

# Nyidinghu Iron Ore Mine

## Proposal Content Document

**Table 1:** General proposal content description

<b>Proposal title</b>	Nyidinghu Iron Ore Mine
<b>Proponent name</b>	Chichester Metals Pty Ltd
<b>Original Description</b>	<b>Amended Proposal Description</b>
<p>The proposal is to construct and operate an iron ore mine approximately 80 km north-west of Newman in the Pilbara Region of Western Australia. The Proposal includes:</p> <ul style="list-style-type: none"><li>• The development of above and below water table mine pits.</li><li>• An ore processing facility to process ore from sources inside the Mine Development Envelope and from other mining projects.</li><li>• Abstraction of groundwater for water supply and to facilitate mining below the water table.</li><li>• Surplus water management, including aquifer recharge (re-injection, infiltration using ponds or in-pit disposal), mine water use, use by other users via pipeline for third party use (such as Fortescue Chichester Operations and/or other users) and / or discharge to local creeks including Weeli Wolli Creek.</li><li>• Storage of waste rock in waste rock landforms and / or in-pit disposal.</li><li>• Storage of process waste (tailings) in a Tailings Storage Facility, integrated waste landform and / or in-pit disposal.</li></ul>	<p>The proposal is to construct and operate an iron ore mine approximately 80 km north-west of Newman in the Pilbara Region of Western Australia. The proposal includes:</p> <ul style="list-style-type: none"><li>• The development of above and below water table mine pits.</li><li>• An ore processing facility to process ore from sources inside the Mine Development Envelope and from other mining projects.</li><li>• Abstraction of groundwater for water supply and to facilitate mining below the water table.</li><li>• Surplus water management, including aquifer recharge (re-injection), mine water use, transfer by pipeline to other users.</li><li>• Storage of waste rock in waste rock landforms and/or in-pit disposal.</li><li>• Storage of process waste (tailings) in a Tailings Storage Facility, integrated waste landform, and/or in-pit disposal.</li><li>• Storage of mined ore prior to processing (run of mine pad and ore stockpiles).</li><li>• Storage of topsoil in stockpiles.</li></ul>

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<ul style="list-style-type: none"> <li>• Storage of mined ore prior to processing (run of mine pad and ore stockpiles).</li> <li>• Storage of topsoil in stockpiles.</li> <li>• Water management infrastructure, including levees and diversion drains, culverts and floodways, extraction, conveyance, disposal, reinjection, sumps, pumps, pipelines, treatment and storage, as well as associated power supply and control system.</li> <li>• Linear infrastructure (pipelines, power lines, haul roads, access roads, conveyors, communications).</li> <li>• Ancillary infrastructure to support mining (offices, workshops, accommodation camp, laydowns, wastewater treatment plants, landfills, power generation plants (renewable, diesel, hydrogen), borrow pits, aerodrome).</li> </ul> <p>The proposal is located within a 92,301 hectare Mine Development Envelope and will require clearing of up to 12,365 hectares of native vegetation</p>	<ul style="list-style-type: none"> <li>• Water management infrastructure, including levees and diversion drains, culverts and floodways, extraction, conveyance, disposal, reinjection, sumps, pumps, pipelines, treatment and storage, as well as associated power supply and control system.</li> <li>• Linear infrastructure (pipelines, power lines, haul roads, access roads, conveyors, communications).</li> <li>• Ancillary infrastructure to support mining (offices, workshops, accommodation camp, laydowns, wastewater treatment plants, landfills, power generation plants (renewable, diesel, biodiesel, hydrogen), borrow pits, aerodrome).</li> <li>• Reverse osmosis plant for the treatment of surplus water. Reject water to be reinjected.</li> </ul> <p>The proposal is located within a 73,635-hectare Mine Development Envelope and will require clearing up to 11,444 hectares of native vegetation.</p>

