OPTIMISED MARDIE PROJECT

NATIVE VEGETATION CLEARING PERMIT APPLICATION

SUPPORTING INFORMATION

16 June 2021

PREPARED FOR MARDIE MINERALS PTY LTD

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1 INTRODUCTION

1.1 PROJECT BACKGROUND

Mardie Minerals Pty Ltd (Mardie Minerals; a wholly owned subsidiary of BCI Minerals Limited; BCI) is the owner and operator for the proposed Mardie Project (the Project), a greenfields high quality solar salt and sulphate of potash (SOP) production project and associated export facility at Mardie, approximately 80 kilometres (km) south west of Karratha, in the Pilbara region of Western Australia (WA) (Figure 1).

Mardie Minerals has recently gained access to an area adjacent to the current Project under a newly granted Section 91 Licence (Lic 00203/2019_A11291964). A contractual agreement with pastoral and Pilbara Ports Authority (PPA) leaseholders will allow for non-exclusive Project investigations on this Licence. Mardie Minerals proposes to conduct investigations on the Section 91 Licence to inform a potential expansion of the current Project as part of the Mardie Optimisation Project. Based on the BCI Minerals (2021) Optimised Feasibility Study, the Mardie Optimisation Project could result in increases in annual salt production to 5.35 Million tonnes per annum and 140 kilo tonnes per annum of SOP. The extent of the Mardie Optimised Feasibility Study is shown in Figure 2.

Mardie Minerals seeks to conduct a number of environmental and geotechnical investigations in the area granted by the Section 91 Licence (Lic 00203/2019_A11291964), to inform the Mardie Optimisation Project. A total vegetation clearing disturbance area of 10 hectares (ha) is required for the scope of these assessments.

1.2 PURPOSE

The purpose of this Native Vegetation Clearing Permit (NVCP) application is to authorise the clearing of up to 10 ha of native vegetation to enable geotechnical investigations and mesquite management / rehabilitation trials. Mardie Minerals will implement low disturbance clearing techniques including track rolling, drilling and topsoil stockpiling to enable the construction of access tracks, bore holes and test pits. All clearing will occur within the boundary of the Section 91 licence. A Purpose Permit is being applied for.

