OVERSIZE/OVERMASS (OSOM) CONSTRUCTION CONCEPT STRATEGY

Dugald River Wind Farm

Cloncurry, Queensland

Document Detail	
Prepared for:	Dugald River Wind Farm
Prepared by:	MMG – Christopher Kellie
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1 Introduction

1.1 Executive Summary

This report has been prepared to support a development application for a Material Change of Use (MCU) for wind farm development under the Planning Act 2016. It has been prepared in accordance with the State Development Assessment Provisions (SDAP) v3.2 – State Codes 23: Wind Farm Development and State code 27: Battery Storage Facility Development and the associated Planning Guidelines (Department of State Development, Infrastructure and Planning, July 2025).

The purpose of this Oversize/Overmass (OSOM) Construction Concept Strategy is to demonstrate compliance with Performance Outcomes PO19 to PO21 of State Code 23, and Performance outcomes PO24 to PO28 of state code 27 which relate to transport networks and heavy vehicle haulage.

All references to route feasibility, infrastructure conditions, and stakeholder commitments within this document are indicative at the concept stage and will be further refined through detailed design and subsequent approvals from the relevant authorities.

The report demonstrates that the project haulage routes are feasible.

This has been validated through technical assessments and extensive stakeholder consultation (including Port Authorities, local governments, DTMR regional offices and the National Heavy Vehicle Regulator).

Modifications to the roads and powerlines along the route have been identified and costs to undertake works has been considered.

Contents

1.2 Regulatory Framework

PO18 to PO21 of State Code 23 requires that:

- Construction and ongoing activities associated with the development do not adversely impact the efficiency and condition of transport networks and infrastructure nor compromise the safety of users of the transport network.
- Development delivers necessary upgrades to the transport network to ensure construction activities and ongoing maintenance do not adversely impact transport networks and infrastructure.
- Development demonstrates that a safe, viable and practical haulage route can be secured to accommodate the movement of oversize/overmass vehicles during construction and ongoing maintenance activities.
- Development provides safe, efficient, and sustainable vehicular access to the site for all vehicle types anticipated through the construction, operation, maintenance and decommissioning of the wind farm.

PO24 to PO28 of State Code 27 requires that:

- Construction, operation, maintenance and decommissioning activities associated with the development do not adversely impact the efficiency and condition of transport networks and infrastructure.
- Construction, operation, maintenance and decommissioning activities associated with the development do not compromise the safety of users of the transport network.
- Development delivers necessary upgrades to the transport network to ensure construction activities and ongoing maintenance do not adversely impact transport networks and infrastructure.
- Development demonstrates that a safe, viable and practical haulage route can be secured to accommodate the movement of oversize/overmass vehicles during construction and ongoing maintenance activities.
  Development provides safe, efficient, and sustainable vehicular access to the site for all vehicle types anticipated through construction, operation, maintenance and decommissioning.

2 Project Description

2.1 Project Overview

The Project will be located on the Knapdale Range, adjacent to the Dugald River Mine, owned and operated by MMG. The Project is situated on State Land, 63 km north-east of the Township of Cloncurry. The Project is proposed to be constructed in two stages.
The first stage is proposed to comprise the construction and operation of eight (8) WTGs, one permanent Met Mast, the 220/33 Kilovolt (kV) substation, overhead connection to the DRM and an initial BESS. Stage Two of the Project comprises an additional (up to) 16 WTGs, an expanded BESS and an update of the 220/33 kV substation.
Construction of Stage Two represents the ultimate design of the Project which reflects optimal usage of the wind resource on the Knapdale Range.
On completion, the Project will consist of a total of up to 24 WTGs, two permanent Met Masts, a 220/33 kV substation, an overhead connection to the DRM and a BESS, as well as associated infrastructure. Further details relating to the Project are provided in the Development Application Planning report.

2.2 Key Project Parameters

Field	Details
Wind Farm Name:	Dugald River Wind Farm
Location / Site Description:	Knapdale Range, Dugald River Mine, Cloncurry
Turbine Model:	Goldwind GW165 6MW
Blade Length:	81.5 m
Hub Height:	130 m
Component Port of Entry:	Port of Townsville
Haulage Distance (approx.):	835 km
Assessment Manager:	State Assessment and Referral Agency (SARA)

2.3 Programme

Construction of the wind farm is expected to be delivered in two stages:

- Stage 1 commence in Q3 2026, with OSOM deliveries planned from Q3 2027.
- Stage 2 commence in Q2 2028

3 Overview

3.1 Turbine Components Requiring OSOM Transport

Wind turbine components that exceed standard road transport dimensions and/or mass limits include:

Per Turbine:

- 7 x Tower Sections
- Rotor blades (3 per turbine)
- Nacelle
- Hub
- Generator

Per project stage:

- Main power transformer
- Switch room

Details of OSOM Components and transport combinations are shown in Table 1 and further detailed in Appendix 10.2. The dimensions and masses are preliminary and subject to detailed design by the wind turbine OEM and transport provider.

The wind turbine components are the critical design vehicles; these have been the focus of the route assessment.

3.2 OSOM Component Dimensions & Masses

Component (abbreviated)	Combination Length (m)	Combination Width (m)	Combination Height (m)	Gross Combination Mass (t)
Tower Section 1(T1)	29.627	5.82	6.8	173.5
Tower Section 2(T2)	29.3	5.5	6.6	146.2
Tower Section 3(T3)	27.52	5.48	6.6	133.4
Tower Section 4(T4)	32.94	5.48	6.6	153
Tower Section 5(T5)	34.74	5.47	6.56	117.2
Tower Section 6(T6)	39.31	5.47	6.58	133.9
Tower Section 7(T7)	39.24	4.45	5.71	119.3
Hub	24.935	4.71	5.2	95.2
Nacelle (Nacl)	24.94	5.45	5.189	83.9
Blade	94	5.1	5.376	94
Generator(Gen)	33.13	5.5	5.62	199
Main Transformer(MPTX)	26	4.8	5.2	89.2
Switch room(SWRM)	40	4.5	5.5	91.5

Table 1: Oversize Component Data

3.3 Proposed Transport Routes

The proposed transport routes for the wind turbine components are outlined in the table below and included within the route study in the appendix. These routes have been validated as feasible for the project.

To select this proposed route, technical assessment and stakeholder engagement was undertaken as outlined in the following sections of this document:

- Section 4 outlines the route selection and optimisation process including consideration of port, road constraints, bridge capacities and road modifications.
- Section 5 outlines the stakeholder engagement to enable stakeholder to provide input in the selection process and validate that the route is feasible.

	Townsville to Charters Towers	**Charters Towers rail overpass**	**Tommy Creek bridge**	**NHVR RP ID (indicative)**
Blades	Direct via Flinders Highway	Direct via Flinders Highway	Direct via existing Tommy Creek bridge	1WII8-3 v3
Nacelles				
Hubs	Direct via Flinders Highway	Direct via Flinders Highway	Bypass via new bypass to be constructed	1WII8-3 v3*
Tower section T5	Direct via Flinders Highway	Bypass via New Queen Road and Victory Street	Direct via existing Tommy Creek bridge	1WIIE-1 v1
Tower section T7				
Tower section T4	Direct via Flinders Highway	Bypass via New Queen Road and Victory Street	Bypass via new bypass to be constructed	1WIIE-1 v1*
Tower section T6				
Generators	Bypass via Hervey Range Road	Bypass via New Queen Road and Victory Street	Bypass via new bypass to be constructed	1WIIH-7 v1*
Tower section T1				
Tower section T2				
Tower section T3				

Table 2: Route and Component Overview

* Tommy Creek bypass not shown on NHVR RP ID as it is not yet constructed.

4 Route Selection and Optimisation

4.1 Port Selection

An assessment of suitable ports was conducted with Townsville port being selected for the project for the following reasons:

- It is the closest port with appropriate wind turbine facilities;
- The Port authority is undertaking expansions specifically to suit the storage of wind farm components, subject to development from Dugald River Wind Farm as well as two other in process wind farm developments by the same OEM, with more future projects anticipated;
- The OEM is understood to have advanced development of logistics and commercial development with the port ahead of and independent of Dugald River Wind farm.

Port Facility	Distance(km) / Route	Remark
Townsville	856 / via A6	Base case, existing commercial relationship with OEM, commitments to reclamation project laydown and OSOM land transport compatibility. Closest port to site that will have appropriate facilities.
Mackay	1342 / via 70& A7	
Cairns	1065/ via 62	Turbine facilities, deficiencies noted regarding Kennedy Highway
Darwin	1783/ via A87, 66, A2	No Blade facilities
Karumba	407 / via 73	No OSOM facilities, bulk loadout only
Gladstone	1385 / via a4, a2	OSOM facilities (as demonstrated by Clarke Creek Wind Farm), longer route to site than Townsville.

Table 3: Port Facility Comparison

4.2 Inland Transport Technology selection

It was elected that road transport was the only feasible inland transport technology The existing road network is the most developed and technically flexible inland transport solution from the Townsville Port, with a majority of the issues concentrated on the highest and heaviest loads, which no other present technology adequately addresses. Others considered non feasible included:

4.2.1 Rail

Rail was not considered as a viable inland transport solution for the DRWF OSOM loads due to dimensional limitations on the Mount Isa Line. To highlight, the Queensland Rail (QR) Mount Isa Line System Information Pack notes a maximum static outline width of 2.5m, precluding every single OSOM component. It remains a possible means of transport for other bulk containerised materials delivered from the Townsville Port.

4.2.2 Air transport (Plane)

Cargo Planes were not considered for delivery of components, due to limitations of local airstrip lengths and payload limitations, as well as technical immaturity of options.
Cloncurry runway length – 2000m. Mount isa Runway length – 2560m
Lockheed C130 Hercules – Max payload ~20T, runway MTOW length 1100m (payload too low)
Antonov AN-124 – Max payload ~120T, runway MTOW length 3000m (runways too short).

4.2.3 Air transport (Blimp)

MMG investigated the possibility of use of blimps (via Flying Whales flagship LCA60T) overland transport for OSOM components. Two significant drawbacks to the blimp options were:

- Maximum 60T Payload (making them appropriate only for the blades and nacelle components)
- Immature regulatory approvals, constraining Australian operations until at least 2029

The technology does allow for Port – site laydown directly, with no road transport required. However, as capital costs for route upgrades will already be incurred for other components, the use of these is not practical.

4.3 Route Selection

Given North Queensland's relatively sparsely interconnected highway system from Townsville, travelling to the site via the Flinders Highway is the most direct route and was taken at a high level of preference (in absence of any fatal flaws).

# - Detour	Description	Distance
1 – Direct	Flinders (A6)(W), Burke (83)(NW)	857km
2 – CT via Basalt(N)	Herveys(72)(W), Gregory(63)(SE), A6(W), 83(NW)	961km (+104km)
3 – Hughenden via Conjuboy(N)	72(W) ,63(NW) Kennedy(62)(S), A6 (W), 83(NW)	1043km(+186km)
4 -DRM via Normanton (N)	72(W) ,63(NW),62(NE),Hwy 1 (W), 83(SW)	1173km (+316km)
5- Cloncurry via Bowen/Clermont/ Kynuna(S)	A1(SE),Bowen(77)(SW),Gregory(A7)(SE),Clermont-Alpha(41)(SW),Capricorn(A4)(W),Landsborough(A2)(NW), A6(W), 83(NW)	1710km(+853km)

Table 4: Route Comparisons

For classification purposes in this document[1], the route will be split into sections as follows in Table 5.

#	Brief Description	Long Description	Jurisdiction
1	TSV port to Highway	Port of Townsville to Intersection of Southern Port Access road and Bruce Highway Intersection	SCR
2A	TSV to CT via Flinders	Southern Port Access road and Bruce Highway intersection to Flinders Highway / Hackett Terrace Intersection in Charters Towers, via flinders Highway	SCR
2B.1	TSV to Basalt Via Hervey's Range	Southern Port Access road/Bruce Highway intersection to Hervey's Range Road/Gregory Development Road intersection, via Bruce Highway & Hervey's Range Road (Critical Road)	SCR(Critical)
2B.2	Basalt to CT via Gregory	Hervey's Range Road/Gregory Development Road intersection to Flinders Highway / Hackett Terrace Intersection in Charters Towers, via Gregory development road & Hackett Terrace	SCR
3	CT flinders Hwy to Railway bypass fork	Flinders Highway / Hackett Terrace Intersection in Charters Towers to Flinders Highway/New Queen Road intersection, via flinders highway	SCR
4A	CT Rail Underpass to Victory Street	Flinders Highway/New Queen Road intersection to Flinders Highway/Victory Street intersection, via flinders highway (5.5m Railway Underpass)	SCR
4B	CT rail Bypass to victory street	Flinders Highway/New Queen Road intersection to Flinders Highway/Victory Street intersection, via New Queen Rd, Enterprise Rd, Millchester Rd, Victory Street	LGA
5.1	CT to Hughenden	Flinders Highway/Victory Street intersection to flinders Highway/ Hughenden Haul Road intersection, via flinders highway	SCR
5.2	Hughenden Town Bypass	Flinders Highway/ Hughenden Haul Road intersection to Hughenden saleyards Rd/Flinders Highway Intersection, via Hughenden Haul road, Winton Rd(SCR) Mclaren St, Saleyards Rd	LGA/SCR
5.3	Hughenden to Richmond	saleyards Rd/Flinders Highway Intersection to Flinders Hwy/Burke Street(Richmond) intersection, via Flinders Highway	SCR
5.4	Richmond Town Bypass	Flinders Hwy/Burke Street(Richmond) intersection to Jim McGuire Rd/Flinders Hwy Intersection, via Burke street, Unnamed track, Unnamed road though Saleyard, Jim Mcguire Road	LGA
5.5	Richmond to Julia Creek	Jim McGuire Rd/Flinders Hwy Intersection to Flinders Hwy/Goldring Street intersection, via Flinders Highway	SCR
5.6	Julia Creek Bypass	Flinders Hwy/Goldring Street intersection to Flinders Hwy/Goldring Street intersection via Goldring street	SCR
5.7	Julia Creek to Cloncurry	Flinders Hwy/Goldring St intersection to Flinders Hwy/Andrew Daniels Dr intersection, via Flinders Hwy	SCR
5.8	Cloncurry Town Bypass	Flinders Hwy/Andrew Daniels Dr intersection to Hensley Drive / Burke Development Road intersection, via Andrew Daniels Drive and Hensley Drive	LGA
5.9	Cloncurry to Tommy Creek	Hensley Drive / Burke Development Road intersection to Tommy Creek Bridge, via Burke development road. Overmass loads pass via sidetrack.	SCR/SCRC[2]
5.10	Tommy Creek to Mine	Tommy Creek Bridge to Kalkadoon Way (Mine Access road), via Burke Development Road	SCR

Table 5: Route Breakdown

(Letters as split routes, decimals as subsections)

[1] the numbering in this table is not necessarily consistent with any numbering in any referenced documents.
[2] State Controlled Road Corridor – Private track to be constructed under a TMR section 33 / section 50 process

4.4 Route Constraints

4.4.1 Over Mass Loads - State Controlled Bridge Structural Limitations

MMG engaged with TMR to undertake preliminary structural analysis of the proposed OSOM combinations.

As a result of the preliminary structural analysis of proposed OSOM combinations through the Flinders, these four bridges were highlighted with cannot cross conditions (CC)

Bridge	Components unable to cross
Reid River (Flinders)	Generator
Macrossan (Flinders)	Generator, T1,T2,T3
Tommy Creek (Burke)	Generator, T1,T2,T3,T4,T6,Hub

Table 6: Bridges identified as 'Cannot Cross'

4.4.2 Oversize Geometry – Over Height loads

The proposed OSOM loads are over the height limits in table 12 of the Queensland Access Conditions Guide (December 2023) and therefore necessitates a permit.

As inputs to the ability of loads to traverse these obstacles as required by such a permit, high load conflicts points were scoped along the proposed transport routes by a high load scoping provider authorised under the requirements of the Electrical Safety Act, as well as identified by a route study, undertaken by a prospective OSOM load transport provider. This assessment identified vertical conflicts outlined below.

Following this assessment, Energy Queensland has been engaged to undertake the detailed design and scoping of the powerline conflicts. This work is currently underway.

Non-Powerline Conflicts:

Site	Description	Height (m)	Proposed resolution
1	Bruce Highway Ring Road Entry Sign Gantry (Eastbound)	5.8m	Temporary removal of gantry sign
2	Bruce Highway Ring road – Riverside Blvd Overpass (Eastbound)	5.4m	Bypass via new service road onto angus smith Drive, re-entering Bruce Highway via adjacent onramp (Eastbound), proposed by other wind farm project
4	Flinders highway rail overpass (adj Dundee street) southbound	5.5m	Diversion of high loads via new queen rd/enterprise rd/millchester Rd/victory street

Table 7: Non-Powerline vertical conflicts

Powerline Conflicts:
Powerline conflict scoping identified approximately 148 powerline conflicts, which are addressed in Appendix 10.3 High Load Conflict Register.

The principles apply to crossing underneath powerlines, consistent with Energy Queensland's Authorised High Load Scope Fact Sheet:

- Crossings are under permit and supervision of a high load electrical escort, therefore the exclusion zones are consistent with those the Electrical Safety Regulation 2013, Schedule 2, Part 2, Division 2, column 4 (Exclusion zones for overhead uninsulated electric lines for authorised or instructed persons; vehicle operated by authorised person or instructed person for the electric line).
- Temporary lifting of powerlines with insulated stick is limited to low voltage(<1000V AC) powerlines and is not a preferred solution. In general, permanent modifications to the network of powerlines is undertaken to maintain a safe and suitable corridor and reduce ongoing resource requirements to perform temporary lifts.
- Conflicts have been identified by an authorised high load scoping provider. A 300mm buffer is applied in excess of the exclusion zones in the regulation to account for additional movement of powerlines due to thermal expansion effects. In consideration of the highest load this makes for a
- Energy Queensland intend that the route and upgrades to be undertaken/utilised by this project are part of a maintained corridor, where future augmentations to the EQ network cannot be built in such a way that reduces the utility of the transport corridor, i.e:
    - Minimum powerline vertical clearance requirements (no less than 8.1m considering highest load + Electrical Safety Act Exclusion zone+0.3m buffer)
    - Minimum clearances of poles and other infrastructure from swept path pinch points as identified by the Dugald River Wind Farm.

4.4.3 Oversize Geometry - Wide or long loads

As detailed in 10.1 Wind Farm Turbine OSOM Route Study, a large proportion of the proposed turbine loads are over the permit thresholds in the Queensland access conditions guide.
Accordingly, some of the loads are not compatible with the existing lane geometry without minor road modifications such as turn widening, trafficability modifications to islands, removal or relocation of poles/posts, vegetation trimming, or by facilitating diversions or contra-flows.
The most adverse geometry is represented by the blades (longest combination) and the T1 (widest combination), and is demonstrated by the swept path analysis in the route study in 10.1 Wind Farm Turbine OSOM Route Study. Proposed modifications to the road network are also included.

It is expected that many of these loads will require associated pilots, escorts, and police escorts, which is further detailed in section 4.4.5.

4.4.4 Road Specification, Development, Criticality

The route contains some options, depending on the component's requirements as well as feedback from stakeholder engagement:

- Non-structurally (mass) constrained loads from Townsville port access road to Charters Towers Hackett terrace/Flinders Highway intersection
    - The Flinders Highway is preferred as it is built to a higher specification, and has maintenance and development to support it as a transport corridor. It is also 104km shorter than the alternative.
    - The Bruce/Hervey's range/Gregory development road is the less preferred option as it is built to a lower specification, has more adverse geometry, less facilities, is classed as a critical road (more adverse permit and escort conditions), and is 104km longer
- Non height constrained loads from Flinders Highway/New Queen Road intersection to the Flinders Highway/Victory Street intersection in Charters Towers
    - The Flinders Highway route is highly preferred as it is shorter, more direct, and is built to a higher standard
    - The road that passes through New Queen, Enterprise, Millchester, Victory Street is not preferred due to reduced safety by turning off, interaction with the main street, interaction with a level crossing, and a higher number of turns increasing traffic interaction, and a higher level of traversal past a residential street. This is also the preferred outcome by the LGA council.
- Non-horizontal geometry constrained loads going from Flinders / Hughenden haul road intersection to the Flinders/Saleyards Rd intersection
    - Via haul road (upgrade assumed) is preferred due to the reduced interaction with the main street activity and required contraflows. This is the preferred outcome by the LGA council.
    - Via Flinders Highway (through the centre of town) is not preferred due to interactions with the main left hand turn (including furniture modifications, traffic management and contraflow)
- Non-horizontal geometry constrained loads going from Flinders / Richmond bypass intersection to the flinders/saleyards road intersection
    - Via the bypass road (upgrade assumed) is preferred due to the reduced interaction with the main street activity and required contraflows. It is noted that Richmond (being approximately half way between Townsville and Mount Isa) is established for general heavy traffic traversal geometry, truck parking and accommodation facilities to suit haulage traffic. The saleyard area on this bypass is the most appropriate for stopping overnight.
    - Via Flinders Highway (through the centre of town) is not preferred due to the interactions with traffic, furniture interactions/modifications, contraflows.
    - Via Crawford Street is not the preferred due to similar geometry and interaction as the Flinders Highway left hand turn through the town centre.
- Non-structurally (mass) constrained loads across Tommy Creek on the Burke Development Road
    - across the existing single direction Tommy Creek bridge is the preferred option, with less potential traffic interactions.
    - using the planned bypass for non-constrained loads is not the preferred option due to potential interactions exiting via a right turn, increased resource requirements to manage gates and other off-SCR obstacles, risks due to the river crossing, and increased time and traffic management resources.

4.4.5 Escort and Permit Requirements

As noted above, there are several drivers of requirements for escorts for the oversize loads:

- Pilot and Escort requirements as per Road Access Conditions Guide

- Pilot, Escort, and Police Escort requirements as per QPS Escort requirements matrix (shown in Figure 1 & Figure 2)
- Various Regulation and guidance notes regarding escort requirements for escorts for over-height loads (Shown in Figure 3)
- Track Protection officer requirements in line with QR guidelines (however, preliminary advice was that these would not be required)

Subject to approvals by relevant authorities and asset owners, it is expected that these constraints apply respectively of each of the loads. The QPS Escort Requirements matrix provides requirements in line with and in some cases above those of the Queensland Road Access Conditions Guide.

Based on engagement with QPS, transport providers, and other proponents, it is expected that the project may be dictated to transport outside of daylight hours to minimise traffic interaction, which may increase permit requirements, consistent with the principles of section 13 of the road access conditions guide.

ESCORT REQUIREMENTS FOR OVER WIDTH/LENGTH/HEIGHT VEHICLES

↑ WIDTH ↓	LENGTH > 0m-25m	25.01m-30m	30.01m-35m	35.01m-45m	45.01m-50m	50.01m+
10.01m+	2 POLICE AND 3 ESCORTS + CASE BY CASE ASSESSMENT					
6.51m-10m	2 POLICE AND 2 ESCORTS					
5.51m-6.5m	1 POLICE AND 2 ESCORTS					
4.51m-5.5m	CRITICAL ROADS (As per *Critical Areas and Roads in Queensland*) GREEN AREA OR RED ROADS=1 POLICE 2 ESCORTS BLUE ROADS=3 ESCORTS ALL OTHER ROADS=2 ESCORTS					
3.51m-4.5m	Performance Guidelines - 1 Pilot		2 ESCORTS			
2.51m-3.5m	Performance Guidelines					

Escort requirements for over length vehicles (ony for width equal to, or under, 2.5m)

0-2.5m	NIL	1 PILOT	2 ESCORTS	1 POLICE 2 ESCORTS	1P1E
LENGTH >	0-25m	25.01m-30m	30.01m-35m	35.01m-50m	50.01m+

Figure 1: QPS Escort Requirements Matrix

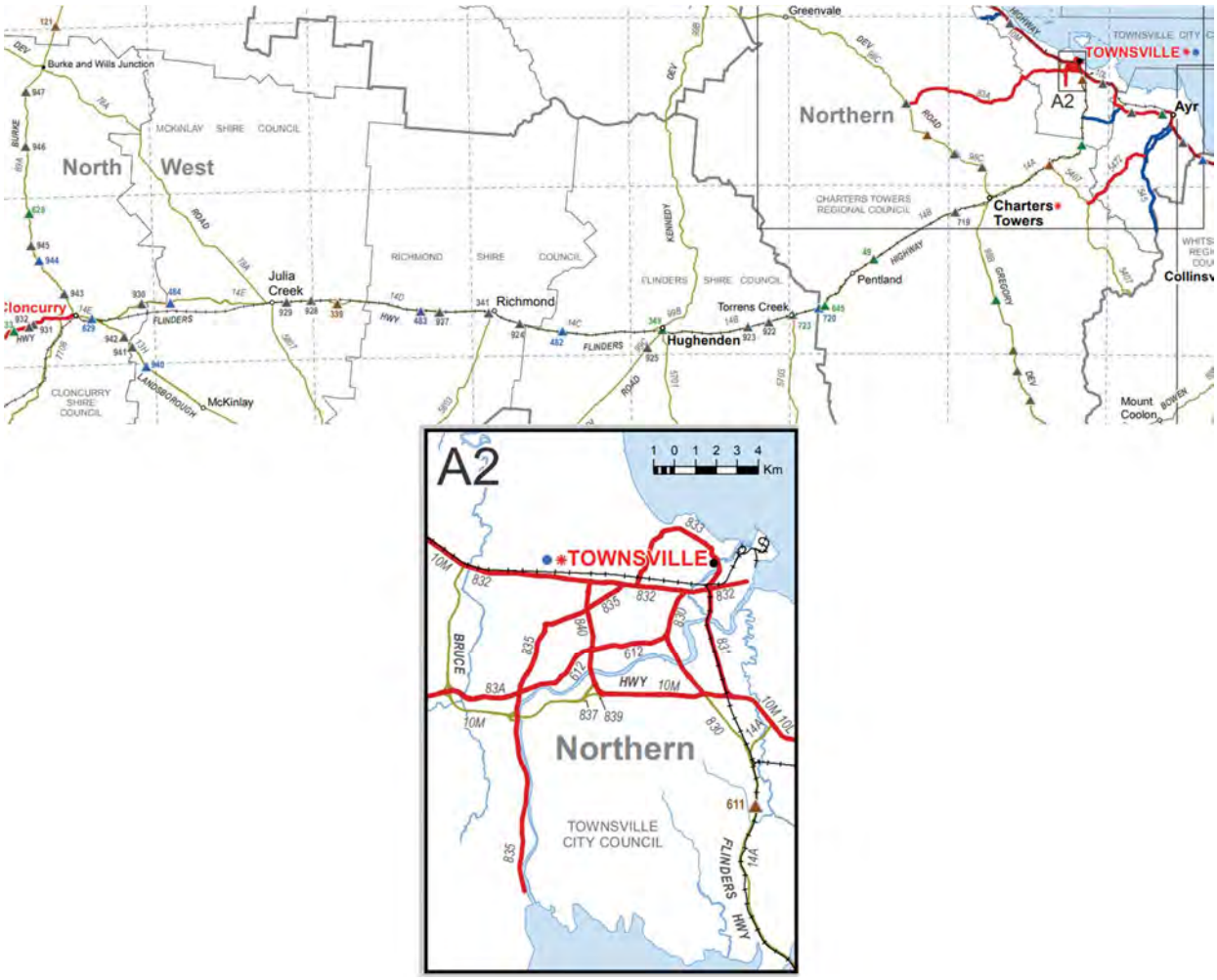


Figure 2: QPS Critical Roads Map - Northern/Northwest & Townsville Area Inset

Table 1 Categories and requirements for high loads being transported

Category number	Maximum transport height of load above road	Transport requirements
1	Up to 4.6 metres	■ Transport can be carried out without notification.
2	Over 4.6 metres, but not exceeding 5.0 metres	■ Notification to the Electricity Supply Authority is required. ■ The route should be assessed by a qualified person taking into account the Electricity Supply Authority's advice about the network including information in the notification and safety advice. ■ Generally no escorting will be required, depending on the outcome of scoping and assessment.
3	Over 5.0 metres, but not exceeding 5.5 metres	■ Notification to the Electricity Supply Authority is required. ■ The route should be assessed by a qualified person taking into account the Electricity Supply Authority's safety advice. ■ An escort may be required in accordance with the Electricity Supply Authority's requirements or depending on outcome of scoping and assessment.
4	Exceeding 5.5 metres	■ Notification to the Electricity Supply Authority is required. ■ The route should be assessed by a qualified person taking into account the Electricity Supply Authority's advice about the network and all safety precautions advised by the network. ■ An escort is required.

Figure 3: SafeWork Transporting High Loads Near Overhead Electric Lines Guideline - Escort Requirements

An estimated amalgamation of these requirements is detailed below in Table 8.

Route > **Component** **v v v**	1,3,5	2A	2B.1 (Critical Road)	2B.2	4A	4B
T1	2 x E 1 x QPS 1 x HL	N/A	2 x E 1 x QPS 1 x HL	2 x E 1 x QPS 1 x HL	N/A	2 x E 1 x QPS 1 x HL 0 x TPO
T2	2 x E 1 x HL	N/A	2 x E 1 x QPS 1 x HL	2 x E 1 x HL	N/A	2 x E 1 x HL 0 x TPO
T3	2 x E 1 x HL	N/A	2 x E 1 x QPS 1 x HL	2 x E 1 x HL	N/A	2 x E 1 x HL 0 x TPO
T4	2 x E 1 x HL	2 x E 1 x HL	N/A	N/A	N/A	2 x E 1 x HL 0 x TPO
T5	2 x E 1 x HL	2 x E 1 x HL	N/A	N/A	N/A	2 x E 1 x HL 0 x TPO
T6	2 x E 1 x HL	2 x E 1 x HL	N/A	N/A	N/A	2 x E 1 x HL 0 x TPO
T7	2 x E 1 x HL	2 x E 1 x HL	N/A	N/A	N/A	2 x E 1 x HL 0 x TPO
Hub	2 x E 0 x HL	2 x E 0 x HL	N/A	N/A	2 x E 0 x HL	N/A
Nacl	2 x E 0 x HL	2 x E 0 x HL	N/A	N/A	2 x E 0 x HL	N/A
Blade	3 x E 2 x QPS 0 x HL	3 x E 2 x QPS 0 x HL	N/A	N/A	3 x E 2 x QPS 0 x HL	N/A
Gen	2 x E 1 x HL	N/A	2 x E 1 x QPS 1 x HL	2 x E 1 x HL	N/A	2 x E 1 x HL 0 x TPO
MPTX	2 x E 1 x HL	2 x E 1 x HL	N/A	N/A	2 x E 0 x HL	N/A
SWRM	2 x E 1 x QPS 0 x HL	2 x E 1 x QPS 0 x HL	N/A	N/A	N/A	2 x E 1 x QPS 0 x HL 0 x TPO

Legend: P = Pilot, E= Escort, QPS= Police Escort, HL = High Load Escort, TPO = Track Protection Officer

Table 8: Estimated Escort Requirements

The following permits are expected to apply, which may affect escort requirements.

Permit	**Scope**	**Issuer**	**Referred parties**
Heavy Vehicle Access Permit	All Public Roads	National Heavy Vehicle Regulator	TMR Queensland Rail Energy Queensland Queensland Police Service
High Load Transport Permit	All Public Roads (non-exhaustive)	Energy Queensland	Powerlink
Co Use Form	Powerlink asset oversize Under-Crossings	Powerlink	
Over-Dimensional Road Load Permit	Level Crossings	Queensland Rail	
Oversize Vehicle Permit	Roads within Townsville Port Facility	Port of Townsville	

Table 9: Required OSOM Permits

4.4.6 Level Crossings and Rail Infrastructure

It has been identified that there are several level crossings along the transport route, with only one-dimensional conflict anticipated at the level crossing on Millchester Rd in Charters Towers.

It is understood that oversize traversals of these crossings are subject to road crossing permit, with expectation of no requirement to use track protection officers.

The Millchester Rd intersection contains legacy overhead electric line and telegraph infrastructure which is expected to conflict with some of the highest loads. It is expected that this will need to be resolved with Queensland Rail according to the Wayleave / Third party access process.

5 Stakeholder Consultation

Consultation with relevant transport authorities and infrastructure owners is a prerequisite for demonstrating compliance with State Code 23. The Planning Guideline specifically identifies the following entities for pre-lodgement engagement in relation to OSOM haulage:

- Department of Transport and Main Roads (DTMR) – impacts on and capabilities of state-controlled roads, rail crossings, and required approvals
- The National Heavy Vehicle Regulator (NHVR) regarding approvals for OSOM movements
- Queensland Rail – for OSOM loads traversing railway corridors
- Energy Queensland – for any haul routes passing beneath or adjacent to electricity infrastructure
- Transport route LGA Councils – local road access, road use agreements, and any local approvals

These stakeholders, among others, have been engaged as part of an ongoing stakeholder engagement process, with all parties supportive and constructive of enabling solutions for a project OSOM strategy where relevant. Key discussions with relevant stakeholders are noted in Table 10. During the detailed design phase of the project, there will be further engagement with the stakeholders and detailed plans.

5.1 Consultation Summary

Stakeholder	Date	Key Issues Discussed	Outcome / Status	Reference
DTMR Northern District	April 2025 June 2025	Corridor road limitations and potential resolution options Traffic safety context for road modifications Process and permit considerations for road modifications. Planning context and regional priorities	Determination of suitable route(s) for OSOM road loads. Workstream and requirements included in project planning.	
DTMR North West District	10/9/2025 19/3/2026	Corridor road limitations and potential resolution options Traffic safety context for road modifications Process and permit considerations for road modifications. Planning context and regional priorities	Determination of suitable route(s) for OSOM road loads. Workstream and requirements included in project planning.	10.4.2
DTMR HVA/E&T	March 2025	Preliminary assessments and engineering context of heavy road load/ structural capabilities Referral to other relevant stakeholders	Determination of suitable route(s) for OSOM road loads. Workstream and requirements included in project planning. Route selection and DA inputs.	10.4.9
NHVR	January 2024	Provision of permit for proposed loads (as appendix to route study)		
Queensland Police Service	2/7/2025	Preliminary context on escort requirements and resourcing Planning process for Traffic management planning	Workstream and requirements included in project planning .	10.4.1
State Planning (SARA)	2024	Prelodgement advice scope of transport studies required	Workstream and requirements included in project planning.	
NPCG round table (facilitated by State Development) – including	6/8/2025 8/10/2025	Context of and Regional context for necessity of upgrades to flinders transport corridor and options to move		

Stakeholder	Date	Key Issues Discussed	Outcome / Status	Reference
developers, TMR, EQ, POTL, mines, Wind OEMs)		forward on flinders corridor given sum of proposed investment		
Energy Queensland (High loads)	Various – January 2024 - Present	Progression of overhead powerline lifting workstream Common interests in powerline raises Common interest in establishment of purpose design Northern project corridor along the flinders highway	Workstream and requirements included in project planning. Energy Queensland has been engaged to undertake detailed design and scoping of the powerline modifications for the proposed route.	
Gawara Baya Wind Farm Project	Various 2024-2026	Common issues and solutions in regard of transport of OSOM loads across the flinders highway corridor		
Kidston Wind Farm Project	December 2024	Common issues and solutions in regard of transport of OSOM loads across the flinders highway corridor		
Powerlink (Copper string)	Various - 2025	Common issues and solutions in regard of transport of OSOM loads across the flinders highway corridor		
Powerlink (Utilities)	July 2025	Information on Co-Use Agreement process	Workstream and requirements included in project planning	
Queensland Rail	Various - 2025	Information on Road loads (Crossing) and Wayleaves (infrastructure changes) processes Context from interactions with other wind farms	Workstream and requirements included in project planning	
Port of Townsville	2/5/2025	Investment case of port expansion and capabilities to support laydown and egress of wind farm components Common issues and solutions in regard of transport of OSOM loads across the flinders highway corridor	N/A	
Townsville City Council	11/6/2025	Common issues and solutions in regard of transport of OSOM loads across the flinders highway corridor Regional planning context and associated stakeholders of transport corridor Priorities and requirements of local road modifications and OSOM traversal	Workstream and requirements included in project planning	
Charters Towers Regional Council	11/6/2025 16/3/2026	Common issues and solutions in regard of transport of OSOM loads across the flinders highway corridor Regional planning context and associated stakeholders of transport corridor	Workstream and requirements included in project planning	10.4.4

Stakeholder	Date	Key Issues Discussed	Outcome / Status	Reference
		Priorities and requirements of local road modifications and OSOM traversal		
Flinders Shire Council	June 2025 18/3/2026	Common issues and solutions in regard of transport of OSOM loads across the flinders highway corridor Regional planning context and associated stakeholders of transport corridor Priorities and requirements of local road modifications and OSOM traversal	Workstream and requirements included in project planning	10.4.5
Richmond Shire Council	June 2025 18/3/2026	Common issues and solutions in regard of transport of OSOM loads across the flinders highway corridor Regional planning context and associated stakeholders of transport corridor Priorities and requirements of local road modifications and OSOM traversal	Workstream and requirements included in project planning	10.4.6
Mckinlay Shire Council	June 2025 19/3/2026	Common issues and solutions in regard of transport of OSOM loads across the flinders highway corridor Regional planning context and associated stakeholders of transport corridor Priorities and requirements of local road modifications and OSOM traversal	Workstream and requirements included in project planning	10.4.7
Cloncurry Shire Council	June 2025 19/3/2026	Common issues and solutions in regard of transport of OSOM loads across the flinders highway corridor Regional planning context and associated stakeholders of transport corridor Priorities and requirements of local road modifications and OSOM traversal	Workstream and requirements included in project planning	10.4.8

Table 10: Key Stakeholder Discussions

6 Transport Network Efficiency & Safety

6.1 Performance Outcome Requirements

SC & PO	Performance Outcome
State Code 23 PO18	Construction and ongoing activities associated with the development do not adversely impact the efficiency and condition of transport networks and infrastructure nor compromise the safety of users of the transport network.
State Code 27 PO24	Construction and ongoing activities associated with the development do not adversely impact the efficiency and condition of transport networks and infrastructure nor compromise the safety of users of the transport network.
State Code 27 PO25	Construction, operation, maintenance and decommissioning activities associated with the development do not compromise the safety of users of the transport network.

6.2 Traffic Generation

A preliminary TIA has been prepared with included estimates of traffic generated for the project and is submitted as a separate document in the development approval application. This document provides relevant details on traffic generation and OSOM load volumes.

These principles represent working assumptions and are subject to review of a traffic management plan by QPS and other relevant referred agencies, which due to QPS constraints, are not able to be reviewed until further stages in project decision, and availability of Traffic Management Plan (TMP) detail.

6.3 Traffic Impact Assessment

A preliminary Traffic Impact Assessment (TIA) has been prepared in accordance with DTMR Guide to Traffic Impact Assessment and is submitted separately. The preliminary TIA identifies traffic generation and capacity impacts, existing network conditions, pavement impact assessment methodology, and traffic/accident risk identification methodology.

A revised TIA will be prepared prior to construction commencement for each stage of the project.

6.4 Road Condition Baseline

A pre-construction road condition survey will be conducted across all roads intended for construction traffic use, where cumulative impacts meet the relevant thresholds on additional use of the roads. The survey will be undertaken in accordance with the requirements of the relevant road authority and will form the basis for post-construction reinstatement obligations. It is expected that this detail is provided in the finalised TIA prior to mobilisation of OSOM traffic.

6.5 Safety Mitigation Measures

Where appropriate, the following measures are likely to be proposed to protect public safety and minimise disruption to the transport network during construction:

- OSOM movements limited to agreed escort windows (typically off-peak hours / nights where required)
- Pilot vehicles and police escort where required under NHVR permit conditions
- Temporary traffic control at critical intersections and road sections
- Use of Heavy vehicle bypasses circumventing high activity town centres
- Variable Message Signs (VMS) and community notification prior to major OSOM movements
- Designated laydown / rest areas for OSOM convoys
- Road damage monitoring and rapid response repair protocol
- Speed restrictions for construction vehicles on local roads as agreed with road authority
- Appropriate provision and use of stopping bays to facilitate safe passing.

Such provisions shall be further detailed within the finalised TIA and TMP.

7 Transport Network Upgrades

7.1 Performance Outcome Requirements

SC & PO	Performance Outcome
State Code 23 PO 19	Development delivers necessary upgrades to the transport network to ensure construction activities and ongoing maintenance do not adversely impact transport networks and infrastructure.
State Code 27 PO 26	Development delivers necessary upgrades to the transport network to ensure construction activities and ongoing maintenance do not adversely impact transport networks and infrastructure.

7.2 Identified Upgrade Requirements

Based on the route assessment and stakeholder consultation, the following transport infrastructure upgrades have been identified as likely necessary to support construction. These upgrades will be confirmed through detailed design and negotiated with the relevant road authorities.

Upgrade / Improvement	Location	Responsible Authority	Status / Timing
Port hardstand upgrades (by others)	Townsville Port	POTL/LGA	Complete
Port Turn Widening and road furniture modifications (By others)	Townsville Port	POTL/LGA	In Progress
Bruce Highway Gantry Sign Temporary Removal	Townsville - Bruce Highway	DTMR	During OSOM haulage
Riverside Blvd Overpass bypass via Angus Smith Drive	Townsville - Bruce Highway	DTMR	Prior to OSOM haulage
Turn Widening and furniture modifications on Ring Road exit/Hervey's Range road intersection	Townsville - Bruce Highway	DTMR	Prior to OSOM haulage
Turn Widening and furniture modifications on Hackett Terrace /Flinders Highway intersection	Charters Towers – Flinders Highway	DTMR	Prior to OSOM haulage
Turn Widening and furniture modifications on Hackett Terrace /Rainbow Road intersection	Charters Towers – Flinders Highway	DTMR	Prior to OSOM haulage
Furniture Modifications on Flinders Highway/New Queens road intersection	Charters Towers – Flinders Highway	DTMR	Prior to OSOM haulage
Furniture modifications on Millchester Rd /Rainbow Road intersection	Charters Towers – Millchester Road	LGA	Prior to OSOM haulage
Furniture modifications on Victory Street/Flinders Hwy Intersection	Charters Towers – Flinders Highway	DTMR	Prior to OSOM haulage
Track development on Hughenden Haul Road for Heavy Vehicle Bypass	Hughenden - Haul Road Bypass	LGA	Prior to OSOM haulage
Turn widenings and furniture modifications for Kennedy Development Road and saleyards road/flinders highway intersection	Hughenden - Haul Road Bypass	DTMR	Prior to OSOM haulage
Turn widenings and furniture modifications for Mclaren Street and Saleyards Roads	Hughenden - Haul Road Bypass	LGA	Prior to OSOM haulage

Track Development for Richmond Burke Street Heavy Vehicle Bypass	Richmond – Burke Street Bypass	LGA	Prior to OSOM haulage
Turn widenings and road furniture modifications for Flinders Highway /Burke Street intersection and Jim Mcguire/ Flinders highway intersection	Richmond – Burke Street Bypass	DTMR	Prior to OSOM haulage
Turn Widenings on Burke street/Unnamed road	Richmond – Burke Street Bypass	LGA	Prior to OSOM haulage
Turn widenings and furniture modifications on flinders hwy/goldring street intersections	Julia Creek HV bypass	DTMR	Prior to OSOM haulage
Turn widenings and furniture modifications on Flinders highway/Andrew daniels drive intersection & hensley drive/Burke developmental road intersections	Cloncurry HV Bypass	DTMR	Prior to OSOM haulage
Tommy Creek Bridge Bypass track	Tommy Creek	DTMR	Prior to OSOM haulage
Millchester Road Level Crossing – power / telegraph line modifications	Charters Towers – Millchester Road	QR	Prior to OSOM haulage
Approximately 148 powerline conflicts along OSOM Haulage Route	Along Route – Various	Energy Queensland	Prior to OSOM haulage

Table 11: Required Upgrades

7.3 Funding and Delivery Commitments

All identified transport network upgrades have been identified as requiring funding by the project and are considered within its approval. Delivery will be managed through:

- Appropriate permitting pathways with the relevant road authority (DTMR and/or LGA)
- Construction Management Plans required as permit conditions
- Pre-construction baseline surveys and post-construction reinstatement obligations
- Financial security / bonds where required by road authorities

8 OSOM Haulage Route Feasibility

8.1 Performance Outcome Requirements

SC & PO	Performance Outcome
State code 23 PO 20	Development demonstrates that a safe, viable and practical haulage route can be secured to accommodate the movement of oversize/overmass vehicles during construction and ongoing maintenance activities.
State Code 27 PO 27	Development demonstrates that a safe, viable and practical haulage route can be secured to accommodate the movement of oversize/overmass vehicles during construction and ongoing maintenance activities.

8.2 Route Feasibility Assessment

The primary OSOM haulage route has been assessed against the critical constraints presented by the largest and heaviest components to be transported. The assessment methodology included:

- Desktop review of road geometry using aerial imagery, DTMR road data, and as-constructed drawings
- Site inspection of critical locations (intersections, curves, structures, overhead infrastructure)
- Swept path analysis for critical turning movements and pinch points
- Review of existing permit records via the NHVR portal

- Preliminary structural assessment of identified bridge and culvert structures.

8.3 Primary Route Summary

The proposed primary OSOM haulage route is detailed in Appendix 10.1, and demonstrates the route as described in Table 5. No contingency route is proposed.

8.4 Future Movements

Post-construction of Stage 1, the OSOM movements are limited to:

- Stage 2 -expansion of the facility of up to 16 additional turbines and associated plant
- Major component replacements that may be anticipated. The haulage route and access infrastructure will be designed to accommodate the likely maintenance vehicle envelope over the full operational life of the wind farm.
- Decommissioning

In consideration of future movements, and in engagement with stakeholders, it is expected that the proposed OSOM route is maintained (where practical) to continue to enable road loads at or above the constraints of dimension and mass of those proposed for this project. Specific details of maintained OSOM corridor works are noted below:

Route powerlines	Transport Route to be maintained as designated corridor (of at least 6.8m high loads), requiring new powerlines to be compliant to this specification
Port Upgrades	Townsville Port Laydown area and road augmentations suitable for project deliveries
Bruce Highway	• Gantry Sign – remains a high load issue subject to temporary removal or permanent modification • Riverview Boulevard overpass / Bypass continues to be available for high loads bypassing the high load conflict • Road furniture/turn widenings maintained as corridor suitable for haulage of components of GW165 6.0MW 130mHH
Gregory Development Road & Hackett Terrace	Furniture works and turn widenings not to be reverted
Flinders Highway	Furniture works and turn widenings not to be reverted
Charters towers	Furniture works and turn widenings not to be reverted
Hughenden Heavy Vehicle bypass	Bypass not to be reverted, as preferred town heavy vehicle bypass
Richmond Heavy vehicle Bypass	Bypass not to be reverted
Julia Creek Heavy Vehicle Bypass	Furniture works and turn widenings not to be reverted
Cloncurry Heavy Vehicle Bypass	Furniture works and turn widenings not to be reverted
Tommy Creek Bypass	Advocacy of Tommy Creek bridge upgrade as regional priority
Site roads	Site roads not to be reverted (condition based maintenance according to transport requirements)

Table 12: OSOM Corridor permanent augmentations

9 Site Access Design

9.1 Performance Outcome Requirements

SC & PO	Performance Outcome
State Code 23 PO 21	Development provides safe, efficient, and sustainable vehicular access to the site for all vehicle types anticipated through the construction, operation, maintenance and decommissioning of the wind farm.
State Code 27 PO 28	Development provides safe, efficient, and sustainable vehicular access to the site for all vehicle types anticipated through construction, operation, maintenance and decommissioning.

9.2 Main Site Entry

The main site entry will be located at the existing Mine access intersection between the Burke Development Road and Kalkadoon Way. The existing entry has adequate radius available to accommodate for the swept paths of all proposed OSOM loads.

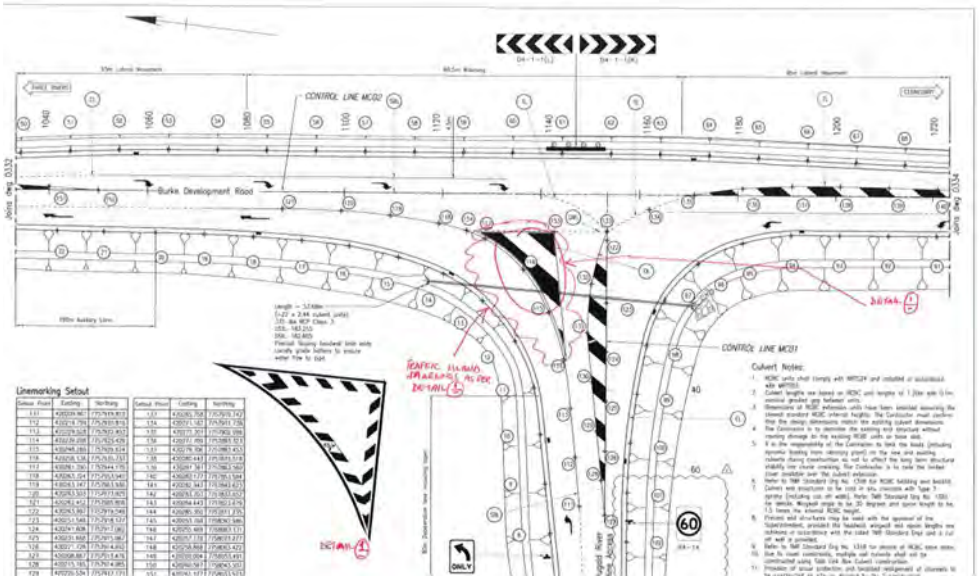


Figure 4: Existing Site Entry Design

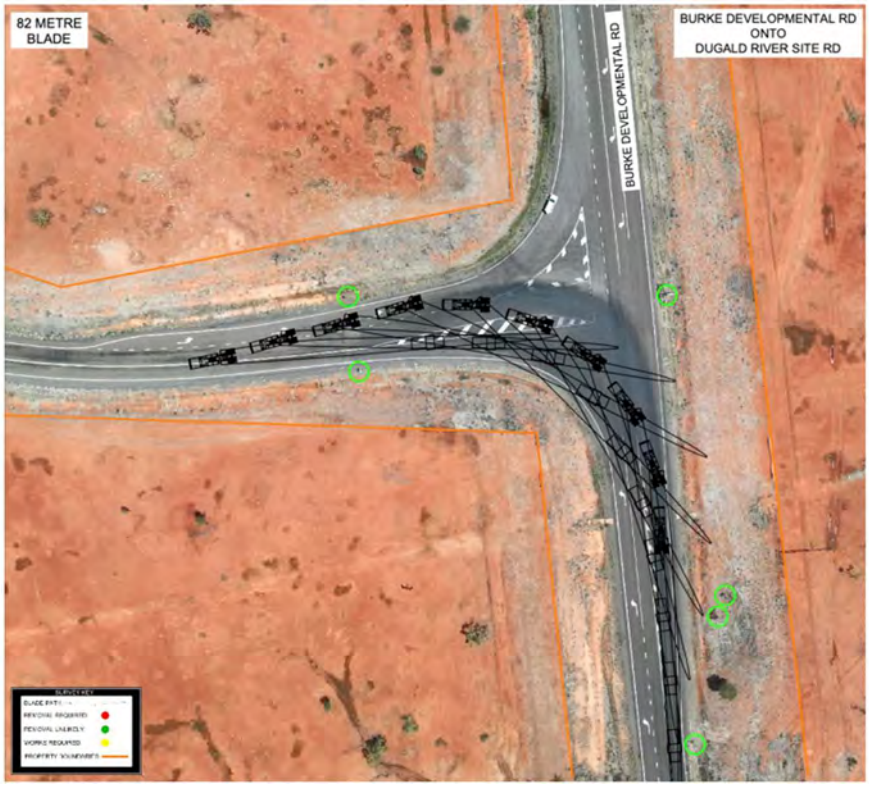


Figure 5: Existing Site Entry Blade Swept Path Analysis

9.3 Internal Access Roads

Internal access roads within the wind farm site will be designed to accommodate:

- OSOM vehicles during construction and maintenance, according to turbine OEM geometric requirements and specifications
- Accesses and turnarounds as required from the Natural Hazard Risk Assessment documentation.
- Standard operational and maintenance vehicles over the project's operating life

10 Appendices

10.1 Wind Farm Turbine OSOM Route Study

REX J ANDREWS
ENGINEERED TRANSPORTATION

ROUTE STUDY

DUGALD RIVER WINDFARM GW165

SEPTEMBER 16, 2025

CLIENT: GOLDWIND AUSTRALIA

PORT: TOWNSVILLE

REVISION: REV00

INDEX:

2.0 Version History

Rev	Date	Change	Responsible	Approved
00	16/09/25	Draft Report Compiled	E Novak	✓
00	17/09/25	Draft Report Completed	W Andrews	✓

3.0 Introduction

RJA has been engaged by Goldwind Australia to conduct a route study for the Dugald River Hybrid Windfarm Project in Queensland, Australia.