**Table 2:** Proposal content elements

Proposal element	Location / description	Existing proposal extent, capacity or range	Proposed amendment (Content of section 43A amendment)	Combined extent capacity or range (total of existing approval + proposed change)
<b>Physical elements</b>				
Mine elements, including: <ul style="list-style-type: none"> <li>• Open Pits, above and below water table (staged development of up to ten pits).</li> <li>• Water management infrastructure (including extraction, conveyance disposal).</li> <li>• Haul Roads including culverts, drains and bridges.</li> <li>• Waste rock landforms.</li> <li>• Ore stockpiles.</li> <li>• Topsoil stockpiles</li> </ul>	<b>Figure 2</b>	Up to 12,365 ha of disturbance, within an 92,301 ha mine development envelope.	Decrease in disturbance of 921 ha  Net decrease in mine development envelope of 18,666 ha.  <b>Changes to Physical Elements:</b>  Open Pits, above and below water table (staged development of multiple pits inside final pit footprint).	Up to 11,444 ha of disturbance, within a 73,635 ha mine development envelope.
Processing elements, including: <ul style="list-style-type: none"> <li>• Ore stockpiles and Run Of Mine pad.</li> <li>• Crushing and screening plant (including several mobile crushing and screening plants) and supporting infrastructure.</li> <li>• Ore Processing Facility.</li> </ul>	<b>Figure 2</b>			

Proposal element	Location / description	Existing proposal extent, capacity or range	Proposed amendment (Content of section 43A amendment)	Combined extent capacity or range (total of existing approval + proposed change)
<ul style="list-style-type: none"> <li>Beneficiation plant and supporting infrastructure. - Processing of ore from sources inside the Mine Development Envelope and from other mining projects.</li> <li>Tailings storage.</li> <li>Process water dams/ponds.</li> <li>Dust management and suppression.</li> </ul>				
<p>Infrastructure elements, including:</p> <ul style="list-style-type: none"> <li>Accommodation.</li> <li>Aerodrome.</li> <li>Power generation and distribution infrastructure (including diesel powered generators, diesel powered back-up generators, an on-site solar farm, substations, battery storage, charging stations, transmission lines, power lines).</li> <li>Conveyors.</li> <li>Ore stackers and reclaimers.</li> </ul>	<p><b>Figure 2</b></p>		<p>Decrease in clearing of 921 ha</p> <p>Net decrease in mine development envelope of 18,666 ha.</p> <p><b>Changes to Infrastructure elements:</b></p> <p>Addition of reverse osmosis plant.</p> <p>Removal of solar farm</p> <p>Inclusion of bio-fuel powered generators.</p>	

Proposal element	Location / description	Existing proposal extent, capacity or range	Proposed amendment (Content of section 43A amendment)	Combined extent capacity or range (total of existing approval + proposed change)
<ul style="list-style-type: none"> <li>• Ancillary buildings (including workshops, warehouses, laboratories, offices).</li> <li>• Communications network (including towers, trailers and associated access tracks, laydowns and infrastructure, lines and cables, satellite dishes).</li> <li>• Roads including haul and access tracks, culverts, drains and bridges.</li> <li>• Water management infrastructure (including levees, diversions, groundwater bores, reinjection infrastructure, pipelines, storage dams, evaporation ponds, reverse osmosis plants).</li> <li>• Laydown areas.</li> <li>• Wastewater treatment plants and disposal including infiltration ponds, irrigation and / or spray fields.</li> </ul>				

Proposal element	Location / description	Existing proposal extent, capacity or range	Proposed amendment (Content of section 43A amendment)	Combined extent capacity or range (total of existing approval + proposed change)
<ul style="list-style-type: none"> <li>• Putrescible and inert waste landfills and bioremediation pads.</li> <li>• Earthworks including borrow pits and shallow surface excavations. - Storage of hydrocarbons and chemicals including tanks, waste oil, hydrocarbon storage associated with generators.</li> <li>• Explosives storage and handling.</li> <li>• Civil infrastructure.</li> <li>• Meteorological infrastructure.</li> <li>• Liquid waste (other than sewerage) stored, reprocessed, treated or irrigated.</li> <li>• Tyre storage</li> </ul>				
<b>Construction elements</b>				
Key construction elements will include clearing for all identified physical and operational elements. Construction elements also include installation of:	<b>Figure 2</b>	Clearing of up to 9,400 ha associated with construction elements is included within the indicative disturbance footprint.	400 ha decrease in construction clearing.	Clearing of up to 9,000 ha associated with construction elements is included within the indicative disturbance footprint.