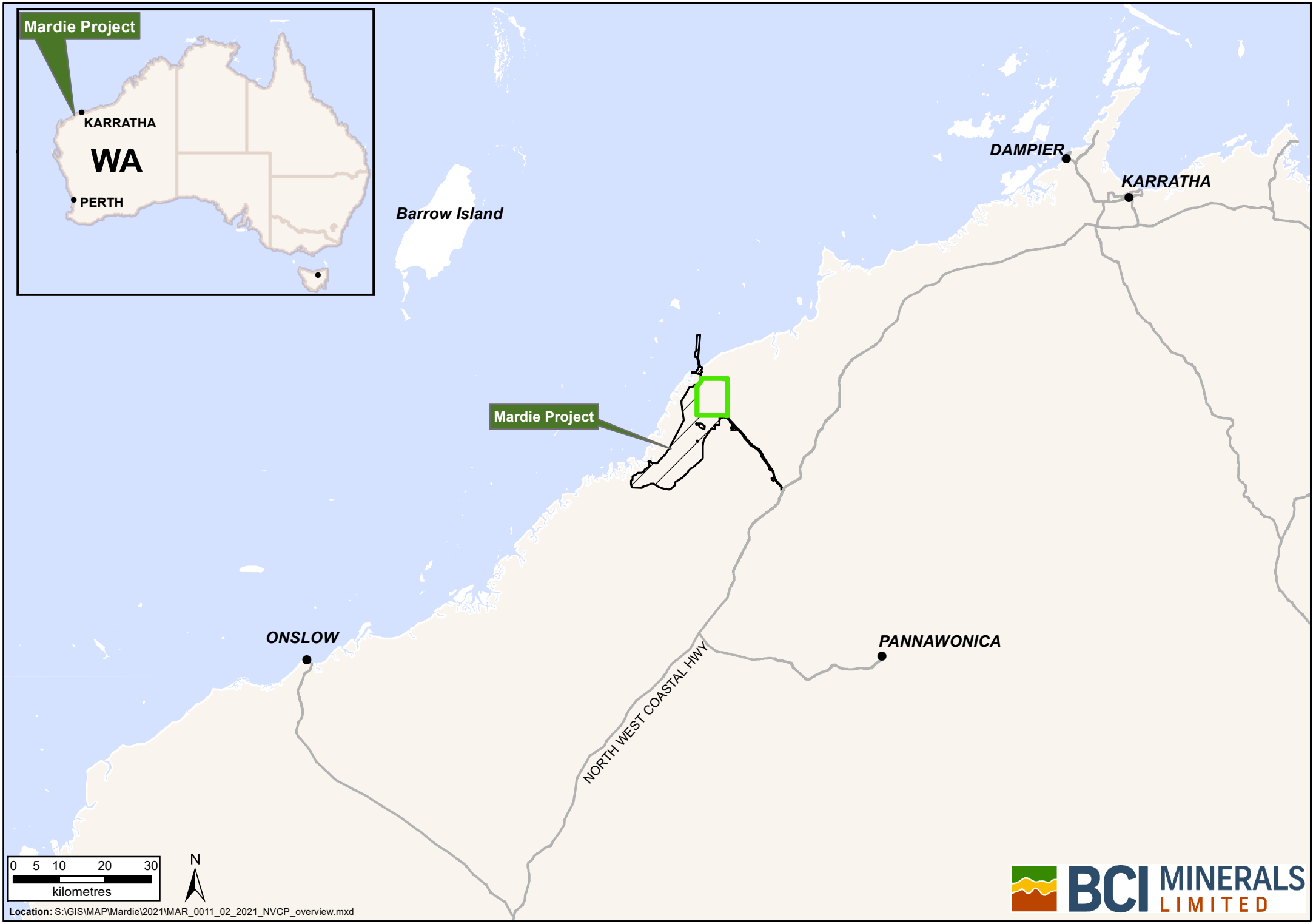


Figure 1: Regional Location of the Project

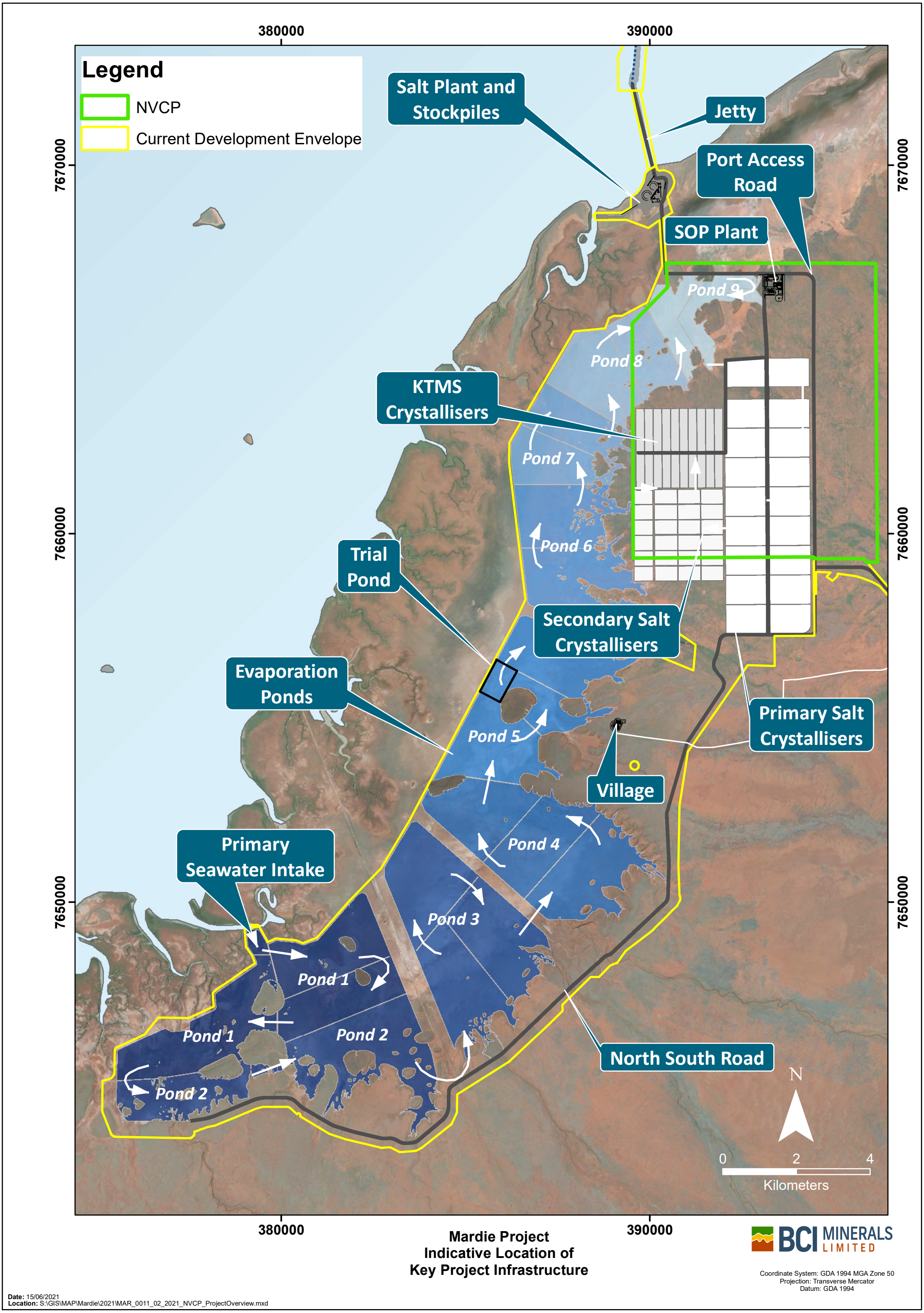


Figure 2: Layout of the Mardie Optimised Project

2 INVESTIGATION AREA

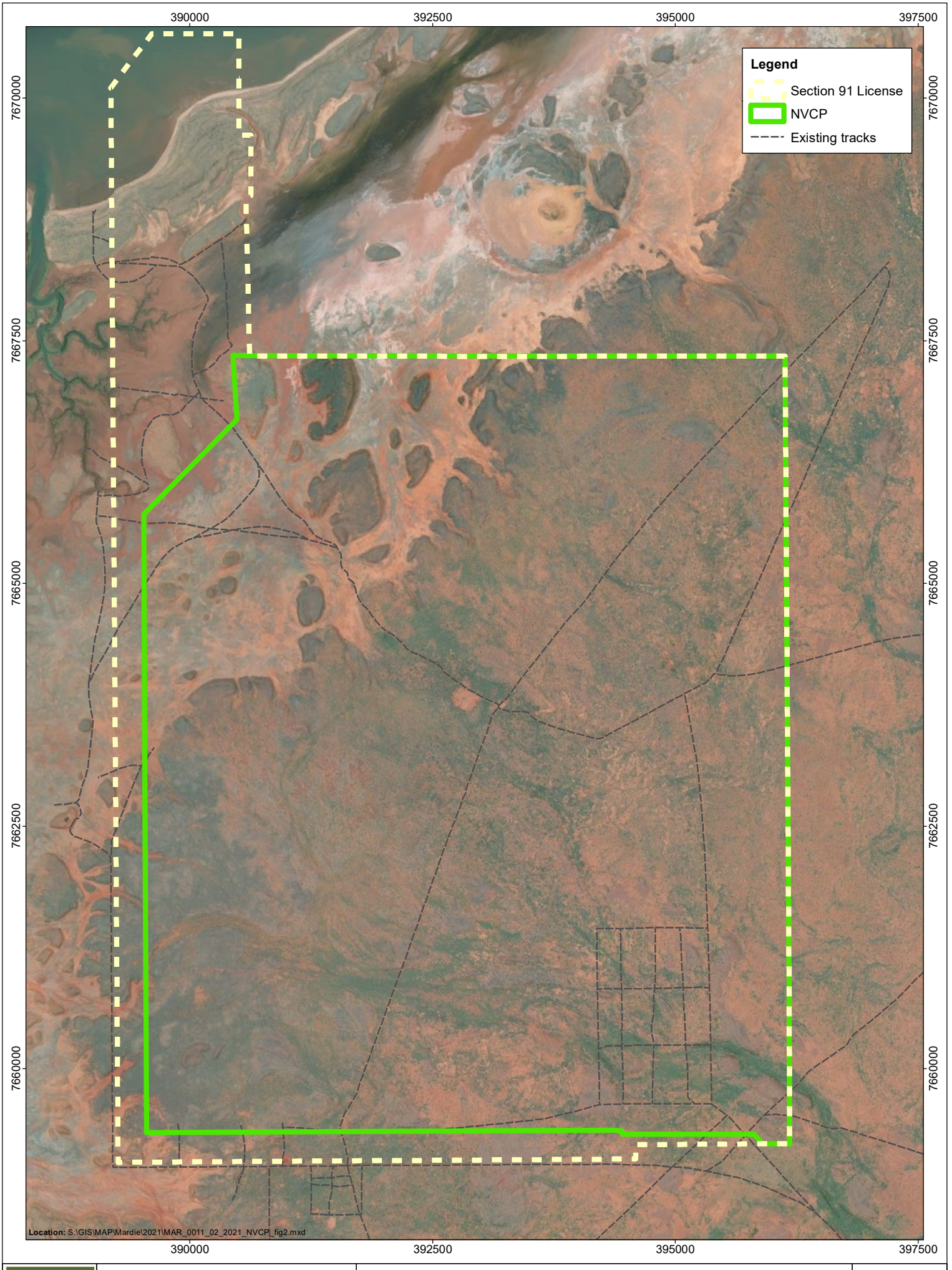
2.1 BOUNDARY

The 10 ha of vegetation clearing proposed under this NVCP application is to be conducted within a defined Purpose Permit Area of approximately 5,188.94 hectares (Investigation Area; Figure 3).

2.2 TENURE AND LAND ACCESS

Land access is granted by the Department of Planning, Lands and Heritage via a Section 91 Licence issued under the *Land Administration Act 1997* (Lic 00203/2019_A11291964). All vegetation disturbance will occur within the boundary of this Section 91 Licence.

Access to the Project is via Mardie Road, which is an existing public road (approximately 22 km long) that connects Mardie Homestead with the North West Coastal Highway. Upgrades and use of Mardie Road do not form part of this NVCP.



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Mardie Project
Native Vegetation Clearing Permit
Underlying Tenure

Figure 3: Investigation Area and Section 91 Licence

3 INVESTIGATION ACTIVITIES

This NVCP application is to authorise clearing of up to 10 ha of native vegetation. Clearing is required to allow for a number of low impact, ground disturbing activities (Investigation Activities). Investigation Activities relevant to this NVCP include:

- Geotechnical investigations (drilling of bore holes and excavation of test pits);
- Clearing of native vegetation for mesquite management and rehabilitation trials; and
- Construction / re-establishment of associated tracks, to enable access for geotechnical investigation and mesquite management / rehabilitation trial areas.

All Investigation Activities are proposed to occur within the Investigation Area. A detailed description of the investigations is provided below.

3.1 GEOTECHNICAL INVESTIGATIONS

Mardie Minerals has committed to ensure that impacts to the environment from the implementation of the Investigation Activities are minimised. Mardie Minerals is committed to implementing the activities using low impact vegetation disturbance where possible. Where possible, Mardie Minerals has targeted areas of cleared land or degraded vegetation to minimise impacts to native vegetation. Access to the drill locations and test pits will be via access tracks, some of which are existing tracks or traverse areas of cleared land.

The geotechnical investigation activities that require clearing of native vegetation include drilling bore holes, and clearing to allow the excavation of test pits. Each bore hole will require additional clearing of relatively a small laydown area immediately adjacent to the hole. Laydown areas are required for the manoeuvring of machinery stockpiling of topsoil, and temporary storage of cuttings and equipment.

The method of clearing for geotechnical investigations includes a combination track rolling (raised blade), hand clearing and mechanical clearing (via bobcat, front end loader or grader).

