



Application for Works Approval

Part V Division 3 of the *Environmental Protection Act 1986*

Works Approval Number	W6923/2024/1
Applicant	Collie Steel Mill – Green Steel of WA Collie Pty Ltd
ACN	668 113 728
File number	DER2024/000142
Premises	Collie Steel Mill Legal description Part of Lot 2 on Deposited Plan 74040 As defined by the premises maps attached to the issued works approval
Date of report	26 August 2024
Proposed Decision	Works approval granted

MANAGER, PROCESS INDUSTRIES

an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

Table of Contents

1.	Decision summary	1
2.	Scope of assessment	1
2.1	Regulatory framework	1
2.2	Application summary	1
2.3	Premises overview	1
2.3.1	Primary plant and infrastructure	3
2.4	Exclusions	6
2.5	Other relevant approvals	6
2.5.1	Environmental impact assessment, Part IV of the EP Act.....	6
2.5.2	Environment Protection and Biodiversity Conservation Act 1999	6
2.5.3	Clearing of native vegetation	7
2.5.4	Department of Health	7
2.5.5	Department of Energy, Mines, Industry Regulation and Safety.....	7
2.5.6	Collie Coal (Griffin) Agreement Act 1979.....	8
3.	Risk assessment.....	8
3.1	Source-pathways and receptors	8
3.1.1	Emissions and controls	8
3.1.2	Receptors.....	13
3.2	Modelling of air quality impacts.....	15
3.2.1	DWER technical review of air quality.....	16
3.3	Modelling of noise impacts	17
3.3.1	DWER Technical Review	19
3.4	Water supply and treatment onsite	20
3.4.1	Stormwater.....	20
3.4.2	Water treatment plant.....	23
3.4.3	Reverse osmosis plant.....	23
3.4.4	Wastewater (sewage) treatment plant (WWTP).....	24
3.5	Risk ratings.....	25
4.	Consultation.....	30
5.	Decision.....	31
6.	Conclusion	31
	References.....	31
	Appendix 1: Summary of applicant’s comments on risk assessment and draft conditions	32
	Appendix 2: Application validation summary.....	33

Table 1: Proposed applicant controls	8
Table 2: Sensitive human and environmental receptors and distance from prescribed activity	13
Table 3: Air guideline values utilised for air quality assessment	15
Table 4: Expected air emissions	16
Table 5: Predicted noise levels	17
Table 6: Summary of basin design	20
Table 7: Risk assessment of potential emissions and discharges from the premises during construction, commissioning and operation.....	26
Table 8: Consultation	30
Figure 1: Location of premises.....	2
Figure 2: General layout.....	4
Figure 3: Fume Treatment Plant process diagram.....	6
Figure 4: Distance to receptors.....	14
Figure 5: Stormwater design.....	21
Figure 6: Stormwater flow diagram.....	22
Figure 7: Biofilter specification	23
Figure 8: Wastewater treatment plant.....	25

1. Decision summary

This decision report documents the assessment of potential risks to the environment and public health from emissions and discharges during the construction and operation of the premises. As a result of this assessment, works approval W6923/2024/1 has been granted.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this decision report, the Department of Water and Environmental Regulation (the department; DWER) has considered and given due regard to its regulatory framework and relevant policy documents which are available at <https://dwer.wa.gov.au/regulatory-documents>.

2.2 Application summary

On 27 March 2024, Green Steel of WA Collie Pty Ltd (the Applicant) submitted an application for a works approval to the department under section 54 of the *Environmental Protection Act 1986* (EP Act).

The Premises relates to category 45, melting smelting or refining with a design capacity of 450,000 tonnes per annual period, and category 62 solid waste depot for the storage of up to 500,000 tonnes per annual period of scrap steel for recycling, and storage of up to 65,000 tonnes per year of slag (a byproduct of the steel production process).

The premises relates to the categories and assessed design capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in works approval W6923/2024/1. The infrastructure and equipment relating to the premises category and any associated activities which the department has considered in line with *Guideline: Risk Assessments* (DWER 2020) are outlined in works approval W6423/2024/1.

2.3 Premises overview

The Collie Green Steel Mill (the Premises) is located within Part 154 Boys Home Road, Palmer and is located within the Coolangatta Industrial Estate, approximately 5.7 km north east of the Town of Collie (Refer to Figure 1).

The proposed construction and operational activities associated with the works approval application includes construction and operation of a 450 kilo tonnes per annum (ktpa) electric arc furnace (EAF) to smelt scrap metal for the production of steel rebars at the Premises.

The steelmaking process involves:

- Pre-processing and cutting of scrap steel to be fed into the EAF, which will be completed offsite by scrap suppliers. Scrap will be received and stored in stockpiles, ready for melting.
- Smelting and refining of scrap metal in EAF.
- Casting where a continuous caster is used to form a continuous strip of semi-molten material.
- Rolling and cutting of hot steel into required shapes.

Emissions generated during the operation of EAF are proposed to be treated through a fume treatment plant.

The applicant expects to produce up to 450,000 tonnes per year of finished steel product, such as reinforcing bar (rebar), and wire rod for local consumption or export. The estimated operating

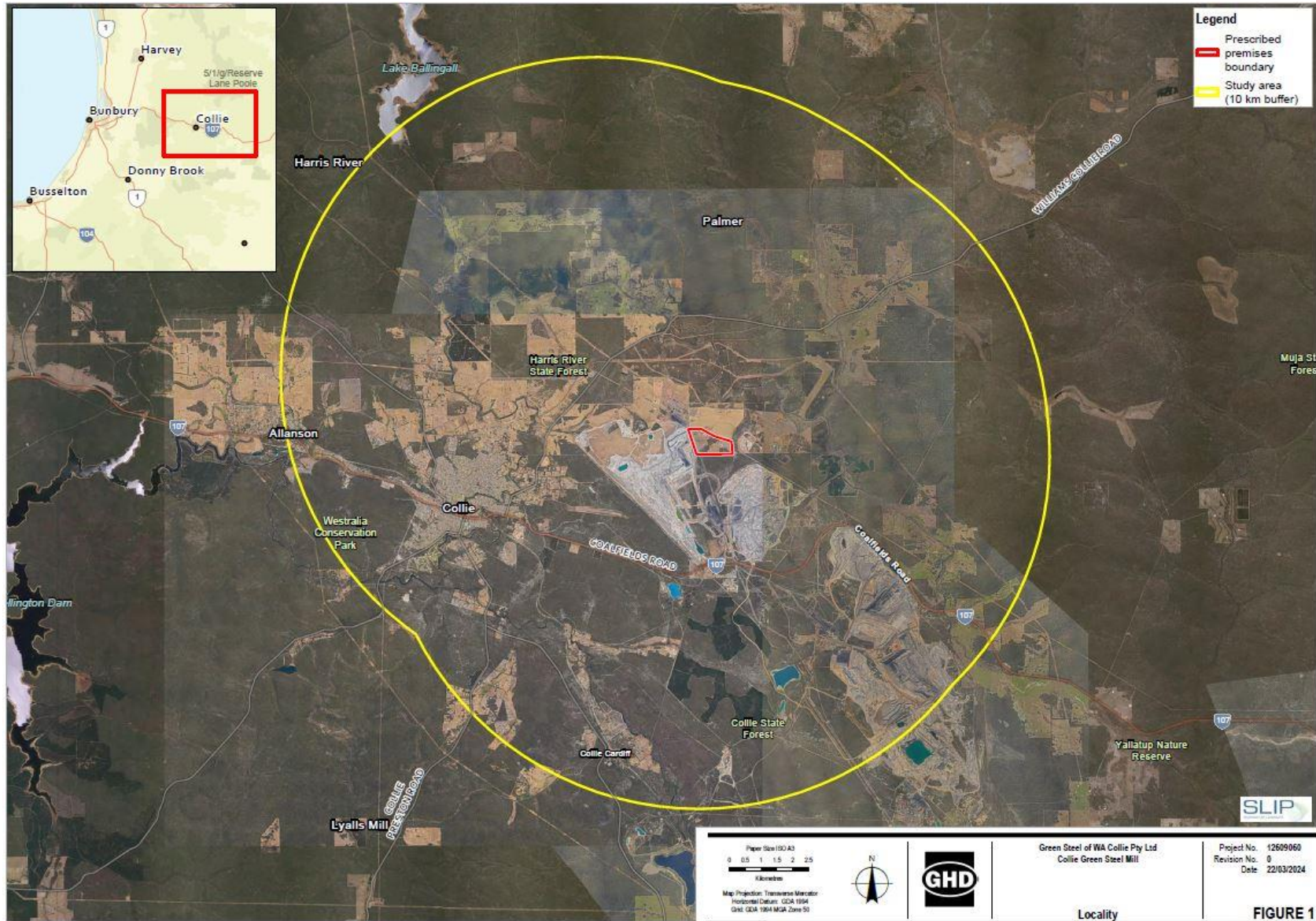


Figure 1: Location of premises

Works Approval: W6923/2024/1

period for the life of the project is to 2056 (30 years). Construction is expected to be completed over 18 months. Commissioning proposed time frame – Commissioning is expected to take 6 to 12 months to completed. During the Environmental Commissioning phase, with the exception of plant shutdowns, the plant is expected to operate 24 hours a day, 7 days a week.

There are no time limited operations proposed at this stage.

2.3.1 Primary plant and infrastructure

The Steel Mill will be primarily located within an enclosed warehouse, where scrap steel will be processed through the melt shop (melted, refined and cast). Refer to Figure 2. Key premises infrastructure consists of the following:

Scrap Metal acceptance:

Ferrous scrap (scrap steel and iron) will be received from existing scrap metal recyclers. Prior to acceptance onto site, the scrap steel will be stripped of contaminants and packed into shipping containers for transport. The packaged shipping containers will be transported by rail and truck to the premises, where unloading occurs at the scrap steel storage yard within the premises boundary. The scrap steel storage yard is an open low permeability hardstand area where processed scrap is stockpiled. Scrap steel will be accepted onto site if it meets the acceptable criteria.

