory)	Supporting statements
Economic (livelihood)	<p>Resident #7: “Jobs for locals, I’m a coal miner so there might be a job for me down there [the project] one day”.</p> <p>Resident #8: “Anything they [quarries] do for themselves, we [the community] get the benefit in terms of employment opportunity and local investment”.</p>
Community (cohesion)	<p>Resident #11: “I go down there [the site] and get a trailer full of sand for the yard, [I’ve got] no problem with them here”.</p> <p>Resident #9: “I admire them [sand quarry owners], they do a lot for the area”.</p>
Economic (natural resource use)	<p>Business owner #2: “I’m a concreter so I obviously need it [sand extracted from the site]”.</p> <p>Resident #10: “They [quarries] provide sand for building and construction so that [the project] is a great idea, it’s good for the place”.</p>
Biodiversity (native vegetation)	Resident #9: “They [quarry operators] clean out drains and remove weeds which is more than others do”.
Water (hydrological flows)	

Further assessment summary

A SIA will be undertaken as part of the EIS in accordance with the guideline. The scoping exercise adopted the DPIE scoping tool and isolated the matters (identified and discussed) above that require further assessment in the SIA. A summary of these matters is provided below in **Table 5.4**.

Table 5.4: Social matters and level of further assessment

Social matter (and relevant subcategory)	Level of assessment for the social impact in the SIA
Potential positive project impacts	
Economic (livelihood)	A desktop SIA would be required to assess economic impacts. The desktop SIA would supplement the specialist economic assessment.
Community (cohesion)	A standard SIA would be required to assess community cohesion.
Economic (natural resource use)	A desktop SIA would be required to assess economic impacts. The standard SIA would supplement the specialist economic assessment.
Biodiversity (native vegetation)	A desktop SIA would be required to assess biodiversity and water impacts. The standard SIA would supplement the specialist BDAR.
Water (hydrological flows)	
Potential negative project impacts	
Amenity (acoustic)	A desktop SIA would be required to assess acoustic amenity, alongside the quantitative noise assessment required for the project.
Access (road network)	A standard SIA would be required to further assess road access impacts and supplement the specialist traffic assessment.

Social matter (and relevant subcategory)	Level of assessment for the social impact in the SIA
Heritage (Aboriginal cultural)	A desktop SIA would be required for the assessment of this matter. The desktop SIA would supplement the ACHAR.
Community (health)	A standard SIA would be required to investigate health impacts. The standard SIA would supplement the groundwater impact assessment.
Community (safety)	A standard SIA would be required to further assess the potential impact of the project on community safety. The standard SIA would supplement the specialist traffic assessment.
Biodiversity (native vegetation and fauna)	A desktop SIA would be required to further assess the potential impact of the project on community biodiversity. The desktop SIA would supplement the BDAR.

5.2.10 Water

Groundwater

The project includes the extraction of sand from below the water table by dredging. During dredging, the majority of the water pumped from the dredge pond is returned to the dredge pond. A relatively small amount of water is removed from the aquifer in sand product dispatched from site and evaporation from the dredge pond. This is considered groundwater loss and needs to be accounted for in the sites water access licence.

The site is located within proximity to the broader management zone for PFAS contamination from RAAF Base Williamtown.

A groundwater impact assessment will be carried out in accordance with the AIP to assess the potential impact of the project on groundwater including:

- The potential for saltwater intrusion into local freshwater aquifers (namely the Stockton Sandbeds);
- PFAS contaminated groundwater being drawn towards the site;
- evaporative losses from extraction and losses from water in exported sand product;
- impacts to registered groundwater users in the surrounding area; and
- impacts to groundwater dependent ecosystems.

Surface water

Dredging would occur in sands that are extremely porous. Therefore, it is likely that any rainfall that lands on the project site would not result in overland flows due to the downward pressure gradient resulting in an equilibrium being maintained.

The proposed processing area will also be located on porous sands. All process water associated with dredging would likely contain only natural fines and organics that occur in the dredged sands, and this water will either percolate back through the porous sands or will drain back into the dredge pond preventing off site surface water runoff.

The following potential risks have been identified to surface water resources:

- Conversion of the landscape including removal of vegetation and a change from a terrestrial environment to a dredge pond will modify the existing water balance and create a direct interface between groundwater and the atmosphere. Any changes to the water balance need to be considered and sufficient water allocations need to be available or obtained. Changes may include moisture content leaving the site in material, evaporation of groundwater and

wash water used on site. The site currently has an allocation of 174 megalitres per annum and a number of approved water supply points.