3.2 MESQUITE MANAGEMENT

The Weed of National Significance (WoNS) / Declared Pest *Prosopis* spp. (commonly referred to as Mesquite) is widespread across the various habitats surrounding the Investigation Area, and the largest single core infestation of *Prosopis* spp. recognised in Australia is found at the underlying Mardie Station. The *Prosopis* infestation at Mardie Station has a long history, dating back to the 1930's and now covering approximately 150,000 ha (Western Australian Agriculture Authority, 2012). The Pilbara Mesquite Management Committee (PMMC) formed in 2000 and has acknowledged that eradication of the species at Mardie Station is unachievable and instead the priority is to prevent the spread of the pest to neighbouring areas.

For the broader Project, Mardie Minerals will be clearing areas of vegetation that are heavily infested with mesquite (70 - 90% coverage). To facilitate clearing through these areas, Mardie Minerals has purchased a specialised plough (Holman Plough) specifically designed for the effective removal of mesquite. So far, the plough has been successful in the removal of mesquite

however, further trials are required to refine the process and inform the potential for site rehabilitation.

To facilitate these trials, Mardie Minerals proposes to undertake clearing of mesquite infested vegetation within a 100 m x 100 m area. The clearing method will include ploughing the upper 30 centimetres of the soil profile, removing all vegetation.

3.3 Access Tracks

Mardie Minerals proposes to re-establish or develop a series of access tracks to enable access for the geotechnical investigations and mesquite management / rehabilitation trials. To minimise the impact and extent of clearing required, Mardie Minerals has chosen to re-establish existing tracks where possible.

The method of clearing for the access tracks will be track rolling (raised blade) and lowered blade mechanical clearing as required. All topsoil will be stockpiled to be used later in rehabilitation.

3.4 Estimated Vegetation Clearing Requirements

This NVCP is to allow the disturbance of up to 10 ha at various locations within the Investigations Area. The use of a large Investigation Area allows for Investigation Activities to be expanded or relocated if the results of the initial Investigation Activities are inconclusive or warrant further investigation. The 10 ha estimation assumes that all clearing / disturbance areas will contain native vegetation, whereas in the field some of the disturbance may occur on mud flats or within areas that only have <20% native vegetation (i.e. within mesquite infested areas).

3.5 Method of Clearing

The method of clearing for geotechnical investigations includes a combination track rolling (raised blade), hand clearing and mechanical clearing (via bobcat, front end loader or grader). The method of clearing for the access tracks will be predominately track rolling (raised blade clearing) supplemented with hand clearing and lowered blade mechanical clearing as required. Vegetation disturbance for the mesquite management / rehabilitation trials is to be undertaken via plough blade, removing approximately 25 – 30 centimetres of the top of the soil profile.

Topsoil will be stockpiled during clearing to be used later in rehabilitation.

3.6 Indicative Timeline

Mardie Minerals proposes to commence Investigation Activities in the second half of 2021. Investigation Activities are predicted to last for up to 24 months.

4 ENVIRONMENTAL CHARACTERISTICS

This section contains information about the relevant environmental characteristics in the Investigation Area. Detailed ecological surveys have been completed over the Investigations Area, however the results of these surveys are not yet available. The broader Project has however been subject to an extensive environment impact assessment process, therefore the environmental characteristics of the broad area are well known.

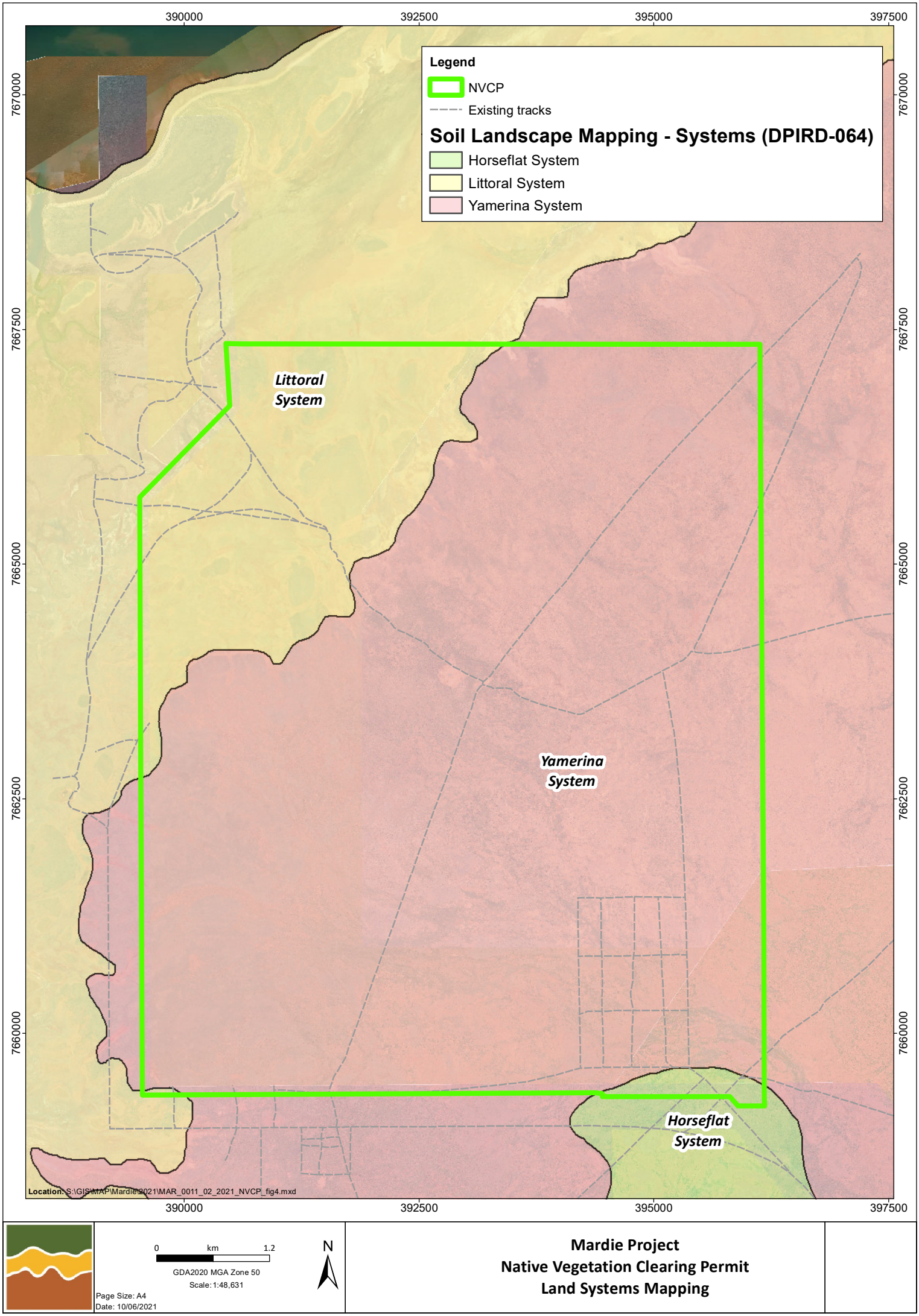
4.1 BIOGEOGRAPHIC REGIONS

The Investigation Area lies entirely within the Pilbara bioregion, specifically located on the Roebourne subregion (PIL4) under the Interim Biogeographical Regionalisation for Australia. This subregion is described in the 2002 Biodiversity Audit of Western Australia's 53 Biogeographical Subregions (Kendrick & Stanley, 2001).

4.2 LAND SYSTEMS AND SOILS

The underlying land systems of the Investigation Area are generally characterised by coastal deposition materials, primarily coastal silt and evaporite materials of estuarine, lagoonal and lacustrine origin (Qe lithology) with Gypsum the dominant mineral. Further from the coastline, channel and flood plain alluvium dominates, consisting of locally calcreted gravel, sand, silt and clay (Qa lithology) and a clay-silt sheet & nodular kankar (Qrc lithology).

The Investigation Area occurs primarily within three land systems, predominantly the Littoral System and the Yamarina System, with a small portion within the Horseflat System (Figure 4).



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Mardie Project
Native Vegetation Clearing Permit
Land Systems Mapping

Figure 4: Land systems underlying the Investigation Area.