The study describes observations and previous experience on the proposed route and outlines the transport of wind turbine equipment from the port of Townsville to the Dugald River Hybrid Windfarm Project.

This document has been developed to provide a preliminary route assessment of proposed routes from the nominated port to the windfarm site.

The study considers operational factors and equipment capability and does not consider external factors such as regulatory, landholder, environmental, cultural or any other external factors beyond the knowledge or control of Rex J Andrews Engineered Transportation.

The study utilises the knowledge, experience and intellectual property of Rex J Andrews Engineered Transportation on purpose-built equipment and is not intended for use by other parties.

The study was undertaken on 11-09-25.

4.0 Project Data

Date of latest Route Assessment: 11/09/2025
Survey undertaken by: (Rex J Andrews P/L)
Project name: Dugald River Hybrid Windfarm Project
Route surveyed: Port of Townsville (QLD) to Dugald River (QLD)
Turbine type: GW165 - 6MW with 130 Metre tower

5.0 Port of Import

The wind turbine equipment to be imported from various countries and arrive on ships into the Port of Townsville. The ideal berth for these shipments is Berth No. 3.

The Port of Townsville has a suitable storage area that is approximately 30,000 s/q meters in size on the Eastern side of the port. Access to the storage areas is via port access roads and approximately 500m of public roads. The proposed storage area is currently undeveloped land and will require suitable hardstand to be installed prior to use. There will also need to be some road modifications completed to enable transit.

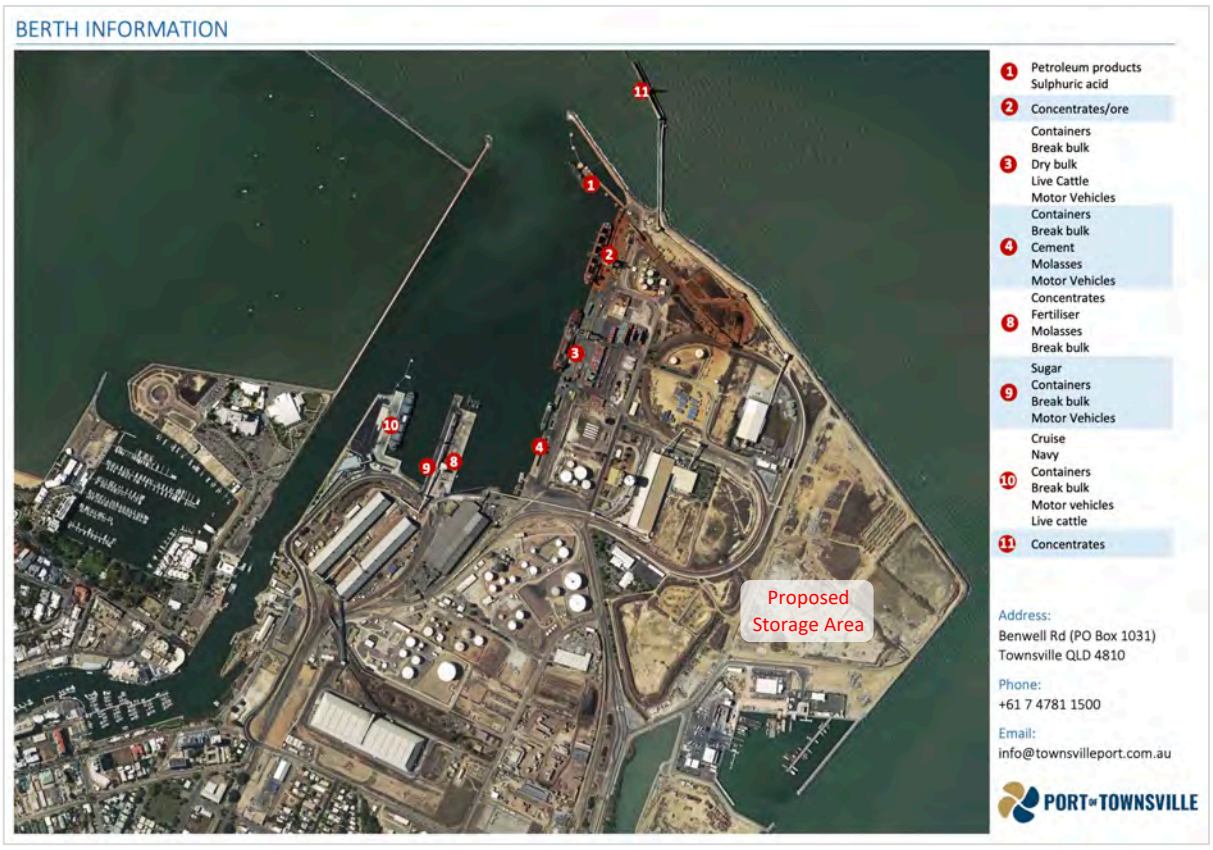


Figure 1 - Townsville Port Precinct

6.0 Site Location

The Dugald River Hybrid Windfarm Project is located adjacent to the Dugald River zinc mine approximately 65km Northwest of Cloncurry in Northern Queensland and 850 Kilometers by road from the Port of Townsville.

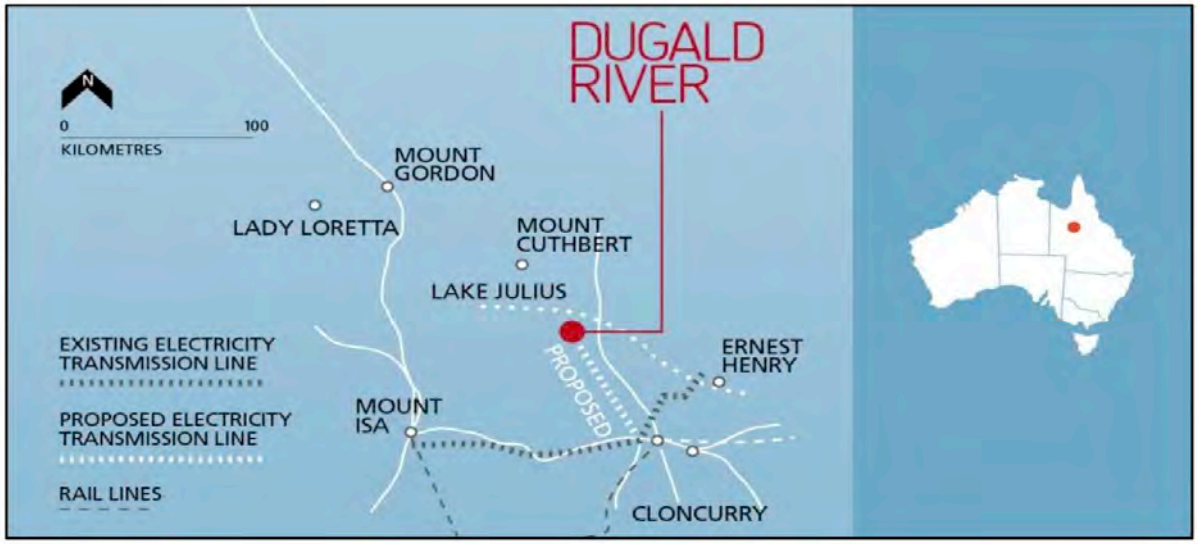


Figure 2 -Dugald River Hybrid Windfarm Project Location

7.0 Transport Summary

The study is based on all turbine components entering Australia via the Port of Townsville Berth No.3. The components would then be transported to the proposed storage facility at the Eastern Port Precinct Via Route 1, before being transported to the Dugald River Hybrid Windfarm Project via routes 2 & 3. Route 4 is for the existing sealed internal site road.

ROUTE 1: Townsville Port Berth No. 3 To Townsville Port Storage Area
Components: All components
From: Port of Townsville Berth No. 3
To: Port of Townsville storage area
Distance: 1.4 kilometres
Route: Centenary Drive, Benwell Road.
GPS Link for route: https://maps.app.goo.gl/RKmeVnNCCegvmrpg6

ROUTE 2: Townsville Port Storage Area to Dugald River Hybrid Windfarm Project
Components: Blades and lighter loads (max loaded height 5.5m)
From: Port of Townsville storage area
To: Dugald River Hybrid Windfarm Project
Distance: 850 kilometres
Route: Benwell Rd, Southern Port Road, Flinders Hwy, Andrew Daniels Drive, Burke Development Road, Dugald River Site Road.
GPS Link for route: https://maps.app.goo.gl/dbt8jYv9SREFyMKo9

ROUTE 3: Townsville Port Storage Area to Dugald River Hybrid Windfarm Project (via Hervey Range)
Components: Towers and motors
From: Port of Townsville storage area
To: Dugald River Hybrid Windfarm Project
Distance: 964 kilometres
Route: Benwell Rd, Southern Port Road, Bruce Highway, Hervey Range Road, Gregory Developmental Road, Flinders Highway, New Queen Rd, Enterprise Rd, Millchester Rd, Victory St, Flinders Highway, Andrew Daniels Drive, Burke Development Rd, Dugald River Site Road.
GPS Link for route: https://maps.app.goo.gl/KgXzCW7vrr89kSFv9

ROUTE 4: Site Access Roads at Dugald River Hybrid Windfarm Project
Components: All Components
From: Gatehouse
To: End of existing sealed road.
Distance: 4.9 kilometres
Route: Internal road
GPS Link for route: https://maps.app.goo.gl/ZJW1WaPaGj94SgDd8

8.0 Route 1 - Study

Components: All components.
From: Port of Townsville Berth No. 3
To: Port of Townsville storage area
Distance: 1.4 kilometres
Route: Centenary Drive, Benwell Road.
GPS Link for route: https://maps.app.goo.gl/RKmeVnNCCegvmrpg6

Figure 3 - Route 1

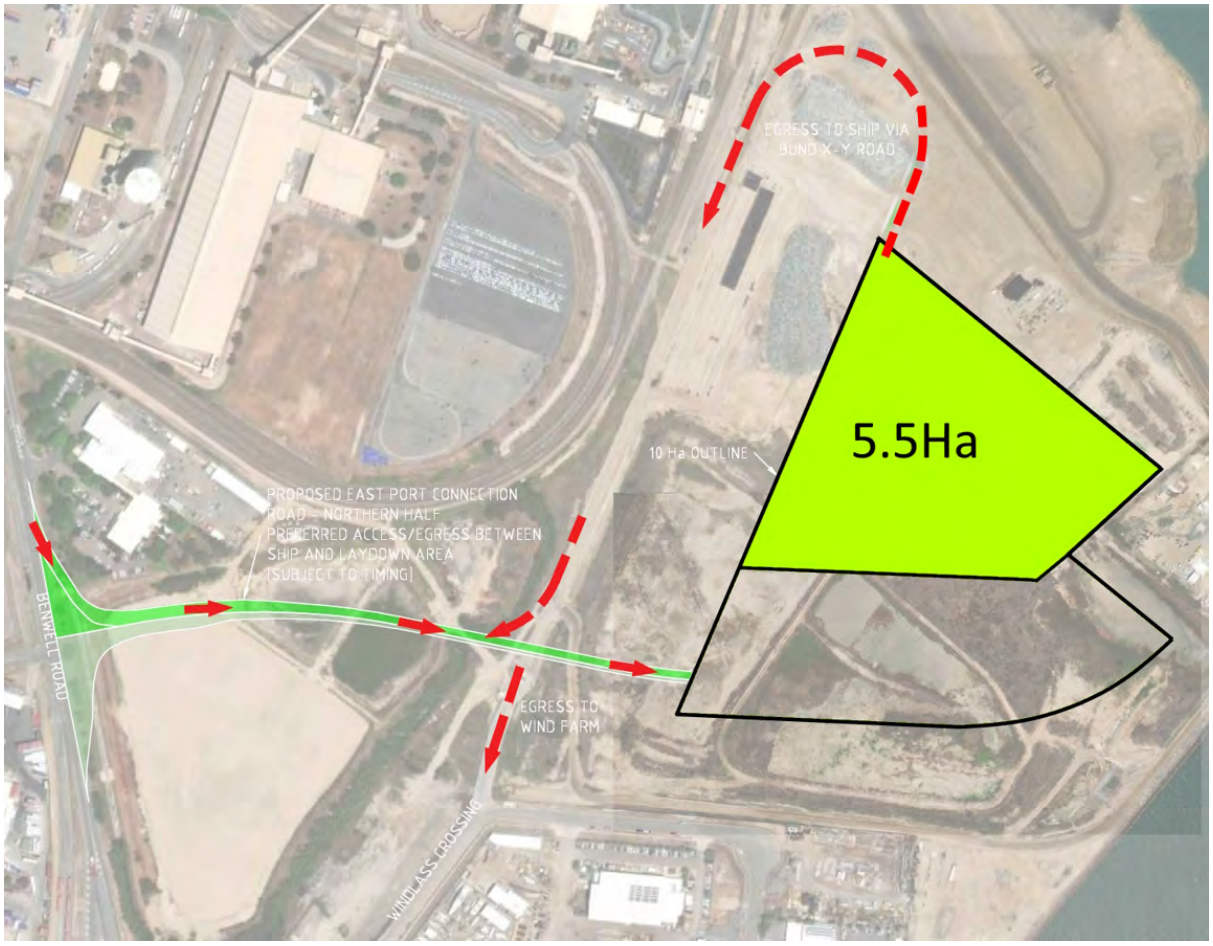


Figure 4 - Port Storage Area

ROUTE INDEX	
ROAD MODIFICATION	
CAUTION	
EMERGENCY PARKING	

x	Location	Section of Road	Critical Measurement	Procedure	Comments
0.0	Townsville Port	Townsville Port Berth # 3 GPS Link: https://goo.gl/maps/NuhRs2Lt6YGXwoFq6	Width: 28m between gantry crane rails Length: 300m	All components will be unloaded at the Break Bulk Berth and travel out North via Centenary Drive.	**Pinchpoint procedure:** Items unloaded backwards will be reversed into Benwell Rd and then driven back onto Centenary Drive. **Traffic control:** Pilots to control local traffic within the port. **Modifications required:** No. The area between berth and security gate to be keep clear within the swept path of all loads.
0.1	Townsville Port	Exit Berth # 3 onto Benwell Rd - Reverse GPS Link: https://goo.gl/maps/aUmLAcuEtpSDmWvy7	Width: 6.0m Length: 55.0m	Items unloaded from ship backwards to be reversed from the Break Bulk Berth onto Benwell Rd.	**Pinchpoint procedure:** Spotter to guide the blades and any load requiring spotters through this section of road. **Traffic control:** Pilots to control local traffic. **Modifications required:** The gate, fence and any items within the swept path area will need to be relocated. light poles and security camera to be relocated or temporarily removed. Blade to oversail fence or fence to be modified.
0.1	Townsville Port	Exit Berth # 3 onto Centenary Drive – Forward GPS Link: https://goo.gl/maps/LiAcid4ptJHTsKRJ6	Width: 6.0m Length: 55.0m	Items unloaded from ship in correct direction to exit the berth to the North onto Centenary Drive.	**Pinchpoint procedure:** Spotter to guide the blades and any load requiring spotters through this section of road. **Traffic control:** Pilots to control local traffic. **Modifications required:** The gate, fence and any items within the swept path area will need to be relocated. light poles and security camera to be relocated or temporarily removed. Blade to oversail fence or fence to be modified. Hardstand to be installed on outside of corner and kerb made trafficable.
0.2	Townsville Port	Right hand turn on Centenary Drive GPS Link: https://goo.gl/maps/cY3tvrDgp4jCwJru5	Width: 10.0m Length: 70.0m	Right hand bend	**Pinchpoint procedure:** Spotter to guide the blades and any load requiring spotters through this section of road. **Traffic control:** Pilots to control local traffic. **Modifications required:**

					Light poles to be relocated or temporarily removed. Hardstand is to be installed on inside and outside of corner and kerbs made trafficable. Barrier to be removed and pit made trafficable.
0.8	Townsville Port	Overhead conveyor on Centenary Drive GPS Link: https://goo.gl/maps/6pEvcvJUwJCTgUr46	Height: 8.1m	Travel directly ahead and keep to left hand side of road for maximum clearance under conveyor.	**Pinchpoint procedure:** Spotter to guide the blades and any load requiring spotters through this section of road. **Traffic control:** Pilots to control local traffic. **Modifications required:** No. Ensure no vehicles parked Infront of Cement Australia buildings. Rail manager approvals required to cross rail line.
0.85	Townsville Port	Left hand bend onto Benwell Road. GPS Link: https://maps.app.goo.gl/RAcYeS8nbYqG3ix46	Width: 10.0m Length: 70.0m Height: 8.1m	Travel directly ahead and keep to left hand side of road for maximum clearance under conveyor.	**Pinchpoint procedure:** Spotter to guide the blades and any load requiring spotters through this section of road. **Traffic control:** Pilots to control local traffic. **Modifications required:** Hardstand to be installed on the exit of the corner and kerb made trafficable. Ensure no vehicles parked in front of Cement Australia buildings. Rail manager approvals required to cross rail line**.** Rail manager approvals required to cross rail line.
1.3	Townsville Port	Left hand turn from Benwell Road onto storage access road. GPS Link: https://maps.app.goo.gl/9u6BDHcQQLsQfNwC7	Width: N/A Length: N/A Height: N/A	Left hand turn	**Pinchpoint procedure:** Spotter to guide the blades and any load requiring spotters through this section of road. **Traffic control:** Pilots to control local traffic. **Modifications required:** Yes. Townsville port have a design in place showing the works that are required to make suitable access through to the proposed storage area.
1.3 to 2.0	Townsville Port	Storage access road	Width: N/A Length: N/A	Travel directly ahead towards the prposed storage area	**Pinchpoint procedure:** Spotter to guide the blades and any load requiring spotters through this section of road. **Traffic control:** Traffic control and pilots to control local traffic. **Modifications required:** Yes. Storage access road is to be constructed to suit the swept path of the largest loads.
2.0	Townsville Port	New storage area Eastern side of port. GPS Link: https://maps.app.goo.gl/pjic6FTB5eVwy4qx8	Width: N/A Length: N/A	Travel into storage area.	**Pinchpoint procedure:** Spotter to guide the blades and any load requiring spotters through this section of road. **Traffic control:** Traffic control and pilots to control local traffic. **Modifications required:** Yes. Area currently undeveloped, ensure access into storage area is suitable and clear of obstacles.

0.0 Km's: Unloading at Berth No. 3

Figure 5 - Townsville Berth No. 3

GPS Link: https://goo.gl/maps/NuhRs2Lt6YGXwoFq6
Procedure: All components will be unloaded at the Break Bulk Berth and travel out North via Centenary Drive to the storage area.
Modifications required: Nil. Area between berth and security gate to be keep clear within the swept path of all loads. If there is equipment in the path of the loads, then the equipment would need to be moved before the loads depart the berth.

0.1 Km's: Exit Berth No. 3 onto Benwell Road

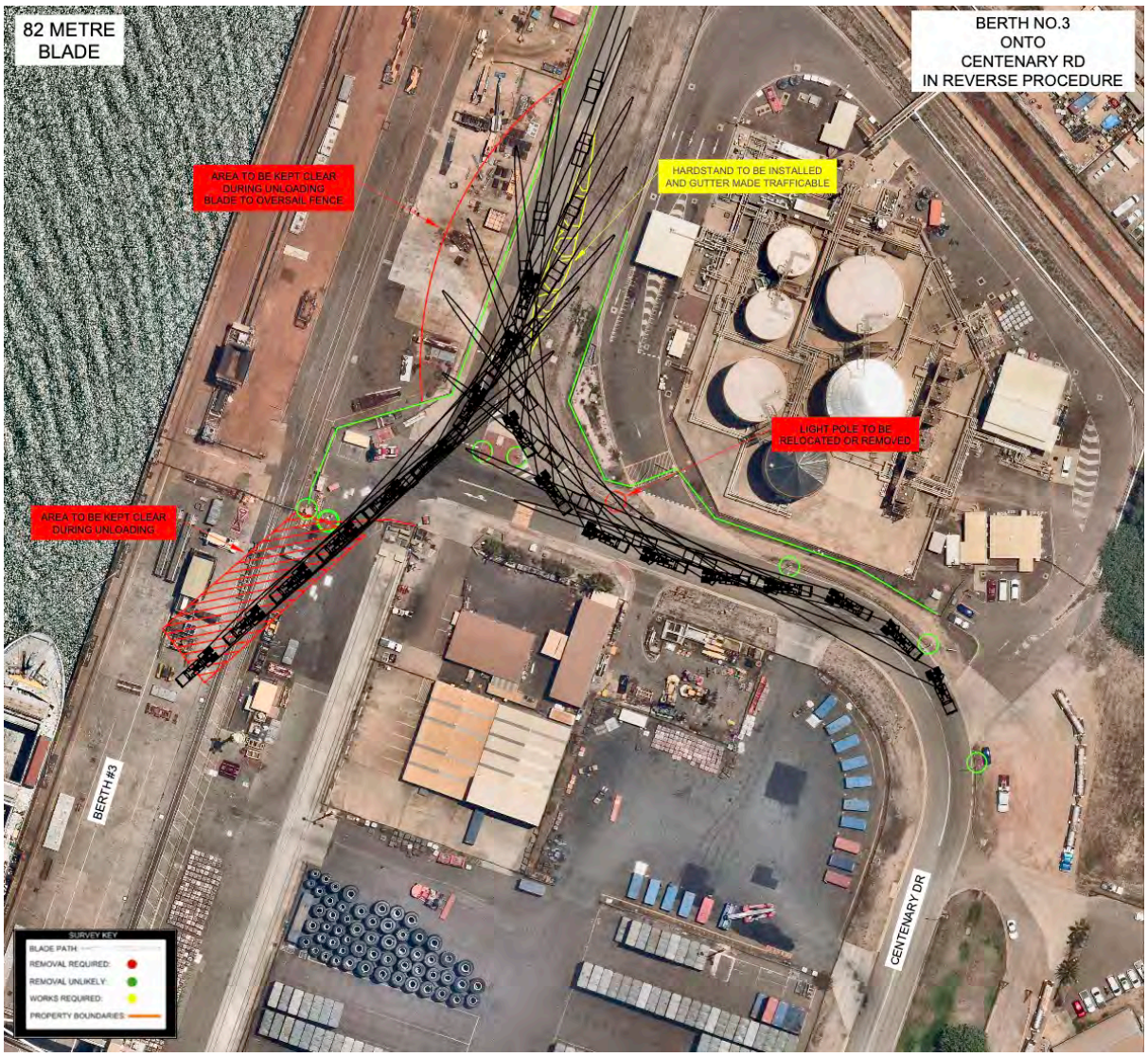


Figure 6 - Blades reversed out from the berth No. 3

GPS Link: https://goo.gl/maps/NuhRs2Lt6YGXwoFq6
Procedure: Items unloaded from ship backwards and unable to be turned on the berth such as blades to be reversed from the Break Bulk Berth onto Benwell Rd then driven onto Centenary Drive.
Modifications required: The gate, fence and any items within the swept path area will need to be relocated. A light pole will need to be relocated or temporarily removed.

0.1 Km's: Exit Berth No. 3 onto Centenary Drive

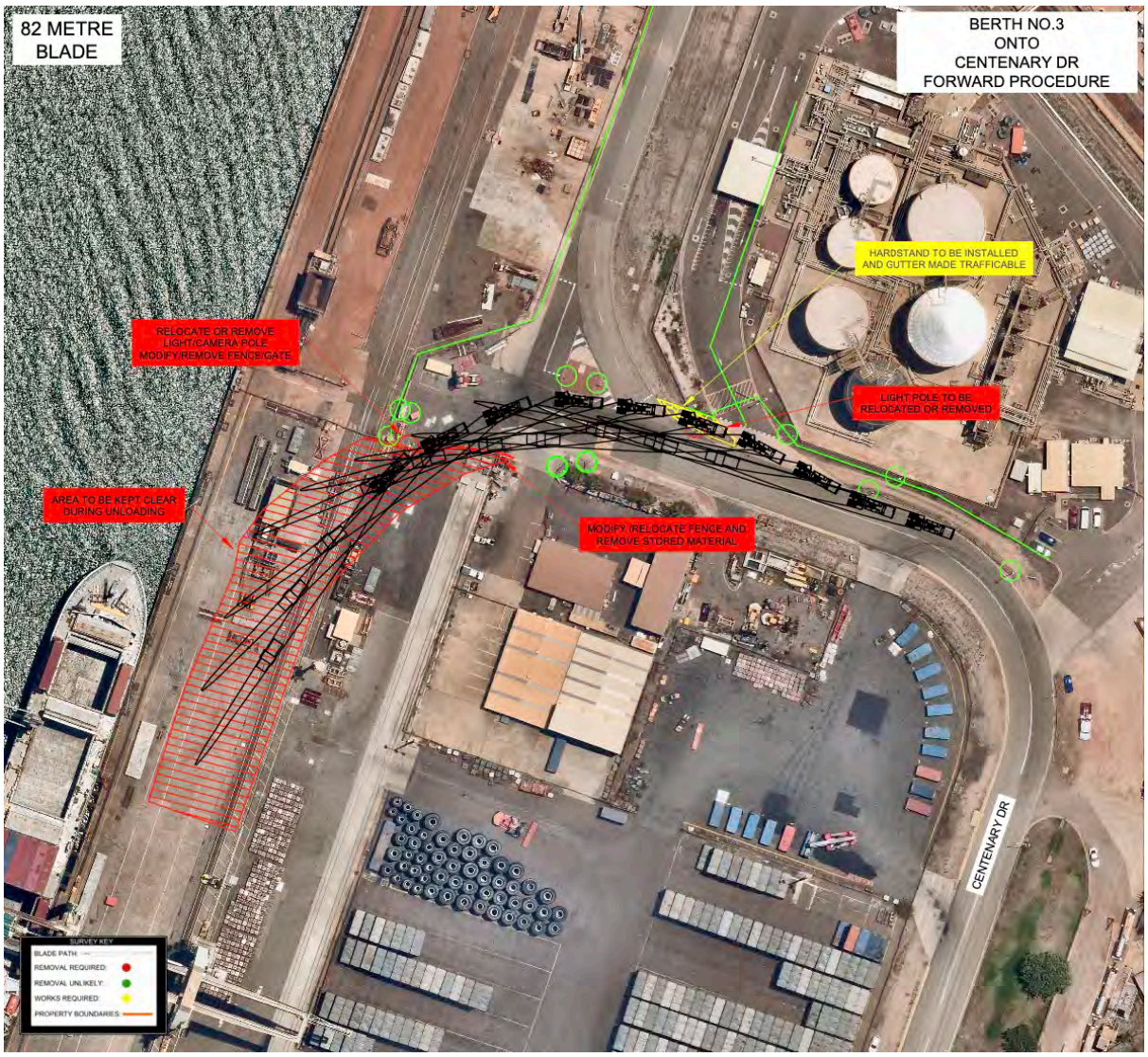


Figure 7 - Blades driven out forward from berth No. 3

GPS Link: https://goo.gl/maps/LiAcid4ptJHTsKRJ6
Procedure: Items unloaded from ship in correct direction to exit the berth to the North onto Centenary Drive.
Modifications required: The gate, fence and any items within the swept path area will need to be relocated. A light pole will need to be relocated or temporarily removed. Some hardstand is required on the outside of the corner.

0.2 Km's: Right Hand Turn on Centenary Drive

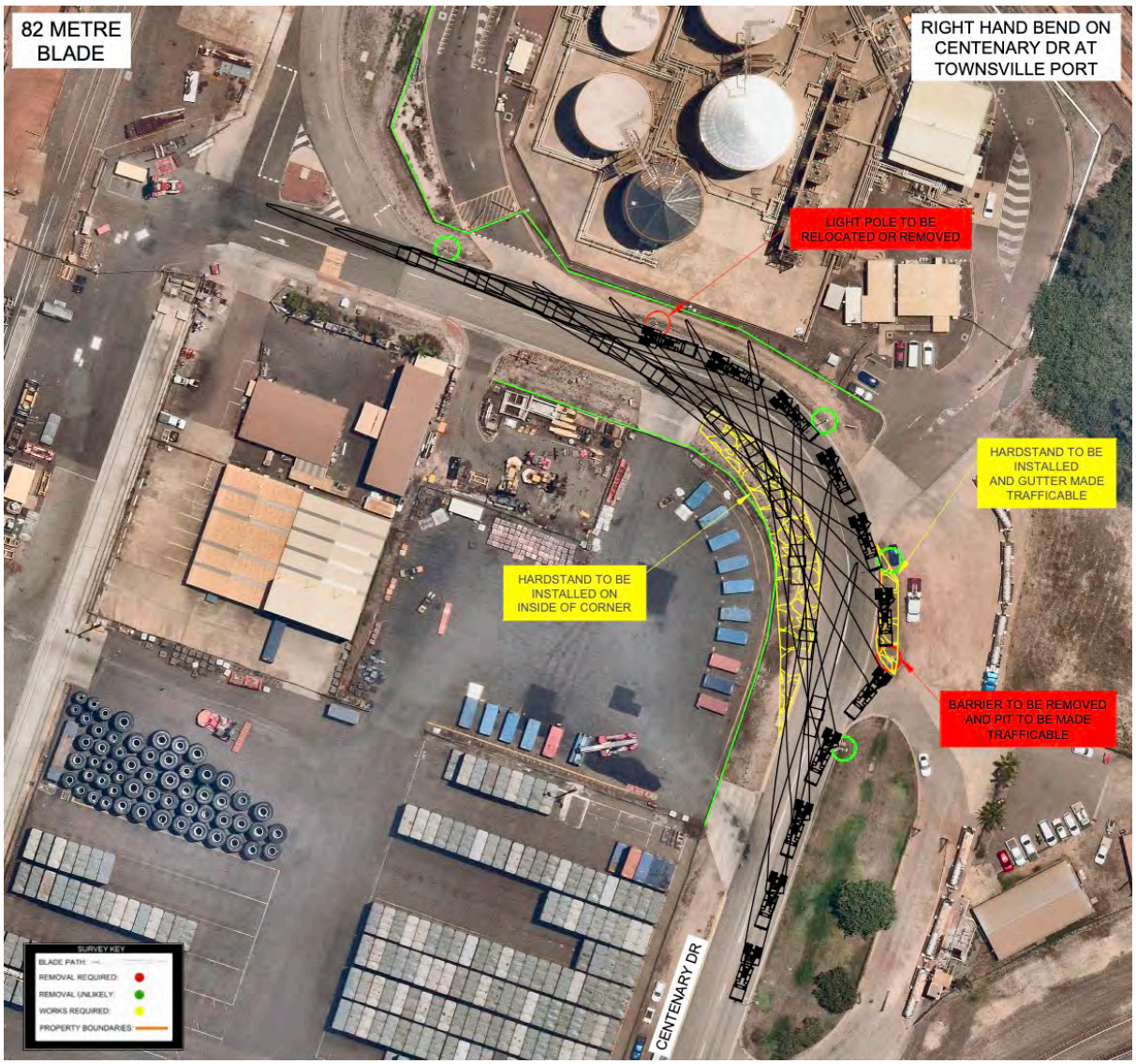


Figure 8 - Right hand turn on Centenary Drive

GPS Link: https://goo.gl/maps/LiAcid4ptJHTsKRJ6
Procedure: Right hand bend
Modifications required: Light poles will need to be relocated or temporarily removed. Hardstand is required on the corner.

0.8 Km's: Overhead Conveyor on Centenary Drive

Figure 9 - Overhead conveyor on Centenary Drive

GPS Link: https://goo.gl/maps/6pEvcvJUwJCTgUr46
Procedure: Travel directly ahead and keep to left hand side of road for maximum clearance under conveyor. Lowest clearance is 8.1 metres.
Modifications required: Nil.

0.85 Km's: Left Hand Bend onto Benwell Road

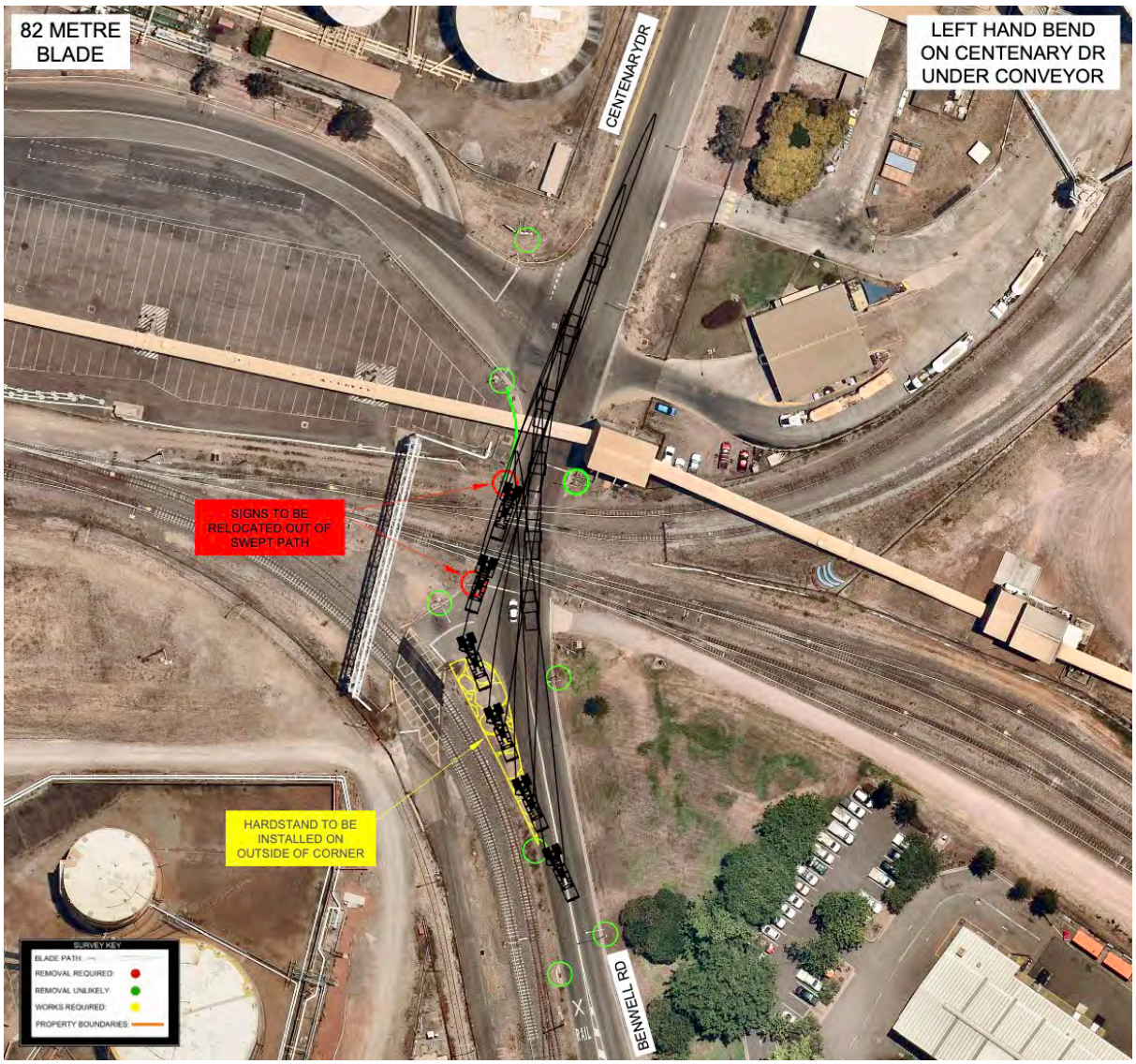


Figure 10 - Left hand bend onto Benwell Road

GPS Link: https://goo.gl/maps/teTVAqdZ3WZSvmmu6
Procedure: Travel directly ahead and keep to left hand side of road for maximum clearance under conveyor.
Modifications required: Hardstand required on the exit of the corner. Ensure no vehicles parked in front of Cement Australia buildings.

1.3 Km Left Hand Turn onto Storage Access Road

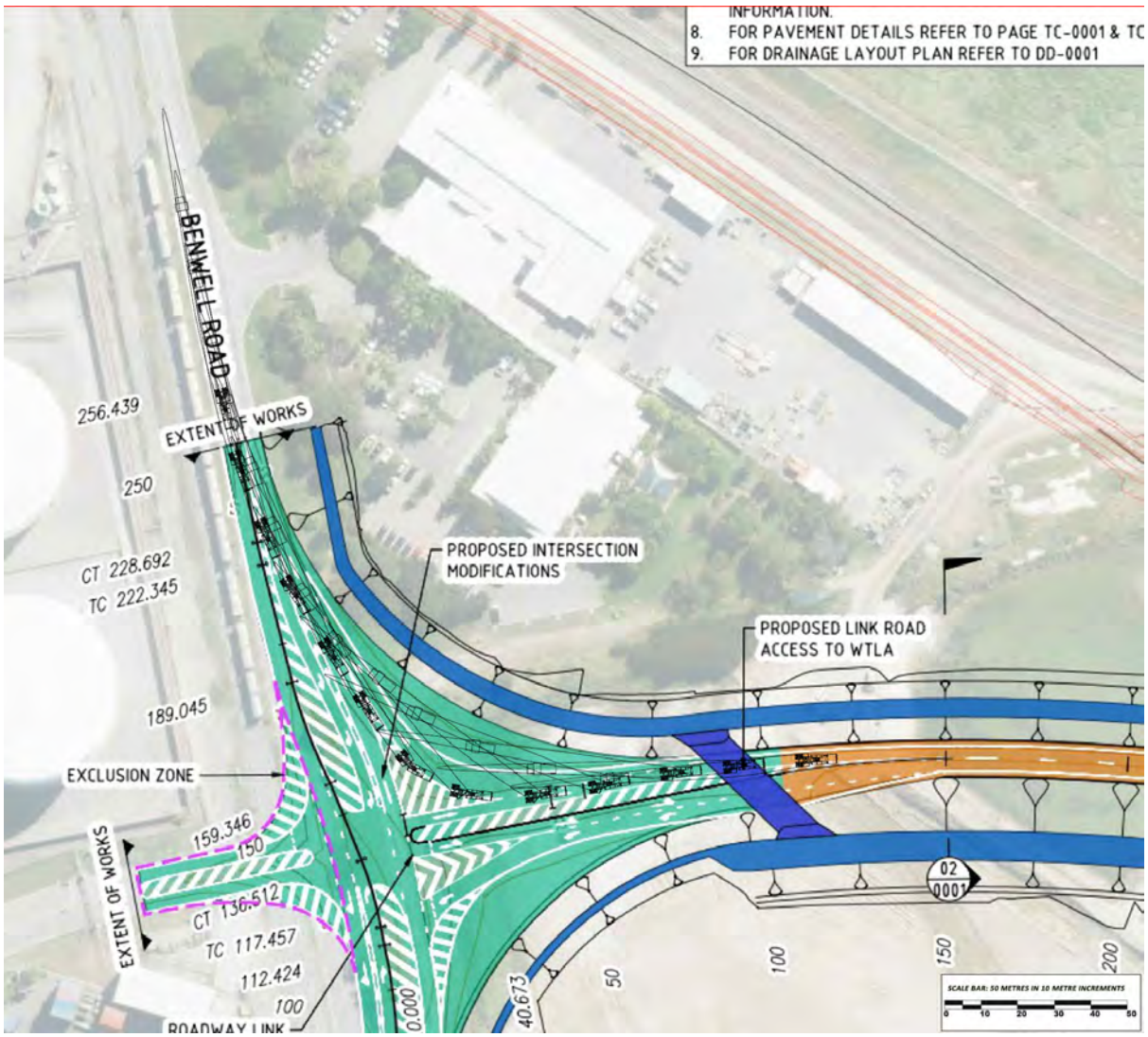


Figure 11 - Left Hand Turn onto Storage Access Road

GPS Link: https://maps.app.goo.gl/RAcYeS8nbYqG3ix46
Procedure: Turn left onto port storage access road.
Modifications required: Townsville Port is undertaking the upgrades on the new access road and storage area. Townsville Port to be contacted to confirm suitability, progress and availability for this project.

1.8 Km Proposed Port Storage Area Layout

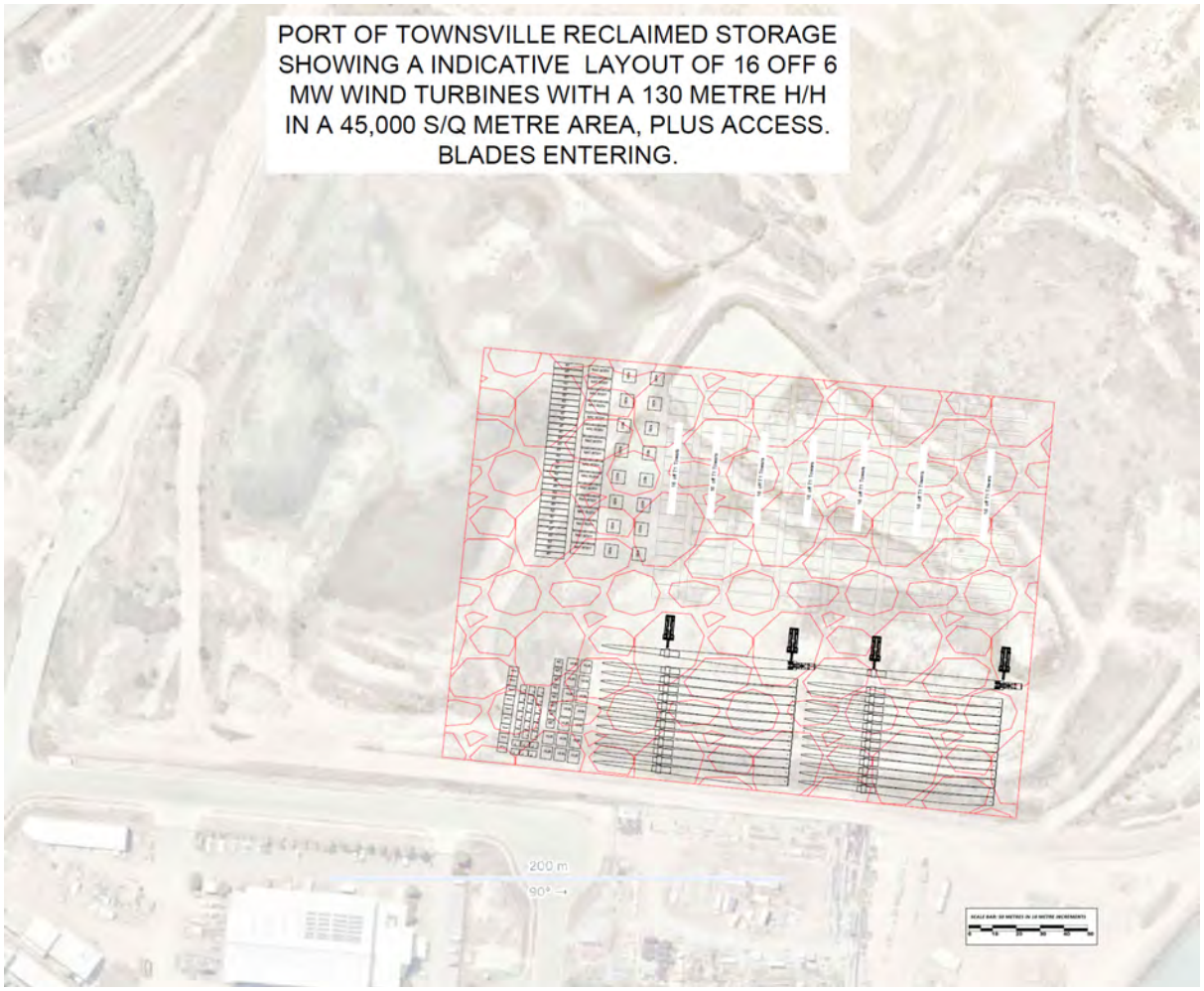


Figure 12 - Proposed Port Storage Area Layout

GPS Link: https://maps.app.goo.gl/JhzAWKMF2b6JR24j7
Procedure: Travel directly ahead into storage area.
Modifications required: Townsville Port is undertaking the upgrades on the new access road and storage area. Townsville Port to be contacted to confirm suitability, progress and availability for this project.

2.0 Km Bend on Storage Exit Road

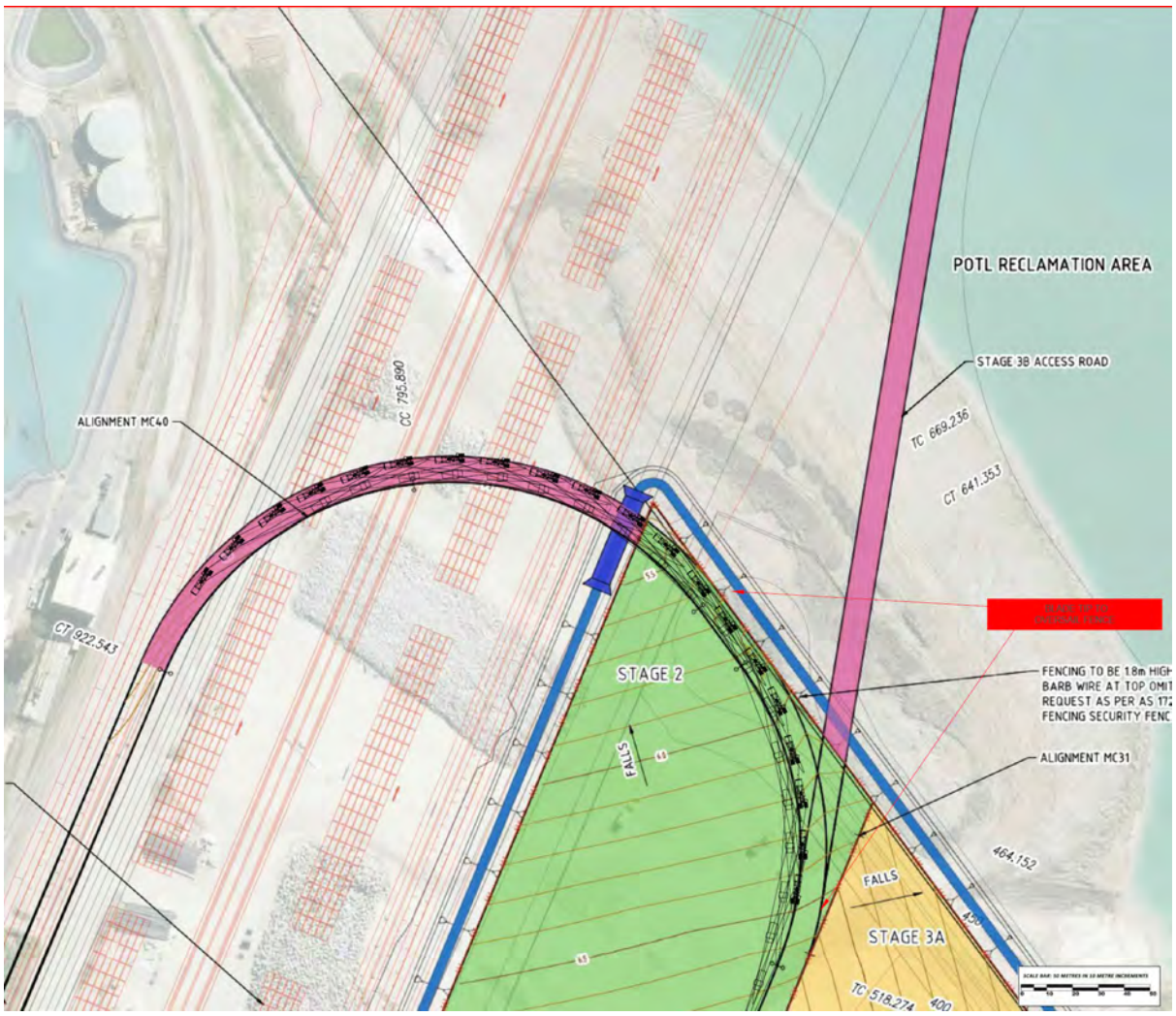


Figure 13 - Bend on Storage Exit Road

GPS Link: https://maps.app.goo.gl/g9m2QChUi3SfsX4r8
Procedure: Left hand bend
Modifications required: Townsville Port is undertaking the upgrades on the new access road and storage area. Townsville Port to be contacted to confirm suitability, progress and availability for this project.

2.4 Km Exiting Storage Area onto Benwell Road

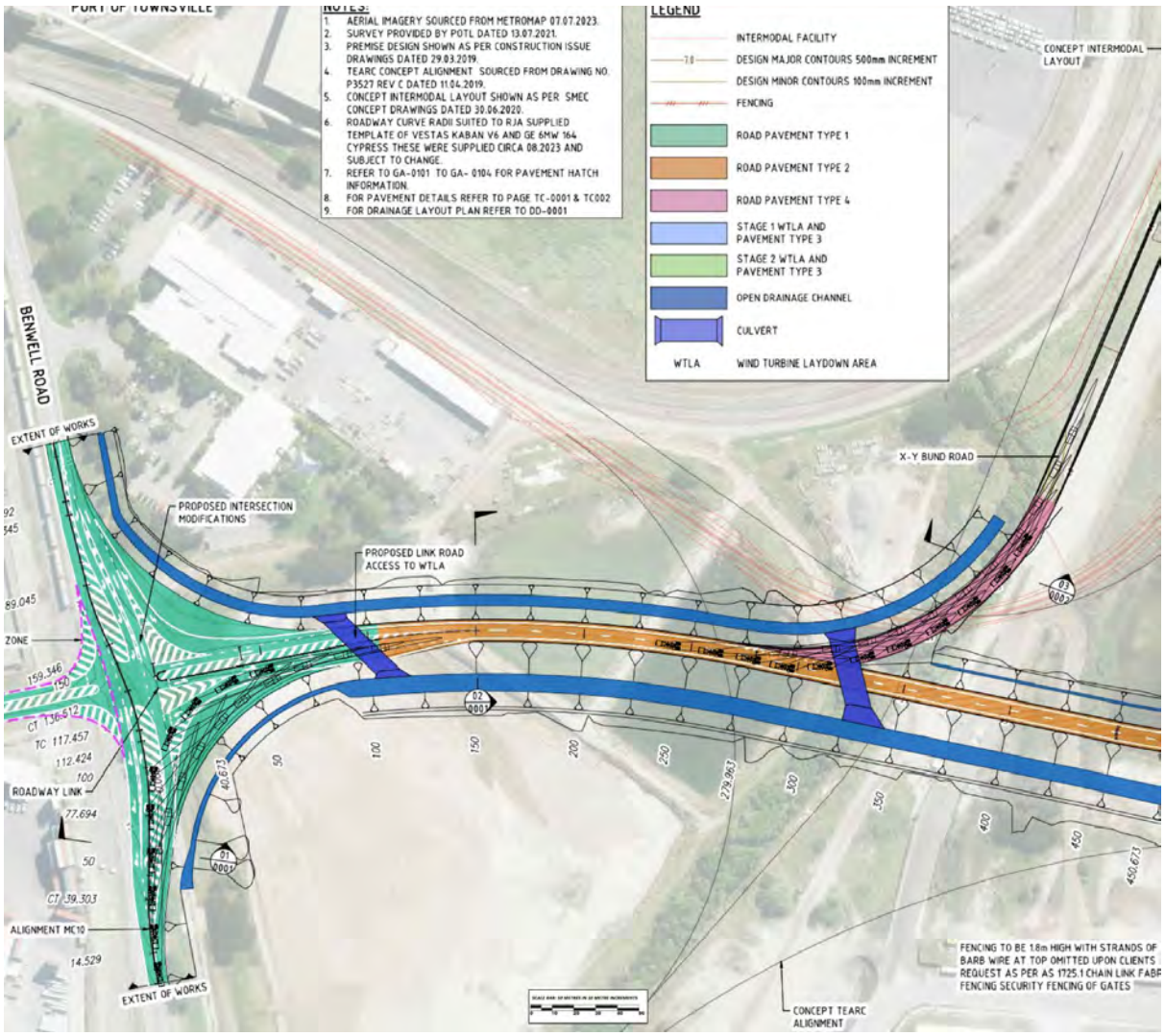


Figure 14 - Exiting Storage Area onto Benwell Road

GPS Link: https://maps.app.goo.gl/5FbyEiUEjNVAXbQf6
Procedure: Right / Left turns
Modifications required: Townsville Port is undertaking the upgrades on the new access road and storage area. Townsville Port to be contacted to confirm suitability, progress and availability for this project.