- Operation and maintenance of machinery, potential leachate from ASS, erosion and sedimentation and on-site wastewater management all present water pollution risks at the site that will need to be assessed and managed.
- The site is located at the edge of the 1% Annual Exceedance Probability (AEP) design flood extent as outlined in the Williamstown-Salt Ash Floodplain Management Study and Plan (BMT WBM, 2017). Risks to the site may include elevated flood levels as sand extraction approaches the groundwater table and as the dredge pond is created, along with vehicular access risks from Oakvale Drive when flooding occurs. The site is located approximately 2 km from Stockton Beach, as such, coastal erosion is not considered a risk for the site, however ocean inundation impacts may be an issue in large events. Depending on the construction of dredge ponds and the surrounding landscape, pond overflows to the adjacent landscape may be a risk.

A Surface Water Assessment will be prepared to identify the existing surface water conditions and assess the impacts of the proposed project. The SWA will identify a surface water strategy and management system to mitigate the impacts of the project.

5.3 Standard assessment matters

The following matters in the scoping worksheet will not be considered via a detailed assessment as they are unlikely to be significantly impacted by the project. The EIS will qualitatively assess these matters and describe why they were not subject to detailed assessment.

- Amenity – other than potential noise and air emissions from quarry operations and trucks transporting sand to and from the site, the project will not impact amenity as vibration impacts are unlikely to propagate the distance to nearby receivers. The entrance to the quarry is partially visible from sensitive receivers at the end of Oakfield Drive and Janet Parade. Despite this, the project would be consistent with the existing operations at the site and not result in an alteration to existing views from surrounding areas. As such, the project would not result in new or additional visual impacts to sensitive receivers.
- Built environment – the project will require continued access via private property to access Oakvale Drive and may have potential interaction with the public domain. However, potential impacts to the built environment are anticipated to be minor.
- Hazards and risks:
 - Biosecurity – the project may require the removal of exotic vegetation and weed material, however, will not result in the spread of weeds or pest animals. Some weed propagules and pathogens could also be introduced to the site in imported material. However, weed management strategies would be considered in the BDAR for the project.
 - Coastal hazards – the project is not anticipated to impact the beach, foredune, deflation basin and mobile transverse dunes of Stockton Bight as the project site is physically removed from, and downwind of these environments. Regardless, a coastal geomorphologist would be engaged to advise on the project and the potential for impacts to the coastal environment and dune system.
 - Dams – other than the two artificial ponds for overflow water from the processing plant, there are no dams near the site and the project will not involve construction of/alterations to a dam. The artificial ponds would likely be removed as dredging operations progress within the site. The potential for water quality impacts would be considered in the surface water assessment for the project.
 - Land movement – the project will not involve undermining or production of steep slopes and will not result in subsidence or land movement provided the implementation of geotechnical engineering advice and proposed rehabilitation strategy.

- Waste – the project will not generate significant quantities of general solid, hazardous or liquid waste. Any waste that is generated will be managed in accordance with the waste hierarchy in the WARR Act.
- Contamination and environmental hazards – the potential for contamination is considered low given historical land use at the project site, which comprised vegetation clearing and sand extraction/processing. Based on the low risk of contamination combined with a known and continuing use of the land for extractive industry, no further detailed assessment of contaminated land or land remediation is considered necessary.
- Heritage – the project will be contained on the site and will not directly impact items of historic (non-Aboriginal) heritage significance. The only listed heritage item located within 500 m of the project is the 'Stockton Beach Dune System', which is heritage listed on the Port Stephens LEP. The curtilage of the heritage listing lies directly adjacent to the south of the quarry boundary. Whilst the project would not result in direct impact to this heritage listed landscape, the EIS will examine the potential for indirect impacts associated with potential impacts to groundwater flows and quality and potential visual amenity impacts. The site has been previously heavily disturbed and is unlikely to contain remaining items of historical heritage significance. Notwithstanding, the EIS will contain standard management measures for unexpected heritage finds.
- Land –
 - Land capability – the project will have minimal negative impact on the overall land capability given it will be in a previously disturbed quarry site, on land with low land and soil capability, and use of the site for extractive industry will not detract from other agricultural land use.
 - Soil chemistry – see hazards and risks for ASS class.
 - Stability/structure – see hazards and risks for land stability risks.
 - Topography – the project will alter existing site topography via removal of vegetation, topsoil and sand, however, management measures and a rehabilitation strategy will be implemented to ensure land stability (refer to hazards and risks).

5.4 Scoping only matters

The following matter which appears in the scoping worksheet but have not been considered in detail as they are unlikely to be significantly impacted by the project. The EIS will note these matters and describe why they were not assessed further.

- Access – other than potential road impacts, the project will not impact access as it will not detract from on street parking, blocking or reconfiguration of access to other properties. The project would not impact upon port or airport facilities.