Endless Charging System (ECS)

The ECS is a combination of open and covered oscillating conveyors that pre-heats and charges scrap into the Electric Arc Furnace (EAF). Scrap steel received from the scrapyards is stockpiled in the storage bays of the ECS area and an overhead crane with a magnetic grab loads the scrap for loading into the ECS conveyor. Pre-heating of the scrap steel is completed within a covered section of the warehouse, using waste heat from the furnace fumes. Dust generated from the furnace charging is extracted and conveyed to the fume treatment plant (FTP) for treatment.

Electrical Arc Furnace (EAF)

Steel will be melted using an electrical energy by generating a high current electric arc between three graphite electrodes. The furnace is enclosed during melting, with scrap being fed continuously through a chute. During the melting process oxygen, natural gas, carbon, lime and dolomite are automatically injected into the molten steel to separate impurities from the steel. This action causes impurities to float to the top of the molten steel bath and form a slag as a byproduct of the steel production process.

Samples of the molten steel are automatically taken and tested to determine additions required to produce the desired steel properties. Fumes and dust generated by this process are treated through the fume treatment plant. When steel is fully melted and the slag forming process is complete the molten steel is tapped from the bottom of the EAF into a ladle. After tapping the molten steel, slag is tipped out into a slag collection bunker adjacent to the furnace where it is cooled and solidified using recycled water from the reverse osmosis treatment plant. Once solid and cool the slag is moved to the cold slag storage area by front end loaders.

Ladle Furnace (LF)

Before use, the ladle is pre-heated to avoid thermal energy in the molten steel being lost to the ladle body. The ladle filled with molten steel is automatically moved to the LF area on the ladle car. In the ladle furnace area ferroalloys, carbon, lime and dolomite are added throughout the secondary metallurgy process to further refine the steel through slag building and to achieve the desired steel properties. Argon and nitrogen are injected in the bottom of the ladle to ensure uniform mixing of the molten steel and additions. Nitrogen and argon are extracted through the FTP extraction system and then released to the atmosphere.

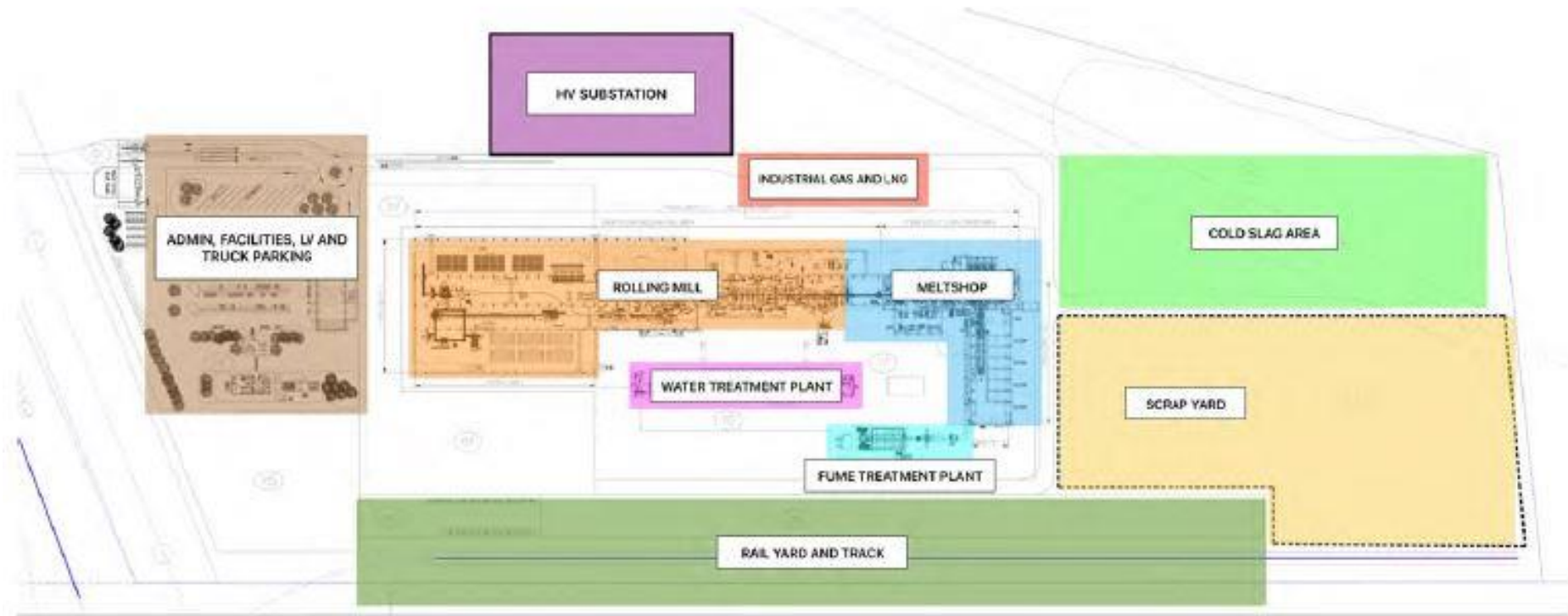


Figure 2: General layout

After completion of the secondary metallurgy reactions and confirmation of steel properties the ladle is lifted by overhead crane onto the ladle turret for tapping of molten steel into the continuous casting machine (CCM) tundish. After tapping of the molten steel, the slag from the ladle is tipped out into a slag collection bunker where it is cooled and solidified using recycled water from the Reverse Osmosis (RO) plant. Once solid and cool the slag is moved to the cold slag storage area by front end loaders.

Continuous Casting Machine (CCM)

The CCM casts the molten steel into an octagonal billet and cools the outside of the billet enough to hold its shape for rolling. Molten steel is tapped into the CCM from a tundish with an automatically controlled gate. Water is used to cool the outside surface of the billet. Contact of cooling water with the hot steel causes some oxidation and leads to the formation of mill scale (small pieces of rust). Some of the mill scale is washed off with the cooling water and pumped out to the water treatment plant (WTP). Before use the tundish is pre-heated to avoid thermal energy in the molten steel to be lost to the tundish body. Emissions from the natural gas combustion are extracted by the FTP extraction system and conveyed to the FTP. Argon and nitrogen are used in the CCM operation, they are extracted by the FTP extraction system and conveyed to the FTP where they are released to the atmosphere.

Rolling mill and finishing area

In the rolling mill the hot billets are progressively rolled out through series of stands until the desired form and thickness of steel is achieved. The rolling mill uses electrical energy through electrical motors to form the steel. Water is used to progressively cool the steel as it moves through the rolling process. Contact of cooling water with the hot steel causes some oxidation and leads to formation of mill scale. Some of the mill scale is washed off with the cooling water and pumped out the to TWP. Wastewater is then directed to the water treatment plant for treatment and recycled back into the process.

Fume Treatment Plant

The Fume Treatment Plant (baghouse) is designed to collect, filter and cool airborne emissions from the plant prior to release to atmosphere (as depicted in Figure 3). Fumes are extracted through a series of fans and ducts and treated through a bag filter before being released through the FTP stack at a height of 45 m. A dioxin abatement system is included which injects a reactant ahead of the bag filters. The reactant absorbs dioxins from the air stream and is filtered out by the bag filter. The bag filters are automatically cleaned, and all dust is conveyed to a storage silo. The dust is then agglomerated to turn it into a transportable form. The agglomerated dust is removed from site for recovery and recycling by a third party.

High voltage substation

The high voltage substation is the point of connection to the Western Power grid. It contains the 330kV high voltage switchgear and protection and the 330kV/33kV step down transformer. The transformer will be design in accordance with the Australian Standards including any mitigation measures to manage potential oil leaks.

Additional supporting infrastructure

The steel plant supporting infrastructure includes chemical and diesel storage, water treatment facilities, sewage treatment, office and administrative buildings and associated workshops and support infrastructure. The premises will also include stormwater and process water collection and treatment infrastructure (discussed further in section 3.4).

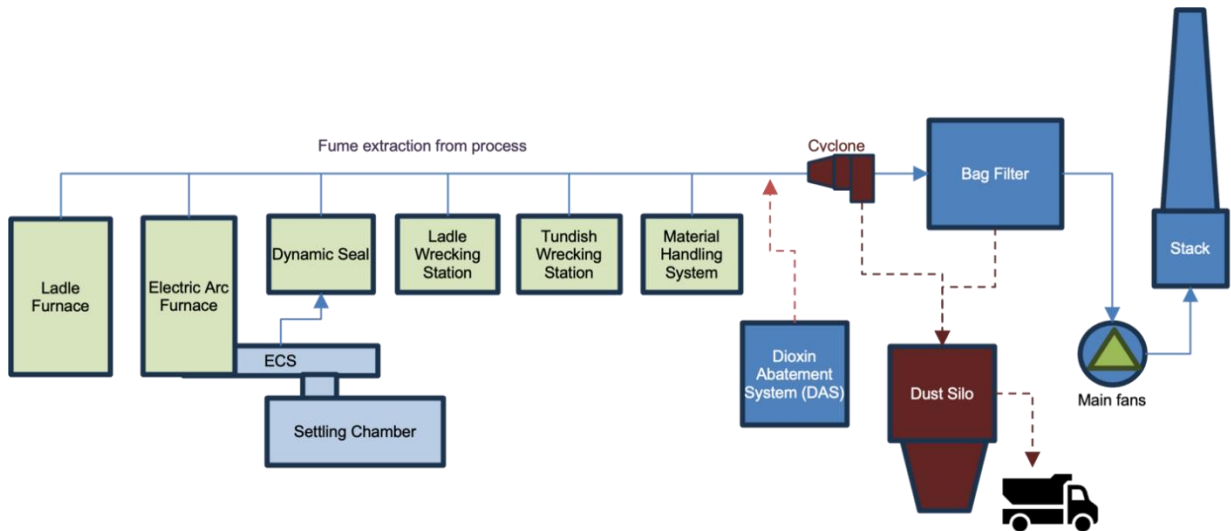


Figure 3: Fume treatment plan process

2.4 Exclusions

The following matters are outside the scope of this assessment and have not been considered within the technical risk assessment detailed in this report:

- A rail extension is proposed to be built for transport of scrap steel and finished product, passes through an area of Department of Biodiversity, Conservation and Attractions (DBCAs) managed Collie State Forest (part Lot 1486 on Plan 110882), part Lot 1505 on Plan 110876 and part Land ID 4035609.
- A water pipeline will be constructed within an existing Western Power easement (portion of Lot 116 on Deposited Plan 412278) and through Lot 2 to connect the Prescribed Premises.
- The development of a 330 KV powerline connecting to the Plant will be undertaken by Western Power and is separate to this Works Approval Application (WAA).
- Clearing of native vegetation within and adjacent to the premises boundary. This assessment is being undertaken separately via a Native Vegetation Clearing Permit application.