2.5 Km's: Port Access Gates on Benwell Road

Figure 15 - Port access gates on Benwell Road

GPS Link: https://goo.gl/maps/EUsxiA3GmZPBgk8w7
Procedure: Merge left onto the incorrect side of the road and through the entrance gate. The gate is 9.0 metres in width.
Modifications required: Nil.

9.0 Route 2 - Study

Components: Blades and lighter loads (max loaded height 5.5m)
From: Port of Townsville storage area
To: Dugald River Hybrid Windfarm Project
Distance: 850 kilometres
Route: Benwell Rd, Southern Port Road, Flinders Hwy, Andrew Daniels Drive, Burke Development Road, Dugald River Site Road.
GPS Link for route: https://maps.app.goo.gl/dbt8jYv9SREFyMKo9

Figure 16 - Route 2

ROUTE INDEX	
ROAD MODIFICATION	
CAUTION	
EMERGENCY PARKING	

KM index	Location	Section of road	Existing Measurement	Procedure	Notes
0.0	Townsville Port	Left hand turn from storage access road onto Benwell Road GPS Link: https://maps.app.goo.gl/RAcYeS8nbYqG3ix46	Width: N/A Length: N/A Height: N/A	Left hand turn	**Pinchpoint procedure:** Spotter to guide the blades and any load requiring spotters through this section of road. **Traffic control:** Pilots to control local traffic. **Modifications required:** Yes. Townsville port have a design in place showing the works that are required to make suitable access through to the proposed storage area.
0.3	Townsville Port	Port access gates on Benwell Road. GPS Link: https://goo.gl/maps/EUsxiA3GmZPBgk8w7	Width: 9.0m	Travel directly ahead Wrong side	**Pinchpoint procedure:** Spotter to guide the blades and any load requiring spotters through this section of road. **Traffic control:** Traffic control and pilots to control local traffic. **Modifications required:** Loads to use oversize vehicle gates. Blade to oversail signs or signs to be made removable. Bollards to be removed and replaced for each movement.
1.3	Townsville	Benwell Road onto Southern Port Road GPS Link: https://goo.gl/maps/zMcooGDp78kqYkn5A	Width: 8.0m Length: 120.0mgyw	Travel directly ahead.	**Pinchpoint procedure:** Travel directly ahead in the centre lane. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** No.
8.7	Townsville	Southern Port Road onto the Flinders Highway GPS Link: https://goo.gl/maps/XCKTUisYRCfq8XQc7	Width: 10.0m Length: 120.0m Height: 5.90m	Travel directly ahead	**Pinchpoint procedure:** Travel directly ahead in the centre lane. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Traffic signals will need to be raised for loads over 5.8 metres in loaded height.
9.8	Townsville	Flinders Highway at Burdell Street GPS Link: https://goo.gl/maps/W7m5qiRbzNsFL9RaA	Height: 5.90m	Travel directly ahead	**Pinchpoint procedure:** Travel directly ahead in the centre lane. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Traffic signals will need to be raised for loads over 5.8 metres in loaded height.

KM index	Location	Section of road	Existing Measurement	Procedure	Notes
14.5	Roseneath	Flinders Highway at Kiernan Drive GPS Link: https://goo.gl/maps/N5y1zWEhehv4Crjc8	Height: 5.90m	Travel directly ahead	**Pinchpoint procedure:** Travel directly ahead in the centre lane. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Traffic signals will need to be raised for loads over 5.8 metres in loaded height.
45.1	Woodstock	Flinders Highway at Woodstock heavy vehicle pads GPS Link: https://maps.app.goo.gl/smPis6YqoGqaXg586	Width: 10.0m Length: 200.0m	Veer left into parking area.	**Parking - Large** Woodstock heavy vehicle pads.
52.1	Reid River	Flinders Highway Caltex Reid River GPS Link: https://maps.app.goo.gl/N9bWvSi5GPJdELdY9	Width: 10.0m Length: 80.0m	Veer left into parking area.	**Parking - Large** Parking possible Infront of CALTEX. Ensure entry and exit are not obstructed.
82.1	Mingela	Flinders Highway at Mingela GPS Link: https://maps.app.goo.gl/e2buYWRgJgpjNicH8	Width: 5.0m Length: 90.0m	Veer left into parking area.	**Parking - Emergency**
88.6	Mingela	Flinders Highway at Mingela GPS Link: https://maps.app.goo.gl/cmWLxixWEDQpo4pJ9	Width: 12.0m Length: 120.0m	Veer left into parking area.	**Parking - Large**
130.0	Charters Towers	Flinders Highway at Gregory Development Road GPS Link: https://maps.app.goo.gl/WF36wk18q519PZ6ZA	Width: 4.0m Length: 45.0m	Left hand turn	**Pinchpoint procedure:** Loads to travel over median strips onto incorrect side of road. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Islands to be made trafficable, signs relocated or removed, and vegetation trimmed for blade oversail.
132.0	Charters Towers	LH bend on Flinders Highway at new Queen Rd GPS Link: https://maps.app.goo.gl/eML3YVQRXYahFK2QA	Width: 7.5m Length: 95.0m	Left hand bend	**Pinchpoint procedure:** left hand bend. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Nil.
132.9	Charters Towers	RH bend Flinders Highway at Sayers Street GPS Link: https://maps.app.goo.gl/8AehnqWBpwsAiPwK7	Width: 7.5m Length: 95.0m	Right hand bend	**Pinchpoint procedure:** Right hand bend. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** 1 shrub may require trimming for blade oversail. Rail overpass max loaded height 5.5m

KM index	Location	Section of road	Existing Measurement	Procedure	Notes
133.0	Charters Towers	LH bend on Flinders Highway at Millchester Rd GPS Link: https://maps.app.goo.gl/XNEShgj1f28EUuQy9	Width: 8.0m Length: 120.0m	Left hand bend	**Pinchpoint procedure:** Left hand bend. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Nil.
134.0	Charters Towers	LH bend on Flinders Highway at Armstrong Rd GPS Link: https://maps.app.goo.gl/kzrb3gKycotvjkui8	Width: 8.0m Length: 80.0m	Left hand bend	**Pinchpoint procedure:** Loads to cross to incorrect side of road and cross back over median strip. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** multiple signs to be relocated or made removable. Median made trafficable. Vertical curves exceed standard trailer capability. Trailer lifting design required to be undertaken to determine if sufficient trailer lift can be achieved to provide clearance.
145.5	Black Jack	Flinders Highway Rail Crossing GPS Link: https://maps.app.goo.gl/cwZ5bwVMgn8xmeHY6	Width: 7.0m	Travel directly ahead	**Pinchpoint procedure:** Rail manager approval required. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Nil.
161.0	Campaspe	Flinders Highway GPS Link: https://maps.app.goo.gl/Zt2cnk2tNb71FokN9	Width: 9.0m Length: 200.0m	Veer left into parking bay	**Parking - Large** Heavy vehicle pads
176.5	Baffles Creek	Flinders Highway GPS Link: https://maps.app.goo.gl/gS3gtYBni1JunMMZA	Width: 7.0m Length: 140.0m	Incorrect side of road	**Parking – Emergency** incorrect side of road
191.8	Campaspe	Flinders Highway GPS Link: https://maps.app.goo.gl/LD4waBKBvqtSpdyBA	Width: 5.0m Length: 80.0m	Veer left into parking bay	**Parking - Emergency**
207.4	Homestead	Flinders Highway GPS Link: https://maps.app.goo.gl/wRadj2WaSXYtoUpE7	Width: 5.5m Length: 120.0m	Veer left into parking bay	**Parking - Large**
239.9	Pentland	Flinders Highway GPS Link: https://maps.app.goo.gl/u3oP9pQL494CNd2a9	Width: 5.0m Length: 80.0m	Veer left into parking bay	**Parking - Emergency**
241.5	Pentland	Flinders Highway GPS Link: https://maps.app.goo.gl/4ss9arRNkuNEtBGu7	Width: 5.5m Length: 120.0m	Incorrect side of road	**Parking – Emergency incorrect side of road**

KM index	Location	Section of road	Existing Measurement	Procedure	Notes
258.1	Pentland	Flinders Highway GPS Link: https://maps.app.goo.gl/NnWCh3fAbiDS4zP56	Width: 3.5m Length: 70.0m	Veer left into parking bay	**Parking - Emergency**
273.7	Pentland	Flinders Highway GPS Link: https://maps.app.goo.gl/oc6Mq6w4kpjMeV2V6	Width: 6.0m Length: 120.0m	Veer left into parking bay	**Parking - Large**
291.2	Torrens Creek	Flinders Highway GPS Link: https://maps.app.goo.gl/aMUUHCjoRsef9skj7	Width: 6.5m Length: 150.0m	Veer left into parking bay	**Parking - Large**
307.1	Torrens Creek	Flinders Highway GPS Link: https://maps.app.goo.gl/XMcpKuQKEZ71qt7U6	Width: 4.0m Length: 70.0m	Veer left into parking bay	**Parking - Emergency**
320.9	Prairie	Flinders Highway GPS Link: https://maps.app.goo.gl/SveMC2Z6P47Rn4t9A	Width: 4.0m Length: 70.0m	Veer left into parking bay	**Parking - Emergency**
335.6	Prairie	Flinders Highway GPS Link: https://maps.app.goo.gl/Py7VHVehmdhBhABf6	Width: 8.0m Length: 90.0m	Incorrect side of road	**Parking – Emergency, large, incorrect side of road**
335.1	Prairie	Flinders Highway GPS Link: https://maps.app.goo.gl/zMriCcH945QNi9496	Width: 8.0m Length:120.0m	Incorrect side of road	**Parking – Emergency, large, incorrect side of road**
351.2	Prairie	Flinders Highway GPS Link: https://maps.app.goo.gl/8fmH62UkFUz3aQDZ7	Width: 3.5m Length: 80.0m	Veer left into parking bay	**Parking - Emergency**
366.0	Hughenden	Flinders Highway rail crossing GPS Link: https://maps.app.goo.gl/cVGcjLgtwej3pGCy5	Width: 7.0m	Travel directly ahead	**Pinchpoint procedure:** Rail manager approval required. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Nil.
Hughenden Bypass Option (Start at 379.0km - Haul Rd turn off prior to Rail Crossing) **GPS Link: https://maps.app.goo.gl/C26wcnysJKgowHqeA**					
0.0	Hughenden	Flinders Highway onto Haul Road GPS Link: https://maps.app.goo.gl/S7k5Ujueok1z3ZkC7	Width: 8.0m Length: 70.0m	Left hand turn	**Pinchpoint procedure:** Left hand turn. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Unsealed roads to be made suitable for all proposed loads and maintained for duration of deliveries. unsealed roads may be untrafficable during wet weather.

KM index	Location	Section of road	Existing Measurement	Procedure	Notes
1.6	Hughenden	Haul Road – Crest over disused rail line GPS Link: https://maps.app.goo.gl/ByGCb28qNVePHi9p6	Width: 6.0m	Continue directly ahead	**Pinchpoint procedure:** Travel directly ahead with caution. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Crest over disused rail line to be reduced to provide trailer clearance.
1.7	Hughenden	Haul Road onto Kennedy Developmental Road GPS Link: https://maps.app.goo.gl/HDnhXeuAgLFkpiaK9	Width: 5.0m Length: 50.0m	Right hand turn	**Pinchpoint procedure:** Turn right using hardstand bypass installed on exit of corner. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Hardstand bypass road to be install on exit of corner. Sign to be relocated or made removable.
2.9	Hughenden	Kennedy Developmental Road onto McLaren St GPS Link: https://maps.app.goo.gl/Q4Seip3iJoNuGLv37	Width: 10.0m Length: 70.0m	Left hand turn	**Pinchpoint procedure:** Left hand turn. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Nil.
3.7	Hughenden	McLaren St onto Saleyards Rd GPS Link: https://maps.app.goo.gl/sTNe1dAfygZstMeb6	Width: 6.5m Length: 30.0m	Right hand turn	**Pinchpoint procedure:** Turn right using hardstand bypass on exit of corner. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Hardstand bypass road to be installed on exit of corner.
4.6	Hughenden	Saleyards Rd onto Flinders Highway GPS Link: https://maps.app.goo.gl/CPC3fEreg99bvoyk8	Width: 8.0m Length: 45.0m	Left hand turn	**Pinchpoint procedure:** Turn left using hardstand bypass road on inside and exit of corner. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Hardstand bypass road to be installed on inside and exit of corner. Signs to be relocated or made removable with inserts flush with ground.
Route 2 Continued (From 379.0km - Haul Rd turn off prior to Rail Crossing)					
379	Hughenden	Flinders Highway Rail Crossing GPS Link: https://maps.app.goo.gl/i53EDzAzp4wyTR7JA	Width: 7.5m	Continue directly ahead	**Pinchpoint procedure:** Rail manager approval required. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Nil.
379.9	Hughenden	Flinders Highway Rail Crossing GPS Link: https://maps.app.goo.gl/ob4BQtTc2d19dcn47	Width: 7.5m	Continue directly ahead	**Pinchpoint procedure:** Rail manager approval required. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Nil.
381	Hughenden	Flinders Highway corner at Stansfield Street GPS Link: https://maps.app.goo.gl/sapXsnwykdQEmjWi6	Width: 8.0m Length: 40.0m	Left hand turn	**Pinchpoint procedure:** **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Light poles to be relocated or temporarily removed out of swept path. Signs to be relocated or made removable with inserts flush with ground. Traffic islands to be made trafficable.

KM index	Location	Section of road	Existing Measurement	Procedure	Notes
384	Hughenden	Flinders Highway BP Service Station GPS Link: https://maps.app.goo.gl/nnDMcSM84CKCgg718	Width: 20.0m Length: 100.0m	Incorrect side of road	**Parking –Large,** incorrect side of road at BP Service Station
420	Marathon	Flinders Highway GPS Link: https://maps.app.goo.gl/VHnWRTDSEB6iw6eU7	Width: 5.0m Length: 80.0m	Veer left into parking bay	**Parking - Emergency**
425	Marathon	Flinders Highway GPS Link: https://maps.app.goo.gl/TY4xFZ6gEyoEo8eZ8	Width: 4.5m Length: 60.0m	Veer left into parking bay	**Parking - Emergency**
434	Marathon	Flinders Highway GPS Link: https://maps.app.goo.gl/rn2Y3f3t53YSNtzZ8	Width: 4.5m Length: 50.0m	Veer left into parking bay	**Parking - Emergency**
436	Marathon	Flinders Highway GPS Link: https://maps.app.goo.gl/JpbAcLi1YtX6Gd7CA	Width: 30m Length: 120.0m	Incorrect side of road	**Parking – Emergency** Incorrect side of road. No Blades.
438	Marathon	Flinders Highway GPS Link: https://maps.app.goo.gl/idovzwdMQYP97AaE6	Width: 4.5m Length: 70.0m	Veer left into parking bay	**Parking - Emergency**
443	Marathon	Flinders Highway GPS Link: https://maps.app.goo.gl/JL5dpGFL3Q3MeE3f9	Width: 4.5m Length: 70.0m	Veer left into parking bay	**Parking - Emergency**
448	Marathon	Flinders Highway GPS Link: https://maps.app.goo.gl/K8x78p5WJYQExH5d7	Width: 10.0m Length: 90.0m	Turn left into parking bay	**Parking - Emergency** No Blakes, small loads only.
456	Marathon	Flinders Highway GPS Link: https://maps.app.goo.gl/8kvhRQTCGkJpm64w5	Width: 3.5m Length: 60.0m	Veer left into parking bay	**Parking - Emergency**
462	Marathon	Flinders Highway GPS Link: https://maps.app.goo.gl/GZcmQ6nCfWj3pXFv6	Width: 3.5m Length: 50.0m	Veer left into parking bay	**Parking - Emergency**
477	Richmond	Flinders Highway GPS Link: https://maps.app.goo.gl/Z9Yo3Vav5K8PsBUF9	Width: 5.0m Length: 60.0m	Veer left into parking bay	**Parking - Emergency**
482	Richmond	Flinders Highway GPS Link: https://maps.app.goo.gl/wCUQnrj1wjA1119h6	Width: 4.5m Length: 70.0m	Veer left into parking bay	**Parking - Emergency**
Richmond Bypass Option (Start at 495km – Burke Street) GPS Link: https://maps.app.goo.gl/AbKDnLKE2TdsnfXy6					

KM index	Location	Section of road	Existing Measurement	Procedure	Notes
0.0	Richmond	Flinders Highway onto Burke Street GPS Link: https://maps.app.goo.gl/mX23GGRPToSG74s1A	Width: 9.0m Length: 45.0m	Left hand turn	**Pinchpoint procedure:** Turn left using hardstand on inside of corner. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Hardstand bypass to be installed on inside of corner. Signs to be relocated or made removable with inserts flush with ground. Vegetation to be trimmed for blade and trailer clearance as required.
0.2	Richmond	Burke Street over rail crossing GPS Link: https://maps.app.goo.gl/bvns1SPVubYTqhz49	Width: 7.5m	Travel directly ahead	**Pinchpoint procedure:** Travel directly ahead with caution in accordance with rail manager requirements. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Crest over rail line to be adjusted to provide trailer clearance.
1.0	Richmond	Right hand turn on Burke Street into Sale Yards GPS Link: https://maps.app.goo.gl/V9SVsUHpmrKbwo7a8	Width: 6.0m Length: 35.0m	Right hand turn	**Pinchpoint procedure:** Turn right using hardstand installed on inside and exit of corner. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Hardstand to be installed on inside and exit of corner. Unsealed roads to be made suitable for all proposed loads and maintained for duration of deliveries. unsealed roads may be untrafficable during wet weather.
1.4	Richmond	Sale yards onto Jim Maguire Road GPS Link: https://maps.app.goo.gl/muBsLaoXH1wv9Usu9	Width: 7.0m Length: 100.0m	Left hand turn	**Pinchpoint procedure:** Left hand turn. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Nil.
1.7	Richmond	Jim Maguire Road onto Flinders Highway GPS Link: https://maps.app.goo.gl/H4bKn9XoSupMX7JA	Width: 8.0m Length: 55.0m	Left hand turn	**Pinchpoint procedure:** Left hand turn. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Signs to be relocated or made removable.
Route 2 Continued (From 495km – Burke Street)					
496	Richmond	Left hand turn on Flinders Highway at Larsen Street GPS Link: https://maps.app.goo.gl/DcyxS3VukKnKh5n57	Width: 12.0m Length: 50.0m	Left hand turn	**Pinchpoint procedure:** Left hand turn from incorrect side of road to incorrect side of road. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Power poles to be relocated out of swept path. All signs and road furniture to be relocated or removed and islands made trafficable. Due to the large amount of asset relocation required at this corner the bypass option outlined below is the preferred route for Richmond.
497	Richmond	Flinders Highway Rail Crossing GPS Link: https://maps.app.goo.gl/XyhSezhmFKaszyT36	Width: 7.5m	Travel directly ahead	**Pinchpoint procedure:** Rail manager approval required. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:**

KM index	Location	Section of road	Existing Measurement	Procedure	Notes
500	Richmond	Flinders Highway GPS Link: https://maps.app.goo.gl/5Hb59xe5VsQjLqfn9	Width: 10m Length: 150.0m	Veer left into parking bay	**Parking – Large** Overnight
511	Richmond	Flinders Highway GPS Link: https://maps.app.goo.gl/mG4AfcTs1ZheFykU7	Width: 4.0m Length: 60.0m	Veer left into parking bay	**Parking - Emergency**
526	Maxwelton	Flinders Highway GPS Link: https://maps.app.goo.gl/Kg47mZ2x9hpGo1Jg7	Width: 4.0m Length: 70.0m	Veer left into parking bay	**Parking - Emergency**
533	Maxwelton	Flinders Highway GPS Link: https://maps.app.goo.gl/2KAxqXbEriFmYBAm6	Width: 4.0m Length: 90.0m	Veer left into parking bay	**Parking - Emergency**
545	Maxwelton	Flinders Highway GPS Link: https://maps.app.goo.gl/E8cSGm3wPc2EtS3j8	Width: 8.0m Length: 90.0m	Veer left into parking bay	**Parking - Emergency** Soft surface.
582	Maxwelton	Flinders Highway		Veer left into parking bay	**Parking - Emergency**
595	Julia Creek	Flinders Highway		Veer left into parking bay	**Parking - Emergency**
599	Julia Creek	Flinders Highway GPS Link: https://maps.app.goo.gl/d1gU9yzXGS5mypjC9	Width: 8.0m Length: 160.0m	Veer left into parking bay	**Parking - Large**
602	Julia Creek	Flinders Highway GPS Link: https://maps.app.goo.gl/wsHRpyNFMEcw5H127	Width: 8.0m Length: 160.0m	Incorrect side of road	**Parking – Large/Stock pile site**
609	Julia Creek	Flinders Highway Rail Crossing GPS Link: https://maps.app.goo.gl/AfVbSwWX5gLA5Ssk9	Width: 7.5m	Travel directly ahead	**Pinchpoint procedure:** Rail manager approval required. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Nil.
635	Julia Creek	Flinders Highway GPS Link: https://maps.app.goo.gl/HUKwxT8XBa49VZib9	Width: 4.0m Length: 60.0m	Veer left into parking bay	**Parking - Emergency**
Julia Creek Bypass Option (Start at 644km – Goldring Street Street) GPS Link: https://maps.app.goo.gl/m7H7L2igY29149Y1A					

KM index	Location	Section of road	Existing Measurement	Procedure	Notes
644	Julia Creek	Flinders Highway onto Goldring Street GPS Link: https://maps.app.goo.gl/EYXzCvTYoaUasnfP6	Width: 4.5m Length: 60.0m	Left hand turn	**Pinchpoint procedure:** Left hand turn. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Vegetation to be trimmed for blade oversail as required.
645	Julia Creek	Flinders Highway GPS Link: https://maps.app.goo.gl/DjjKbEFoFxocbcxX8	Width: 8.0m Length: 160.0m	Veer left into parking bay	**Parking - Large** Opposite Pub
646	Julia Creek	Goldring Street onto Flinders Highway GPS Link: https://maps.app.goo.gl/Jxe7qNGMNqCaRfXw9	Width: 4.5m Length: 60.0m	Left hand turn	**Pinchpoint procedure:** Left hand turn. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Sign to be relocated or made removable.
Route 2 Continued (From 644km – Goldring Street Street)					
660	Julia Creek	Flinders Highway GPS Link: https://maps.app.goo.gl/e54Wa1WdpDxMTVwa7	Width: 4.0m Length: 75.0m	Veer left into parking bay	**Parking - Emergency**
675	Julia Creek	Flinders Highway GPS Link: https://maps.app.goo.gl/ShKka6ww1cMUQjw48	Width: 4.0m Length: 55.0m	Veer left into parking bay	**Parking - Emergency**
677-681	Julia Creek	Flinders Highway floodways GPS Link: https://maps.app.goo.gl/s4a1tJGKoh4jNvEq9		Travel directly ahead	Rough section of road, multiple dips.
705	Julia Creek	Flinders Highway crest in road		Travel directly ahead	Large crest in road over pipe
714.6	Julia Creek	Flinders Highway GPS Link: https://maps.app.goo.gl/uSMEAraAGqTCuFXn6	Width: 10.0m Length: 100.0m	Veer left into parking bay	**Parking - Large**
735	Cloncurry	Flinders Highway GPS Link: https://maps.app.goo.gl/ts7eGDq4RZUDmGcv7	Width: 3.5m Length: 100.0m	Veer left into parking bay	**Parking - Emergency**
741	Cloncurry	Flinders Highway crest in road		Travel directly ahead	Large crest in road over pipe
745	Cloncurry	Flinders Highway GPS Link: https://maps.app.goo.gl/w5xAN5yqi3rsiNfP6	Width: 8.0m Length: 150.0m	Incorrect side of road	**Parking – Emergency** Incorrect side of road/stock pile site

KM index	Location	Section of road	Existing Measurement	Procedure	Notes
758	Cloncurry	Flinders Highway GPS Link: https://maps.app.goo.gl/TmNRSVQvNPYhuBk77	Width: 3.5m Length: 50.0m	Veer left into parking bay	**Parking - Emergency**
771	Cloncurry	Flinders Highway GPS Link: https://maps.app.goo.gl/eFU6iiJS8yeu2PeAA	Width: 10.0m Length: 150.0m	Veer left into parking bay	**Parking - Large**
779.0	Cloncurry	Flinders Highway onto Andrew Daniels Drive GPS Link: https://maps.app.goo.gl/c1M1VzagmC2PnGEKm9	Width: 6.5m Length: 80.0m	Right hand turn	**Pinchpoint procedure:** Load to use slip lane on incorrect side of road. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Signs to be relocated or made removable and inserts made flush with ground. Hardstand to be installed on island to make trafficable.
786.0	Cloncurry	Andrew Daniels Drive onto Burke Development Road GPS Link: https://maps.app.goo.gl/a6RuStKPbNuhC1Pf7	Width: 6.5m Length: 60.0m	Right hand turn	**Pinchpoint procedure:** Load to cross over median. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Light pole to be relocated out of swept path or removed.
790	Cloncurry	Burke Development Road GPS Link: https://maps.app.goo.gl/W7ELpNeLhXZ7WBe16	Width: 10.0m Length: 200.0m	Veer left into parking bay	**Parking - Large**
800	Cloncurry	Burke Development Road GPS Link: https://maps.app.goo.gl/AKUwm4SdrZheRL5F7	Width: 4.0m Length: 100.0m	Veer left into parking bay	**Parking - Emergency**
811	Cloncurry	Burke Development Road GPS Link: https://maps.app.goo.gl/qM87B5Gd1XRBv75f7	Width: 8.0m Length: 80.0m	Veer left into parking bay	**Parking - Emergency**
822	Cloncurry	Burke Development Road GPS Link: https://maps.app.goo.gl/N4JkBn75BqQJwts7A	Width: 4.0m Length: 100.0m	Veer left into parking bay	**Parking - Emergency**
828	Quamby	Burke Development Road GPS Link: https://maps.app.goo.gl/NLismZHUfBfFJxM39	Width: 6.0m Length: 100.0m	Veer left into parking bay	**Parking - Emergency** Towers only
840	Quamby	Burke Development Road GPS Link: https://maps.app.goo.gl/P5KYeTboR5rqWYoVA	Width: 3.5m Length: 90.0m	Veer left into parking bay	**Parking - Emergency**

KM index	Location	Section of road	Existing Measurement	Procedure	Notes
841.0	Dugald River	Burke Development Road onto Dugald River Site Road GPS Link: https://maps.app.goo.gl/CFk9JksxLjeH2rXW8	Width: 10.0m Length: 75.0m	Left hand turn	**Pinchpoint procedure:** Left hand turn. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Nil.
842	Dugald River	Dugald River Site Road GPS Link: https://maps.app.goo.gl/yZ4RMvpLxGHp7T95A	Width: 3.5m Length: 1000.0m	Veer left into parking bay	**Parking - Emergency** Large emergency landing strip
850.0	Dugald River	Dugald River Site Road GPS Link: https://maps.app.goo.gl/qE3XjbYGtK26G53pr6	Site Entry/Gatehouse.	End Route	All site access roads to be constructed to suitable standards to accommodate the weight, height, swept path and vertical curves (dips/crests) of all proposed loads and are to be maintained for the duration of the deliveries.

0.0 Km's: Townsville Port Storage Area onto Windlass Drive

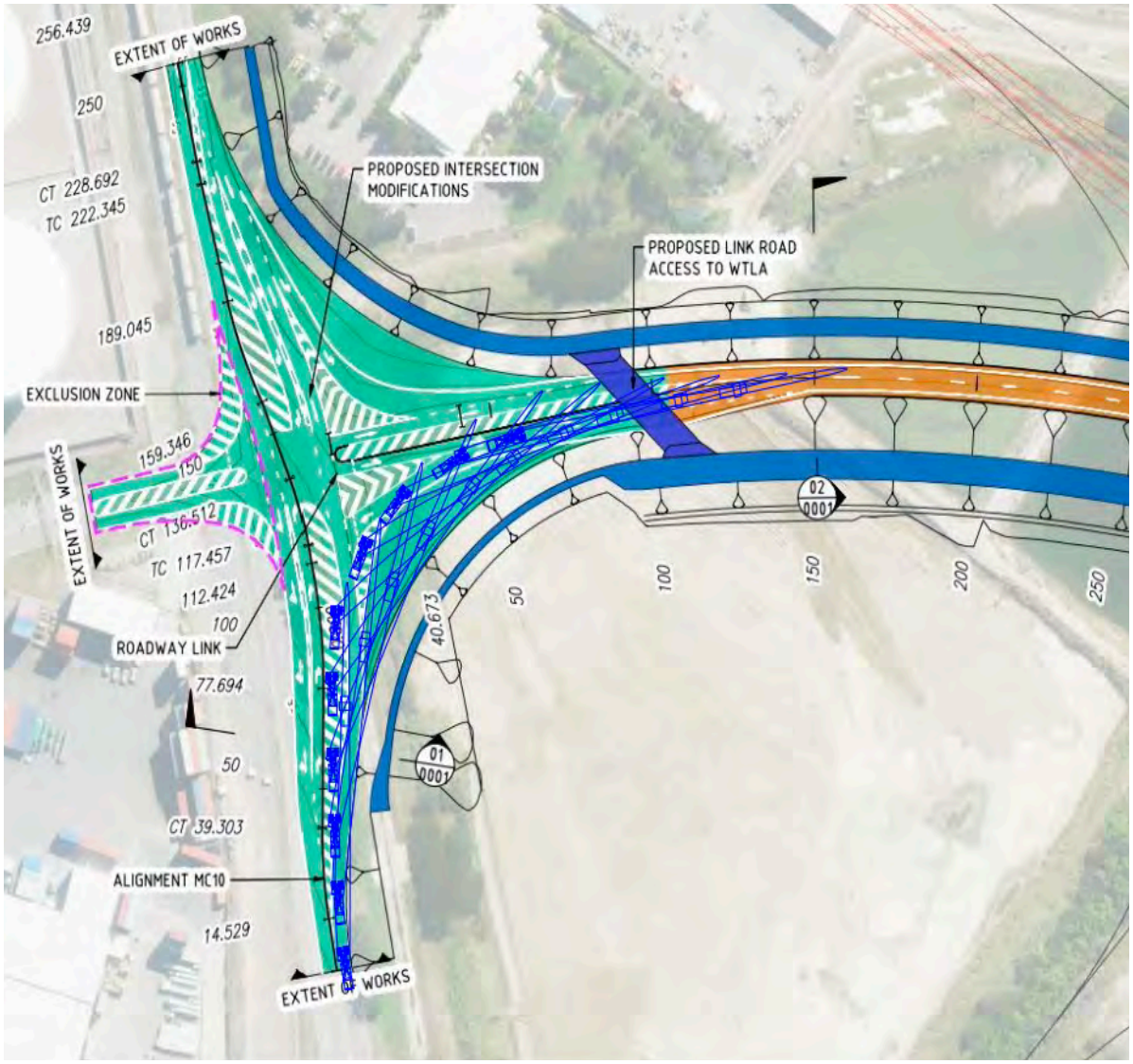


Figure 17 - Townsville Port storage area onto Windlass Drive

GPS Link: https://maps.app.goo.gl/RAcYeS8nbYqG3ix46
Procedure: Left hand turn from storage access road onto Benwell Road.
Modifications required: Townsville Port have a design in place showing the works that are required to make suitable access through to the proposed storage area. Townsville Port to be contacted to confirm suitability, progress and availability for this project.

0.3 Km Port Access Gates on Benwell Road

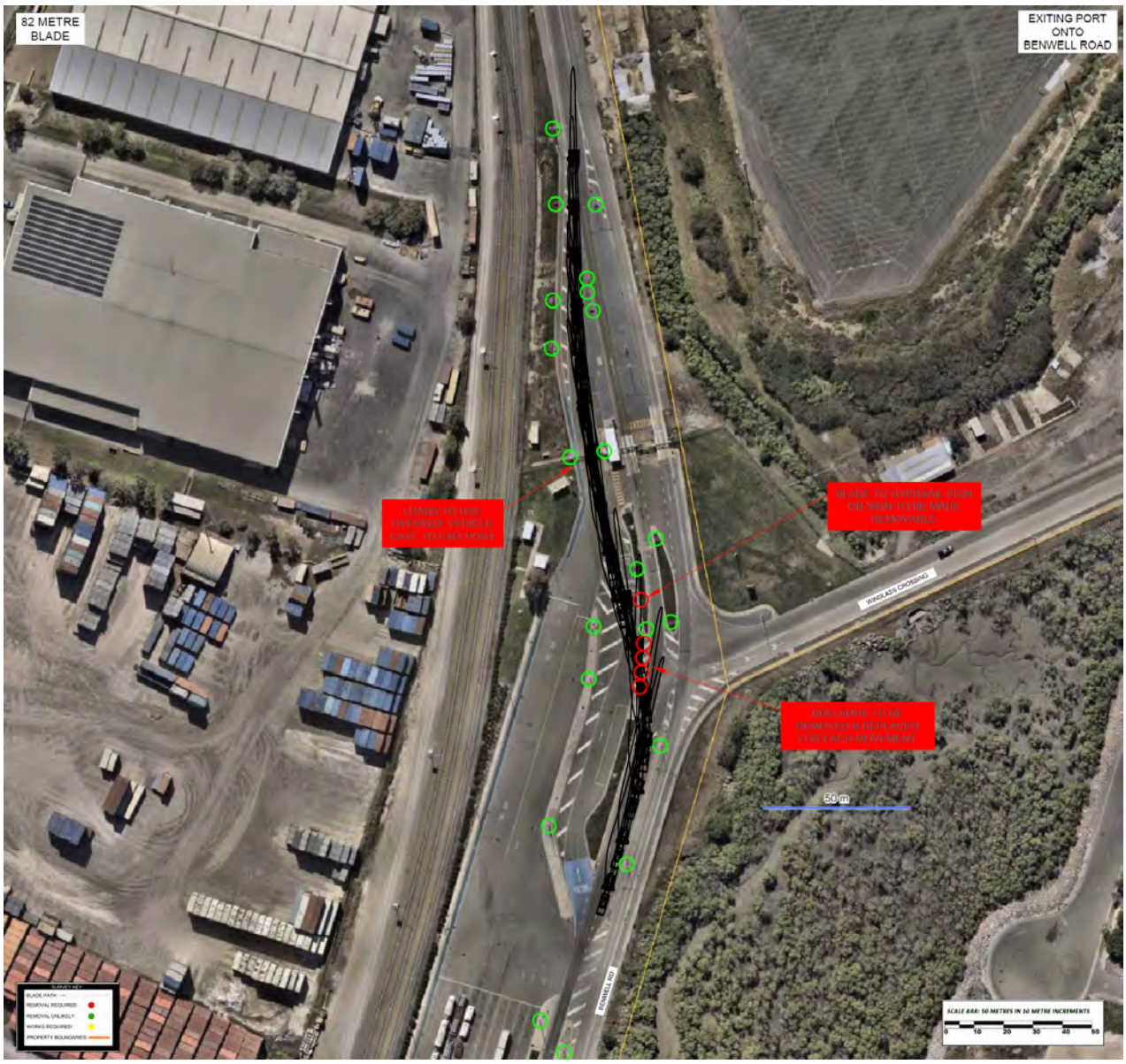


Figure 18 - Port Access Gates on Benwell Road

GPS Link: https://goo.gl/maps/EUsxiA3GmZPBgk8w7
Procedure: Merge left onto the incorrect side of the road and through the oversize vehicle gate. The gate is 9.0 metres in width.
Modifications required: Loads to use oversize vehicle gates. Blade to oversail signs or signs to be made removable. Bollards to be removed and replaced for each movement.

8.7 Km's to 14.5 Km's: Traffic Signals While Exiting Townsville

Figure 19 - Intersection of Southern Port Road and the Flinders Highway

GPS Link: https://goo.gl/maps/XCKTUisYRCfq8XQc7
Procedure: Travel directly ahead onto Flinders Highway.
Modifications required: Traffic signals will need to be raised for loads over 5.8 metres in loaded height. The blades and smaller components are okay to pass under this signal.

Figure 20 - Intersection of the Flinders Highway and Burdell Street

GPS Link: https://goo.gl/maps/W7m5qiRbzNsFL9RaA
Procedure: Travel directly ahead on the Flinders Highway.
Modifications required: Traffic signals will need to be raised for loads over 5.8 metres in loaded height. The blades and smaller components are okay to pass under this signal.

Figure 21 - Intersection of the Flinders Highway and Kiernan Drive

GPS Link: https://goo.gl/maps/N5y1zWEhehv4Crjc8
Procedure: Travel directly ahead on the Flinders Highway.
Modifications required: Traffic signals will need to be raised for loads over 5.8 metres in loaded height. The blades and smaller components are okay to pass under this signal.

130.0 Km's: Flinders Highway at Gregory Development Road

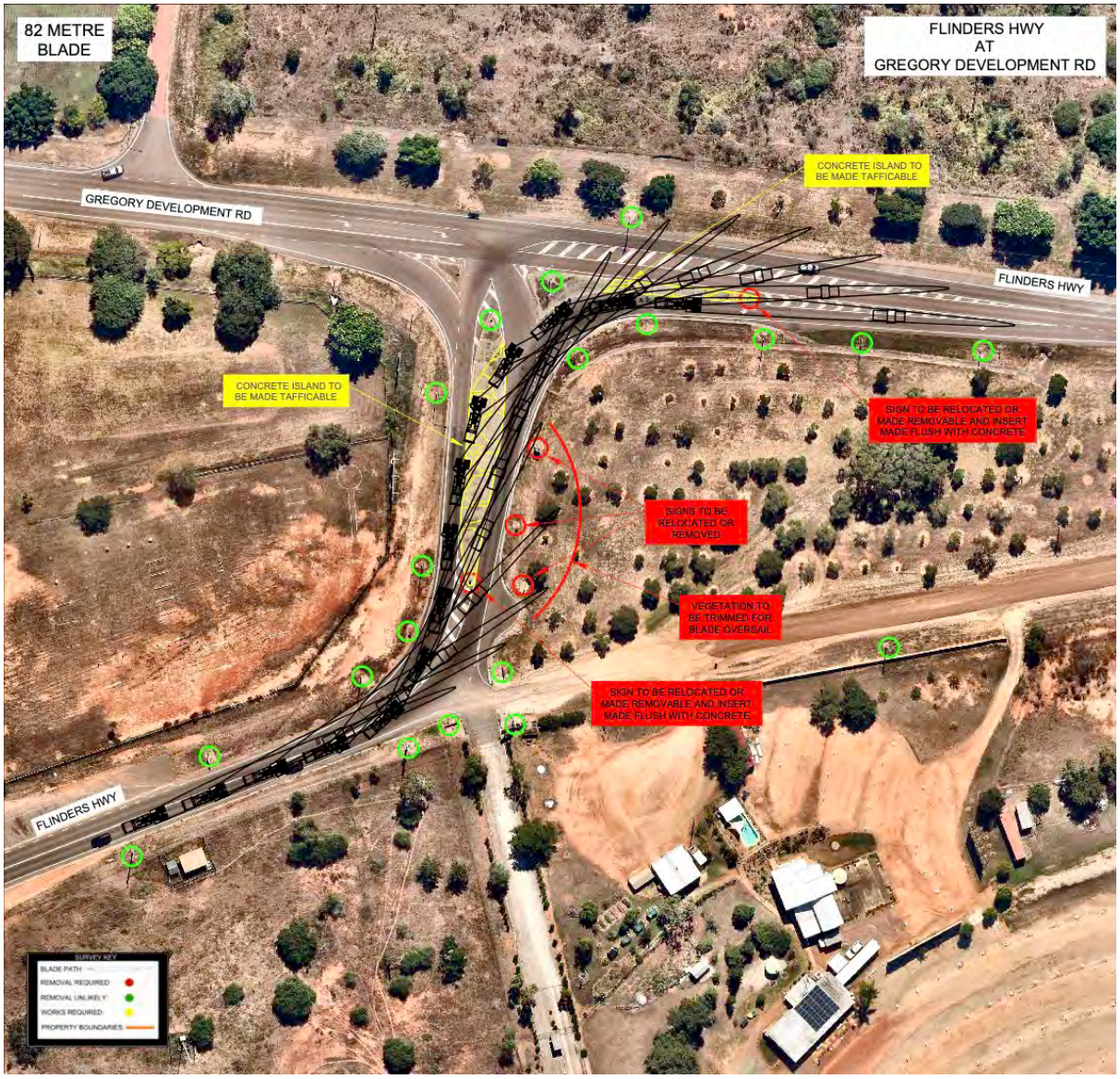


Figure 22 - Flinders Highway at Gregory Development Road

GPS Link: https://maps.app.goo.gl/WF36wk18q519PZ6ZA
Procedure: Left hand turn. Loads to travel over median strips onto incorrect side of road.
Modifications required: Islands to be made trafficable, signs relocated or removed, and vegetation trimmed for blade oversail.

132.0 Km's: LH Bend on Flinders Highway at New Queen Road

Figure 23 - LH bend on Flinders Highway at new Queen Rd

GPS Link: https://maps.app.goo.gl/eML3YVQRXYahFK2QA
Procedure: Left hand bend
Modifications required: Nil.

132.9 Km's: RH Bend Flinders Highway at Sayers Street

Figure 24 - RH bend Flinders Highway at Sayers Street

GPS Link: https://maps.app.goo.gl/8AehnaW8pwsAiPwK7
Procedure: Right hand bend
Modifications required: 1 shrub may require trimming for blade oversail. Rail overpass max loaded height 5.5m.

133.0 Km's: LH Bend on Flinders Highway at Millchester Road

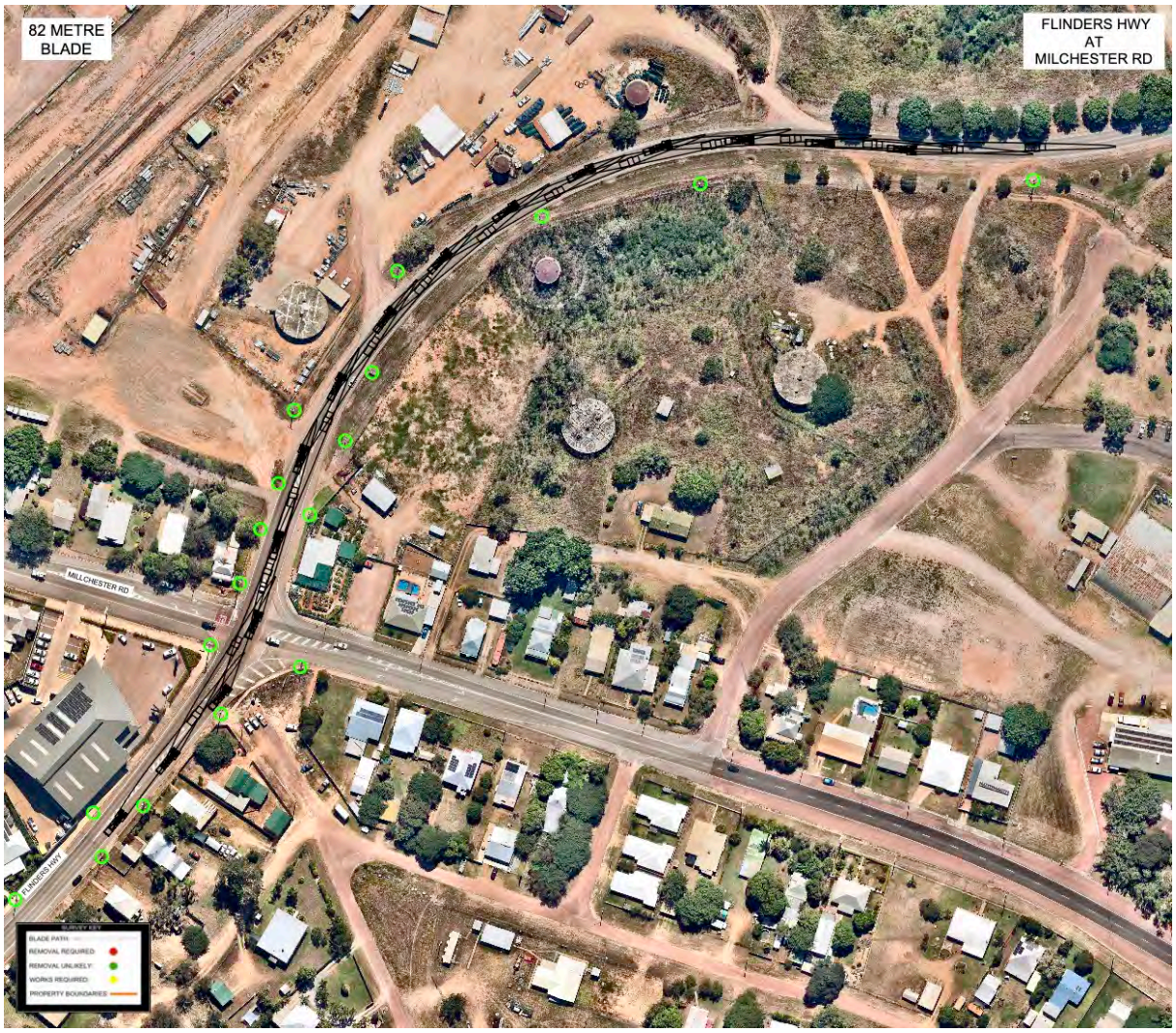


Figure 25 - LH bend on Flinders Highway at Millchester Rd

GPS Link: https://maps.app.goo.gl/XNEShgj1f28EUuQv9
Procedure: Left hand bend
Modifications required: Nil.

134.0 Km's: LH Bend on Flinders Highway at Armstrong Road

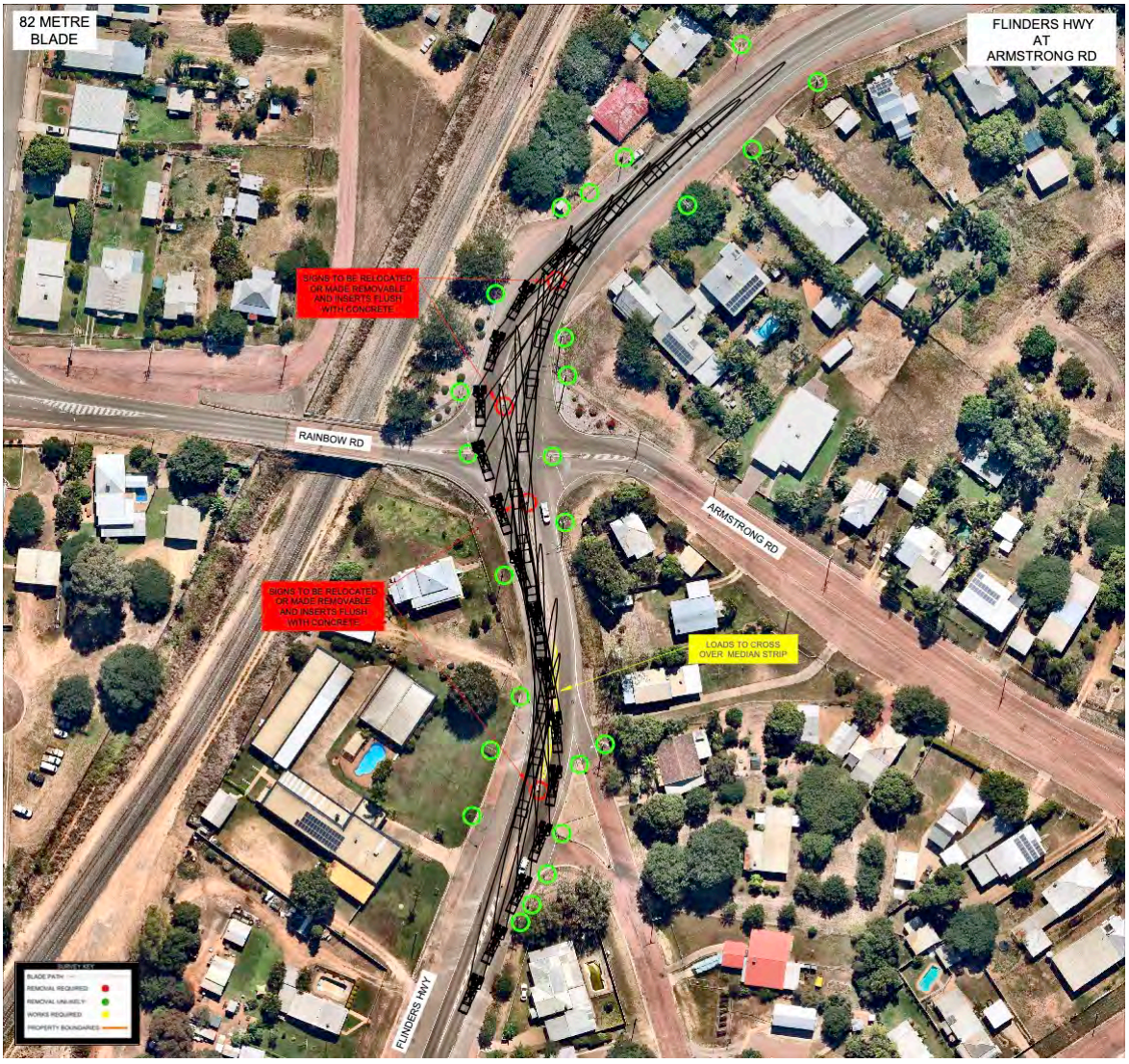


Figure 26 - LH bend on Flinders Highway at Armstrong Rd

GPS Link: https://maps.app.goo.gl/kzrb3gKycoivjkui8
Procedure: Left hand bend
Modifications required: multiple signs to be relocated or made removable. Median made trafficable.

