



25 February 2026

Manisha Barthakur  
Shire of Dowerin  
Email: ceo@dowerin.wa.gov.au

**Co-operative Bulk Handling Ltd**  
ABN 29 256 604 947  
Level 6, 240 St Georges Terrace  
Perth WA 6000 Australia  
GPO Box L886  
Perth WA 6842 Australia  
Telephone  
+61 8 9237 9600  
Grower Service Centre  
1800 199 083  
**cbh.com.au**

Dear Manisha,

**RE: CBH DOWERIN - DEVELOPMENT APPLICATION  
ADDITION TO EXISTING GRAIN HANDLING AND STORAGE FACILITY – LOT 25 GOOMALLING-  
WYALKATCHEM ROAD, DOWERIN  
NEW FIXED RAIL LOADING FACILITY & RAIL SIDING**

Please find enclosed the following in support of this application for development approval:

- Two Development Application Forms (signed by CBH and PTA).
- Certificate of Title.
- Plans, Elevations and 3D Perspectives.
- Flythrough video
- Traffic Impact Statement (Shawmac).
- Stormwater Management Plan (Shawmac).
- Dust Management Plan (CBH Group).
- PTA Letter of Authority for Clearing in Corridor.
- CBH Delegation of Authority and Consent to sign letter.

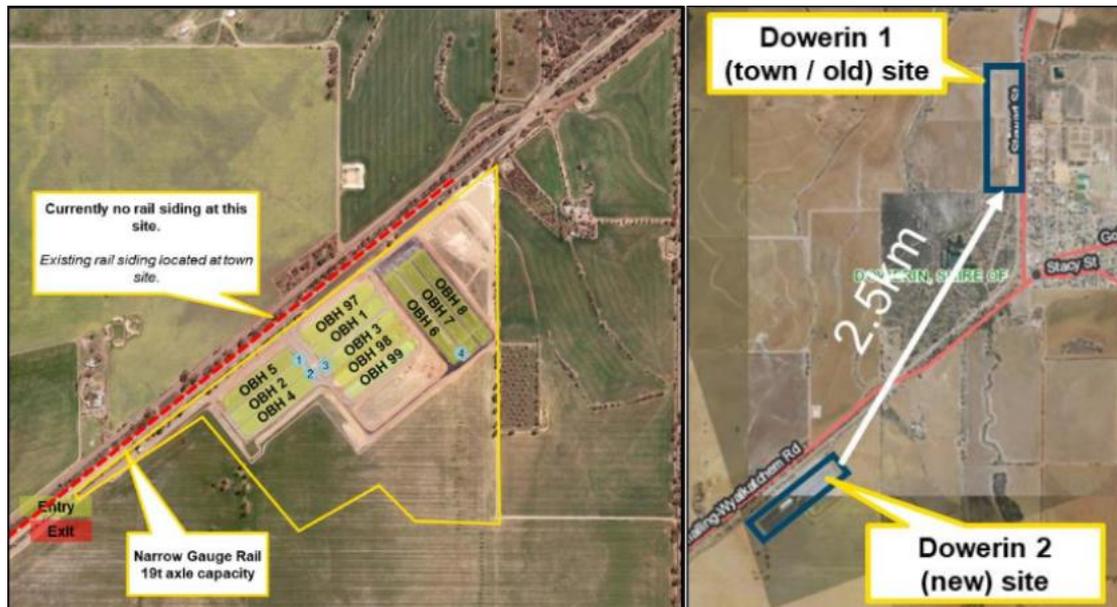
It is our understanding that the Shire's development application fee is payable once the application has been lodged. Upon the Shire confirming receipt of the Development Application, if the development application fee invoice could be provided to CBH, payment will then be made via electronic funds transfer.

**BACKGROUND**

CBH has over 130 sites across the State which receive, handle, store and outload approximately 90 percent of Western Australia's grain harvest. Dowerin is a key receival site in CBH's network, due to its location and proximity to port. CBH presence in Dowerin is currently split between two sites.

The first, Dowerin Town site is the old site located in town. The Town site currently receives a small amount of grain into fixed storage and outloads via road. There are no plans to change the current operations at the CBH Town site as part of this project.

The second, Dowerin 2, located at Lot 25 Goomalling-Wyalkatchem, is the newer expansion site and the location of the proposed rail project.



There has not been any rail out-loading from Dowerin for more than 5 years and currently all outloading occurs via road. Most tonnes from Dowerin are hubbed to Avon via road and loaded onto rail at Avon to transport to Port. The current road to rail outloading does not represent the most efficient method of transporting grain from Dowerin to Port.

This development application proposes to upgrade the existing Dowerin 2 site by constructing a new rail siding and rail loading facility, which will introduce new rail outloading capability at the site, improve grain outloading efficiency and significantly reduce the number of trucks movements to/from the site.

The rail project at Dowerin is one of the projects within the first package of the WA Agricultural Supply Chain Improvements (ASCI) funding program. Along with other rail siding and out loading upgrades at Brookton (facility under construction, siding complete), Broomehill (complete) Cranbrook (complete), Konnongorring (facility under construction, siding complete), Perenjori (siding and facility to be constructed in 2026) and Moora (complete), this proposal aims to maximise efficiencies to deliver more tonnes to port. The increased use of rail to deliver tonnes to port further reduces reliance on road transport which has benefits to road users and the community.

For CBH and the grain growing industry, these works will further assist the effort to move grain rapidly to port, thereby capitalising on market demand. The proposed upgrades will see the installation of new train loading infrastructure, which together with the proposed rail siding, will add an extra rail outloading facility into the CBH network, enable more grain to be loaded onto trains and allow CBH to deliver tonnes to port faster. Loading longer trains more quickly at strategically located CBH bins will bring tangible financial returns to growers in the region. This is critical for CBH to meet its long-term strategic objectives to cater for increasing grain production and continue to deliver value for WA grain growers.

The following report provides background information and supporting technical reporting related to the proposed works and operation of the new rail loading facility and siding.

### Site Details

The new rail siding and rail loading facility are being constructed at CBH Dowerin 2 grain handling and storage site. The application area is spread across two landholdings. The first being CBH

owned Lot 25 Goomalling-Wyalkatchem Road. A copy of the Certificate of Title, a signed application form and consent to sign letter have been provided on behalf of CBH for Lot 25.

The second being a PTA Rail Reserve (Landgate PIN 675642). There is no Certificate of Title available for the PTA Railway reserve. CBH has obtained landowner consent from the PTA for the proposed works (see enclosed Application Form).

Most of the works for the rail siding and rail facility will be constructed within the rail reserve. CBH will be responsible for seeking all necessary approvals and permits from the relevant authorities, including PTA, ARC and ONSRS.

## **PROPOSAL**

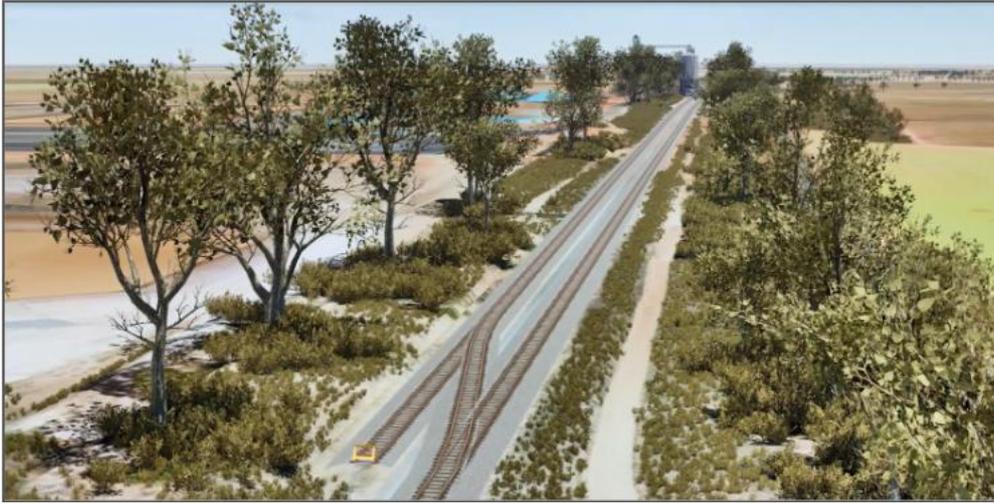
This application proposes the upgrade of the existing CBH Dowerin grain handling and receival site by constructing a new rail siding and new loading facility. The details of the proposal include the following:

- Three (3) Over Rail Bins (ORB); approximately 1,710 tonne storage capacity each, with overhead drag conveyor
- One grain elevator with belt transfer conveyor
- Installation of new combined Switch Room and Control Room
- Construction of new rail siding catering for a maximum train length of 80-wagons and three locomotives (locos), noting that current standard train length is 60-wagons and two locos.
- Temporary amenities, crib room, store and associated parking for construction crew

Further information regarding the extent of the proposed works is enclosed within the detailed development plan set.

The new rail siding will be owned by State Government and managed and maintained by Arc Infrastructure.





Existing operations will continue at the site during construction. There may be some temporary modifications to internal site traffic flows to ensure construction-related traffic does not interfere with operational traffic. CBH will have traffic management plans in place while construction is occurring.

It is noted that the proposed amenities, crib and laydown area located on Lot 25, owned by CBH, will be temporary for use during construction only and will be removed once the project is completed. CBH (and its contractor) will be responsible for ensuring the site is returned to its original condition when no longer required for construction purposes.

Some initial early works have already been approved by the Shire at its Council meeting on 24 February 2026. This smaller first package of works is going to prepare the site to tie into the new rail facility. The approved works include a new auger pit, a new covered ground conveyor, extending two existing conveyors, a high voltage electrical upgrade, modifications to two existing bulkheads, a new drainage basin, earthworks and new access roads.

### Operating Hours

Currently, during peak harvest periods (November to January), the site operates from 0500 to 2200 5 days a week and 0600 to 1700 on Saturday and Sunday. Outloading operates from 0600 to 1800 6 days a week.

The operating hours at Dowerin 2 grain handling and storage site will most likely be altered once the new rail facility is operational. In the future, once the rail facility is complete, the site may operate 24/7 during peak harvest periods.

## **STAKEHOLDER ENGAGEMENT**

### Main Roads WA

CBH has been engaging with MRWA since 2024. MRWA undertook an Australian Level Crossing Assessment Model (ALCAM) assessment of the project, to identify any risks at the interfaces between the rail and the existing level crossings. This information has been fed back into the project and helped to inform the design.

MRWA have also been kept informed of the design of the development as it progressed through the various stage milestones.

### Civil Aviation Safety Authority

The rail facility at Dowerin, specifically the over rail bins (which are the tallest element), do not require aviation obstruction lighting or marking. This is because the bins are under the threshold height of 100m and Dowerin site is located more than 15km from a certified aerodrome. CBH received correspondence from CASA on aviation obstruction lighting requirements when designing the rail facility at Konnongorring. The same advice is still relevant and up to date for Dowerin.

We will submit a notification to the Airservices Australia Vertical Obstruction Data register, to add the new Dowerin over rail bins.

#### Shire of Dowerin

CBH has held two pre-lodgement meetings with Shire of Dowerin staff. The purpose of these meetings was to share updates with the Shire on the project, including strategic purpose, design and likely timing.

CBH has been invited to and is planning to attend a workshop with Shire staff and elected members in March, ahead of a decision by Council, to answer any questions about the project.

### **PLANNING ASSESSMENT**

The following section summarises the key planning requirements and considerations outlined in the Shire of Dowerin's Local Planning Scheme No.2 (LPS 2), as well as policies relevant to the proposal.

#### Zoning and Land Use

The proposed development has been assessed against the criteria of LPS 2 and is consistent with the applicable requirements.

Lot 25 Goomalling-Wyalkatchem Road is zoned 'Rural' under LPS 2, with the objectives being:

- To provide for a range of rural pursuits that are compatible with the capability of the land and retain the rural character and amenity of the locality.
- To protect land from urban uses that may jeopardise the future use of that land for other planned purposes that are compatible with the zoning.
- To protect the land from closer development that would detract from the rural character and amenity of the area.
- To prevent any development that may affect the viability of a holding.
- To encourage small scale, low impact tourist accommodation in rural locations.
- To encourage a diversification of rural activities that will reduce the dependency of the rural sector on traditional crops.

The proposal is consistent with the objectives of the zone by:

- Facilitating the handling and processing of grain on site and expanding on the existing infrastructure
- Improving the current grain processing and loading capability of the site, consistent with the existing land use.
- Facilitating the efficient movement and loading of grain in the locality to support the farming and rural pursuits in Kellerberrin and its surrounds.

The portion of rail corridor is reserved for 'Railway' under LPS 2. In relation to the proposed rail siding, it is entirely consistent with the ultimate purpose intended for the railway reserve. The

managing body Public Transport Authority have provided their consent to undertake the works within the 'Railways' reserve, as demonstrated in the application form.

The new rail loading facility and rail siding are consistent with the objectives of the 'Rural' zone and 'Railway' reserve and support the activity and operations of previous approvals issued for the site.

The proposed works simply represent additions to the existing approved grain handling and storage land use and are entirely consistent with the 'Rural' zone and 'Railway' reserve in which it is located.

Ultimately, this application is a much-needed upgrade to the CBH network. It will introduce new rail outloading capabilities and Dowerin and reduce the reliance on road outloading to move grain to port. The development will provide for a far more efficient and productive agricultural industry in the locality.

#### EPA Separation Distances between Industrial and Sensitive Land Uses No.3 (2005)

The EPA's Separation Distances between Industrial and Sensitive Land Uses (the Guidance Statement) provides guidance on the assessment of industry and generic separation distances between sensitive land uses. In the consideration of the proposed application, the impact of the grain elevator (conveyor belt) incorporated as part of the train loading machinery is a relevant consideration.

A notional buffer distance of 500m is assumed as part of the Guidance Statement, which provides a default in lieu of any subsequent modelling having been undertaken with impacts such as noise, dust and risk applicable considerations. These considerations are relevant in respect to nearby rural properties, including 15 Irvine Road and 1799 Goomalling-Wyalkatchem Road, which are located approximately 1.1km and 350m, respectively from the proposed elevator (at the closest point).

The rural property at 1799 Goomalling-Wyalkatchem Road is within the notional buffer distance. It is noted that this application proposes to upgrade the existing facility, rather than introduce a new land use/development on the site, as part of CBH's transition from road to rail outloading. CBH has prepared a Dust Management Plan for the site to help mitigate impacts.

In regard to the factor of risk, the Guidance Statement identifies risk to be an accident or incident causing injury or death to the public. Given the location, layout, and separation of the land use from any public or private property, there is an insignificant public risk associated with the land use.

#### **HERITAGE**

CBH engaged Trace Archaeology to undertake an archaeological and ethnographic heritage survey of the site. The Ballardong Noongar Cultural Consultants actively participated and led all aspects of the heritage surveys. The report prepared by Trace advised:

- Zero previously unrecorded heritage places were identified
- Zero isolated artefacts were identified or recorded during the survey
- Zero Registered Aboriginal sites were identified within 2km of the project area.
- Zero Other Heritage Places were identified within 2km of the project areas.

The report concluded that the project area has been assessed as being clear of any archaeological or ethnographic concern by the Ballardong Noongar Cultural Consultants and Trace Archaeology.

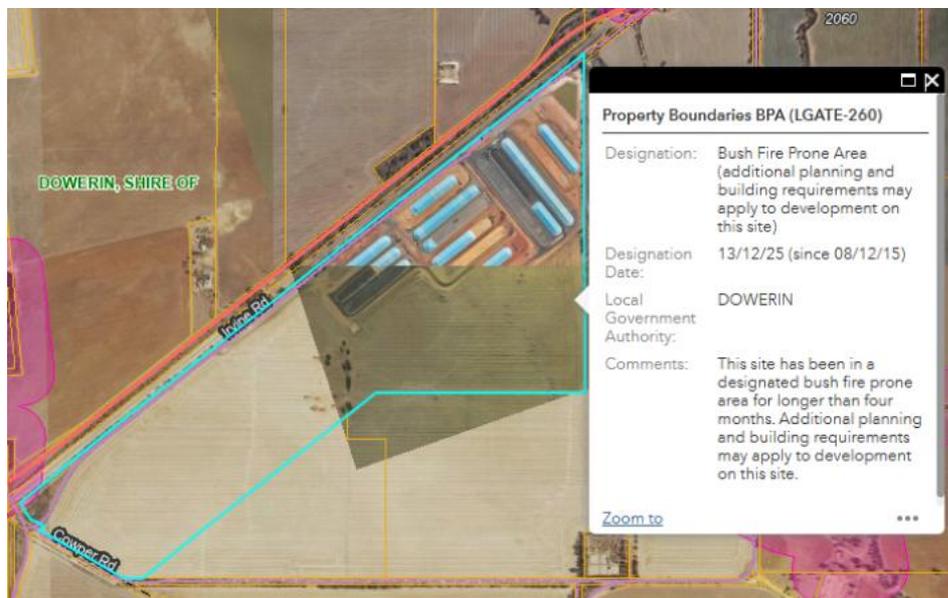
## TRAFFIC

Dowerin is a key receival site in the CBH network, attracting grower deliveries from the surrounding area during harvest and currently outloading all grain via road. The proposed development will introduce a new rail loading facility to the existing grain handling and storage site at Dowerin, which will allow CBH to start outloading via rail and significantly reduce outloading via road.

This is confirmed in the traffic note prepared by Shawmac traffic engineers which has been submitted in support of this development application.

## BUSHFIRE

A very small portion of the subject site is designated as a bushfire prone area, however, this project is exempt from needing a bushfire assessment or Bushfire Management Plan as the proposed rail facility and siding do not increase the risk of bushfire given they do not involve any habitable building or increase the number of employees on site.



## DRAINAGE

A Stormwater Management Plan has been prepared by Shawmac to propose a stormwater management strategy for the project.

The proposed strategy involves capturing newly generated run off from the project and disposing of the stormwater via a new open drain and culverts into a proposed new basin in the south of the site. Two existing basins will be retained but modified to suit the proposed works.

The proposed drainage works and Stormwater Management Plan were provided to the Shire for approval as part of the Early Works application for Dowerin.

## ENVIRONMENTAL

The Dowerin rail facility project will result in the clearing on some native vegetation. Most of the clearing will occur within the rail corridor. Further details of the clearing are contained within the attached Environmental Memo.

CBH has sought and received consent from PTA to clear vegetation within the corridor. We are also in the process of seeking the required Native Vegetation Clearing Permit from Department of Water and Environmental Regulation.

A copy PTA clearing consent letter has been included with this application.

## **DUST**

Due to the nature of grain handling and storage, some dust can be produced from a range of activities. Dust Management will comply with *Environmental Protection Act 1986* and the relevant *National Environmental Protection Measures*.

CBH is committed to improving the overall environmental impacts of its business and in achieving the environmental objectives outlined in the CBH Group Health, Safety and Environmental Policy.

When designing the new rail facility, deliberate design choices have been made incorporated into the facility to help minimise dust emissions from loading activities, including covering the ground conveyor that feeds into the rail facility and enclosing the elevator that carries grain to the rail bins.

A Dust Management Plan has been prepared in support of this development application to outline the commitments associated with minimising the ongoing impact of dust emissions from the proposed fixed rail loading facility.

## **CONCLUSION**

The proposed addition of a new fixed rail loading facility and rail siding at the existing CBH Dowerin grain handling and storage facility is consistent with the objectives and intent of the 'Rural' zone of LPS 2 and is entirely appropriate for the location. The works will vastly improve the capacity of the region to transport grain to Port, which will have a significant benefit for local growers, the local economy and the wider community

CBH respectfully requests the Application for Development Approval is considered by the Shire of Dowerin expeditiously given the straightforward nature of the application and its general compliance with the Shire's planning framework.

Should you have any question in relation to the details provided in this submission, please contact Emma Haak on 0486 265 380 or [emma.haak@cbh.com.au](mailto:emma.haak@cbh.com.au)

Yours Sincerely,



Emma Haak  
Lead | Planning & Approvals

WESTERN



AUSTRALIA

TITLE NUMBER

Volume Folio

**4055 169**

**RECORD OF CERTIFICATE OF TITLE**  
UNDER THE TRANSFER OF LAND ACT 1893

The person described in the first schedule is the registered proprietor of an estate in fee simple in the land described below subject to the reservations, conditions and depth limit contained in the original grant (if a grant issued) and to the limitations, interests, encumbrances and notifications shown in the second schedule.

*BGRoberts*  
REGISTRAR OF TITLES



**LAND DESCRIPTION:**

LOT 25 ON DEPOSITED PLAN 425195

**REGISTERED PROPRIETOR:**  
(FIRST SCHEDULE)

CO-OPERATIVE BULK HANDLING LTD OF LEVEL 6 240 ST GEORGES TERRACE PERTH WA 6000  
(AF Q055423 ) REGISTERED 5/7/2024

**LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:**  
(SECOND SCHEDULE)

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.  
Lot as described in the land description may be a lot or location.

