Attachment 7 – Siting and Location

Works Approval Application

Platinum Blasting Services Pty Ltd

21 February 2025

→ **The Power of Commitment**

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1. Introduction

GHD Pty Ltd (GHD) acts on behalf of Blue Diamond Australia Pty Ltd (BDA), the proponent of a proposed Ammonium Nitrate Facility (ANF), in preparing this Works Approval application for DWER. The ANF will be operated by Platinum Blasting Services Pty Ltd (PBA) on behalf of BDA, who will be the applicant for this Works Approval application.

The ANF project is commercially referred to as 'Project Terra'. It is proposed to be a 12 ha site (located within an overall 48-ha lease area) located across Lots 11 and 12 on Plan 18559 within the Oakajee Strategic Industrial Area (Oakajee SIA), 20 kilometres north of Geraldton in Western Australia.

Oakajee SIA has been selected as the location of the proposed ANF because of its strategic Mid-West location and future development potential as a hub for heavy industry projects. Oakajee SIA is owned and managed by DevelopmentWA (DevWA), the State Government's development agency.

At the time of writing, the Oakajee SIA remains undeveloped, making Project Terra the first industrial facility development in the SIA that is not only submitted but capable of development imminently. The proposed ANF consists of two core components which are:

– An ammonium nitrate emulsion manufacturing plant with an initial production capacity of up to 40,000 tonnes per year; and,
– An ammonium nitrate storage faciality with a capacity of up to 13,500 tonnes per year.

The purpose of the ANF is to produce ammonium nitrate emulsion, which is used as a blasting agent in mining operations. Platinum Blasting Services will manage and operate the facility on behalf of BDA.

A Works Approval and Licence will be required for the ANF as it will be a Prescribed Premises under Schedule 1 of the *Environmental Protection Regulations 1987*, with the ANF being categorised under the following Prescribed Premises activity and design capacity threshold:

Category Number	Description	Category Production or Design Capacity	Proposed Design Capacity
75	Chemical blending or mixing not causing discharge: premises on which chemicals or chemical products are mixed, blended or packaged in a manner that does not cause or is not likely to cause a discharge of waste into the environment.	5,000 tonnes or more per year	40,000 tonnes per year

2. Environmental setting

2.1 Location

The proposed Project Terra Prescribed Premises site will cover an area of 12 ha on two lots (Lot 12 PO18559 and Lot 11 PO18559) located within a 48-ha lease area in the Oakajee Strategic Industrial Area (SIA), located approx. 20 km north of Geraldton, Western Australia (WA) which is in the Shire of Chapman Valley local government area (the Shire) (Figure 1).

Figure 1 ***Project Terra site location***

2.2 Climate

The Oakajee SIA experiences a Mediterranean climate characterised by mild, wet winters and hot, dry summers. Mean daily temperatures fluctuate seasonally, ranging from 30°C in the summer to 8°C in winter. Mean annual rainfall is around 450 mm, with approximately 73% of rainfall occurring from May to August. Table 1 shows the monthly statistics of rainfall for the closest weather station to the site (Howartharra WA, Station Number 008168).

Table 1 Monthly rainfall (mm) statistics for Howatharra WA station (008168)

Month	Mean	Lowest	Highest
January	6.6	0	87
February	9.6	0	94.9
March	14.6	0	153.9
April	25.0	0	144.1
May	66.5	0	321.7
June	102.2	5	295.7
July	92.5	12.2	245.9
August	66.1	0	171.2
September	31.3	0	117
October	17.4	0	86.9
November	8.1	0	51.5
December	4.2	0	75.5
Annual	**450.1**	**121**	**960.8**

2.3 Geology and soils

Oakajee lies mainly on the Tamala Limestone Formation, which is comprised of a calcarenite core with a capping of secondary limestone or capstone. The dominant geomorphological processes in the area include transport of sediment to the shore by waves, formation of coastal sand dunes by wind, and transport of sand inland by wind.