5.5 Cumulative impacts

The following matters associated with the project will need to be considered from a cumulative perspective:

- Air quality – the project will continue to operate adjacent to other extractive land uses which also generate particulates and greenhouse emissions. Project emissions could combine with emissions from these other operations and result in cumulative impacts. However, the risk of significant cumulative impacts will be low as project air emissions will be mitigated using best practice measures. Additionally, thresholds for regional cumulative impacts are provided in EPA's (2016) *Approved methods for the modelling and assessment of air pollutants in NSW*, which apply to all regional sources, not only individual projects.
- Noise – like air quality, noise generated by the project could combine with noise from surrounding operations and result in cumulative impacts. However, the risk of significant

cumulative impacts will be low as project noise emissions will be mitigated using best practice measures. Noise assessments under the NPfI inherently consider cumulative impacts as the noise trigger levels are derived from either the project intrusiveness or amenity noise level, whichever is lowest. The intrusiveness level seeks to not increase noise by more than 5 dB over background noise levels and the amenity level seeks to prevent the ambient noise level of all noise sources in an area combined from exceeding a recommended level. Residual noise impacts are determined by subtracting the noise trigger level from the noise predicted to be generated by the project, and management measures applied according to the level of residual impact.

- Traffic – Potential cumulative intersection impacts are considered using the level of service calculations in RMS's (2002) *Guide to Traffic Generating Development*. When an intersection's LoS is unsatisfactory, the roads authority may consider upgrades to improve its performance. The project is unlikely to significantly impact intersections on the local network as there anticipated to be spare capacity at these intersections.
- Biodiversity – the project adjoins a large native vegetation corridor associated with Worimi National Park and Worimi State Conservation Area. The north of the site, connectivity of this corridor is fragmented by agricultural lands. These existing intrusions form a barrier to fauna movement in the area. The project would require the clearing of native vegetation communities and associated habitat for fauna, which coupled with previous clearing at adjoining extractive operations could have the potential to fragment wildlife corridors. Despite this, it is not anticipated that the required vegetation clearing would reduce the availability or quality of habitat within the corridor to the degree that fauna roosting and foraging habitat will be significantly impacted.



CHAPTER 6

COMMUNITY AND OTHER
STAKEHOLDER ENGAGEMENT

6 COMMUNITY AND OTHER STAKEHOLDER ENGAGEMENT

6.1 Project stakeholders

A stakeholder is anyone who has an interest in the project. Key stakeholders are those directly affected or that may have a specific interest including:

- government authorities;
- bus transport customers;
- emergency services;
- schools and other educational institutions;
- utility authorities;
- property owners and residents;
- local businesses;
- local road users;
- Aboriginal groups; and
- community groups.

The full range of identified project stakeholders and their interests is contained in **Table 6.1**. The table also identifies the level of involvement/engagement for each stakeholder.

Table 6.1: Project stakeholders

Stakeholders	Issues of interest	Level of involvement/engagement	Level of interest
Road users <ul style="list-style-type: none"> ▪ Main roads used for haulage. ▪ Local roads used for haulage or by project staff/suppliers (e.g. Oakvale Drive). ▪ Pedestrians. ▪ Cyclists. ▪ Livestock. 	<ul style="list-style-type: none"> ▪ Road safety. ▪ Travel delays from increased traffic. ▪ Increased opportunity for interface with active transport users (e.g. cyclists, pedestrians) 	Inform/consult	Moderate
Government authorities (excluding Emergency Services) <ul style="list-style-type: none"> ▪ Port Stephens Council. ▪ DPIE. ▪ Transport for NSW. ▪ NSW Environment Protection Authority. ▪ Hunter Water Corporation. ▪ Regional Growth NSW Development Corporation (Williamstown Special Activation Precinct). ▪ NSW National Parks and Wildlife. ▪ NSW Crown Lands. 	<ul style="list-style-type: none"> ▪ Local road and traffic impacts. ▪ Community complaints. ▪ Managing local business disruptions. ▪ Groundwater impacts (and PFAS interface). ▪ Biodiversity. 	Inform Consult Involve Collaborate Empower	High