-----END OF CERTIFICATE OF TITLE-----

**STATEMENTS:**

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND: DP425195  
PREVIOUS TITLE: 2987-539, 2987-540, 2987-541  
PROPERTY STREET ADDRESS: NO STREET ADDRESS INFORMATION AVAILABLE.  
LOCAL GOVERNMENT AUTHORITY: SHIRE OF DOWERIN

**Planning and Development (Local Planning Schemes) Regulations 2015  
Schedule 2 Deemed provisions for local planning schemes Part 11 Forms referred  
to in this Scheme cl. 86**

The form of an application for development approval referred to in clause 62(1)(a) is as follows —

**Application for development approval**

Owner details*		
Name: <a href="#">Co-Operative Bulk Handling Ltd</a>		
ABN (if applicable):		
Address: <a href="#">Level 6, 240 St Georges Tce, PERTH WA</a>		
..... Postcode: <a href="#">6000</a>		
<b>Phone:</b>	<b>Fax:</b>	<b>Email:</b>
Work:	.....	<a href="mailto:Emma.Haak@cbh.com.au">Emma.Haak@cbh.com.au</a>
.....		.....
Home:		
.....		
Mobile: <a href="#">0486 265 380</a>		
.....		
Contact person for correspondence: <a href="#">Emma Haak - Planning and Approvals Lead</a>		
Signature: 	Date: <a href="#">25/02/2026</a>	
Signature:	Date:	
<p><i>The signature of the owner(s) is required on all applications. This application will not proceed without that signature. For the purposes of signing this application an owner includes the persons referred to in the Planning and Development (Local Planning Schemes) Regulations 2015 Schedule 2 clause 62(2).</i></p>		





**Applicant details (if different from owner)**

Name:		
Address: ..... ..... Postcode: .....		
<b>Phone:</b>	<b>Fax:</b>	<b>Email:</b>
Work: .....	.....	.....
Home: .....		
Mobile: .....		
Contact person for correspondence:		
The information and plans provided with this application may be made available by the local government for public viewing in connection with the application. <input type="checkbox"/> Yes <input type="checkbox"/> No		
Signature:		Date:

**Property details**

Lot N°: 25	House/Street N°: -	Location N°: -
Diagram or Plan N°: 425195	Certificate of Title Vol. N°: 4055	Folio: 169
Title encumbrances (e.g. easements, restrictive covenants):		
Street name: <del>Goomalling-Wyalkatchem Rd</del> <del>No street address information available</del>	Suburb: Dowerin	
Nearest street intersection: Goomalling-Wyalkatchem Road and Rifle Range Road		



<b>Proposed development</b>	
Nature of development:	<input checked="" type="checkbox"/> Works <input type="checkbox"/> Use <input checked="" type="checkbox"/> Works and use
Is an exemption from development claimed for part of the development?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If yes, is the exemption for:	<input type="checkbox"/> Works <input type="checkbox"/> Use
Description of proposed works and/or land use:	Construction works to install new rail siding and rail loading facility.
Description of exemption claimed (if relevant):	NA
Nature of any existing buildings and/or land use:	Existing grain handling and storage land use
Approximate cost of proposed development:	\$40,000,000
Estimated time of completion:	October 2027

Please ensure to provide the following information with your application

- A birds-eye-view map showing the proposed location of the development.
- Map showing distances to all fences/property boundaries.
- Map showing distance to the nearest structure (e.g. house or other outbuildings).
- Map showing distance to the nearest roads
- Map showing location of the site including nearby street names and a north arrow.
- Dimensions of the proposed building (including height) and any other relevant information.

**OFFICE USE ONLY**

Acceptance Officer's initials:

Date received:

Local government reference N<sup>o</sup>:





Co-operative Bulk Handling Ltd  
ABN 29 256 604 947  
Level 6, 240 St Georges Terrace  
Perth WA 6000 Australia  
GPO Box L886  
Perth WA 6842 Australia  
Telephone  
+61 8 9237 9600  
Grower Service Centre  
1800 199 083  
**cbh.com.au**

**CONSENT TO SIGN APPLICATIONS FOR DEVELOPMENT APPROVAL AND BUILDING PERMITS FOR LAND OWNED, LEASED OR LICENSED BY CO-OPERATIVE BULK HANDLING LIMITED**

This is to confirm that Co-operative Bulk Handling Limited (**CBH**) authorises each of the following CBH personnel to sign and lodge on behalf of CBH all applications for development approval and building permits (and all documents associated with those applications) in connection with land owned, leased or licensed by CBH:

1. David Paton, Chief External Relations Officer
2. Rob Dickie, Head of Government & Industry Relations
3. Kellie Todman, Manager – Government & Industry Relations.
4. Emma Haak, Lead – Planning & Approvals.
5. Timothy Roberts, – Planning & Approvals.

Should you require further information regarding any present or future applications for development approval or building permits, please do not hesitate to contact CBH Planning Approvals at [PlanningApprovals@cbh.com.au](mailto:PlanningApprovals@cbh.com.au).

This consent takes effect on the last date written below and from that date supersedes any and all previous consents to sign and lodge on behalf of CBH applications for development approval and / or building permits (and documents associated with those applications) in connection with land owned, leased or licensed by CBH.

Yours faithfully

**Signed for and on behalf of Co-operative Bulk Handling Limited by or in the presence of:**

Signature of Director

Simon Stead

Name of Director

4.6.25

Date of signing

Signature of ~~Director~~ or Company Secretary

RICHARD LODGING

Name of ~~Director~~ or Company Secretary

4.6.2025

Date of signing

**Planning and Development (Local Planning Schemes) Regulations 2015  
Schedule 2 Deemed provisions for local planning schemes Part 11 Forms referred  
to in this Scheme cl. 86**

The form of an application for development approval referred to in clause 62(1)(a) is as follows —

**Application for development approval**

<b>Owner details*</b>		
Name: Public Transport Authority		
ABN (if applicable):		
Address: 116 West Parade, East Perth ..... ..... Postcode: 6004		
<b>Phone:</b>	<b>Fax:</b>	<b>Email:</b>
Work: .....	.....	Michael.Parker@pta.wa.gov.au .....
Home: .....		
Mobile: .....		
Contact person for correspondence: Michael Parker, Executive Director IPLS		
Signature: 		Date: 19/12/2025
Signature:		Date:
<p><i>The signature of the owner(s) is required on all applications. This application will not proceed without that signature. For the purposes of signing this application an owner includes the persons referred to in the Planning and Development (Local Planning Schemes) Regulations 2015 Schedule 2 clause 62(2).</i></p>		



Applicant details (if different from owner)		
Name: Co-Operative Bulk Handling Ltd		
Address: Level 6, 240 St Georges Tce, PERTH WA ..... ..... Postcode: 6000		
<b>Phone:</b>  Work: .....  Home: .....  Mobile: 0486 265 380 .....	<b>Fax:</b> .....	<b>Email:</b> emma.haak@cbh.com.au .....
Contact person for correspondence: Emma Haak		
The information and plans provided with this application may be made available by the local government for public viewing in connection with the application. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Signature: <i>Emma Haak</i>		Date: 31/12/25.

Property details		
Lot N°: Landgate PIN 675642	House/Street N°:	Location N°:
Diagram or Plan N°:	Certificate of Title Vol. N°:	Folio:
Title encumbrances (e.g. easements, restrictive covenants):		
Street name: Goomalling-Dowerin Railway	Suburb: Dowerin	
Nearest street intersection: Goomalling-Wyalkatchem Road and Rifle Range Road		



<b>Proposed development</b>	
Nature of development:	<input checked="" type="checkbox"/> Works <input type="checkbox"/> Use <input type="checkbox"/> Works and use
Is an exemption from development claimed for part of the development?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If yes, is the exemption for:	<input type="checkbox"/> Works <input type="checkbox"/> Use
Description of proposed works and/or land use:	Construction works to install new rail siding and rail outloading facility.
Description of exemption claimed (if relevant):	NA
Nature of any existing buildings and/or land use:	Existing grain handling and storage land use
Approximate cost of proposed development:	\$40,000,000
Estimated time of completion:	October 2027

Please ensure to provide the following information with your application

- A birds-eye-view map showing the proposed location of the development.
- Map showing distances to all fences/property boundaries.
- Map showing distance to the nearest structure (e.g. house or other outbuildings).
- Map showing distance to the nearest roads
- Map showing location of the site including nearby street names and a north arrow.
- Dimensions of the proposed building (including height) and any other relevant information.

**OFFICE USE ONLY**

Acceptance Officer's initials:

Date received:

Local government reference N<sup>o</sup>:



## INTRODUCTION

### Purpose and Scope

This management plan defines the requirements associated with the process of minimising the impact of dust emissions that could potentially be generated from activities at the Dowerin Grain Storage facilities. CBH is committed to improving the overall environmental impacts of its business, and in achieving the environmental objectives outlined in the CBH Group Health, Safety and Environmental Policy.

All activities undertaken at the Dowerin Grain Storage facilities must comply with this Dust Management Plan.

The plan will be subject to ongoing review and therefore will be subject to change to ensure that it remains relevant and effective considering site performance, past results, and technological advances throughout the life of the site.

### Definitions

Term	Definition
Dust	Dust is considered to be any particle suspended within the atmosphere. Particles can range in size from as small as a few nanometers to 100 microns (um) and can become airborne through the action of wind turbulence, by mechanic disturbance of fine materials or through the release of particulate rich gaseous emissions.  Dust is measured using a variety of methods, the most common being Total Suspended Particulates (TSP), which normally measure up to 50um, and PM <sub>10</sub> or PM <sub>2.5</sub> (particulate matter less than 10um or 2.5um in size, respectively). Deposited matter measures the mass of any particulate falling out of suspension expressed in mass per area per time and is the least commonly used in determining dust concentrations (Environment Australia, 1998).
Fugitive Dust	Refers to dust derived from a mixture of sources, or a source not easily defined and includes dust generated from vehicular traffic on unpaved roads, materials transport, and handling and unvegetated soils and surfaces.
Nuisance Dust	Describes dust particles ranging in size from 1mm to 50µm, which reduce environmental amenity without necessarily resulting in material environmental harm.
PM <sub>10</sub>	A criteria air pollutant consisting of small particles with an aerodynamic diameter less than or equal to a nominal 10 microns. Their small size allows them to make their way to the air sacs deep within the lungs where they may be deposited and result in adverse health effects.
TWA	Time Weighted Average
PM <sub>2.5</sub>	Includes tiny particles with an aerodynamic diameter less than or equal to a nominal 2.5 microns. This fraction of particulate matter penetrates most deeply into the lungs.
NEPM	<i>National Environmental Protection (Ambient Air Quality) Measure</i>
CBH	Co-operative Bulk Handling Limited
DGS	CBH Dowerin Grain Storage facilities
SHARE	CBH incident and hazard reporting system

### BACKGROUND

The original CBH Dowerin “town site” is located within the main town of Dowerin and includes a horizontal storage as well as permanent open bulkhead storages. To accommodate increased grain production in the region, additional grain handling and storage capacity has been established south-west of the town at the “Dowerin 2 site”.

The Dowerin 2 grain storage facilities (DGS) includes significant permanent grain storage capacity to reduce the reliance on temporary and emergency open bulkheads storages whilst also moving activities away from the centre of town. To support the increased demand for out-loading the DGS site will also include a new rail out-loading facility to replace the disused facilities no longer in use at the original town site.

### Location

The DGS forms part of CBH’s grain storage network across the Wheatbelt Region of Western Australia. Initially established in 2009, the DGS is located within the Shire of Dowerin on Irvine Rd. The site is situated approximately 2.5 kilometres south-west from the Dowerin town centre.

**Figure 1: Dowerin Grain Storage Location**



Extract From MNG

### Operations Description

The DGS will receive grain from the surrounding district via road transport. Received grain will be sampled, segregated, and stored on site until it is sent via rail and road to Kwinana Grain Terminal for export.

Other activities conducted at the premises to enable the continued safe and efficient handling of grain will include but are not limited to ongoing maintenance on infrastructure, civil and ground improvement works, pavement works, track repair and maintenance and other associated improvement, refurbishment and construction works as required from time to time.

The Area Manager is responsible for dust control on site. Contact details are as follows:

Nick Chandler

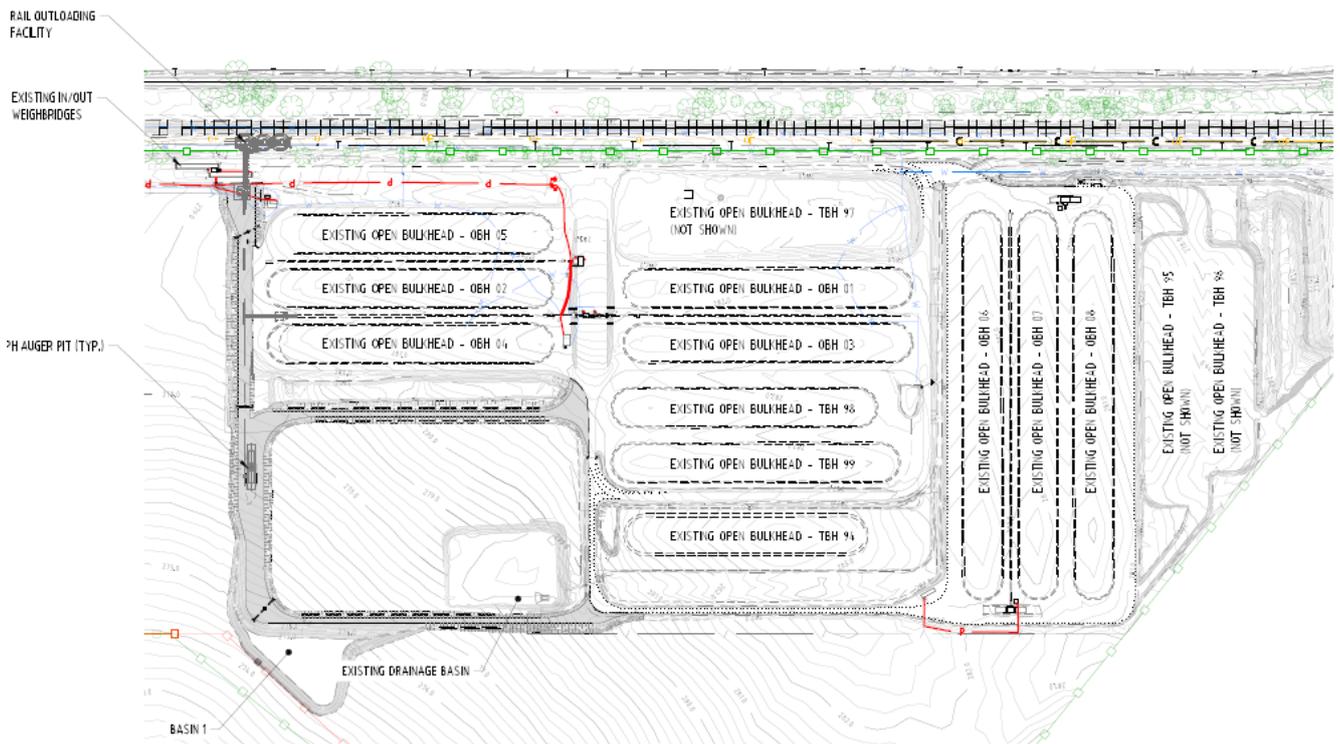
Area Manager – Area 6

[nicholas.chandler@cbh.com.au](mailto:nicholas.chandler@cbh.com.au)

M: +61 428 927 120

The layout plan for the site is illustrated in Figure 2.

**Figure 2: CBH Dowerin Grain Storage Layout**

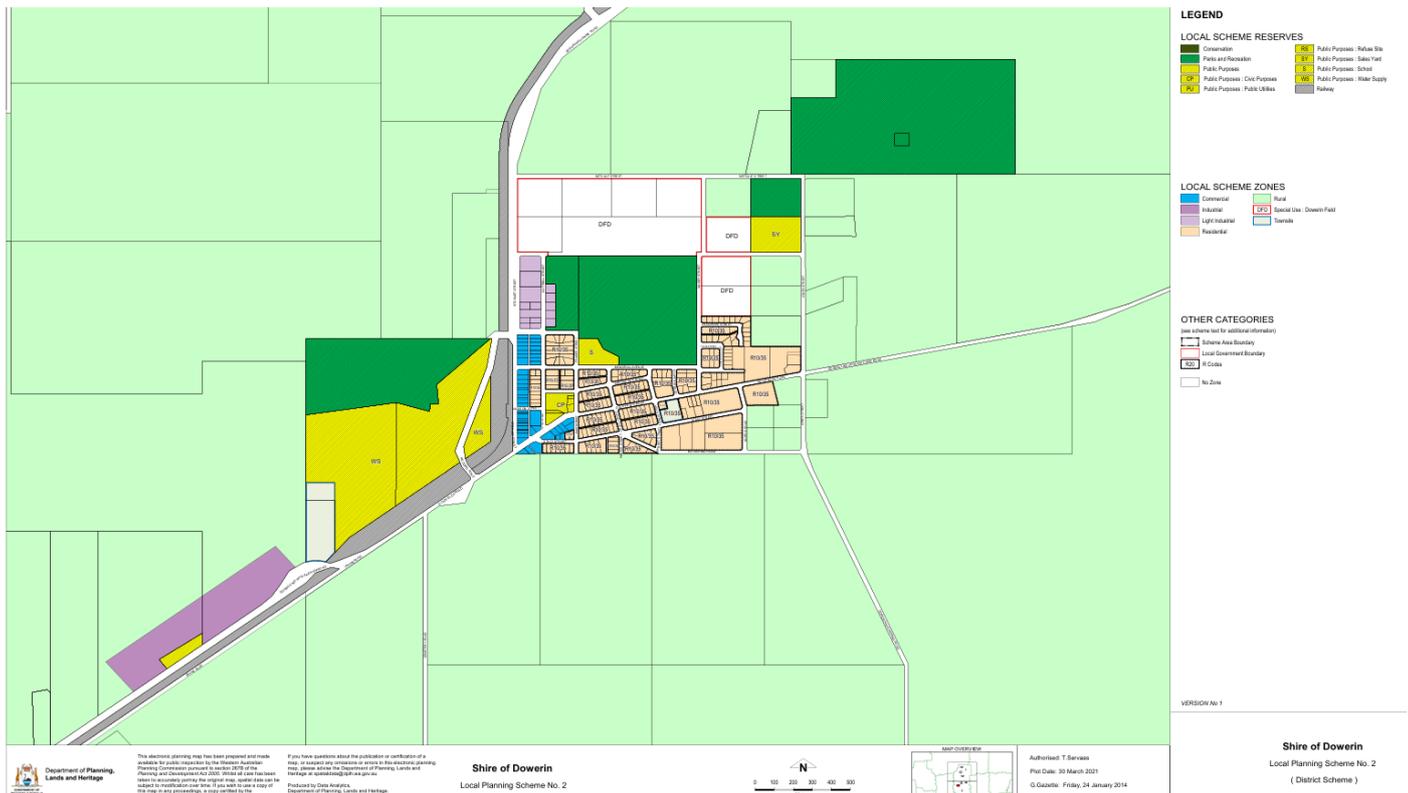


### Sensitive Receptors

The DGS is primarily surrounded by land zoned for general agriculture with land to the north zoned for public purpose and industrial. Sensitive receptors include the public purpose reserve, rural residential, and the major road. All areas may be impacted by dust emissions from CBH activities.

Locations of sensitive receptors and their proximity to CBH operations are outline in Figure 3.

**Figure 3: Sensitive Receptor Locations in Proximity to CBH Dowerin Grain Storage**



Extract From Shire of Dowerin displaying the Sensitive Receptors in proximity to DGS. The most notable receptors are environmental conservation reserves, general agriculture, rural residential, public purpose - rubbish disposal and major road.

## COMPLIANCE OBLIGATIONS

### Environmental Protection Act 1986

The principal statute relevant to environmental protection in WA. It provides for the establishment of the Environmental Protection Authority (EPA), preparation, and implementation of environmental protection policies, environmental impact assessment and approvals for new developments, licensing and permitting, and waste management.

### Environmental Protection (Unauthorised Discharges) Regulations 2004

Under the Environmental Protection (Unauthorised Discharges) Regulations 2004, it is an offence to cause or allow certain materials to enter the environment in connection with a commercial or business activity.

Under regulation 3(1) a person who, in the course of or in connection with a business or a commercial activity, causes or allows dust (or other schedule 1 material) to be discharged into the environment commits an offence.

### Regulatory Criteria for Dust

The National Environmental Protection Council Act 1994 (Cth) has established national objectives in the form of the National Environment Protection Measures (NEPMs) designed to manage ambient air quality concentrations. Fugitive dust emissions as PM<sub>10</sub> should not exceed NEPM (Ambient Air Quality) criteria of 50 µg/m<sup>3</sup> (24-hour average) beyond the site boundary.

**Table 2: Regulatory Criteria for Dust**

Parameter	Monitoring Point	Criteria Target	Averaging Period	Source
Particulates as PM <sub>10</sub>	Between source and sensitive receptor	50 µg/m <sup>3</sup>	24-hour average	NEPC 2016

## POTENTIAL IMPACTS

### Product Characteristic Summary

Product Type	Product	Description (particle size – diameter)	Moisture Content	Transport Mode	Storage
Unprocessed Grain	Wheat, Barley, Canola, Lupins	<2.8mm	<13%	Truck/Rail	Enclosed fixed storage and open bulkheads

**Table 3: Product Characteristics**

### Sources of Dust

Particulate emissions from a wide range of sources can impact upon air quality in proximity to CBH operations including:

- Unloading of bulk grain products at truck unloaders
- Loading of bulk products via conveyors and elevators (both truck and rail)
- Operation of conveyor and grain storage facilities
- Localised maintenance, construction, and excavation activities
- Heavy vehicle movements
- Offsite agricultural, road maintenance and construction activities
- Dust from unsealed surfaces and disturbed ground.

Elevated ambient background dust levels (regional and local scale) can also contribute to particulate levels in proximity to the site along with offsite sources, such as suspended aerosol components in windblown dust from hot and dry environments.

### Characteristics of Grain Dust

Grain dust is a type of inhalable dust with its own designated Time Weighted Average (TWA) exposure standard of 1.5 mg/m<sup>3</sup> (Safework Australia). The recommended TWA is for exposure to the total dust produced during harvesting and handling activities of whole grain of oat, wheat and barley prior to the milling operation to minimise the potential for acute irritation of the upper respiratory tract, eyes and skin, bronchitis and decreased pulmonary function (Safework Australia). It is a respiratory sensitiser and can induce allergic reactions in the respiratory system, with symptoms being immediate or delayed and can occur some hours after exposure when symptoms are not often associated with the trigger. Grain dust is not classified as a carcinogen according to the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Grain dust consists of 60 to 75 percent organic material and 25 to 40 percent inorganic material and can be contaminated by other materials during its growth, transport, and processing. These can include (but are not limited to).

- Bacteria
- Fungal spores
- Insect and insect body parts
- Storage mites and excreta
- Animal hair
- Pollen
- Fungicides, pesticides & fertiliser residues.

### Risk Assessment

A risk assessment has been completed to identify potential pathways and receptors that may be impacted from various sources of dust emissions at DGS. Risk ratings have been established based on the CBH Hazard, Risk and Change Management Procedure.

Management actions to mitigate risks identified are outlined in the following sections.

Potential Emissions	Activity / Sources	Potential Receptors	Potential Pathways	Potential Adverse Impacts	Consequence	Likelihood	Risk Rating
Dust emissions	Truck in-loading or out-loading.	Rural Residential	Air / wind dispersion.	Impacts to human health through inhalation of particulates.	Minor	Unlikely	Low
	Rail out-loading	Public purpose reserves	Dust settling on infrastructure	Impacts to amenity at nearby sensitive receptors resulting in nuisance dust (visual dust emissions).	Minor	Possible	Moderate
Stockpiling of bulk materials (including within storages).	Road users	Resuspension of particulates in high wind conditions and severe weather.	Dust deposition on private property.				
Transfer points within the Facility, and other supporting equipment.			Impacts to public road users.				
Exposed areas / unsealed roadways			Complaints.				
				Adverse media attention.			