Proposal element	Location / description	Existing proposal extent, capacity or range	Proposed amendment (Content of section 43A amendment)	Combined extent capacity or range (total of existing approval + proposed change)
<ul style="list-style-type: none"> <li>• Temporary offices / ablutions.</li> <li>• Construction camp.</li> <li>• Airstrip. Access roads and bridges.</li> <li>• Borrow pits.</li> <li>• Laydowns.</li> <li>• Putrescible and inert waste landfill.</li> <li>• Water supply, pumps, pipelines, bores and turkey nests.</li> <li>• Movement of topsoil, and bulk earthworks to support the construction of supporting infrastructure facilities.</li> </ul>				
Temporary Diesel-Powered Generators	<b>Figure 2</b>	Up to 60 MW	No change	Up to 60 MW
Groundwater Abstraction	<b>Figure 2</b>	Total abstraction of up to 200 GL per annum (GL/a) for dewatering prior to the commencement of mining and for construction water use.	Reduction in abstraction of 50 GL/a	Total abstraction of up to 150 GL per annum (GL/a) for dewatering prior to the commencement of mining and for construction water use.
Surplus Water Management	<b>Figure 2</b>	Reinjection to a reinjection borefield up to 200 GL/a.	Reduction in re-injection volume of 50 GL/a. Addition of reverse osmosis plant	Reinjection to a reinjection borefield up to 150 GL/a. This includes reinjection of reverse osmosis plant reject water.

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			reject water as a source for the re-injection program.	
Concrete Batching Plant	<b>Figure 2</b>	Up to 75,000 m <sup>3</sup> per annum.	No change	Up to 75,000 m <sup>3</sup> per annum.
<b>Operational elements</b>				
Mining	<b>Figure 2</b>	Staged mining approach undertaken with multiple locations mined at any one time. Up to 65 million tonnes per annum of mined ore.	No change	Staged mining approach undertaken with multiple locations mined at any one time. Up to 65 million tonnes per annum of mined ore.
Ore Processing Facility	<b>Figure 2</b>	Up to 40 million tonnes per annum of processed ore from sources inside and outside of the MDE.	No change	Up to 40 million tonnes per annum of processed ore from sources inside and outside of the MDE.
Tailings Storage Facility	<b>Figure 2</b>	Maximum of 168 million tonnes over the life of the mine, to be stored in a Tailings Storage Facility, integrated waste landform and / or in-pit.	No change	Maximum of 168 million tonnes over the life of the mine, to be stored in a Tailings Storage Facility, integrated waste landform and / or in-pit.
Waste Rock Landforms	<b>Figure 2</b>	Up to three waste rock landforms to store up to 1.3 billion cubic metres of waste rock. Waste rock landforms have a height 100m above ground level. Waste rock will be backfilled into the open pit where possible.	No change	Up to three waste rock landforms to store up to 1.3 billion cubic metres of waste rock. Waste rock landforms have a height 100m above ground level. Waste rock