381.0 Km's: Flinders Highway at Hughenden

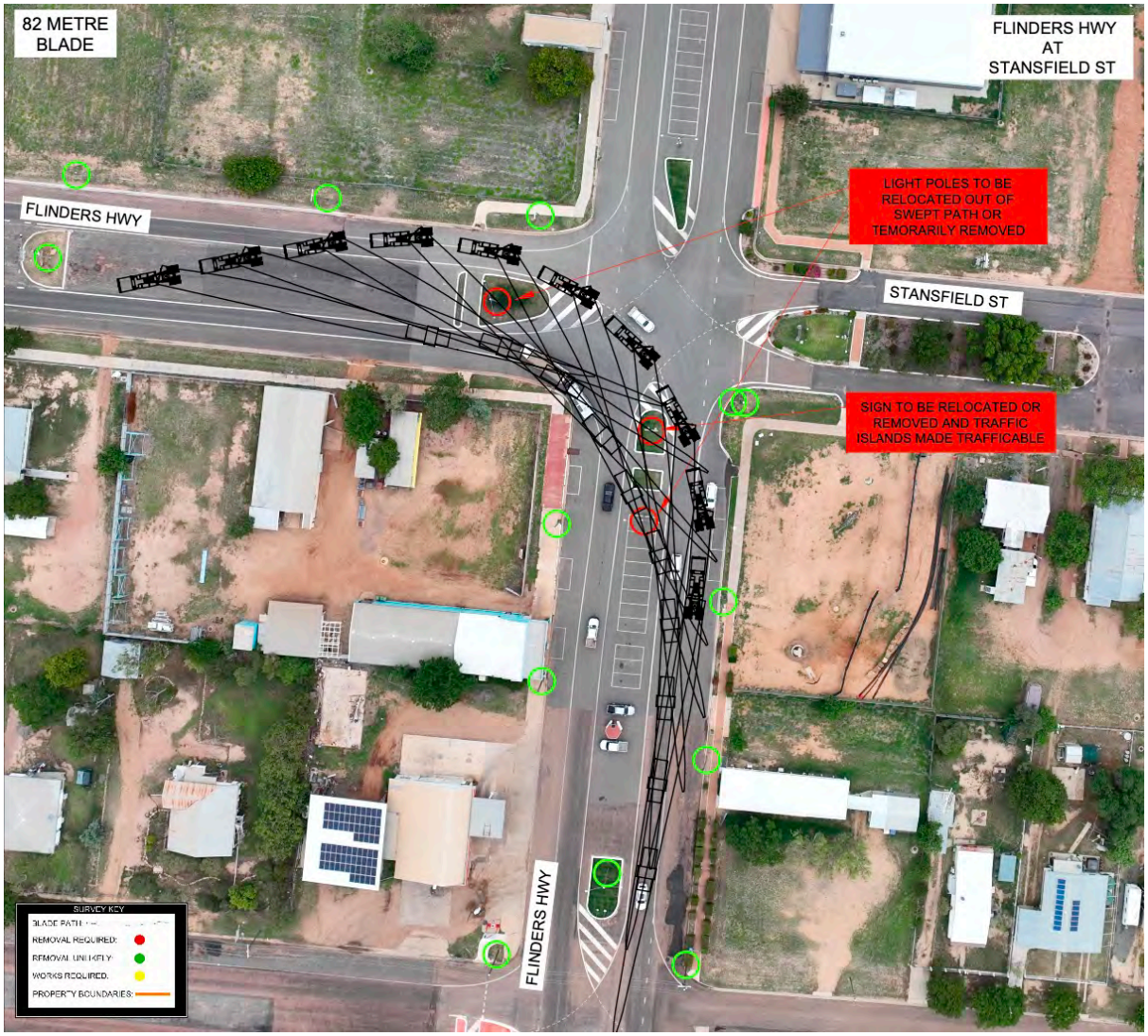


Figure 27 - Flinders Highway at Hughenden

GPS Link: https://maps.app.goo.gl/kRb2Arp1nmB4pjcV6
Procedure: Left hand turn from incorrect side of road to incorrect side of road.
Modifications required: Light poles to be relocated or temporarily removed out of swept path. Signs to be relocated or made removable with inserts flush with ground. Traffic islands to be made trafficable.

Due to the large amount of asset relocation required at this corner the bypass option outlined below is the preferred route for Hughenden.

Hughenden Bypass Option

(Start at 379.0km - Haul Rd turn off prior to Rail Crossing)

GPS Link: https://maps.app.goo.gl/C26wcnysJKgowHqeA

0.0 Km's: Flinders Highway onto Haul Road

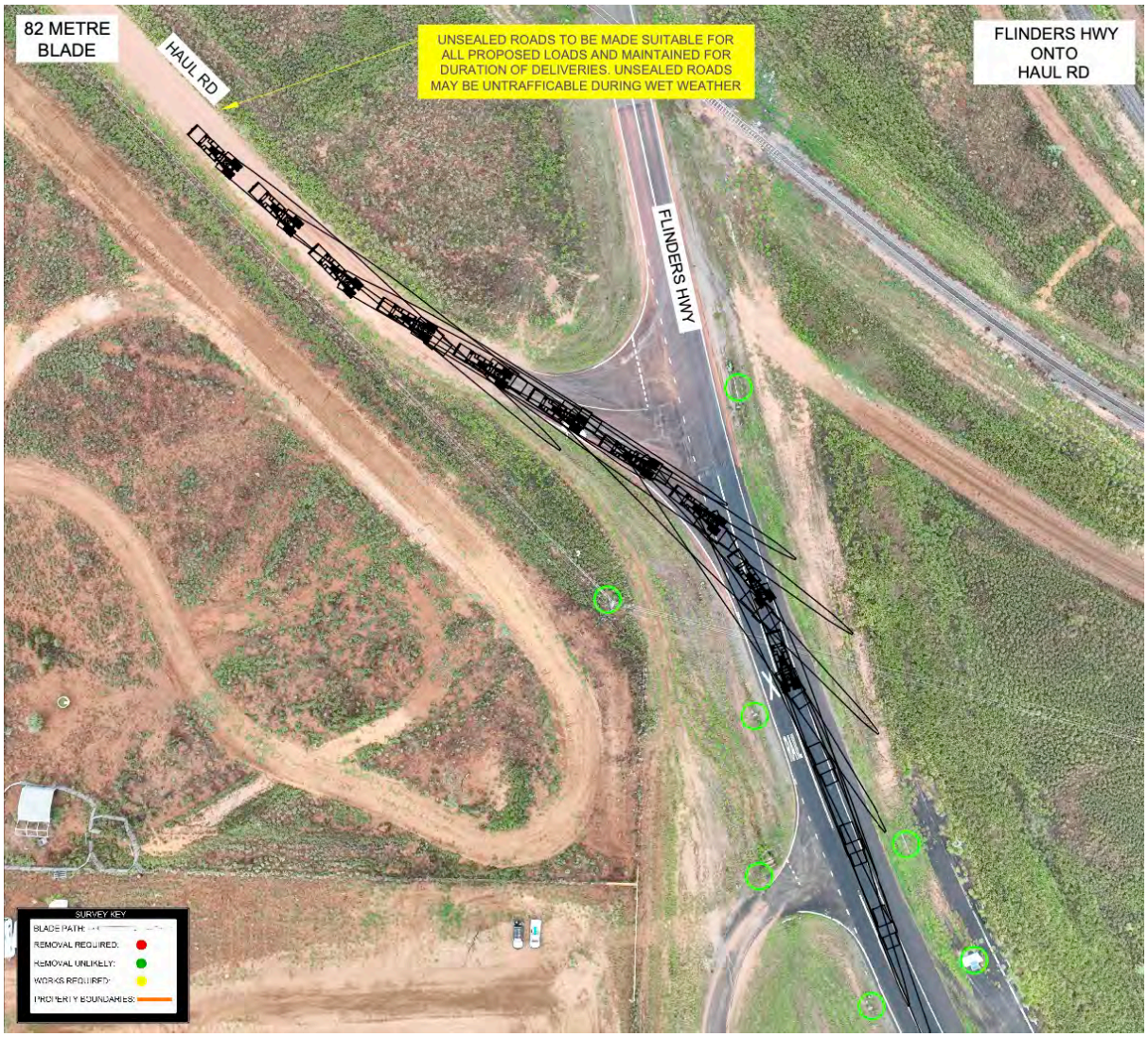


Figure 28 - Flinders Highway onto Haul Road

GPS Link: https://maps.app.goo.gl/Hzex9tywsT6d1ZZEA
Procedure: Left hand turn.
Modifications required: Unsealed roads to be made suitable for all proposed loads and maintained for duration of deliveries. unsealed roads may be untrafficable during wet weather.

1.6 Km's: Crest Over Disused Rail Line on Haul Road

Figure 29 - Crest Over Disused Rail Line

Figure 30 - Vertical Curve Diagram

GPS Link: https://maps.app.goo.gl/Dy2ajkogSGgLe7P36
Procedure: Travel directly ahead with caution.
Modifications required: Crest over disused rail line to be reduced or road raised either side to provide suitable trailer clearance.

Unsealed roads to be made suitable for all proposed loads and maintained for duration of deliveries. unsealed roads may be un-trafficable during wet weather.

1.7 Km's: Haul Road onto Kennedy Developmental Road

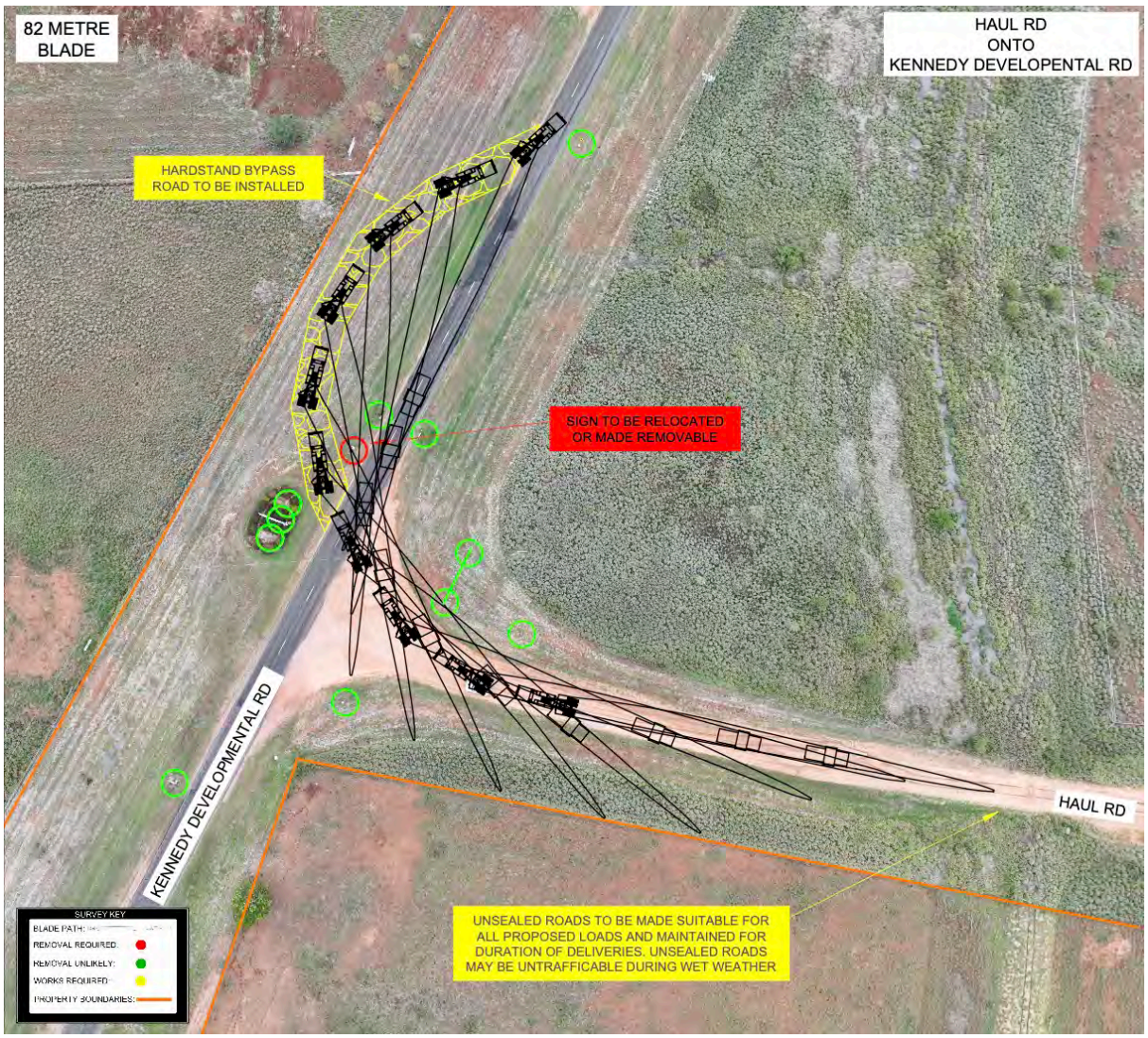


Figure 31 - Haul Road onto Kennedy Developmental Road

GPS Link: https://maps.app.goo.gl/4k1JzWTNpnU83ygP8
Procedure: Turn right using hardstand bypass installed on exit of corner.
Modifications required: Hardstand bypass road to be install on exit of corner. Sign to be relocated or made removable.

Unsealed roads to be made suitable for all proposed loads and maintained for duration of deliveries. unsealed roads may be untrafficable during wet weather.

4.6 Km's: Kennedy Developmental Road onto McLaren Street

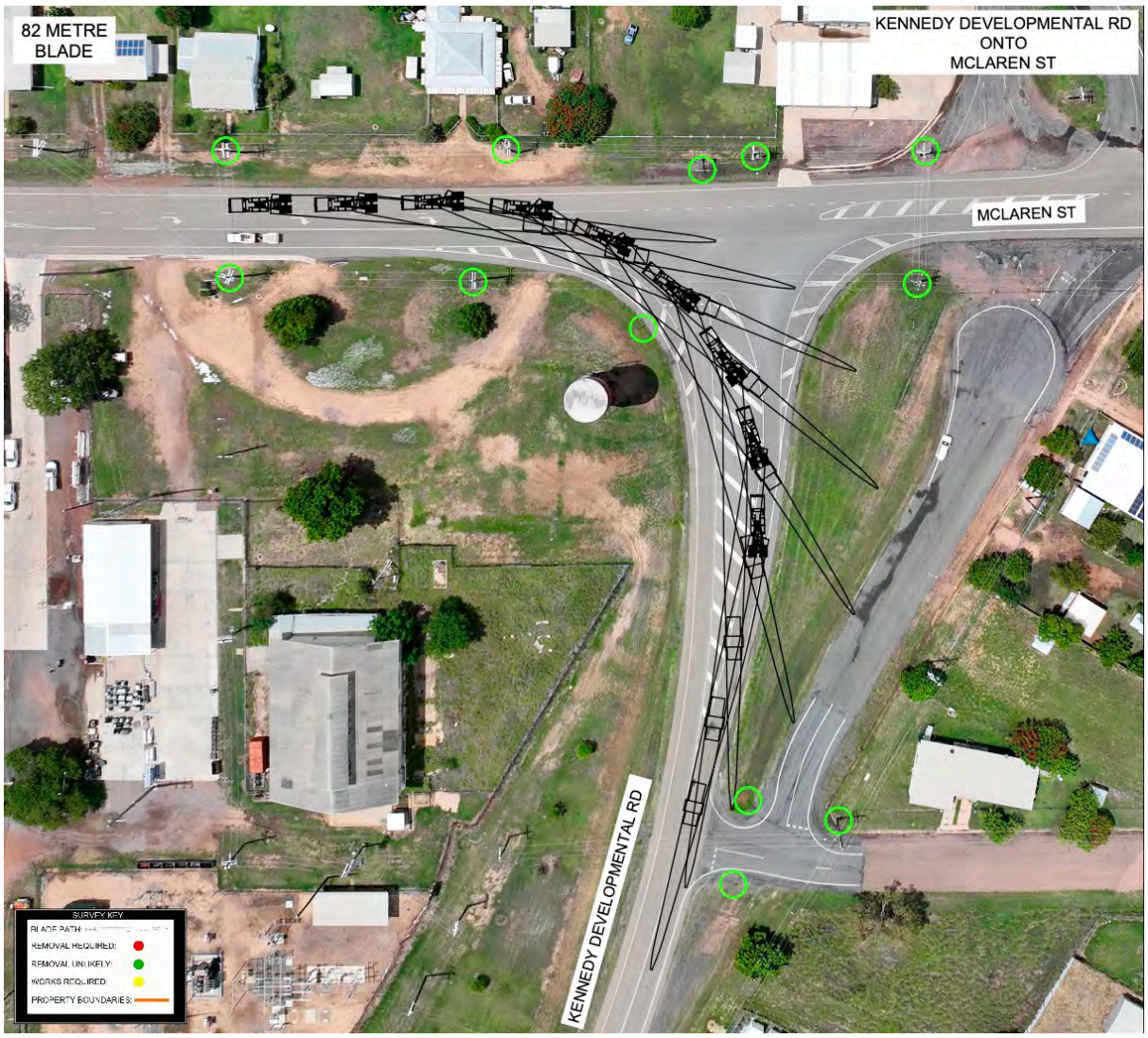


Figure 32 - Kennedy Developmental Road onto McLaren St

GPS Link: https://maps.app.goo.gl/UzFmWq9jY9aK2ZFp6
Procedure: Left hand turn.
Modifications required: Nil.

3.7 Km's: McLaren Street onto Saleyards Road

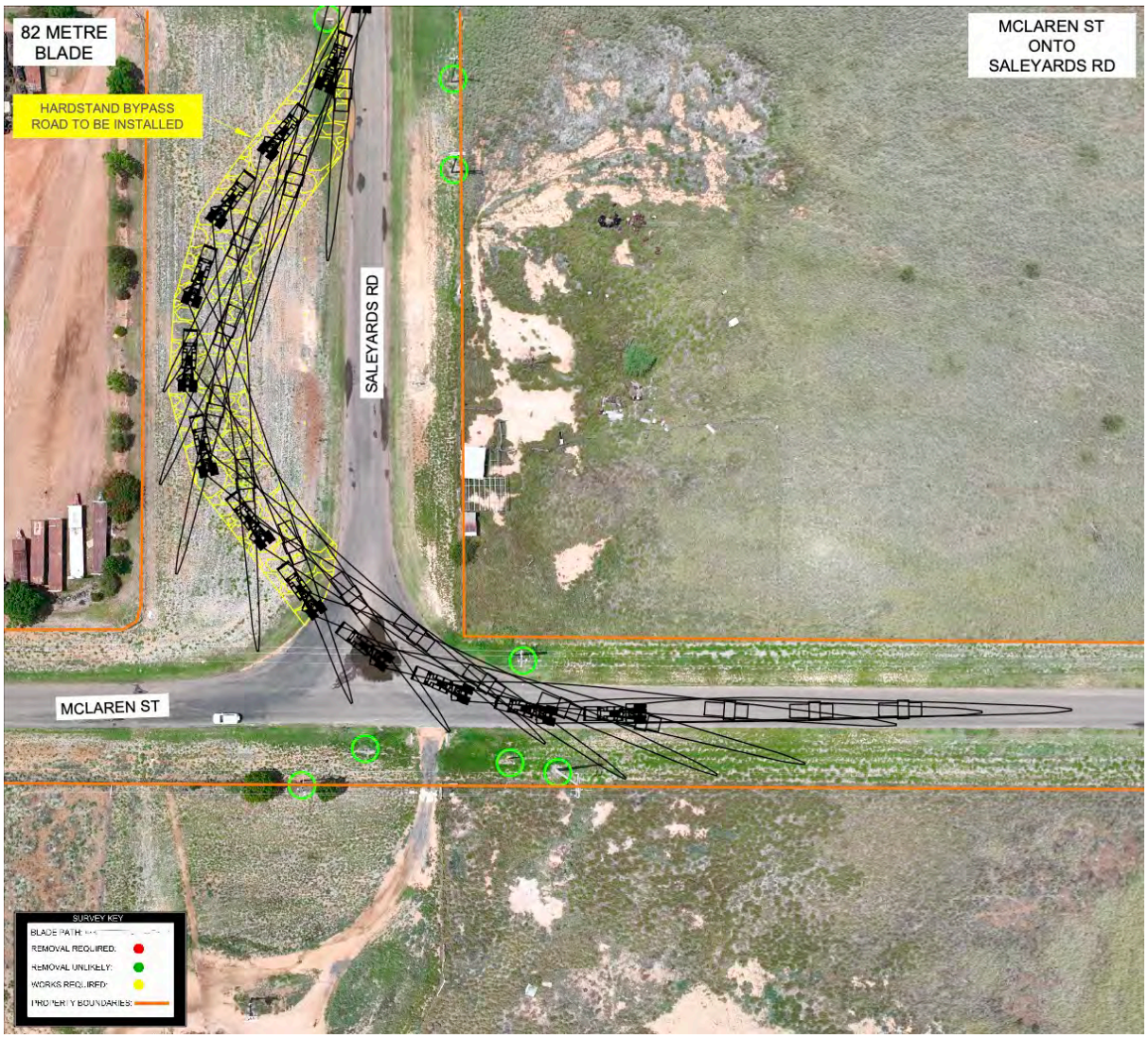


Figure 33 - McLaren St onto Saleyards Road

GPS Link: https://maps.app.goo.gl/usLNAxwFcvaMDLxk6
Procedure: Turn right using hardstand bypass on exit of corner.
Modifications required: Hardstand bypass road to be installed on exit of corner.

4.6 Km's: Saleyards Road onto Flinders Highway

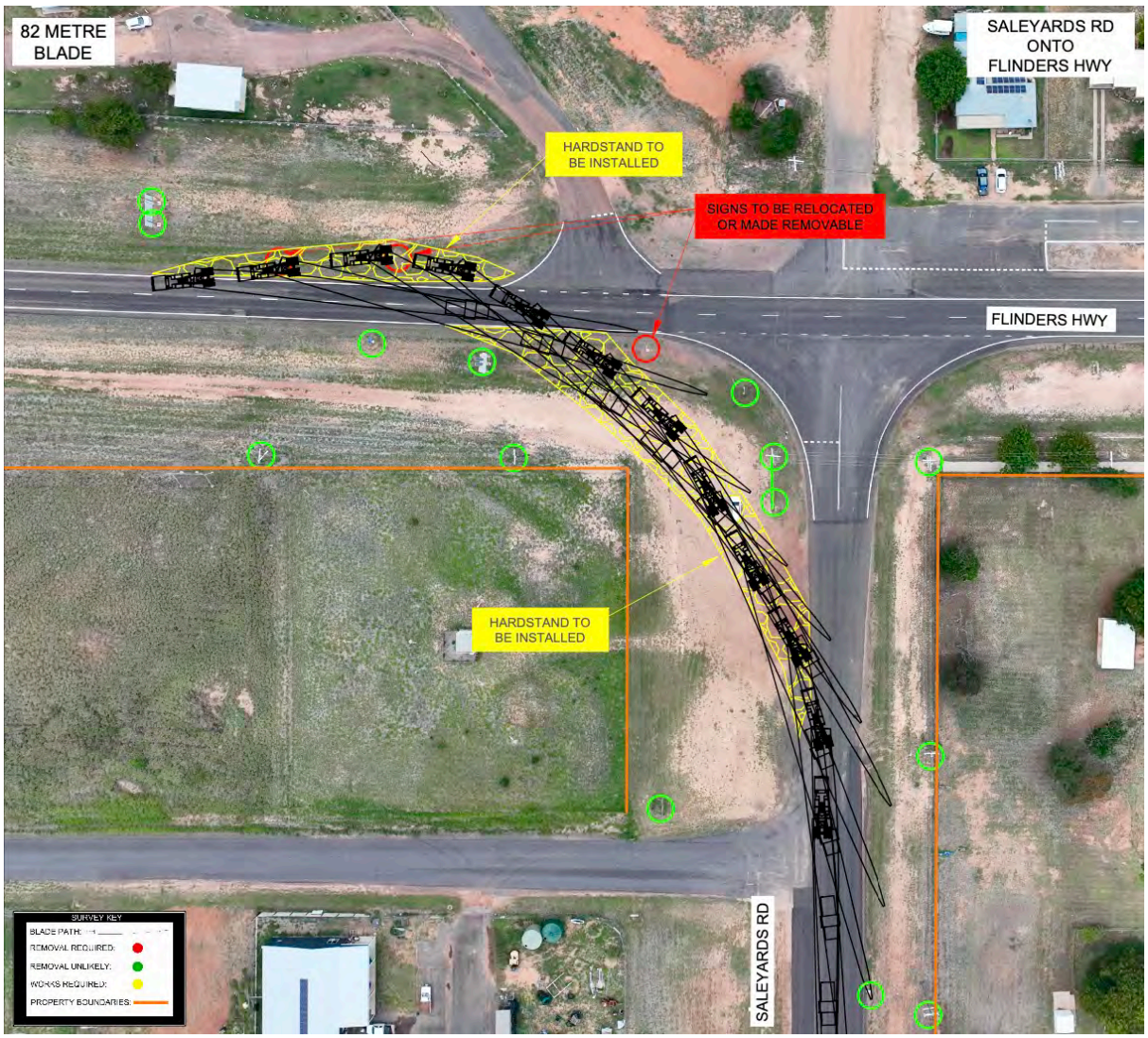


Figure 34 - Saleyards Road onto Flinders Highway

GPS Link: https://maps.app.goo.gl/Yk76HRdMwpBUiJay9
Procedure: Turn left using hardstand bypass road on inside and exit of corner.
Modifications required: Hardstand bypass road to be installed on inside and exit of corner. Signs to be relocated or made removable with inserts flush with ground.

End Hughenden bypass route.

496.0 Km's: Flinders Highway at Richmond

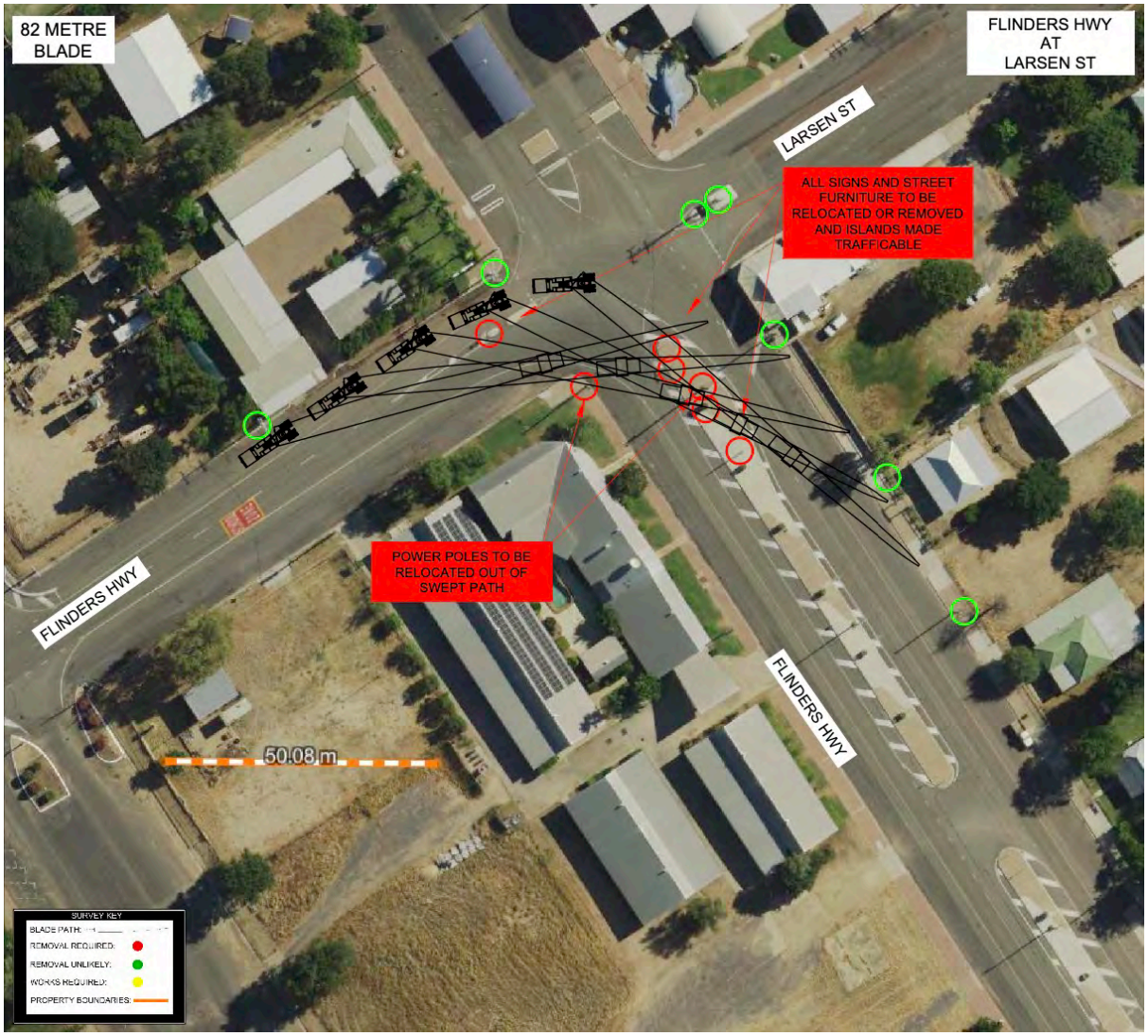


Figure 35 - Flinders Highway at Richmond

GPS Link: https://maps.app.goo.gl/7ZewcDCkmVe9K26Q7
Procedure: Left hand turn from incorrect side of road to incorrect side of road.
Modifications required: Power poles to be relocated out of swept path. All signs and road furniture to be relocated or removed and islands made trafficable.

Due to the large amount of asset relocation required at this corner the bypass option outlined below is the preferred route for Richmond.

Richmond Bypass Option

(Start at 495km – Burke Street)

GPS Link: https://maps.app.goo.gl/AbKDnLKE2TdsnfXy6

0.0 Km's: Flinders Highway onto Burke Street

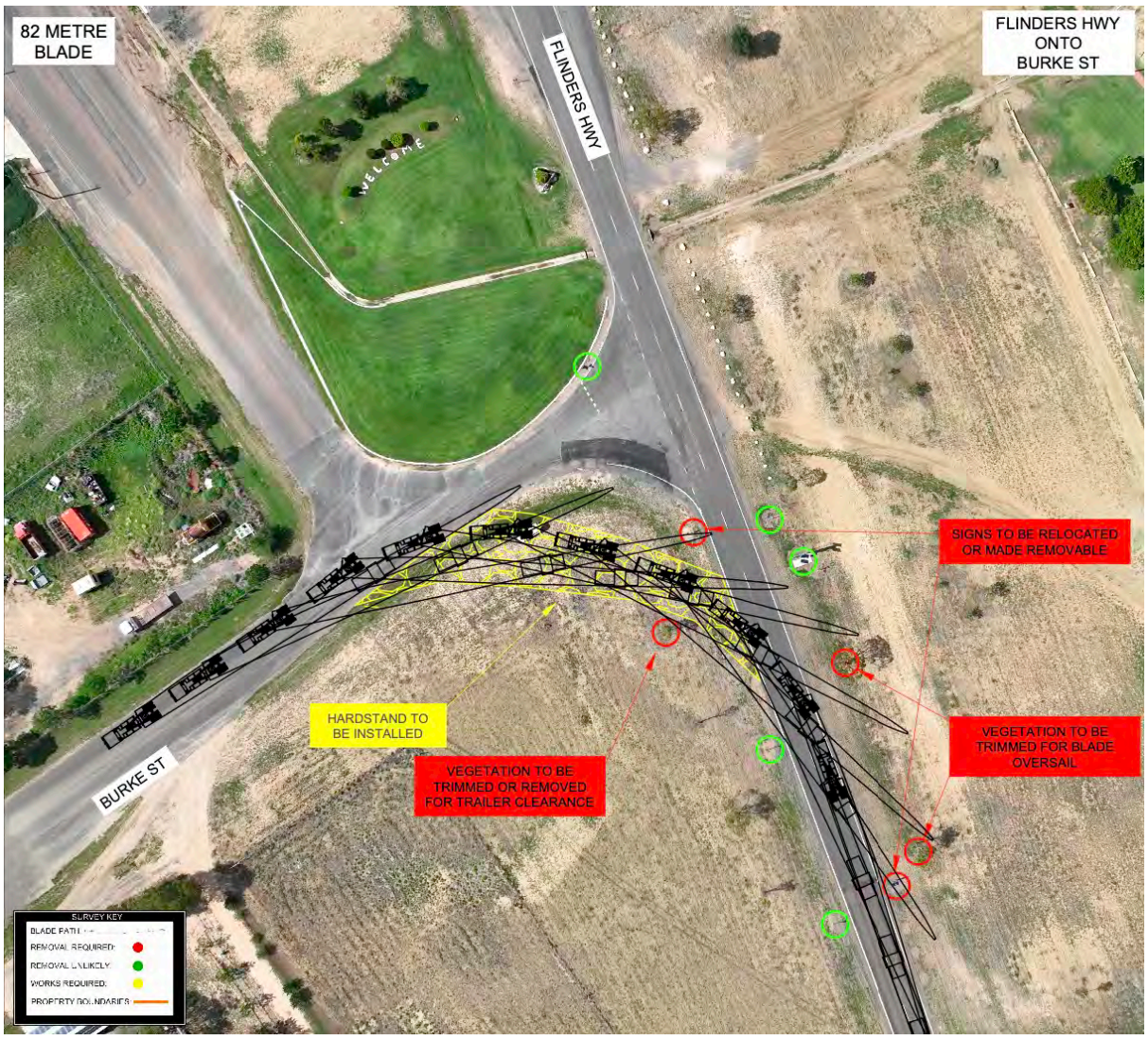


Figure 36 - Flinders Highway onto Burke Street

GPS Link: https://maps.app.goo.gl/mX23GGRPToSG74s1A
Procedure: Turn right using hardstand on inside of corner.
Modifications required: Hardstand bypass to be installed on inside of corner. Signs to be relocated or made removable with inserts flush with ground. Vegetation to be trimmed for blade and trailer clearance as required.

0.2 Km's: Burke Street Over Rail Crossing

Figure 37 - Burke Street Over Rail Crossing

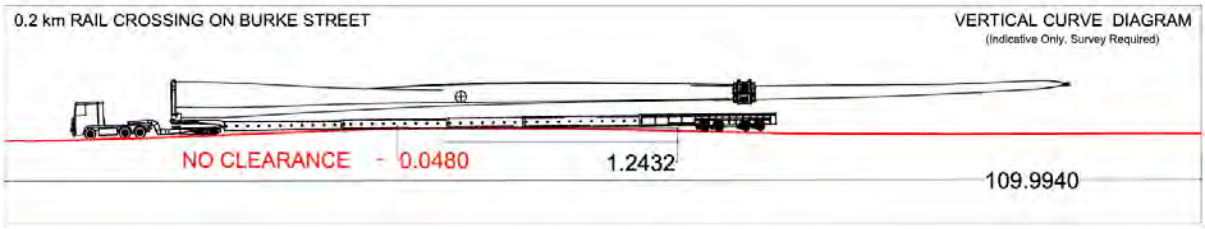


Figure 38 - Vertical Curve Diagram

GPS Link: https://maps.app.goo.gl/bvas1SPVubYTahz49
Procedure: Travel directly ahead with caution in accordance with rail manager requirements.
Modifications required: Crest over rail line to be adjusted to provide trailer clearance.

1.0 Km's: Burke Street into Sale Yards

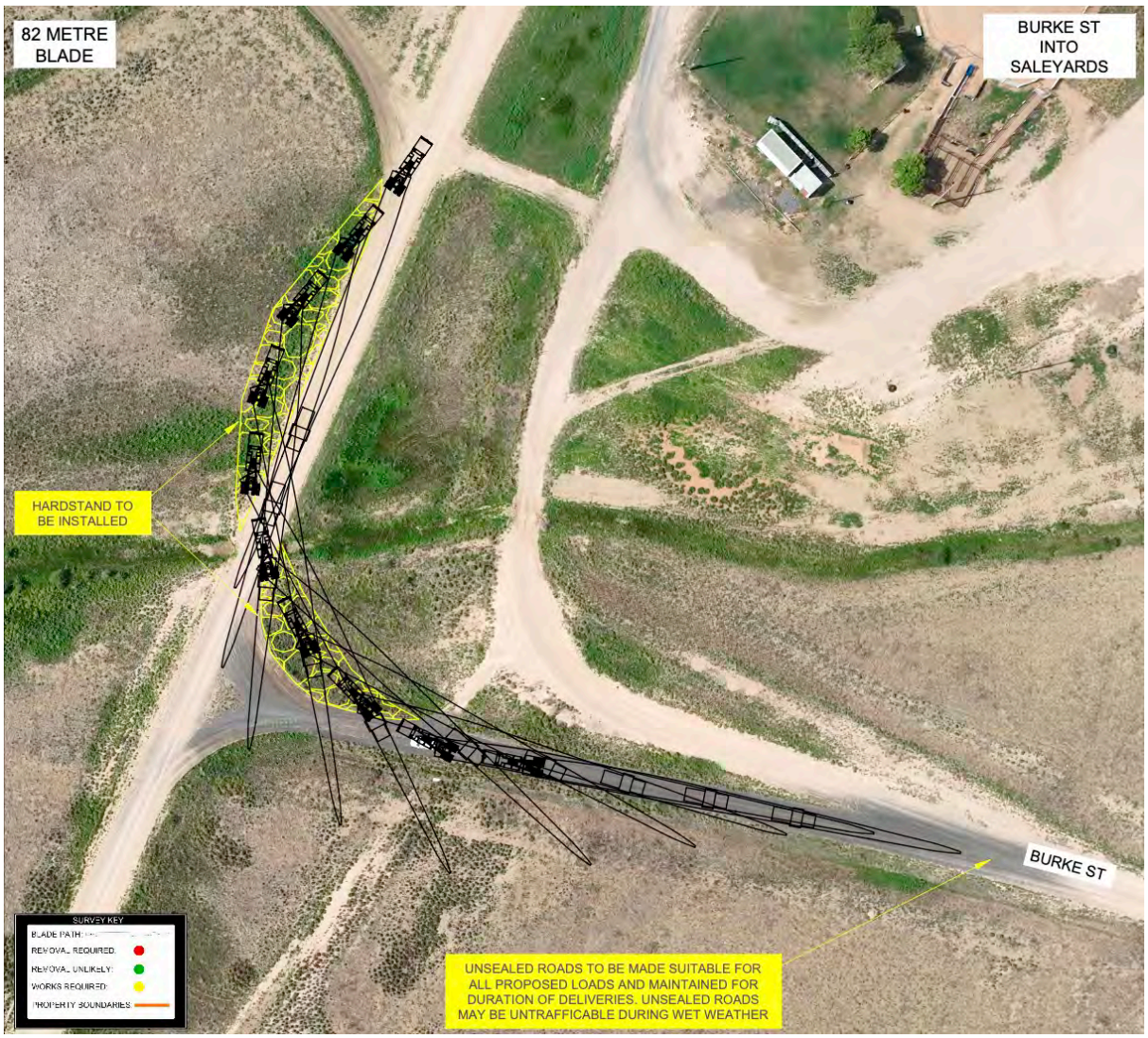


Figure 39 - Burke Street into Sale Yards

GPS Link: https://maps.app.goo.gl/V9SVsUHpmrKbwo7a8
Procedure: Turn right using hardstand installed on inside and exit of corner.
Modifications required: Hardstand to be installed on inside and exit of corner.

Unsealed roads to be made suitable for all proposed loads and maintained for duration of deliveries. unsealed roads may be un-trafficable during wet weather.

1.4 Km's: Sale Yards onto Jim Maguire Road

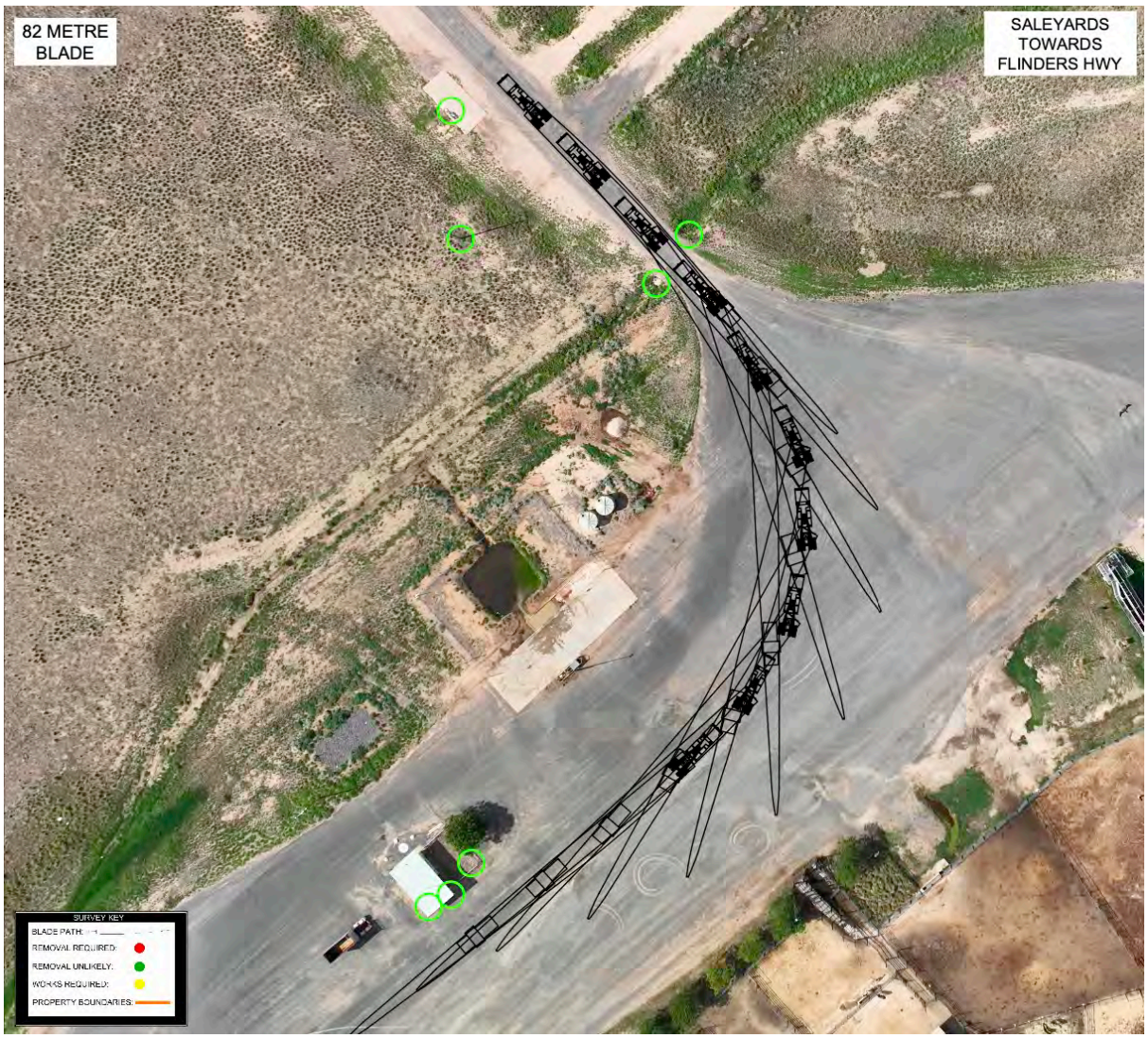


Figure 40 - Sale Yards onto Jim Maguire Road

GPS Link: https://maps.app.goo.gl/muBsLaoXH1wv9Usu9
Procedure: left hand turn.
Modifications required: Nil.

1.7 Km's: Jim Maguire Road onto Flinders Highway

Figure 41 - Jim Maguire Road onto Flinders Highway

GPS Link: https://maps.app.goo.gl/iH4bKn9XoSupMX7JA
Procedure: Left hand turn.
Modifications required: Signs to be relocated or made removable.

End Richmond bypass route.

644 Km's: Flinders Highway onto Goldring Street

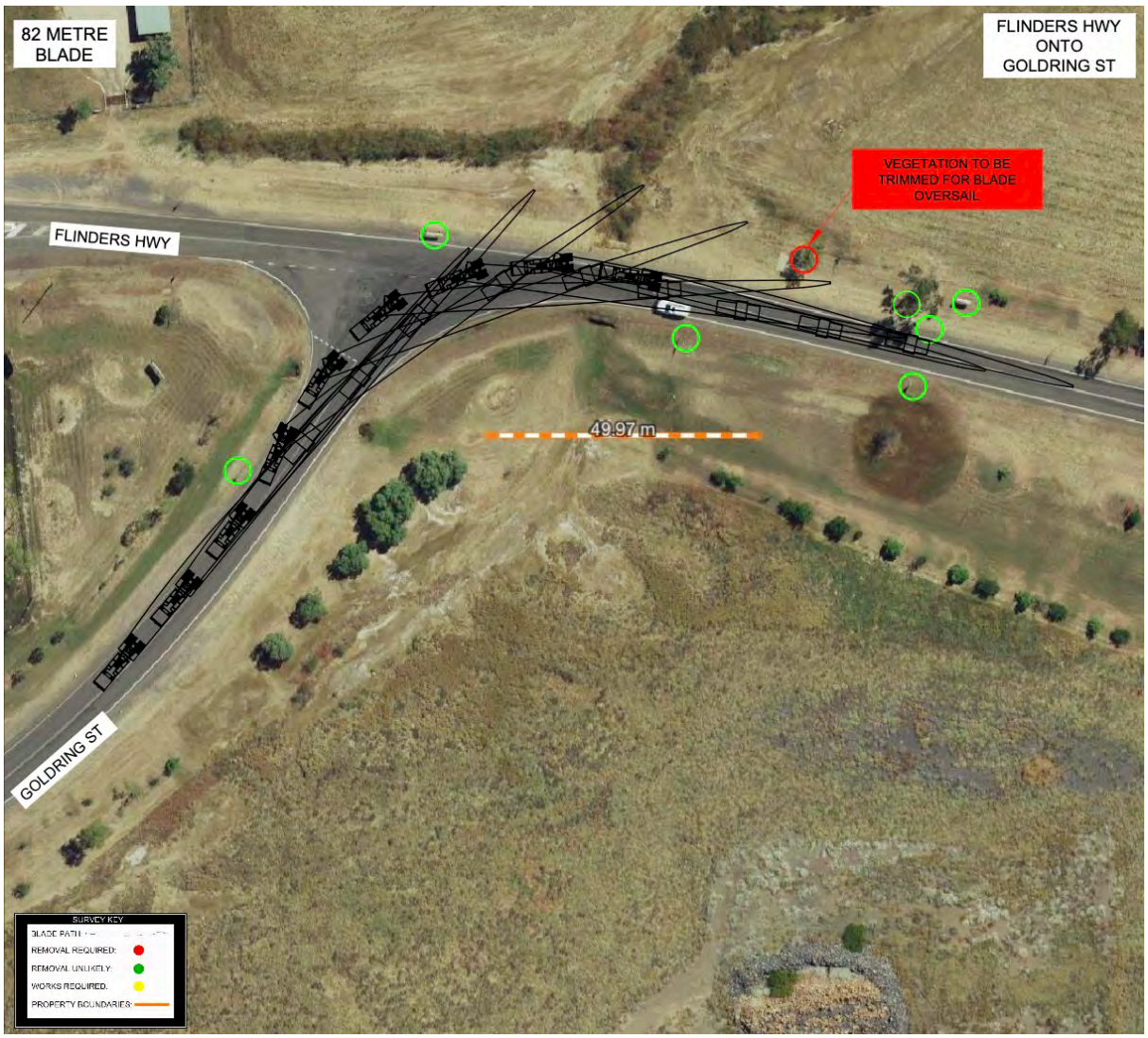


Figure 42 - Flinders Highway onto Goldring Street

GPS Link: https://maps.app.goo.gl/EYXzCvTYoaUasnfP6
Procedure: Left hand turn.
Modifications required: Vegetation to be trimmed for blade over sail as required.

646 Km's: Goldring Street onto Flinders Highway

Figure 43 - Goldring Street onto Flinders Highway

GPS Link: https://maps.app.goo.gl/Jxe7qNGMNqCaRfXw9
Procedure: Left hand turn.
Modifications required: Sign to be relocated or made removable.

779.0 Km's: Flinders Highway onto Andrew Daniels Drive

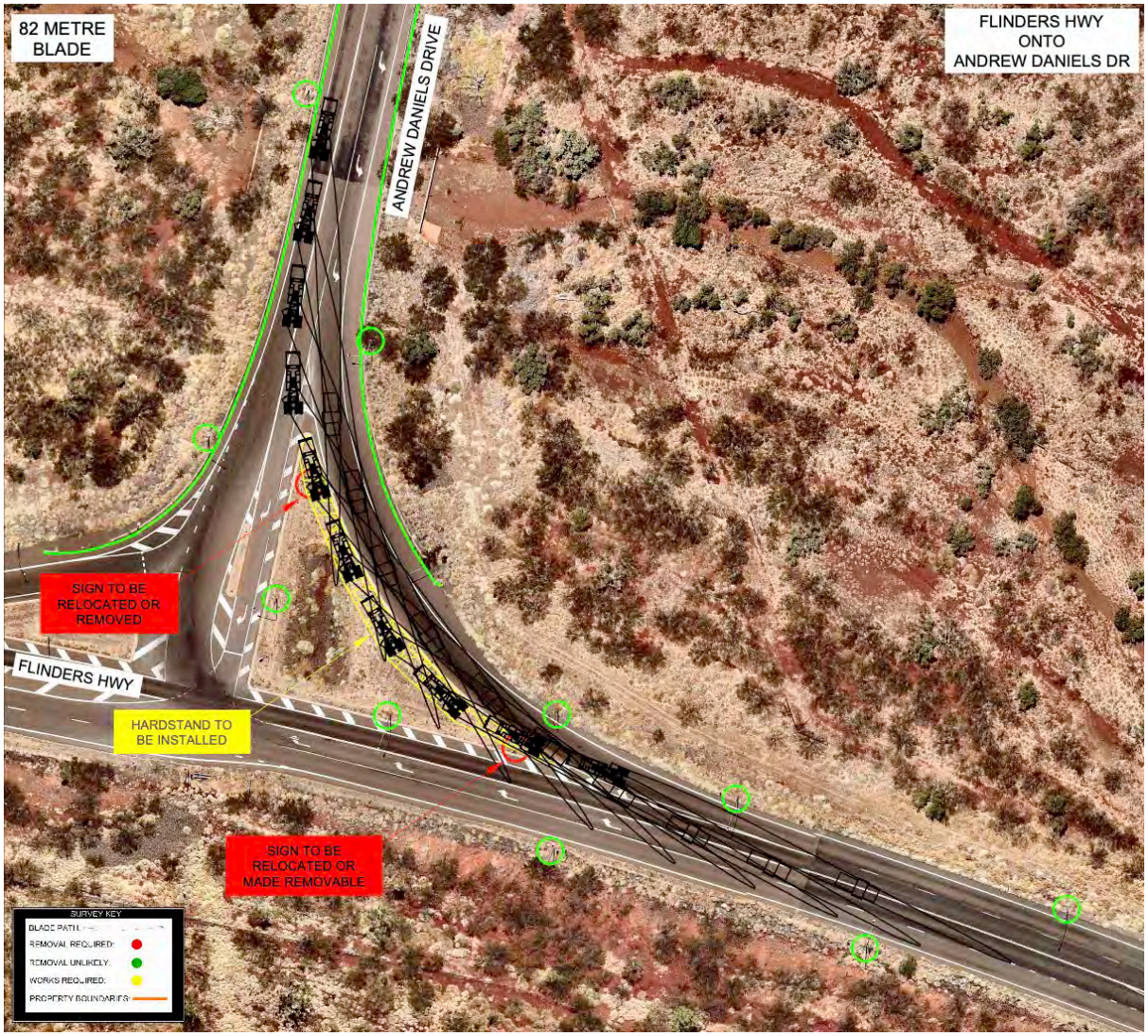


Figure 44 - Flinders Highway onto Andrew Daniels Drive

GPS Link: https://maps.app.goo.gl/r1MVzagmC2PnGEKm9
Procedure: Right hand turn. Load to use slip lane on incorrect side of road.
Modifications required: Signs to be relocated or made removable and inserts made flush with ground. Hardstand to be installed on island to make trafficable.