**Table 4: Pathways and receptors analysis risk rating**

### OBJECTIVES AND TARGETS

As outlined in CBH’s Environmental Management Standard the key objective for protection of air quality is to ensure “adverse impacts on local or regional air quality from CBH generated air emissions (such as dust, odour, or combustion emissions) are minimised”. The following objectives, targets and performance indicators have been established to enable the protection of air quality to be achieved.

Objective	Target	Performance Indicator
Dust emissions do not adversely impact public health beyond the CBH operational boundary.	Dust emissions related to CBH operations remain below target levels for PM <sub>10</sub> as defined in NEPM.	Visual monitoring or Continuous PM <sub>10</sub> monitoring (where deemed necessary).
Dust emissions do not adversely impact public amenity beyond the CBH operational boundary.	No public complaints attributed to dust emissions from CBH operations.	Public Complaints.
Dust emissions do not adversely impact environmental values beyond the CBH operational boundary.	No reportable incidents relating to dust emissions which cause pollution to natural or built environment.	Reportable Incidents in SHARE.

**Table 5: Objectives, Targets and Performance Indicators**

### IMPLEMENTATION STRATEGY

A range of management actions are implemented at CBH to ensure that objectives and targets for protecting air quality can be met. The management actions in the table below shall be implemented by CBH, Contractors, and customers to enable dust management objectives to be achieved.



# DUST MANAGEMENT PLAN

## Dowerin Grain Storage

Aspect	Dust Management Action	Frequency/Timing	Responsibility
Training	Environmental issues including dust management are and will continue to be included as part of CBH induction programs for all CBH employees and contractors.	Prior to new employees starting	Area / Project Manager
Grain dust suppression systems	Product moisture management is not currently in place or possible at grain handling facilities due to quality impacts to the grain. Investigations are ongoing as to where misting may be beneficial but not pose any product quality risk.	n/a	n/a
Conveyors	Wherever practicable dust covers and wind shields shall be maintained on all conveyors to contain dust and spillage.  Measures shall be in place to prevent overloading of conveyors and prevent spillages.	Whenever product movement is occurring.	Maintenance Superintendent / Area Manager
Roadways and open areas	Sweeping and housekeeping duties will be completed as required on sealed roadways, and around infrastructure to remove product spillage that has the potential to generate dust.  Unsealed open areas and roadways are either sheeted with gravel or appropriate dust suppression or chemical soil stabilisers are applied.	Frequency of sweeping commensurate with build-up.  Frequency of dust suppression in line with situational requirements.	Operations Supervisor
Truck Discharge Grids	Regular hygiene activities shall be conducted around truck discharge grids to remove residual product spillage and prevent it becoming windblown. Where product is migrating due to vehicle movement hygiene activities are to be employed.  Hygiene of truck wheels and wheel guards shall be undertaken where required to prevent tracking of product outside of discharge grids or storage sheds.	At all times during truck loading and unloading activities.	Area Manager / Maintenance Superintendent
Truck Movement	All CBH grain haulage trucks shall be tarped when transporting product from and to the facility to ensure dust generation is minimised.	At all times during truck transport haulage.	Operations Supervisors/ Transporters /Project Manager



# DUST MANAGEMENT PLAN

## Dowerin Grain Storage

Aspect	Dust Management Action	Frequency/Timing	Responsibility
	All site traffic is required to adhere to the site speed limit to minimise dust lift generated by vehicle movement, and this will be communicated at any Growers and Contractor Meetings.		
Rail Loading	All grain wagons are closed when transporting product to ensure dust generation is minimised. Regular hygiene activities shall be conducted around rail loading facilities to remove residual product spillage and prevent it becoming windblown.	At all times during rail out-loading	Operations Supervisor
Hygiene Program	Hygiene activities will occur daily to maintain a high standard of housekeeping. This reduces the amount of grain and dust build up when more thorough cleaning is required or when maintenance is undertaken.  During harvest receivals, efforts are made to sweep dust from the floors of storages on in loading to reduce the amount of dust on outturn.  Safety critical grain spills are cleaned up immediately.	At all times during operations.	Operations Supervisor
Inspections	Inspections of facilities shall be undertaken at regular intervals to ensure dust control measures are in place and effective. These include: Environmental Control Verification Inspections Hygiene Inspections Workplace Inspections	As required.	Quality Coordinator / Area Manager / Operations Supervisor
Changes to Operations	Changes to infrastructure, handling methods and throughput volumes shall be thoroughly assessed to ensure environmental, human health and amenity impacts are managed.  Project activities outside of operations to have Risk Assessment and environmental management to be	Prior to change in throughput volume, infrastructure or handling method, or site activities.	Area Manager / Maintenance Superintendent / Project Manager



# DUST MANAGEMENT PLAN

## Dowerin Grain Storage

Aspect	Dust Management Action	Frequency/Timing	Responsibility
	reviewed to include additional controls and monitoring if required.		
Boundary dust control	Where deemed necessary shade cloth is to be installed along boundary fence lines at key locations to reduce emissions of fugitive dust from facilities.  Preference for screening trees to be retained and/or planted where landscaping design, Local Government Authority and road safety requirements permit to assist in mitigating nuisance dust.	As required.	Area Manager/ Maintenance Superintendent / Project Manager
Monitoring	Regular visual monitoring of site activities for the generation of excessive dust emissions in order to implement early intervention measures.  Daily assessment of weather conditions and potential effect on dust generation from CBH activities.  Where required continuous dust monitoring equipment to be installed to assess dust concentrations at CBH boundaries.	As required.	Area Manager / Project Manager / Local Government Authority
Product handling procedures in place to mitigate dust emissions during bulk material handling	<a href="#">Receive Grain SOP</a> <a href="#">Store Grain SOP</a> <a href="#">Outload Grain SOP</a> <a href="#">Outturn Grain SOP</a> <a href="#">Hygiene SOP</a>	At all times during operations.	Area Manager

### MONITORING

Dust monitoring data is obtained by from CBH site specific monitoring equipment that is installed where CBH risk assessments identify the measure is necessary or an incident or complaint response requires this as an action.

Monitoring, measurements, equipment siting and reporting will be conducted in accordance with:

- Section 4 of AS 2436-2010 Guide to Noise and Vibration Control on Construction, Demolition and Maintenance Sites
- AS 3580.1.1-2007 - Methods for sampling and analysis of ambient air Part 1.1;
- National Environmental Protection Council (1998) National Environmental Protection Measure for Ambient Air Quality, June 1998 and variation dated 2015; and
- A guideline for managing the impacts of dust and associated contaminants from land development sites, contaminated sites remediation and other related activities, Department of Environment and Conservation March 2011.

Real time dust monitoring data, including wind direction information can be collected and access provided to key CBH personnel following approval by the CBH Environmental and Sustainability Manager.

Where real time dust monitoring equipment is deemed necessary, early warning levels and alerts shall be established with the aim to provide early notification to CBH in order to implement effective preventative measures.

### TRIGGERS AND CORRECTIVE ACTIONS

In the event of excessive dust emissions being generated from DGS, activities will be reviewed and adjusted until emissions are reduced or controlled.

For trigger events, the process in Figure 4: CBH Guideline for Dust Management shall be followed.

Trigger	Corrective Action	Responsibility
Visual monitoring by CBH staff identifies excessive dust emissions at site boundary.	<ol style="list-style-type: none"> <li>1. Assess source of dust, wind, weather conditions.</li> <li>2. Cease dust generating activity until weather conditions change or additional dust control measures are in place.</li> </ol>	CBH Operations Supervisors CBH Area Manager CBH Project Manager
Monitoring equipment advise of PM <sub>10</sub> exceedance of early warning levels.	<ol style="list-style-type: none"> <li>1. Assess source of dust, wind, weather conditions.</li> <li>2. Cease dust generating activity until weather conditions change or additional dust control measures are in place.</li> </ol>	CBH Operations Supervisors CBH Area Manager
Public complaint received relating to excessive dust emissions.	<ol style="list-style-type: none"> <li>1. Assess source of dust, wind, weather conditions.</li> <li>2. Cease dust generating activity until weather conditions change or additional dust control measures are in place.</li> </ol>	CBH Operations Supervisors CBH Area Manager
Repeat complaints indicate excessive dust emissions are impacting neighbouring businesses or public.	<ol style="list-style-type: none"> <li>1. Assess source of dust.</li> <li>2. Investigate adequacy of control measures.</li> <li>3. Implement interim dust control measures as necessary until further controls can be put in place.</li> </ol>	CBH Operations Supervisors CBH Area Manager CBH General Manager

**Table 6: Triggers and Corrective Actions**

**Figure 4: CBH Guideline for Dust Management**



### STAKEHOLDER CONSULTATION

CBH stakeholder consultation and liaison in relation to dust includes the following:

- Regular consultation with growers, local government authority and other stakeholders.

CBH will work closely with all relevant stakeholders in relation to dust generation concerns associated with CBH activities.

### REPORTING

This section outlines the reporting responsibilities for all concerned, not only the individual with specified tasks but all employees, contractors, and visitors to CBH sites and receival points.

All CBH employees and contractors will be required to report generation of significant dust plumes, and /or any increase in dust levels to their Supervisor or Area/Project Manager as per the Incident Management Group Procedure. All incidents relating to excessive dust emissions or complaints shall be recorded in SHARE.

In addition, **any complaints received** regarding dust is immediately referred to the Area/Project Manager, who would then notify the General Manager of the following information.

- Date of complaint
- Time of complaint
- Location of complaint
- Nature of complaint
- Name and contact details of complainant (if given)
- A summary of any action taken.

All feedback and complaints shall be investigated thoroughly, and an assessment completed to determine appropriate course of action. A response is to be provided to the complainant within three (3) business days, or as otherwise agreed between CBH and the complainant. This response may include investigation findings and remedial action taken.

### MONITORING, EVALUATION AND REVIEW

This Dust Management Plan will be reviewed regularly in response to the following:

- Significant changes to infrastructure, operations and/or dust control equipment
- In response to issues raised by regulatory agencies or the community or relevant stakeholders
- In response to additional studies, significant incidents, or monitoring information (such as dust/wind modelling).

The Document Custodian is responsible for conducting the review in accordance with the Document Control and Records Management Group Procedure (STORE-1473931053-253).

### ASSOCIATED DOCUMENTS

Reference	STORE ID
Health, Safety and Environment Policy	<a href="#">STORE-1473931053-383</a>
Environmental Management Standard	<a href="#">STORE-1473931053-261</a>
Hazard, Risk and Change Management Procedure	<a href="#">STORE-1473931053-382</a>
Incident Management Group Procedure	<a href="#">STORE-1473931053-24370</a>

### REFERENCES

Document	Title
Act or Regulation	Environmental Protection Act 1986 Environmental Protection (Unauthorised Discharges) Regulations 2004 The National Environmental Protection Council Act 1994 (Cth)
Report	Safe Work Australia Evaluation Report - Grain Dust (Oats, Wheat, Barley)

### DOCUMENT CONTROL

#### Authorities

<b>Approved By</b>	Area Manager	<b>Approval Date</b>	
<b>Review Frequency</b>	TBD	<b>Next Review Date</b>	TBD
<b>Owner</b>	Area Manager	<b>Custodian</b>	Specialist – Environment & Sustainability
<b>Division</b>	Operations	<b>Department</b>	Health, Safety and Environment

#### Review History

Version	Date	Author	Description of Revision
1	26/02/2026	Specialist – Environment & Sustainability	Document created in new template

### CBH RISK CRITERIA AND RISK RATING MATRIX

Impact Area	1- Insignificant	2 - Minor	3 – Moderate	4 – Major	5- Catastrophic
<b>Health and Safety – Injury or Illness</b>	No medical treatment required. Negligible or no injury	Minor injuries / occupational illness / psychological injury requiring First Aid or Medical treatment	Serious injury / occupational illness / psychological injury requiring possible hospitalisation or permanent loss / significant effects	Life-threatening or multiple serious injuries or illnesses requiring hospitalisation and permanent effects	Death or multiple life-threatening injuries or illnesses
<b>Environment</b>	No effect on local environment No impact outside of site boundary No environmental breach	Minor environmental effect Minor release contained on site No environmental breach	Moderate environmental effects to localised area Moderate release contained within site boundary Environmental breach that would require reporting to an external body	Major environmental effects to localised area with offsite impacts Major release contained within site boundary Environmental breach that would require reporting to environmental or external body with likely investigation	Serious long-term effects to wide area and/or irreversible damage to environment Major release not contained within site boundary Breach likely to result in loss or impact on site operations and activities
<b>Reputation</b>	Minor local community /   shire attention	Adverse   attention from local media	Significant adverse local public or media attention	Significant adverse national public or media attention	Significant loss of international public or media attention or loss of grower/customer support.
<b>Legal</b>	Minor internal non-compliance	Minor legal issues and non-compliances	Internally detected breaches, reported to regulators	Serious breach of legislation with remediation notice	Suspension of licenses, prosecution and litigation
<b>Financial</b>	Under \$1m	\$1m - \$10m	\$10m-\$50m	\$50m-\$150m	Over \$150m
<b>Continuity</b>	1 hour	1 day	2-5 days	1-4 weeks	>4 weeks

**Table 7: Risk Impact / Consequence Rating**

Rating	Frequency	Description	Frequency example
1	Rare	The event may occur in exceptional circumstances	Occur in more than 100 years
2	Unlikely	The event could occur sometimes	Occur between 10 and 100 years
3	Possible	The event should occur sometimes	Occur between 1 and 10 years
4	Likely	The event will probably occur in most circumstances	Occur once or twice per year
5	Almost certain	The event is expected to occur in most circumstances	Occur more than twice per year

**Table 8: Likelihood Rating**

		Consequence				
		1- Insignificant <small>(No injuries or health issues)</small>	2 – Minor <small>(First Aid treatment)</small>	3 – Moderate <small>(Medical treatment, potential LTI)</small>	4 – Major <small>(Permanent injury or illness)</small>	5- Catastrophic <small>(Fatality)</small>
<b>Likelihood</b>	<b>1 – Rare</b> <small>(Occur in more than 100 years)</small>	Low 1	Low 2	Low 3	Low 4	Moderate 5
	<b>2 – Unlikely</b> <small>(Occur between 10 and 100 years)</small>	Low 2	Low 4	Moderate 6	Moderate 8	High 10
	<b>3 – Possible</b> <small>(Occur between 1 and 10 years)</small>	Low 3	Moderate 6	High 9	High 12	Critical 15
	<b>4 – Likely</b> <small>(Occur 1 or 2 times per year)</small>	Low 4	Moderate 8	High 12	Critical 16	Catastrophic 20
	<b>5 – Almost Certain</b> <small>(Occur more than 2 times per year)</small>	Moderate 5	High 10	Critical 15	Catastrophic 20	Catastrophic 25

**Table 9: CBH Risk Rating Matrix**



<b>Project Number &amp; Title:</b>	M-361-R-3067 Dowerin Auger Civil Design
<b>Contractor:</b>	Shawmac

Document Information		
CBH Document Number	Contractor Document Number	Document Title:
361-3067-CI-RPT-0001	2507003-REP-0001	Stormwater Management Plan

Revision History					
CBH Rev No	Contractor Rev No.	Description	Date	Approved By (Contractor)	Approved By (CBH)
A	A	85% Design	31.10.25	R. Needham	
B	B	For DA	28.11.25	R. Needham	



- 1 - APPROVED
- 2 - APPROVED WORK MAY PROCEED - Submit IFT / IFD / IFU / IFC Documentation
- 3 - APPROVED EXCEPT AS NOTED - Revise and Resubmit
- 4 - NOT APPROVED, WORK MAY NOT PROCEED - Revise and Resubmit
- 5 - INFORMATION ONLY

Signature  Date

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b. evidence or constitute a Direction by Co-operative Bulk Handling Limited; or  
c. affect the time for performance of the Contractors or the Contractors Representative's obligations.



# Stormwater Management Plan

Project: Dowerin Rail and Outloading Project  
Stormwater Management Plan

Client: CBH

Author: K.Chong / R. Needham

Date: 28<sup>th</sup> November 2025

Shawmac  
Document #: 2510005-REP-001

CBH  
Document #: 361-3067-CI-RPT-0001

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**ISO 9001 QUALITY**  
Certified System



Document Status: Client Review

Version	Prepared By	Reviewed By	Approved By	Date
A	K. Chong	R. Needham	R. Needham	31.10.25
B	R. Needham		R. Needham	28.11.25

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# 1. Introduction

## 1.1. The Project

CBH is currently undertaking the planning and design work for a proposed rail out-loading facility at their existing Dowerin grain receival site. The project involves the construction of three (03) silos located over the rail loading line, each with a 1,750-tonne capacity fed by extensions to existing conveyor systems, and a new conveyor extension to a new auger pit. New site access roads are proposed to facilitate the haulage traffic flow to the new auger pit, linking with the existing site.

**Figure 1** shows the site location and layout of the proposed and existing facilities. **Figure 2** shows an excerpt of CBH's concept plan of the site documented in source 361-ENG-DCO-0023\_C.pdf.



Figure 1: Site Layout and Location

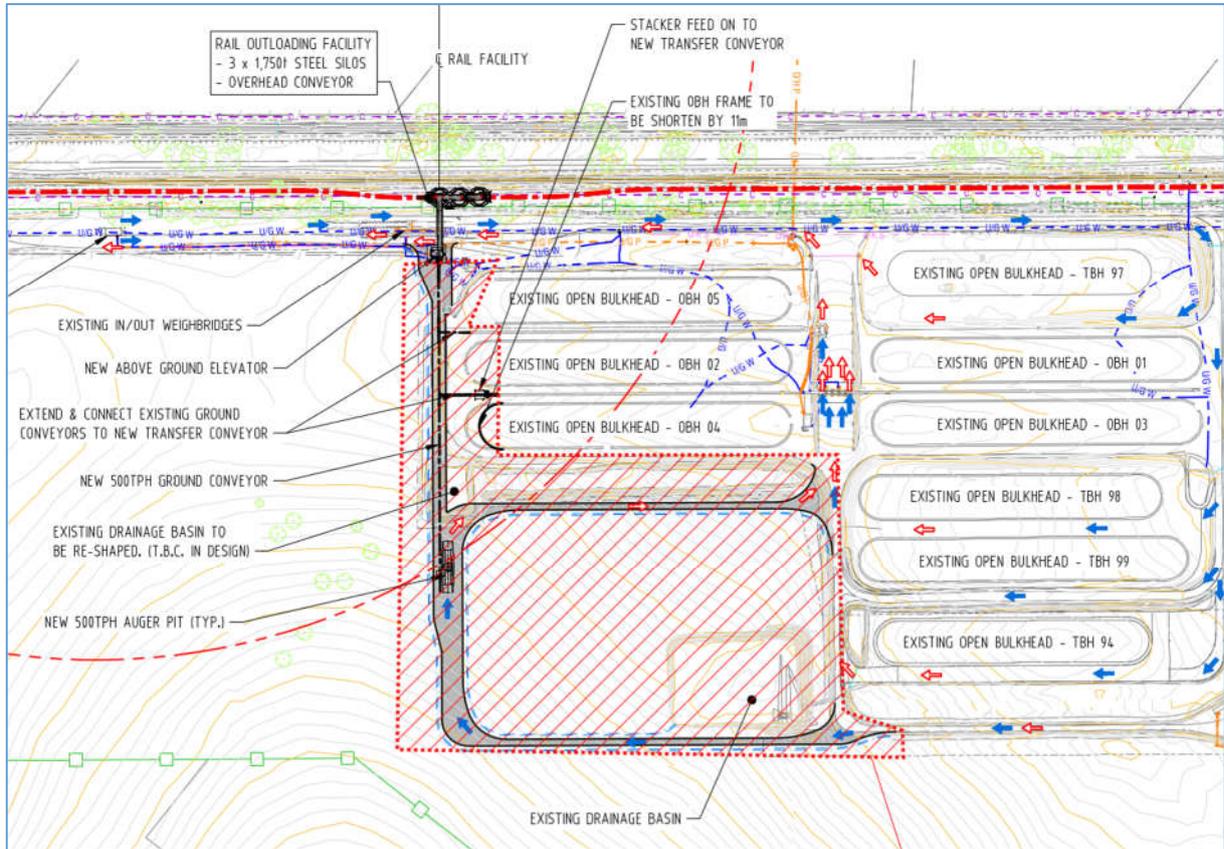


Figure 2: CBH Concept Plan



## 1.2. Purpose

The purpose of this report is to outline the proposed stormwater management strategy to be adopted in support of the proposed civil works associated with the new auger pit and the new access road. The Stormwater Management Plan has been prepared to support the project's Development Application. This report should be read in conjunction with the following drawings:

**Table 1: Design Drawings**

Title	Drawing No.	Revision
LOCALITY PLAN & DRAWING LIST	361-ENG-CI-DLP-0001	A (31.10.25)
OVERALL GENERAL ARRANGEMENT, NOTES & LEGEND	361-ENG-CI-DGA-0001	A (31.10.25)
EARTHWORKS, GRADING AND DRAINAGE	361-ENG-CI-DGA-0002	A (31.10.25)
EARTHWORKS HEAT MAP	361-ENG-CI-DGA-0003	A (31.10.25)
AUGER PIT PLAN AND SETOUT	361-ENG-CI-DGA-0004	A (31.10.25)
MC01 PLAN AND PROFILE	361-ENG-CI-DPP-0001	A (31.10.25)
MC02 PLAN AND PROFILE	361-ENG-CI-DPP-0002	A (31.10.25)
MC03 PLAN AND PROFILE	361-ENG-CI-DPP-0003	A (31.10.25)
TYPICAL CROSS SECTIONS SHEET 1 OF 2	361-ENG-CI-DSE-0001	A (31.10.25)
TYPICAL CROSS SECTIONS SHEET 2 OF 2	361-ENG-CI-DSE-0002	A (31.10.25)
TYPICAL DETAILS	361-ENG-CI-DTD-0002	A (31.10.25)
MC01 CROSS SECTIONS	361-ENG-CI-DSE-0001	A (31.10.25)
MC02 CROSS SECTIONS	361-ENG-CI-DSE-0002	A (31.10.25)
MC03 CROSS SECTIONS	361-ENG-CI-DSE-0003	A (31.10.25)

## 2. Pre-developed Situation

### 2.1. Site Topography

The proposed site is currently generally undeveloped and only occupied with drainage basins to service the stormwater runoff from the existing site. **Figure 3** shows the existing surrounding topography (2.0m contours) of the site. Most of the areas are relatively flat with a gentle slope of 2.0%.