4.3 Flora and Vegetation

No detailed flora and vegetation surveys have been undertaken for the Investigation Area however, extensive flora and vegetation surveys have been conducted for the broader Mardie Project. Given the close proximity of the Investigation Area to the Project and the similar environment, the results of the flora and vegetation surveys are deemed suitable to infer the environmental characteristics of the Investigation Area. The information contained within the following section is from the flora and vegetation surveys conducted for the Project. All survey reports relevant to the Project can be downloaded from the Environmental Protection Authority (EPA) website: https://www.epa.wa.gov.au/proposals/mardie-project.

4.3.1 Significant Flora

The desktop study conducted by Phoenix Environmental Services (Phoenix; 2019a) identified 43 listed flora species in or near the Study Area for the broader Project. A single threatened species, *Eleocharis papillosa* (listed as P3 in Western Australia) was identified, in addition to 11 priority 1, seven Priority 2, 22 Priority 3, and two Priority 4 species. None of the previous records occurred within the Investigations Area.

The detailed flora survey conducted for the Project identified the following significant flora shown on Figure 5:

- *Minuria tridens* (Vulnerable *Environmental Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act), Priority 1 *Biodiversity Conservation Act 2016* (WA) (BC Act));
- *Goodenia nuda* (Priority 4 BC Act);
- *Cassytha aurea* var. *aurea* (range extension flora); and
- Unidentified / Undescribed *Tecticornia* species.

None of these records were located within 2 km of the Investigation Area.

4.3.2 Introduced Flora

Eight introduced flora species were recorded in the adjacent Study Area for the Project. Two of these species are listed as both WoNS and Declared Pests; *Prosopis glandulosa* x *velutina* and *Prosopis pallida*.

The WoNS / Declared Pest *Prosopis* spp. (commonly referred to as Mesquite) was widespread across the study area ranging from isolated shrubs to tall closed shrublands. With the exception of the tidal mudflats and tidal creeks, the species occurred in all habitats within the Study Area including flat/undulating sandy plains, coastal sand dunes, sandy islands on the tidal mudflats, sandy rises on the tidal mudflats, riparian vegetation of creeks and drainage lines and low-lying clay plains. The majority of the *Prosopis* spp. plants sighted during the survey were unable to be identified to a species level as they were in a sterile condition, precluding the capacity to map the distribution of the two species recorded individually.

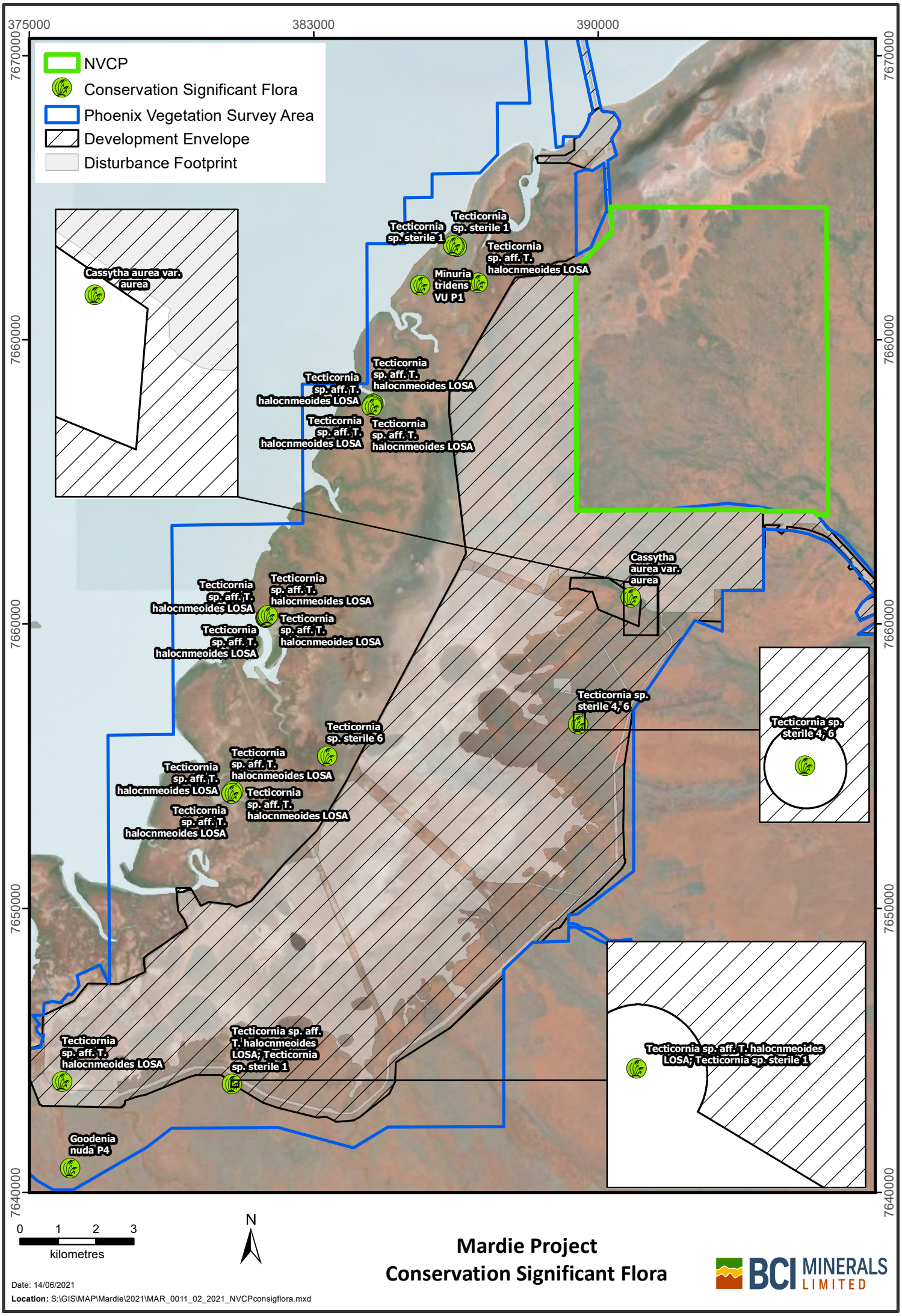


Figure 5: Significant Flora recorded within proximity to the Investigation Area

4.3.3 VEGETATION

The Investigation Area is located within the Eremaean Botanical Province (EPA 2016). Vegetation is predicted to align with the broad description of vegetation units defined for the Roebourne subregion (Kendrick & Stanley, 2001):