786.0 Km's: Hensley Drive onto Burke Development Road

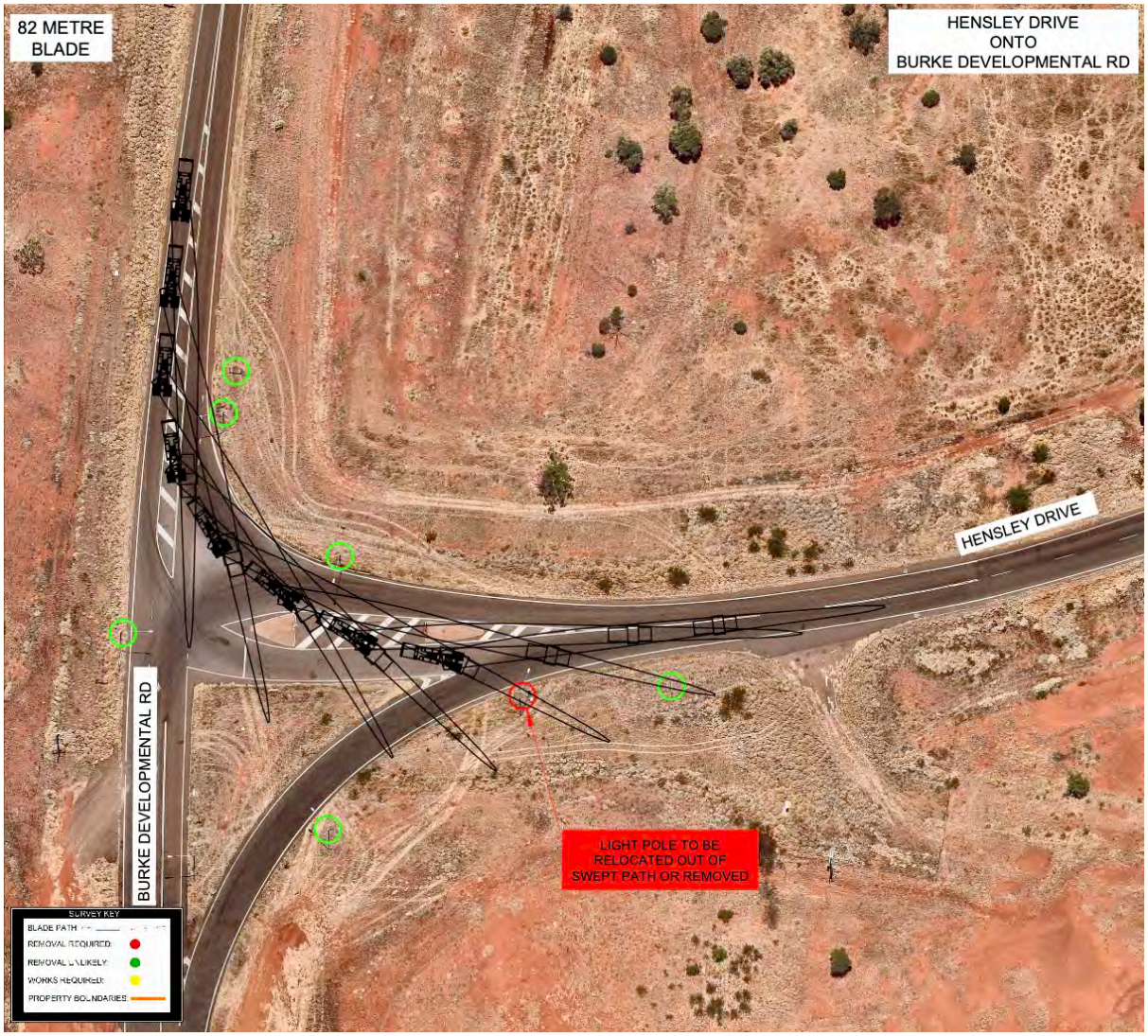


Figure 45 - Andrew Daniels Drive onto Burke Development Road

GPS Link: https://maps.app.goo.gl/a6RuStKPbNuhG1Pf7
Procedure: Right hand turn. Load to cross over median.
Modifications required: Light pole to be relocated out of swept path or removed.

841.0 Km's: Burke Development Road onto Dugald River Site Road

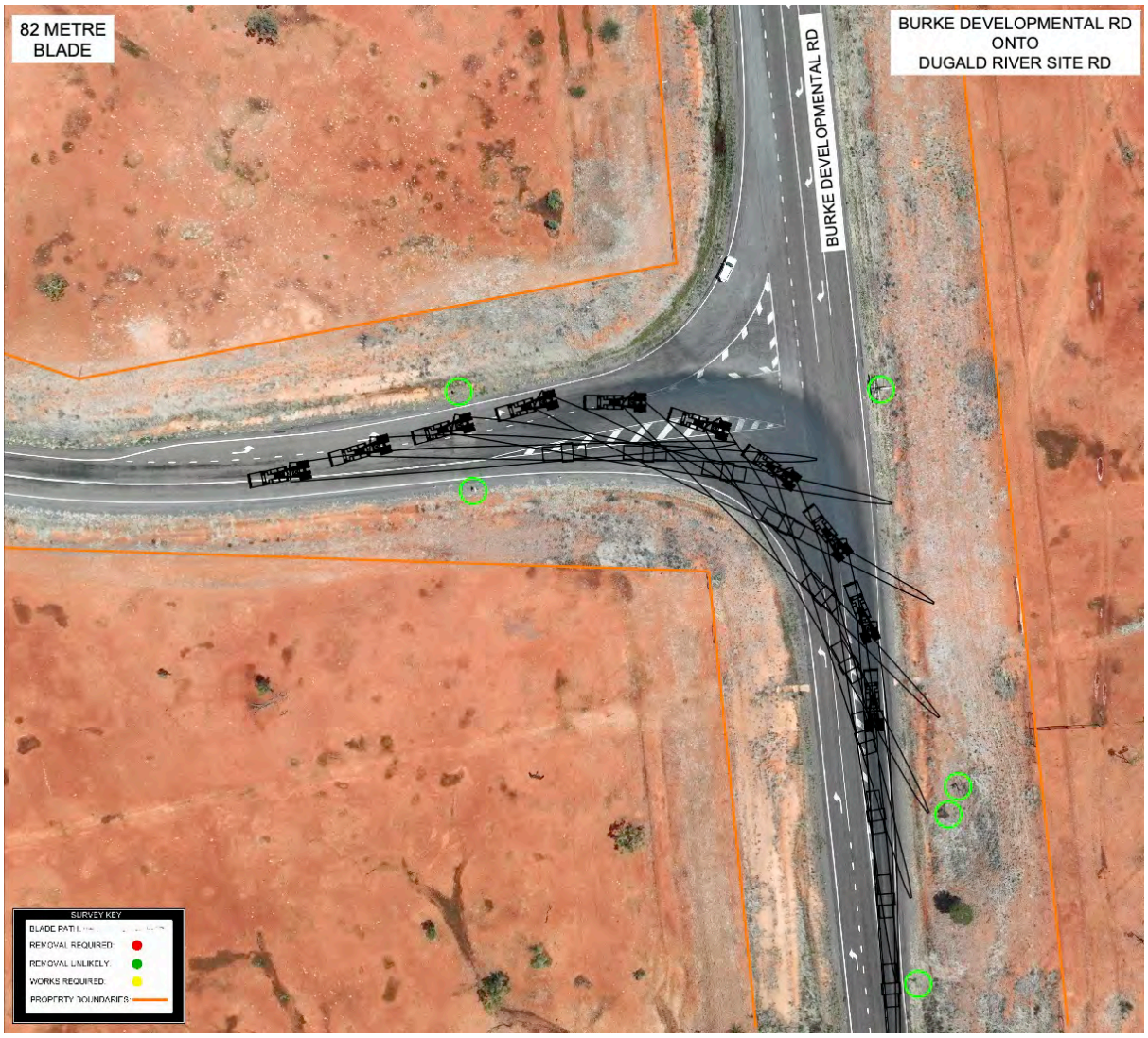


Figure 46 - Burke Development Road onto Dugald River Site Road

GPS Link: https://maps.app.goo.gl/CFk9JksxLjeH2rXW8
Procedure: Left hand turn.
Modifications required: Nil.

10.0 Route 3 – Study

Components: Towers and motors
From: Port of Townsville storage area
To: Dugald River Hybrid Windfarm Project
Distance: 964 kilometres
Route: Benwell Rd, Southern Port Road, Bruce Highway, Hervey Range Road, Gregory Developmental Road, Flinders Highway, New Queen Rd, Enterprise Rd, Millchester Rd, Victory St, Flinders Highway, Andrew Daniels Drive, Burke Development Rd, Dugald River Site Road.
GPS Link for route: https://maps.app.goo.gl/KgXzCW7vrr89kSFv9

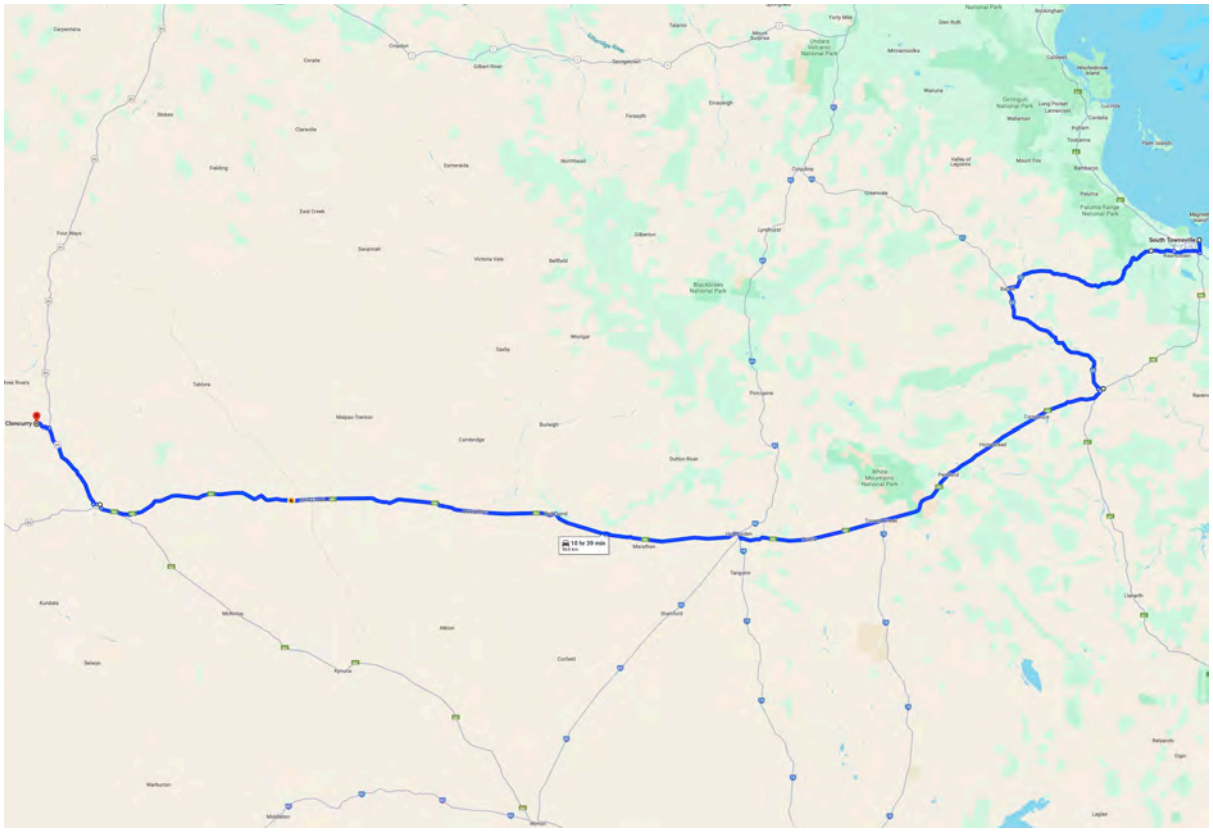


Figure 47 - Route 3

KEY	
CRITICAL	
CAUTION	
EMERGENCY PARKING	

KM index	Location	Section of road	Existing Measurement	Procedure	Notes
0.0	Townsville Port	Left hand turn from storage access road onto Benwell Road GPS Link: https://maps.app.goo.gl/RAcYeS8nbYqG3ix46	Width: N/A Length: N/A Height: N/A	Left hand turn	**Pinchpoint procedure:** Spotter to guide the blades and any load requiring spotters through this section of road. **Traffic control:** Pilots to control local traffic. **Modifications required:** Yes. Townsville port have a design in place showing the works that are required to make suitable access through to the proposed storage area.
0.3	Townsville Port	Port access gates on Benwell Road. GPS Link: https://goo.gl/maps/EUsxiA3GmZPBgk8w7	Width: 9.0m	Travel directly ahead Wrong side	**Pinchpoint procedure:** Spotter to guide the blades and any load requiring spotters through this section of road. **Traffic control:** Traffic control and pilots to control local traffic. **Modifications required:** Loads to use oversize vehicle gates. Bollards to be removed and replaced for each movement.
1.3	Townsville	Benwell Road onto Southern Port Road GPS Link: https://goo.gl/maps/zMcooGDp78kqYkn5A	Width: 8.0m Length: 120.0m	Travel directly ahead	**Pinchpoint procedure:** Travel directly ahead in the centre lane. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** No.
8.6	Townsville	Southern Port Road onto the Bruce Highway GPS Link: https://goo.gl/maps/XCkTUisYRCfq8XQc7	Width: 10.0m Length: 120.0m Height: 5.90m	Right hand turn	**Pinchpoint procedure:** Travel directly ahead in the centre lane. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Yes, the towers may need to have the traffic signal raised if over 5.8 metres in loaded height.
11.9	Townsville	Bruce Highway at Lakeside Drive GPS Link: https://maps.app.goo.gl/TXYP6SpZT5uKGqnm7	Width: 8.0m Height:	Travel directly ahead	**Pinchpoint procedure:** Travel directly ahead in the centre lane. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Yes, the towers may need to have the traffic signal raised if over 5.8 metres in loaded height.

KM index	Location	Section of road	Existing Measurement	Procedure	Notes
12.5	Townsville	Bruce Highway at Stuart Drive GPS Link: https://maps.app.goo.gl/9fbuKNwpDD6GJuB98	Width: 8.0m Height:	Travel directly ahead	**Pinchpoint procedure:** Travel directly ahead in the centre lane. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Yes, the towers may need to have the traffic signal raised if over 5.8 metres in loaded height.
14.6	Townsville	Bruce Highway at Melton Black Drive GPS Link: https://maps.app.goo.gl/usfNFXsm3A1sg8Uz8	Width: 8.0m Height:	Travel directly ahead	**Pinchpoint procedure:** Travel directly ahead in the centre lane. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Yes, the towers may need to have the traffic signal raised if over 5.8 metres in loaded height.
18.9	Townsville	Bruce Highway onto Angus Smith Drive GPS Link: https://goo.gl/maps/BN99K7VpiSi1CD35A		Turn left onto bypass road	**Pinchpoint procedure:** loads to use installed bypass road to access Angus Smith Dr then return to the bruce Hwy after Riverside Bvd via the on ramp **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** If loads exceed 5.4 metres in overall height, it is proposed that and exit point be installed prior to Riverside Road. This would allow the high loads to cross onto Angus Smith Drive and pass around the bridge before returning onto the Bruce Highway.
25.1	Bohle Plains	Bruce Highway onto Hervey Range Road GPS Link: https://goo.gl/maps/HAAU3kAJ8rSApw7i8	Width: 6.0m Length: 35.0m	Left hand turn. Cross over median and return to correct side of road after median.	**Pinchpoint procedure:** Take left off ramp and turn left. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Yes, the corner will need to be widened for the larger towers. Hardstand to be installed.
146.0	Basalt	Hervey Range Road onto Gregory Development Rd GPS Link: https://maps.app.goo.gl/RekrJrVaiDbSZ5hA9	Width: 8.5m Length: 55.0m	Left hand turn	**Pinchpoint procedure:** Left hand turn **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Nil.
240.0	Charters Towers	Left hand turn on Gregory Development Rd at Bridge St GPS Link: https://maps.app.goo.gl/hSDdZHkCzwfCDYYY9	Width: 6.0m Length: 45.0m	Left hand turn	**Pinchpoint procedure:** Left hand turn. Loads to cross over median if rquired. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:**
243.0	Charters Towers	Gregory Development Rd onto Flinders Highway GPS Link: https://maps.app.goo.gl/3Sgwpubr8wcXMAx99	Width: 6.0m Length: 50.0m	Right hand turn	**Pinchpoint procedure:** Turn right. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:**

KM index	Location	Section of road	Existing Measurement	Procedure	Notes
245.5	Charters Towers	Flinders Highway onto New Queen Road GPS Link: https://maps.app.goo.gl/QfshWq7R7XXWEAtb7	Width: 9.0m Length: 40.0m	Right hand turn	**Pinchpoint procedure:** Right hand turn **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Nil.
246.4	Charters Towers	New Queen Rd becomes Enterprise Road GPS Link: https://maps.app.goo.gl/EBTXsDCSZG378kCs8	Width: 9.0m	Travel directly ahead	**Pinchpoint procedure:** Travel directly ahead **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** 1 shrub may require trimming for blade oversail.
246.5	Charters Towers	Enterprise Road onto Millchester Road GPS Link: https://maps.app.goo.gl/AutLQxKN4yAUB6rE6	Width: 12.0m Length: 40.0m	Left hand turn	**Pinchpoint procedure:** Left hand turn **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Nil.
246.5	Charters Towers	Rail Crossing on Millchester Road GPS Link: https://maps.app.goo.gl/m6Dc2dJgX11QKDwF9	Width: 12.0m	Travel directly ahead	**Pinchpoint procedure:** Travel directly ahead **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Rail manager approval required.
246.6	Charters Towers	Millchester Road onto Victory Street GPS Link: https://maps.app.goo.gl/vJKJpxSCQZebD1Se7	Width: 12.0m Length: 40.0m	Right hand turn	**Pinchpoint procedure:** Right hand turn. Loads to use incorrect side of road around corner. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Nil
246.9	Charters Towers	Victory Street onto Flinders Highway GPS Link: https://maps.app.goo.gl/sYHMR2snfDg8ZA2E9	Width: 12.0m Length: 40.0m	Right hand turn	**Pinchpoint procedure:** Right hand turn. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Nil
258	Black Jack	Flinders Highway Rail Crossing GPS Link: https://maps.app.goo.gl/cwZ5bwVMgn8xmeHY6	Width: 7.0m	Travel directly ahead	**Pinchpoint procedure:** Rail manager approval required. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Nil.
274	Campaspe	Flinders Highway GPS Link: https://maps.app.goo.gl/Zt2cnk2tNb71FokN9	Width: 9.0m Length: 200.0m	Veer left into parking bay	**Parking - Large** Heavy vehicle pads
289.5	Baffles Creek	Flinders Highway GPS Link: https://maps.app.goo.gl/gS3gtYBni1JunMMZA	Width: 7.0m Length: 140.0m	Incorrect side of road	**Parking – Emergency** incorrect side of road
304.8	Campaspe	Flinders Highway GPS Link: https://maps.app.goo.gl/LD4waBKBvqtSpdyBA	Width: 5.0m Length: 80.0m	Veer left into parking bay	**Parking - Emergency**

KM index	Location	Section of road	Existing Measurement	Procedure	Notes
320.4	Homestead	Flinders Highway GPS Link: https://maps.app.goo.gl/wRadj2WaSXYtoUpE7	Width: 5.5m Length: 120.0m	Veer left into parking bay	**Parking - Large**
352.9	Pentland	Flinders Highway GPS Link: https://maps.app.goo.gl/u3oP9pQL494CNd2a9	Width: 5.0m Length: 80.0m	Veer left into parking bay	**Parking - Emergency**
354.5	Pentland	Flinders Highway GPS Link: https://maps.app.goo.gl/4ss9arRNkuNEtBGu7	Width: 5.5m Length: 120.0m	Incorrect side of road	**Parking – Emergency incorrect side of road**
371.1	Pentland	Flinders Highway GPS Link: https://maps.app.goo.gl/NnWCh3fAbiDS4zP56	Width: 3.5m Length: 70.0m	Veer left into parking bay	**Parking - Emergency**
386.7	Pentland	Flinders Highway GPS Link: https://maps.app.goo.gl/oc6Mq6w4kpjMeV2V6	Width: 6.0m Length: 120.0m	Veer left into parking bay	**Parking - Large**
404.2	Torrens Creek	Flinders Highway GPS Link: https://maps.app.goo.gl/aMUUHCjoRsef9skj7	Width: 6.5m Length: 150.0m	Veer left into parking bay	**Parking - Large**
420.1	Torrens Creek	Flinders Highway GPS Link: https://maps.app.goo.gl/XMcpKuQKEZ71qt7U6	Width: 4.0m Length: 70.0m	Veer left into parking bay	**Parking - Emergency**
433.9	Prairie	Flinders Highway GPS Link: https://maps.app.goo.gl/SveMC2Z6P47Rn4t9A	Width: 4.0m Length: 70.0m	Veer left into parking bay	**Parking - Emergency**
448.6	Prairie	Flinders Highway GPS Link: https://maps.app.goo.gl/Py7VHVehmdhBhABf6	Width: 8.0m Length: 90.0m	Incorrect side of road	**Parking – Emergency, large, incorrect side of road**
448.1	Prairie	Flinders Highway GPS Link: https://maps.app.goo.gl/zMriCcH945QNi9496	Width: 8.0m Length:120.0m	Incorrect side of road	**Parking – Emergency, large, incorrect side of road**
464.2	Prairie	Flinders Highway GPS Link: https://maps.app.goo.gl/8fmH62UkFUz3aQDZ7	Width: 3.5m Length: 80.0m	Veer left into parking bay	**Parking - Emergency**
479	Hughenden	Flinders Highway rail crossing GPS Link: https://maps.app.goo.gl/cVGcjLgtwej3pGCy5	Width: 7.0m	Travel directly ahead	**Pinchpoint procedure:** Rail manager approval required. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Nil.
492	Hughenden	Flinders Highway Rail Crossing GPS Link: https://maps.app.goo.gl/i53EDzAzp4wyTR7JA	Width: 7.5m	Travel directly ahead	**Pinchpoint procedure:** Rail manager approval required. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Nil.

KM index	Location	Section of road	Existing Measurement	Procedure	Notes
493	Hughenden	Flinders Highway Rail Crossing GPS Link: https://maps.app.goo.gl/ob4BQtTc2d19dcn47	Width: 7.5m	Travel directly ahead	**Pinchpoint procedure:** Rail manager approval required. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Nil.
494.0	Hughenden	Flinders Highway at Hughenden GPS Link: https://maps.app.goo.gl/kRb2Arp1nmB4pjcV6	Width: 9.0m Length: 50m	Left hand turn	**Pinchpoint procedure:** Left hand turn from incorrect side of road to incorrect side of road **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Nil
497	Hughenden	Flinders Highway BP Service Station GPS Link: https://maps.app.goo.gl/nnDMcSM84CKCgg718	Width: 20.0m Length: 100.0m	Incorrect side of road	**Parking –Large,** incorrect side of road at BP Service Station
533	Marathon	Flinders Highway GPS Link: https://maps.app.goo.gl/VHnWRTDSEB6iw6eU7	Width: 5.0m Length: 80.0m	Veer left into parking bay	**Parking - Emergency**
538	Marathon	Flinders Highway GPS Link: https://maps.app.goo.gl/TY4xFZ6gEyoEo8eZ8	Width: 4.5m Length: 60.0m	Veer left into parking bay	**Parking - Emergency**
547	Marathon	Flinders Highway GPS Link: https://maps.app.goo.gl/rn2Y3f3t53YSNtzZ8	Width: 4.5m Length: 50.0m	Veer left into parking bay	**Parking - Emergency**
549	Marathon	Flinders Highway GPS Link: https://maps.app.goo.gl/JpbAcLi1YtX6Gd7CA	Width: 30m Length: 120.0m	Incorrect side of road	**Parking – Emergency** Incorrect side of road. No Blades.
551	Marathon	Flinders Highway GPS Link: https://maps.app.goo.gl/idovzwdMQYP97AaE6	Width: 4.5m Length: 70.0m	Veer left into parking bay	**Parking - Emergency**
556	Marathon	Flinders Highway GPS Link: https://maps.app.goo.gl/JL5dpGFL3Q3MeE3f9	Width: 4.5m Length: 70.0m	Veer left into parking bay	**Parking - Emergency**
561	Marathon	Flinders Highway GPS Link: https://maps.app.goo.gl/K8x78p5WJYQExH5d7	Width: 10.0m Length: 90.0m	Turn left into parking bay	**Parking - Emergency** No Blakes, small loads only.
569	Marathon	Flinders Highway GPS Link: https://maps.app.goo.gl/8kvhRQTCGkJpm64w5	Width: 3.5m Length: 60.0m	Veer left into parking bay	**Parking - Emergency**
575	Marathon	Flinders Highway GPS Link: https://maps.app.goo.gl/GZcmQ6nCfWj3pXFv6	Width: 3.5m Length: 50.0m	Veer left into parking bay	**Parking - Emergency**

KM index	Location	Section of road	Existing Measurement	Procedure	Notes
590	Richmond	Flinders Highway GPS Link: https://maps.app.goo.gl/Z9Yo3Vav5K8PsBUF9	Width: 5.0m Length: 60.0m	Veer left into parking bay	**Parking - Emergency**
595	Richmond	Flinders Highway GPS Link: https://maps.app.goo.gl/wCUQnrj1wjA1119h6	Width: 4.5m Length: 70.0m	Veer left into parking bay	**Parking - Emergency**
Richmond Bypass Option (Start at 609km – Burke Street) **GPS Link: https://maps.app.goo.gl/AbKDnLKE2TdsnfXy6**					
0.0	Richmond	Flinders Highway onto Burke Street GPS Link: https://maps.app.goo.gl/mX23GGRPToSG74s1A	Width: 9.0m Length: 45.0m	Left hand turn	**Pinchpoint procedure:** Left hand turn. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:**
0.2	Richmond	Burke Street over rail crossing GPS Link: https://maps.app.goo.gl/bvas1SPVubYTahz49	Width: 7.5m	Travel directly ahead	**Pinchpoint procedure:** Travel directly ahead with caution in accordance with rail manager requirements. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Trailer to be lifted for Crest over rail line. Unsealed roads to be upgraded to accommodate width, weight, height, swept path and vertical curves of all proposed loads and be maintained for duration of deliveries. unsealed roads may be untrafficable during wet weather.
1.0	Richmond	Right hand turn on Burke Street into Sale Yards GPS Link: https://maps.app.goo.gl/V9SVsUHpmrKbwo7a8	Width: 6.0m Length: 35.0m	Right hand turn	**Pinchpoint procedure:** Turn right using hardstand installed on inside and exit of corner for blades. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Hardstand to be installed on inside and exit of corner.
1.4	Richmond	Sale yards onto Jim Maguire Road GPS Link: https://maps.app.goo.gl/muBstLaoXH1wv9Usu9	Width: 7.0m Length: 100.0m	Left hand turn	**Pinchpoint procedure:** Left hand turn. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Nil.
1.7	Richmond	Jim Maguire Road onto Flinders Highway GPS Link: https://maps.app.goo.gl/iH4bKn9XoSupMX7JA	Width: 8.0m Length: 55.0m	Left hand turn	**Pinchpoint procedure:** Left hand turn. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Signs to be relocated or made removable.
Route 3 Continued (From 609km – Burke Street)					

KM index	Location	Section of road	Existing Measurement	Procedure	Notes
609	Richmond	Flinders Highway at Richmond GPS Link: https://maps.app.goo.gl/7ZewcDCkmVe9K26Q7	Width: 12.0m Length: 50.0m	Left hand turn	**Pinchpoint procedure:** Left hand turn. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** excessive number of overhead power lines and poles on this section, use bypass option.
610	Richmond	Flinders Highway Rail Crossing GPS Link: https://maps.app.goo.gl/XyhSezhmFKaszyT36	Width: 7.5m	Travel directly ahead	**Pinchpoint procedure:** Rail manager approval required. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Nil.
613	Richmond	Flinders Highway GPS Link: https://maps.app.goo.gl/5Hb59xe5VsQjLqfn9	Width: 10m Length: 150.0m	Veer left into parking bay	**Parking – Large** Overnight
624	Richmond	Flinders Highway GPS Link: https://maps.app.goo.gl/mG4AfcTs1ZheFykU7	Width: 4.0m Length: 60.0m	Veer left into parking bay	**Parking - Emergency**
639	Maxwelton	Flinders Highway GPS Link: https://maps.app.goo.gl/Kg47mZ2x9hpGo1Jg7	Width: 4.0m Length: 70.0m	Veer left into parking bay	**Parking - Emergency**
646	Maxwelton	Flinders Highway GPS Link: https://maps.app.goo.gl/2KAxqXbEriFmYBAm6	Width: 4.0m Length: 90.0m	Veer left into parking bay	**Parking - Emergency**
658	Maxwelton	Flinders Highway GPS Link: https://maps.app.goo.gl/E8cSGm3wPc2EtS3j8	Width: 8.0m Length: 90.0m	Veer left into parking bay	**Parking - Emergency** Soft surface.
695	Maxwelton	Flinders Highway		Veer left into parking bay	**Parking - Emergency**
708	Julia Creek	Flinders Highway		Veer left into parking bay	**Parking - Emergency**
712	Julia Creek	Flinders Highway GPS Link: https://maps.app.goo.gl/d1gU9yzXGS5mypjC9	Width: 8.0m Length: 160.0m	Veer left into parking bay	**Parking - Large**
715	Julia Creek	Flinders Highway GPS Link: https://maps.app.goo.gl/wsHRpyNFMEcw5H127	Width: 8.0m Length: 160.0m	Incorrect side of road	**Parking – Large/Stock pile site**
722	Julia Creek	Flinders Highway Rail Crossing GPS Link: https://maps.app.goo.gl/AfVbSwWX5gLA5Ssk9	Width: 7.5m	Travel directly ahead	**Pinchpoint procedure:** Rail manager approval required. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Nil.

KM index	Location	Section of road	Existing Measurement	Procedure	Notes
748	Julia Creek	Flinders Highway GPS Link: https://maps.app.goo.gl/HUKwxT8XBa49VZib9	Width: 4.0m Length: 60.0m	Veer left into parking bay	**Parking - Emergency**
Julia Creek Bypass Option (Start at 757km – Goldring Street Street) GPS Link: https://maps.app.goo.gl/m7H7L2igY29149Y1A					
757	Julia Creek	Flinders Highway onto Goldring Street GPS Link: https://maps.app.goo.gl/EYXzCvTYoaUasnfP6	Width: 4.5m Length: 60.0m	Left hand turn	**Pinchpoint procedure:** Left hand turn. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:**
758	Julia Creek	Flinders Highway GPS Link: https://maps.app.goo.gl/DjjKbEFoFxocbcxX8	Width: 8.0m Length: 160.0m	Veer left into parking bay	**Parking - Large** Opposite Pub
759	Julia Creek	Goldring Street onto Flinders Highway GPS Link: https://maps.app.goo.gl/Jxe7qNGMNqCaRfXw9	Width: 4.5m Length: 60.0m	Left hand turn	**Pinchpoint procedure:** Left hand turn. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:**
Route 3 Continued (From 757km – Goldring Street Street)					
773	Julia Creek	Flinders Highway GPS Link: https://maps.app.goo.gl/e54Wa1WdpDxMTVwa7	Width: 4.0m Length: 75.0m	Veer left into parking bay	**Parking - Emergency**
788	Julia Creek	Flinders Highway GPS Link: https://maps.app.goo.gl/ShKka6ww1cMUQjw48	Width: 4.0m Length: 55.0m	Veer left into parking bay	**Parking - Emergency**
790-794	Julia Creek	Flinders Highway floodways GPS Link: https://maps.app.goo.gl/s4a1tJGKoh4jNvEq9		Travel directly ahead	Caution. Rough section of road, multiple dips.
818	Julia Creek	Flinders Highway crest in road		Travel directly ahead	Caution. Large crest in road over pipe
827.6	Julia Creek	Flinders Highway GPS Link: https://maps.app.goo.gl/uSMEAraAGqTCuFXn6	Width: 10.0m Length: 100.0m	Veer left into parking bay	**Parking - Large**
848	Cloncurry	Flinders Highway GPS Link: https://maps.app.goo.gl/ts7eGDq4RZUDmGcv7	Width: 3.5m Length: 100.0m	Veer left into parking bay	**Parking - Emergency**
854	Cloncurry	Flinders Highway crest in road		Travel directly ahead	Caution. Large crest in road over pipe

KM index	Location	Section of road	Existing Measurement	Procedure	Notes
858	Cloncurry	Flinders Highway GPS Link: https://maps.app.goo.gl/w5xAN5yqj3rsiNfP6	Width: 8.0m Length: 150.0m	Incorrect side of road	**Parking – Emergency** Incorrect side of road/stock pile site
871	Cloncurry	Flinders Highway GPS Link: https://maps.app.goo.gl/TmNRSVQvNPYhuBk77	Width: 3.5m Length: 50.0m	Veer left into parking bay	**Parking - Emergency**
884	Cloncurry	Flinders Highway GPS Link: https://maps.app.goo.gl/eFU6iiJS8yeu2PeAA	Width: 10.0m Length: 150.0m	Veer left into parking bay	**Parking - Large**
893.0	Cloncurry	Flinders Highway onto Andrew Daniels Drive GPS Link: https://maps.app.goo.gl/r1MVzagmC2PnGEKm9	Width: 11.0m Length: 50.0m	Right hand turn	**Pinchpoint procedure:** Right hand turn on correct side of road. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** signs to be relocated or made removable.
900.0	Cloncurry	Andrew Daniels Drive onto Burke Development Road GPS Link: https://maps.app.goo.gl/a6RuStKPbNuhG1Pf7	Width: 6.5m Length: 60.0m	Right hand turn	**Pinchpoint procedure:** Load to cross over median if required. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Nil.
903	Cloncurry	Burke Development Road GPS Link: https://maps.app.goo.gl/W7ELpNeLhXZ7WBe16	Width: 10.0m Length: 200.0m	Veer left into parking bay	**Parking - Large**
913	Cloncurry	Burke Development Road GPS Link: https://maps.app.goo.gl/AKUwm4SdrZheRL5F7	Width: 4.0m Length: 100.0m	Veer left into parking bay	**Parking - Emergency**
924	Cloncurry	Burke Development Road GPS Link: https://maps.app.goo.gl/qM87B5Gd1XRBv75f7	Width: 8.0m Length: 80.0m	Veer left into parking bay	**Parking - Emergency**
935	Cloncurry	Burke Development Road GPS Link: https://maps.app.goo.gl/N4JkBn75BqQJwts7A	Width: 4.0m Length: 100.0m	Veer left into parking bay	**Parking - Emergency**
941	Quamby	Burke Development Road GPS Link: https://maps.app.goo.gl/NLismZHUfBfFJxM39	Width: 6.0m Length: 100.0m	Veer left into parking bay	**Parking - Emergency** Towers only

KM index	Location	Section of road	Existing Measurement	Procedure	Notes
953	Quamby	Burke Development Road GPS Link: https://maps.app.goo.gl/P5KYeTboR5rqWYoVA	Width: 3.5m Length: 90.0m	Veer left into parking bay	**Parking - Emergency**
954.0	Cloncurry	Burke Development Road onto Dugald River Site Road GPS Link: https://maps.app.goo.gl/CFk9JksxLjeH2rXW8	Width: 10.0m Length: 75.0m	Left hand turn	**Pinchpoint procedure:** Left hand turn. **Traffic control:** QPS/Pilots to control local traffic. **Modifications required:** Nil.
955	Dugald River	Dugald River Site Road GPS Link: https://maps.app.goo.gl/yZ4RMvpLxGHp7T95A	Width: 3.5m Length: 1000.0m	Veer left into parking bay	**Parking - Emergency** Large emergency landing strip
964.0	Dugald River	Flinders Highway at Gregory Development Road GPS Link: https://maps.app.goo.gl/qE3XjbYGkZ6G53pr6	Width: 8.0m Length: 120.0m	Left hand turn	All site access roads to be constructed to suitable standards to accommodate the weight, height, swept path and vertical curves (dips/crests) of all proposed loads and are to be maintained for the duration of the deleveries.

18.9 Km's: Bruce Highway onto Angus Smith Drive

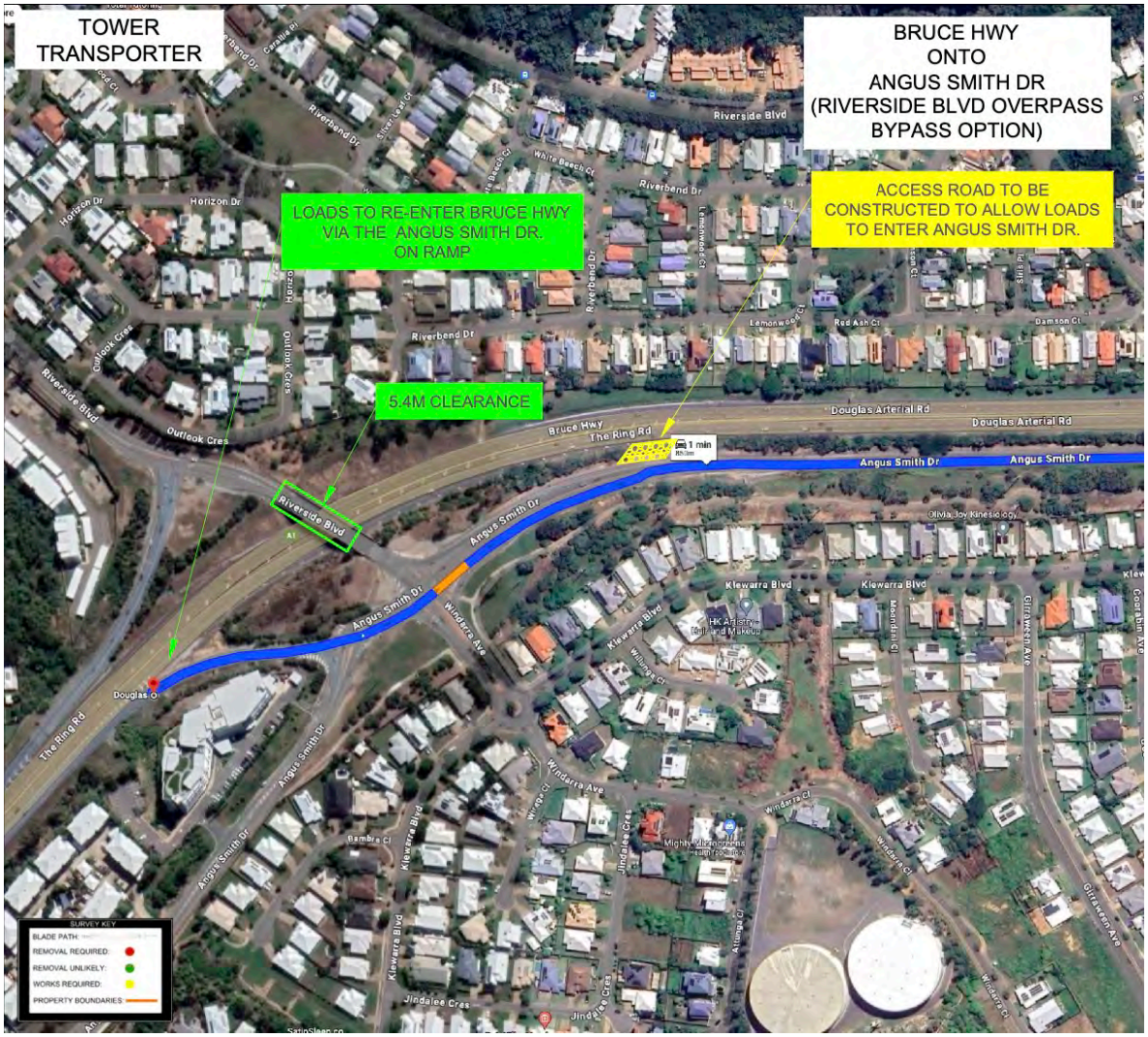


Figure 48 – Riverside Blvd Bridge Bypass Option

GPS Link: https://goo.gl/maps/BN99K7Vpi5i1CD35A
Procedure: loads to use installed bypass road to access Angus Smith Dr then return to the Bruce Hwy after Riverside Bvd via the on ramp.

If loads exceed 5.4 metres in overall height, it is proposed that an exit point be installed prior to Riverside Road. This would allow the high loads to cross onto Angus Smith Drive and pass around the bridge before returning onto the Bruce Highway.
Modifications required: hardstand bypass to be constructed and gates/fence modified.

841.0 Km's: Bruce Highway onto Hervey Range Road

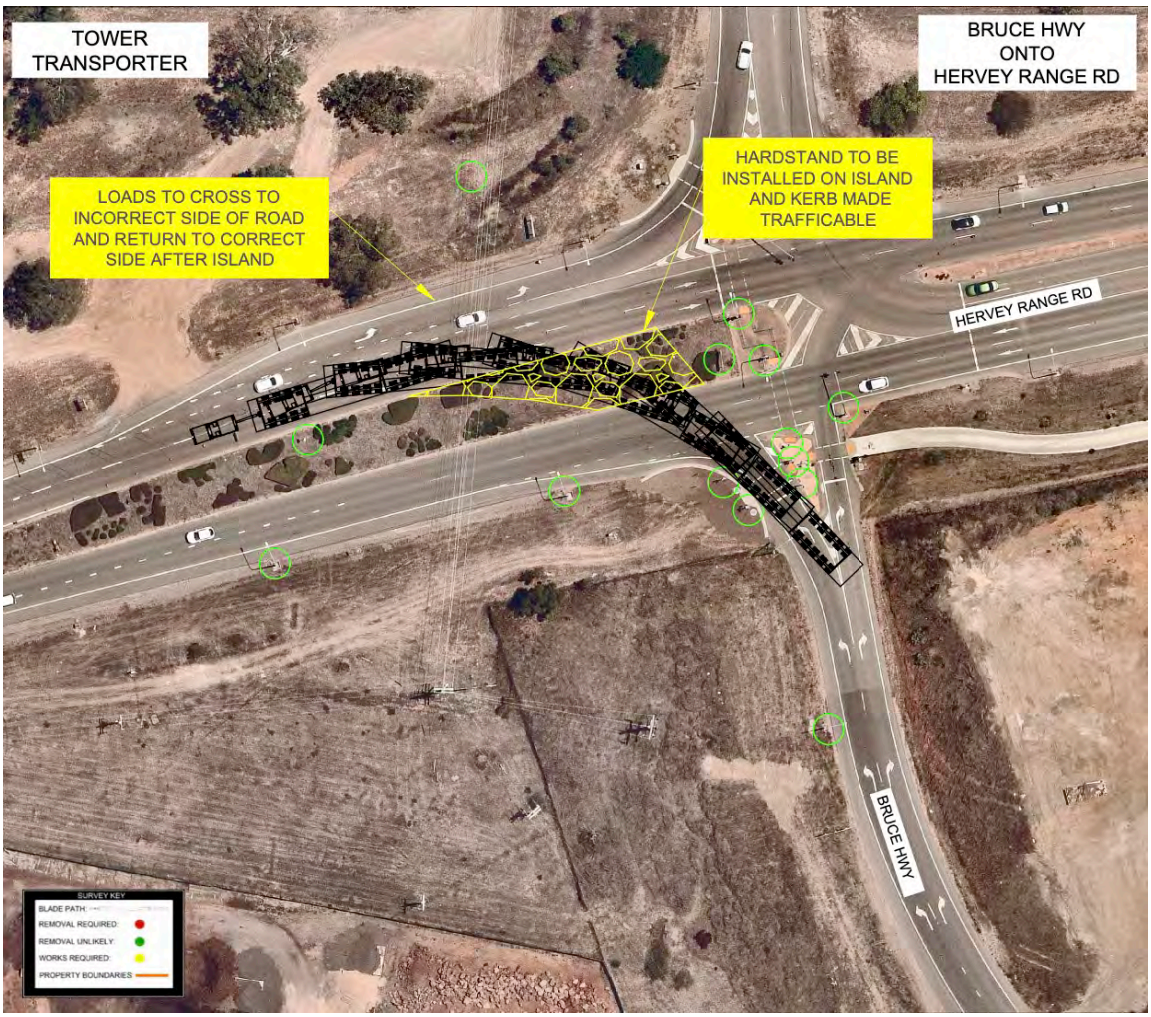


Figure 49 - Bruce Hwy onto Hervey Range Rd

GPS Link: https://goo.gl/maps/HAAU3kAJ8rSApw7i8
Procedure: Left hand turn. Cross over median and return to correct side of road after median.
Modifications required: The corner will need to be widened for the larger towers. Hardstand to be installed.

11.0 Route 4 – Study

Components: All Components
From: Gatehouse
To: End of existing sealed roads
Distance: 4.7 kilometres
Route: Internal road
GPS Link for route: https://maps.app.goo.gl/ZJW1WaPaGj94SgDd8

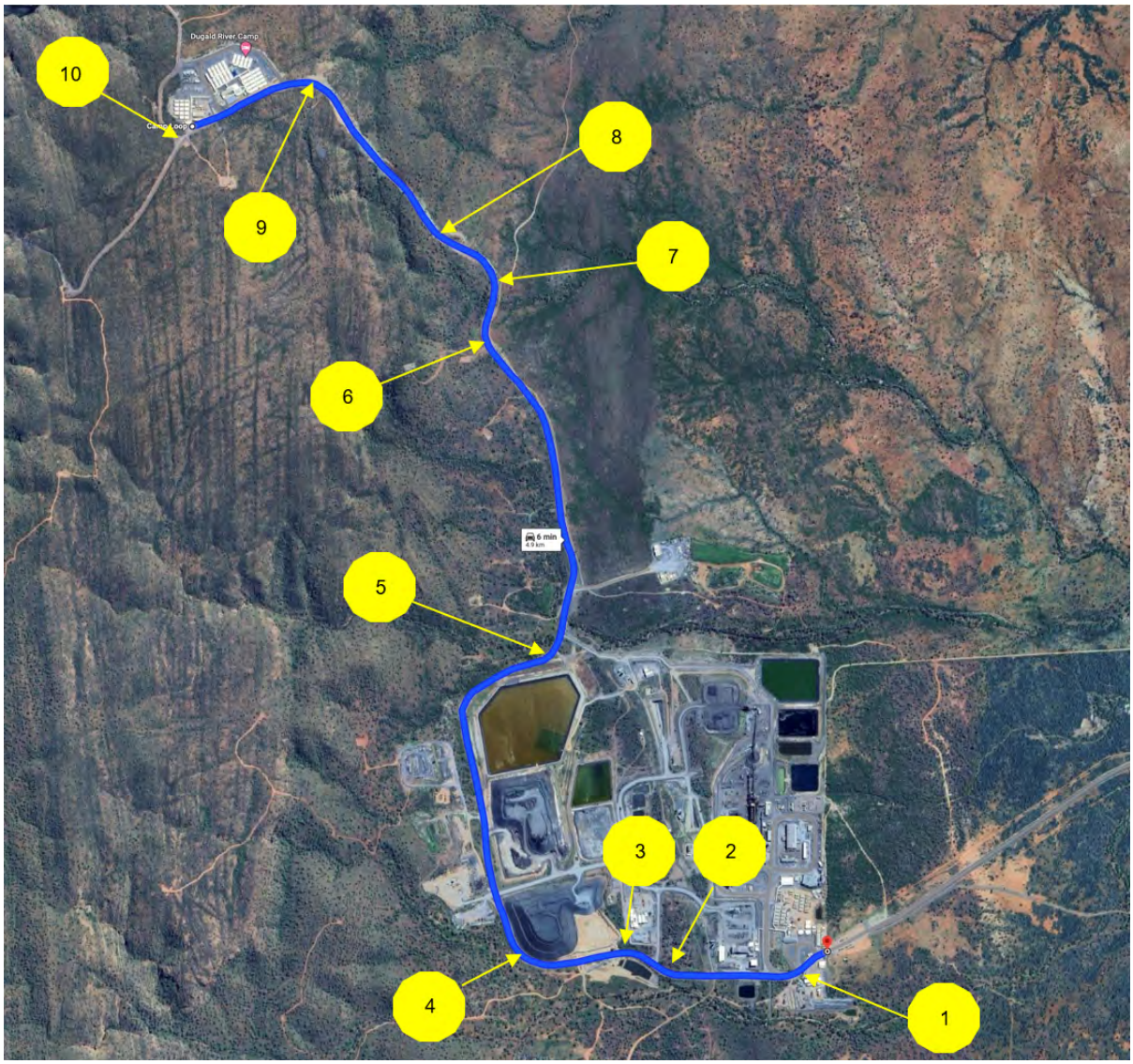


Figure 50 - Site Access Road

0.0 Km's: Corner No.1

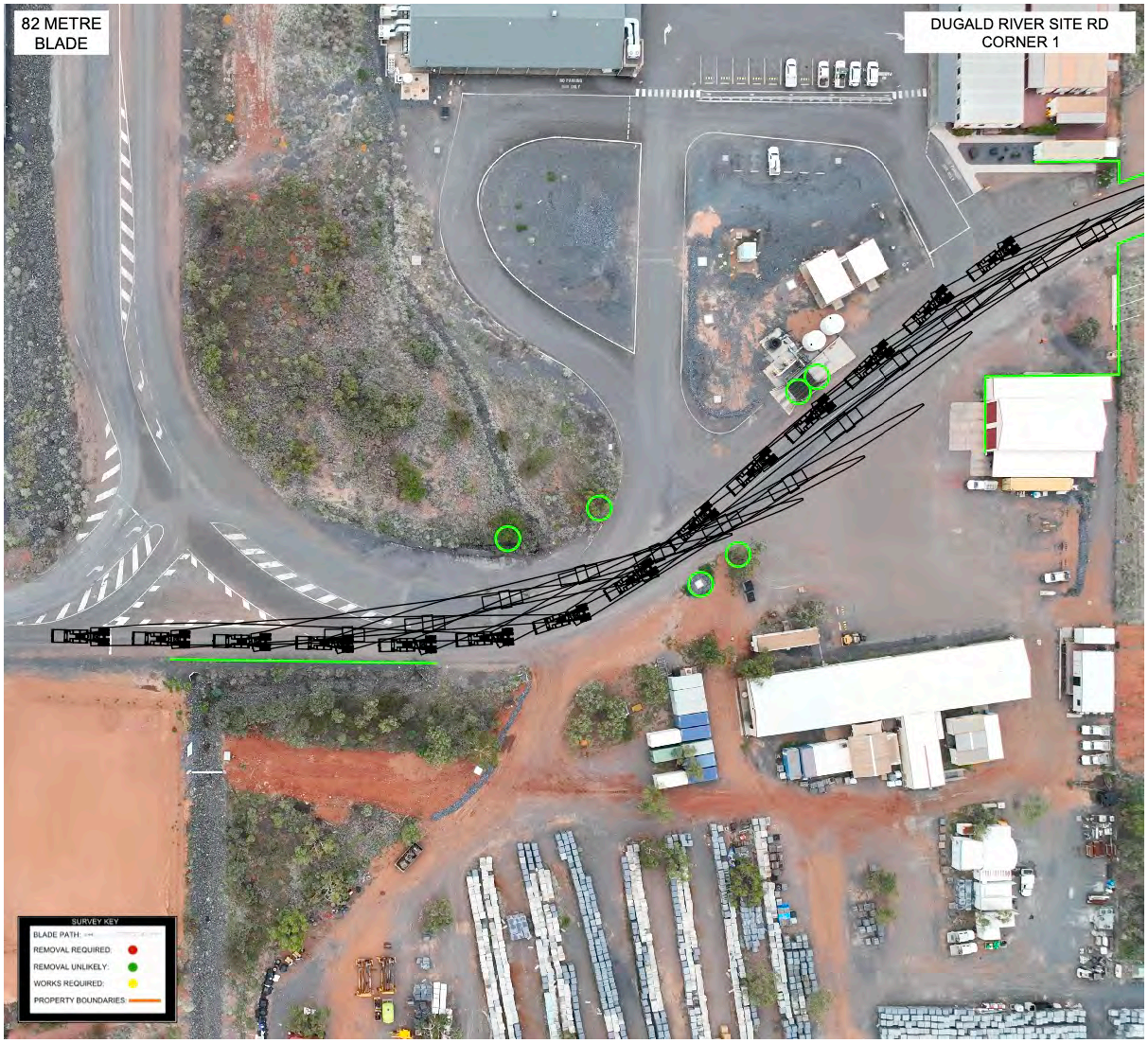


Figure 51 - Corner No.1

GPS Link: https://maps.app.goo.gl/tNLaFkr91eZLxU9L6
Procedure: Right hand bend
Modifications required: Nil, area Infront of sheds to be kept clear during deliveries to allow for trailer manoeuvring.