The site is surrounded by vacant land, with Irvine Road and existing railway line located along the northwest boundary.

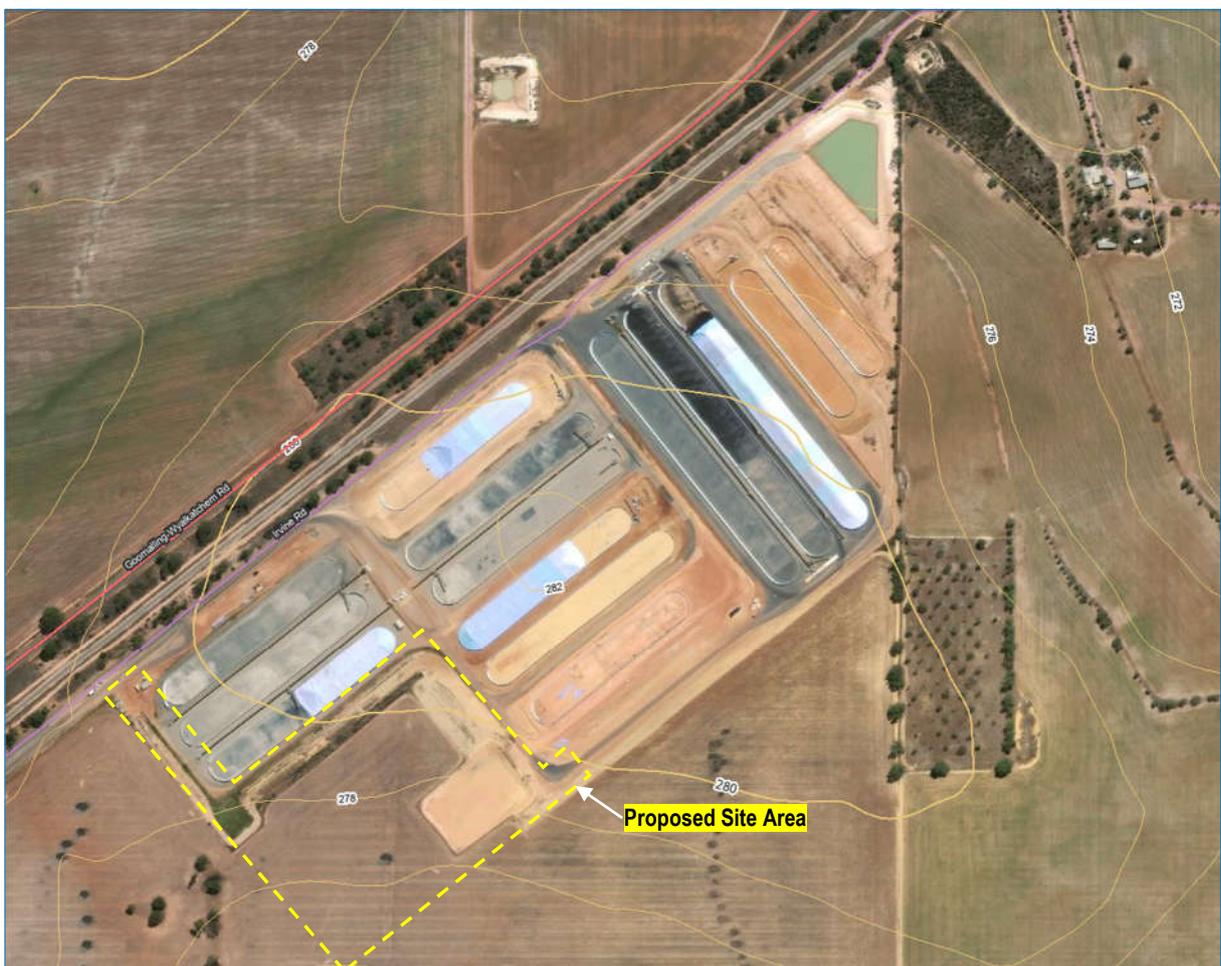


Figure 3: Existing Terrain and Surface Water Runoff

### 2.2. Geotechnical

#### 2.2.1. Investigation and Findings

CBH commissioned WSP to undertake a geotechnical investigation of the site in May 2023 to support the foundation and pavement design for the proposed Rail Loading Facility. Previous geotechnical investigations were

conducted at the Dowerin site by Golder Associates Pty Ltd in 2018 and 2019, and by Galt Geotechnics in 2020.

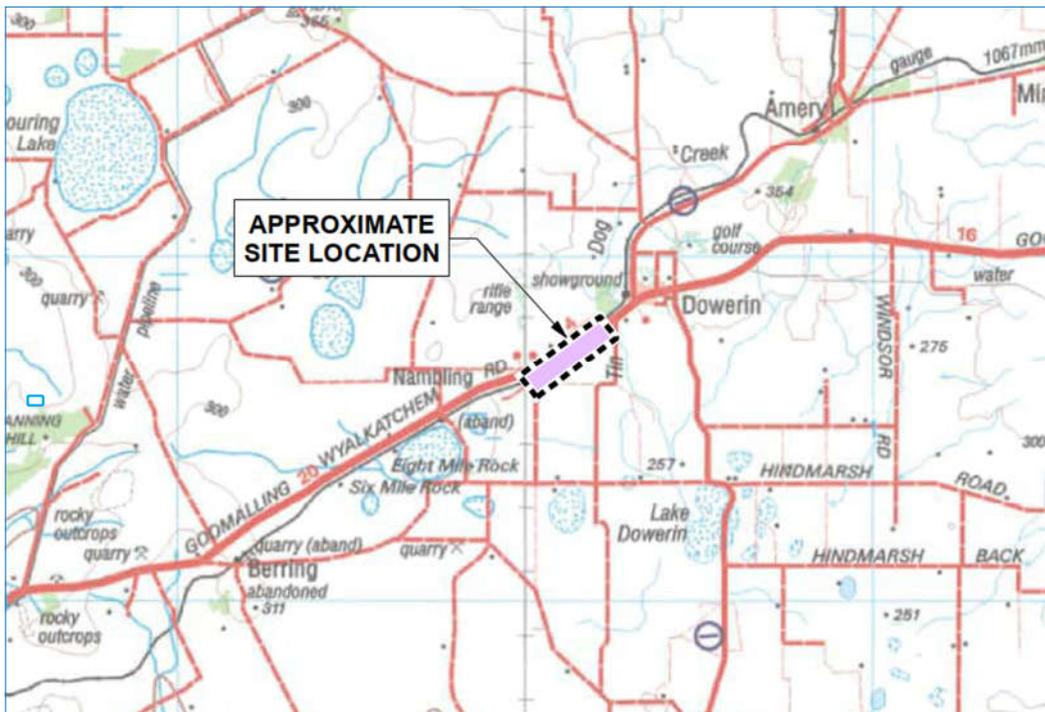
Based on the site investigation, the dominant soil material under the subsurface conditions generally within the area of proposed works primarily consists of Sandy CLAY (CL/CI) extending to depths up to 2.3m with generally low to medium plasticity. The soaked CBR values measured from test pits are varied significantly between 2.5% and 9.0%. Based on these results, a low subgrade design CBR of 5.0% was recommended for unstabilised materials.

No groundwater was encountered in the test pits (March 2023), which reached a maximum depth of 3.0m. Perched water is expected following wet periods due to the presence of shallow clayey soils. It is also noted that no Acid Sulfate Soil (ASS) was found at the site.

Infiltration tests were conducted across the site, and the results indicated that the infiltration rate ranged from 0.2m/day to 1.7m/day. However, for design purposes, an upper limit of 0.5m/day was recommended in granular materials. Furthermore, rock was encountered at relatively shallow depths, meaning that basins were founded on near impermeable rock.

### 2.3. Environmental

**Figure 4** provides an excerpt of the 1:250,000 Geoscience Australia Topographic Map and shows the environmental features surrounding the site. There are no environmentally sensitive features in proximity affecting the proposed site.



**Figure 4: Geoscience Australia Topographic Map Excerpt**

## 2.4. Existing Catchment and Overland Surface Runoff

The existing Dowerin CBH site comprises of two (02) catchments that affect the proposed works area, each conveying the stormwater runoff via open channel drains and culverts into the existing stormwater basins. **Figure 5** shows the existing catchments and basin locations.

- Catchment A predominantly consists of the surface runoff from existing OBH 02/04/05 bulkhead areas that are directed via open drains into Basin A.
- Catchment B consists of the stormwater runoff collected from the southwest of existing TBH 94, 99 & 98 bulkhead areas, conveyed via open drains and culverts into Basin B.
- Catchment C is the undeveloped portion of land that will be confined by the proposed works.
- Runoff from the balance of the CBH site is expected to flow towards the northeast and into the existing basin. This catchment will not be considered under this assessment as it does not affect the planned works area.

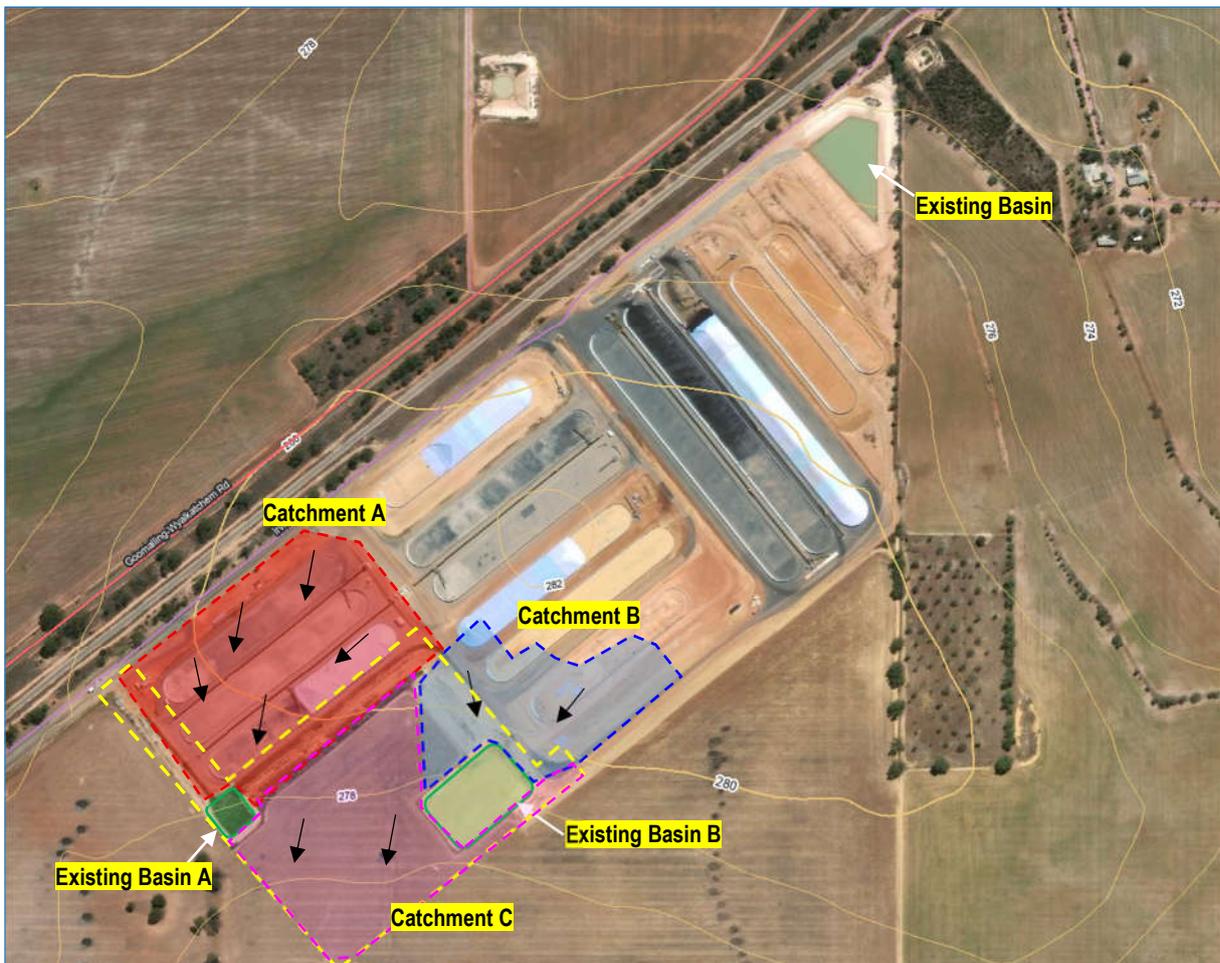


Figure 5: Existing Stormwater Catchments



An XPS storm model was built to reflect the pre-development runoff situation for the site and the resultant flow rates for the selected catchments, based on the 1 in 20 years storm event. The key outcomes are shown in **Table 2**. The modelling parameters and assumptions used are consistent with those described in **Section 3.2**.

**Table 2: Pre-development Site Runoff**

Catchment	Catchment Area (ha)	Outflow rates (m <sup>3</sup> /s)	Existing Basin Top Level (m AHD)	Existing Basin TWL (m AHD)
A	5.469	0.34	278.80	278.96
B	3.533	0.00	277.53	277.14
C	5.398	0.41	-	-

Based on the results, the existing Basin B appears to have sufficient capacity to contain all stormwater runoff from its contributing catchment. Basin A, however has insufficient capacity which will result in some flows leaving the CBH site. The total flowrate leaving the CBH at present is therefore the combination of Catchment C, and the outflow from Basin A/Catchment A at 0.75m<sup>3</sup>/s.

### 3. Stormwater Management Strategy

---

#### 3.1. Strategy Overview

In general, the adopted stormwater management strategy involves capturing the newly generated runoff from the proposed access road and ultimately disposing of the stormwater via new open drains and culverts into a proposed new Basin C at the south. The existing Basins A and B will be retained but modified to suit the proposed works. Any overflows from Basins A and B will be intercepted by the new drains along the access roads and conveyed to the new Basin C.

Consistent with CBH's TS10A Design Specification, each basin has been designed or assessed to accommodate the 1 in 20-year ARI storm event. All stormwater from the contributing catchments for this event is proposed to be retaining in the new Basin. It is noted that this is different from the existing conditions where there is a relatively large flow rate of 0.75m<sup>3</sup>/s leaving the site. However, the installation of the site drainage system and basin will concentrate stormwater flows and place the downstream land at risk of scour. As such, it is considered desirable to retain stormwater within the basin.

It is also noted that there is no opportunity for a low-level outfall from the basin and as the site soils are relatively impermeable, the basin will hold water semi-permanently. It is recommend that CBH monitor the basin water levels and pump water out as needed to ensure that adequate storage capacity is restored between rainfall events.

**Figure 6** shows the proposed works area and detailed stormwater catchments that ultimately discharge into the proposed new Basin C.

- Catchment 1 mainly covers the area around the new elevator pit at the northern end of the conveyor near the proposed rail out loading facility. Stormwater runoff from this catchment is directed west into an open drain along the road formation.
- Catchment 2 mainly consists of the northern side of OBH 05. Runoff from this catchment is directed into an existing open drain along the northern edge of the bulkhead formation. A new culvert will be installed to convey stormwater under the conveyor road into the western open drain.
- Catchment 3 consists of a portion of OBH 05, OBH 02 areas and the conveyor road in between. Stormwater currently flows along an existing pavement drain which will need to continue across the proposed conveyor road and discharge to the western open drain.
- Catchment 4 captures the runoff from part of OBH02, OBH 04 areas and the conveyor road in between. Similar to Catchment 3, stormwater currently flows along an existing pavement drain which will need to continue across the proposed conveyor road and discharge to the western open drain.
- Catchment 5 mainly consists of the southern portion of OBH 04. Runoff from this catchment will be directed into the existing open drain running along the southern side of the bulkhead formation and

discharging to Basin A. Basin A will be impacted by the works, and a culvert will be provided under the proposed conveyor road to provide an outlet into the western open drain and ultimately Basin C.

- Catchment 6 includes the runoff from southwest area of TBH 98 and adjacent paved areas. Runoff will flow over the proposed access road into the new open drains.
- Catchment 7 covers some of the runoff of existing TBH 99, TBH 94 area and adjacent paved areas. Runoff from this area is intercepted by the existing open drains along the bulkhead formation and Basin B. Provision will be made for an overflow from Basin B to the new open drains discharging to the new Basin C.
- Catchment 8 captures some of the runoff from the new access road at southwestern area and discharges this into the new western open drain.
- Catchment 9 captures runoff from most of the trapped pervious/undeveloped area runoff within the perimeter of access road and existing Basin B, and conveys this via open drains and culverts into Basin C.
- Catchments 10 and 11 capture the targeted areas of the access road and convey the stormwater via adjacent proposed open channels.

Refer to CBH preliminary design drawing **361-ENG-CI-DCO-0023** for conceptual layout.

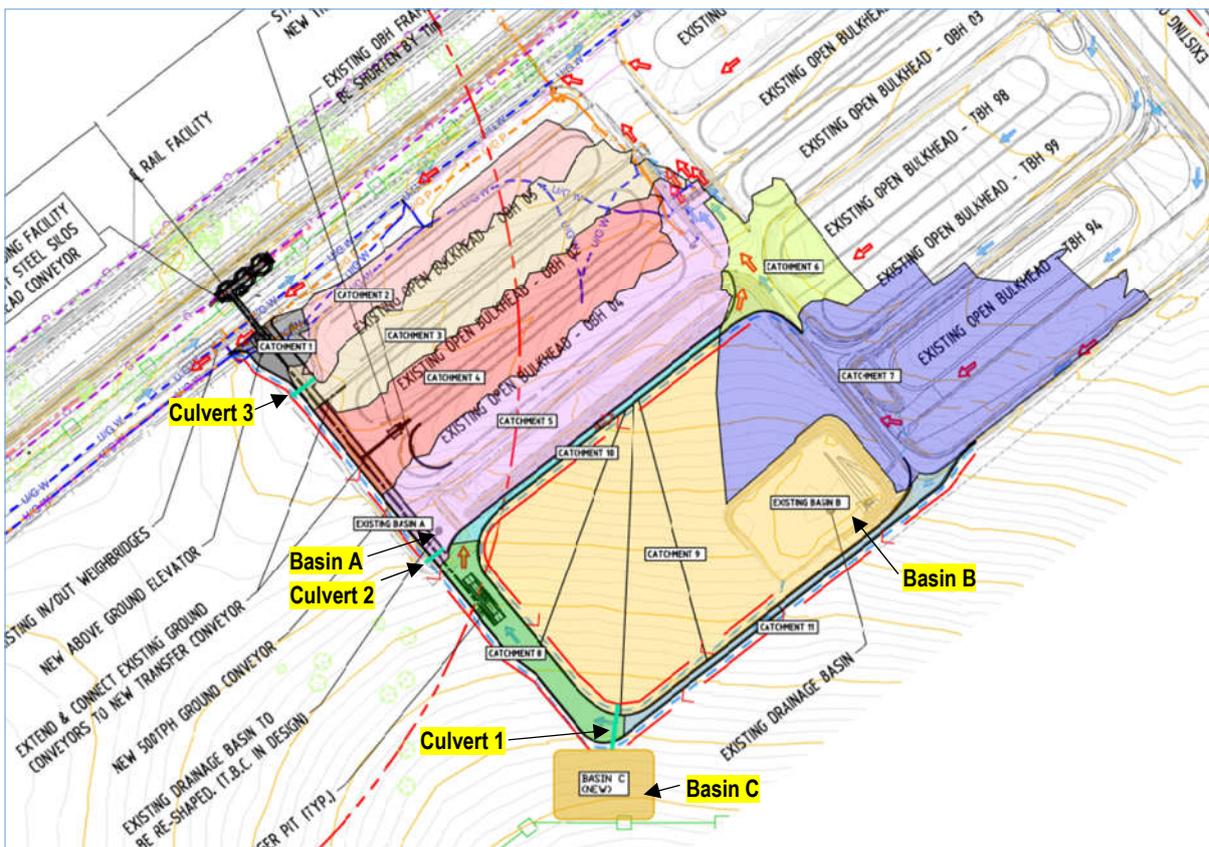


Figure 6: Stormwater Sub-catchments and Proposed Drainage Strategy

### 3.2. Design Criteria and Modelling Assumptions

Based on the adopted strategy and CBH's design specifications, the key stormwater management design criteria are summarised as follows:

- All drainage design is to be based on the critical 1 in 20 years ARI storm event.
- A minimum freeboard level of 300mm to subgrade as per CBH TS10A Design Specification for long term ponding (i.e. to basin TWL).
- A minimum freeboard of 300mm to shoulder for short term ponding (i.e. culvert headwaters).
- A minimum clearance of 400mm from the shoulder to the invert of the open drain (i.e. assuming 300mm freeboard from subgrade and 100mm of water depth).
- Culverts shall have minimum cover of 400mm (RCP Class 4).
- Minimum culvert size proposed is 450mm diameter.
- Minimum gradient of open drain is 0.3% in accordance with CBH requirements.
- Scour protection required where  $>2.0$  m/s velocity is expected (CBH to note that some material types will scour at lower velocities – it is recommended that the geotechnical engineer be engaged to provide further guidance on this).

An XPSTORM hydraulic routing and analysis has been conducted to reflect the site development for the proposed works and the resultant flow rates for the targeted catchments, as shown **Figure 7**. The following key assumptions were utilised:

- For the CBH site, the initial infiltration loss is assumed to be 15mm and 0mm of continuing loss for pervious areas. Nil loss is assumed for impervious areas.
- Based on WSP's geotechnical investigation report, an infiltration rate of 0.5m/day (20.83mm/hr) shall be adopted for design purposes to reflect some seepage.
- Design of spillway has been considered for Basin B and Basin C, allowing overflow of any runoff exceeding the 5% AEP storm event. The spillway level is set to be 300mm below the top of the basin.
- Model outcomes reflect the median event from the hydraulic model.
- Rainfall intensities and temporal patterns are consistent with ARR 2019.
- Mannings 'n' value assumed as follows:
  - 0.025 for open drains
  - 0.014 for concrete culverts
- Culvert energy loss coefficients of 0.5 (entry) and 1.0 (exit).