2.5 Other relevant approvals

2.5.1 Environmental impact assessment, Part IV of the EP Act

A scoping meeting was held on the 4 December 2023 with representatives from the Environmental Protection Authority (EPA) to determine whether an assessment under Part IV of the *Environmental Protection Act 1986* was required for the potential Scope 1 or Scope 2 emissions from the Premises. The Applicant was advised that Scope 1 or Scope 2 greenhouse gas emissions over 100,000 tonnes CO₂-e in any year will require an assessment by EPA. The Applicant has provided the document *Carbon Transition Pathways, Collie EAF and mini-mill emissions assessment, 2024* and confirmed that they will not exceed the threshold and therefore assessment under Part IV of the EP Act is not required.

2.5.2 Environment Protection and Biodiversity Conservation Act 1999

Clearing for the proposal will impact up to 38.5 ha suitable foraging habitat of protected fauna species (Black Cockatoo) habitat. Due to these impacts on Matters of National Environmental Significance (MNES), the Applicant referred to Project to the Department of Climate Change,

Energy, Environment and Water (DCCEEW) on 20 March 2024 under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) application number 02143.

On the 16 August 2024 the Applicant provided the following updated on the progress of this assessment. On 1 July 2024, the Applicant received a referral decision by the DCCEEW that outlines the proposed action is a controlled action and a further assessment is required through preliminary document with further information. Subsequently, a request for information was received on 17 July 2024, with response due by 18 October 2024. The applicant is currently preparing the response.

2.5.3 Clearing of native vegetation

The Applicant submitted an application for a native vegetation clearing permit under Section 51 of the *Environmental Protection Act 1986* to DWER on 20 March 2024. Clearing Permit number CPS 10568/1 is currently under assessment.

On the 16 August 2024 the Applicant provided the following update on the clearing permit application. The applicant confirms that a request for further information was received on 5 June 2024 and the applicant has responded on 26 June 2024. A meeting between the Department's Native Vegetation Regulation Branch and the Applicant was held on 10 July 2024. The Applicant has responded with additional information on 1 August 2024.

The Delegated Officer notes that the assessment for clearing of native vegetation has not been completed and therefore, this works approval will specify that no clearing of native vegetation is permitted under this Works Approval until a native vegetation clearing permit has been granted.

2.5.4 Department of Health

The Applicant will be required to have approval for the wastewater treatment plant for the treatment of sewage under the *Health Act 1911*, approvals to be sought through the Shire of Collie and Department of Health.

On the 16 August 2024 the Applicant confirmed that an application will be submitted to the Shire of Collie prior to the planned installation of the sewage treatment system.

2.5.5 Department of Energy, Mines, Industry Regulation and Safety

The applicant is proposing to store bulk reagents and fuel at the premises, along with gas storage facilities. The storage and handling of these materials will be required to be stored in accordance with *Dangerous Good Safety (Storage and Handling of Non-explosives) Regulations 2007*.

It is understood that the following approvals will be required for the premises:

- Dangerous Goods Licence - the quantity of Dangerous Good Storage exceeds the schedule 1 manifest quantity of 10 kL of class 2.2 Dangerous Goods and 5 kL for class 2.1 Dangerous Goods;
- Major Hazard Facilities Notification - triggered by the quantity of LNG storage exceeding 46.5 kL under the *Dangerous Goods Safety (Major Hazard Facilities) Regulations 2007*
- Fire and Emergency Services – Emergency Response Guide (FES-ERG) – due to the quantity of Dangerous Goods storage at the site exceeding 10 the schedule 1 manifest quantity

On the 16 August 2024 the Applicant provided the following updates on this assessment:

A preliminary assessment was carried out by Dangerous Goods (DG) consultant in October 2023. A meeting was held with Department of Energy, Mines, Industry Regulation and Safety (DEMIRS) on 13 November 2024 with no issues on the assessment completed.

Following completion of the detailed design of the steel mill post financial investment decision (FID), a detailed compliance assessment to the approved Code of Practice shall be performed for each depot before an application for DG licence is submitted to DEMIRS.

2.5.6 Collie Coal (Griffin) Agreement Act 1979

The *Collie Coal (Griffin) Agreement Act 1979* provides a legislative basis for a State Agreement with the Griffen Coal Mining Company in respect to the mining, development and rehabilitation of coal reserves in the Collie area.

The *Collie Coal (Griffin) Agreement Act 1979* applies to land to the south of Lot 2, comprising the existing open-cut coal mine and the existing Griffen Coal rail loop. The extension of the rail loop is likely to be authorised under this Act.

Key Finding: The delegated officer has considered the information relating to regulatory approvals for this premises and notes that a number of approvals are required, across multiple legislative requirements and regulatory assessment pathways. It is the responsibility of the applicant to ensure that all necessary approvals are obtained for this premises, and any works undertaken are in accordance with those approvals.

The assessment for the works approvals has only considered the specific prescribed activities (Category 45 and 62) and the risks associated with emissions and discharges during construction and operations. In particular, the assessment for works approval did not assess the impacts relating to native vegetation clearing, and notes that due to the above assessment process under s.51 of the EP Act, and the EPBC Act, the applicant will not be able to progress works until these approvals are obtained. Should these approvals require alteration to premises design or footprint, the applicant may be required to seek an amendment to the works approval.

3. Risk assessment

The department assesses the risks of emissions from prescribed premises and identifies the potential source, pathway and impact to receptors in accordance with the *Guideline: Risk Assessments* (DWER 2020).

To establish a risk event there must be an emission, a receptor which may be exposed to that emission through an identified actual or likely pathway, and a potential adverse effect to the receptor from exposure to that emission.

3.1 Source-pathways and receptors

3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises construction and operation which have been considered in this decision report are detailed in Table 1 below. Table 1 also details the control measures the Applicant has proposed to assist in controlling these emissions, where necessary.

Table 1: Proposed applicant controls

Emission	Sources	Potential pathways	Proposed controls
Construction			
Dust	Vehicle movements, earthworks for	Air / windborne	Prior to construction a Dust Management Plan will be developed in conjunction with

Emission	Sources	Potential pathways	Proposed controls
	construction stormwater ponds / plant	pathway causing impacts to health and amenity	<p>the Construction Environmental Management Plan and will include the following management measures:</p> <ul style="list-style-type: none"> • Dust suppression techniques and / or watering of unsealed roads, access routes and exposed surfaces will be implemented. • General housekeeping practices will be undertaken to ensure that there is no accumulation of waste materials that may contribute to dust emissions. • Ensure that vehicle, machinery and equipment are properly maintained.
Noise	Vehicle movements, earthworks for construction stormwater ponds / plant	Air / windborne pathway causing impacts to health and amenity	<p>Work will be carried out in accordance with environmental noise practices set out in AS 2436-2010 (R2016) Guide to Noise and Vibration Control on Construction, Demolition and Maintenance Sites (Standards Australia, 2010).</p> <p>Construction vehicles, machinery and equipment selection will consider noise and vibration levels.</p>
Commissioning and Operation			
Solid waste	Waste acceptance	Direct discharge	<p>Scrap steel will be accepted onto site if it meets the following criteria:</p> <ul style="list-style-type: none"> • Free of dirt, non-ferrous metals, foreign materials and excessive rust or corrosion. Foreign materials includes all non-metallics. • Free of residual alloys. • Free of closed containers e.g. gas cylinders or fuel tanks. • Free of flammable materials, oil, refrigerants and liquids of any type. • Complying with the ISRI (Recycled Materials Association) scrap grade being delivered. <p>Containers that do not meet the quality standards are rejected at this point and returned to the supplier.</p> <p>Containers are weighed for inventory and verification purposes.</p> <p>Scrap is handled by a combination of front-end loaders and mobile scrap cranes in the scrapyards. The low permeability surface will include drainage infrastructure that drains towards the stormwater basins where it is</p>

Emission	Sources	Potential pathways	Proposed controls
			<p>treated through gross pollutant traps, oil / water separators and biological treatment in the basins.</p>
<p>Point sources emissions (NO_x, CO, SO_x, PM₁₀, VOCs, dioxins / furans)</p>	<p>Fume treatment plant (FTP) & FTP dust storage silo (dust)</p>	<p>Air / windborne pathway causing impacts to health and amenity</p>	<p>The FTP (baghouse) collects, filters and cools airborne emissions from the plant prior to release to the atmosphere. Fumes are extracted through a series of fans and ducts and sucked through a bag filter before being released through the FTP at a stack height of 45m.</p> <p>A dioxin abatement system is included which injects a reactant ahead of the bag filters. The reactant absorbs the dioxins from the air stream and is filtered out by the bag filter.</p> <p>The bag filters are automatically cleaned, and all dust is conveyed to a storage silo.</p> <p>The dust collected from the bag filters and axial cyclone are collected by chain conveyors and sent to a storage silo, where it is discharged through a screw conveyor to a transport truck and taken off site for recovery and recycling.</p> <p>The applicant intends to carry out periodic stack quality sampling. The stack design includes inspection ports for periodic monitoring and sampling as required.</p>
<p>Fugitive dust</p>	<p>Stockpiling waste material (slag)</p>	<p>Air / windborne pathway causing impacts to health and amenity</p>	<p>Slag stockpiles will be treated with periodic watering and / or dust suppression capping (water based biodegradable spray or the like) if required to manage fugitive dust emissions.</p> <p>Samples taken and analysed in accordance with the <i>Material Classification (Iron and Steel Slag) Environmental Monitoring Report 2011</i>. Electric arc furnace slag aggregates are well below the nominated thresholds NSW Environmental Protection Authority's (EPA) Environmental Guidelines: Assessment, Classification & Management of Liquid & Non-liquid Wastes 1999.</p> <p>Approximately 65,000 tonnes per year of slag by-product will be produced and taken offsite for reuse.</p>
<p>Dust</p>	<p>Stockpiling waste material (spent refractories, mill scale, dust silo, scrapyards)</p>	<p>Air / windborne pathway causing impacts to health and amenity</p>	<p>Refractories are heat resistant solid bricks used to line the inside of the EAF and LF to protect the metal bodies from damage.</p> <p>Spent EAF, LF and Tunish refractories (up to 3,000 tonnes per year) are comprised of inert, stable material and will be stored for recycling offsite. Spent refractories will be</p>