Freely draining yellow sandplain overlying limestone makes up the bulk of the soils within the Oakajee SIA. Soils across the Project Terra site are mapped as Deep Yellow Sand (*Soil Landscape Mapping – Western Australia* layer (DPIRD-076).

2.4 Site topography

The site is located within the Oakajee SIA which is located on a gently undulating coastal plateau. Elevation of the plateau ranges from RL 105 mAHD in the east to RL 70 mAHD in the west. To the west of the plateau is a steep limestone escarpment which drops to coastal dunes behind the beach. The majority of the Project Terra site gently slopes from north-east to south-west with a maximum elevation of 88 mAHD and a minimum elevation of 68 mAHD. The small portion of the site in the north-east slopes away from the site to the west. The topography and contour map is shown in Figure 2. It shows that there exists a well-defined overland flow path running along the western boundary of the Project Terra site which is originated from the northern side of the upper catchment (Figure 2).

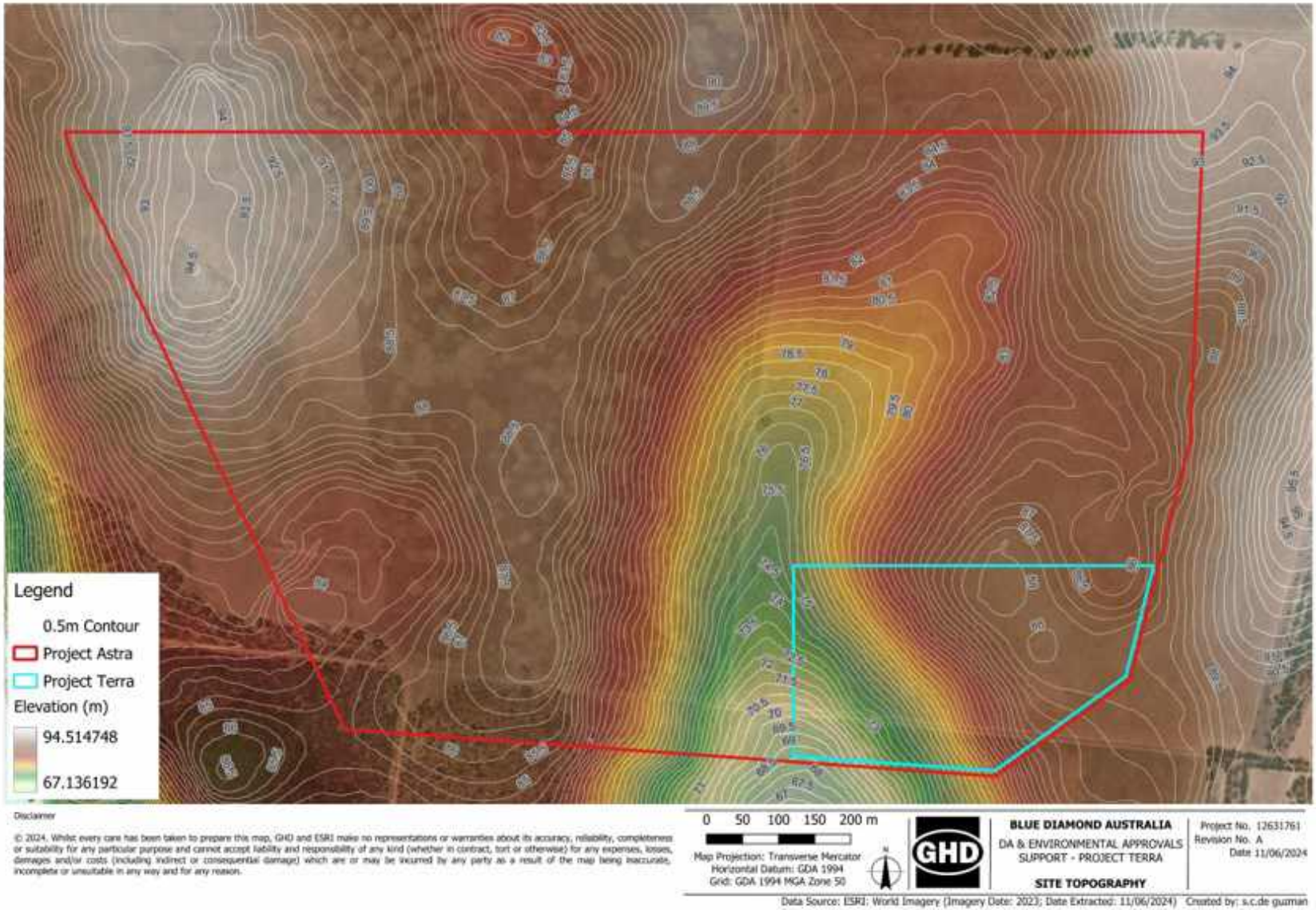

Figure 2 Project Terra site topography

2.5 Land use

The Australian Land Use and Management (ALUM) classification system is a nationally consistent land use classification scheme that is maintained by the Department of Agriculture, Fisheries, and Forestry (DAFF). Land uses are broadly grouped into the following categories, with each group containing several more precise sub-classifications:

– Conservation and natural environments
– Production from relatively natural environments
– Production from dryland agriculture and plantations
– Production from irrigated agriculture and plantations
– Intensive uses
– Water

The land uses at the Project and in the surrounding area are presented in Figure 3. The Project Terra site is located on grazing modified pastures classified land, and is surrounded by land classified as either, residual native cover (to the north-west), other conserved area land (directly east of the site), and modified grazing pasture north and south of the site.