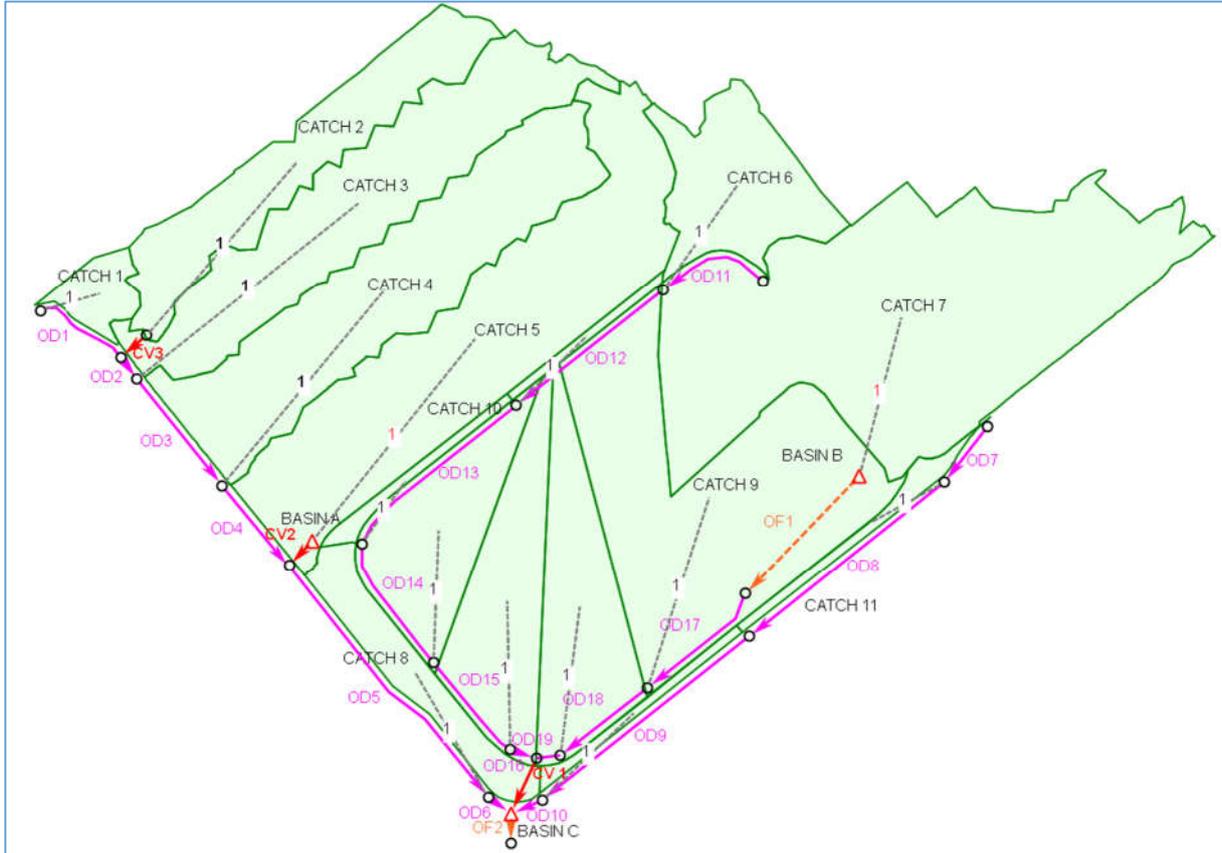


Figure 7: XPStorm Modelling & Analysis

### 3.3. Stormwater Quantity and Model Results

Table 3 to Table 5 provide a summary of the stormwater modelling results from XPStorm for the proposed basins, culverts and open drains at 1 in 20 years ARI storm event.

**Table 3: Basin Modelling Results**

Description	Basin A	Basin B	Basin C
Basin Top Area (m <sup>2</sup> )	930	6487	5929
Basin Base Area (m <sup>2</sup> )	21	5865	3006
Basin Top Lowest Connected Shoulder Level (m AHD)	278.58	278.24	275.55
Basin Base Level (m AHD)	277.71	277.00	271.80
Total Basin Capacity (m <sup>3</sup> )	42.81	727.94	9024.36
Basin TWL (m AHD)	278.09	277.12	273.93
Freeboard to Shoulder Subgrade <sup>1</sup> (m)	0.015 <sup>2</sup>	0.60	1.15
Critical Event	1.5hr	2hr	18hr

<sup>1</sup>Note: Design pavement thickness for access road (by WSP) = 475mm

<sup>2</sup> Short term ponding only – 300mm freeboard to shoulder achieved

**Table 4: Culvert Modelling Results**

Culvert	Description	Type	U/S Shoulder Level (m AHD)	HW Level (m AHD)	Freeboard to shoulder Level (m)	Max Flow (m <sup>3</sup> /s)	Max Velocity (m <sup>3</sup> /s)
CV1	New Culvert Outlet into Basin C	1x600 RCP4	275.89	275.52	0.37	0.47	1.69
CV2	New Culvert Outlet from Basin A	1x450 RCP4	278.57	278.03	0.54	0.138	1.19
CV3	New Culvert Under Access Road Entrance (West)	1x450 RCP4	279.40	278.64	0.76	0.132	1.55



Table 5: Open Drain Modelling Results

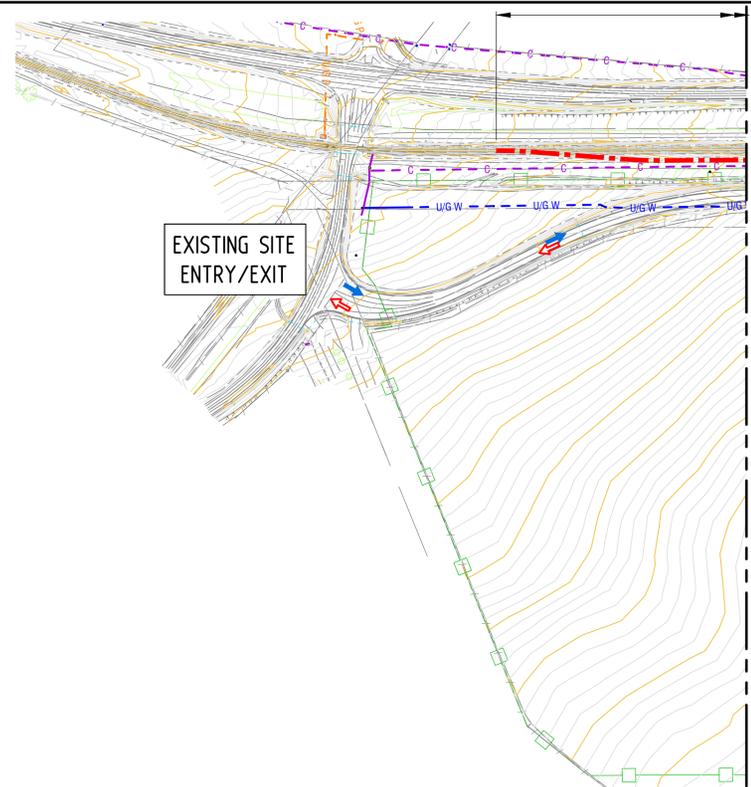
Open Drain	Type	HW Level (m AHD)	Shoulder Level (m AHD)	Freeboard to Shoulder Level (m AHD)	Max Flow (m <sup>3</sup> /s)	Max Velocity (m/s)
OD5	1.0m wide 0.40m (min.) deep Trapezoidal Drain	277.87	278.61	0.74	0.89	1.53
OD6	1.0m wide 0.40m (min.) deep Trapezoidal Drain	274.64	275.74	1.10	0.95	2.06
OD9	1.0m wide 0.40m (min.) deep Trapezoidal Drain	276.53	277.42	0.89	0.02	0.42
OD10	1.0m wide 0.40m (min.) deep Trapezoidal Drain	274.61	275.61	1.00	0.033	0.71
OD13	1.0m wide 0.40m (min.) deep Trapezoidal Drain	279.47	280.28	0.81	0.16	0.99
OD14	1.0m wide 0.40m (min.) deep Trapezoidal Drain	277.72	278.60	0.88	0.18	1.09
OD15	1.0m wide 0.40m (min.) deep Trapezoidal Drain	276.32	277.65	1.33	0.19	0.88
OD16	1.0m wide 0.40m (min.) deep Trapezoidal Drain	275.46	276.32	0.86	0.19	0.65
OD18	1.0m wide 0.40m (min.) deep Trapezoidal Drain	275.90	276.70	0.80	0.13	0.45
OD19	1.0m wide 0.40m (min.) deep Trapezoidal Drain	275.84	275.89	0.05	0.20	0.22



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## Appendix A – CBH Concept Plan

---



EXISTING SITE ENTRY/EXIT

MATCH LINE A - A

### STORAGE CAPACITIES

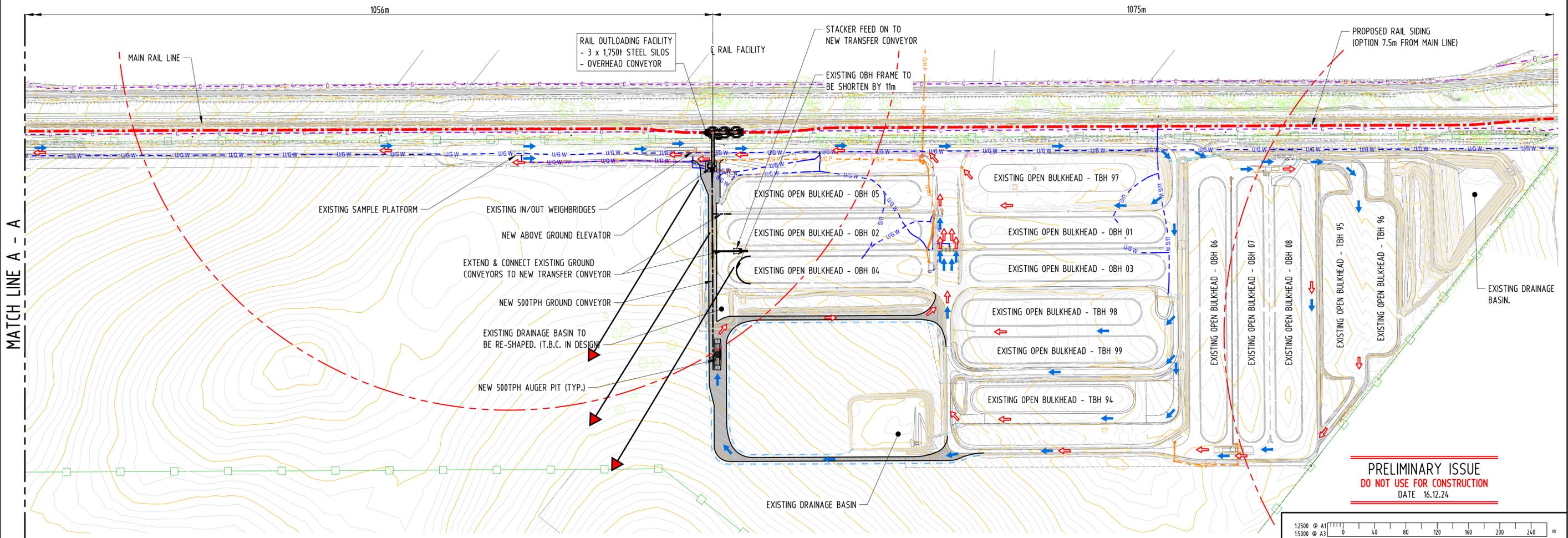
EXISTING STORAGE		
1.6m INT. STEEL FRAMED OPEN BULKHEAD	(01)	30,000 t
1.6m INT. STEEL FRAMED OPEN BULKHEAD	(02)	30,000 t
1.6m INT. STEEL FRAMED OPEN BULKHEAD	(03)	30,000 t
1.6m INT. STEEL FRAMED OPEN BULKHEAD	(04)	30,000 t
LOW STEEL FRAME OPEN BULKHEAD	(05)	25,000 t
1.8m INT. STEEL FRAMED OPEN BULKHEAD	(06)	44,540 t
1.8m INT. STEEL FRAMED OPEN BULKHEAD	(07)	44,540 t
1.8m INT. STEEL FRAMED OPEN BULKHEAD	(08)	44,540 t
1.2m LOW STEEL FRAME OBH (TEMPORARY)	(94)	27,510 t
1.8m INT. STEEL FRAME OBH (TEMPORARY)	(95)	25,545 t
1.8m INT. STEEL FRAME OBH (TEMPORARY)	(96)	24,235 t
1.2m LOW STEEL FRAME OBH (TEMPORARY)	(97)	26,910 t
1.2m LOW STEEL FRAME OBH (TEMPORARY)	(98)	29,250 t
1.2m LOW STEEL FRAME OBH (TEMPORARY)	(99)	27,510 t
TOTAL EXISTING STORAGE		439,580 t
PROPOSED STORAGE		
REDUCE FRAMED OPEN BULKHEAD	(04)	-1,441 t
TOTAL PROPOSED STORAGE		-1,441 t
<b>TOTAL SITE STORAGE</b>		<b>438,139 t</b>

### DRAWING LEGEND

- TRAFFIC MOVEMENTS - TRUCKS FULL
- TRAFFIC MOVEMENTS - TRUCKS EMPTY
- CADASTRAL BOUNDARY
- EPA INDUSTRIAL/SENSITIVE LAND USE SEPARATION DISTANCE - 500m RADIUS
- CBH SITE BOUNDARY
- CBH RAIL LEASE BOUNDARY
- OVERHEAD POWER LINES
- UNDERGROUND POWER CABLES
- UNDERGROUND COMMS CABLES
- UNDERGROUND WATER PIPES
- UNDERGROUND SERVICE UNKNOWN
- MAIN RAIL LINE
- CENTRELINE OF PROPOSED RAIL
- PROPOSED OPEN DRAINS

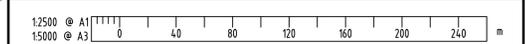
### HATCHING LEGEND

- AREA OF NEW WORKS **10,510m<sup>2</sup>**



MATCH LINE A - A

**PRELIMINARY ISSUE**  
DO NOT USE FOR CONSTRUCTION  
DATE 16.12.24



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**CBH GROUP**  
LEVEL 6  
240 ST GEORGE'S TERRACE  
PERTH W.A. 6000  
PH (08) 9237 9600  
FAX (08) 9322 3942

REV	DATE	REVISION DESCRIPTION	BY	CHK'D	APP'D
C	27.06.25	REVISED & RE-ISSUED FOR REVIEW	JB		
B	16.12.24	ORB POSITION REVISED. RE-ISSUED FOR REVIEW	JB		
A	09.12.24	ISSUED AS CHECK PRINT AND FOR REVIEW	JB		

SCALE	1:2500	DRAWN	J. Butlingham	09.12.24
SHEET	A1	CHECKED		
PROJECT		DESIGNED		
CO-ORDINATE SYSTEM		DESIGN APPR		
		PROJECT APPR		

TITLE	DOWERIN WEST PRE-FEASIBILITY FIXED RAIL LOADING & SITE EXPANSION CONCEPTUAL LAYOUT No. 5		
DRG No.	361-ENG-CI-DCO-0023	SHEET	1 OF 1
REV.	C		

DO NOT SCALE FROM THIS DRAWING



# Environmental Memo on Clearing for Shire of Dowerin.

25 February 2026

## Clearing Overview

The Dowerin Rail Expansion (the Project) will result in clearing of up to 1.29 ha of native vegetation within the 3.24 ha Disturbance Footprint (Figure 1). The remaining 1.95 ha in the Disturbance Footprint is already cleared.

## Vegetation

The Project will result in clearing up to 1.29 ha of native vegetation in the following condition (Figure 1):

- 0.46 ha in Good condition
- 0.54 ha in Degraded condition
- 0.29 ha in Completely Degraded condition.

Three native vegetation communities are mapped within the Disturbance Footprint (Figure 2):

- Mixed Shrubland (MSL)
- Mixed Eucalyptus Woodland (EucW)
- Eucalyptus salmonophloia Woodland (EucaSW).

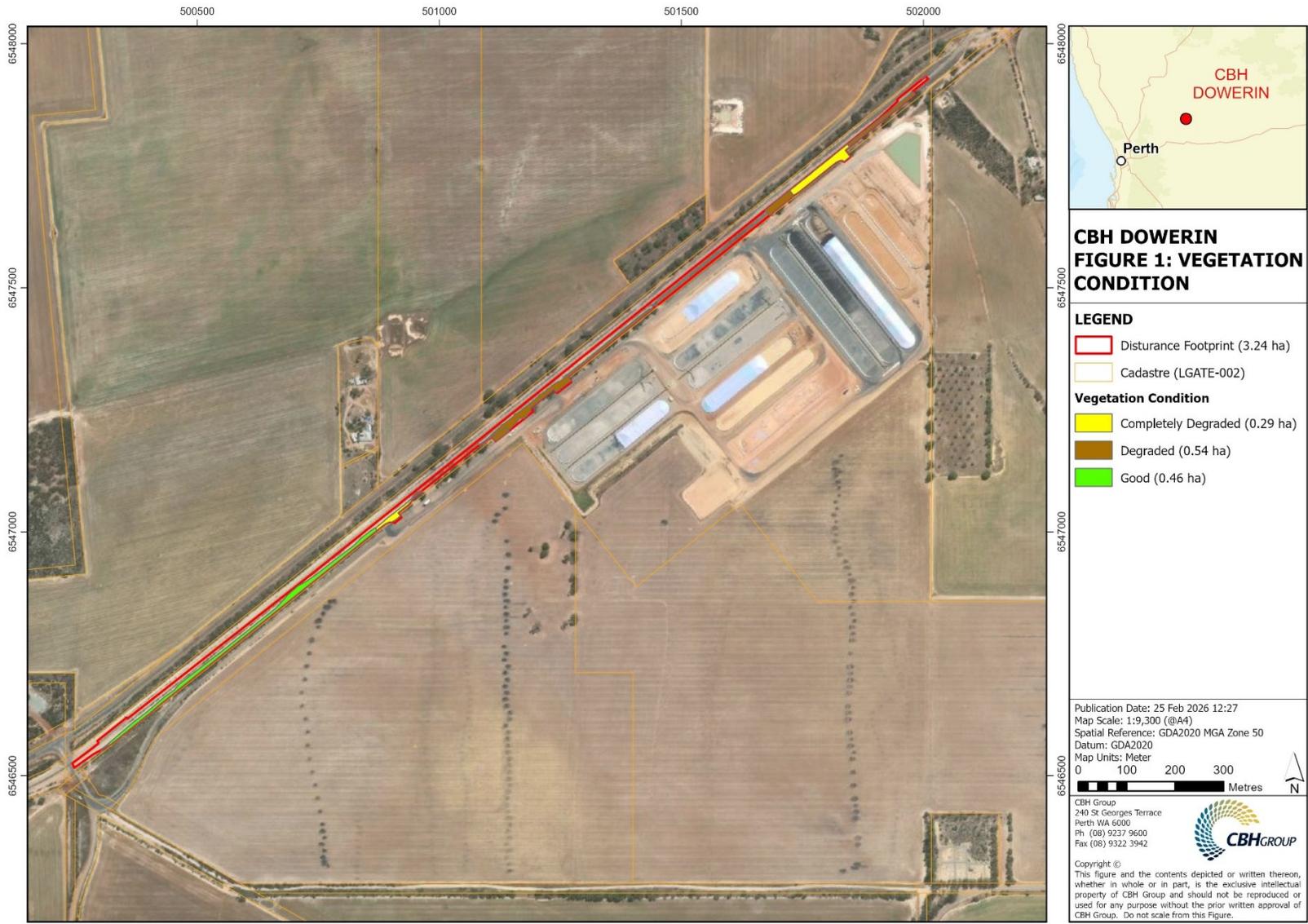
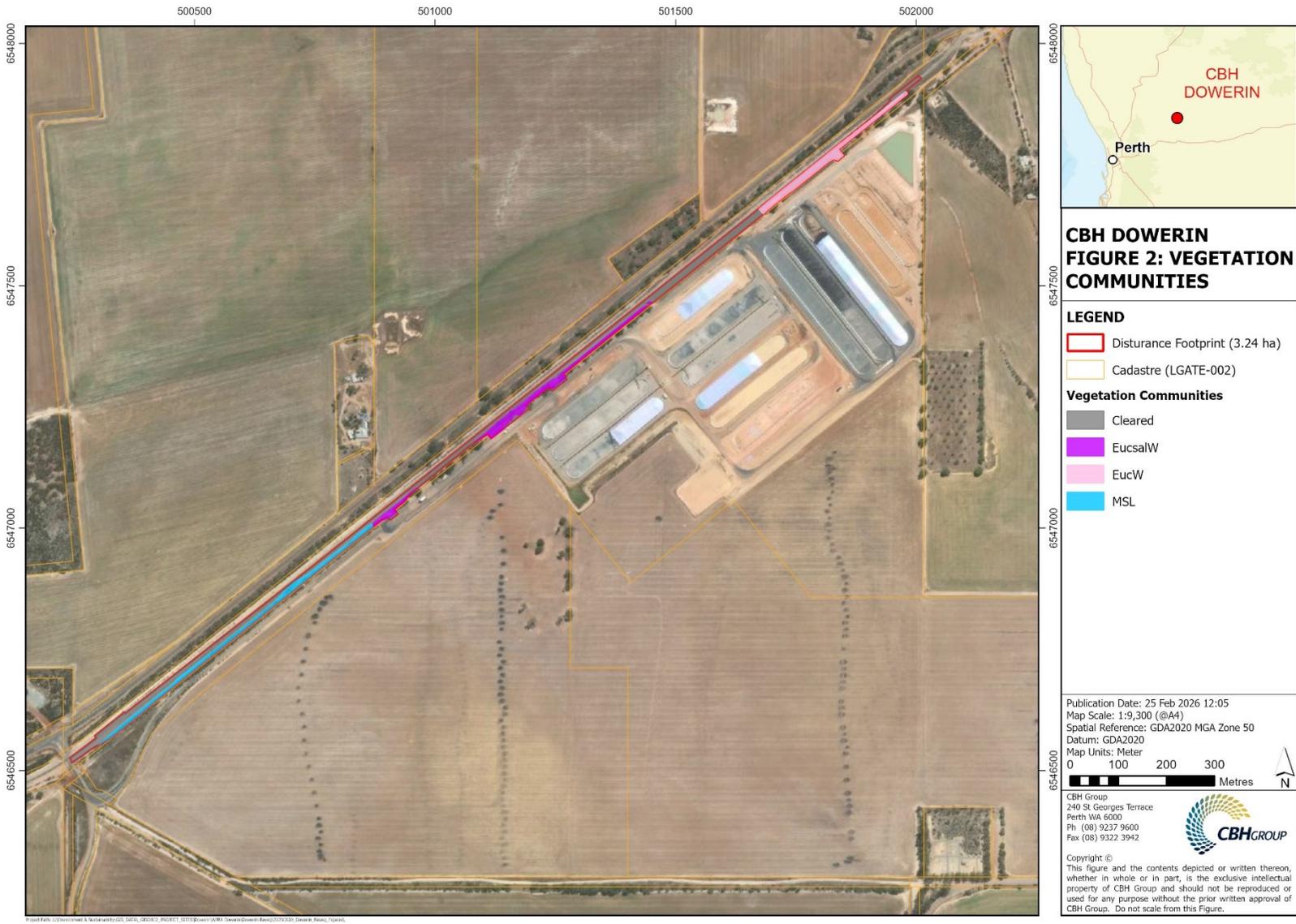


Figure 1: Dowerin vegetation condition



**Figure 2: Dowerin vegetation communities**



28 November 2024

Mr Aaron Lohman  
Principal – Planning and Approvals  
CBH Group  
Level 6, 240 St Georges Tce  
Perth, WA, 6000

Dear Mr Lohman,

**RE: Letter of Authority to Submit Clearing Permit to Department of Water and Environmental Regulation.**

The Public Transport Authority (PTA) is the agency responsible for the land parcel known as 'A Rail Way', land ID 3096684, Irvine Rd, Dowerin, in the Shire of Dowerin.