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				will be backfilled into the open pit where possible.
Pit Lakes	<b>Figure 2</b>	Pit lakes may occur during operations depending on mine plan progression.	No change	Pit lakes may occur during operations depending on mine plan progression.
Groundwater Abstraction	<b>Figure 2</b>	Abstraction of up to 200 GL per annum for dewatering and water supply.	Reduction of 50 GL/a	Abstraction of up to 150 GL per annum for dewatering and water supply.
Surplus Water Management	<b>Figure 2</b>	<p>Surplus water will be managed through a variety of methods, including:</p> <ul style="list-style-type: none"> <li>• ReInjection to a reinjection borefield up to 200 GL/a;</li> <li>• Mine water use up to 30 GL/a;</li> <li>• Water transfer through a water supply pipeline (the pipeline corridor beyond the MDE is not part of this proposal) for use at the Fortescue Chichester operations up to 35 GL/a;</li> <li>• Water transfer through a water supply pipeline (the pipeline corridor beyond the MDE is not part of this proposal) for use by others up to 50 GL/a; and</li> <li>• Discharge to creeks up to 50 GL/a.</li> </ul>	<p>Reduction in ReInjection of 50GL/a.</p> <p>Removal of 50 GL/a of surplus water discharge to creek. Discharge to creeks is now limited to emergency discharge of stormwater only.</p> <p>Allow the transfer of water to Nyidinghu Iron Ore Mine.</p>	<p>Surplus water will be managed through a variety of methods, including:</p> <ul style="list-style-type: none"> <li>• ReInjection to a reinjection borefield up to 150 GL/a;</li> <li>• Mine water use up to 30 GL/a;</li> <li>• Water transfer through a water supply pipeline (the pipeline corridor beyond the MDE is not part of this proposal) for use at the Fortescue Chichester operations up to 35 GL/a;</li> <li>• Water transfer through a water supply pipeline (the pipeline corridor beyond the MDE is not part of this proposal) for use by others up to 50 GL/a;</li> </ul>

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				<ul style="list-style-type: none"> <li>• Water transfer to Nyidinghu Iron Ore Mine;</li> <li>• No discharge of groundwater to creeks under standard operating conditions; and</li> <li>• Emergency discharge of stormwater to creeks only.</li> </ul>
Power Requirements	<b>Figure 2</b>	<p>Up to 220 MW of power consisting of</p> <ul style="list-style-type: none"> <li>• 100 MW operational requirements, and</li> <li>• 120 MW for battery charging.</li> </ul> <p>Power will initially be generated on-site by a combination of diesel-powered generators and solar panels. Diesel powered generators would be phased out once the site becomes connected to the Fortescue power network via a transmission power line with a connection point in the MDE. The powerline corridor beyond the MDE connecting to the existing Fortescue power network is not part of this proposal. Emergency diesel powered generators and power storage (up to 60 MW for 400 hours pa) would remain on site in case of power supply disruptions. Some diesel-powered generators would also remain throughout operation for isolated activities such as dewatering.</p>	Addition of biofuel powered generators	<p>Up to 220 MW of power consisting of:</p> <ul style="list-style-type: none"> <li>• 100 MW operational requirements, and</li> <li>• 120 MW for battery charging.</li> </ul> <p>Power will initially be generated on-site by a combination of diesel-powered or biofuel-powered generators and solar panels. Diesel powered generators would be phased out once the site becomes connected to the Fortescue power network via a transmission power line with a connection point in the MDE. The powerline corridor beyond the MDE connecting to the existing Fortescue power network is not part of this proposal. Emergency diesel-powered or biofuel-powered generators and power storage (up to 60 MW for 400 hours pa) would remain on site in case of power</p>