Stakeholders	Issues of interest	Level of involvement/engagement	Level of interest
Emergency services <ul style="list-style-type: none"> Police. Fire Brigade. Ambulance. State Emergency Services Rural Fire Services 	<ul style="list-style-type: none"> Traffic and road impacts (access to site and traffic volumes) Bushfire Injuries to the public or staff. 	Inform/consult	Low
Educational institutions <ul style="list-style-type: none"> Salt Ash Public School. 	<ul style="list-style-type: none"> Local road traffic impacts (safety and traffic delays). Biodiversity. Groundwater. 	Inform/consult	Low
Utility providers <ul style="list-style-type: none"> Ausgrid (power easement near site). 	<ul style="list-style-type: none"> Service disruption. Business reputations. 	Inform/consult	Low
Property owners and residents <ul style="list-style-type: none"> All in the ASI (e.g. Oakfield Drive, Valerie Road, David Drive, Oakvale Drive, Janet Parade). Residents along haulage routes. 	<ul style="list-style-type: none"> Local road and traffic impacts (including cumulative impacts). Road user safety. Construction impacts (noise, dust, vibration, land clearing and biodiversity, privacy). Delivery and storage of supplies and equipment. Long-term operational impacts (traffic volumes and condition of local roads, noise, dust, groundwater and PFAS). Sand dune destabilisation. Compliance with planning approval. 	Inform Consult Involve Collaborate Empower	High
Local businesses <ul style="list-style-type: none"> Hellfire Paintball. Oakvale Wildlife Park. MacKenzie family businesses (e.g. Macka's Australian Black Angus Beef). Neighbouring sand quarries. Paul's Corner Fruits and Liquor. Saxby's Bakery and Café. Salt Ash BP and Foodworks. Businesses along haulage routes. Busy Bees at Salt Ash. Period Designs. 	<ul style="list-style-type: none"> Business/operational disruptions. Access for deliveries. Parking (staff and customer). Local road and traffic impacts (contraflow, delays, diversions). Changes to pedestrian access. Operational environmental impacts (e.g. noise, dust, vibration). 	Inform Consult Involve Collaborate Empower	High
Environmental organisations <ul style="list-style-type: none"> Port Stephens Koalas Inc. Eco Network Port Stephens. 	<ul style="list-style-type: none"> Pollution. Vegetation clearing and habitat preservation. Biodiversity. 	Inform/consult	Moderate

Stakeholders	Issues of interest	Level of involvement/engagement	Level of interest
<ul style="list-style-type: none"> Hunter Bird Observers Club. 			
Community action groups <ul style="list-style-type: none"> Tomaree Rate Payers Association. Soldiers Point Community Group. 	<ul style="list-style-type: none"> Cumulative traffic impacts (traffic delays and condition of local roads). Environmental impacts (eg biodiversity, dune destabilisation/Stockton Beach erosion, groundwater and PFAS). Road safety. Compliance with planning approval. 	Inform/consult	High
Aboriginal organisations <ul style="list-style-type: none"> Worimi LALC 	<ul style="list-style-type: none"> Cultural heritage disturbance. Interference with traditional land (e.g. Worimi Conservation Lands). Employment for Indigenous people. 	Inform/consult	Moderate
Transport operators <ul style="list-style-type: none"> Port Stephens Coaches. NSW Taxi Council. Uber. 	<ul style="list-style-type: none"> Cumulative traffic impacts (traffic delays and condition of local roads). Customer safety. 	Inform/consult	Low
Media <ul style="list-style-type: none"> Local radio: <ul style="list-style-type: none"> Bay FM Nelson Bay; and Port Stephens radio FM. Print media: <ul style="list-style-type: none"> Port Stephens Examiner; and Newcastle Herald. Social media 	<ul style="list-style-type: none"> Any issues of community concern. 	Inform	Low

6.2 Completed community engagement

Early (scoping) engagement was undertaken for the project and described in the scoping exercise methodology (refer to **Section 5.2.9**).

6.3 Proposed community engagement and communications

Further stakeholder engagement would be conducted for the EIS preparation and include the activities below, which form part of the Consultation and Communication Plan developed for the project.

6.3.1 Community hotline and email address

A community hotline and email address would be established and provide a means for external parties to contact the project team. The contact number and email address would be published in all project collateral.

6.3.2 Project website

Holcim's website would be the host of a project specific webpage which will operate as the main source of project information during all project stages. Information to be included is:

- overview;
- about Salt Ash Sand Operations;
- planning and approvals;
- our community;
- community consultative committee;
- proposal – EIS;
- pollution and monitoring data;
- photo gallery; and
- environmental or community enquiries.

6.3.3 Email blasts

An email blast to the project contact database would be used to distribute project communications such as the EIS community updates and community information sessions.

6.3.4 Community information sessions

Community information sessions would be held in a public venue in Salt Ash to disseminate project information to stakeholders. The sessions will provide an opportunity for stakeholders to meet the project team, provide feedback, and raise any queries.

Drop-in style sessions will be held separately during the afternoon and evening on a single day. The sessions would be repeated on a second occasion once results of preliminary EIS studies are obtained. Appropriate project staff would attend, and other specialists at the discretion of Holcim. Invitations would be sent via email to the project contact database.