CBH Group have requested authorisation from the PTA to access and clear native vegetation on 'A Rail Way', for the purposes of constructing the Dowerin Rail Loading Facility.

The PTA authorises the CBH Group to access and clear native vegetation on 'A Rail Way' land parcel, subject to PTA receiving confirmation of either a referral decision that no clearing permit is required or the granting of a clearing permit from the Department of Water and Environmental Regulation.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Michael Parker'.

**Michael Parker**  
**EXECUTIVE DIRECTOR**  
**INFRASTRUCTURE PLANNING & LAND SERVICES**  
Public Transport Authority of Western Australia



Consulting Civil & Traffic  
Engineers, Risk Managers.

PO Box 1271  
East Victoria Park  
WA 6981

P | +61 8 9355 1300  
E | [admin@shawmac.com.au](mailto:admin@shawmac.com.au)

James Taavale  
Lead – Project Delivery  
CBH  
Level 6, 240 St Georges Terrace  
Perth, WA 60004  
via email [james.taavale@cbh.com.au](mailto:james.taavale@cbh.com.au)

Dear James

**Re: Dowerin Fixed Rail Out-loading Project – Traffic Impacts**

Further to recent discussions on the matter, we understand that CBH is proposing to undertake upgrades to the Dowerin grain receival site, consisting of the installation of 3x 1,750t over rail steel silos, fed by extensions to the existing conveyor system, and construction of a new conveyor linked to new in-loading equipment. The project seeks to allow the out-loading of grain activities to move from the existing road haulage to rail. The works will also include ancillary items such as new access roads, hard stand areas and associated drainage infrastructure. Refer to **Figure 2** which shows the general layout of the project.

This letter is provided to outline the traffic impacts associated with the upgrades to support CBH's Development Application to the Shire of Dowerin.

In accordance with WAPC's Transport Impact Guidelines (refer excerpt in **Figure 1**), for individual developments which generate a low traffic impact (<10 vehicle trips during peak hour) a formal transport impact document is not normally required, but a brief description of the proposed development should be provided to confirm the low traffic impacts.

The construction of the proposed upgrades will not generate any additional in-loading traffic during harvest, which is driven only by grower demand. Instead, the project will reduce traffic volumes outside of the harvest period as out-loading activities currently being undertaken by trucks will move to rail. Accordingly, the traffic impacts are low (nil), and a formal transport impact document is not required.

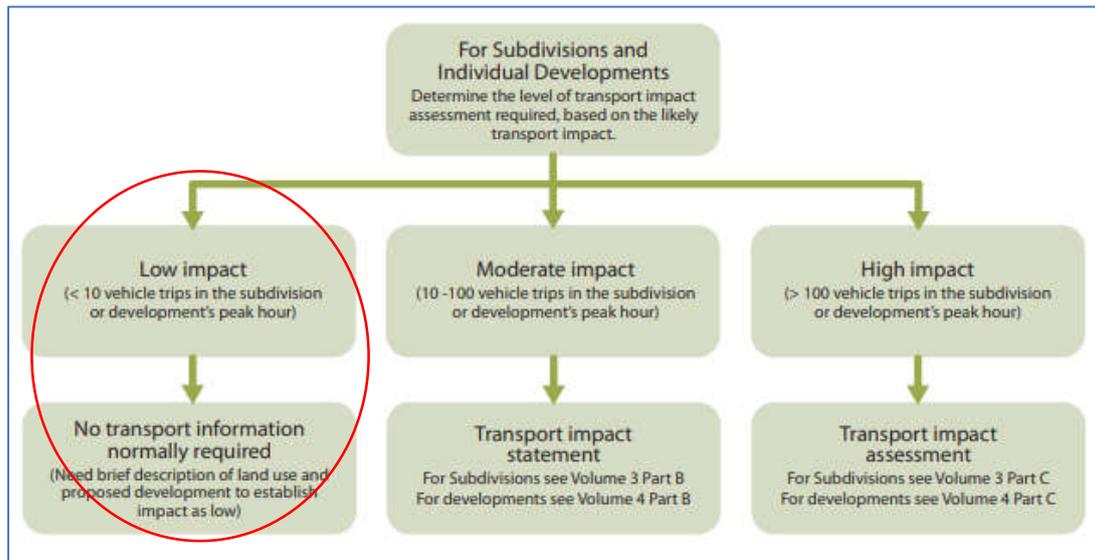


Figure 1: Project Location

I trust this letter addresses your and the Shire's requirements and should you have any queries please do not hesitate to contact the undersigned.

Kind Regards

Ryan Needham

Manager, Civil

25<sup>th</sup> February 2026

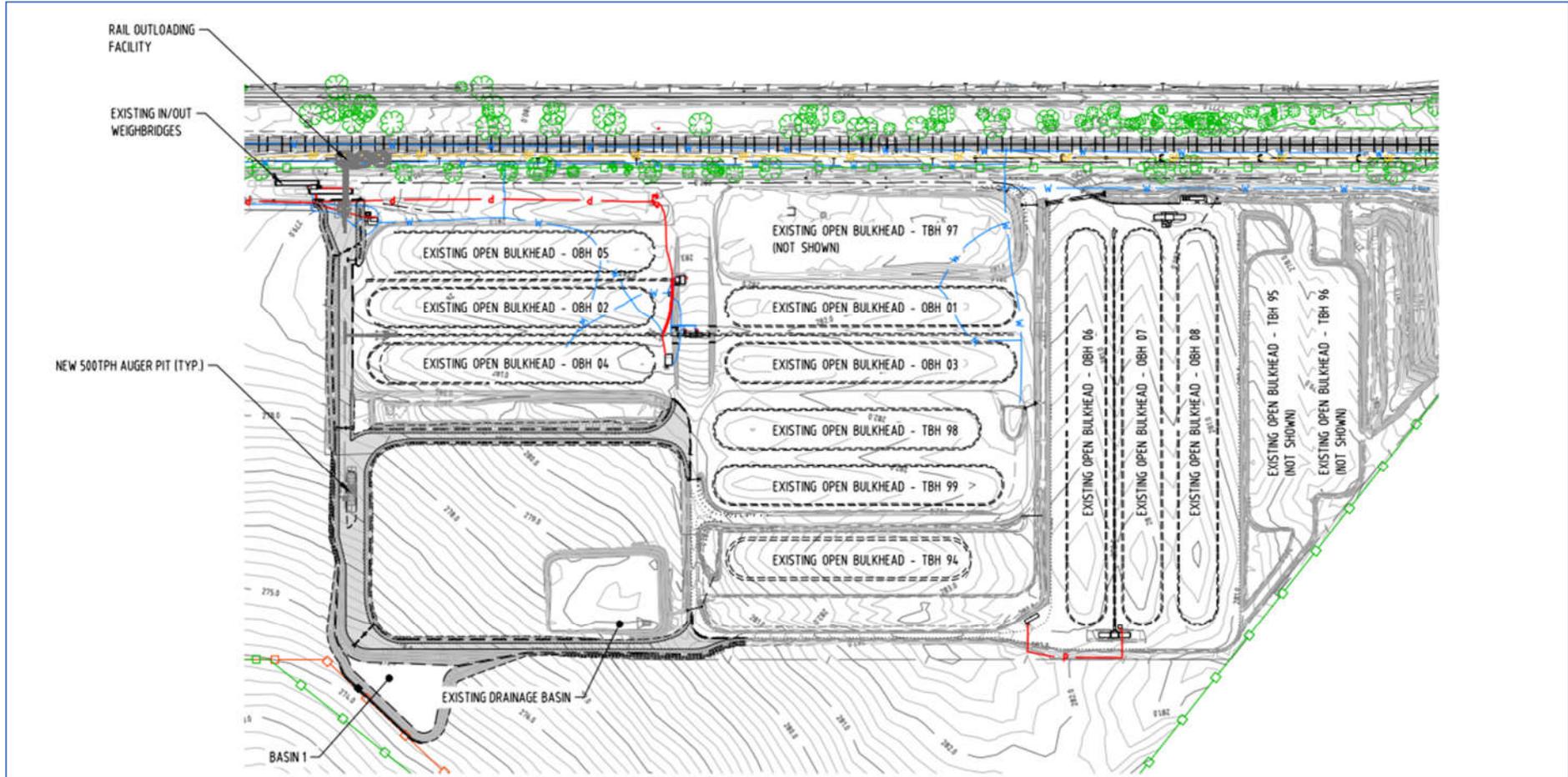
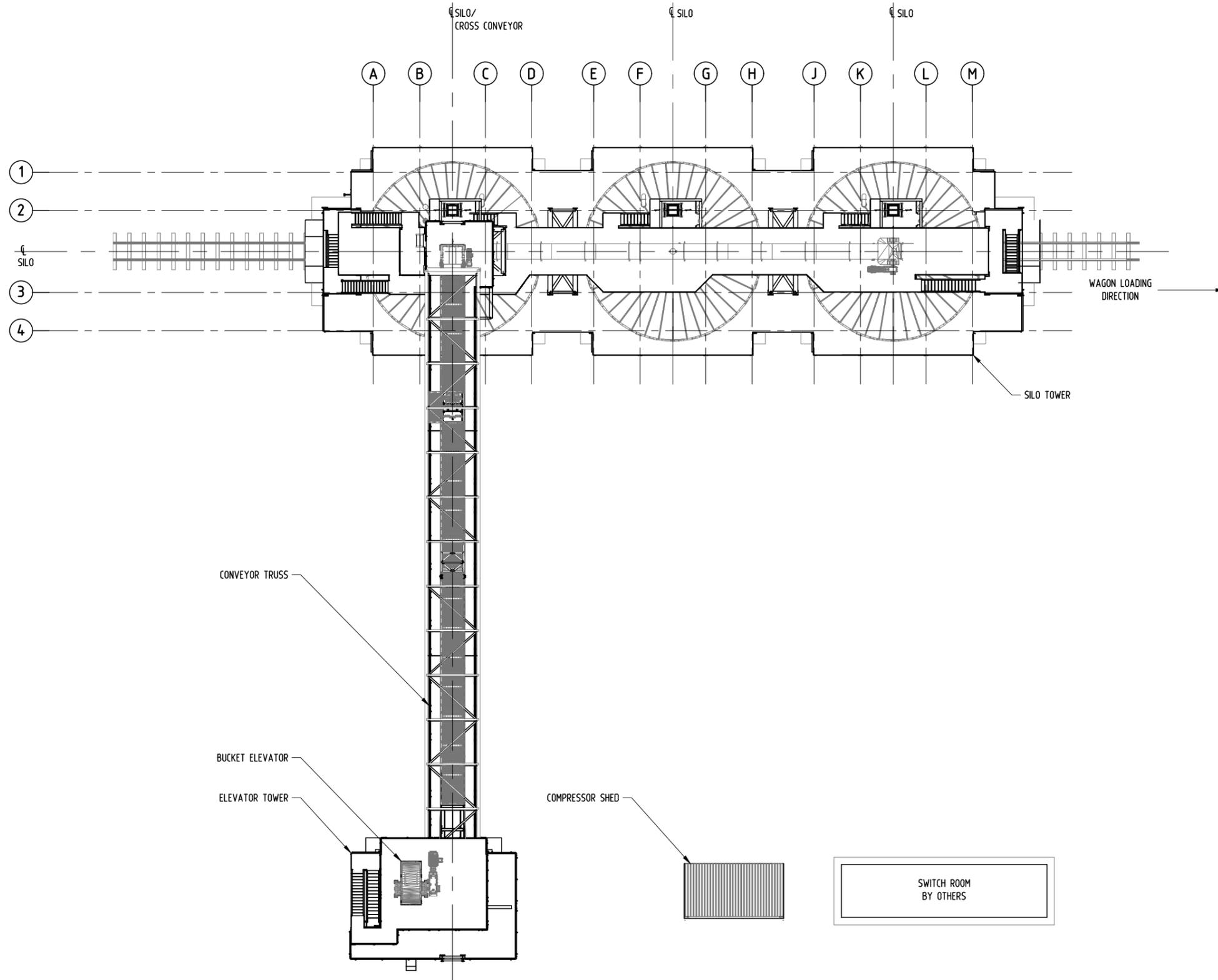
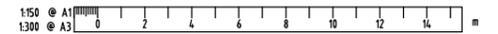


Figure 2: Project Layout



- NOTES:**
1. FOR STEEL MEMBER SIZES REFER TO 3D MODEL (361-3067-MD-MOD-XXX).
  2. ALL STRUCTURAL STEELWORK SHALL HAVE PROTECTIVE COATING SYSTEM PCS IN ACCORDANCE WITH TS 4 TECHNICAL SPECIFICATION - PROJECT MAINTENANCE COATINGS (CBH-ENG-GN-SST-0002).
  3. HANDRAILS, KICKPLATES, GUARDING AND LIFTING / MAINTENANCE LUGS SHALL BE HOT DIP GALVANISED AND THEN COATING SYSTEM PCB.
  4. PILES ARE SHOWN INDICATIVELY FOR PLANNING AND PRICING PURPOSES ONLY. DETAILED PILE DESIGN TO BE CARRIED OUT AND DOCUMENTED BY PILING CONTRACTOR.
  5. ALL WALKWAYS SHALL HAVE WEBFORGE F205MPG FLOOR GRATING.
  6. ALL STAIR TREADS SHALL HAVE WEBFORGE F325MPG FLOOR GRATING.
  7. ALL PLATFORMS SHALL HAVE WEBFORGE F325MPG FLOOR GRATING.

**PLAN**



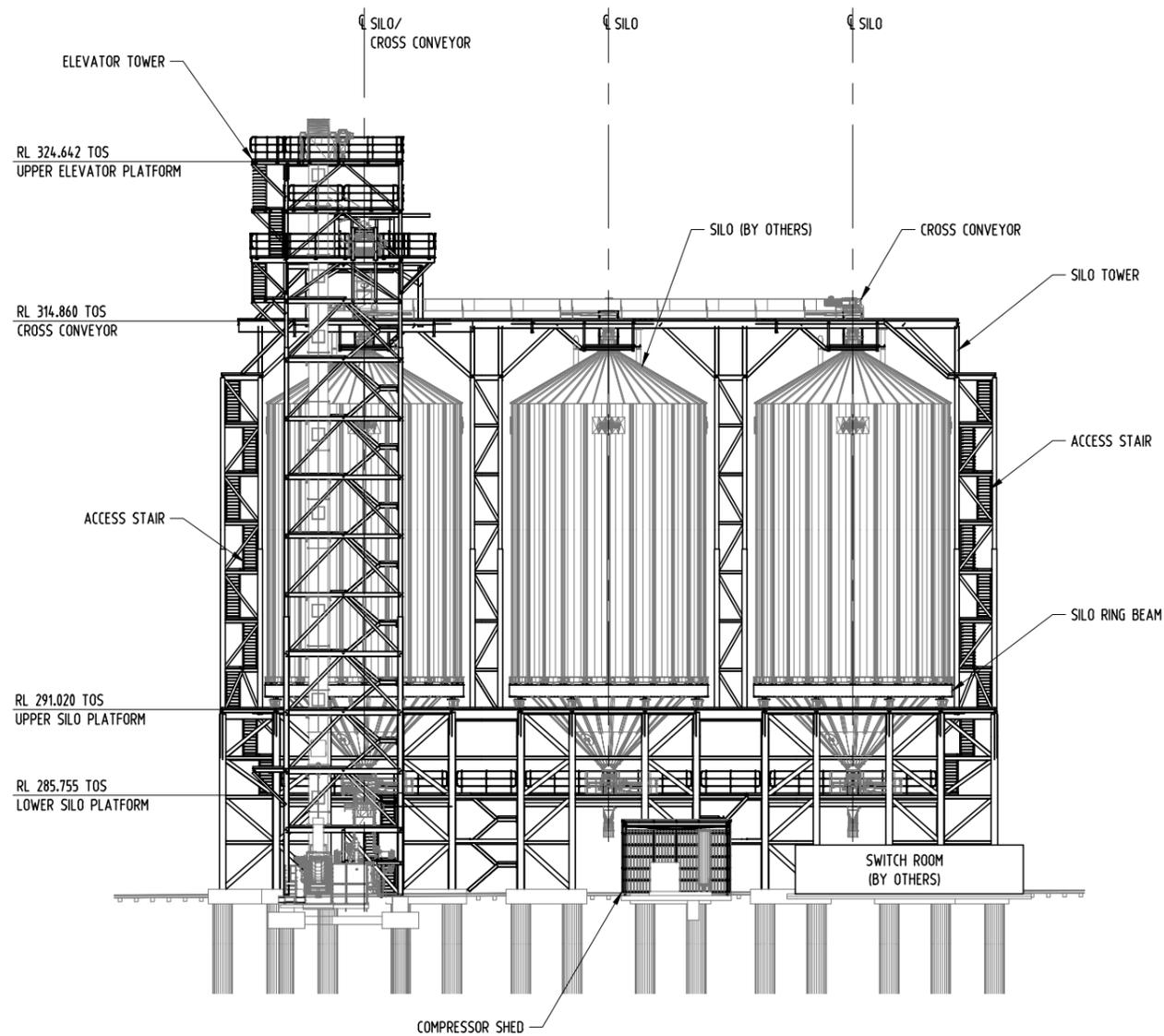
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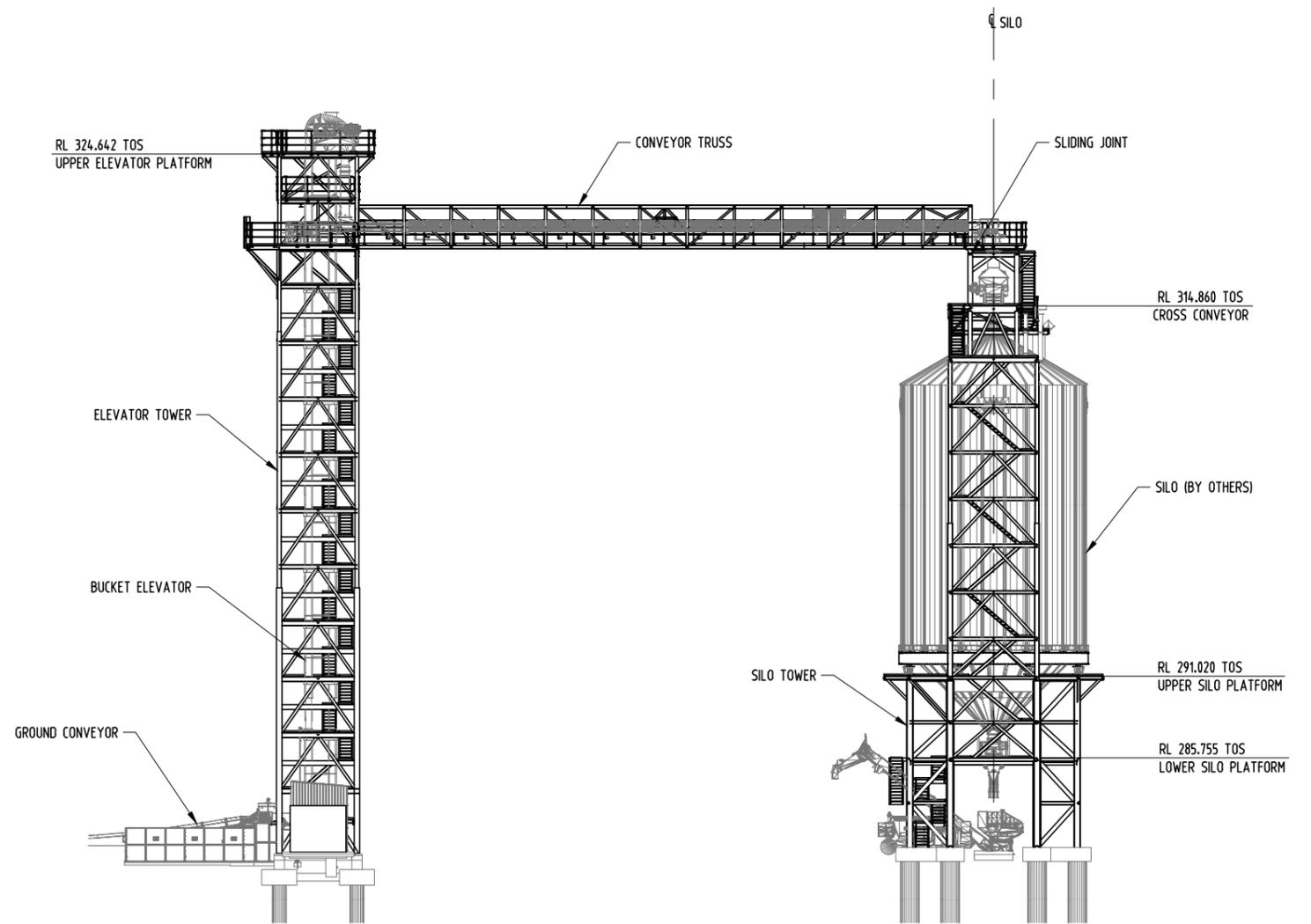
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								SHEET A1					
								PROJECT M-3067					
								CONTRACT No					