Emission	Sources	Potential pathways	Proposed controls
			<p>stored in a closed, undercover area (shed) to manage fugitive dust emissions.</p> <p>Water is used to progressively cool the steel as it moves through the rolling process. This water causes some oxidation or iron on the surface of the steel. The oxidised iron is washed off and called mill scale.</p> <p>Up to 5,000 tonnes per year of mill scale is comprised of up to 97% iron oxide and will be generated in the steel production process and recovered from the process water in the Water Treatment Plant. The mill scale will be agglomerated for transport, stored on a bunded covered hardstand and will be removed from site. The applicant is proposing on recycling all mill scale onsite.</p> <p>EAF and LF dust (up to 12,000 tonnes per year) will be extracted from the plant to the FTP. All dust is conveyed to a dedicated storage silo. The dust is then agglomerated to turn it into a transportable form.</p> <p>The applicant has advised that monitoring programs for the various gaseous and dust emissions from the FTP and when dust is removed from the dust silo will be determined during the Detailed Design Phase.</p>
Noise	Operation of premises including steel mill scrapyards, & slag stockpiles	Air / windborne pathway causing impacts to health and amenity	<p>Building external fabric sound requirements:</p> <p>Details of the minimum external envelope construction requirements of the proposed mill have been detailed and used in 3D sound modelling.</p> <p>External walls:</p> <ul style="list-style-type: none"> 0.6 mm steel (minimum 4.7 kg/m² surface mass) with 12 mm fiber cement (minimum 18.7 kg/m² surface mass). <p>Roof / ceiling construction:</p> <ul style="list-style-type: none"> Minimum 0.6 mm steel (minimum 4.7 kg/m² surface mass) and 2 layers of 13 mm standard plasterboard (minimum 8.4 kg/m² surface mass per sheet – i.e. 16.9 kg/m² for 2 sheets).
Stormwater containing sediments & contamination (e.g. hydrocarbons)	Processing (steel mill) and waste storage areas, scrapyards. Cold slag area	Overland runoff potentially causing ecosystem disturbance or impacting surface water	<p>Cold slag storage area will be low permeability hardstand area with drainage infrastructure that drain to a stormwater basin. Cold slag will be removed off site for use as aggregate for road base and road resurfacing.</p> <p>Scrap metal will be stored in the open on a</p>

Emission	Sources	Potential pathways	Proposed controls
		quality.	<p>low permeability hardstand. The scrapyards will include drainage infrastructure that drains to the site stormwater basins where the surface run-off is treated through gross pollutant traps, oil / water separators and biological treatment in the basins.</p> <p>The applicant has designed two detention basins to capture stormwater across the site.</p> <p>Stormwater directed to Basin W (as shown in Figure 5) will be from the admin catchment and will be treated via a gross pollutant trap prior to discharging to the environment.</p> <p>Stormwater directed to Basin E as shown in Figure 5 will be from the plant area and will be treated via an oil/water separator and gross pollutant trap prior to be reused through the process water tank.</p> <p>As contingency measure, in the event all surface water runoff cannot be reused (during an unscheduled shutdown), it will be treated and attenuated prior to discharge to land as per Attachment 6A: Surface Water Management Plan (GHD, 2023c).</p>
Leaks / spills of hazardous materials (hydrocarbons)	Storage of hazardous materials such as hydrocarbons (LNG storage, diesel storage, oil)	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality.	<p>Storage of hydrocarbons and environmentally hazardous materials will be in self-bunded tanks as well as spill kits for emergency use.</p> <p>Storage of environmentally hazardous materials will be stored in accordance with the relevant Australian Standards.</p> <p>Vehicle servicing will be undertaken in service areas to contain any potential spillage or leaks. Refueling activities will occur in designated refueling areas that has a portable rollover bund to capture any potential spillage.</p>

3.1.2 Receptors

In accordance with the *Guideline: Risk Assessment* (DWER 2020), the Delegated Officer has excluded the Applicant’s employees, visitors, and contractors from its assessment. Protection of these parties often involves different exposure risks and prevention strategies, and is provided for under other state legislation.

Table 2 and Figure 4 below provides a summary of potential human and environmental receptors that may be impacted as a result of activities upon or emission and discharges from the prescribed premises (*Guideline: Environmental Siting* (DWER 2020)).

Table 2: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	Distance from prescribed activity
Area zoned “Rural” under the Collie Planning Scheme No. 6	<ul style="list-style-type: none"> • Collie Clary Target Club - 2.6 km northwest of premises boundary • Collie Hills Village - 3.6 km northwest of premises boundary • Residence – 2.6 km from the location of the plant.
Residential Premises: Area zoned “Rural Residential under the Collie Planning Scheme No. 6	4 km west southwest from the premises boundary
Industrial premises: <ul style="list-style-type: none"> • Griffin Coal (L6363) • Bluewaters Power Station (L8326) • Synergy Collie A Power Station (L6637) 	Directly northwest, west and east.
Environmental receptors	Distance from prescribed activity
Cultural heritage	<p>None located within the premises boundary.</p> <p>There are approximately six sites located within Griffin Coal boundary and only one within 1 km of the premises (ID5303)</p> <p>Additional sites located 2.6 km southeast including Shotts Graves (Site ID 15331).</p> <p>Collie River Waugal (Site ID 16713) is situated 400 m northeast & ~1 km north.</p>
Collie River	Approximately 1 km north of the premises
Groundwater	Nearest bore (61200019) located 500 m east suggests groundwater level is 13.4 mbgl.
Priority flora/fauna	<p>Fauna identified presence/likely occurrence of following species:</p> <ul style="list-style-type: none"> • Carnaby’s Cockatoo (Endangered (EN) under EPBC Act) • Baudin’s Cockatoo (EN under EPBC Act) • Forest Red-tailed Cockatoo (Vulnerable under EPBC Act) • Brush-tailed Phascogale (Conservation dependent under BC Act) • Western Brush Wallaby (Priority 4 listed)

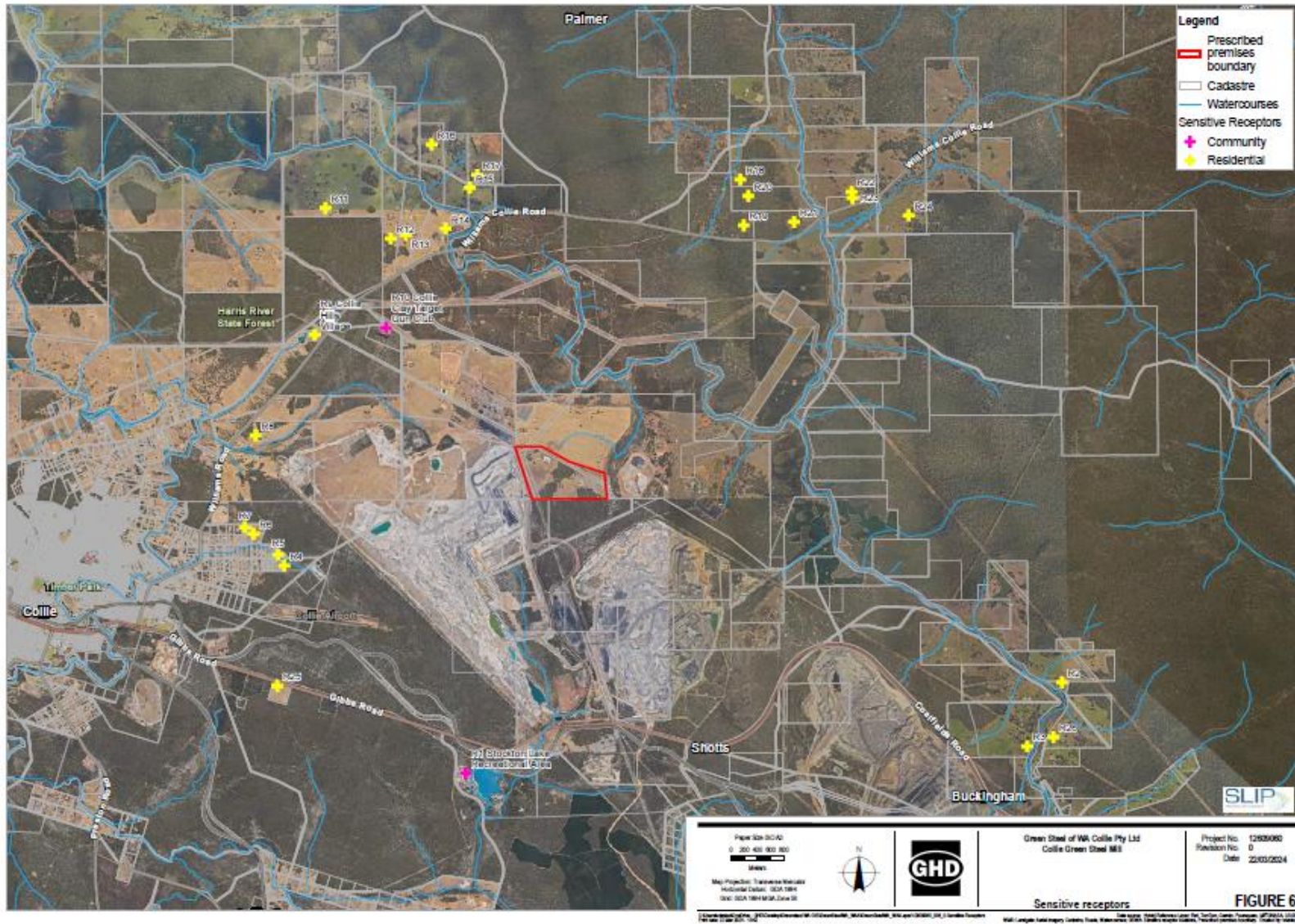


Figure 4: Distance to sensitive receptors

Works Approval: W6923/2024/1

IR-T13 Decision report template (short) v3.0 (May 2021)

3.2 Modelling of air quality impacts

The applicant submitted an Air Quality Impact Assessment to support their application that included a quantitative assessment of emissions from the operation of the premises (*Collie Green Steel Mill Works Approval Supporting Documentation and Appendix B: Collie Steel Mill Air Quality Impact Assessment (AQIA), GHD, 2023*).