It should be noted that the structure of any community information sessions may need to be tailored in response to the COVID-19 pandemic, and as such alternative strategies to traditional in person community sessions may need to be developed and agreed with DPIE.

6.3.5 Frequently asked questions

If required, Frequently Asked Questions (FAQs) documents about community issues that attract a high level of attention would be created for distribution at the community information sessions. FAQs would provide a means to efficiently answer enquiries about a particular topic. Copies of the FAQs would be made available on the project website.

6.3.6 Media releases

Media releases to announce any major milestones such as determination of the SSD application would be prepared and distributed by Holcim.

6.3.7 Community updates

Community updates are documents more substantial than other written external communications. They would provide the community with EIS progress updates, results of any preliminary studies, good news stories or environmental management initiatives associated with the current quarry operations, photos, and project contact details. Community updates would be distributed to all

residents in the project's ASI via a doorknock, to contacts in the project database, and made available on the project website.

6.3.8 Meetings with stakeholders and property owners

Meetings with key stakeholders would be required during EIS preparation. Stakeholders would be contacted and invited to meetings with the appropriate project staff as required.

6.4 Communications processes and procedures

The communications processes and procedures below are designed to ensure stakeholder engagement, consultation and communications are implemented consistently, reliably and equitably for the duration of the project.

6.4.1 Contact record management

All correspondence during the EIS development and EIS exhibition phases including enquiries, meetings, discussions and complaints would be recorded in a project contact register. The register would be used to identify and resolve community issues.

The register would record the following details:

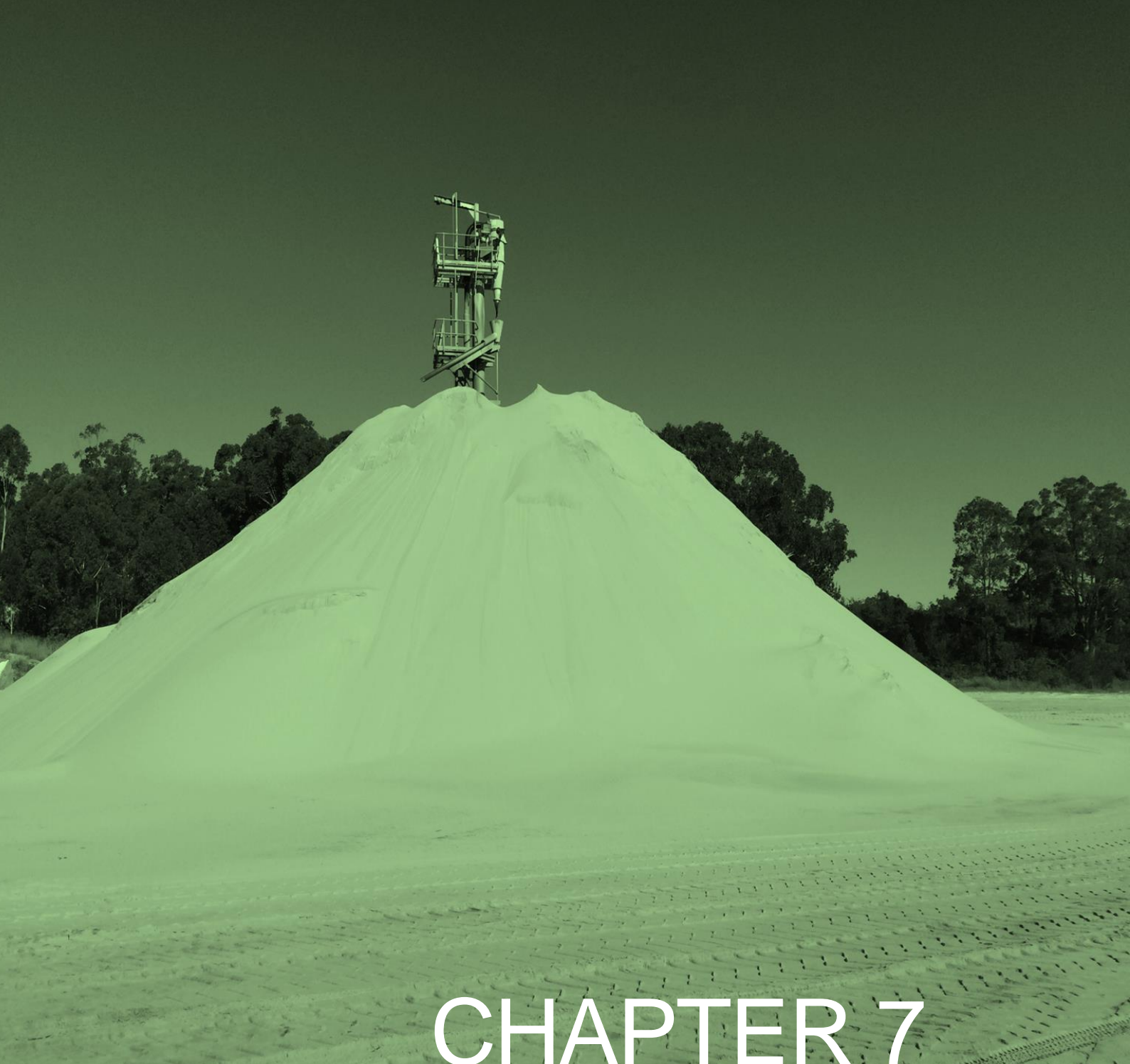
- date and time of communications;
- type of communication (e.g. telephone, letter, meeting);
- name, address, contact telephone number, email of stakeholder;
- nature of communication (e.g. enquiry, complaint);
- action taken in response, including follow up contact with the stakeholder; and
- details of whether the communication was resolved or closed out.