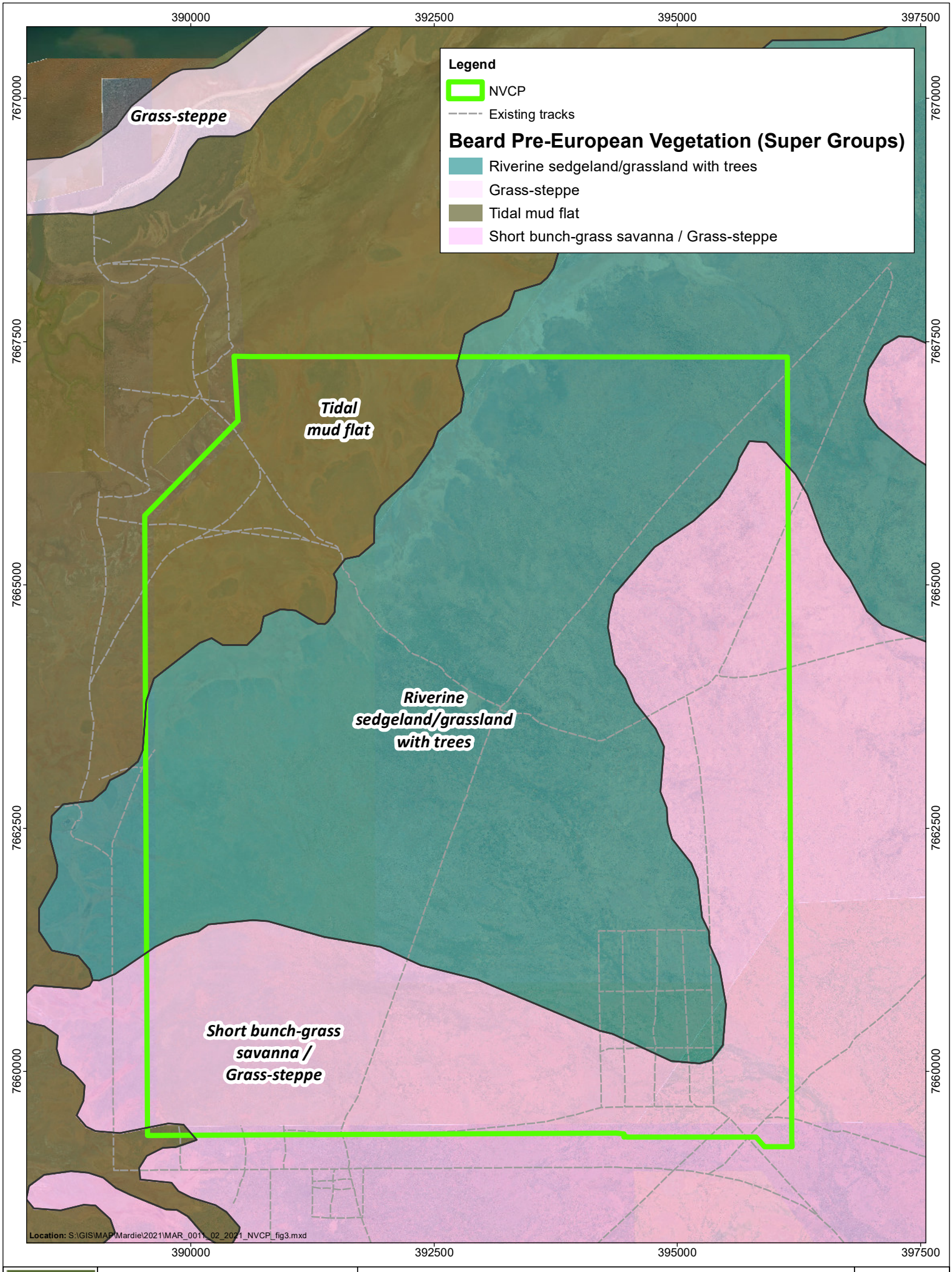
- The mangrove and chenopod (*Tecticornia* spp.) shrublands of the tidal mudflats and the low shrubland over *Sporobolus virginicus* grassland are representative of the samphire, *Sporobolus*, and mangal communities on marine alluvial flats and river deltas;
- The *Triodia* spp. and *Eragrostis* spp. grasslands are representative of the grass savannah of mixed bunch and hummock grasses on colluvial coastal and sub-coastal plains; and
- The riparian vegetation of most creeks is representative of the *Eucalyptus victrix* woodlands of ephemeral drainage lines.

Broad scale vegetation mapping by Shepherd *et al*. (2002) identifies three vegetation associations within the Investigation Area (Figure 6).

No significant vegetation has been recorded within the Investigations Area, however the Priority 3 Ecological Community, Horseflat land system of the Roebourne Plains was recorded in the area during surveys for the broader Project.

4.3.4 VEGETATION CONDITION

An assessment of remnant vegetation condition was conducted during the detailed field survey for the broader Project, with classifications ranging from 'Degraded' to 'Excellent', or 'Not Applicable' for areas naturally devoid of vegetation. No definitive vegetation condition information is available within the Investigations Area as yet (surveys are underway) however Figure 7 provides some indication as to the vegetation condition on the periphery of the Investigation Area. Vegetation ranging from 'Excellent' to 'Very Good' is possible to the west, in addition to a 'Degraded' condition at the Investigation Area's southern border – likely the result of the *Prosopis spp*. infestation previously detailed in this document.



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Mardie Project
Native Vegetation Clearing Permit
Beard Vegetation Mapping

Figure 6: Vegetation Associations of the Investigations Area (as described by Shepherd et al. 2002).

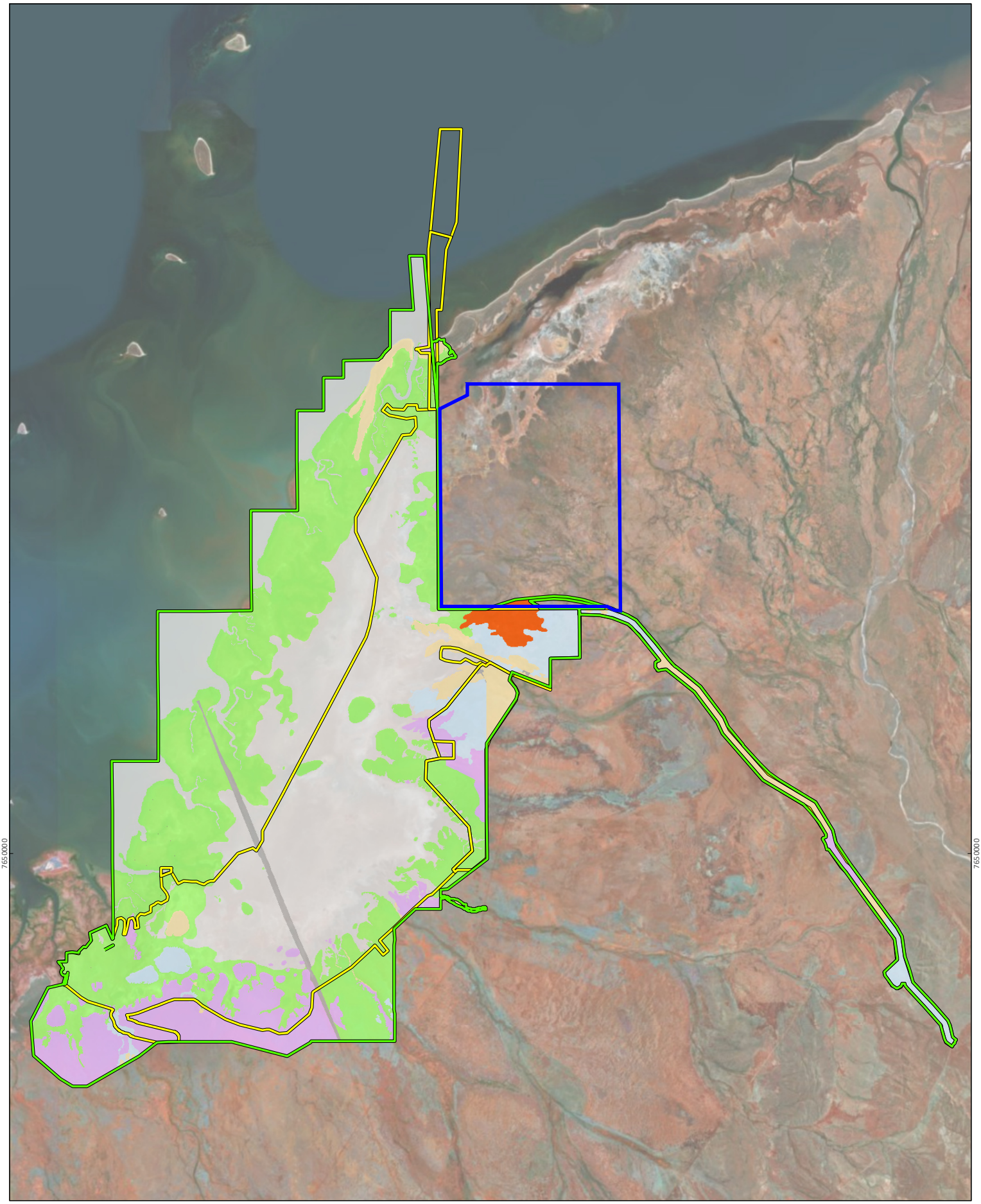


Figure 7: Vegetation condition in the area surrounding the Investigations Area

4.4 FAUNA

No detailed fauna surveys have been undertaken for the Investigation Area however, extensive fauna surveys have been conducted for the broader Mardie Project. Given the close proximity of the Investigation Area to the Project and the similar environment, the results of those fauna surveys are deemed suitable to infer the faunal characteristics of the Investigation Area. The information contained within the following section is from the fauna surveys conducted for the Project. All survey reports relevant to the Project can be downloaded from the EPA website: https://www.epa.wa.gov.au/proposals/mardie-project.