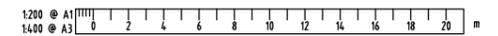
DRG No	TITLE	SHEET	REV.
361-ENG-ST-DAL-0001	DOWERIN FIXED RAIL LOADING SITE LAYOUT	1 OF 1	A



**ELEVATION**



**SIDE ELEVATION**

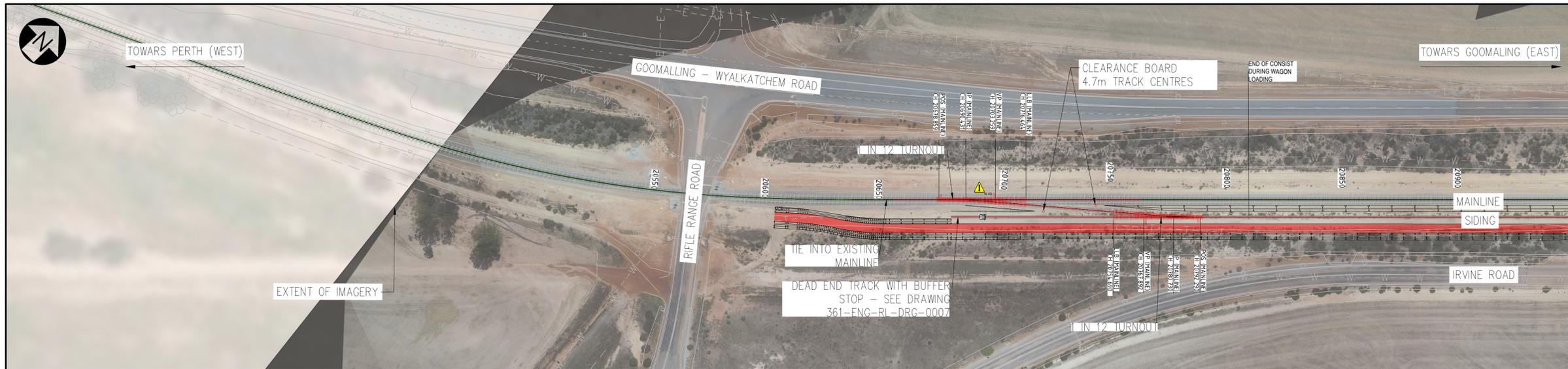


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REF DRAWING No.	REFERENCE DRAWING TITLE	REV	DATE	REVISION DESCRIPTION	BY	CHKD	APP'D	SCALE	DRAWN	CHECKED	DESIGNED	DESIGN APPR	PROJECT APPR
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								SHEET A1					
								PROJECT M-3067					
								CONTRACT No					

TITLE	DOWERIN FIXED RAIL LOADING ELEVATIONS
DRG No	361-ENG-ST-DEL-0001
SHEET	1 OF 1
REV.	A



CIVIL LEGEND	
	EXISTING RAIL LINE
	PROPOSED RAIL LINE
	PROPOSED TURNOUT
	PROPOSED MAINTENANCE ACCESS TRACK

LONGITUDINAL PROFILE LEGEND	
	TOP OF SIDING RAIL AT CENTRELINE
	TOP OF EXISTING MAINLINE RAIL AT CENTRELINE
	TOP OF SURFACE AT CENTRELINE

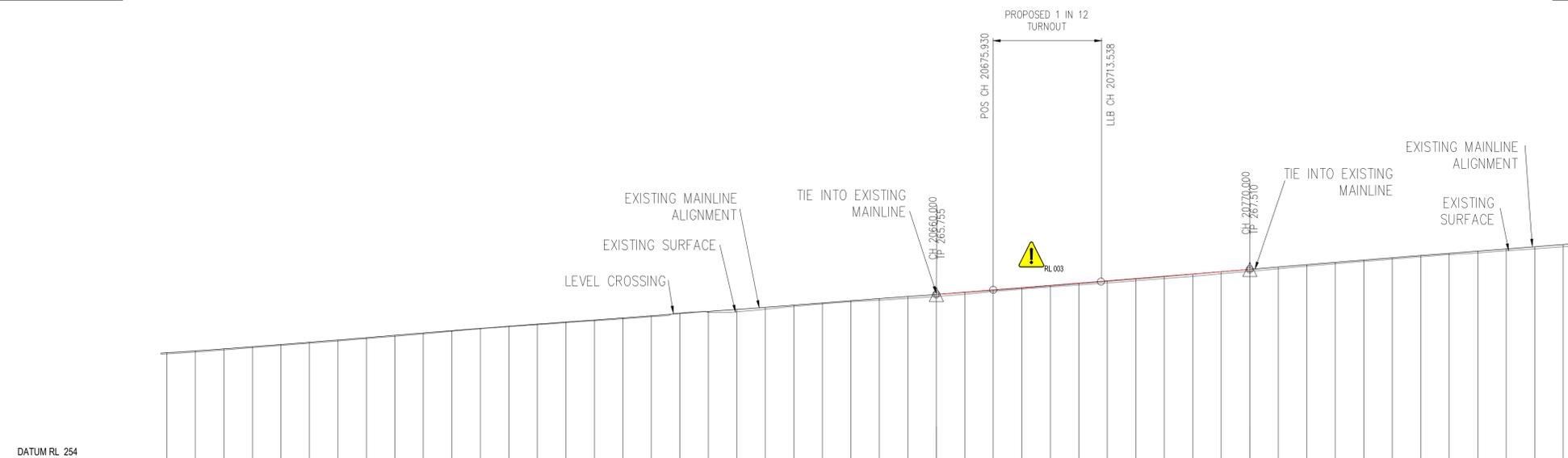
- GENERAL NOTES**
- ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
  - AUSTRALIAN HEIGHT DATUM (AHD)
  - COORDINATE REFERENCE SYSTEM MGA2020
  - RAILWAY GAUGE SHALL BE 1067MM WITH 60KG RAILS
  - NEW EARTHWORKS SECTION BETWEEN THE MAINLINE AND SIDING SHALL BE COMPACTED AND LIME STABILISED TO ARC STANDARDS BEFORE LAYING DOWN BALLAST
  - EXISTING MAINLINE SURFACE DRAINAGE SHALL BE LEFT AS IS.

SURVEY	
COORDINATE REFERENCE SYSTEM	MGA2020
HEIGHT DATUM	AUSTRALIAN HEIGHT DATUM (AHD)
SCALE FACTOR	THE DESIGN COORDINATES ARE SHOWN IN GRID DISTANCES

RISK IDENTIFICATION	
	VERTICAL GRADIENT EXCEEDS 1.5%

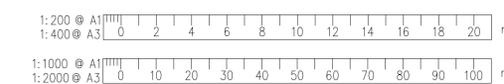
PLAN 1:1000

TOWARDS PERTH (WEST) ←      → TOWARDS GOOMALING (EAST)



VERTICAL GRADES	
HORIZONTAL ALIGNMENT	CL=80.036      R=550.244 L=107.570      CL=80.036      P=1.596% L=110.000
TRACK SLEW (-RIGHT/+LEFT)	EXISTING MAINLINE DESIGN LEVELS
TRACK LIFT (-LOWER/+HIGHER)	EXISTING MAINLINE DESIGN LEVELS
LOW LEG DESIGN	EXISTING MAINLINE DESIGN LEVELS
TOP OF RAIL AT CL	EXISTING MAINLINE DESIGN LEVELS
TOP OF EXISTING SURFACE LEVEL AT CL	EXISTING MAINLINE DESIGN LEVELS
TOP OF RAIL AT CL TO TOP OF SURFACE	EXISTING MAINLINE DESIGN LEVELS
CHAINAGE	20390 20400 20410 20420 20430 20440 20450 20460 20470 20480 20490 20500 20510 20520 20530 20540 20550 20560 20570 20580 20590 20600 20610 20620 20630 20640 20650 20660 20670 20680 20690 20700 20710 20720 20730 20740 20750 20760 20770 20780 20790 20800 20810 20820 20830 20840 20850 20860 20870 20880

DESIGN TOR - LONGITUDINAL SECTION  
A1 HORIZ SCALE 1:1000  
A1 VERT SCALE 1:200



ISSUED FOR INFORMATION

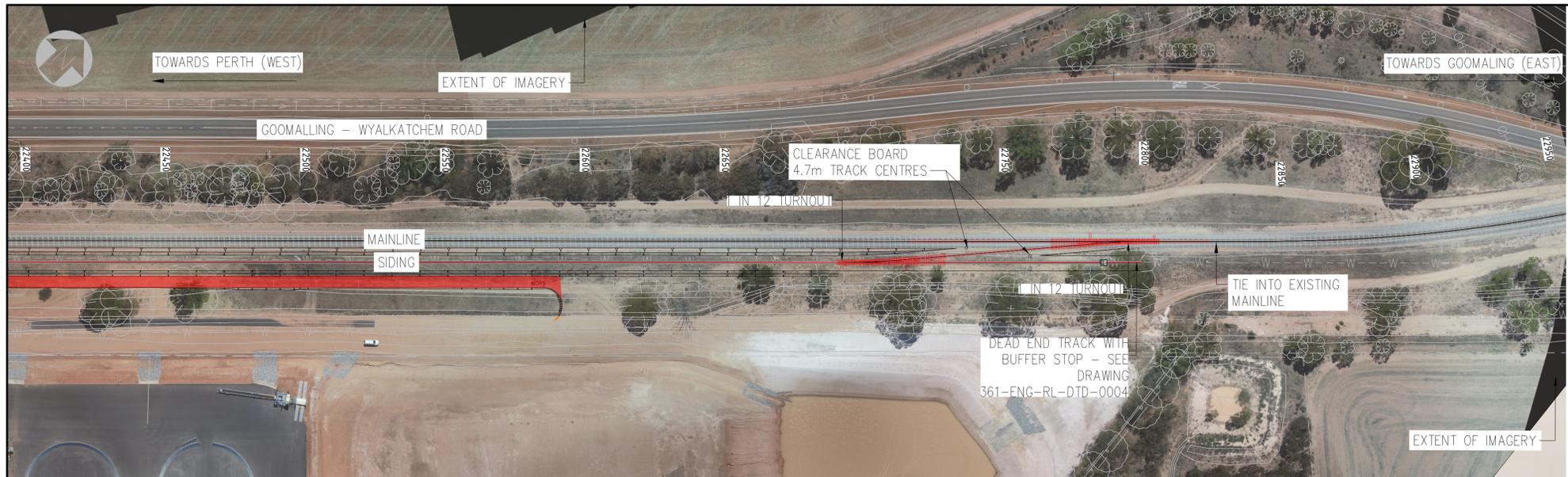
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REF DRAWING No.	REFERENCE DRAWING TITLE	REV	DATE	REVISION DESCRIPTION	BY	CHK'D	APP'D
B	01/08/25	ISSUED FOR 60% DESIGN REVIEW			W.D	A.C	J.B
A	21.06.24	30% DESIGN FOR REVIEW			W.D	A.C	MC

SCALE	DRAWN	DATE
AS SHOWN	S.DOWDELL	01/08/25
SHEET A1	A.CICHUTA	01/08/25
DESIGNED	W.DAI	01/08/25
DESIGN APPR	A.CICHUTA	01/08/25
PROJECT APPR	J.BARNES	01/08/25

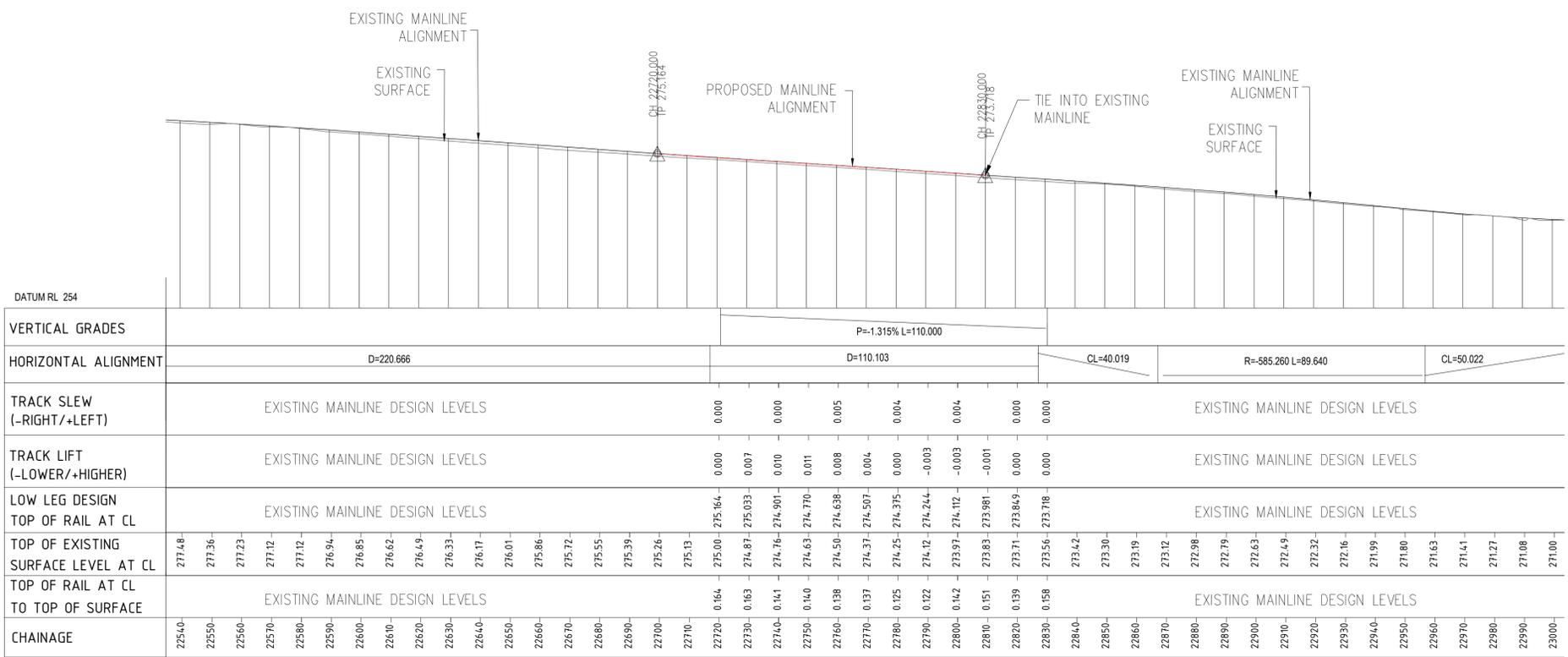
TITLE	DRG No	SHEET	REV
CBH DOWERIN CIVIL & TRACK DESIGN EXISTING PLAN AND PROFILE CHAINAGE 20388 - 20880	361-ENG-RL-DPP-0001	1 OF 2	B



PLAN  
1:1000

TOWARDS PERTH (WEST)

TOWARDS GOOMALING (EAST)



DESIGN TOR - LONGITUDINAL SECTION  
A1 HORIZ SCALE 1:1000  
A1 VERT SCALE 1:200

**CIVIL LEGEND**

- EXISTING RAIL LINE
- PROPOSED RAIL LINE
- PROPOSED TURNOUT
- PROPOSED MAINTENANCE ACCESS TRACK

**LONGITUDINAL PROFILE LEGEND**

- TOP OF SIDING RAIL AT CENTRELINE
- TOP OF EXISTING MAINLINE RAIL AT CENTRELINE
- TOP OF SURFACE AT CENTRELINE

**GENERAL NOTES**

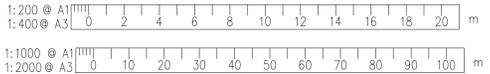
- ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
- AUSTRALIAN HEIGHT DATUM (AHD)
- COORDINATE REFERENCE SYSTEM MGA2020
- RAILWAY GAUGE SHALL BE 1067MM WITH 60KG RAILS
- NEW EARTHWORKS SECTION BETWEEN THE MAINLINE AND SIDING SHALL BE COMPACTED AND LIME STABILISED TO ARC STANDARDS BEFORE LAYING DOWN BALLAST
- EXISTING MAINLINE SURFACE DRAINAGE SHALL BE LEFT AS IS.

**SURVEY**

COORDINATE REFERENCE SYSTEM: MGA2020  
HEIGHT DATUM: AUSTRALIAN HEIGHT DATUM (AHD)  
SCALE FACTOR: THE DESIGN COORDINATES ARE SHOWN IN GRID DISTANCES

**RISK IDENTIFICATION**

! RISK 003 VERTICAL GRADIENT EXCEEDS 1.5%



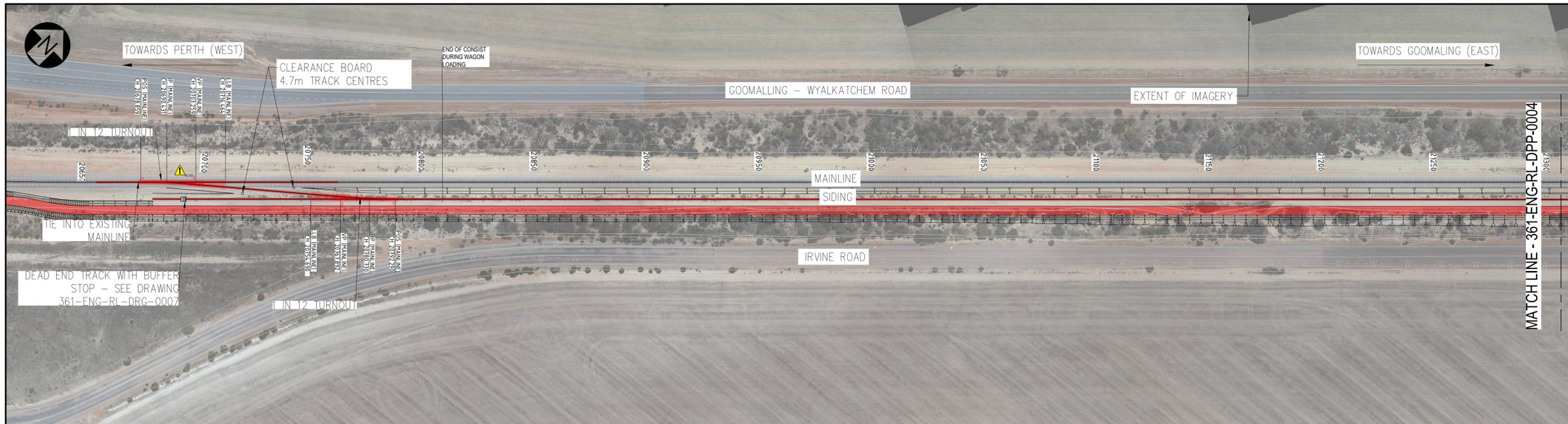
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REF DRAWING No.	REFERENCE DRAWING TITLE	REV	DATE	REVISION DESCRIPTION	BY	CHK'D	APP'D
B	01/08/25	ISSUED FOR 60% DESIGN REVIEW			W.D	A.C	J.B
A	21.06.24	30% DESIGN FOR REVIEW			WD	AC	MC

SCALE	AS SHOWN	DRAWN	S.DOWDELL	01/08/25	TITLE
SHEET	A1	CHECKED	A.CICHUTA	01/08/25	CBH DOWERIN CIVIL & TRACK DESIGN
PROJECT		DESIGNED	W.DAI	01/08/25	EXISTING PLAN & PROFILE
CONTRACT No.		DESIGN APPR	A.CICHUTA	01/08/25	CHAINAGE 22540 - 23000
PROJECT APPR		J.BARNES	01/08/25	DRG No.	361-ENG-RL-DPP-0002



### CIVIL LEGEND

- EXISTING RAIL LINE
- PROPOSED RAIL LINE
- PROPOSED TURNOUT
- PROPOSED MAINTENANCE ACCESS TRACK

### LONGITUDINAL PROFILE LEGEND

- TOP OF SIDING RAIL AT CENTRELINE
- TOP OF EXISTING MAINLINE RAIL AT CENTRELINE
- TOP OF SURFACE AT CENTRELINE

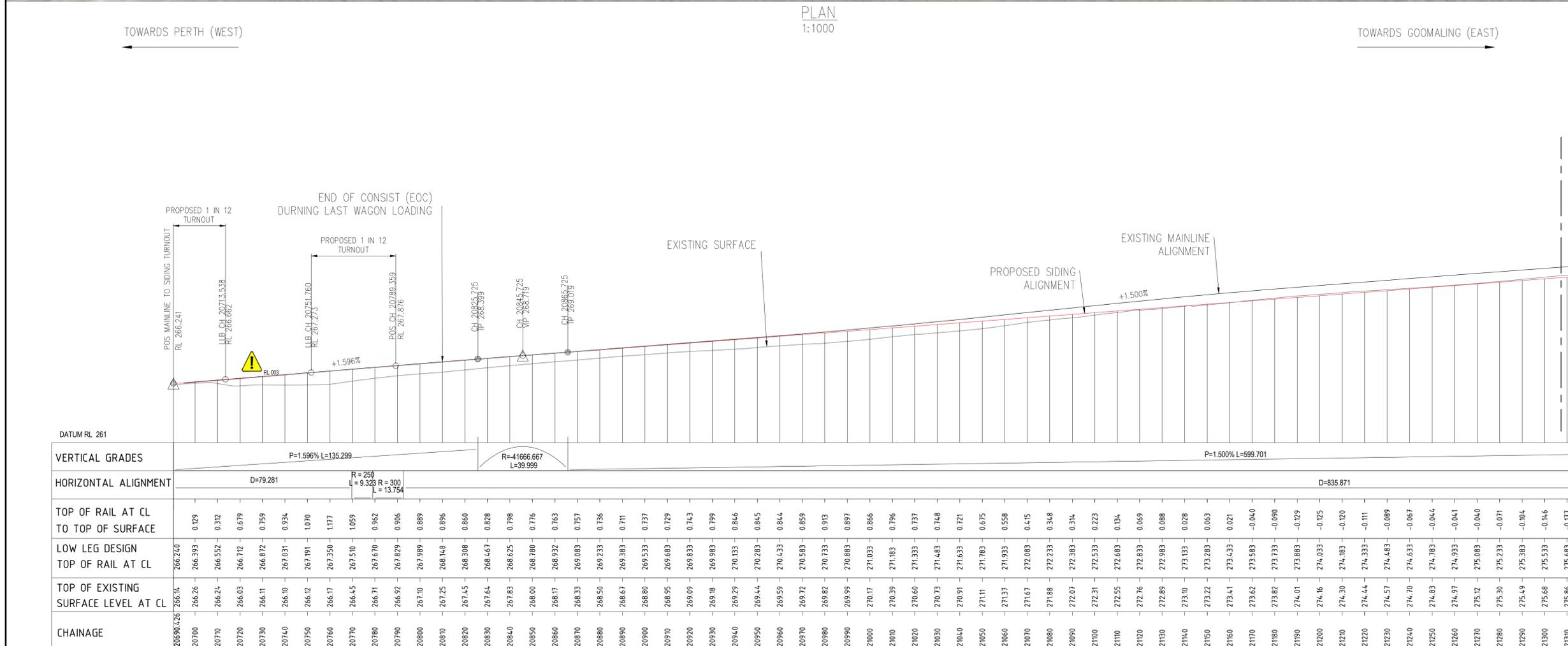
- ### GENERAL NOTES
- ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
  - AUSTRALIAN HEIGHT DATUM (AHD) COORDINATE REFERENCE SYSTEM MGA2020
  - RAILWAY GAUGE SHALL BE 1067MM WITH 60KG RAILS
  - NEW EARTHWORKS SECTION BETWEEN THE MAINLINE AND SIDING SHALL BE COMPACTED AND LIME STABILISED TO ARC STANDARDS BEFORE LAYING DOWN BALLAST
  - EXISTING MAINLINE SURFACE DRAINAGE SHALL BE LEFT AS IS.