6.4.2 General enquiries, feedback and complaints management

All project communication collateral and the project website would provide details on how to contact the project team. Complaints or enquiries would be lodged via the community hotline, email, letter, and/or face-to-face contact. Stakeholders and community members may request project information, provide feedback about project activities or lodge a complaint. All enquiries, feedback and complaints received would be forwarded to the Holcim Site Manager for acknowledgement, investigation and response as appropriate.

Table 6.2: Complaints management

Item	Response Process
Calls and emails (complaints)	<ul style="list-style-type: none">▪ All calls and emails will be acknowledged and investigated immediately.▪ Holcim will provide a verbal response to the complainant regarding what action is proposed, immediately, within a maximum of two hours from the time of the complaint.▪ If no return phone number was provided, the complaint must be responded to within a maximum of 24 hours.
Letters (complaints)	<ul style="list-style-type: none">▪ If no return phone number was provided, the complaint must be responded to within a maximum of five business days.
All complaints	<ul style="list-style-type: none">▪ A written response to the complainant will be made within seven days.



CHAPTER 7

CONCLUSION

7 CONCLUSION

This scoping report has been prepared by Element on behalf of Holcim, who are seeking SSD approval under Division 4.7 of the EP&A Act for the extraction and processing of an estimated 4 million tonnes of sand from the quarry at a rate of up to 550,000 tpa. Additionally, the importation of up to 200,000 tpa of sand from Anna Bay, Tanilba Bay and Cabbage Tree Road Quarry will continue for the project. This sand would be processed at the site and dispatched as per the existing operations. As such, the project will seek to process and dispatch up to 750,000 tpa of sand products from the quarry.

This scoping report has been prepared for use by DPIE to brief Government agencies and other stakeholders and to prepare SEARs that will guide the environmental assessment process and the preparation of an EIS.

This scoping report identifies environmental factors that will require further detailed investigations as part of the environmental impact assessment that will be detailed in the EIS.

During the preliminary environmental assessment process, no environmental factors have been identified that would cause the project to result in significant or unacceptable environmental impacts (assuming the implementation of appropriate environmental controls and management and monitoring measures).

This scoping report also identifies potential social impacts associated with the project by undertaking a SIA scoping exercise in accordance with the SIA guidelines. The SIA scoping exercise involved engagement with the local community to help define key social matters that require further assessment in the EIS. The SIA scoping exercise did not identify any significant or unacceptable social matters that would prevent the project from proceeding.