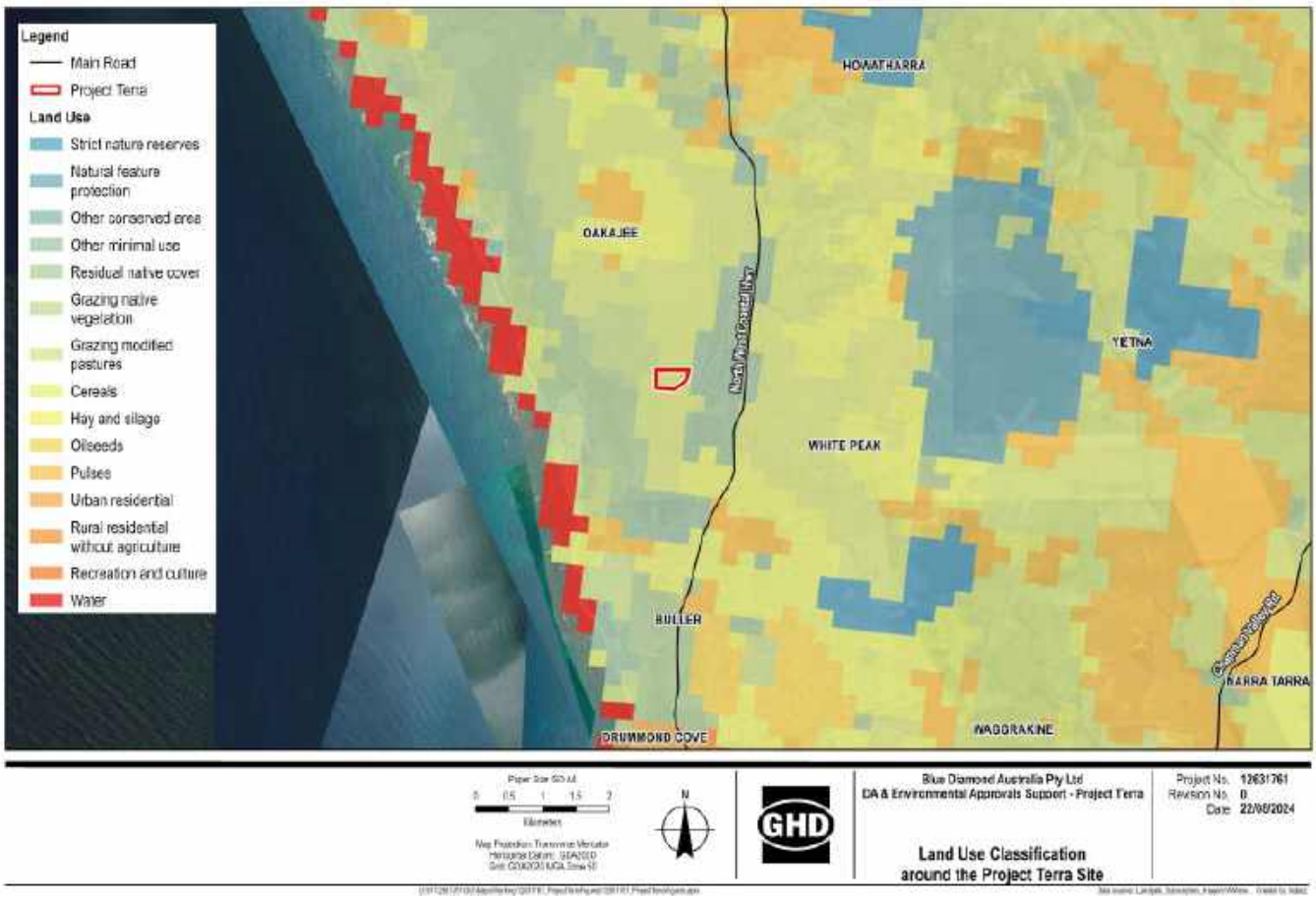

Figure 3 Land use within and around the Project Terra site

2.6 Local hydrology

The Project Terra site is located at the south-west end of the Mid West-Gascoyne Region of WA. It is within the Northampton Coast Surface Water Management Area. No watercourses travel across the site and the closest watercourse is the Buller River which is approximately 1 km east of the site (Figure 1). The elevation different between the eastern boundary of the site and the Buller River to the east is at least 42m.

2.7 Hydrogeology

The groundwater at the Oakajee SIA occurs in unconfined aquifers 14m to 63m BGL and flows predominantly in a westerly or south-westerly direction towards the coast. Groundwater levels for the Oakajee SIA are shown in Figure 4.