Proposal element	Location / description	Existing proposal extent, capacity or range	Proposed amendment (Content of section 43A amendment)	Combined extent capacity or range (total of existing approval + proposed change)
				supply disruptions. Some diesel-powered or biofuel-powered generators would also remain throughout operation for isolated activities such as dewatering.
<b>Proposal elements with greenhouse gas emissions</b>				
Construction elements:				
Plant and Equipment	Scope 1 average approximately 107,000 t CO <sub>2</sub> -e per annum		Increase of 176,000 t CO <sub>2</sub> -e per annum	Scope 1 approximately 383,000 t CO <sub>2</sub> -e per annum
Power Generation	Scope 1 approximately 100,000 t CO <sub>2</sub> -e per annum			
Operation elements:				
Plant and Equipment	Scope 1 approximately 285,000 t CO <sub>2</sub> -e per annum		Increase of 459,000 t CO <sub>2</sub> -e per annum for base case	Approximately 744,000 t CO <sub>2</sub> -e per annum for base case
Power Generation	Scope 2 approximately 544,000 t CO <sub>2</sub> -e		Decrease of 544,000 t CO <sub>2</sub> -e per annum for base case	Zero Scope 2 emissions for base case
<b>Rehabilitation</b>				
Progressive rehabilitation will be undertaken over the life of the mine where practicable. Most pits will remain operational for the duration of mining. However, where areas are identified that are no longer required for operations, the open pits will be backfilled with waste rock from waste rock landforms and rehabilitated, where possible.				

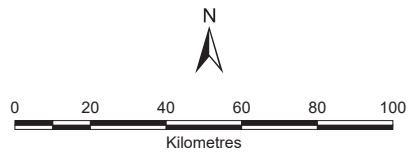
Proposal element	Location / description	Existing proposal extent, capacity or range	Proposed amendment (Content of section 43A amendment)	Combined extent capacity or range (total of existing approval + proposed change)
At the cessation of mining, the site will be rehabilitated in accordance with the Nyidinghu Mine Closure Plan. The Plan will ensure that any landforms that remain in-situ (such as WRLs and the TSF) will be designed to be safe, stable, non-polluting, whilst meeting the overarching objectives for closure in consultation with key stakeholders.				
<b>Commissioning</b>				
<b>No change:</b> Commissioning of the OPF/TSF/water infrastructure to be undertaken in accordance with the limits outlined above and in accordance with licensing requirements under the <i>Environmental Protection Act 1986</i> .				
<b>Decommissioning</b>				
<b>No change:</b> All infrastructure will be removed unless ownership is transferred to a third-party. The Mine Closure Plan will provide a plan for decommissioning of the mine and post-closure land use.				
<b>Other elements which affect extent of effects on the environment</b>				
Proposal time*	Maximum project life	33 years	No Change	33 years
	Construction phase	Approximately 2 years	No Change	Approximately 2 years
	Operations phase	26 years	No Change	26 years
	Decommissioning phase	5 years	No Change	5 years

*\* Proponents should only provide realistic timeframes to avoid unnecessary change to proposal applications at referral (section 38C), assessment (section 43A) or post assessment (section 45C).*



- LEGEND**
-  Nyidinghu Iron Ore Mine
  -  Towns
  -  Major Rivers
  -  Highways
  -  Fortescue Rail
  -  Other Rail