0.4 Km's: Corner No.2

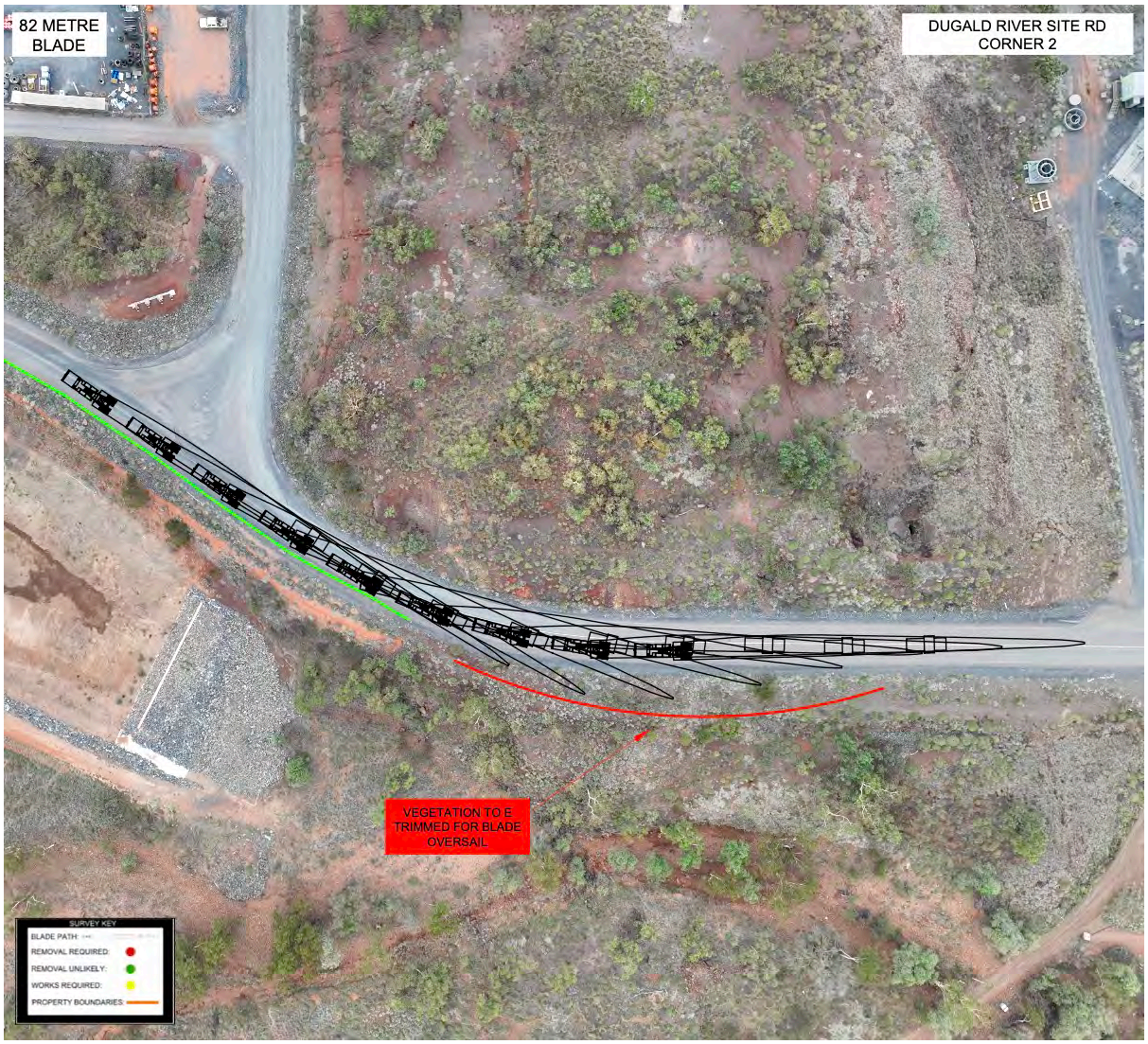


Figure 52 - Corner No.2

GPS Link: https://maps.app.goo.gl/vppTy7AnW5TDF6L18
Procedure: Right hand bend
Modifications required: Vegetation to be trimmed for blade oversail

0.45 Km's: Corner No.3

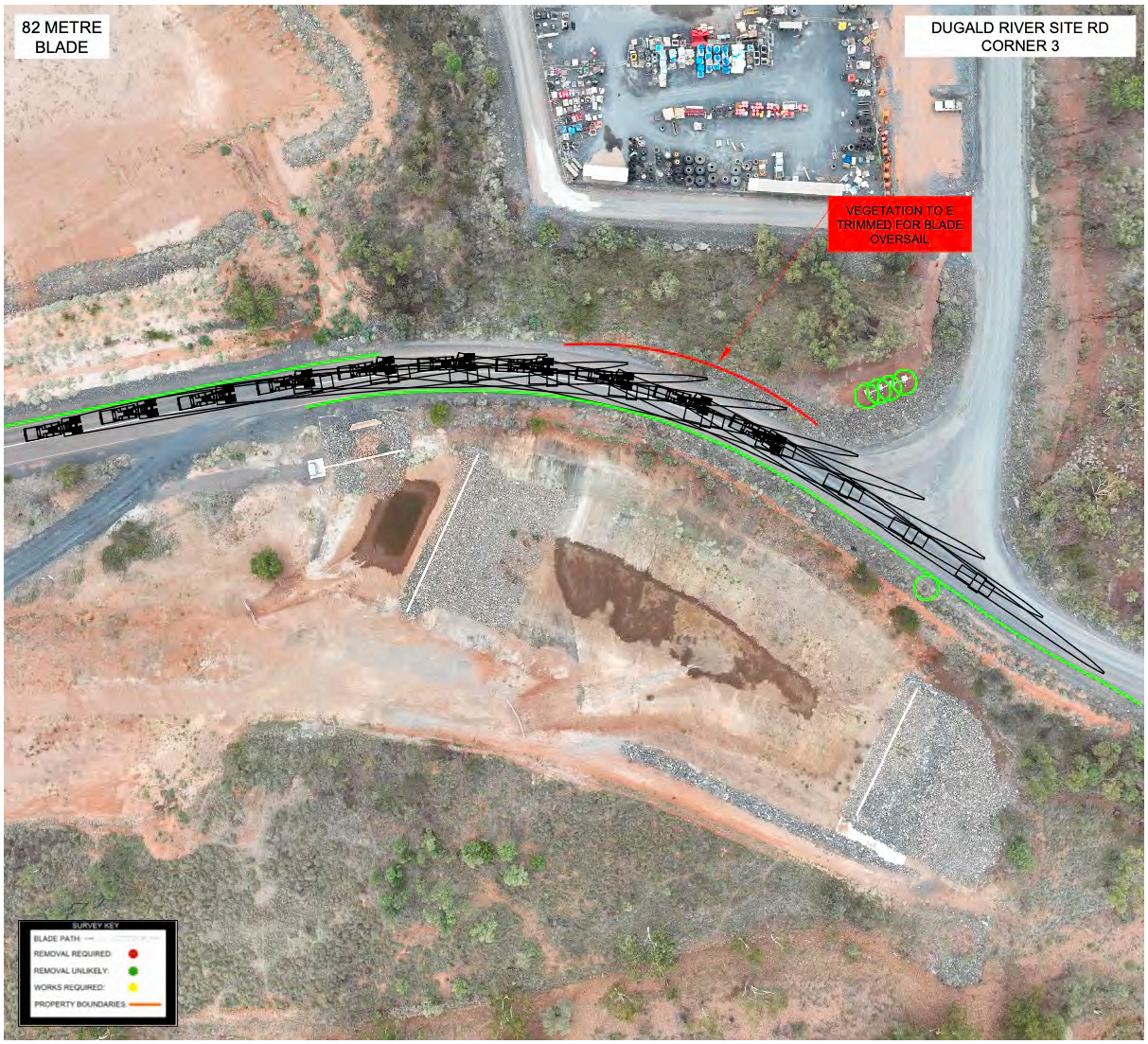


Figure 53 - Corner No.3

GPS Link: https://maps.app.goo.gl/2ZzKf6ot1fRuzLHdA
Procedure: Left hand bend
Modifications required: Vegetation to be trimmed for blade oversail

0.55 Km's: Corner No.4

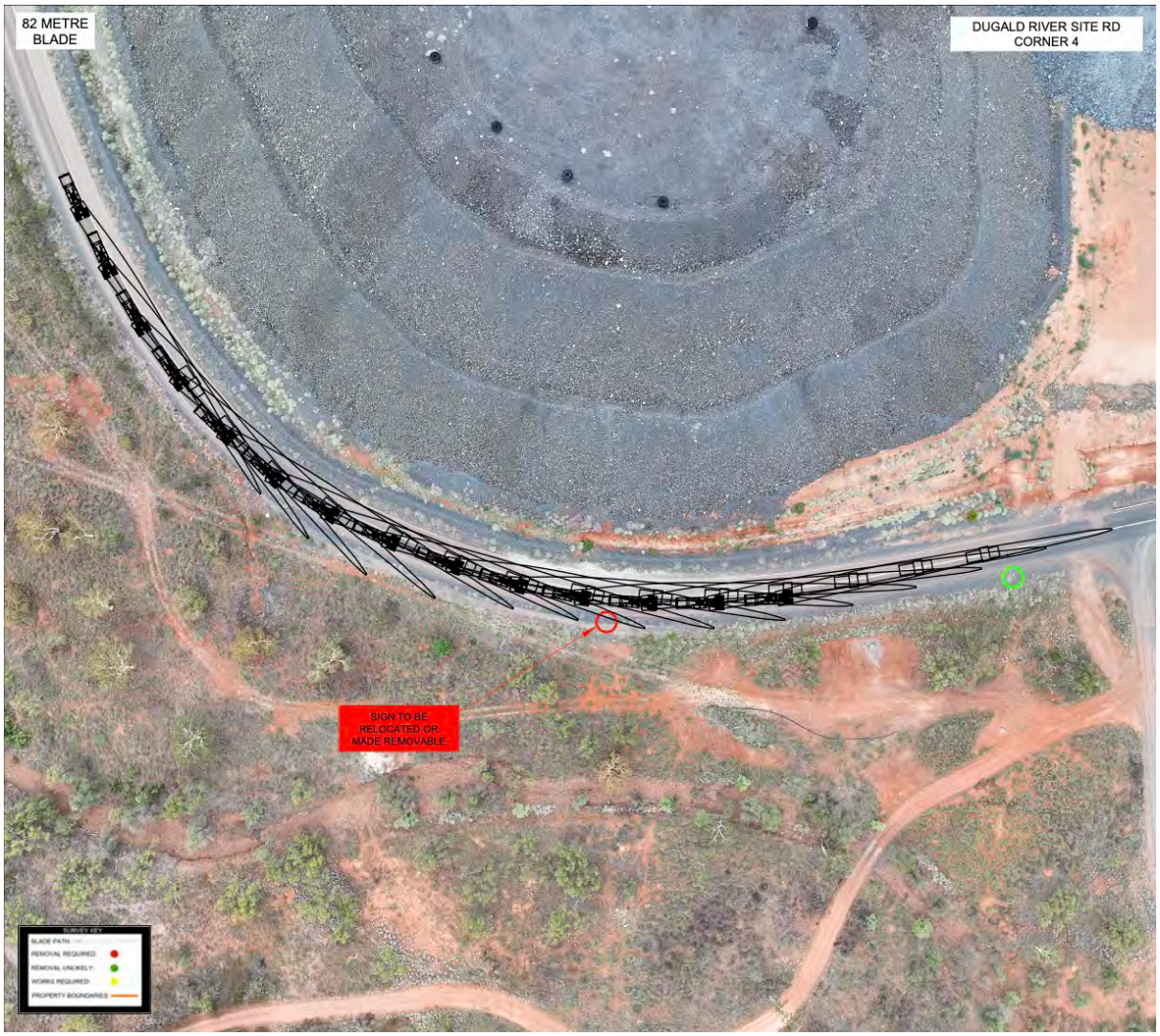


Figure 54 - Corner No.4

GPS Link: https://maps.app.goo.gl/AAgoXpBYc6VAPeLt5
Procedure: Right hand corner.
Modifications required: Sign to be relocated out of swpet path or made removable.

2.1 Km's: Corner No.5

Figure 55 - Corner No.5

GPS Link: https://maps.app.goo.gl/Jjnw6Mf7m2ypzYxX8
Procedure: Left hand corner.
Modifications required: Nil.

3.2 Km's: Corner No.6

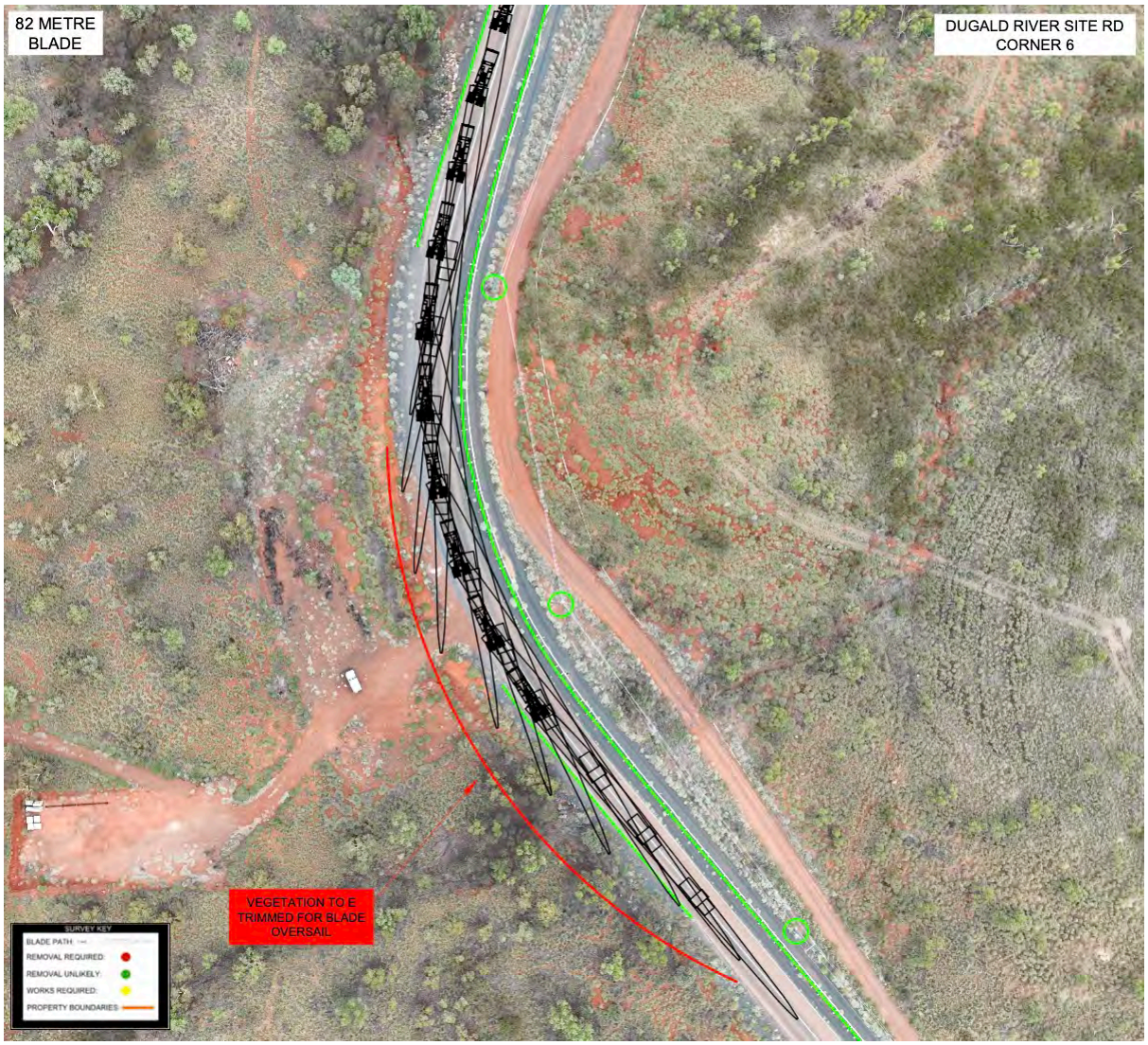


Figure 56 - Corner No.6

GPS Link: https://maps.app.goo.gl/rViTq5YFsiioZWyeA
Procedure: Right hand bend.
Modifications required: Vegetation to be trimmed for blade oversail.

3.5 Km's: Corner No.7

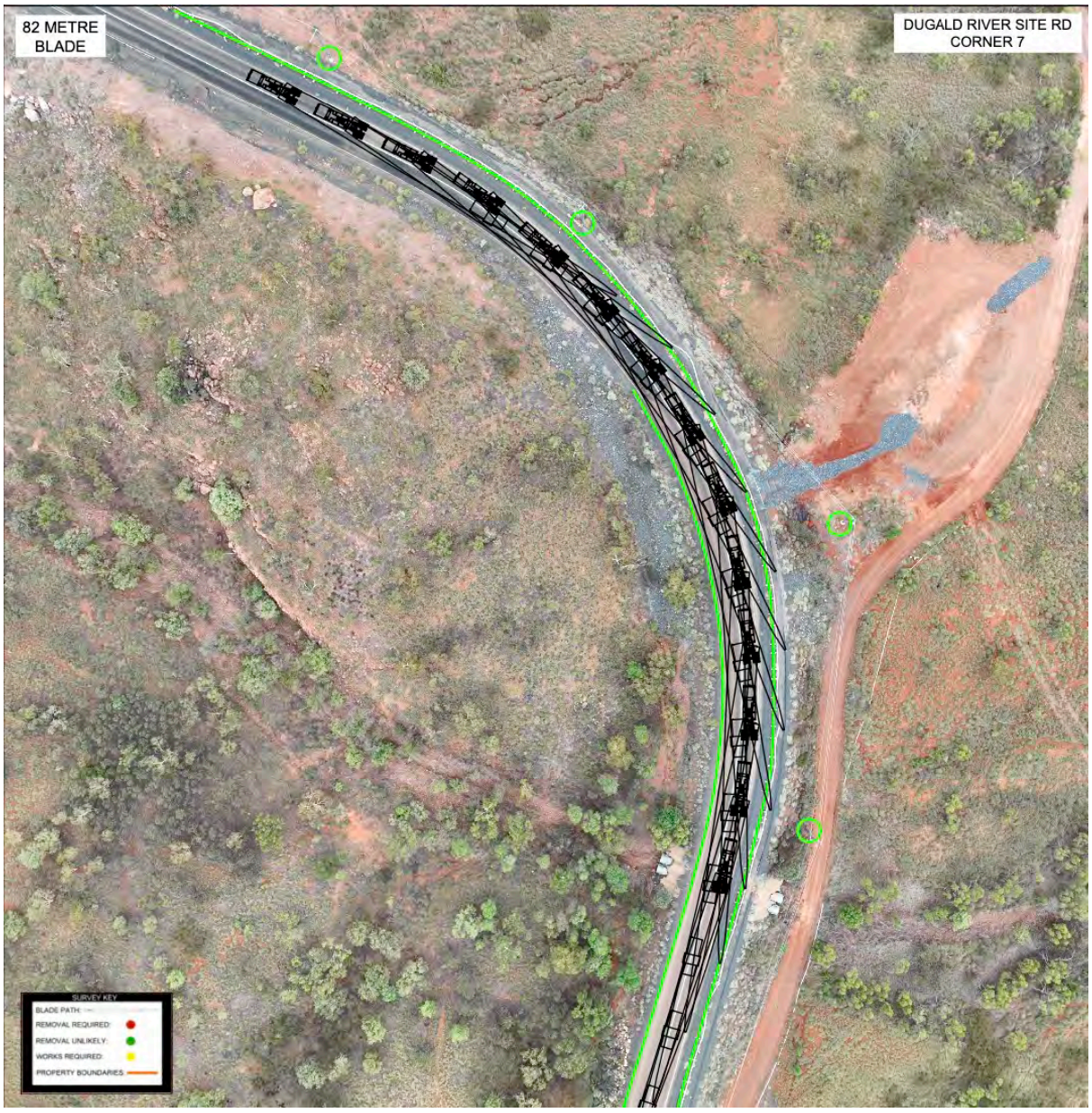


Figure 57 - Corner No.7

GPS Link: https://maps.app.goo.gl/5NfRHykWv3zTALVE6
Procedure: Left hand corner.
Modifications required: Nil.

3.7 Km's: Corner No.8

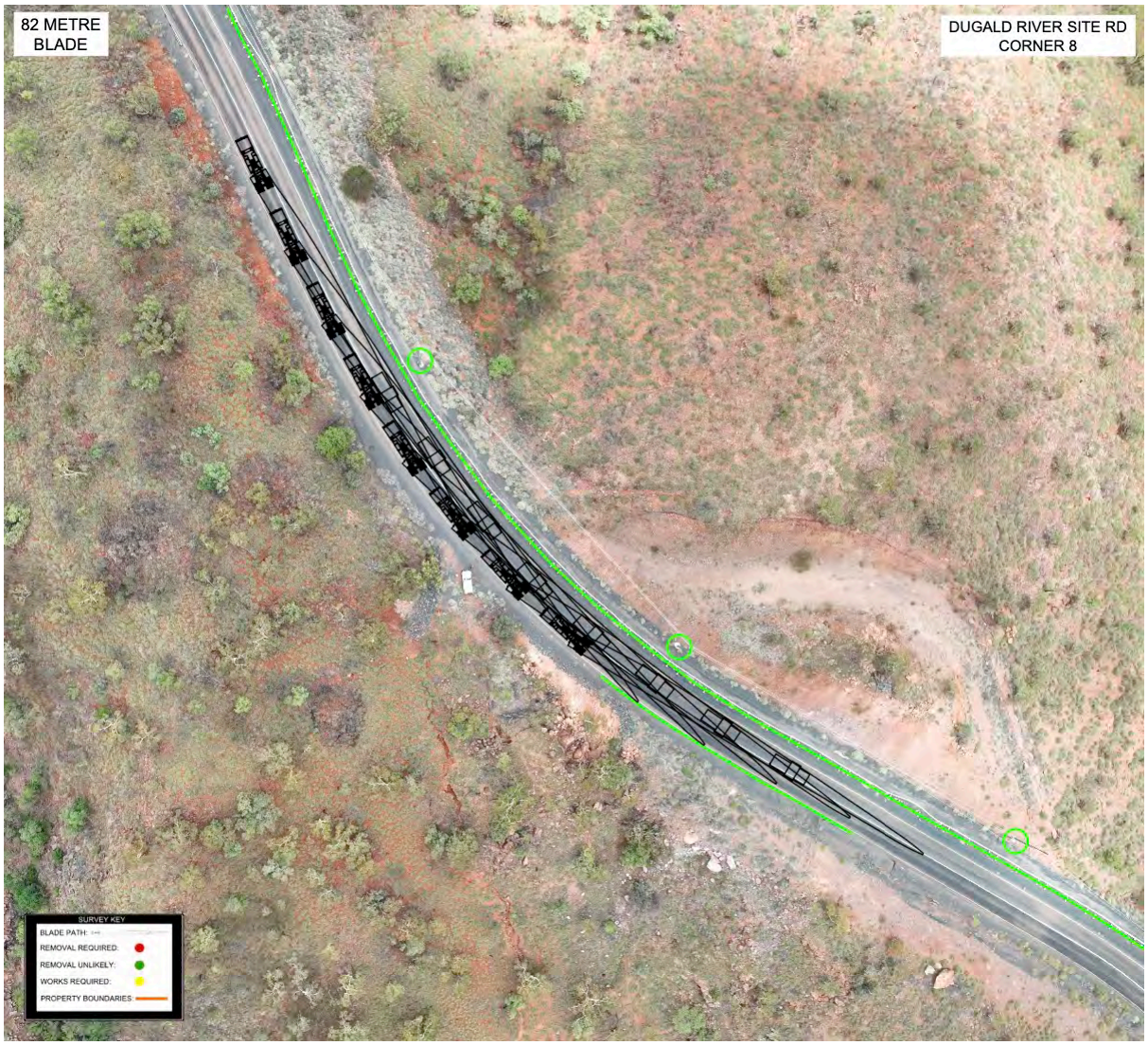


Figure 58 - Corner No.8

GPS Link: https://maps.app.goo.gl/JSL1nNgXUEfV8daNA
Procedure: Right hand bend.
Modifications required: Nil.

4.3 Km's: Corner No.9

Figure 59 - Corner No.9

GPS Link: https://maps.app.goo.gl/jYXoypbYCJ46rd2x9
Procedure: Left hand corner.
Modifications required: Nil.

4.7 Km's: Corner No.10

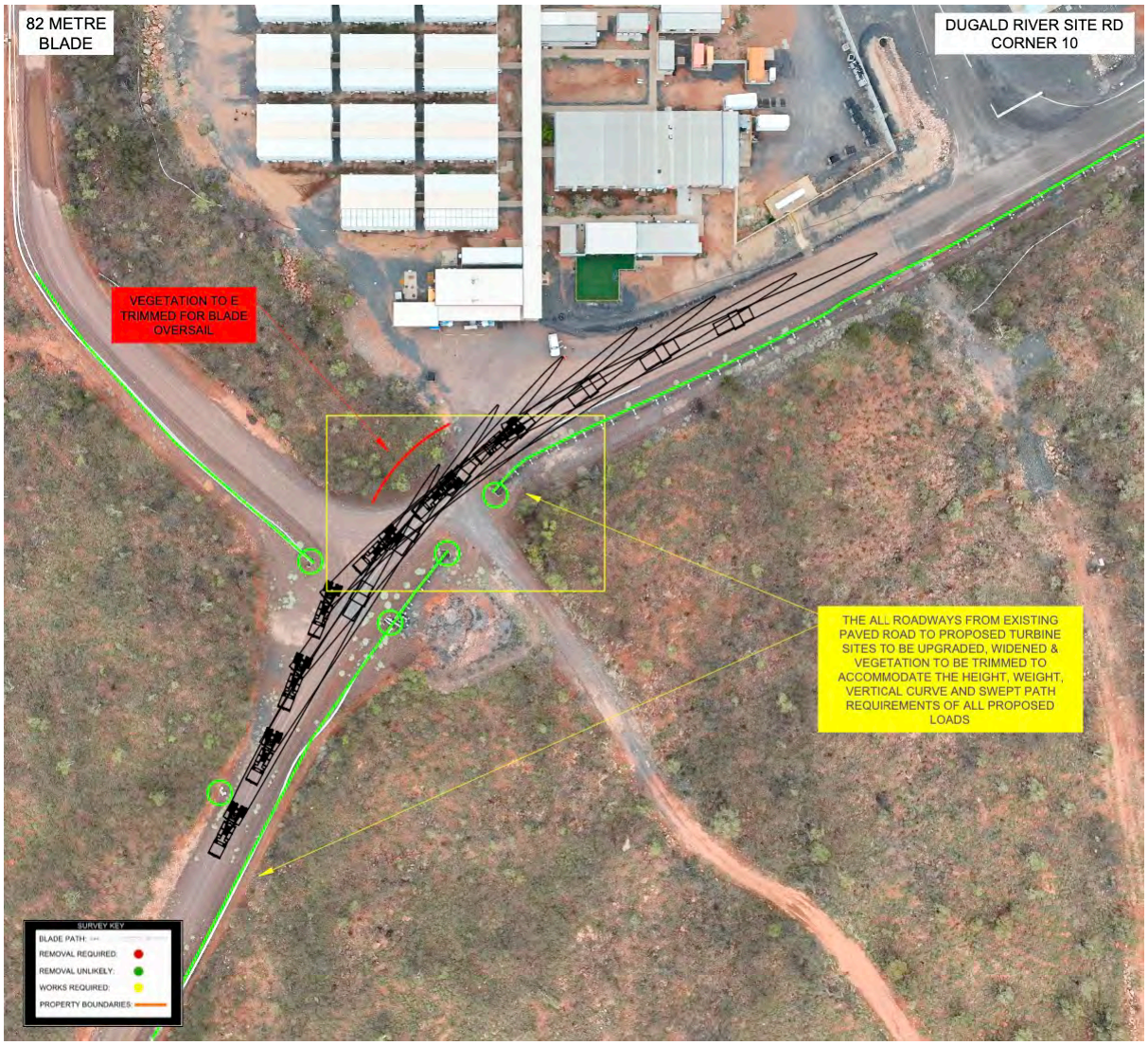


Figure 60 - Corner No.10

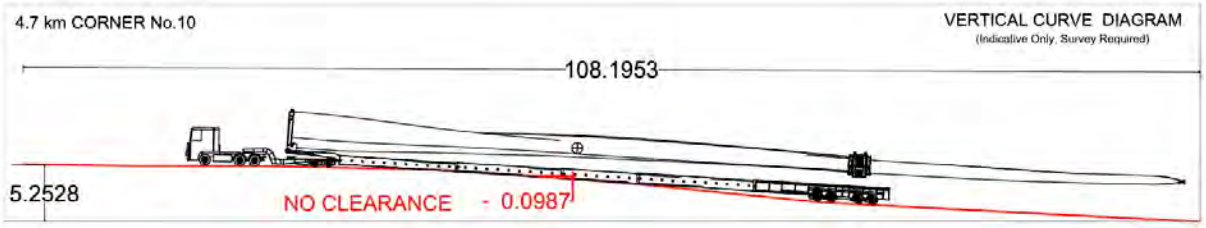


Figure 61 - Vertical Curve Diagram

Figure 62 - Corner No.10

GPS Link: https://maps.app.goo.gl/1N95fct6j85nTNqr5
Procedure: Left hand bend.
Modifications required: Crest to be reduced to allow trailer clearance. Vegetation to be trimmed as required for blade oversail clearance.

All proposed access roads to be constructed to accommodate the swept path, vertical curve, weight and height requirements for all proposed loads.

12.0 Conclusion

RECOMMENDATIONS TOWNSVILLE PORT

- **BERTH SELECTION**

  The most suitable berth for the turbines is Berth No. 3. A swept path study has been undertaken off the wharf and through to an external storage yard that is operated by Townsville ports. This is listed as Route 1. Route 1 will require a moderate number of upgrades works but it seems feasible that all works could be undertaken.

- **TOWNSVILLE PORT EXTERNAL STORAGE YARD**

  The proposed storage yard is on reclaimed land to the east of the existing port. It is a large area with room to expand from the 45,000 S/Q that has been listed as the minimum requirement for this project. Townsville Port are currently undertaking works to construct the storage area and access road. Townsville Port to be contacted to confirm suitability, progress and availability for this project.

SWEPT PATH ASSESMENTS

- **BLADES**

  Route 2 requires number of road modifications as shown in the report to provide the blades a suitable route through to site. The modification appear to be possible, however, further investigation and authority approvals will be required.

- **TOWERS**

  Route 3 requires a number of road modifications as shown in the report The modification appear to be possible, however, further investigation and authority approvals will be required.

RECOMMENDATIONS

- **BRIDGES**

  A bridge structural assessment would need to be undertaken for suitability on the selected routes.

- **OVERHEAD STRUCTURES**

  Route 2 - The rail underpass at Charters Towers is the lowest point on Route 1 at 5.5m max loaded height.
  Route 3 - Riverside Boulevard has a clearance of 5.4 metres. Loads that exceed this will need to bypass this structure. A solution maybe to construct an exit onto Angus Smith Drive to bypass this bridge.
  There are 4 traffic signals with a clearance of 5.8 metres that need to be modified, and one gantry sign.

- **OVERHEAD UTILITIES**

  A power line survey has been completed (Appendix 2), and there were multiple conflicts at 6.8 metres in height. Negotiations will be required with Ergon to possibly permanently lift all powerlines that conflict with the height of the loads on all routes.

  NOTE: Additional power surveys may be required in Hughenden and Richmond townships once routes are finalised, or if detours are unsuitable.

- **VEGETATION**

  Sections of the routes will require minor vegetation trimming for the swept path and height of the loads.

- **FLOODWAYS**

  There are a number of sections on the route that contain floodways. The road condition is poor in some areas and will require reduced speeds. The route may become unpassable during periods of rain and flooding.

- **VERTICAL CURVES**

  There are a number of sections on the route where the proposed vehicle combinations cannot travel over crests in the road. The crests at Hughenden,
  Richmond and Dugald River could be rectified with the addition or removal of material to provide a suitable vertical curve.

- **RAIL CROSSINGS**

  Rail manager approval will be required for all rail crossings.

- **ROAD PAVEMENT**

  The routes are of highway standard up to the site entry other than 2 bypasses at Hughenden and Richmond. These 2 bypasses will require an all-weather capping to be placed on them to assure that the loads can traverse the gravel roads.

- **SITE ROADS**

  All site access roads to be constructed to suitable standards to accommodate the weight, height, swept path and vertical curves (dips/crests) of all proposed loads and are to be maintained for the duration of the deliveries. Unsealed roads may become un-trafficable during periods of wet weather.

13.0 Evaluation

Assessment of the proposed routes was conducted by Rex J Andrews Engineered Transportation based on onsite route surveys as well as previous experience on sections of the identified routes and transporting turbine equipment similar to the proposed turbine that is used on various other projects. The assessment was conducted utilising the knowledge, experience and intellectual property of Rex J Andrews Engineered Transportation on purpose-built equipment and is not intended for use by other parties.

The assessment considered the key constraints encountered on the routes and an estimation of the amount of work required to make the route viable based on previous experience. Table 1 shows the evaluation of each route and provides an overall ranking to give guidance on the most suitable route for the development from a transport perspective. The assessment was based on operational factors and equipment capability and does not consider external factors such as regulatory, landholder, environmental, cultural or any other external factors beyond the knowledge or control of Rex J Andrews Engineered Transportation.

1	No Cost
2	Some Work
3	Moderate Amount of Work
4	Large Amount of Work

		Harbour	Road Modification	Road Furnishings	Vegetation	Site Access Roads	Bridge Calculations	Overhead utilities	Overall Work Required
Route 1	All Components	**4**	**1**	**1**	**1**	**1**	**1**	**2**	**2.5**
Route 2	Blades	**1**	**4**	**4**	**3**	**1**	**3**	**3**	**3.5**
Route 3	Towers & Motors	**1**	**3**	**3**	**2**	**1**	**4**	**4**	**3.5**
Route 4	All Components	**1**	**4**	**3**	**2**	**4**	**1**	**2**	**3.0**

Table 1 - Route Evaluation

14.0 References

Rex J Andrews Pty Ltd Route Study # 540 REV00
Rex J Andrews Pty Ltd Drawings
Goldwind Australia
MMG Dugald River Pty Ltd
Google Earth/Maps
Nearmaps
NHVR
NHVAS Maintenance Management (NHVAS21193)
NHVAS Basic Fatigue Management (NHVAS21193)

Disclaimer: This route study including any appendixes are provided on the basis of information only purposes and is to be used strictly as a guide only, Government approvals would be required before these routes could be deemed suitable for transporting the components over the listed routes.

Any, and all parties using information contained this submission do so at own risk.
RJA accept no responsibility for the use of all information contained within this report.

Actual approved routes may differ from those surveyed.
Proposed routes may change subject to approvals from authorities.

This study including any appendixes have been undertaken using data supplied by Rex J Andrews P/L. Equipment and swept paths might vary if using transport methodology other than the data supplied by Rex J Andrews. The study uses known data about the proposed turbine type at the time of conducting the study and is subject to change.

15.0 Transport Combinations

24 x Blades (81.50l x 5w x 3.6h x 27.04T)
Transport configuration. Prime mover with 2x4-4x4 Blade trailer.
Overall dimensions: 92.0l x 5.1w x 5.5h x 77.5T.

8 x Hubs (5.2l x 4.62w x 4.18h x 59.2T)
Transport configuration. Prime mover with 2x8 dolly with 3x8 low loader or 5x8 Low loader.
Overall Dimensions: 30.0l x 4.8w x 5.2h x 102.5T.

8 x Nacelle (13.3l x 5.45w x 4.19h x 43.55T)
Transport configuration. Prime mover with 2x8/3x4 dolly with a 4x4 low loader or 5x8 Low loader.
Overall Dimensions: 26.0l x 5.45w x 5.2h x 90.5T.

8 x Generators (5.49l x 6.2w x 4.16h x 127.8T)
Transport configuration. Prime mover with 2x8-10x8 Platform trailer.
Overall Dimensions: 37.0l x 6.2w x 5.3h x 200.5T.

8 x T1 tower sections (11.4l x 5.82 x 5.5 x 99.0T)
transport configuration. Prime mover with 2x8-9x8 Platform trailer.
Overall Dimensions: 45.0l x 5.9w x 6.8h x 156.5T.

8 x T2 tower sections (12.74l x 5.5 x 5.5 x 98.0T)
Transport configuration. Prime mover with 9x8 or 10x8 Platform trailer.
Overall Dimensions: 35.0l x 5.5w x 6.8h x 154.5T.

8 x T3 tower sections (13.86l x 5.5 x 5.5 x 93.0T)
Transport configuration. Prime mover with 9x8 or 10x8 Platform trailer.
Overall Dimensions: 35.0l x 5.5w x 6.8h x 154.5T.

8 x T4 tower sections (18.06l x 5.5 x 5.5 x 85.0T)
Transport configuration. Prime mover with 9x8 or 10x8 Platform trailer.
Overall Dimensions: 35.0l x 5.5w x 6.8h x 154.5T.

8 x T5 tower sections (18.06l x 5.5 x 5.5 x 60.0T)
Transport configuration. Prime mover with 9x8 or 10x8 Platform trailer.
Overall Dimensions: 35.0l x 5.5w x 6.8h x 154.5T.

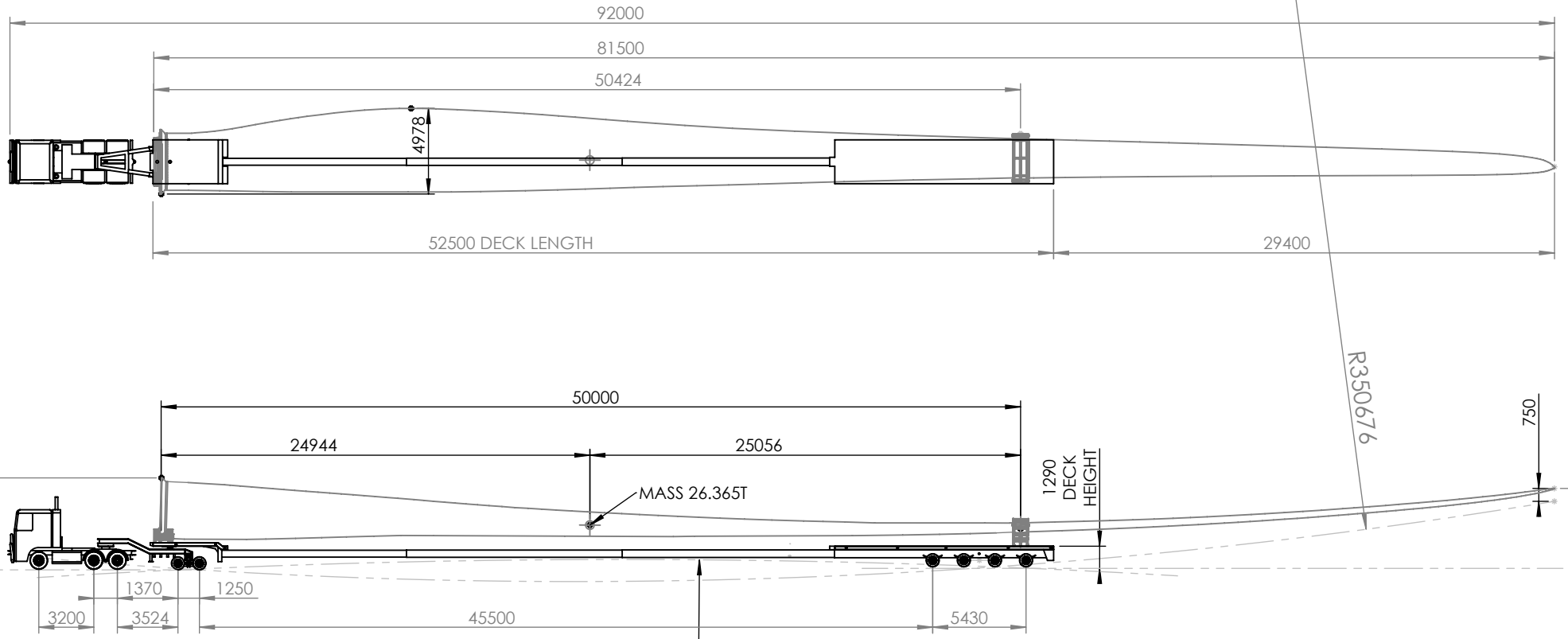
8 x T6 tower sections (28.7l x 5.5 x 4.5h x 70.0T)
Transport configuration. Prime mover with 4x8-5x8 Extending Platform trailer.
Overall Dimensions: 49.9l x 5.5w x 6.8h x 97.5T.

8 x T7 tower sections (29.02l x 4.5 x 3.9h x 59.2T)
Transport configuration. Prime mover with 3x4-2x8 Dolly and jinker.
Overall Dimensions: 40.0l x 5.0w x 5.8h x 82.5T.

16.0 Appendix A – Transport Drawings

- Refer to attached document: Appendix A Transport drawings

NOTE: These are example drawings



BLADE GEOMETRY FROM DRAWING GW81

THIRD ANGLE PROJECTION
DIMENSIONS IN MILLIMETRES
TOLERANCES
- LINEAR ± 5.0

REV		DATE	DRN	CKD	APP
4	LASHING ADDED	05/08/2025	J.S	H.A	W.A
3	DIMENSIONS UPDATED	09/11/2023	J.S	H.A	W.A
2	BLADE SAG ADDED	31/07/2023	J.S	H.A	W.A
1	BLADE GEOMETRY ADDED	28/07/2023	J.S	H.A	W.A
0	ISSUED FOR APPROVAL	29/07/2022	J.S	H.A	W.A
R	ISSUED FOR REVIEW	29/07/2022	J.S	H.A	

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ENGINEERED TRANSPORTATION

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FAX 02 4721 7644
WWW.RJA.COM.AU

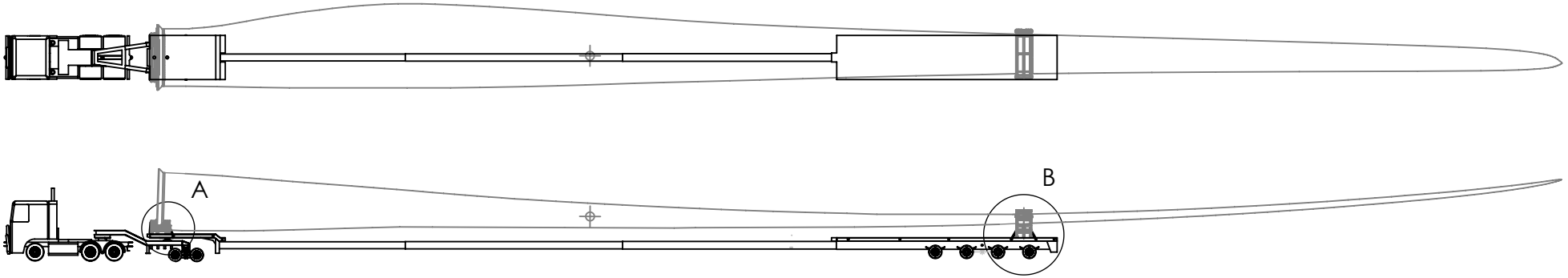
TRANSPORT PROPOSAL

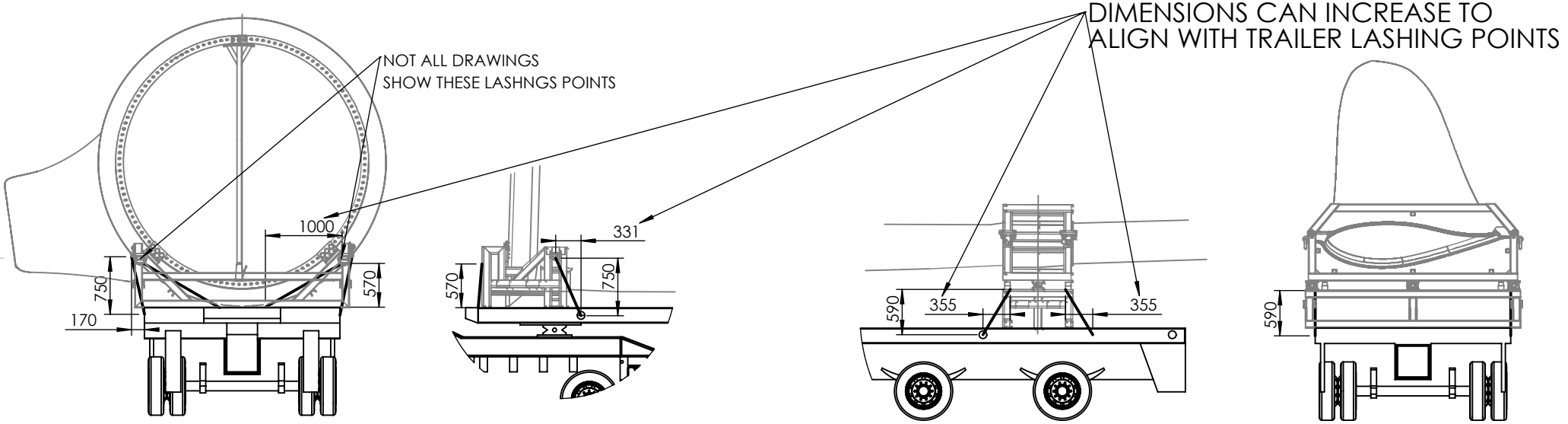
GOLDWIND 81.5m BLADE

DO NOT SCALE

DRG NO: GOLD_81.5m Blade

A4





A (1 : 75)

B (1 : 75)

BLADE GEOMETRY FROM DRAWING GW81

THIRD ANGLE PROJECTION
DIMENSIONS IN MILLIMETRES
TOLERANCES
- LINEAR ± 5.0

REV		DATE	DRN	CKD	APP
4	LASHING ADDED	05/08/2025	J.S	H.A	W.A
3	DIMENSIONS UPDATED	09/11/2023	J.S	H.A	W.A
2	BLADE SAG ADDED	31/07/2023	J.S	H.A	W.A
1	BLADE GEOMETRY ADDED	28/07/2023	J.S	H.A	W.A
0	ISSUED FOR APPROVAL	29/07/2022	J.S	H.A	W.A
R	ISSUED FOR REVIEW	29/07/2022	J.S	H.A	

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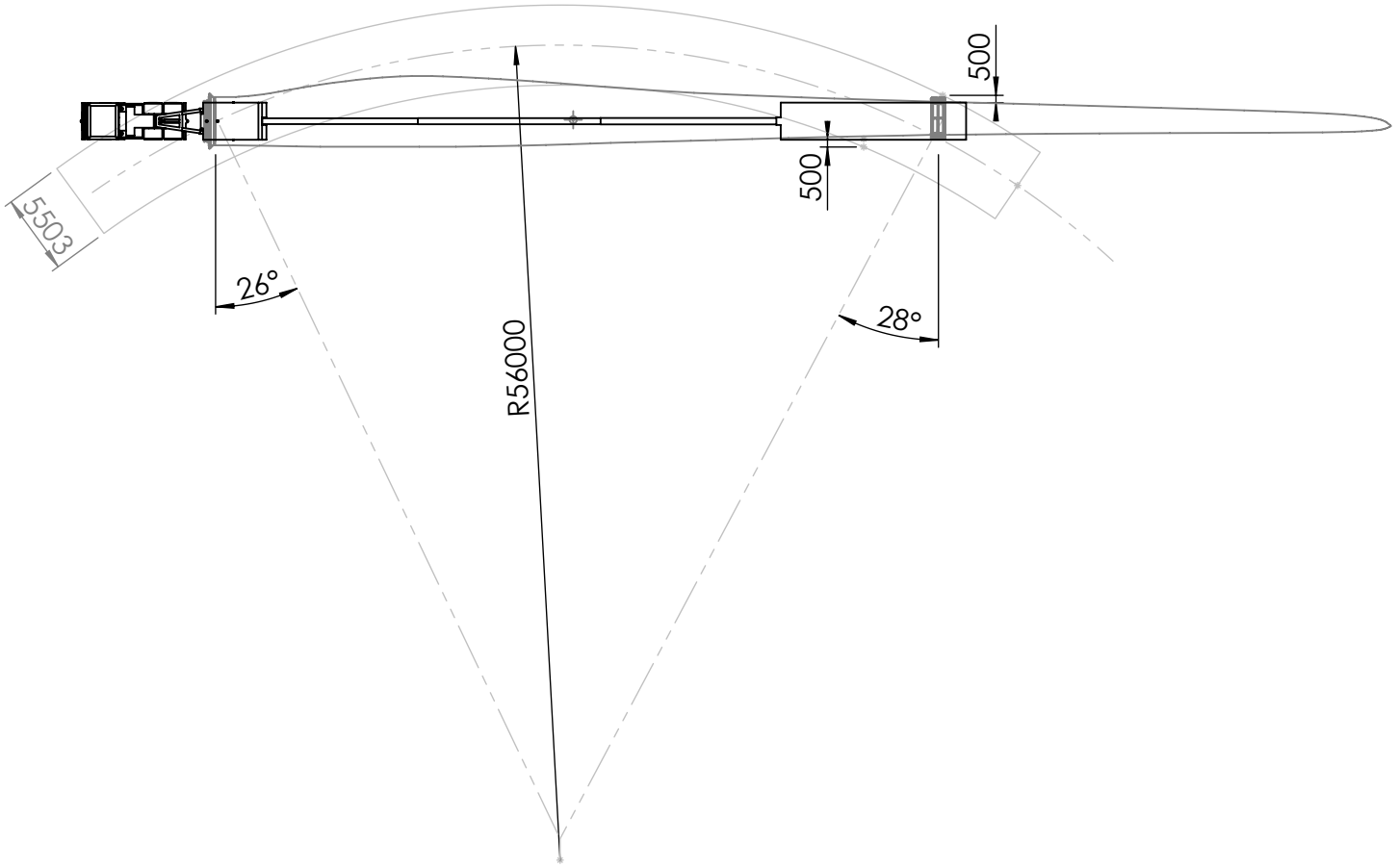
TRANSPORT PROPOSAL