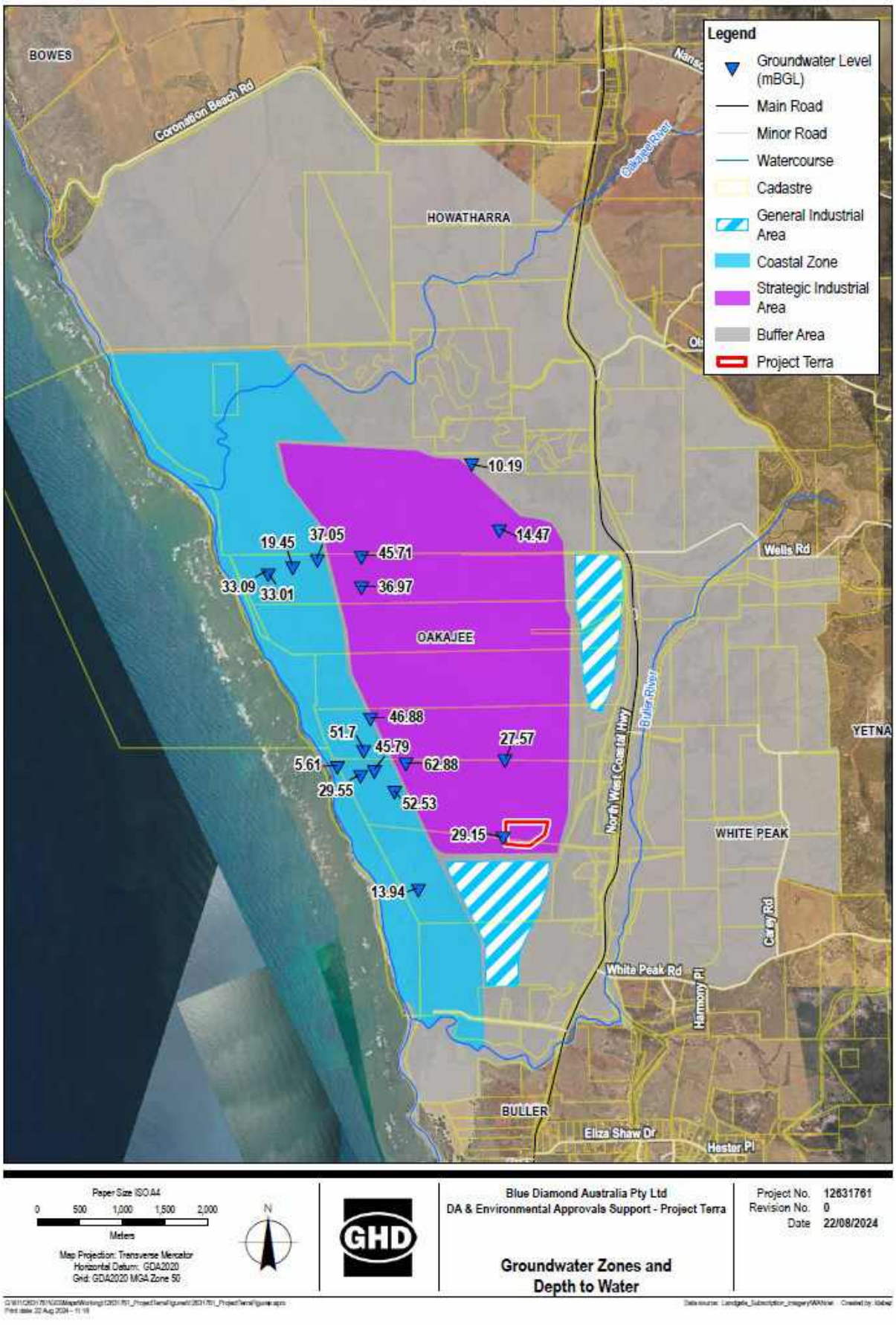

Figure 4 ***Recorded groundwater levels over the Oakajee Industrial Area (LandCorp, 2012)***

2.8 Sensitive land uses/receptors

Land uses/receptors considered to be potentially sensitive to emissions from industry and infrastructure are presented in Table 2. Some commercial, institutional and industrial land uses which require high levels of amenity or are sensitive to specific emissions may also be considered “sensitive land uses”.

Table 2 Sensitive land uses/receptors (Source: (EPA, 2005))

General Community Use	Commercial, Institutional, and Industrial Use
– Residential developments – Hospitals – Hotels – Motels – Hostels – Caravan parks – Schools – Nursing homes – Childcare facilities – Shopping centres – Playgrounds – Some public buildings	– Some retail outlets – Offices and training centres – Some types of storage and manufacturing facilities

EPA guidance (EPA, 2005) recommends separation distances between industrial and sensitive land uses, which are proposed to protect amenity values (not potential health impacts) from point-source gaseous emissions, noise and odour emissions, and fugitive dust emissions.

The recommended buffer distance between industrial chemical blending or mixing activities (category 75) to sensitive land uses/receptors is 300 to 500 m, depending upon the size of the operation and chemicals involved (Table 3).

Table 3 EPA recommended separation distance

Industry	Description	Prescribed Premises category	Recommended buffer distance (m)
Chemical blending or mixing	Premises where chemicals or chemical products are blended, mixed or packaged	75	300-500, depending on size & type of chemicals involved

The nearest sensitive receptors identified in the vicinity of the Project are presented in Table 4 and Figure 5.