CHAPTER 8

REFERENCES

8 REFERENCES

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APPENDIX A

SCOPING WORKSHEET

Project : Salt Ash Sand Quarry SSD								
MATTERS		IMPACTS		ASSESSMENT LEVEL	CUMULATIVE IMPACTS	COMMUNITY ISSUES	ASSESSMENT APPROACH	SCOPING REPORT
Potential matters that could be affected by the project		Is the project (without mitigation) likely to cause an impact?	Are the impacts (without mitigation) likely to be significant based on the magnitude of the impacts and/or sensitivity of receivers?	What level of assessment is required to assess impacts and determine mitigation measures?	Will cumulative assessment be required?	Did the community raise any concerns about the impacts?	Indicative approach to assessment in EIS	Where was this addressed in the Scoping Report?
Group	Specific	Impact?	Significant Impact?	Assessment Level	Cumulative Impact?	Concerns?	Category	Section
ACCESS	access to property	Yes	Unlikely	Standard	No	No	Standard Assessment	Section 5.3
	parking	No				No	None (include short explanation in Scoping Report)	Section 5.4
	port / airport facilities	No				No	None (include short explanation in Scoping Report)	Section 5.4
	road / rail network	Unknown	Unknown	Detailed	Yes	Yes	Detailed Assessment and CIA with focussed engager	Section 5.2.1
	other - please specify	N/A	N/A	Standard	No			N/A
AIR	atmospheric emissions	Yes	Unknown	Detailed	Yes	No	Detailed Assessment and CIA	Section 5.2.2
	gases	Unknown	Unknown	Detailed	Yes	No	Detailed Assessment and CIA	Section 5.2.2
	particulate matter	Yes	Unknown	Detailed	Yes	Yes	Detailed Assessment and CIA with focussed engager	Section 5.2.2
	other - please specify	N/A						
AMENITY	noise	Yes	Unknown	Detailed	Yes	Yes	Detailed Assessment and CIA with focussed	Section 5.2.3
	odour	Unknown	Unlikely	Standard	No	No	Standard Assessment	Section 5.3
	vibration	Unknown	Unlikely	Standard	No	No	Standard Assessment	Section 5.2.3
	visual	Unknown	Unlikely	Standard	No	No	Standard Assessment	Section 5.3
	other - please specify	N/A						
BIODIVERSITY	conservation areas	Yes	Unlikely	Detailed	No	No	Standard Assessment	Section 5.2.4
	native vegetation	Yes	Unknown	Detailed	No	Yes	Detailed Assessment	Section 5.2.4
	native fauna	Yes	Unknown	Detailed	No	Yes	Detailed Assessment	Section 5.2.4
	other - please specify	N/A						
BUILT ENVIRONMENT	private property	Yes	Unlikely	Standard	No	No	Standard Assessment	Section 5.3
	public domain	Unknown	Unlikely	Standard	No	No	Standard Assessment	Section 5.3
	public infrastructure	Unknown	Unlikely	Standard	No	No	Standard Assessment	Section 5.3
	other - please specify	N/A						
ECONOMIC	livelihood	Unknown	Unknown	Detailed	No	No	Detailed Assessment	Section 5.2.5
	natural resource use	Unknown	Unlikely	Standard	No	No	Standard Assessment	Section 5.2.5
	opportunity cost	Unknown	Unlikely	Detailed	No	No	Standard Assessment	Section 5.2.5
	other - please specify	N/A						
HAZARDS & RISKS	biosecurity	Unknown	Unlikely	Standard	No	No	Standard Assessment	Section 5.3
	bush fire	Yes	Unknown	Detailed	No	No	Detailed Assessment	Section 5.2.6
	coastal hazards	Unknown	Unlikely	Standard	No	No	Standard Assessment	Section 5.3
	dams	Unknown	Unlikely	Standard	No	No	Standard Assessment	Section 5.3
	dangerous goods	Yes	Unlikely	Standard	No	No	Standard Assessment	Section 5.2.6
	environmental hazards	Unknown	Unlikely	Standard	No	No	Standard Assessment	Section 5.3
	floods	Unknown	Unknown	Detailed	No	No	Detailed Assessment	Section 5.2.10
	groundwater contamination	Unknown	Unknown	Detailed	No	No	Detailed Assessment	Section 5.2.10
	hazardous / offensive development	Unknown	Unlikely	Standard	No	No	Standard Assessment	Section 5.2.6
	land contamination	Unknown	Unlikely	Standard	No	No	Standard Assessment	Section 5.2.6
	land movement	Yes	Unlikely	Standard	No	No	Standard Assessment	Section 5.2.8
	waste	Yes	Unlikely	Standard	No	No	Standard Assessment	Section 5.3
	other - please specify	N/A	N/A					
HERITAGE	Aboriginal cultural	Yes	Unknown	Detailed	No	No	Detailed Assessment	Section 5.2.7
	historic	Unknown	Unlikely	Standard	No	No	Standard Assessment	Section 5.3
	natural	Unknown	Unlikely	Standard	No	No	Standard Assessment	Section 5.3
	other - please specify	N/A	N/A					
LAND	land capability	Unknown	Unlikely	Standard	No	No	Standard Assessment	Section 5.3
	soil chemistry	Unknown	Unlikely	Standard	No	No	Standard Assessment	Section 5.2.6
	stability / structure	Yes	Unlikely	Standard	No	No	Standard Assessment	Section 5.2.8
	topography	Yes	Unlikely	Standard	No	No	Standard Assessment	Section 5.3
	other - please specify	N/A						
SOCIAL	community services / facilities	N/A	N/A	Standard	No	No	None (include short explanation in Scoping Report)	N/A
	health	Yes	Likely	Standard	No	Yes	Standard Assessment and CIA with focussed engage	Section 5.2.9
	housing availability	N/A	Unlikely	Standard	No	No	None (include short explanation in Scoping Report)	N/A
	safety	Yes	Unlikely	Standard	No	Yes	Standard Assessment with focussed engagement	Section 5.2.9
	social cohesion	N/A	Unlikely	Standard	No	No	None (include short explanation in Scoping Report)	N/A
	other - please specify	N/A	N/A	Standard	No	No	None (include short explanation in Scoping Report)	N/A
WATER	ground water quality	Yes	Unknown	Detailed	No	Yes	Detailed Assessment with focussed engagement	Section 5.2.10
	hydrological flows (including flooding)	Yes	Unknown	Detailed	No	No	Detailed Assessment	Section 5.2.10
	surface water quality	Yes	Unknown	Detailed	No	No	Detailed Assessment	Section 5.2.10
	water availability	Yes	Unknown	Detailed	No	No	Detailed Assessment	Section 5.2.10
	other - please specify	N/A	N/A					