Expected emissions from the steel making process using an Electric Arc Furnace include nitrogen dioxide (NO₂), sulphur dioxide (SO₂), carbon monoxide (CO), particulate matter (PM₁₀). As the proposal includes the utilisation of recycled and scrap steel for smelting, emissions are also expected to include VOCs, dioxins and furans. Emissions were calculated using applicant supplied data for the fume treatment plant and from the *National Pollution Inventory: Emissions estimation for technique manual for mining – Version 3.1, January 2012*. Primary sources of particulate matter include dust discharged from the storage silo and emissions from the FTP point source stack.

The air quality impact assessment utilised the following sources to establish air quality guideline criteria:

- Guideline criteria for NO₂, SO₂, CO, as specified in the department's *Draft Guideline: Air emissions (DWER, 2019b)* where used as reference ambient air quality guideline values for these key air pollutants.
- The criteria used for the assessment of PM₁₀ was the Department's *Draft Guideline: Dust emissions (DWER, 2021)*.
- The criteria used for the assessment for dioxins and furans was the *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales (NSW EPA, 2022)*; and
- Air quality guideline criteria for VOC emissions were adopted from 1,3 butadiene, considered the more stringent criteria for likely VOC emissions associated with plastics, paint and organic matter (when considered against 1,2 – dichloroethane, benzene and toluene) that may be present in the scrap steel.

The adopted air quality criteria relevant for the key pollutants of concern is detailed in Table 3.

Table 3: Air guideline values utilised for air quality assessment

Pollutant	Averaging Period	Maximum concentration ug/m3
NO ₂	1-hour	226
	Annual	56
SO ₂	1-hour	524
	24-hour	210
	Annual	52
CO	1-hour	30,000
	8-hour	10,000
1,3 butadiene	24-hour	0.27
	Annual	0.027
1,2 – dichloroethane	1-hour	70
Toluene	24-hour	3770
	Annual	377
Benzene	1-hour	29
	Annual	9.6
PM ₁₀	24-hour	50
	Annual	25
Dioxins and furans	1-hour	2.0 x 10 ⁻⁶

Air dispersion modelling was undertaken for predicted incremental concentrations of NO₂, SO₂, CO, VOCs, PM₁₀ and dioxins and furans using AERMOD. The modelling was conducted for one scenario representing standard operating conditions of the Premises. The quantitative assessment indicated that predicted ground level concentrations for all pollutants were below the relevant criteria at all sensitive receptors. With implementation of standard construction management and operational controls these emissions are not expected to result in significant adverse impacts to sensitive receptors (GHD, 2023b).

It is expected that the gaseous and dust emissions will be released to the atmosphere from the FTP stack, as indicated in Table 4.

Table 4: Expected air emissions

Parameter	Type	Expected emissions (tonnes/ year)	Allowance for (tonnes/ year)
Nitrogen dioxide (NO ₂)	Gas	166.78	Up to 170
Sulphur dioxide (SO ₂)	Gas	214.43	Up to 220
Carbon monoxide (CO)	Gas	953.03	Up to 1000
Dioxins and furans	Gas	0.00000048	Up to 0.000001
Volatile organic compounds (VOCs)	Gas	1.02	Up to 1.5
Evaporated water	Gas	85,500	Up to 90,000
Particulate matter 10 micrometres or less in diameter (PM ₁₀)	Dust	0.062	Up to 0.1

3.2.1 DWER technical review of air quality

A technical review of the air quality impact assessment was conducted by the department and determined that:

- The modelling methodology including model selection, model configuration, assumptions and meteorological input data appears to be appropriate.
- Generally, the modelling met the requirements of the department's *Air Quality Modelling Guidance Notes* (DoE, 2006).
- The predicted concentrations of all pollutants modelled suggest that the plant would contribute very little to cumulative impacts in the airshed.
- PM_{2.5} concentrations were not modelled. However, if PM₁₀ is assumed to be 100% PM_{2.5} then the percentage of the standard at receptors remains less than 0.1%.
- The model input files for PM₁₀ point source and volume source emissions were not supplied and therefore could not be checked.
- The AQIA report concluded that predicted ground level concentrations of NO₂, SO₂, CO, and VOCs, dioxins and furans and PM₁₀ were well below the relevant assessment criteria. Although some issues were noted with the criteria, this conclusion remains accurate when the current criteria were applied.
- Concentrations predicted at sensitive receptors were below 2% of the outdated standards (2019 NEPM) used in the modelling report for all species considered and averaging times for the facility in isolation and less than 3% of the current NEPM standards, and
- While industrial receptors were not tabulated, the predicted concentrations appear to be well below (less than 3% of relevant standards) based on visual inspection of contour plots.

As part of the technical review, it was identified that metals were not included in the pollutant

list, and that further analysis may be warranted to determine the presence of these in FTP particle emission. The review also identified that the emissions scenarios considered did not include the upset condition or contingency plans for the FTP. It was recommended that further information is required from the applicant regarding breakdown FTP contingency plans.

3.3 Modelling of noise impacts

The Applicant provided an acoustic assessment conducted by consultant GHD, *Collie Steel Mill Acoustic Assessment, Green Steel of WA Collie Pty Ltd, 14 December 2023* that assessed the potential noise emissions from the premises to determine compliance with the *Environmental Protection (Noise) Regulations 1997*.

Two noise emission scenarios were considered for operation of the mill:

- Scenario 1 – Continuous noise sources only; and
- Scenario 2 – Continuous and Intermittent noise sources operating simultaneously.

The predicted noise levels of both scenarios are shown against 5 dB below the assigned noise levels for day, evening / Sunday day and night periods (as shown in Table 5).

Table 5: Predicted noise levels

Noise Sensitive receiver	Period	Noise Criteria dB, L _{A10}	Scenario 1		Scenario 2		
			Predicted noise levels dB, L _{A10}	Complies? Yes / No	Predicted noise levels dB, L _{A1}	Complies? Yes / No	
R1	Day	60	53	Y	75	53	Y
	Evening/Sunday Day	60		Y	75		Y
	Night	60		Y	75		Y
R2	Day	60	48	Y	75	48	Y
	Evening/Sunday Day	60		Y	75		Y
	Night	60		Y	75		Y
R3	Day	55	27	Y	70	27	Y
	Evening/Sunday Day	55		Y	70		Y
	Night	55		Y	70		Y
R4	Day	40	29	Y	50	29	Y
	Evening/Sunday Day	35		Y	45		Y
	Night	30		Y	40		Y
R5	Day	40	25	Y	50	25	Y
	Evening/Sunday Day	35		Y	45		Y

Noise Sensitive receiver	Period	Noise Criteria dB, L _{A10}	Scenario 1		Scenario 2		
			Predicted noise levels dB, L _{A10}	Complies? Yes / No	Predicted noise levels dB, L _{A1}	Complies? Yes / No	
	Night	30		Y	40	Y	
R6	Day	40	25	Y	50	25	Y
	Evening/Sunday Day	35		Y	45		Y
	Night	30		Y	40		Y
R7	Day	40	26	Y	50	26	Y
	Evening/Sunday Day	35		Y	45		Y
	Night	30		Y	40		Y
R8	Day	60	27	Y	75	27	Y
	Evening/Sunday Day	60		Y	75		Y
	Night	60		Y	75		Y
R9	Day	40	27	Y	50	27	Y
	Evening/Sunday Day	35		Y	45		Y
	Night	30		Y	40		Y
R10	Day	55	34	Y	70	34	Y
	Evening/Sunday Day	55		Y	70		Y
	Night	55		Y	70		Y
R11	Day	40	22	Y	50	22	Y
	Evening/Sunday Day	35		Y	45		Y
	Night	30		Y	40		Y
R12	Day	40	26	Y	50	26	Y
	Evening/Sunday Day	35		Y	45		Y
	Night	30		Y	40		Y
R13	Day	40	27	Y	50	27	Y
	Evening/Sunday Day	35		Y	45		Y
	Night	30		Y	40		Y
R14	Day	40	29	Y	50	29	Y
	Evening/Sunday Day	35		Y	45		Y
	Night	30		Y	40		Y
R15	Day	40	24	Y	50	24	Y
	Evening/Sunday Day	35		Y	45		Y
	Night	30		Y	40		Y
R16	Day	40	23	Y	50	23	Y
	Evening/Sunday Day	35		Y	45		Y
	Night	30		Y	40		Y
R17	Day	40	26	Y	50	26	Y
	Evening/Sunday Day	35		Y	45		Y
	Night	30		Y	40		Y
R18	Day	40	23	Y	50	23	Y
	Evening/Sunday Day	35		Y	45		Y
	Night	30		Y	40		Y
R19	Day	55	25	Y	70	25	Y
	Evening/Sunday Day	55		Y	70		Y
	Night	55		Y	70		Y
R20	Day	40	23	Y	50	23	Y
	Evening/Sunday Day	35		Y	45		Y
	Night	30		Y	40		Y

Noise Sensitive receiver	Period	Noise Criteria dB, LA10	Scenario 1		Scenario 2		
			Predicted noise levels dB, LA10	Complies? Yes / No	Predicted noise levels dB, LA1	Complies? Yes / No	
R21	Day	40	23	Y	50	23	Y
	Evening/Sunday Day	35		Y	45		Y
	Night	30		Y	40		Y
R22	Day	40	19	Y	50	19	Y
	Evening/Sunday Day	35		Y	45		Y
	Night	30		Y	40		Y
R23	Day	40	20	Y	50	20	Y
	Evening/Sunday Day	35		Y	45		Y
	Night	30		Y	40		Y

R24	Day	40	18	Y	50	18	Y
	Evening/Sunday Day	35		Y	45		Y
	Night	30		Y	40		Y
R25	Day	60	20	Y	75	20	Y
	Evening/Sunday Day	60		Y	75		Y
	Night	60		Y	75		Y
R26	Day	60	33	Y	75	33	Y
	Evening/Sunday Day	60		Y	75		Y
	Night	60		Y	75		Y
R27	Day	55	25	Y	70	25	Y
	Evening/Sunday Day	55		Y	70		Y
	Night	55		Y	70		Y
R28	Day	40	23	Y	50	23	Y
	Evening/Sunday Day	35		Y	45		Y
	Night	30		Y	40		Y
R29	Day	40	13	Y	50	13	Y
	Evening/Sunday Day	35		Y	45		Y
	Night	30		Y	40		Y
R30	Day	40	14	Y	50	14	Y
	Evening/Sunday Day	35		Y	45		Y
	Night	30		Y	40		Y
R31	Day	40	4	Y	50	4	Y
	Evening/Sunday Day	35		Y	45		Y
	Night	30		Y	40		Y

The outcome of the noise modelling study indicates that both scenarios are expected to comply with the assigned noise levels at all noise sensitive receivers at all times during normal operation.