GOLDWIND 81.5m BLADE

DO NOT SCALE

DRG NO: GOLD_81.5m Blade

A4



THIRD ANGLE PROJECTION
DIMENSIONS IN MILLIMETRES
TOLERANCES
- LINEAR ± 5.0

REV		DATE	DRN	CKD	APP
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2	SHEET 1 UPDATED	31/07/2023	J.S	H.A	W.A
1	BLADE GEOMETRY UPDATED	28/07/2023	J.S	H.A	W.A
0	ISSUED FOR APPROVAL	29/07/2022	J.S	H.A	W.A
R	ISSUED FOR REVIEW	29/07/2022	J.S	H.A	

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TRANSPORT PROPOSAL

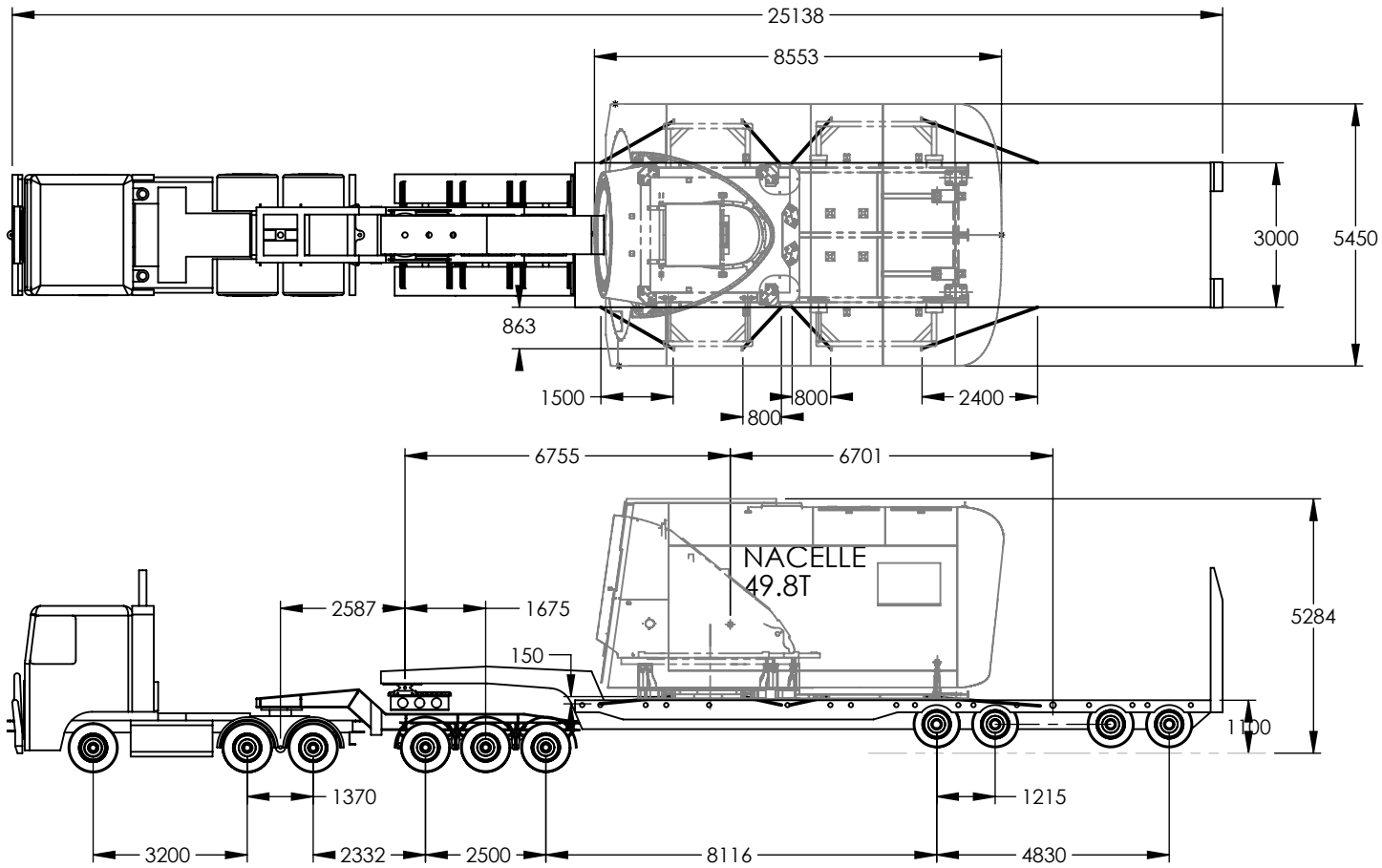
GOLDWIND 81.5m BLADE
TURNING RADIUS

DO NOT SCALE

DRG NO: GOLD_81.5m_Blade

A4

- DRY RUBBER BETWEEN ALL METAL SURFACES
- ALL RESTRAINTS 13mm G70 WITH RATCHET TURNBUCKLES
- DOUBLE CHAINS WHERE POSSIBLE



11R22.5	11R22.5x8	3x4 215/75R17.5 @2.4m	4x4 215/75R17.5 @3.0m
T 6.0T	T 8.0T	T 9.0T	T 10.0T
P 0.0T	P 9.8T	P 15.0T	P 25.0T
G 6.0T	G 17.8T	G 24.1T	G 35.0T

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TARE	33.0T
GVM	82.8T

THIRD ANGLE PROJECTION
DIMENSIONS IN MILLIMETRES
TOLERANCES
- LINEAR ± 5.0

REV		DATE	DRN	CKD	APP
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R	ISSUED FOR REVIEW	17/07/2025	J.S	W.A	

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TRANSPORT PROPOSAL

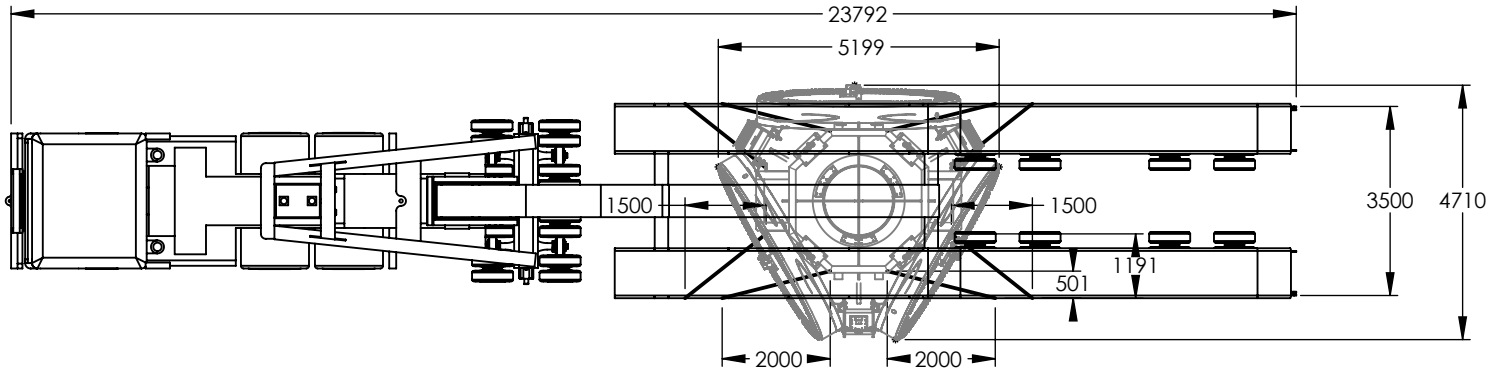
GOLDWIND GW165
NACELLE 49.8T

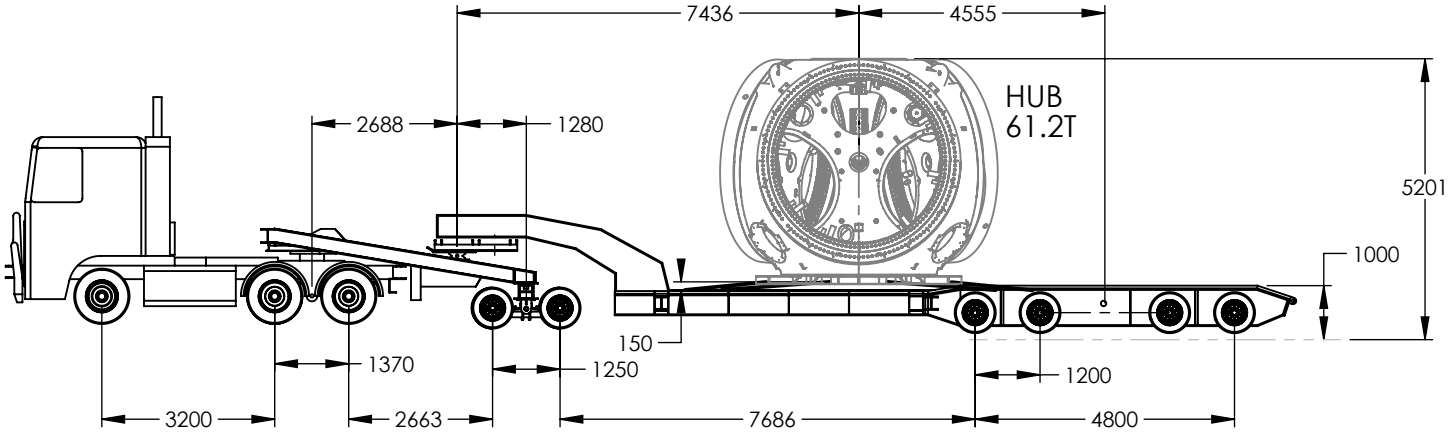
DO NOT SCALE

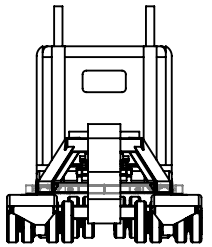
DRG NO: GOLD GW165_NAC_3x4_4x4

A4

- DRY RUBBER BETWEEN ALL METAL SURFACES
- ALL RESTRAINTS 13mm G70 WITH RATCHET TURNBUCKLES
- DOUBLE CHAINS WHERE POSSIBLE







11R22.5	11R22.5x8	2x8 215/75R17.5 @3.5m	4x8 215/75R17.5 @3.5m
T 6.0T	T 11.0T	T 12.0T	T 14.0T
P 0.0T	P 7.5T	P 15.75T	P 37.95T
G 6.0T	G 18.5T	G 27.75T	G 51.95T (13.0T/ROW)

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TARE	43.0T
GVM	104.2T

THIRD ANGLE PROJECTION
DIMENSIONS IN MILLIMETRES
TOLERANCES
- LINEAR ± 5.0

REV		DATE	DRN	CKD	APP
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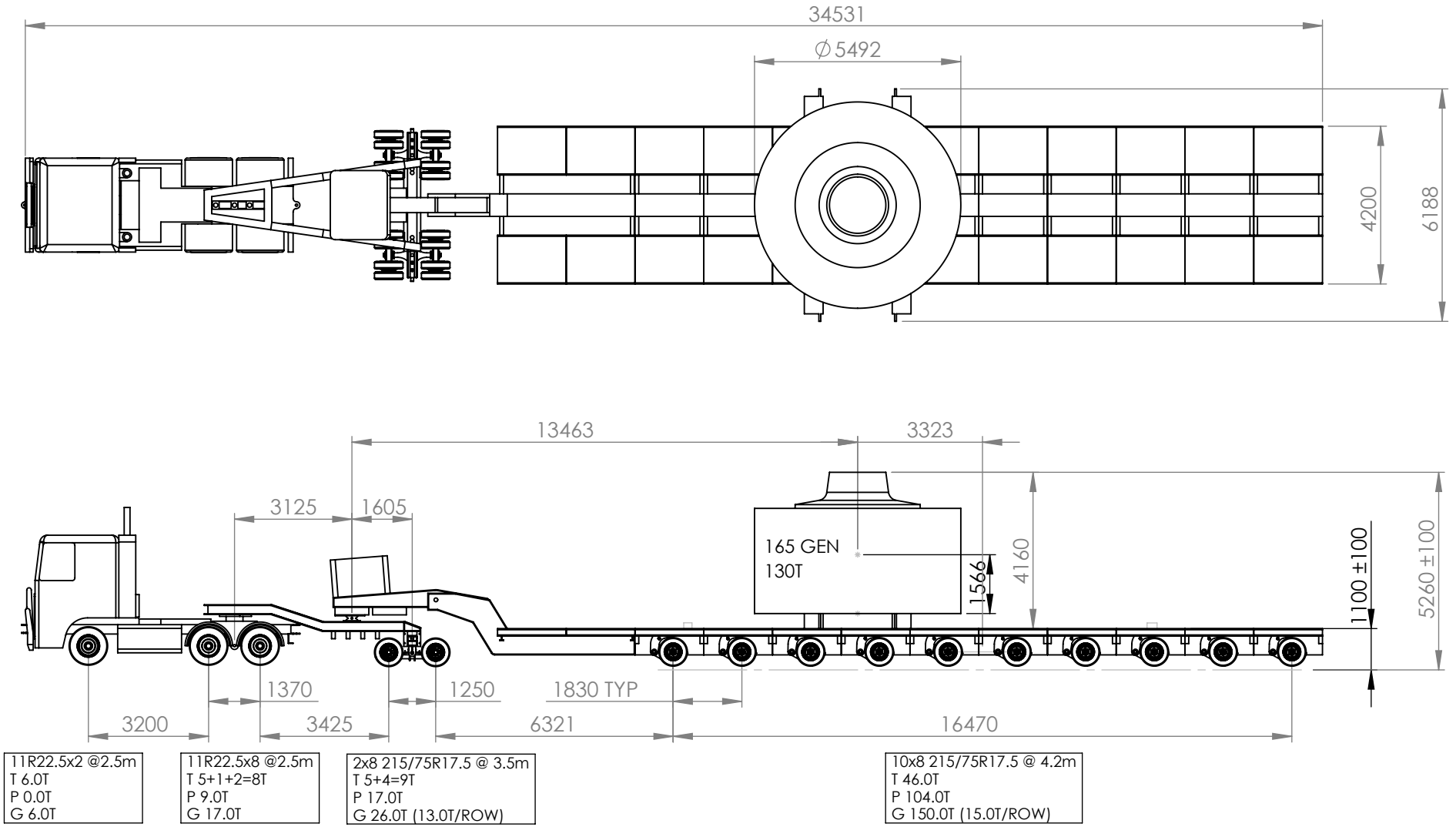
TRANSPORT PROPOSAL

GOLDWIND GW165
HUB 62.1T

DO NOT SCALE

DRG NO: GOLD GW165_HUB_2x8_4x8

A4



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THIRD ANGLE PROJECTION
DIMENSIONS IN MILLIMETRES
TOLERANCES
- LINEAR ± 5.0

REV		DATE	DRN	CKD	APP
0	ISSUED FOR APPROVAL	05/04/2023	J.S	H.A	R.A
R	ISSUED FOR REVIEW	05/04/2023	J.S	H.A	

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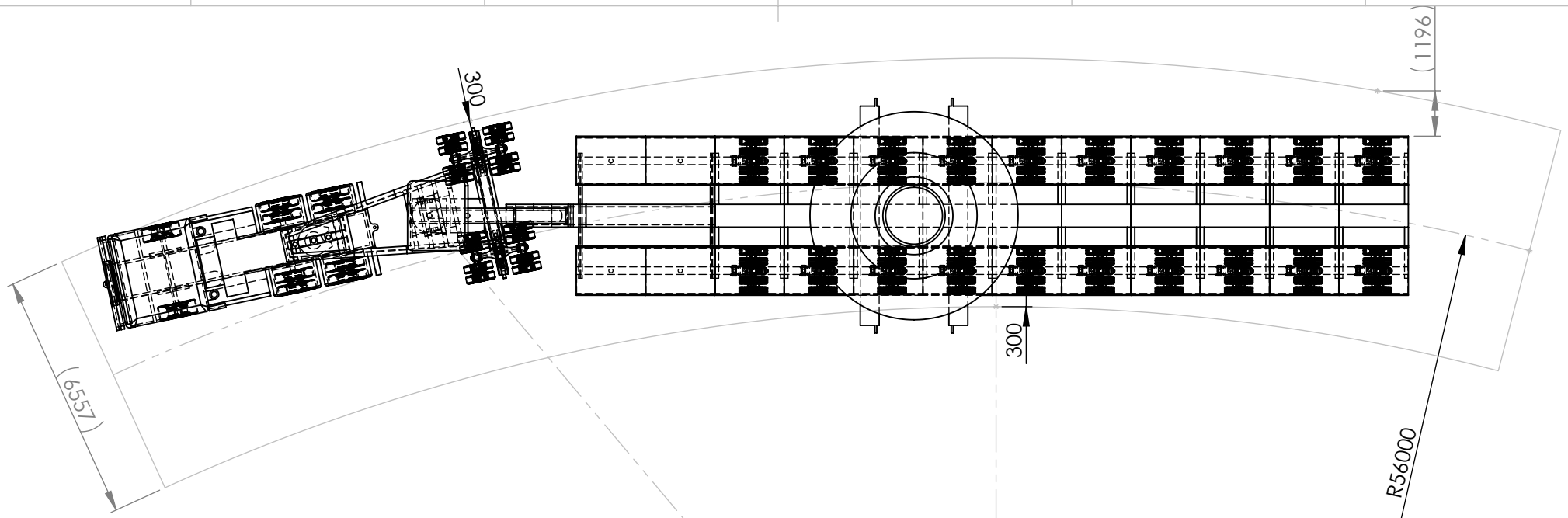
TRANSPORT PROPOSAL

GOLDWIND
165 GENERATOR
130T

DO NOT SCALE

DRG NO: GOLD_165_GEN_130T

A4



THIRD ANGLE PROJECTION
DIMENSIONS IN MILLIMETRES
TOLERANCES
- LINEAR ± 5.0

REV		DATE	DRN	CKD	APP
0	ISSUED FOR APPROVAL	05/04/2023	J.S	H.A	R.A
R	ISSUED FOR REVIEW	05/04/2023	J.S	H.A	

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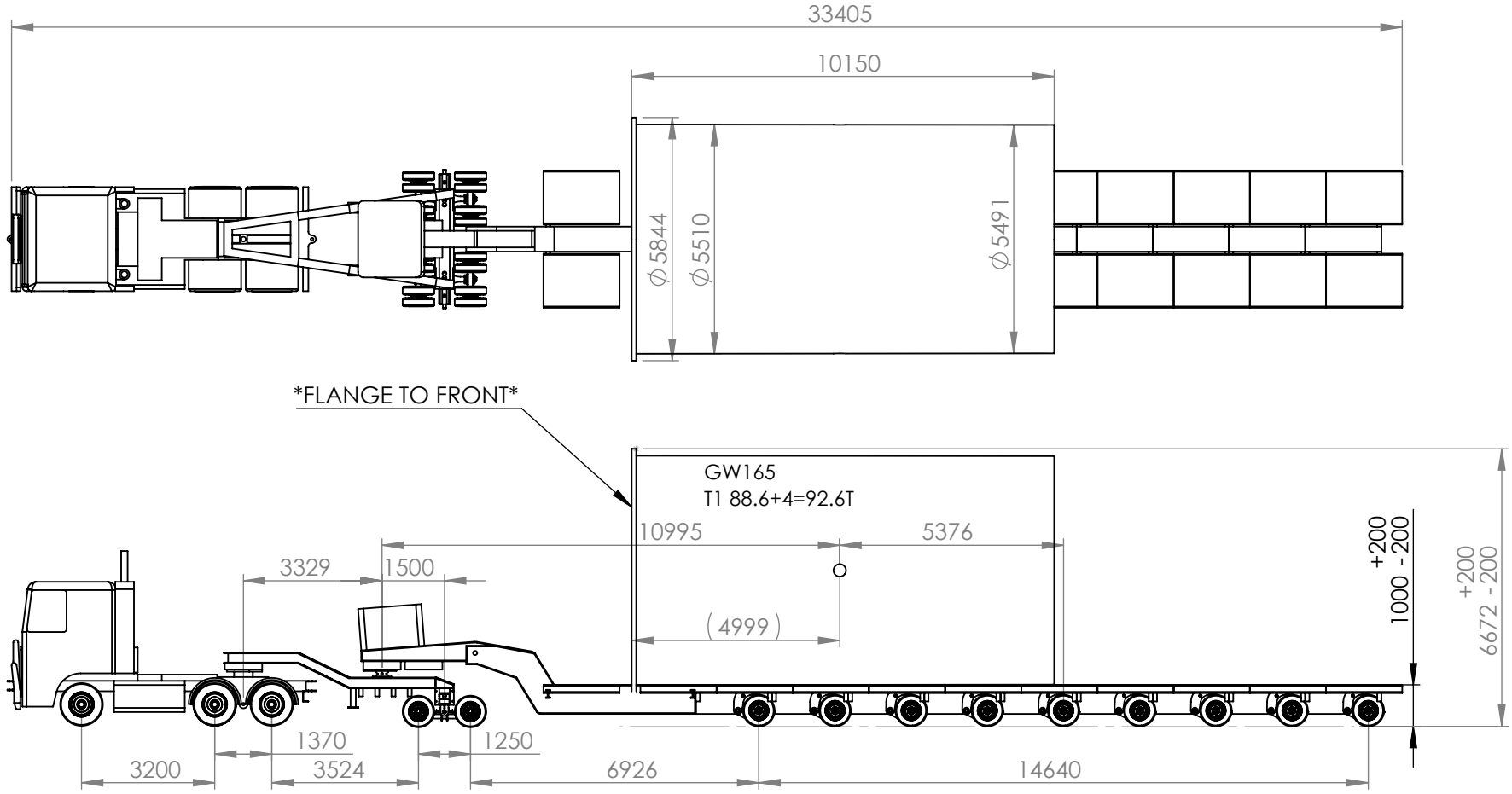
TRANSPORT PROPOSAL

GOLDWIND
165 GENERATOR
130T

DO NOT SCALE

DRG NO: GOLD_165_GEN_130T

A4



11R22.5x2 @2.5m T 6.0T P 0.0T G 6.0T	11R22.5x8 @2.5m T 8.0T P 9.45T G 17.45T	2x8 215/75R17.5 @3.0m T 10.6T P 20.9T G 31.5T (15.8T/ROW)	9x8 215/75R17.5 @3.5m T 45T P 62.2T G 107.2T (11.9T/ROW)

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THIRD ANGLE PROJECTION
DIMENSIONS IN MILLIMETRES
TOLERANCES
- LINEAR ± 5.0

REV		DATE	DRN	CKD	APP
0	ISSUED FOR APPROVAL	23/01/2024	J.S	H.A	R.A
R	ISSUED FOR REVIEW	23/01/2024	J.S	H.A	

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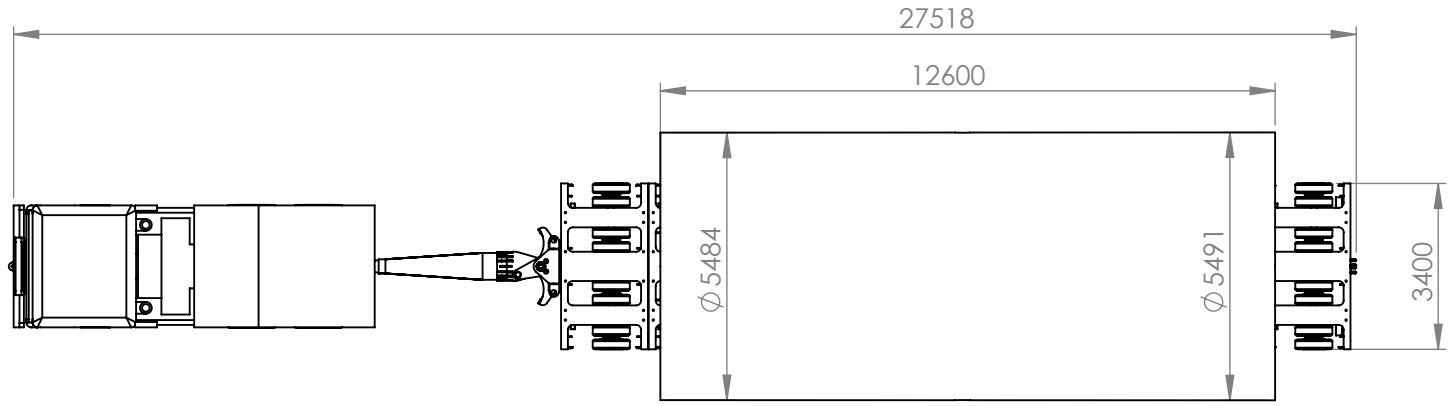
TRANSPORT PROPOSAL

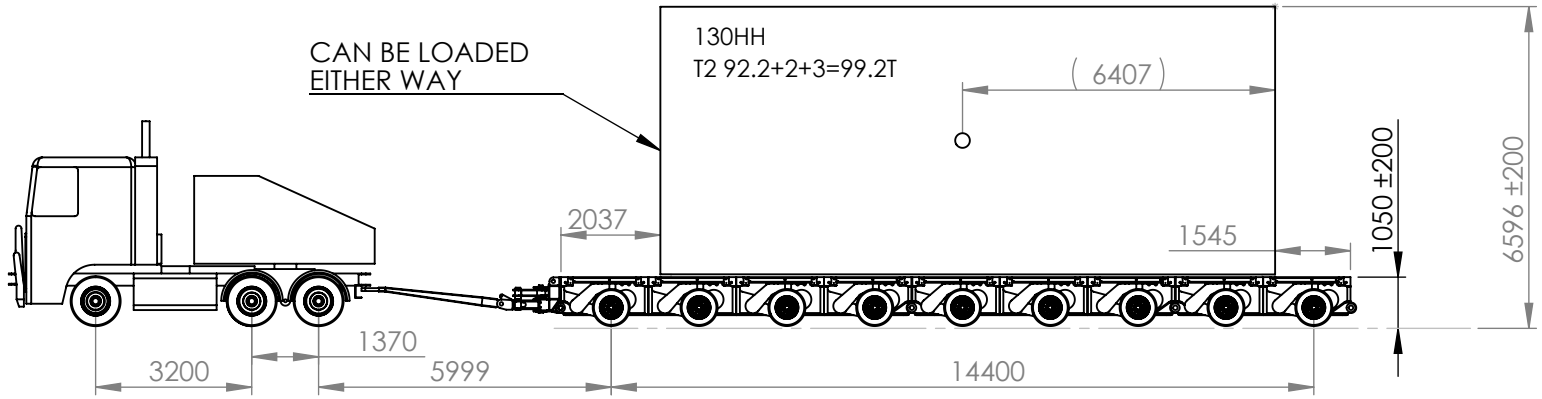
GOLDWIND
130HH
T1 - 92.6T

DO NOT SCALE

DRG NO:
GOLD_130HH_T01B

A4





11R22.5x2 @2.5m	11R22.5x8 @2.5m	9x8 215/75R17.5 @ 3.4m
T 6.0T	T 10.0T	T 27.9T
P 0.0T	P 8.5T	P 99.2T
G 6.0T	G 18.5T	G 127.1T (14.1T/ROW)

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THIRD ANGLE PROJECTION
DIMENSIONS IN MILLIMETRES
TOLERANCES
- LINEAR ± 5.0

REV		DATE	DRN	CKD	APP
1	COG UPDATED	23/01/2024	J.S	H.A	R.A
0	ISSUED FOR APPROVAL	21/12/2023	J.S	H.A	R.A
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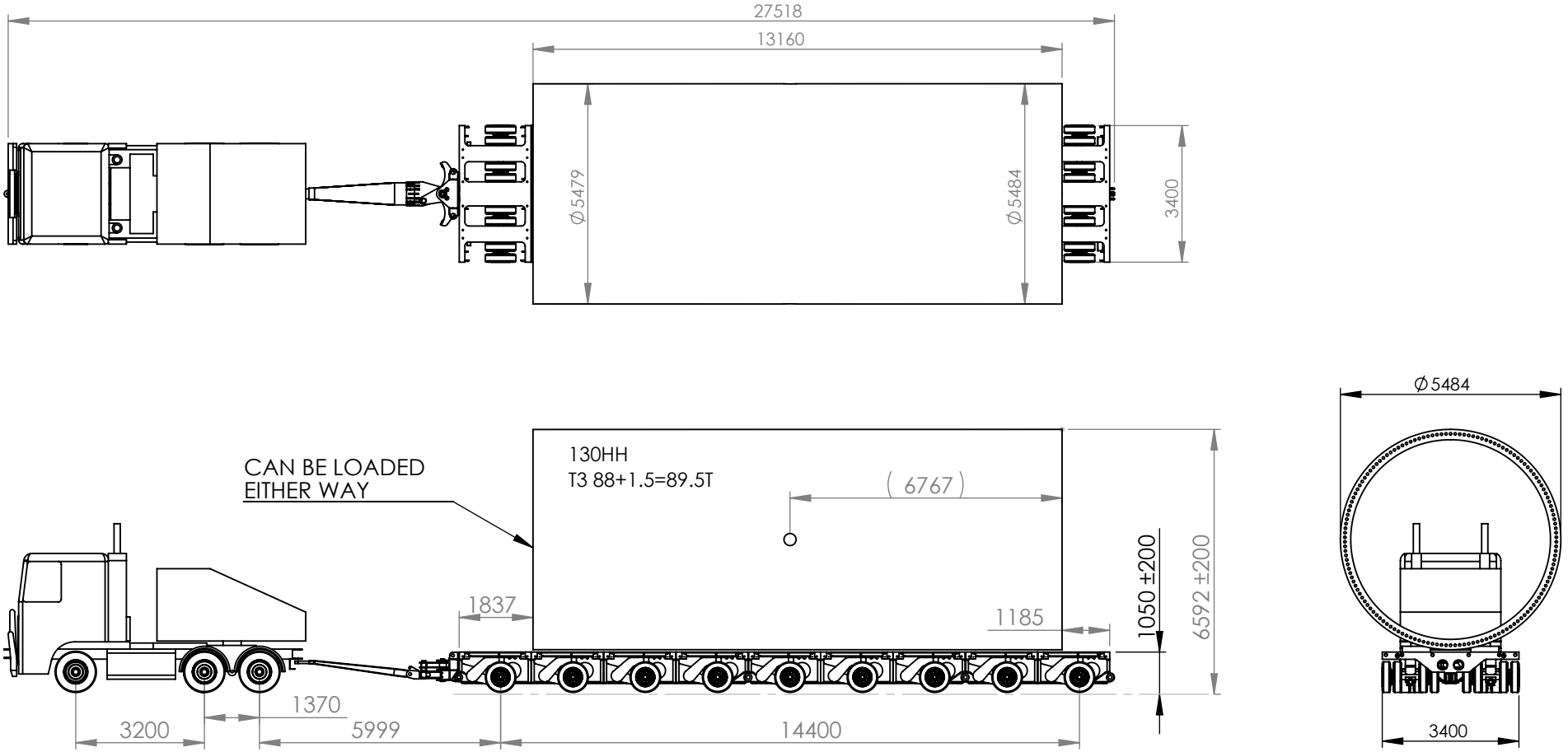
TRANSPORT PROPOSAL

GOLDWIND
130HH
T2 - 99.2T

DO NOT SCALE

DRG NO: GOLD_130HH_T02B

A4



11R22.5x2 @2.5m
T 6.0T
P 0.0T
G 6.0T

11R22.5x8 @2.5m
T 10.0T
P 8.5T
G 18.5T

9x8 215/75R17.5 @ 3.4m
T 27.9T
P 89.5T
G 117.4T (12.1T/ROW)

TARE	52.4T
GVM	141.9T

THIRD ANGLE PROJECTION
DIMENSIONS IN MILLIMETRES
TOLERANCES
- LINEAR ± 5.0

REV		DATE	DRN	CKD	APP
0	ISSUED FOR APPROVAL	31/10/2024	J.S	H.A	R.A
R	ISSUED FOR REVIEW	31/10/2024	J.S	H.A	

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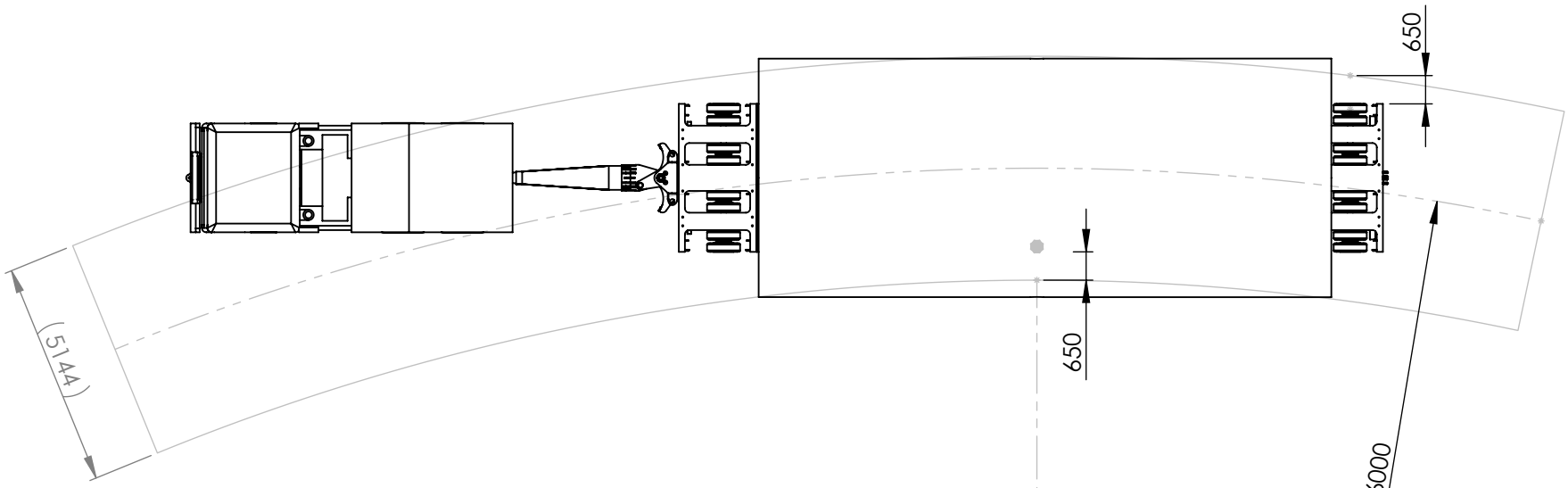
TRANSPORT PROPOSAL

GOLDWIND
130HH
T3 - 89.5T

DO NOT SCALE

DRG NO: GOLD_130HH_T03C

A4



THIRD ANGLE PROJECTION
DIMENSIONS IN MILLIMETRES
TOLERANCES
- LINEAR ± 5.0

REV		DATE	DRN	CKD	APP
0	ISSUED FOR APPROVAL	31/10/2024	J.S	H.A	R.A
R	ISSUED FOR REVIEW	31/10/2024	J.S	H.A	

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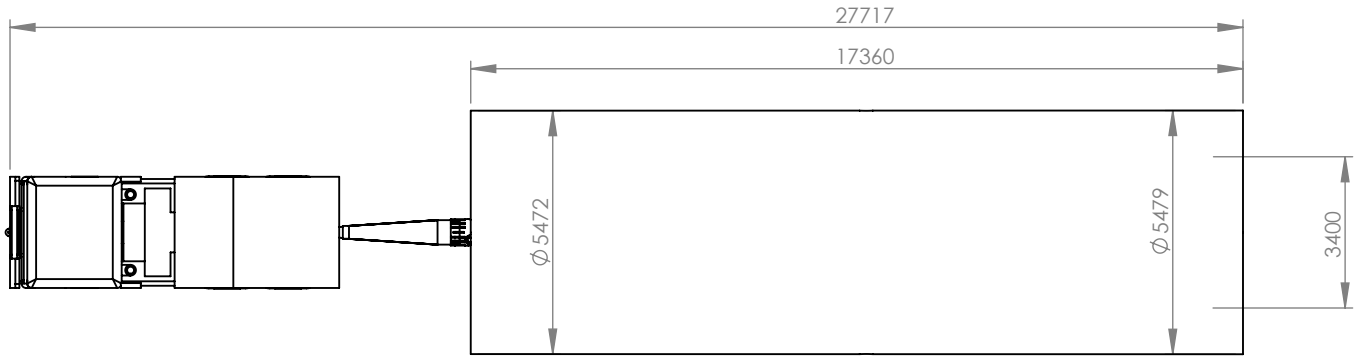
TRANSPORT PROPOSAL

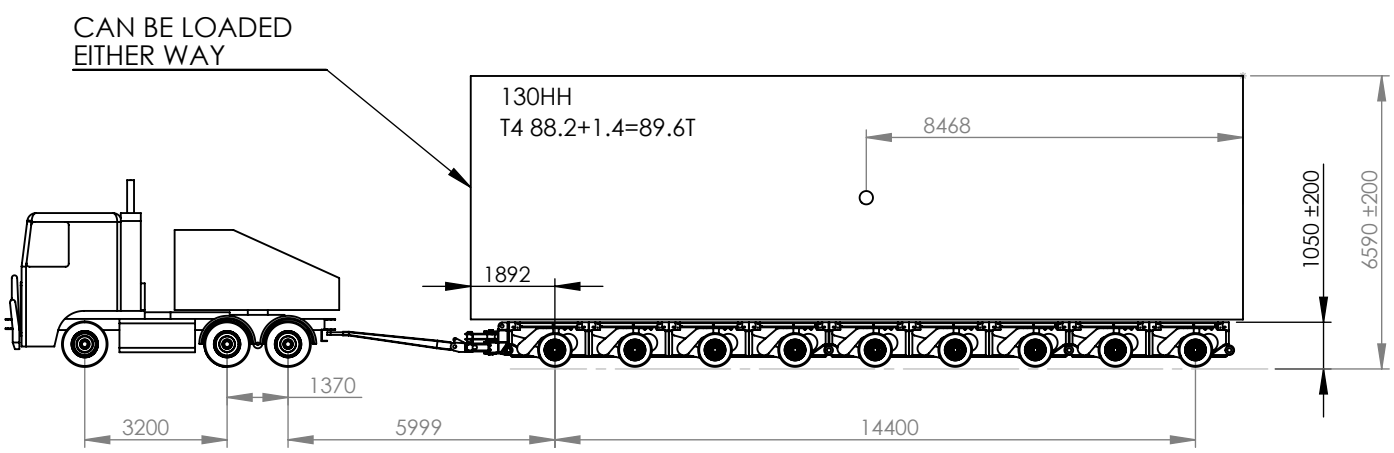
GOLDWIND
130HH
T3 - 89.5T

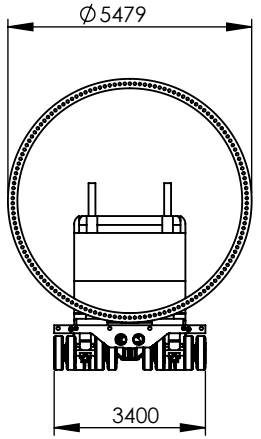
DO NOT SCALE

DRG NO: GOLD_130HH_T03C

A4







11R22.5x2 @2.5m T 6.0T P 0.0T G 6.0T

11R22.5x8 @2.5m T 10.0T P 8.5T G 18.5T

9x8 215/75R17.5 @ 3.4m T 27.9T P 89.6T G 117.5T (13.1T/ROW)

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TARE	52.4T
GVM	142.0T

THIRD ANGLE PROJECTION
DIMENSIONS IN MILLIMETRES
TOLERANCES
- LINEAR ± 5.0

REV		DATE	DRN	CKD	APP
1	MASS REVISED	31/10/2024	J.S	H.A	R.A
0	ISSUED FOR APPROVAL	03/05/2024	J.S	H.A	R.A
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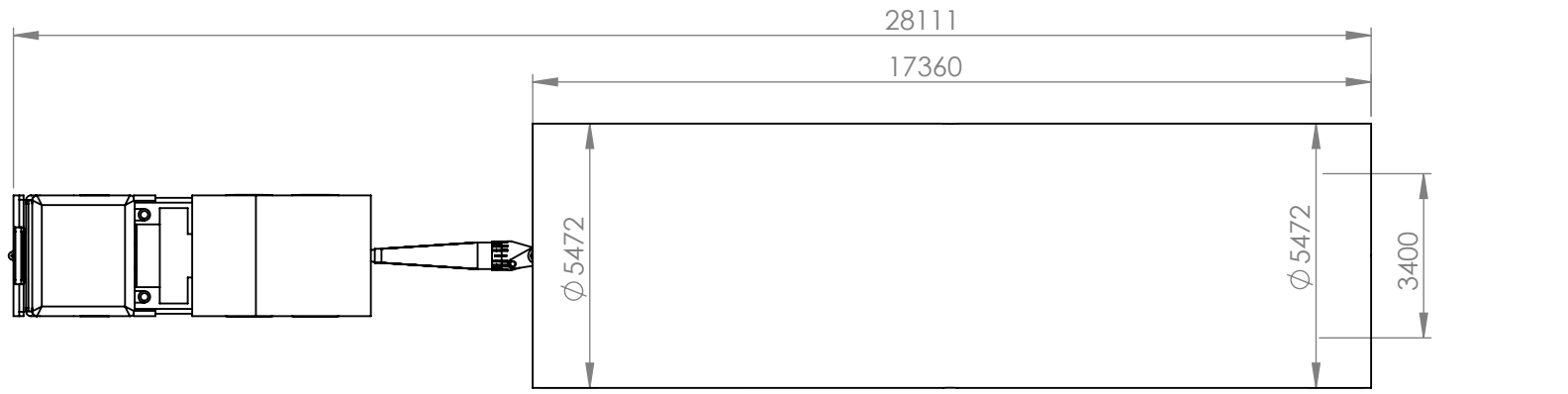
TRANSPORT PROPOSAL

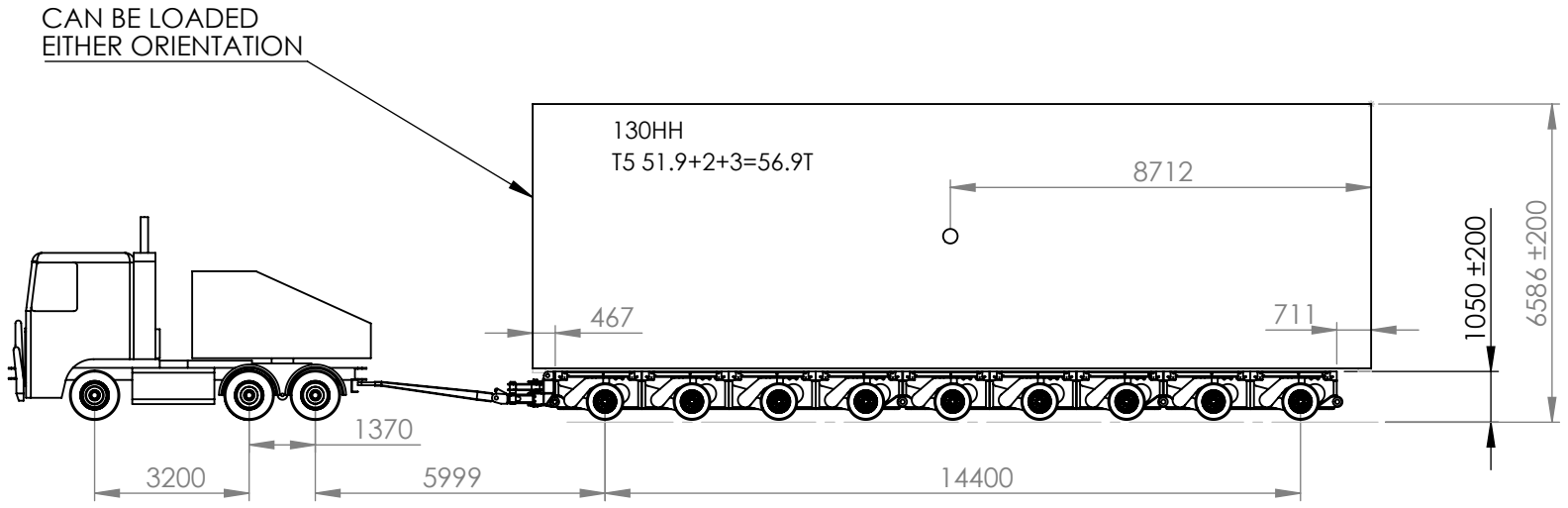
GOLDWIND
130HH
T4 - 89.6T

DO NOT SCALE

DRG NO:
GOLD_130HH_T04C

A4





11R22.5x2 @2.5m T 6.0T P 0.0T G 6.0T	11R22.5x8 @2.5m T 10.0T P 8.5T G 18.5T	9x8 215/75R17.5 @ 3.4m T 27.9T P 56.9T G 84.8T (9.4T/ROW)

THIRD ANGLE PROJECTION
DIMENSIONS IN MILLIMETRES
TOLERANCES
- LINEAR ± 5.0

REV		DATE	DRN	CKD	APP
1	COG UPDATED	23/01/2024	J.S	H.A	R.A
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R	ISSUED FOR REVIEW	21/12/2023	J.S	H.A	

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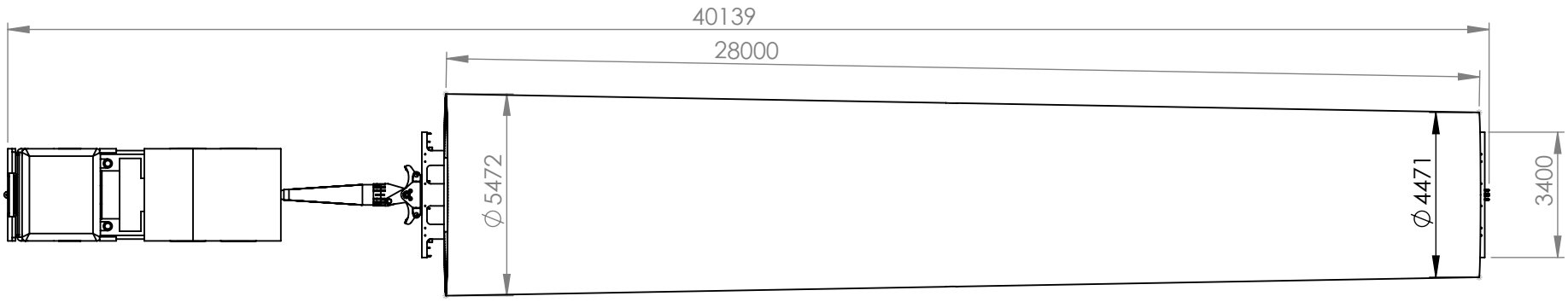
TRANSPORT PROPOSAL

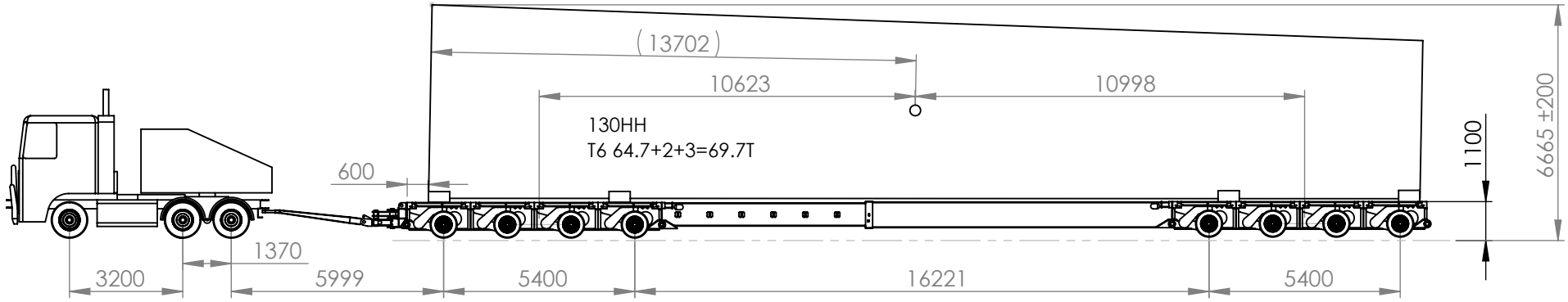
GOLDWIND
130HH
T5 - 56.9T

DO NOT SCALE

DRG NO: GOLD_130HH_T05B

A4





11R22.5x2 @2.5m T 6.0T P 0.0T G 6.0T	11R22.5x8 @2.5m T 18.5 P0.0T G18.5T	4x8 215/75R17.5 @ 3.4m T 17.4T P 35.5T G 52.4T (13.2T/ROW)	4x8 215/75R17.5 @ 3.4m T 17.4T P 34.3T G 51.7T (12.9T/ROW)

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THIRD ANGLE PROJECTION
DIMENSIONS IN MILLIMETRES
TOLERANCES
- LINEAR ± 5.0

REV		DATE	DRN	CKD	APP
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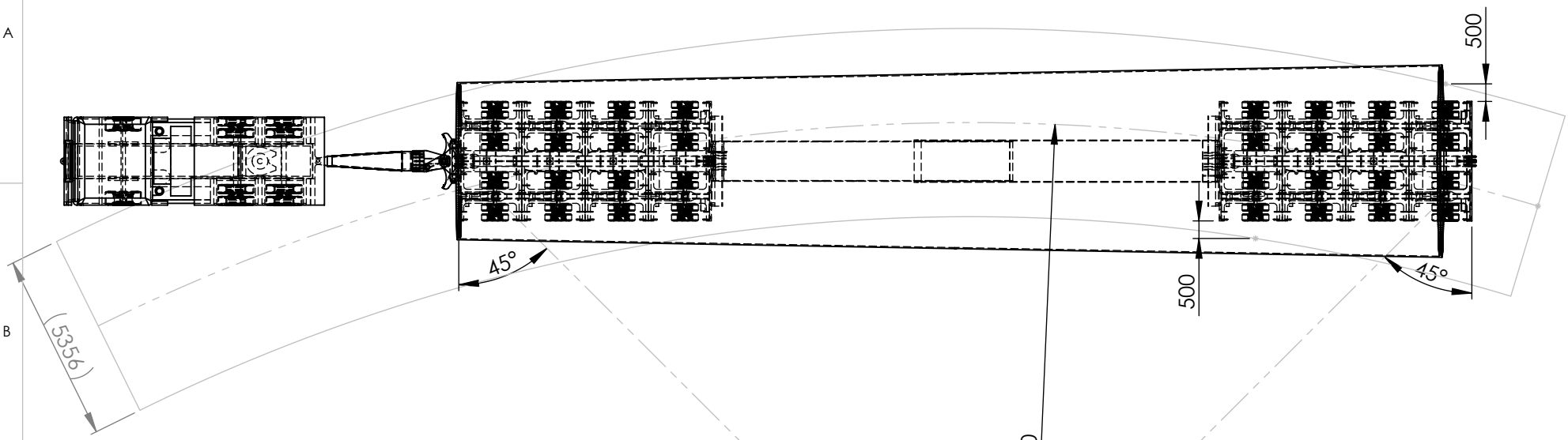
TRANSPORT PROPOSAL

GOLDWIND
130HH
T6 - 69.7T

DO NOT SCALE

DRG NO: GOLD_130HH_T06D

A4



THIRD ANGLE PROJECTION
DIMENSIONS IN MILLIMETRES
TOLERANCES
- LINEAR ± 5.0

REV		DATE	DRN	CKD	APP
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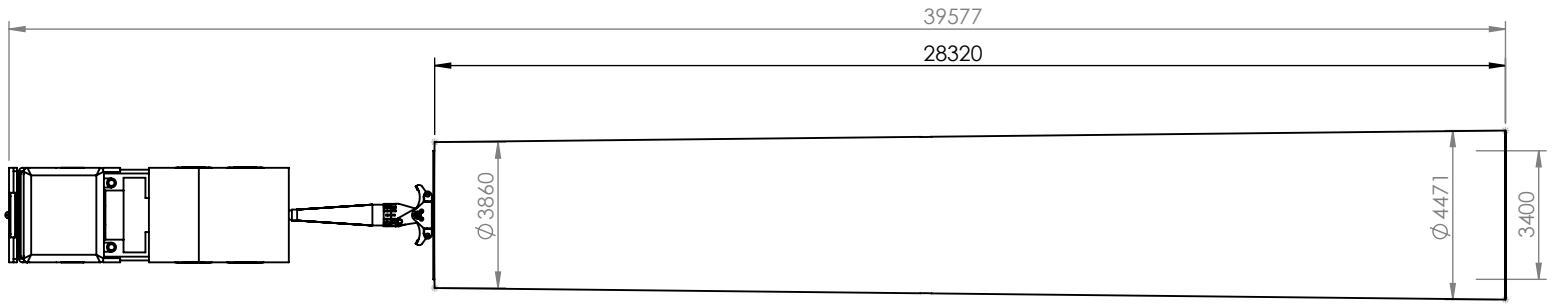
TRANSPORT PROPOSAL