**Data Source(s):**  
 Topography, Landgate  
 All other data, Fortescue, 2024

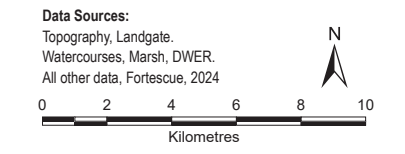
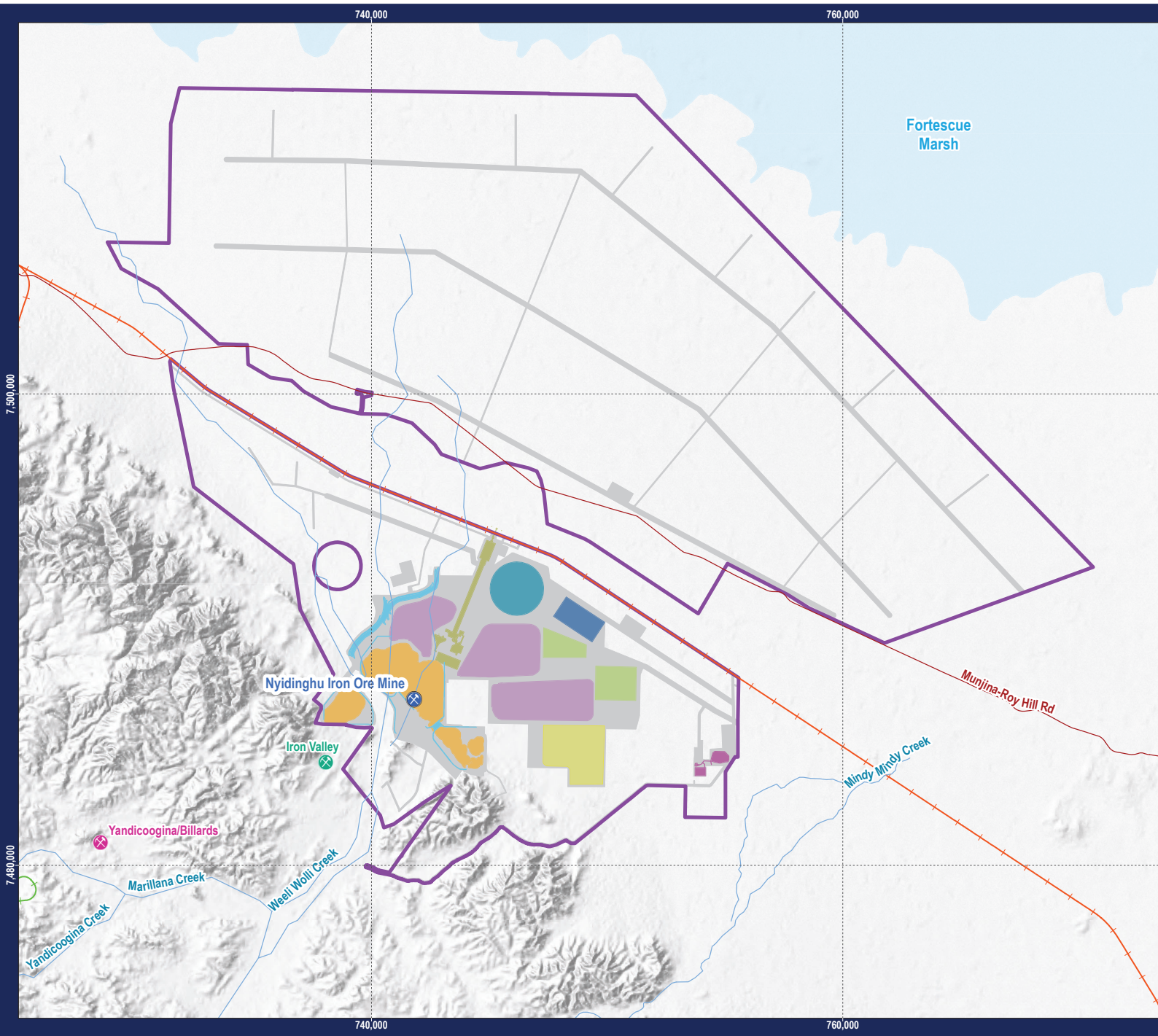


**Figure 1**  
 Nyidinghu Iron Ore Mine Location

Requested By: H. Bjorkman	Date: 25/09/2024
Drawn By: S. Costello	Size: A4L
Revised By: scostello	Revision: 0
Approved By:	Confidentiality: 0
Scale: 1:2,000,000	
Coordinate System: GDA2020 MGA Zone 50	
Project Name: 550NY_00000_MP_EN_0043_S43A	
Document Name: 550NY_00000_MP_EN_0043_001_r0	

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**Figure 2**  
 Amended Proposal

Requested By: H. Bjorkman	Date: 9/12/2024
Drawn By: S. Bowyer	Size: A4L
Revised By: scostello	Revision: 2
Approved By:	Confidentiality: 0
Scale: 1:220,000	

Coordinate System: GDA2020 MGA Zone 50  
 Project Name: 550NY\_00000\_MP\_EN\_0043\_S43A\_r2  
 Document Name: 550NY\_00000\_MP\_EN\_0043\_004\_r2

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