Social impact assessment (SIA) scoping worksheet for:			0				Date:				
Scoping results from EIS Worksheet						Is there a social impact?		What information will be required to assess the social impac?			
Social and environmental matters Click on a matter below for brief description, or refer to full glossary			Outline of impact (Auto fill from EIS worksheet)	Is a material effect on the matter expected? (Auto fill from EIS worksheet)	Is there community or other stakeholder concerns regarding the impact or activity? (Auto fill from EIS worksheet)	With regard to the matter expected to be impacted, will there be a social impact? Select this cell for brief description, or click link above for further detail		Are impacts on the matter expected to require a non-SIA specialist study? (Auto fill from EIS worksheet, then manually enter non-SIA report type)	Will the non-SIA specialist study address the social impact? Click on link above for further detail on potential classifications (Select from list)	Level of assessment for the social impact in the SIA Click on link above for further detail on potential classifications (Auto fills)	
						Yes/No (Select from list)	If yes, outline the social impact (Manual entry, if not already covered in column D) If no, outline why (Manual entry)				
What does the proposal mean for people?	AMENITY	acoustic	The proposed increase in production and transportation has the potential to increase noise levels experienced at Oakvale Wildlife Park and residences within Salt Ash to the south of Nelson Bay Road. Previous studies also raised noise/vibration from trucks as an issue.	Yes	No	Yes		Yes - noise assess	Yes - fully	Desktop SIA	
		visual	The entrance to the quarry is partially visible from sensitive receivers at the end of Oakfield Drive and Janet Parade. Despite this, the project would be consistent with the existing operations at the site and not result in an alteration to existing views from surrounding areas. As such, the project would not result in new or additional visual impacts to sensitive receivers	Yes	No	No		No		No SIA required	
		ACCESS	road and rail network	The project will transport additional sand products both east and west along Nelson Bay Road and beyond via the same transportation routes as existing operations. Future and cumulative quarry traffic may contribute to impacts on the condition of the road network, and the potential for quarry traffic non-compliance with weight and hours of operation conditions	Yes	Yes	Yes		Yes - TTA	Yes - in part	Standard SIA
			HERITAGE	Aboriginal cultural	The presence of numerous recorded sites on and near the quarry demonstrate that the local landscape was used by Aboriginal people in the past and that material traces of this landscape use have survived in the form of Aboriginal objects and archaeological deposit.	Yes	No	Yes		Yes - ACHAR	Yes - fully
	COMMUNITY	health	Mental health of residents in the area has been influenced by PFAS contamination originating at the Williamtown RAAF base. The proposed dredging operation has a logical connection to groundwater and this may generate adverse perceptions to the affected individuals.	Yes	Yes	Yes		Yes - GIA	Yes - in part	Standard SIA	
		safety	Sand haulage along local roads (in particular Oakvale Drive) presents a potential safety risk to road users. Previous studies on nearby quarries have also raised speeding trucks on Oakvale Drive and members of the public accessing site without authority as safety issues.	Yes	Yes	Yes		Yes - TIA	Yes - in part	Standard SIA	
	BIODIVERSITY	native vegetation	The project requires the clearing of native vegetation, not currently approved via historical development consent, which has the potential to contain threatened flora species or their habitat and suitable habitat for threatened fauna species. The native vegetation communities may also meet the classification of a Threatened Ecological Community (TEC) and may require biodiversity offsetting.	Yes	Yes	Yes		Yes - BDAR	Yes - fully	Desktop SIA	
		native fauna	The project requires the clearing of native vegetation, not currently approved via historical development consent, which has the potential to contain threatened flora species or their habitat and suitable habitat for threatened fauna species. The native vegetation communities may also meet the classification of a Threatened Ecological Community (TEC) and may require biodiversity offsetting.	Yes	Yes	Yes		Yes - BDAR	Yes - fully	Desktop SIA	



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