Noise compliance is dependent upon the minimum external envelope construction requirements being achieved. It is therefore recommended that construction methodology and noise model be updated as the design progresses.

3.3.1 DWER Technical Review

A technical review of the noise impact assessment was conducted by the department and determined that:

- The noise inputs selected and methodology for the noise modelling appear to be sound and producing reasonable results.

- Considering most of the noise impacts are located indoors, noise impacts can mostly be managed to compliance via the building design. The main exception to this, is the noise source 'FTP stack' which is located outside and at a significant height.
- It was also noted that Receivers 3 and 19: aerial photography shows a residence on the Lot therefore, the assigned noise levels with a 0 dB influencing factor apply within the 'highly sensitive area'.
- Receiver 8: the land use zoning is rural but it is not obvious from aerial photography what the actual land use is. To be conservative the land could be considered noise sensitive or commercial use, such that an assigned noise level of 60 L_{A 10} applies at the boundaries.

Based on the information provided, the noise emissions from the proposed premises can meet the requirements of the Noise Regulations.

The technical review noted however that the proposal as assessed and considered in the noise impact assessment was in the early design stage and that the actual noise emissions will likely need assessed as the design is updated.

3.4 Water supply and treatment onsite

3.4.1 Stormwater

The applicant submitted a Surface Water Management Plan (GHD, 2023) in support of this application to demonstrate how stormwater discharges will be managed at the Premises.

The applicant is proposing to collect stormwater around the sites in two detention basins (Western and Eastern) as shown in Figure 5 and Figure 6. The Western basin will capture stormwater from the largely undeveloped areas of the premises, with collected stormwater treated via a gross pollutant trap and then infiltrate locally.

The detention basins were modelled to accept the post-development runoff stormwater volumes in order to estimate the required detention water volumes for a 1% annual exceedance probability (AEP) critical storm event. The minimum detention volume for the basins was determined using DRAINS model. The basin designs are shown in Table 6 below.

Table 6: Summary of basin design

Basin	Basin E	Basin W
Contributing Catchment Area (Ha)	42.28	5.44
Total Basin Volume (m ³)	7,776	1,302
Total Basin Volume with Freeboard (m ³)	9,399	1,639
Storage required (m ³)	6,730	1,270
Basin bottom area (m ²)	3,900	500
Basin water surface area (m ²)	5,244	1,051
Basin freeboard area (m ²)	5,544	1,184
Depth of water in 1% AEP event (m)	1.45	1.67

The Eastern detention basin will capture stormwater from within the development area of the premises (scrapyard, slag stockpiles etc.) and will be considered as potentially contaminated.

Areas of the premises that have a higher risk of hydrocarbon contamination include:

- transformed bund
- refueling bund, and
- scrapyard

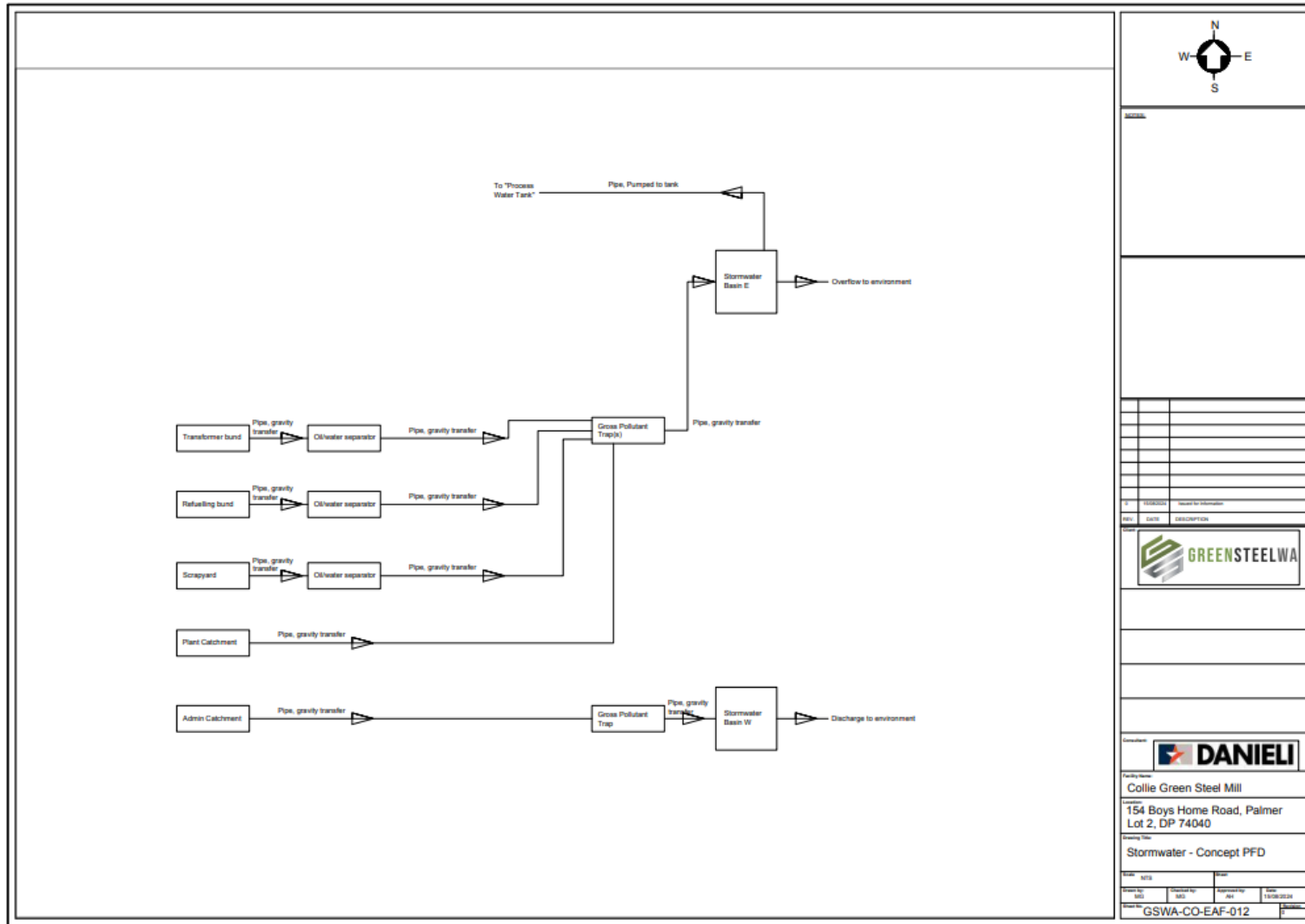


Figure 6: Stormwater flow diagram

Works Approval: W6923/2024/1

IR-T13 Decision report template (short) v3.0 (May 2021)

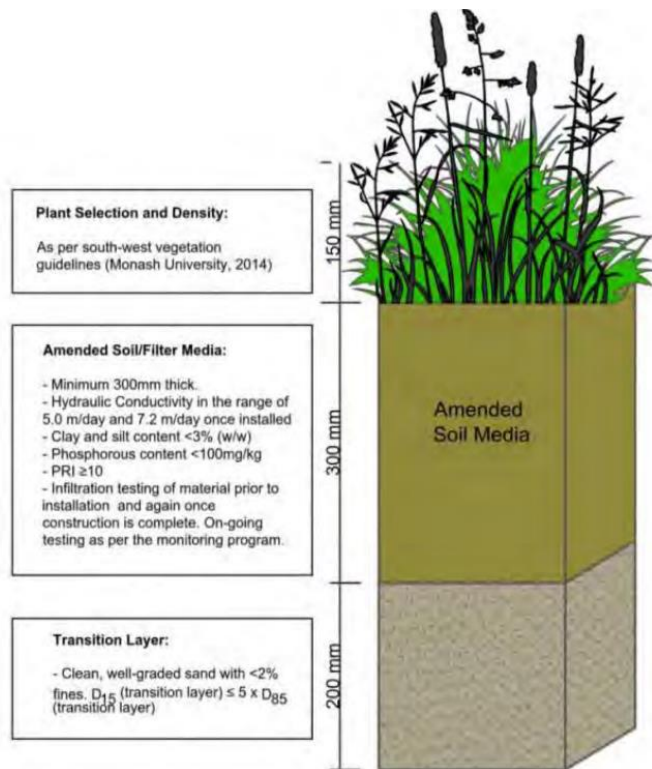


Figure 7: Biofilter specification

3.4.2 Water treatment plant

The premises Water Treatment Plant (WTP) is designed to treat cooling water that is required for the steel making process and consists of cooling towers, pumps, tanks, sand filters, clarifiers, oil skimmers and a dewatering system. The WTP will receive process water recycled from the plant, make-up water from the Water Corporation scheme water supply, recovered stormwater and treated recycled water from the reverse osmosis treatment plant.

The WTP includes three cooling circuits:

- QW Primary cooling circuit: Closed loop cooling circuit dedicated to the CCM;
- KW Secondary cooling circuit: Open circuit contact cooling system used for direct cooling of steel; and
- CW Closed tertiary circuit: Cooling circuit for equipment cooling.

Some water will be lost through evaporation in the cooling towers and in the steel production process. As water evaporates the overall salinity and hardness increases. To manage salinity and hardness some water will be removed from the process (blowdown water) and additional water is added (make-up water). The blowdown water is then directed to the reverse osmosis and wastewater treatment plant for treatment.