Table 4 Map coordinates of Identified sensitive receptors around the refinery Lease Area

ID	Sensitive land use/receptor	Easting (m)	Nothing (m)	Distance and direction from project area
R01	Residential	268293	6832671	1 km NW
R02	Residential	268600	6833348	1.75 km NW
R03	Residential	269759	6833900	3 km NW
R04	Residential	270186	6834354	3.6 km NW
R05	Residential	269278	6831681	1.8 km E
R06	Residential	266140	6829890	2 km SW
R07	Residential	268084	6830021	1.8 km S
R08	Residential	268250	6829418	2.5 km S

ID	Sensitive land use/receptor	Easting (m)	Nothing (m)	Distance and direction from project area
R09	Residential	269177	6830459	>2km SE
R10	Residential	268967	6830279	>2km SE
R11	Residential	269004	6830109	>2km SE
R12	Residential	268887	6829942	>2km SE
R13	Residential	268848	6829787	>2km SE
R14	Residential	268930	6829703	>2.5 km SE
R15	Residential	268969	6829711	>2km SE
R16	Residential	270084	6830217	>3 km SE
R17	Residential	270142	6830165	>3KM SE

Figure 5 *Identified sensitive receptors in the vicinity of the Project Terra site*

2.9 Nearby environmentally sensitive receptors and aspects

Nearby environmentally sensitive receptors and aspects are provided in Table 5

Table 5 Nearby environmentally sensitive receptors and aspects

Type/classification	Spatial data layer	Present on site	Nearest off-site location(s)	Proposed controls to prevent or mitigate adverse impacts (if applicable)
Environmentally Sensitive Areas (ESAs)	DWER-046	No ESAs on site.	Nearest ESA is: 1.9 km SE	N/A
Threatened Ecological Communities (TECs)	DBCA-038	No listed TECs listed on the site.	Nearest TECs are: – Approx. 1 km SW. – Approx 1.9 NW – Approx. 5 km NE – Approx. 2.9 km E – Approx. 3.4 SE	N/A
Threatened and/or priority fauna	DBCA-037	No listed threatened or priority fauna on site	– 1 x listed Presumed Extinct fauna 1 km E – 6 x listed Threatened – Endangered fauna > 5 km E	N/A
Threatened and/or priority flora	DBCA-036	No listed Threatened or Priority flora on site	– 1 x listed Priority 4 species located approx. 1.7 km SE – Numerous listed Priority and Threatened flora located > 3 km (E and NE).	N/A
Aboriginal cultural heritage (ACH) and other heritage sites	DPLH-099, DPLH-100, DPLH-098, DPLH-108,	No Registered or Lodged ACH sites located on the site. 1 x listed ACH Historic site (ACH-00016114) encroaches the Project Terra site on the western boundary. Site is categorised as being artefacts/scatter.	Nearest ACH Registered sites are located approx. 850 m E and 1.1 km SW. 	The DPLH have been consulted on this and they concluded that based on the current information held by DPLH, no approvals under the Aboriginal Heritage Act 1972 (AHA) are required in this instance.

Type/classification	Spatial data layer	Present on site	Nearest off-site location(s)	Proposed controls to prevent or mitigate adverse impacts (if applicable)
Public Drinking Water Source Areas (PDWSA)	DWER-033	Site is not located within a designated PDWSA.	– Nabawa Water Reserve (Protection Area – P2) – approx. 20 km E – Kalbarri Water Reserve (Protection Area – P1) – located approx. 100 km NW.	N/A
Surface water bodies	DWER-036 DWER-087	No surface water bodies are located on the site.	Buller River located approx. 2.5 km S and 1 km E of the site.	N/A
Acid sulphate soils (ASS)	DWER-051	Mapping indicates that the probability of occurrence of acid sulphate soils within the site is extremely low.	Nearest ASS risk areas are located approx. 1 km E and 2.5 km S 	N/A
Other	-	-	-	-

3. References

EPA. (2005). *Guidance for the Assessment of Environmental Factors No.3.* Environmental Protection Authority.

LandCorp. (2012). *Oakajee Industrial Estate Structure Plan: District Water Management Strategy.* Government of Western Australia, Dpartment of State Development. GHD.

Rockwater. (2003). *Oakajee Industrial Park Groundwater Monitoring Results.*

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