4.4.1 FAUNA HABITAT

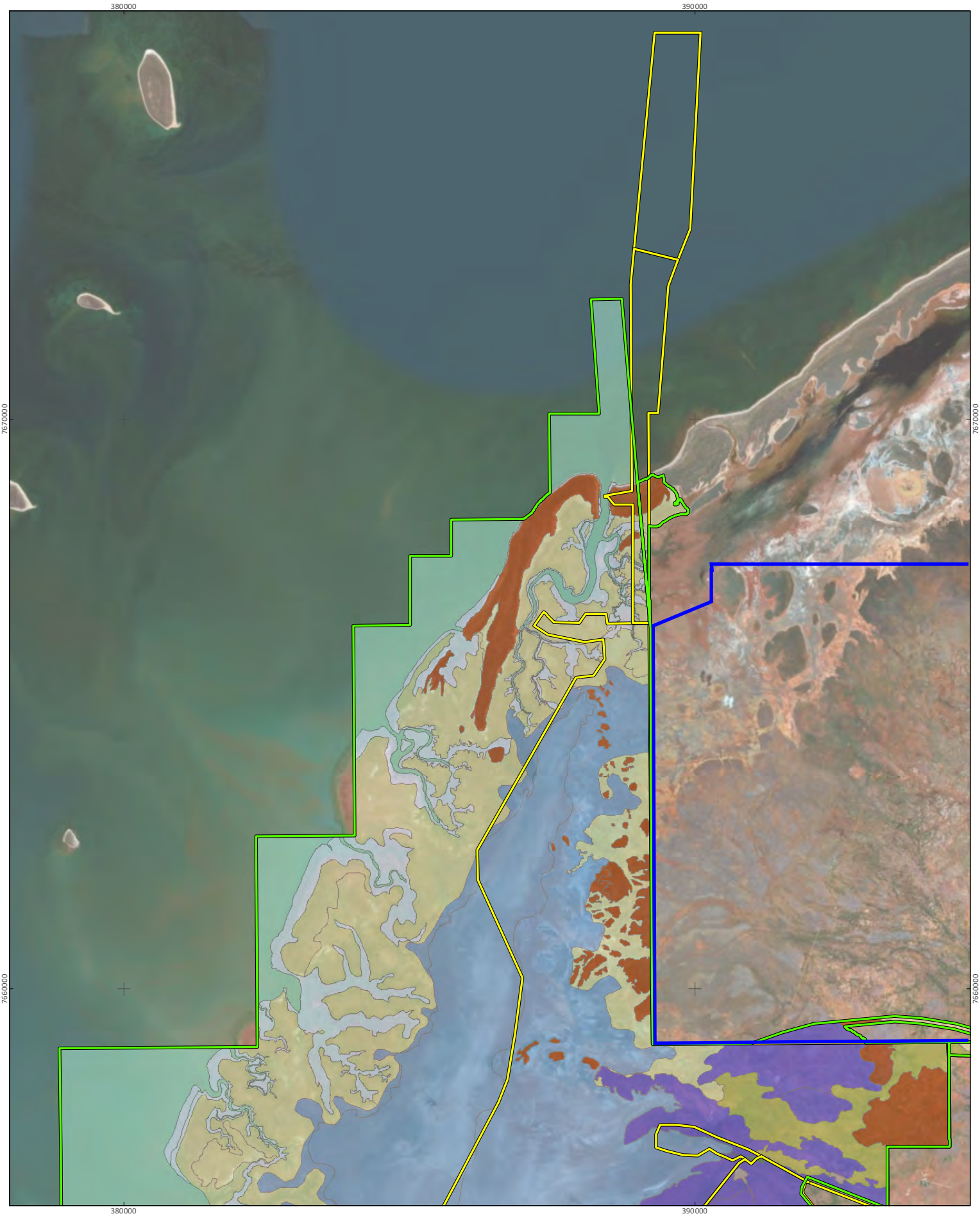
Phoenix's detailed Survey Area for the Project did not include the Investigation Area however, it is likely that the fauna habitats identified in the Survey Area are consistent with those within the Investigation Area (Phoenix, 2019b). Areas of mudflat or saltflat, tidal samphire mudflat, cleared land, spinifex grassland, and Shrublands over spinifex grasslands were found alongside the Western border of the detailed fauna investigation and overlaps the Investigation Area. Fauna habitats of the Project Survey Area recorded by Phoenix are shown in Figure 8.

4.4.2 SIGNIFICANT VERTEBRATE FAUNA

Figure 9 shows the location of significant fauna recorded during the field surveys:

- EN (EPBC & BC Acts) - Northern Quoll;
- P1 (Department of Biodiversity, Conservation and Attractions (DBCA) list) - Northern Coastal Free-tailed Bat;
- P4 (DBCA list) - Western Pebble-mound Mouse;
- P4 (DBCA list) - Lined soil-crevice skink (Dampier); and
- VU (EPBC & BC Acts) - Pilbara leaf-nosed bat.

Significant shorebirds were also recorded along the coast however these are not expected to inhabit the Investigations Area on a regular basis.



BCI Minerals Ltd

Biological surveys for the Mardie Salt Project

Project No	1244
Date	4/12/2019
Drawn by	AL
Map author	JC

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- Terrestrial fauna study area (TFSA)
- Development Envelope (DE)
- Investigation Area

Fauna habitat

- Open Acacia
- Shrublands over spinifex grasslands
- beach and dune
- cleared
- grassland
- mangal community
- mudflat or saltflat
- open woodland (riparian)
- spinifex grassland
- tidal channel and ocean
- tidal samphire mudflat

Fauna habitats of the Terrestrial fauna study area

PHOENIX ENVIRONMENTAL SCIENCES

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Figure 8: Fauna habitats surrounding the Investigations Area

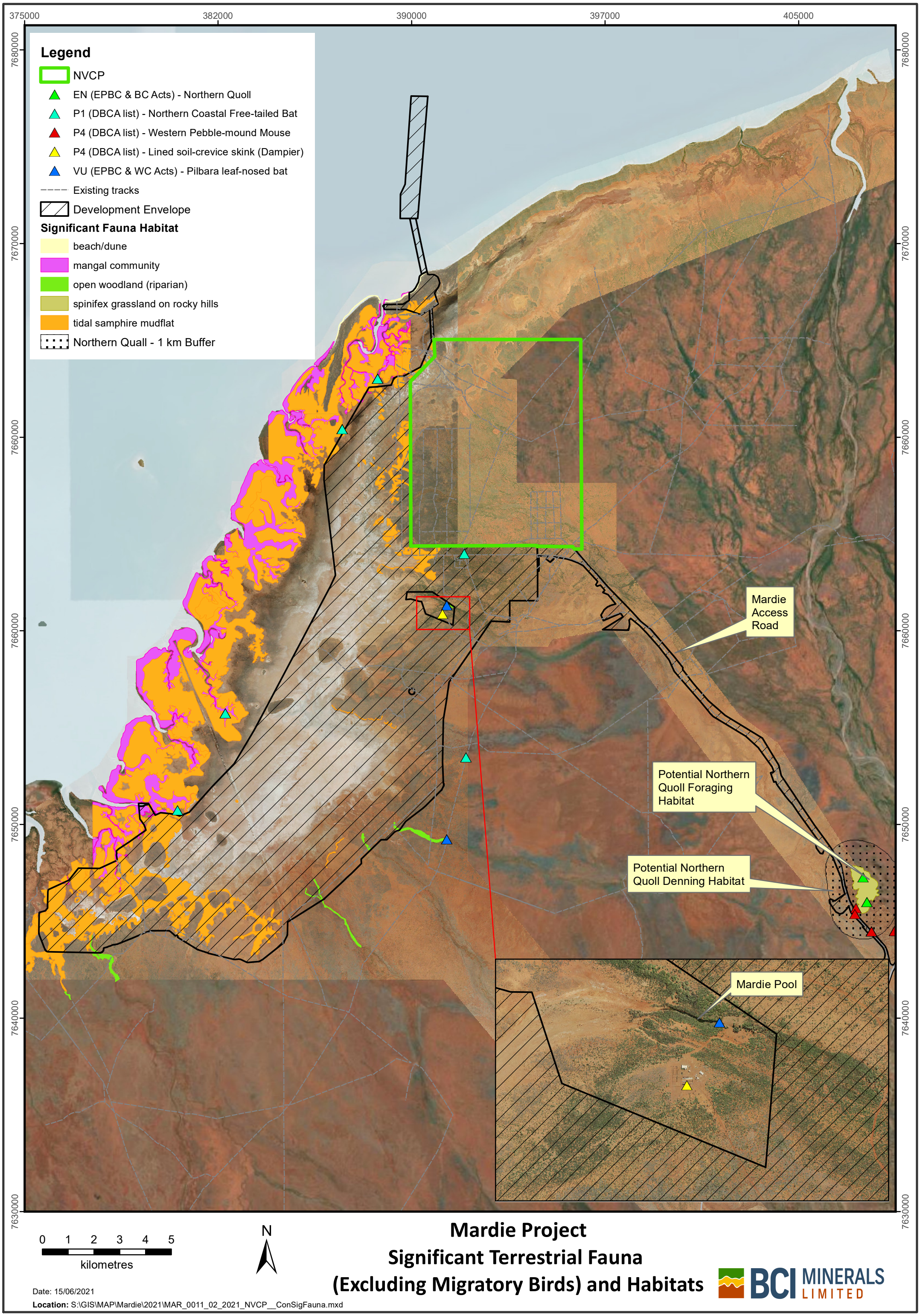

Figure 9: Significant fauna species and habitats surrounding the Investigations Area