3.4.3 Reverse osmosis plant

The reverse osmosis treatment plant (ROTP) plant will treat approximately 12ML per year (equivalent to 33m³ / day). Blow-down water from the ROTP and treated water from the membrane bioreactor (MBR) will be treated through filtration and reverse osmosis to a potable standard. All water treated by the ROTP (permeate) will be re-used as process water in the WTP. The saline reject water from the ROTP will be used to cool molten slag. Monitoring is

proposed to be conducted as per Department of Health's requirements for the reuse of treated wastewater. Sludge generated will be removed offsite for reuse of landfill by a third-party licensed facility.

3.4.4 Wastewater (sewage) treatment plant (WWTP)

A membrane bioreactor (MBR) wastewater (sewage) treatment plant will treat all sewage from administration and worker facilities including black water and grey water as shown in Figure 8. It is expected to treat up to 4.5 ML per year (approximately 12m³ / day) of sewage waste. The treated water from the WWTP will be further treated through the reverse osmosis treatment plant for re-use as process water.

The waste (sludge) generated by the WWTP will be removed from site by a licensed service provider for treatment and processing into biosolids in accordance with WA guidelines for biosolids management (DEC, 2012) and / or disposal at a licensed waste disposal facility.

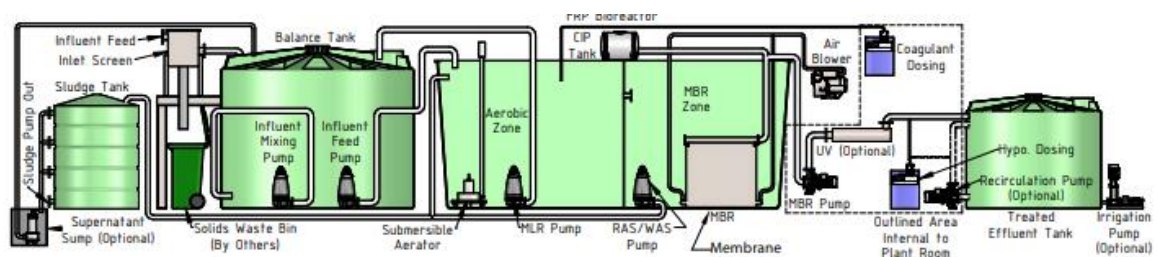


Figure 8: Wastewater Treatment Plant

3.5 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for each identified emission source and takes into account potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are in-complete they have not been considered further in the risk assessment.

Where the applicant has proposed mitigation measures/controls (as detailed in Section 3.1), these have been considered when determining the final risk rating. Where the delegated officer considers the applicant's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the works approval as regulatory controls.

Additional regulatory controls may be imposed where the applicant's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 7.

Works approval W6923/2024/1 that accompanies this decision report authorises construction and commissioning. The conditions in the issued works approval, as outlined in Table 7 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

A licence is required following the commissioning phase authorised under the works approval to authorise emissions associated with the ongoing operation of the premises i.e. metal melting or casting activities. A risk assessment for the operational phase has been included in this decision report, however licence conditions will not be finalised until the department assesses the licence application.

Table 7: Risk assessment of potential emissions and discharges from the premises during construction, commissioning and operation

Risk events					Risk rating ¹	Applicant controls sufficient?	Conditions ² of works approval	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls	C = consequence L = likelihood			
Construction								
Vehicle movements, earthworks for construction stormwater ponds/plant	Dust	Air / windborne pathway causing impacts to health and amenity	Nearest receptor 2.6 km northwest. Collie town 4 km southwest	Refer to Section 3.1	C = Minor L = Rare Low Risk	Y	Condition 3	The delegated officer considers that given the controls proposed by the applicant (including limiting construction activities to daytime hours) and the distance to sensitive receptors, there is a low risk of dust emissions generated during the construction phase impacting these receptors. The delegated officer has conditioned the applicant's proposed dust controls.
	Noise			Refer to Section 3.1	C = Minor L = Rare Low Risk	Y	N/A	The delegated officer considers that the ongoing requirements under the <i>Environmental Protection (Noise) Regulations 1997</i> will be sufficient in managing noise emissions from the premises during construction activities.
Commissioning and Operation								
Waste acceptance	Environmentally hazardous materials within scrap steel	Direct discharge	Collie River 1km north Depth to groundwater 13 mbgl	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Y	Condition 2 Condition 10 Condition 12 and Condition 13	The delegated officer has considered the risk associated with the acceptance and management of scrap steel and considers that the risk can be adequately managed. The applicant proposed controls, including infrastructure requirements for the scrap yard, waste acceptance specifications have been conditioned within the works approval.
Stockpiling waste material (slag)	Fugitive dust	Air / windborne pathway causing impacts to health and amenity	Nearest receptor 2.6km northwest. Collie town 4km southwest	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Y	Condition 10	The delegated officer has considered the applicant's controls for the potential fugitive dust emissions and the distance to sensitive receptors and considers the risk of dust emissions to be low. The applicant's controls for managing potential dust emissions have been included as conditions on the works approval.

Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of works approval	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
Stockpiling waste material (refractories)	Fugitive dust	Air / windborne pathway causing impacts to health and amenity	Nearest receptor 2.6km northwest. Collie town 4km southwest	Refer to Section 3.1	C = Minor L = Rare Low Risk	Y	Condition 2 Condition 10	The Delegated Officer has considered the applicant's controls for the potential fugitive dust emissions from stockpiling waste material and considers the risk of dust emissions to be low. The applicant's controls have been included as conditions on the works approval.
Fume treatment plant (FTP) & FTP dust storage silo (dust)	Point source emissions (NOx, CO, SOx, PM, VOCs, dioxins/furans)	Air / windborne pathway causing impacts to health and amenity	Nearest receptor 2.6km northwest. Collie town 4km southwest	Refer to Section 3.1	C = Moderate L = Unlikely Medium Risk	Y	Condition 2, Condition 6, 7, 8 and 9 Condition 10 Condition 11	In determining the risk of air emissions from facility causing amenity or health impacts to receptors the delegated officer has considered the applicant's air quality impact assessment outcomes (Section 3.2) and proposed controls. The air quality assessment concluded that emissions to air will likely meet the relevant guideline criteria (based on the modelled assumptions and emission rates, performance of the fume treatment system and inclusion of the dioxin abatement pre-treatment unit). Based on this, the delegated officer considers there to be a medium risk of air emissions from the premises activities causing health or amenity impacts to nearby receptors, considering that it is unlikely that air quality guideline values will be exceeded. Applicant proposed controls regarding the operation of the steel mill (for gaseous emission collection) and the construction and operation of the fume treatment plant have been included in the works approval as regulatory controls. As noted in the technical review, information gaps currently exist regarding applicant responses to breakdown and bag filter damage and as a result, a condition has been included in the works approval for the applicant to develop contingency plans for this event prior to environmental commissioning. Further, and more broadly, specific detail regarding emissions monitoring has not yet been proposed. An additional condition has been included in the works approval for the works

Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of works approval	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
								approval holder to submit an environmental commissioning plan (prior to planned commissioning) to ensure that this detail is prepared and assessed by the department prior to environmental commissioning commencing. The environmental commissioning plan is to included detail on: <ul style="list-style-type: none"> Proposed stack testing frequency for the FTP; and Proposed stack testing parameters for the FTP with consideration of the feedstock and contaminants including an assessment for heavy metal contaminants emitted in particles.
Operation of premises including steel mill, scrapyard & slag stockpiles	Noise			Refer to Section 3.1	C = Moderate L = Unlikely Medium Risk	Y	Condition 2	Based on the outcome of the noise modelling discussed in section 3.3, the delegated officer considers that the operation of the plant will likely comply with the <i>Environmental Protection (Noise) Regulations 1997</i> . The applicant's controls including the building requirements have been included as conditions on the works approval. The delegated officer considers that noise validation monitoring will likely be required once the steel manufacturing plant is operational to confirm the modelled outcomes for noise. This noise validation monitoring will be considered further during the assessment of the premises licence.
Processing (steel mill) and waste storage areas including scrapyard.	Potentially contaminated stormwater containing sediments & contaminants (e.g. hydrocarbons)	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality	Collie River 1 km north Depth to groundwater 13 mbgl	Refer to Section 3.1	C = Moderate L = Unlikely Medium Risk	Y	Condition 2 Condition 6, 7, 8 and 9 Condition 10	The delegated officer considers stormwater will be, in general, adequately be managed to prevent adverse impacts to surrounding land and surface water ecosystems through the use of the applicants proposed collection basins and onsite treatment. These controls have been included in the conditions of the works approval. The delegated officer notes that specific detail regarding the ongoing monitoring of wastewater and stormwater discharges is not yet known, and as a result has included this detail be developed

Works Approval: W6923/2024/1

Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of works approval	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
								<p>as part of the environmental commissioning plan for the premises. An additional condition has been included in the works approval for the works approval holder to submit an environmental commissioning plan (prior to planned commissioning) to ensure that this detail is prepared and assessed by the department prior to environmental commissioning commencing.</p> <p>Clean uncontaminated stormwater must be directed to a gross pollutant trap prior to being directed to the Detention Basin W for discharge / infiltration on site.</p> <p>Potentially contaminated stormwater must be treated via a gross pollutant trap and oil / water separator prior to being directed to Detention Basin E. Stormwater can then be directed to Water Treatment Plant for reuse within the treatment process.</p> <p>The <i>Environmental Protection (Unauthorised Discharge) Regulations 2004</i> make it an offense to discharge certain materials to the environment.</p>
Storage of hazardous materials such as hydrocarbons	Leaks / spills			Refer to Section 3.1	C = Minor L = Rare Low Risk	Y	Condition 2	<p>The Delegated Officer has considered the applicant's controls for storing the hazardous waste to Australian Standards as sufficient in managing the potential emissions from the storage of hazardous materials.</p> <p>The applicant's proposed controls have been included as conditions on the works approval.</p>
Water treatment plant, Reverse Osmosis treatment Plant and Wastewater Treatment Plant	Process water	Direct discharge to land	Collie River 1km north Depth to groundwater 13mbgl	Refer to section 3.1	C = Minor L = Rare Low Risk	Y	Condition 2 Condition 10	<p>The Delegated Officer has considered the potential emissions of process water to the environment and considered the risk as low. The Applicant's controls will be included in the works approval.</p>

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guideline: Risk Assessments* (DWER 2020).