### SURVEY

COORDINATE REFERENCE SYSTEM	MGA2020
HEIGHT DATUM	AUSTRALIAN HEIGHT DATUM (AHD)
SCALE FACTOR	THE DESIGN COORDINATES ARE SHOWN IN GRID DISTANCES

### RISK IDENTIFICATION

**RL003** VERTICAL GRADIENT EXCEEDS 1.5%



DESIGN TOR - LONGITUDINAL SECTION  
 A1 HORIZ SCALE 1:1000  
 A1 VERT SCALE 1:200

ISSUED FOR INFORMATION

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SCALE	AS SHOWN	DRAWN	S.DOWDELL	01/08/25
SHEET	A1	CHECKED	A.CICHUTA	01/08/25
PROJECT	B 01/08/25 ISSUED FOR 60% DESIGN REVIEW	DESIGNED	W.DAI	01/08/25
	A 21.06.24 30% DESIGN FOR REVIEW	DESIGN APPR	A.CICHUTA	01/08/25
REF DRAWING No.	REFERENCE DRAWING TITLE	PROJECT APPR	J.BARNES	01/08/25

TITLE	CBH DOWERIN CIVIL & TRACK DESIGN PROPOSED PLAN AND PROFILE CHAINAGE 20690 - 21307
DRG No.	361-ENG-RL-DPP-0003
SHEET	1 OF 4
REV	B





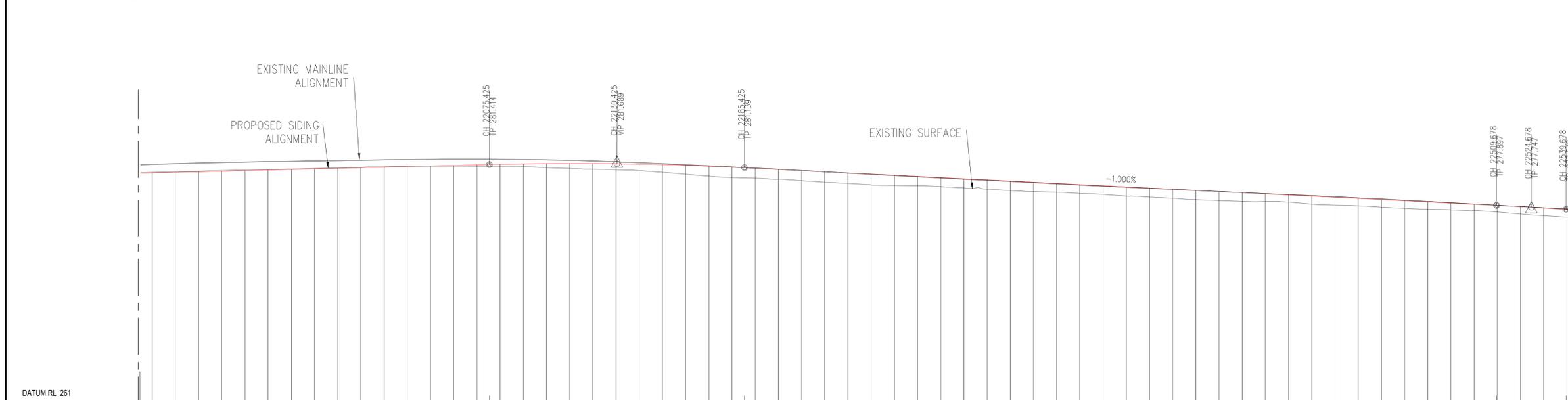
CIVIL LEGEND	
	EXISTING RAIL LINE
	PROPOSED RAIL LINE
	PROPOSED TURNOUT
	PROPOSED MAINTENANCE ACCESS TRACK

LONGITUDINAL PROFILE LEGEND	
	TOP OF SIDING RAIL AT CENTRELINE
	TOP OF EXISTING MAINLINE RAIL AT CENTRELINE
	TOP OF SURFACE AT CENTRELINE

GENERAL NOTES	
1.	ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
2.	AUSTRALIAN HEIGHT DATUM (AHD)
3.	COORDINATE REFERENCE SYSTEM MGA2020
4.	RAILWAY GAUGE SHALL BE 1067MM WITH 60KG RAILS
5.	NEW EARTHWORKS SECTION BETWEEN THE MAINLINE AND SIDING SHALL BE COMPACTED AND LIME STABILISED TO ARC STANDARDS BEFORE LAYING DOWN BALLAST
6.	EXISTING MAINLINE SURFACE DRAINAGE SHALL BE LEFT AS IS.

PLAN 1:1000

TOWARDS PERTH (WEST) ←      → TOWARDS GOOMALING (EAST)



SURVEY	
COORDINATE REFERENCE SYSTEM	MGA2020
HEIGHT DATUM	AUSTRALIAN HEIGHT DATUM (AHD)
SCALE FACTOR	THE DESIGN COORDINATES ARE SHOWN IN GRID DISTANCES

VERTICAL GRADES	R=7333.333 L=110.000		P=-1.000% L=324.253		R=9523.809 L=30.000																																																									
HORIZONTAL ALIGNMENT	D=799.047																																																													
TOP OF RAIL AT CL TO TOP OF SURFACE	-0.058	-0.061	-0.057	-0.064	-0.071	-0.060	-0.045	-0.046	-0.046	-0.045	-0.073	-0.038	0.001	0.069	0.141	0.189	0.249	0.350	0.426	0.485	0.519	0.563	0.659	0.769	0.867	0.898	0.901	0.926	0.883	0.810	0.782	0.800	0.802	0.817	0.814	0.755	0.766	0.752	0.795	0.779	0.782	0.803	0.779	0.749	0.665	0.646	0.651	0.629	0.575	0.530	0.569	0.634	0.666	0.667								
LOW LEG DESIGN TOP OF RAIL AT CL	280.687	280.737	280.787	280.837	280.887	280.937	280.987	281.037	281.087	281.137	281.187	281.237	281.287	281.337	281.387	281.436	281.472	281.496	281.505	281.501	281.484	281.453	281.408	281.349	281.277	281.191	281.093	280.993	280.893	280.793	280.693	280.593	280.493	280.393	280.293	280.193	280.093	279.993	279.893	279.793	279.693	279.593	279.493	279.393	279.293	279.193	279.093	278.993	278.893	278.793	278.693	278.593	278.493	278.393	278.293	278.193	278.093	277.993	277.893	277.788	277.672	277.545
TOP OF EXISTING SURFACE LEVEL AT CL	280.74	280.80	280.84	280.90	280.96	281.00	281.03	281.08	281.13	281.18	281.26	281.27	281.29	281.27	281.25	281.25	281.22	281.15	281.08	281.02	280.96	280.89	280.75	280.58	280.41	280.30	280.24	280.16	280.03	279.90	279.79	279.67	279.51	279.38	279.29	279.18	279.08	279.04	278.93	278.84	278.70	278.61	278.51	278.39	278.31	278.24	278.23	278.19	278.01	277.92	277.86	277.75	277.64	277.56	277.52	277.46	277.32	277.15	277.01	276.88		
CHAINAGE	21930	21940	21950	21960	21970	21980	21990	22000	22010	22020	22030	22040	22050	22060	22070	22080	22090	22100	22110	22120	22130	22140	22150	22160	22170	22180	22190	22200	22210	22220	22230	22240	22250	22260	22270	22280	22290	22300	22310	22320	22330	22340	22350	22360	22370	22380	22390	22400	22410	22420	22430	22440	22450	22460	22470	22480	22490	22500	22510	22520	22530	22540

RISK IDENTIFICATION	
	VERTICAL GRADIENT EXCEEDS 1.5%

DESIGN TOR - LONGITUDINAL SECTION

A1 HORIZ SCALE 1:1000

A1 VERT SCALE 1:200

ISSUED FOR INFORMATION

DO NOT SCALE FROM THIS DRAWING



REF DRAWING No.	REFERENCE DRAWING TITLE	REV	DATE	REVISION DESCRIPTION	BY	CHK'D	APP'D
		B	01/08/25	ISSUED FOR 60% DESIGN REVIEW	W.D	A.C	J.B
		A	21.06.24	30% DESIGN FOR REVIEW	W.D	A.C	MC

SCALE	DRAWN	CHECKED	DESIGNED	DESIGN APPR	PROJECT APPR
AS SHOWN	S.DOWDELL	A.CICHUTA	W.DAI	A.CICHUTA	J.BARNES

TITLE	DRG No.	SHEET	REV
CBH DOWERIN CIVIL & TRACK DESIGN PROPOSED PLAN AND PROFILE CHAINAGE 21926 - 22547	361-ENG-RL-DPP-0005	3 OF 4	B



PART 2 - Rail Facility and Siding

**PART 2 - Rail Facility & Siding**  
1. Installation of Over-Rail Bin (ORB) Outloading Facility.  
2. Installation of rail siding.  
  
Note this scope is subject to NVCP approval from DWER.

New transformer & RMU.

Existing conveyor (GC01) for upgrade

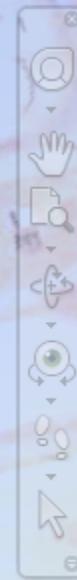
Existing conveyor (GC02) for upgrade

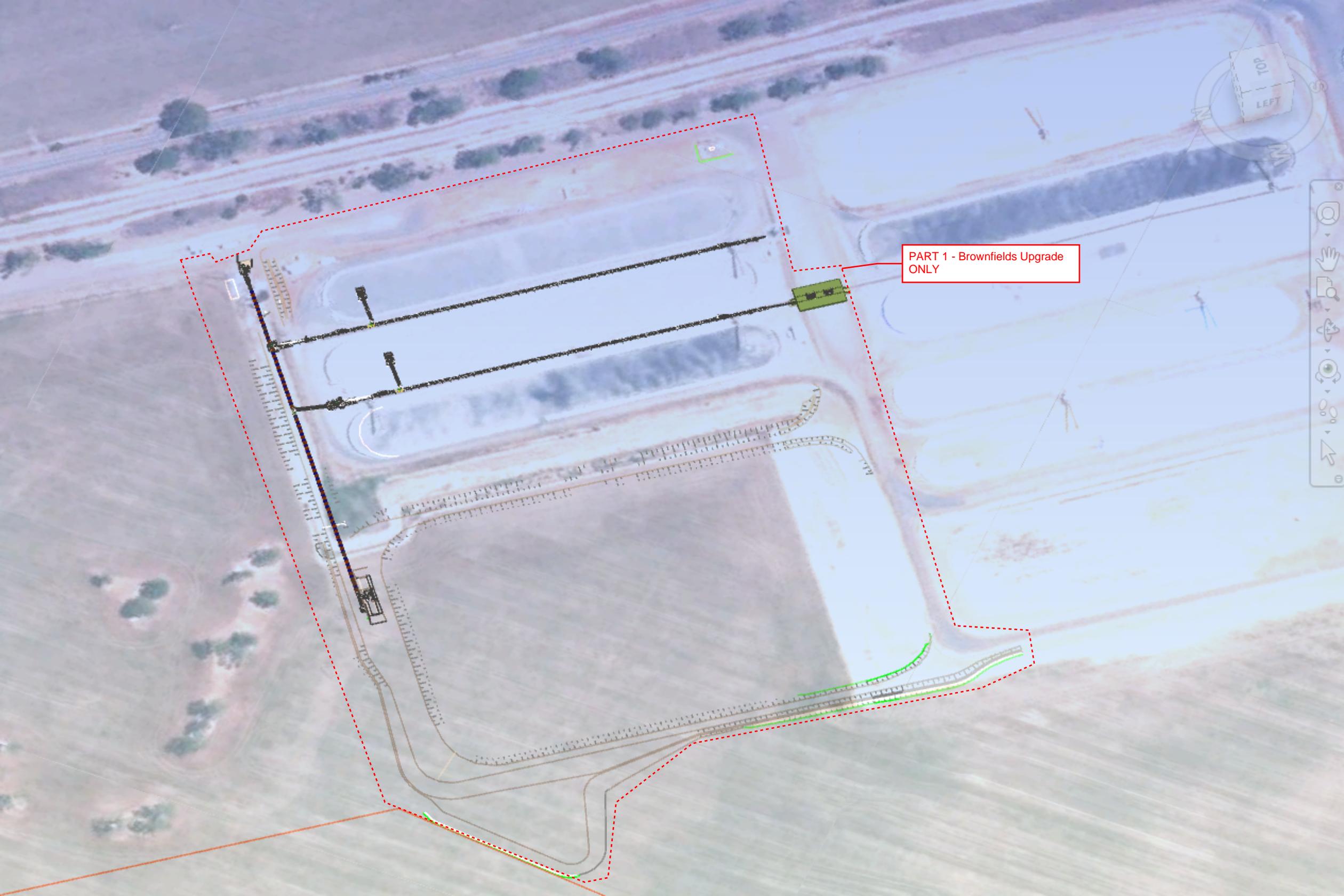
New conveyor (GC06) for installation.

New auger pit for installation.

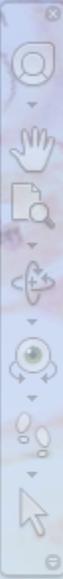
PART 1 - Brownfields Upgrade

**PART 1 - Brownfields Upgrade Scope**  
1. All civils and drainage works to improve traffic management towards new auger pit.  
2. Upgrade of existing conveyors (GC01 & GC02).  
3. Installation of new conveyor GC06.  
4. Trenching and conduit installation prior to Western Power mobilisation.  
5. Placement of required HV equipment.

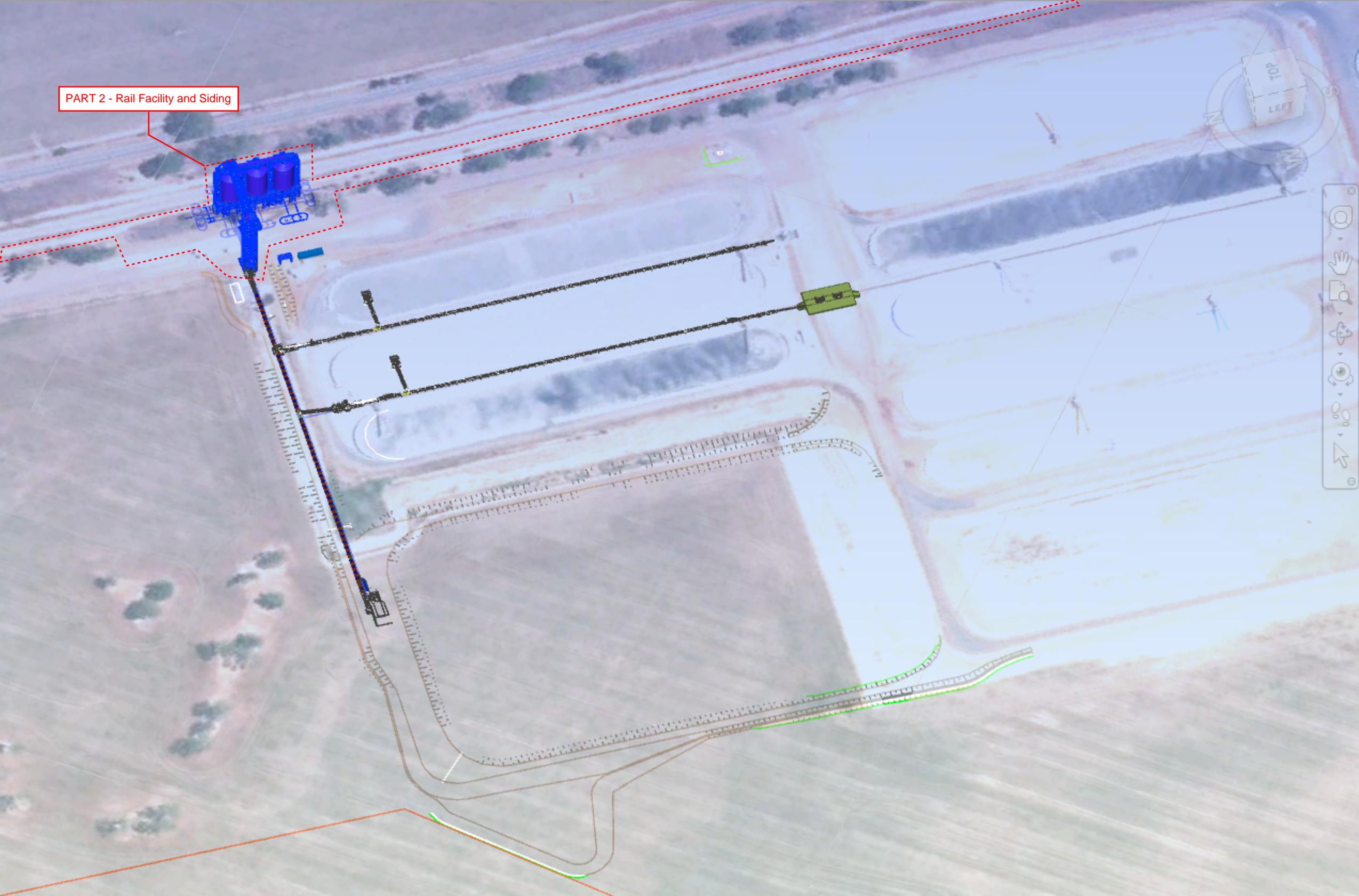


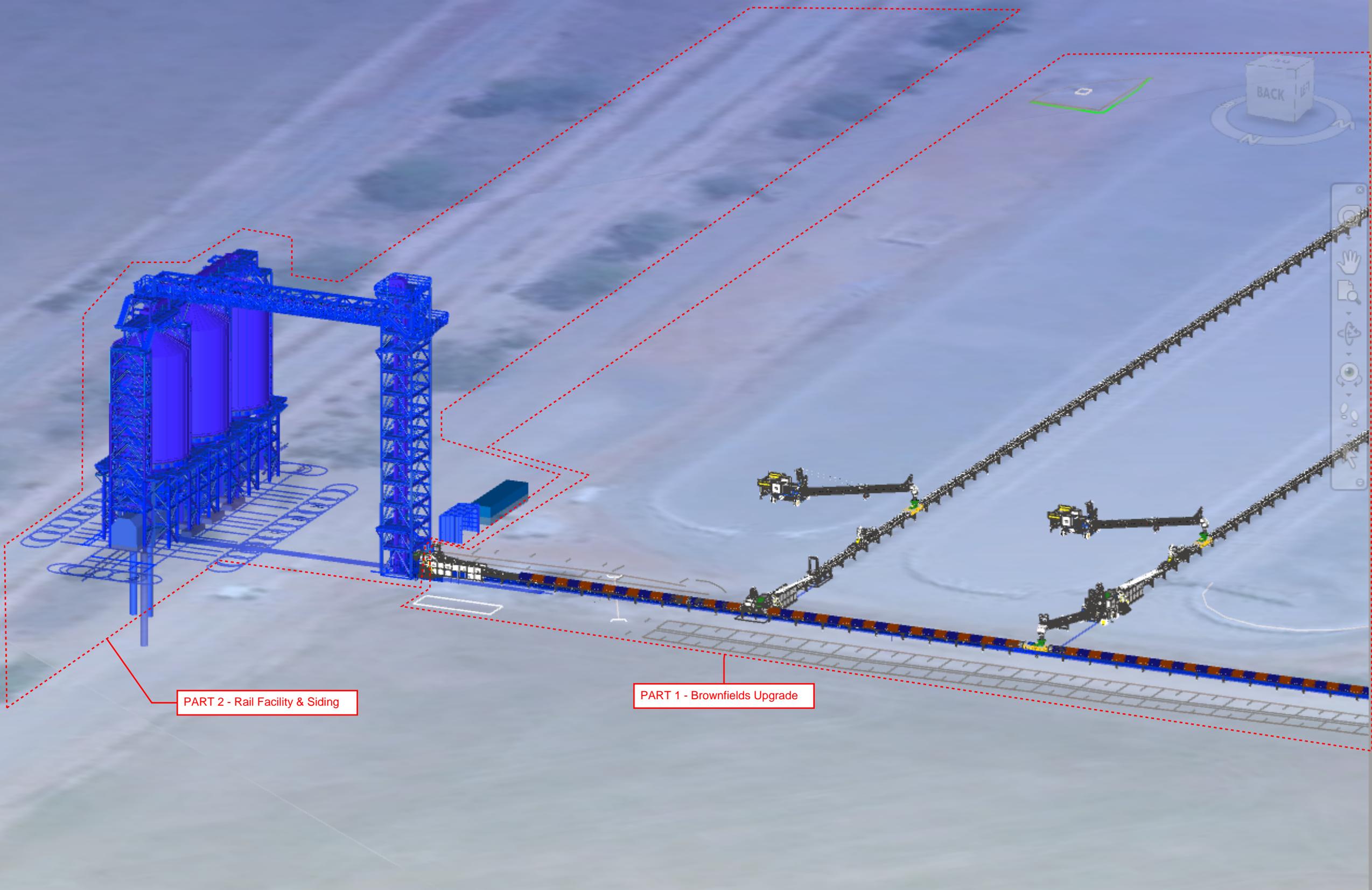


PART 1 - Brownfields Upgrade ONLY



PART 2 - Rail Facility and Siding





PART 2 - Rail Facility & Siding

PART 1 - Brownfields Upgrade