4.5 Surface Water

The Pilbara bioregion has an arid to tropical climate, influenced by tropical maritime air from the Indian ocean and continental land from the Australian interior, resulting in climate extremes, major floods and droughts within short timespans. Annual rainfall across the broader Pilbara region averages approximately 290 millimetres and is most prevalent over the summer months in association with cyclonic activity to the north and northwest, though annual rainfall is highly variable (McKenzie *et al*., 2009). The climate of the Roebourne subregion, in which the Investigation Area is located, is defined as arid (semi-desert) tropical with highly variable rainfall and cyclonic activity, primarily over summer (Kendrick & Stanley 2001).

Average annual rainfall recorded at the nearest Bureau of Meteorology weather station, Mardie Homestead, is 278.7 mm, with highest monthly average rainfall recorded in February (62.7 millimetres) (Bureau of Meteorology, 2018). Rainfall in the Investigations Area is therefore highly intermittent.

The Investigation Area is situated between the large deltas of the Robe River in the south west, and Fortescue River in the north east. Two ephemeral drainage lines drain to the south east (Figure 10), ultimately reporting to the Fortescue River, which has a catchment area of 20,000 km^2 and is a major drainage system of the region.

4.6 Current Land Use

Land use in the area surrounding the Investigation Area is primarily pastoral, and a lack of public access in conjunction with an inhospitable coastal landscape contributes to restricted potential for recreational activities and social uses. Consultation with the management of Mardie Station and also with the City of Karratha confirms that the Project site is not associated with, restricts access to, or reduces enjoyment of, any recreational activities and social uses.

The Investigation Area is situated on the traditional lands of the Yaburara and Mardudhunera (YM) People, recognised as Traditional Owners and holding Native Title rights and interests of the underlying land. Mardie Minerals has Land Access Deeds in place with the YM People providing for full and informed consents, consultation, environmental protections, compensation and other non-monetary benefits, and continues to work with the YM.

Arrangements are also in place between Mardie Minerals, local pastoral landowners and the Pilbara Ports Authority (PPA) under the Section 91 Licence for land access and the proposed Investigation Activities.

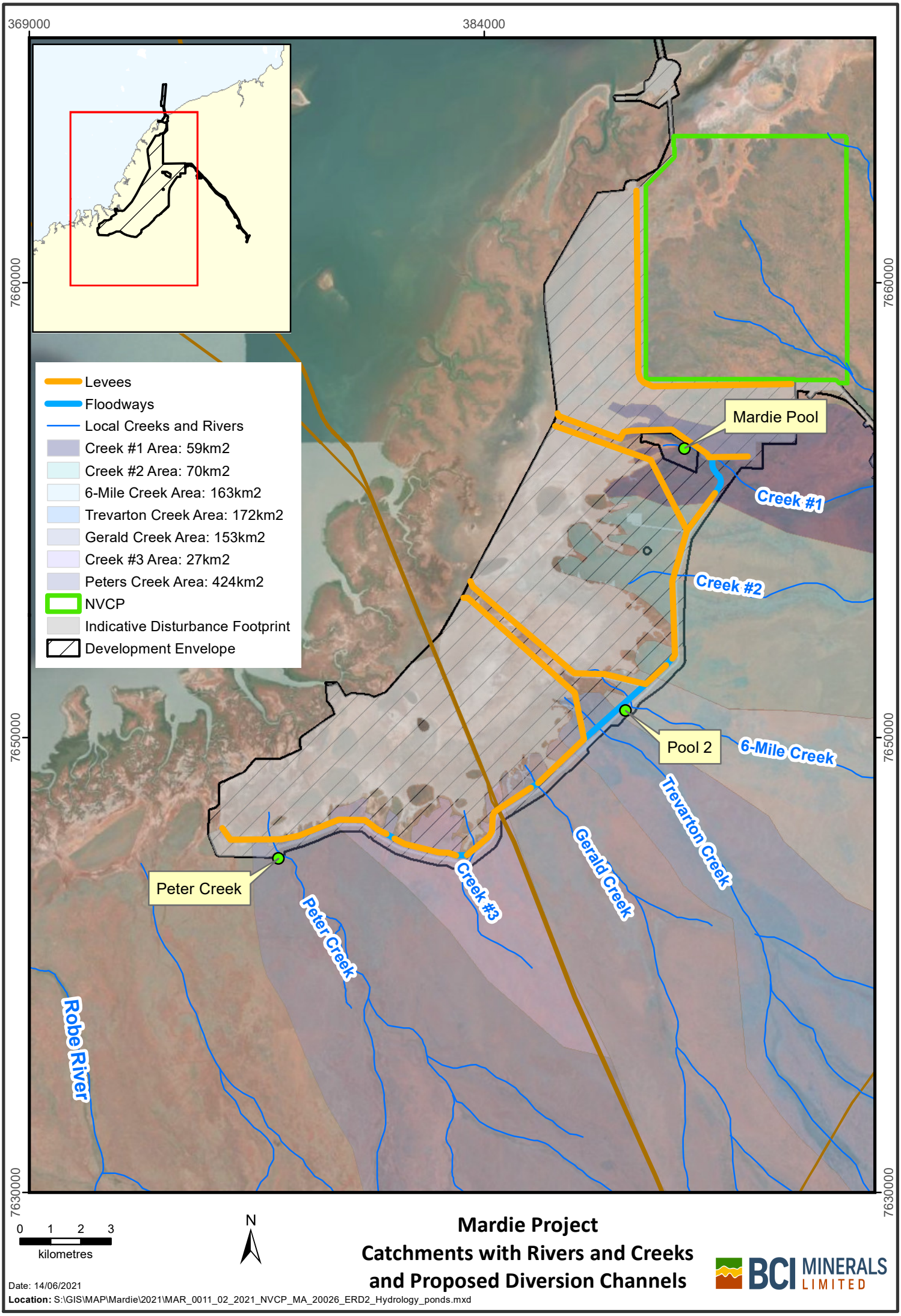

Figure 10: Surface Water Catchments surrounding the Mardie Optimisation Project

5 STAKEHOLDER CONSULTATION

Mardie Minerals has consulted, and continues to consult with stakeholders during planning of the Project and Mardie Optimisation Project, including:

- Local landholders (including Mardie Station and tenement holders);
- Native Title and Traditional Owners of the land underlying the Investigations Area - the YM People;
- Government departments;
- Pilbara Ports Authority (PPA);
- City of Karratha; and
- Pilbara Mesquite Management Committee (PMMC).

The PPA, Department of Planning, Lands and Heritage, Mardie Station and the YM people have been specifically consulted regarding the investigation activities proposed in this application.

6 ASSESSMENT OF CLEARING AGAINST THE TEN CLEARING PRINCIPLES

The proposed vegetation disturbance has been assessed against the ten clearing principles described within *A Guide to the Assessment of Applications to Clear Native Vegetation* (Department of Environmental Regulation 2014; Table 1).