Note 2: Proposed applicant controls are depicted by standard text. **Bold and underline text** depicts additional regulatory controls imposed by department.

4. Consultation

Table 8 provides a summary of the consultation undertaken by the department.

Table 8: Consultation

Consultation method	Comments received	Department response
Application advertised on the department's website on 8 May 2024.	None received	N/A
Shire of Collie was advised of the proposal on 15 May 2024	<p>The Shire of Collie responded on 24 May 2024 confirming that this application has received development approval from the Regional Development Assessment panel, which was supported by the Shire.</p> <p>The Shire has no objection to the application for a works approval.</p>	Noted.
Department of Biodiversity, Conservation and Attractions was advised of the proposal on 15 May 2024.	<p>The Department of Biodiversity, Conservation and Attractions provided the following comments on 11 July 2024.</p> <p>It is noted that the prescribed premises is located directly adjacent to the Collie State Forest (State Forest 4). It is therefore important that the application, if approved, has no direct and/or indirect impact on Collie State forest and its associated values. In addition, appropriate fire management measures should be implemented by the applicant to prevent/minimise any potential for fire to spread from and/or onto the premises. It is also considered important that all of the applicant's fire preparedness measures should be contained to the premise, with no requirement for clearing and or other measures to occur within the adjacent State forest, including derived implications for DBCA such as restrictions or impositions on DBCA fire management operations on DBCA-managed land.</p> <p>Noting the capacity for the Department of Water and Environmental Regulation (DWER) to apply appropriate regulatory measures for the environmental management of prescribed premises under Part V of the EP Act, DBCA has no further comments on the application.</p>	Noted. The delegated officer acknowledges the comments regarding fire management and has conditioned the relevant aspects of the proposal (with respect to the emissions and discharges regulated under Part V of the EP Act) to ensure that emissions and discharges are mitigated.
Applicant was provided with draft documents on 19 July 2024	The Applicant provided comments on 16 August 2024. Refer to Appendix 1	Refer to Appendix 1

5. Decision

The delegated officer has determined that the risks associated with the proposal are acceptable and can be managed through the application of appropriate regulatory controls as discussed in Table 7.

This assessment has considered the environmental risks associated with the construction of the plant and associated infrastructure and commissioning of certain aspects of the proposed facility. Due to a number of uncertainties regarding broader commissioning activities, the delegated officer has included conditions in the works approval for the preparation and submission of an environmental commissioning plan that details the full extent of commissioning activities, and the controls required to manage emissions during commissioning. An Environmental Compliance Report must also be submitted prior to commencement of commissioning activities.

This works approval does not allow for the clearing of native vegetation as the assessment and approval of any clearing activities is being undertaken separate to the works approval process. It is the responsibility of the applicant to ensure they obtain all necessary approval, including those relating to the clearing of native vegetation prior to conducting works.

Time limited operations have not been assessed as part of this works approval application, and therefore once commissioning has been completed, the applicant must apply for a licence to authorise the ongoing operation of the steel mill.

6. Conclusion

Based on the assessment in this decision report, the delegated officer has determined that a works approval will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

References

1. Australasian (iron and steel) Slag Association Inc. *Material Classification (Iron and Steel Slag) Environmental Monitoring Report 2011*, Prepared by HBM Group Pty Ltd
2. Carbon TP 2024, *Carbon Transition Pathways, Collie EAF and mini-mill emissions assessment, Review of Green Steel of WA, Collie Project*.
3. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
4. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
5. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.

Appendix 1: Summary of applicant's comments on risk assessment and draft conditions

Condition	Summary of applicant's comment	Department's response
1 1. (b) (ii) Melt Shop and Endless Charging System	Green Steel Collie has requested that the condition be amended to be performance based i.e. sufficient attenuation to meet noise requirements as per study or the minimum surface mass? This allows the designers flexibility in the detail design to find an optimal solution that meets the noise attenuation requirements.	The condition has been reworded to allow the requested flexibility, noting that the intent of the condition remains that final constructed infrastructure to mitigation noise emissions. It is noted that during the assessment for operational activities, the Department will consider noise emissions and potentially require noise validation monitoring to ensure noise emissions are compliant with the <i>Environmental Protection (Noise) Regulations 1997</i> .
1 1. Reverse Osmosis Plant	The applicant has requested confirmation on the on the reference for the Reverse osmosis Treatment Plant to receive and treat 33m ³ /day and whether this is a minimum plant capacity.	Correct. The design was taken from the applicant's supporting document.
1 10. (e) Stormwater requirements	Stormwater Detention Basin E constructed to contain stormwater (post treatment) for re-use within the premises or discharge via infiltration; and Refer to the Decision Report response.	Noted.
1 10. (f) Stormwater requirements	Stormwater Detention Basin W constructed to capture and allow for infiltration of clean uncontaminated stormwater. Refer to the Decision Report response	Noted.
1 11 (a) Wastewater Treatment Plant (WWTP)	The applicant requests confirmation that this is the minimum required capacity in the design based on the design?	Correct. The design was taken from the applicant's supporting document.
7 (b) Environmental Commissioning	Typographical error in drafted condition	Noted and corrected.
Decision Report	Summary of applicant's comment	Department's response
2.5.2 Environmental Protection Biodiversity Conservation Act 1999	Update provided.	Noted and included as updated text in the decision report.
2.5.3 Clearing of native vegetation	Update provided.	Noted and included as updated text in the decision report.
2.5.4 Department of Health	Update provided.	Noted and included as updated text in the decision report.
2.5.5 Department of Energy, Mines, Industry Regulation and Safety	Update provided.	Noted and included as updated text in the decision report.
3.4 Water Supply and treatment on site	The applicant provided further detail on the proposed stormwater management system as requested.	Noted. This information has been included in this Decision Report and Works Approval as required.
Proof of occupancy	Update provided:	Noted.
Planning approval	Update provided:	Noted.

Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY		
Application type		
Works approval	<input checked="" type="checkbox"/>	
Date application received	27 March 2024	
Applicant and Premises details		
Applicant name/s (full legal name/s)	Green Steel of WA Collie Pty Ltd	
Premises name	Collie Steel Mill	
Premises location	Part of Lot 2 on Deposited Plan 74040 154 Boys Home Road, Palmer WA Freehold lot held by Bluewaters Farm Holdings Pty Ltd Letter of authority provided by above authorizing submission of works approval. Application form indicates that lease agreement between Bluewaters and application is being prepared.	
Local Government Authority	Shire of Collie	
Application documents		
HPCM file reference number:	DWERDT927234	
Key application documents (additional to application form):	Supporting document (as well as redacted version) that includes Attachments 1A, 1B, 2, 3C, 3B, 6A, 7, 8 and 10. Other documents include: <ul style="list-style-type: none"> Air Quality assessment Noise assessment Fauna studies 	
Scope of application/assessment		
Summary of proposed activities or changes to existing operations.	Works approval Construction and commissioning of a steel recycling mill that will use an electric arc furnace to recycle up to 500,000 tonnes of scrap steel per year to produce 450,000 tonnes of finished produced. By-products include 60,000 tonnes of slag per year	
Category number/s (activities that cause the premises to become prescribed premises)		
Table 1: Prescribed premises categories		
Prescribed premises category and description	Proposed production or design capacity	Proposed changes to the production or design capacity (amendments only)
Category 45: Metal melting or casting	450,000 tpa (recycled steel produced)	
Category 62: Solid waste depot	500,000tpa scrap metal storage 65,000 tpa (Slag – reused aggregate in road base by third parties)	
Legislative context and other approvals		
Has the applicant referred, or do they intend to refer, their proposal to the EPA under Part IV of the EP Act as a significant proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Application states that scoping meeting was held on 4 December 2023 which included Part IV & Part V officers who indicated that Part IV referral not required provided applicant can demonstrate GHG

		<p>threshold not exceeded.</p> <p>The Application states that GHG emissions are below the 100,000t threshold:</p> <p>Scope 1 = 40,400 t CO₂-e</p> <p>Scope 2 = 74,000 t CO₂-e</p>
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Has the proposal been referred and/or assessed under the EPBC Act?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Referral submitted 20 March 2024. Under assessment.
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<p>Certificate of title <input checked="" type="checkbox"/></p> <p>General lease <input type="checkbox"/> Expiry:</p> <p>Mining lease / tenement <input type="checkbox"/> Expiry:</p> <p>Other evidence <input checked="" type="checkbox"/> Expiry:</p> <p>Lot 2 on Deposited Plan 74040 occupier – Bluewater Farm Holdings Pty Ltd. Expiry – Letter of Authority provided from Bluewaters Farm Holdings Executive Director</p> <p>Freehold lot held by Bluewaters Farm Holdings Pty Ltd</p> <p>Letter of authority provided by above authorizing submission of works approval.</p> <p>The option to lease agreement has been signed between the parties. A copy was provided at the back of the meeting held on 8/8/24 to DWER for consideration.</p>
Has the applicant obtained all relevant planning approvals?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	<p>Development approval submitted on 21 December 2023 is under assessment.</p> <p>Development approval was approval by the Joint Development Assessment Panel on 16 May 2024 with the official letter received on 24 May 2024 (refer to Appendix 7).</p>
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<p>Clearing permit application submitted: CPS 10568/1</p> <p>Under assessment.</p>
Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<p>The premises is located within the Wellington Dam Catchment Area (Zone D). Native Veg Branch confirmed that clearing permit application above would also consider clearing under CAWS Act (A2269964)</p>
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<p>Project uses scheme water which will be recycled for onsite use.</p>

<p>Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>No direct discharge to land. Premises is located within the Collie River Irrigation District and Collie Groundwater Area</p>
<p>Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Nearest PDWSA >10 km away</p>
<p>Is the Premises subject to any other Acts or subsidiary regulations (e.g. <i>Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Act xxxx</i>)</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p><i>Collie Coal (Griffin) State Agreement Act 1979</i> – for the extension of the existing rail to the Plant.</p>
<p>Is the Premises within an Environmental Protection Policy (EPP) Area?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	
<p>Is the Premises subject to any EPP requirements?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	
<p>Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i>?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	