Table 1: Assessment of proposed vegetation disturbance against the ten clearing principles

Relevant information	Assessment of potential impacts	Proposed control measures	Outcome - Assessment of variance with clearing principle
1. Native vegetation should not be cleared if it comprises a high level of biological diversity			
No significant flora or fauna have been recorded within the Investigation Area. The habitats within the Investigations Area are predicted to be similar to those recorded within the Study Area for the broader Mardie Project. None of these habitats were identified as having a significantly high level of biological diversity.	The proposed 10 ha of clearing is unlikely to occur within any areas of significant biological diversity, with any clearing likely to be narrow or isolated small areas within a broad uncleared area. Ecological surveys are underway (reports are pending), if areas of significant flora or vegetation are noted then the investigations will avoid those areas.	To minimise the impact of the clearing on the environment, Mardie Minerals proposes the following control measures: • If areas of significant flora or vegetation are noted during the ecological surveys, then the clearing areas will avoid those areas; • The proposed investigations will utilise existing access tracks where available to minimise the extent of required clearing; • The total extent of vegetation clearance is limited to 10 ha; • The vegetation clearing is limited to temporary investigations only; • Disturbed areas will be rehabilitated progressively as they are no longer required; • The extent of vegetation clearing will be managed through internal ground disturbance procedures; • The investigation clearing areas will be identified using GPS coordinates; • Mapped boundaries will be provided to the operator to restrict clearing to within the limits of the NVCP; • All rubbish will be managed appropriately and taken off site for disposal; • Materials used for demarcation will be removed once the investigations are complete; and • All vehicles, equipment and personnel will be inspected and cleaned as required to prevent the incidental spread of weeds.	The proposed vegetation clearing is unlikely to be at variance with this principle.
2. Native vegetation should not be cleared if it comprises the whole, or part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to WA			
No significant fauna have been recorded within the Investigation Area, however some habitat may be utilised on occasion for foraging by listed bat species.	The proposed 10 ha of clearing is to be narrow or isolated small areas which, given the broad scale use of the landscape in the area by fauna species, are unlikely to be considered significant habitat for fauna indigenous to WA. Ecological surveys are underway (reports are pending), if restricted significant fauna habitats are noted then the investigations will avoid those areas.	Implement measures described above. If restricted significant fauna habitats are noted during ecological surveys, then the investigations will avoid those areas. Any fauna injuries or fatalities will be reported to the Mardie environmental team.	The proposed vegetation clearing is unlikely to be at variance with this principle.
3. Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora			
The detailed flora survey conducted for the Project identified the following significant flora shown on Figure 5: • *Minuria tridens* (Vulnerable EPBC Act, Priority 1 BC Act); • *Goodenia nuda* (Priority 4 BC Act); • *Cassytha aurea* var. *aurea* (range extension flora); and • Unidentified / Undescribed *Tecticornia* species. None of these records were located within 2 km of the Investigation Area.	Significant flora have been recorded in the area however no clearing of significant flora is expected to occur as a result of the investigations. Ecological surveys are underway (reports are pending) and if significant flora species are recorded then the investigations will avoid those areas.	Implement measures described above.	The proposed vegetation clearing is unlikely to be at variance with this principle.
4. Native vegetation should not be cleared if it comprises the whole or part of, or is necessary for the maintenance of, a Threatened Ecological Community			
No Threatened Ecological Communities have been recorded or are likely to occur in the area.	N/A	N/A	The proposed vegetation clearing is not at variance with this principle.
5. Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared			
The Investigation Area lies adjacent to the Mardie Project, which is a significant solar salt project. If implemented this Project will require the clearing of a significant amount of native vegetation. On a local scale however, the majority of the Investigations Area has not been cleared and is not part of the Mardie Project clearing boundary.	If the Mardie Project is implemented, it will require the clearing of a significant amount of native vegetation. On a local scale however, the proposed clearing will occur within an area of more than 5,000 ha that remains almost completely uncleared.	Implement control measures described above.	The proposed vegetation clearing is unlikely to be at variance with this principle.

Relevant information	Assessment of potential impacts	Proposed control measures	Outcome - Assessment of variance with clearing principle
6. Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland			
Two ephemeral drainage lines drain to the south-east (Figure 10), ultimately reporting to the Fortescue River, which has a catchment area of 20,000 km² and is a major drainage system of the region.	Some clearing may be required within the boundaries of these broad drainage lines. This clearing will be within narrow or isolated small areas and is not expected to significantly alter the hydrology or ecology of these watercourses.	Implement control measures described above. Minimise the extent of clearing activities within drainage lines. Ensure works do not dam or alter the hydrology of the ephemeral creeklines.	The proposed vegetation clearing may be at variance with this principle.
7. Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation			
The vegetation to be cleared within the Investigations Area lies within a much broader area of native vegetation. Land degradation has occurred as a result of weed species and agricultural uses.	The proposed clearing will result in the clearing and rehabilitation of up to 10 ha of native vegetation within the Investigations Area. This clearing represents only a small percentage of the vegetation within the Investigations Area and does not include any activities that would lead to appreciable land degradation. The mesquite trials may lead to a reduction in land degradation in that area.	Implement control measures described above.	The proposed vegetation clearing is unlikely to be at variance with this principle.
8. Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area			
The proposed NVCP clearing area is not within proximity to any conservation areas.	N/A	N/A	The proposed vegetation clearing is not at variance with this principle.
9. Native vegetation should not be cleared if the clearing is likely to cause deterioration in the quality of surface or underground water			
Two ephemeral drainage lines drain to the south-east (Figure 10), ultimately reporting to the Fortescue River, which has a catchment area of 20,000 km² and is a major drainage system of the region.	The proposed clearing will be within narrow or isolated small areas and will not involve any activities that could cause the deterioration of surface water or groundwater.	N/A	The proposed vegetation clearing is not at variance with this principle.
10. Native vegetation should not be cleared if the clearing is likely to cause, or exacerbate, the incidence or intensity of flooding			
Two ephemeral drainage lines drain to the south-east (Figure 10), ultimately reporting to the Fortescue River, which has a catchment area of 20,000 km² and is a major drainage system of the region. The area is likely to be subject to flooding during cyclone and storm surge events.	The proposed clearing will be within narrow or isolated small areas and will not involve are activities that could cause, or exacerbate, the incidence or intensity of flooding.	Minimise the extent of clearing activities within drainage lines. Ensure works do not dam or alter the hydrology of the ephemeral creeklines.	The proposed vegetation clearing is not at variance with this principle.

7 SUMMARY AND CONCLUSIONS

The purpose of this NVCP Application is to allow the clearing of up to 10 ha of native vegetation within the defined Investigations Area boundary (Figure 3) to enable Mardie Minerals to undertake the investigation activities defined in Section 3.

The following key points are noted:

- Only 10 ha of clearing is proposed within a large Investigations Area of more than 5,000 ha;
- The clearing will be temporary;
- The clearing of native vegetation will be avoided where possible by utilising existing disturbance where available; and
- Ecological surveys have been completed (results pending) and the results will be used to ensure that significant flora are avoided (if recorded) and significant vegetation and fauna habitats will be avoided or minimised (if recorded).

This NVCP application assessed the proposed vegetation disturbance against the ten clearing principles described in *A Guide to the Assessment of Applications to Clear Native Vegetation* (Department of Environmental Regulation, 2014). The clearing may be at variance to one of the principles, is unlikely to be at variance with five of the principles and is not at variance with four of the principles.

8 GLOSSARY

Term	Meaning
BC Act	*Biodiversity Conservation Act 2016*
BCI	BCI Minerals Pty Ltd
DBCA	Department of Biodiversity, Conservation and Attractions
EPA	Western Australia Environmental Protection Agency
EPBC Act	*Environmental Protection and Biodiversity Conservation Act 1999* (Cth)
ha	Hectare
Investigation Activities	A number of low impact, ground disturbing activities as defined in Section 3.
Investigation Area	Investigation Area as defined in Section 2
km	Kilometres
Mardie Minerals	Mardie Minerals Pty Ltd
NVCP	Native Vegetation Clearing Permit
Phoenix	Phoenix Environmental Services Pty Ltd
PMMC	Pilbara Mesquite Management Committee
PPA	Pilbara Ports Authority
Project	The Mardie Project
SOP	Sulphate of Potash
WA	Western Australia
WoNS	Weeds of National Significance
YM	Yaburara and Mardudhunera People

9 REFERENCES

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