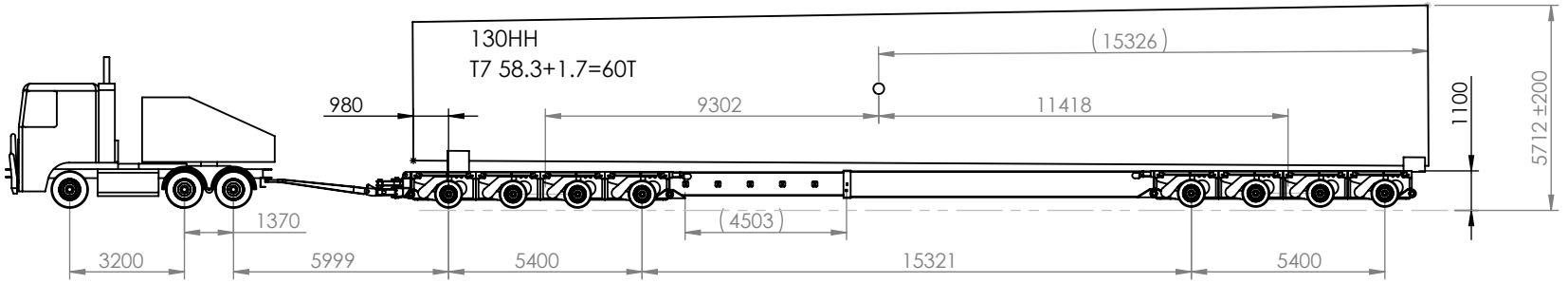
GOLDWIND
130HH
T6 - 69.7T

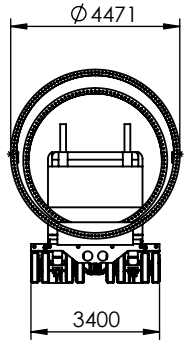
DO NOT SCALE

DRG NO:
GOLD_130HH_T06D

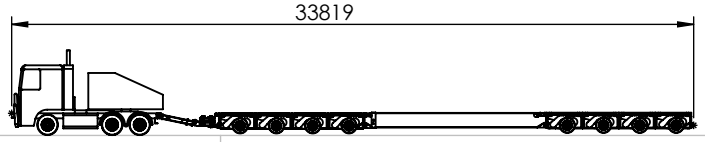
A4







11R22.5x2 @2.5m T 6.0T P 0.0T G 6.0T	11R22.5x8 @2.5m T 18.5 P0.0T G18.5T	4x8 215/75R17.5 @ 3.4m T 17.4T P 33.0T G 50.4T (12.6T/ROW)	4x8 215/75R17.5 @ 3.4m T 17.4T P 26.9T G 44.3T (11.1T/ROW)



TARE	59.3T
GVM	119.3T

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THIRD ANGLE PROJECTION
DIMENSIONS IN MILLIMETRES
TOLERANCES
- LINEAR ± 5.0

REV		DATE	DRN	CKD	APP
1	TRAILER CLOSED 1 HOLE	15/11/2024	J.S	H.A	R.A
0	ISSUED FOR APPROVAL	30/10/2024	J.S	H.A	R.A
R	ISSUED FOR REVIEW	30/10/2024	J.S	H.A	

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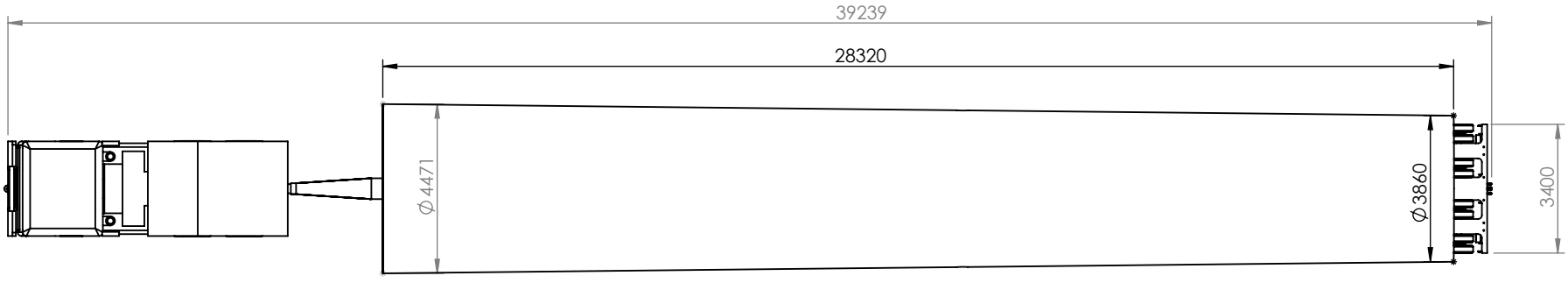
TRANSPORT PROPOSAL

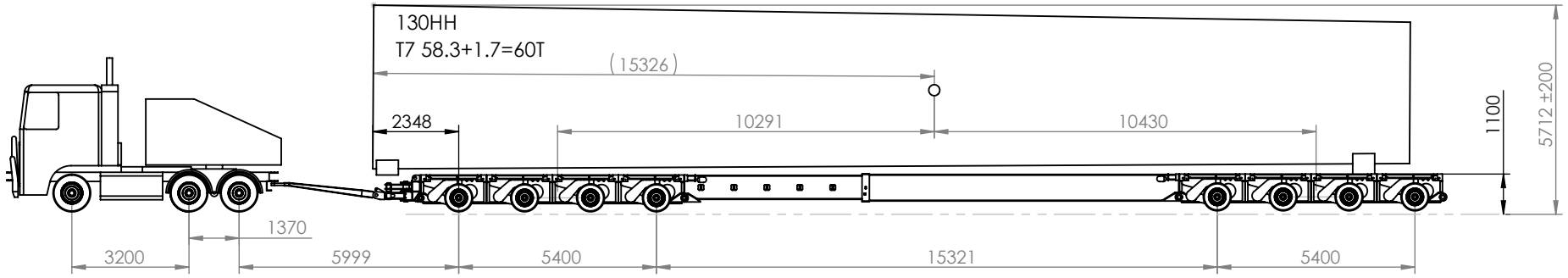
GOLDWIND
130HH
T7 - 60.0T

DO NOT SCALE

DRG NO:
GOLD_130HH_T07B

A4





11R22.5x2 @2.5m T 6.0T P 0.0T G 6.0T	11R22.5x8 @2.5m T 18.5 P0.0T G18.5T	4x8 215/75R17.5 @ 3.4m T 17.4T P 30.0T G 47.4T (11.8T/ROW)	4x8 215/75R17.5 @ 3.4m T 17.4T P 30.0T G 47.4T (11.8T/ROW)

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THIRD ANGLE PROJECTION
DIMENSIONS IN MILLIMETRES
TOLERANCES
- LINEAR ± 5.0

REV		DATE	DRN	CKD	APP
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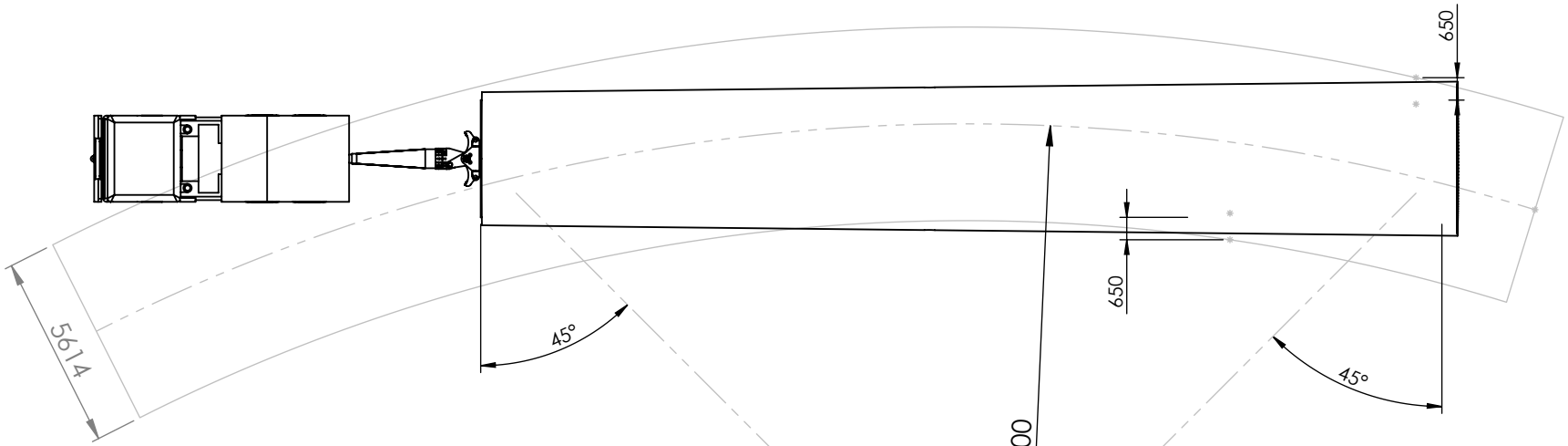
TRANSPORT PROPOSAL

GOLDWIND
130HH
T7 - 60.0T

DO NOT SCALE

DRG NO: GOLD_130HH_T07B

A4



THIRD ANGLE PROJECTION
DIMENSIONS IN MILLIMETRES
TOLERANCES
- LINEAR ± 5.0

REV		DATE	DRN	CKD	APP
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TRANSPORT PROPOSAL

GOLDWIND
130HH
T7 - 60.0T

DO NOT SCALE

DRG NO:
GOLD_130HH_T07B

A4

10.2 Consolidated TMR SAT submission and OSOM combination data

Nacelle

Axle No.	Distance From Previous Axle	No. Of Tyres Per axle	Tyre Width	Ground Contact Width	Axle Mass Requestd	Total Gross Per Vehicle Group	
1		2	279mm	2.4	6.25		
2	3.2	8	279mm	2.4	7.25	20.75	Prime mover
3	1.37	8	279mm	2.4	7.25		
4	3.43	8	215mm	3.5	12.85		
5	1.25	8	215mm	3.5	12.85		2x8 Dolly
6	9.72	8	215mm	3.5	12.6	63.5	
7	1.8	8	215mm	3.5	12.6		3x8 Low Loader
8	1.8	8	215mm	3.5	12.6		

Total Length	22.57 metres
Total Gross Combination	83.9 Tonnes

Insert diagram from Route assessment here

Structure Exceedances
None

Mass of load	49.8

Unladen Dimensions

Width	3.5
Length	24.94
Height	4.3
Unladen Mass	34

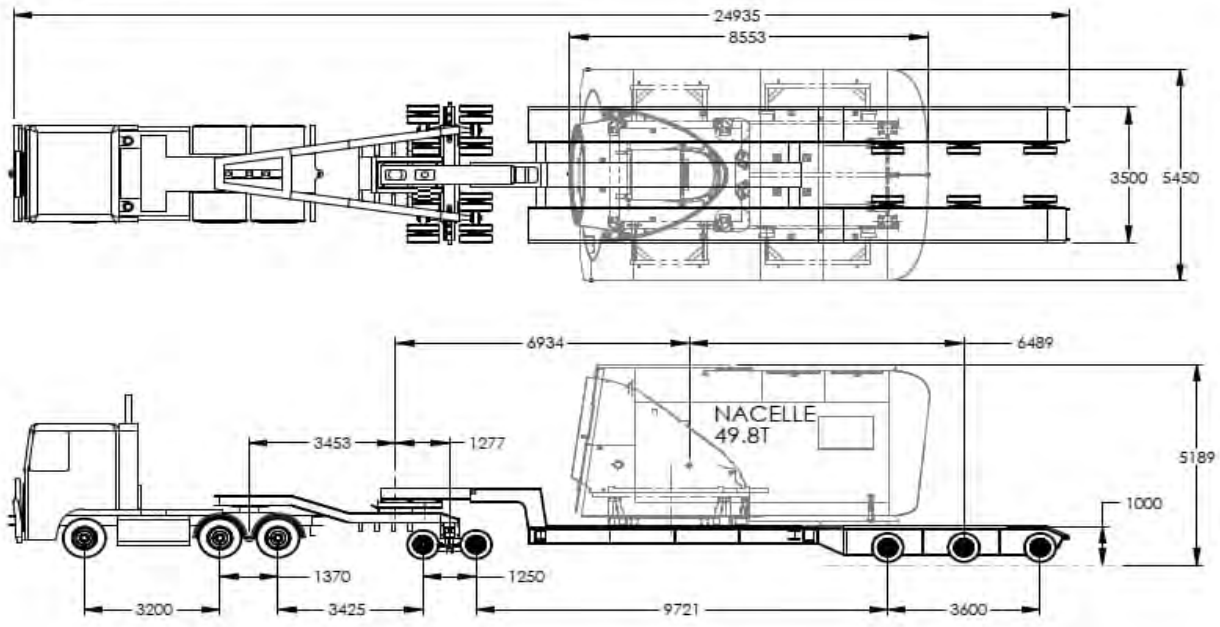
Laden Dimensions

Width	5.45
Length	24.94
Height	5.189
Laden Mass	83.9

Payload Dimensions

Width	5.45
Length	8.553
Height	4.189

- DRY RUBBER BETWEEN ALL METAL SURFACES
- ALL RESTRAINTS 10MM G70 WITH RATCHET TURNBUCKLES
- DOUBLE CHAINS WHERE POSSIBLE



11R22.5	11R22.5x8	2x8 215/75R17.5 @3.5m	3x8 215/75R17.5 @3.5m
T 6.0T	T 8.0T	T 8.0T	T 12.0T
P 0.0T	P 6.5T	P 17.6T	P 25.7T
G 6.0T	G 14.5T	G 25.6T (12.79T/ROW)	G 37.8T (12.58T/ROW)

TARE	34.0T
GVM	83.8T

THIRD ANGLE PROJECTION
DIMENSIONS IN MILLIMETRES
TOLERANCES
- LINEAR ± 5.0

REV		DATE	DRN	CKD	APP
0	ISSUED FOR APPROVAL	17/01/2025	J.S	W.A	W.A
R	ISSUED FOR REVIEW	17/01/2025	J.S	W.A	

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TRANSPORT PROPOSAL

GOLDWIND GW165
NACELLE 49.8T

DO NOT SCALE

DRG NO: GOLD GW165_NAC_2x8_3x8

A4

Generator

Axle No.	Distance From Previous Axle	No. Of Tyres Per axle	Tyre Width	Ground Contact Width	Axle Mass Requestd	Total Gross Per Vehicle Group	
1	0	2	279mm	2.5	6		
2	3.2	8	279mm	2.5	9.25	24.5	Prime mover
3	1.37	8	279mm	2.5	9.25		
4	3.43	8	279mm	3.5	14.75	29.5	2x8 Dolly
5	1.25	8	279mm	3.5	14.75		
6	6.32	8	215mm	4.2	14.5	174.5	
7	1.83	8	215mm	4.2	14.5		
8	1.83	8	215mm	4.2	14.5		
9	1.83	8	215mm	4.2	14.5		
10	1.83	8	215mm	4.2	14.5		10x8 Gooseneck
11	1.83	8	215mm	4.2	14.5		
12	1.83	8	215mm	4.2	14.5		
13	1.83	8	215mm	4.2	14.5		
14	1.83	8	215mm	4.2	14.5		
15	1.83	8	215mm	4.2	14.5		

Total Length	32.04 metres
Total Gross Combination	199 Tonnes

Mass of load	130

Unladen Dimensions

Width	4.2
Length	33.13
Height	4.3
Unladen Mass	69

Laden Dimensions

Width	5.5
Length	33.13
Height	5.62
Laden Mass	199

Payload Dimensions

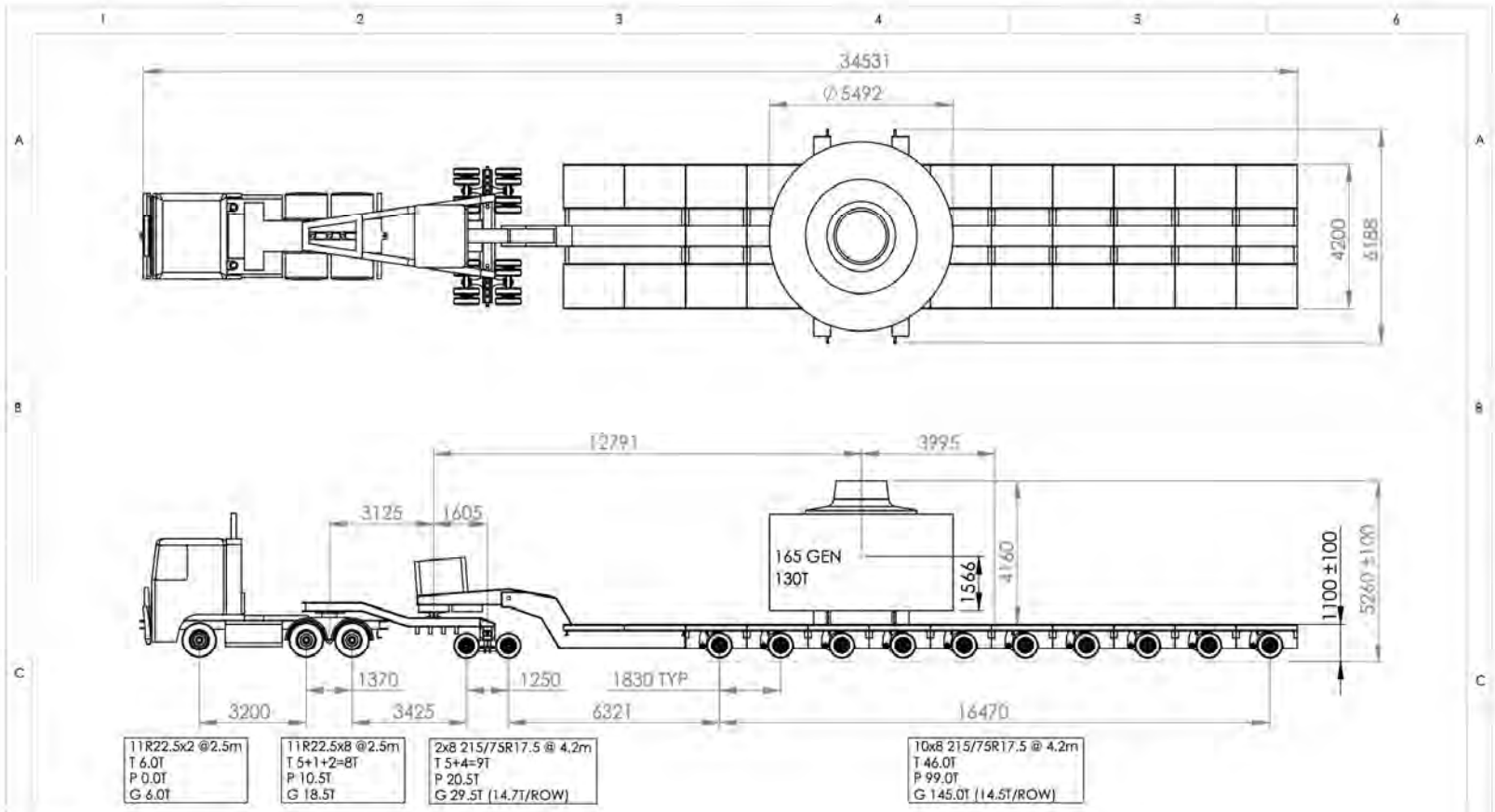
Width	5.49
Length	5.49
Height	4.17

Structure Exceedances

Tommy Creek - 79%

Macrossan (not reassessed)
Reid River (not reassessed)

Insert diagram from Route assessment here



REV		DATE	DRN	CKD	APP
0	ISSUED FOR APPROVAL	05/04/2023	J.S	H.A	R.A
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THIRD ANGLE PROJECTION
DIMENSIONS IN MILLIMETRES
TOLERANCES
LINEAR ± 5.0

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TRANSPORT PROPOSAL

GOLDWIND
165 GENERATOR
130T

DO NOT SCALE

DRG NO: GOLD_165_GEN_130T A4

Hub

Axle No.	Distance From Previous Axle	No. Of Tyres Per axle	Tyre Width	Ground Contact Width	Axle Mass Requestd	Total Gross Per Vehicle Group	
1		2	279mm	2.4	6		
2	3.2	8	279mm	2.4	8.2	22.4	Prime mover
3	1.37	8	279mm	2.4	8.2		
4	3.425	8	215mm	3.5	15.4		
5	1.25	8	215mm	3.5	15.4		2x8 Dolly
6	9.72	8	215mm	3.5	14	72.8	
7	1.2	8	215mm	3.5	14		3x8 Low Loader
8	1.2	8	215mm	3.5	14		

Total Length	21.365 metres
Total Gross Combination	95.2 Tonnes

Insert diagram from Route assessment here

Structure Exceedances

Tommy Creek - 4%

Mass of load	61.2

Unladen Dimensions

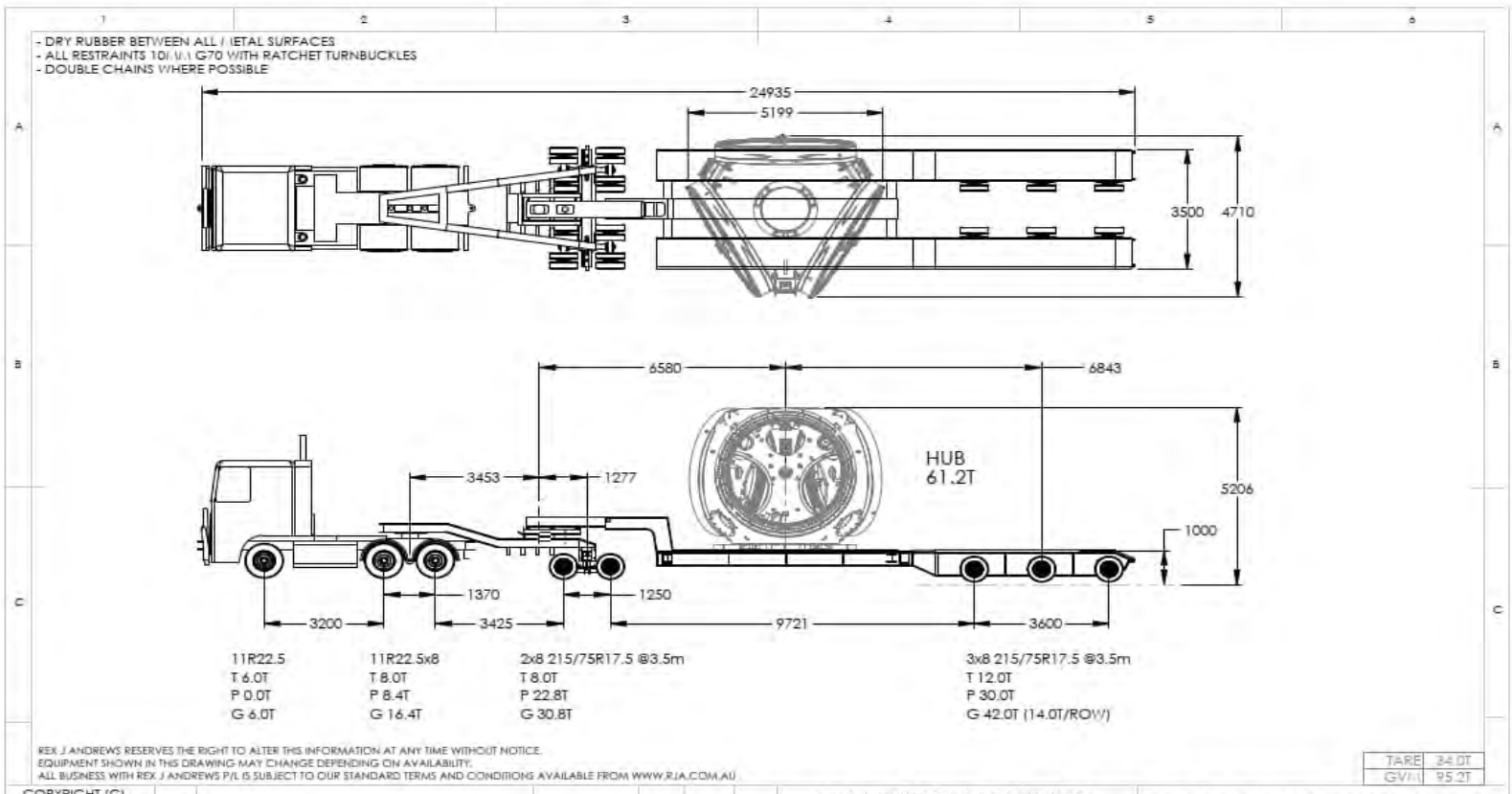
Width	3.5
Length	24.935
Height	4.3
Unladen Mass	34

Laden Dimensions

Width	4.71
Length	24.935
Height	5.2
Laden Mass	95.2

Payload Dimensions

Width	4.71
Length	4.2
Height	4.2



Blade

Axle No.	Distance From Previous Axle	No. Of Tyres Per axle	Tyre Width	Ground Contact Width	Axle Mass Requestd	Total Gross Per Vehicle Group (tonne)	Vehicle/Trailer
1		2	279mm	2.4	6		Prime mover
2	3.2	4	279mm	2.4	8.45	22.9	
3	1.37	4	279mm	2.4	8.45		
4	4.4	4	215mm	2.4	8.45		2x4
5	1.25	4	215mm	2.4	8.45		
6	45.26	8	215mm	3.4	11.7	52	3x8
7	1.8	8	215mm	3.4	11.7		
8	1.8	8	215mm	3.4	11.7		

Total Length	59.08 metres
Total Gross Combination	74.9 Tonnes

Structure Exceedances
None

Mass of load	29.9

Unladen Dimensions

Width	3.4
Length	21.65
Height	4.3
Unladen Mass	45

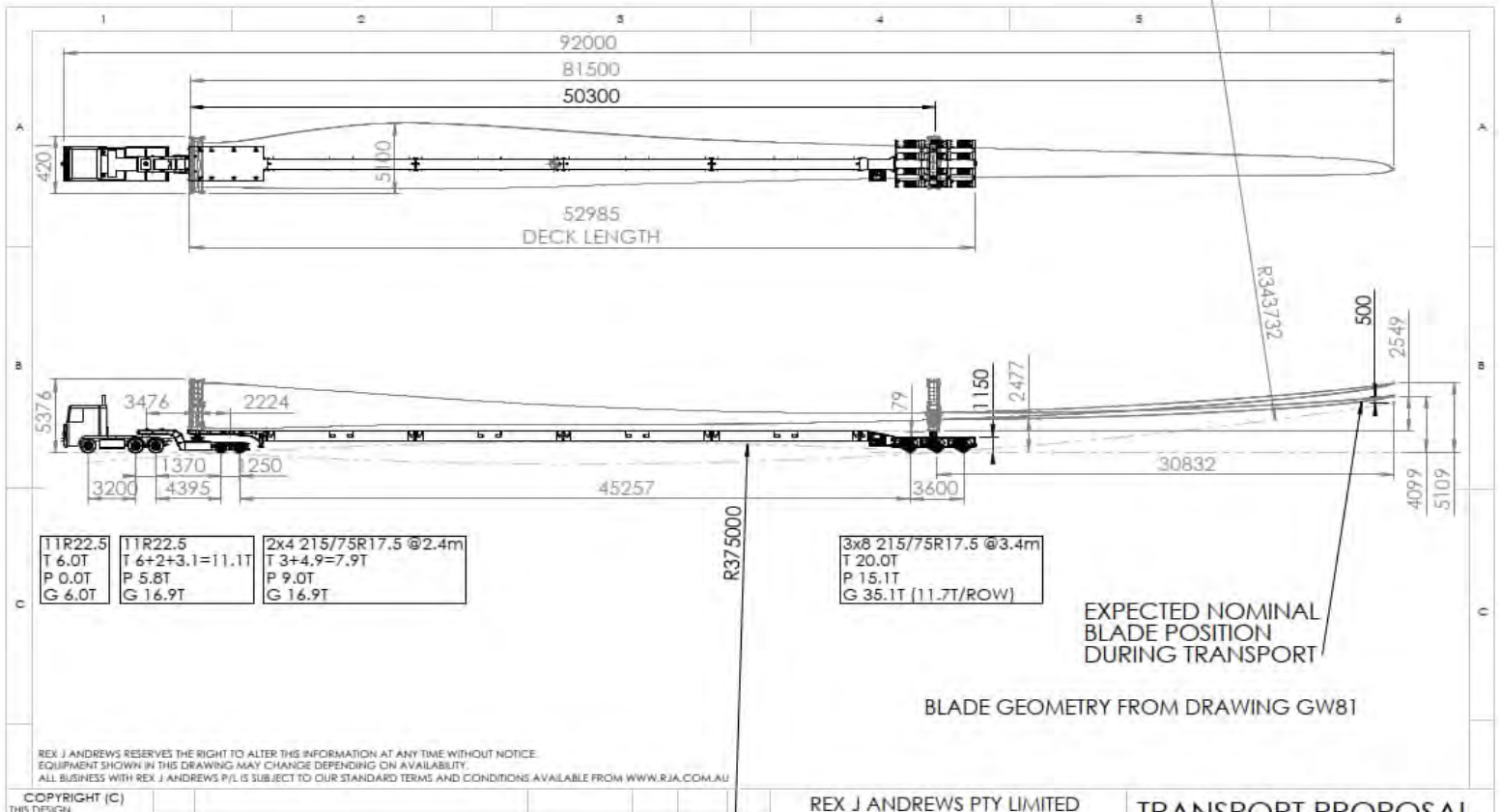
Laden Dimensions

Width	5.1
Length	94
Height	5.376
Laden Mass	74.9

Payload Dimensions

Width	5.1
Length	81.5
Height	3.826

Insert diagram from Route assessment here



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0	ISSUED FOR APPROVAL	26/02/2024	J.S	H.A	W.A
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THIRD ANGLE PROJECTION
DIMENSIONS IN MILLIMETRES
TOLERANCES
- LINEAR ± 5.0

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TRANSPORT PROPOSAL

GOLDWIND 81.5m BLADE
2x4 3x8

DO NOT SCALE | DRG NO:GOLD_ 81.5m Blade C | A4

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THIRD ANGLE PROJECTION
DIMENSIONS IN MILLIMETRES
TOLERANCES

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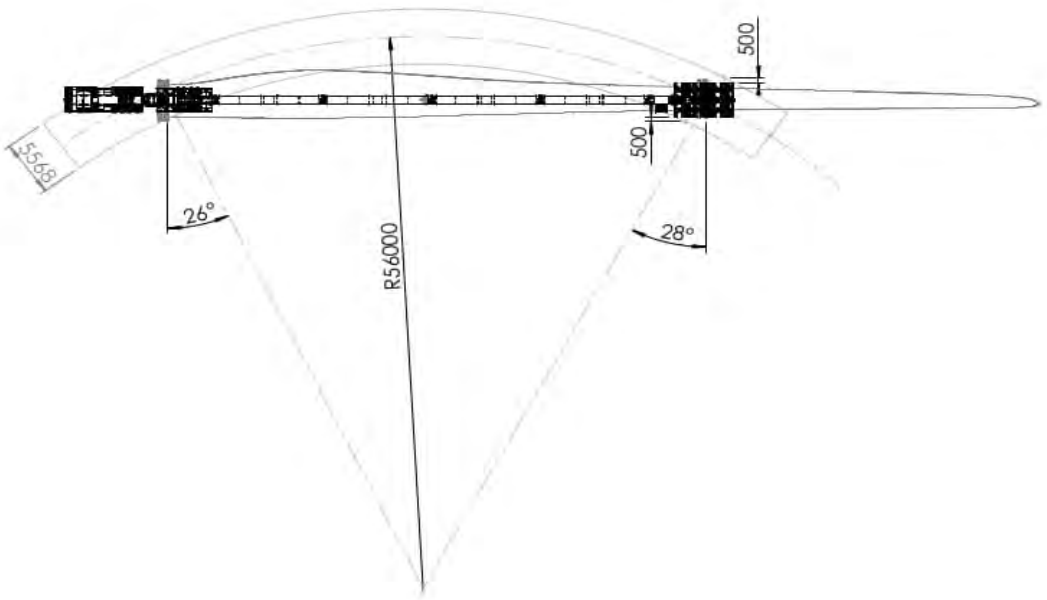
GOLDWIND 81.5m BLADE
2x4 3x8

DO NOT SCALE | DRG NO:GOLD_ 81.5m Blade C | A4



THIRD ANGLE PROJECTION
DIMENSIONS IN MILLIMETRES
TOLERANCES – LINEAR ± 5.0

REV		DATE	DRN	CKD	APP
3	SHEET 1 UPDATED	09/11/2023	J.S	H.A	W.A
2	SHEET 1 UPDATED	31/07/2023	J.S	H.A	W.A
1	BLADE GEOMETRY UPDATED	28/07/2023	J.S	H.A	W.A
0	ISSUED FOR APPROVAL	29/07/2022	J.S	H.A	W.A
R	ISSUED FOR REVIEW	29/07/2022	J.S	H.A	

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TRANSPORT PROPOSAL

GOLDWIND 81.5m BLADE
TURNING RADIUS

DO NOT SCALE | DRG NO: GOLD_81.5m_Blade | A4

Bottom Tower Section T1

Axle No.	Distance From Previous Axle	No. Of Tyres Per axle	Tyre Width	Ground Contact Width	Axle Mass Requestd	Total Gross Per Vehicle Group	
1		2	279mm	2.5	6		
2	3.2	8	279mm	2.5	9.25	24.5	Prime mover
3	1.37	8	279mm	2.5	9.25		
4	6.65	8	215mm	3.4	14.9		
5	1.8	8	215mm	3.4	14.9		
6	1.8	8	215mm	3.4	14.9	149	
7	1.8	8	215mm	3.4	14.9		
8	1.8	8	215mm	3.4	14.9		10x8 Platform (Inset)
9	1.8	8	215mm	3.4	14.9		
10	1.8	8	215mm	3.4	14.9		
11	1.8	8	215mm	3.4	14.9		
12	1.8	8	215mm	3.4	14.9		
12	1.8	8	215mm	3.4	14.9		

Total Length	27.42 metres
Total Gross Combination	173.5 Tonnes

Structure Exceedances

Macrossan - TBC

Tommy Creek - TBC

Mass of load	104

Unladen Dimensions

Width	4.18
Length	29.627
Height	4.3
Unladen Mass	56.9

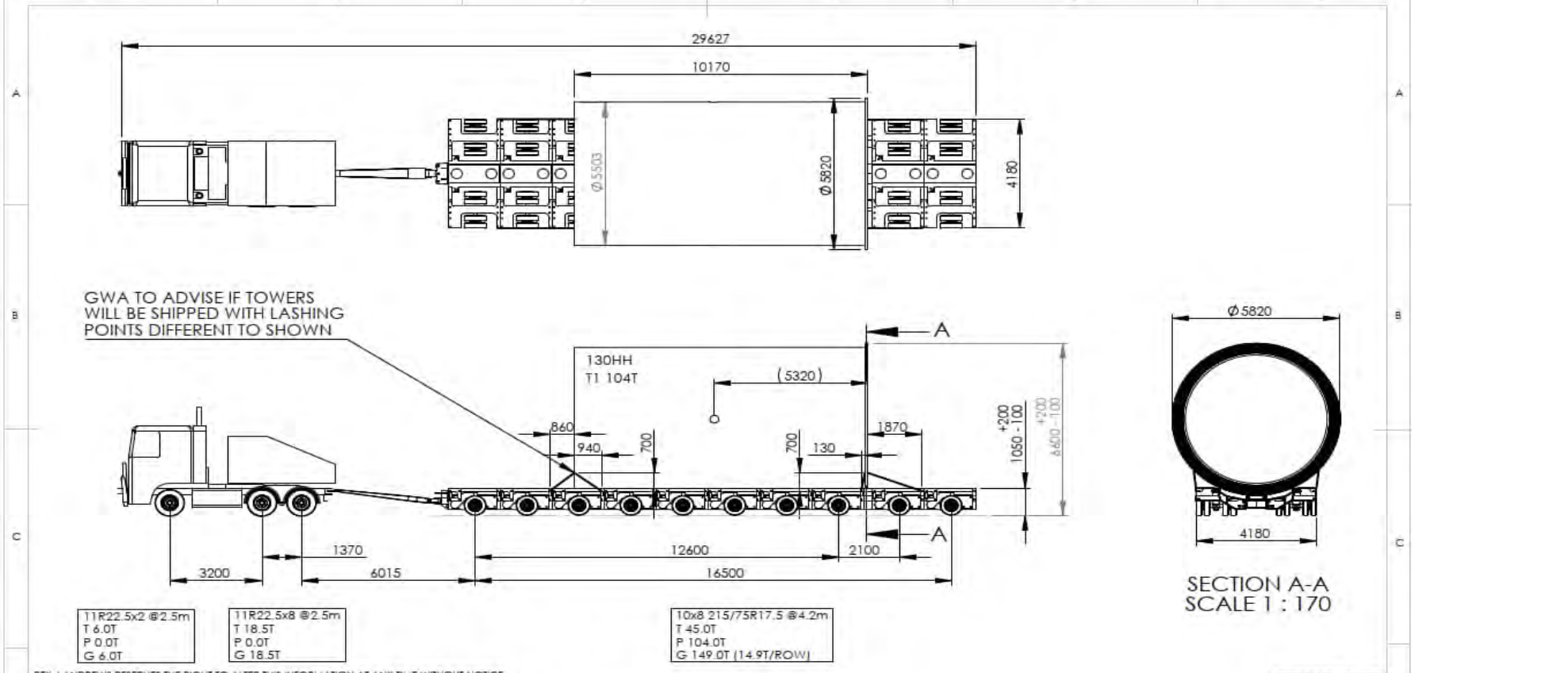
Laden Dimensions

Width	5.82
Length	29.627
Height	6.8
Laden Mass	173.5

Payload Dimensions

Width	5.82
Length	10.17
Height	5.82

Insert diagram from Route assessment here



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TARE	69.5T
GVM	173.5T

THIRD ANGLE PROJECTION
DIMENSIONS IN MILLIMETRES
TOLERANCES
- LINEAR ± 5.0

REV		DATE	DRN	CKD	APP
1	LASHING DETAIL SHOWN	10/07/2025	J.S	H.A	R.A
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TRANSPORT PROPOSAL

GOLDWIND
130HH ST IVES
T1 104.0T

DO NOT SCALE

DRG NO: GOLD 130HH_SIWF_T01A

A4

Lower Tower Section T2

Axle No.	Distance From Previous Axle	No. Of Tyres Per axle	Tyre Width	Ground Contact Width	Axle Mass Requestd	Total Gross Per Vehicle Group	
1		2	279mm	2.5	6		
2	3.2	8	279mm	2.5	5	16	Prime mover
3	1.37	8	279mm	2.5	5		
4	6	8	215mm	4.2	13		
5	1.8	8	215mm	4.2	13		
6	1.8	8	215mm	4.2	13	130	
7	1.8	8	215mm	4.2	13		
8	1.8	8	215mm	4.2	13		10x8 Platform
9	1.8	8	215mm	4.2	13		
10	1.8	8	215mm	4.2	13		
11	1.8	8	215mm	4.2	13		
12	1.8	8	215mm	4.2	13		
13	1.8	8	215mm	4.2	13		

Total Length	26.77 metres
Total Gross Combination	146.2 Tonnes

Structure Exceedances

Macrossan - 12%

Tommy Creek - 62%

Mass of load	99.2

Unladen Dimensions

Width	3.4
Length	29.32
Height	4.3
Unladen Mass	47

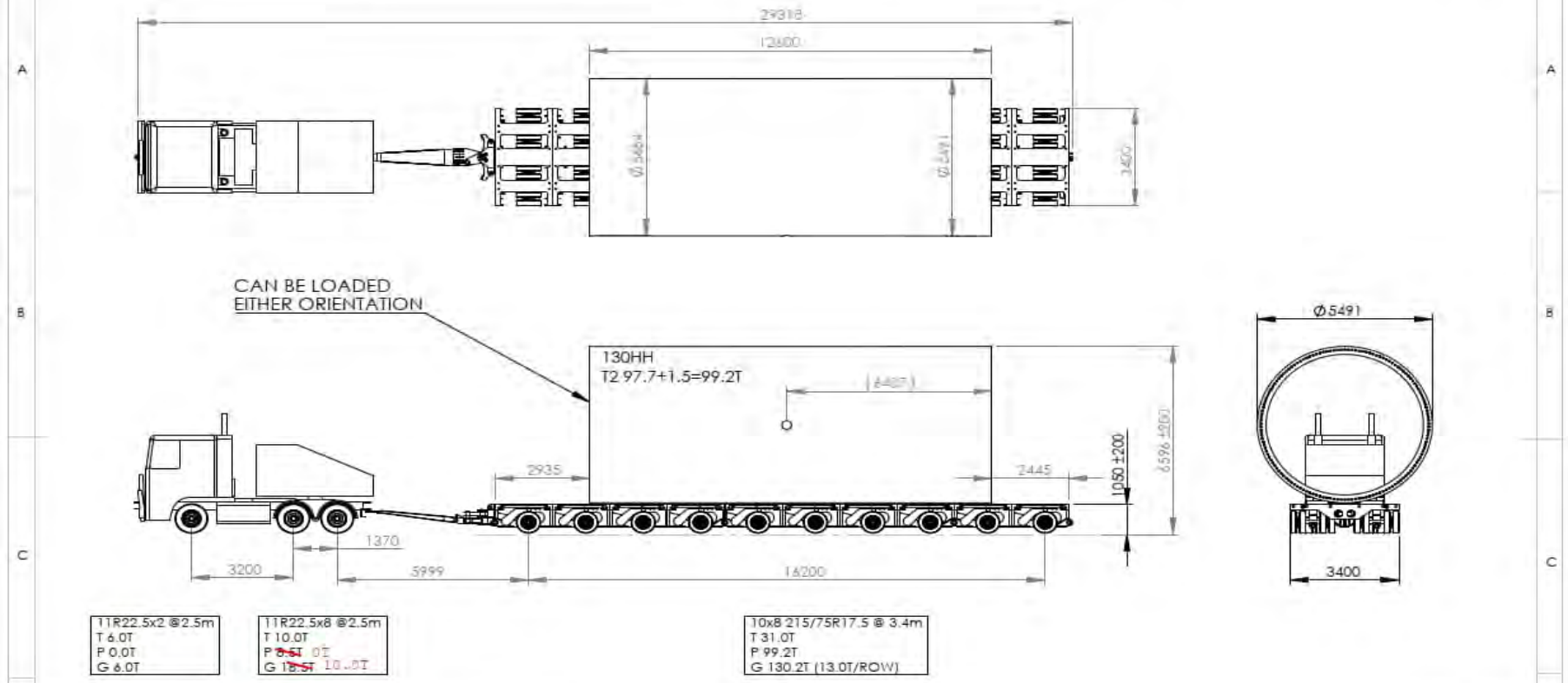
Laden Dimensions

Width	5.5
Length	29.3
Height	6.6
Laden Mass	146.2

Payload Dimensions

Width	5.5
Length	12.6
Height	5.5

Insert diagram from Route assessment here



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TARE	55.5T
GVM	154.7T

THIRD ANGLE PROJECTION
DI/ \ENSIONS IN / \ILLI \ETRES
TOLERANCES
- LINEAR ± 5.0

REV		DATE	DRN	CKD	APP
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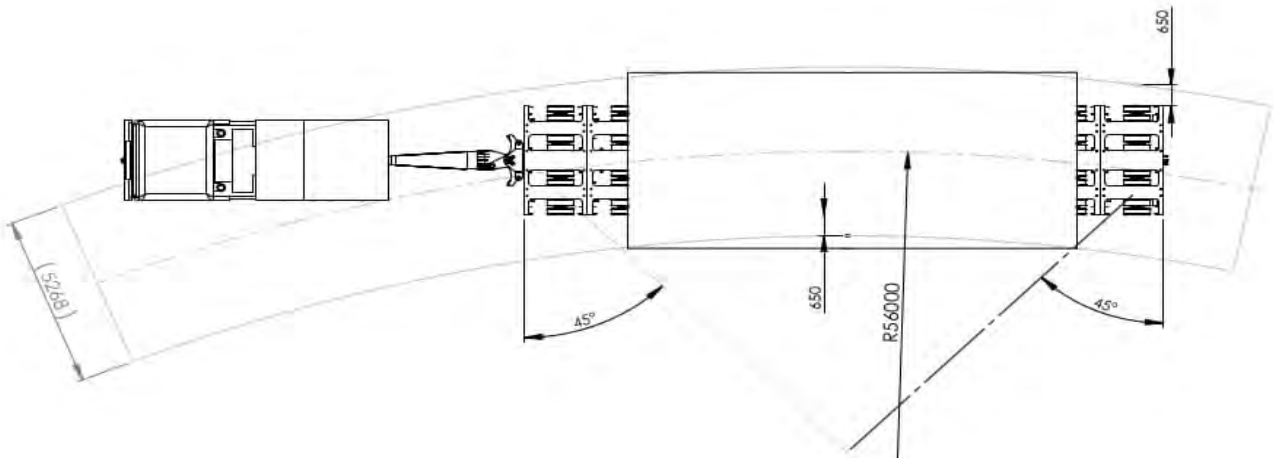
TRANSPORT PROPOSAL

GOLDWIND
130HH
T2 - 99.2T

DO NOT SCALE

DRG NO: GOLD_130HH_T02C

A4



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THIRD ANGLE PROJECTION
DIMENSIONS IN MILLIMETRES
TOLERANCES
- LINEAR ± 5.0

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TRANSPORT PROPOSAL

GOLDWIND
130HH
T2 - 99.2T

DO NOT SCALE | DRG NO: GOLD_130HH_T02C | A4

Mid Lower Tower T3

Axle No.	Distance From Previous Axle	No. Of Tyres Per axle	Tyre Width	Ground Contact Width	Axle Mass Requestd	Total Gross Per Vehicle Group	
1		2	279mm	2.5	6		Prime mover
2	3.2	8	279mm	2.5	5	16	
3	1.37	8	279mm	2.5	5		
4	6	8	215mm	3.4	13		9x8 Platform
5	1.8	8	215mm	3.4	13		
6	1.8	8	215mm	3.4	13	117	
7	1.8	8	215mm	3.4	13		
8	1.8	8	215mm	3.4	13		
9	1.8	8	215mm	3.4	13		
10	1.8	8	215mm	3.4	13		
11	1.8	8	215mm	3.4	13		
12	1.8	8	215mm	3.4	13		

Total Length	24.97 metres
Total Gross Combination	133.4 Tonnes

Structure Exceedances

Macrossan - 7%

Tommy Creek - 62%

Mass of load	89.5

Unladen Dimensions

Width	3.4
Length	27.52
Height	4.3
Unladen Mass	43.9

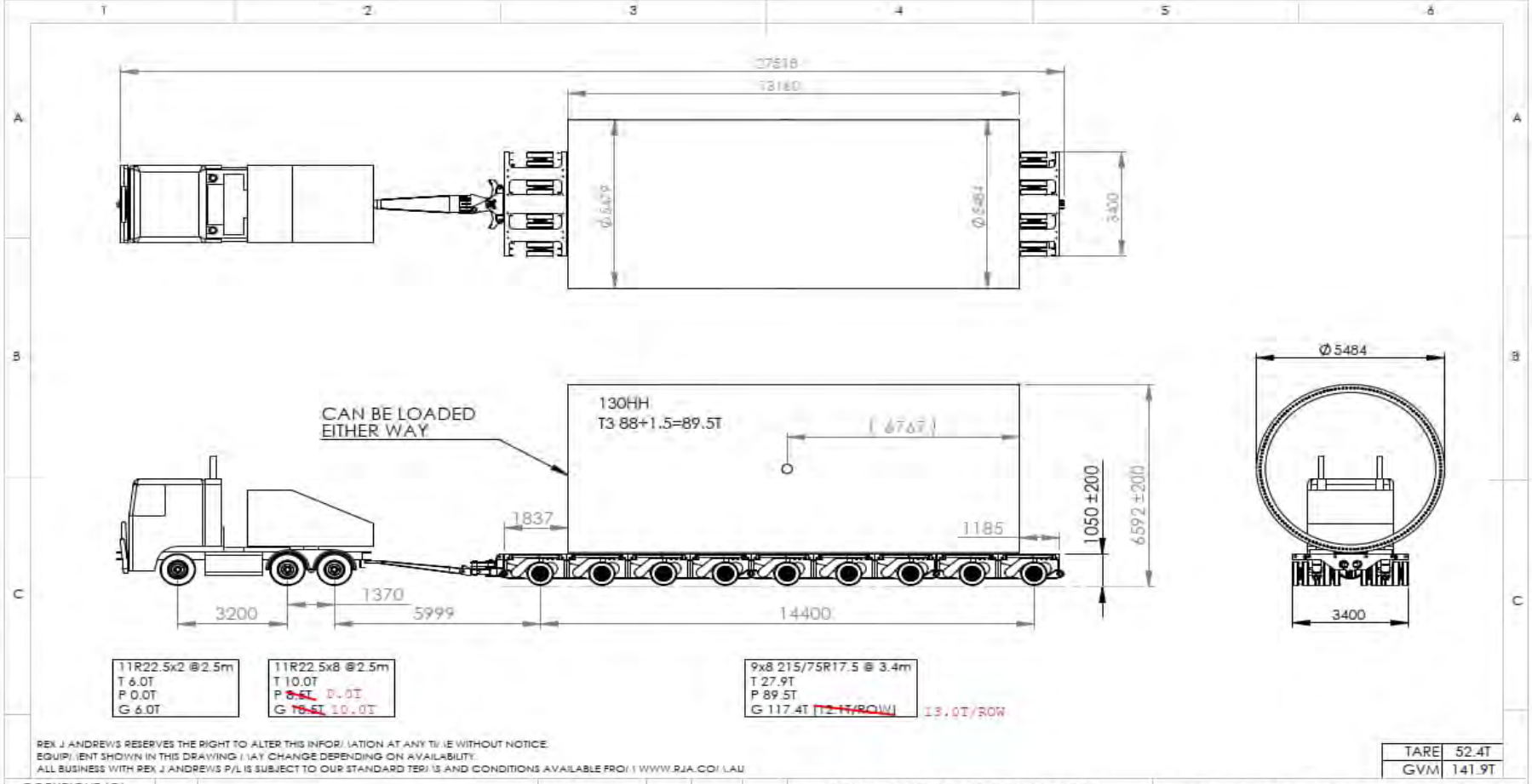
Laden Dimensions

Width	5.48
Length	27.52
Height	6.6
Laden Mass	133.4

Payload Dimensions

Width	5.48
Length	13.16
Height	5.48

Insert diagram from Route assessment here



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TARE	52.4T
GVM	141.9T

THIRD ANGLE PROJECTION
DI\ \ENSIONS IN / \ILLI \ETRES
TOLERANCES
- LINEAR ± 5.0

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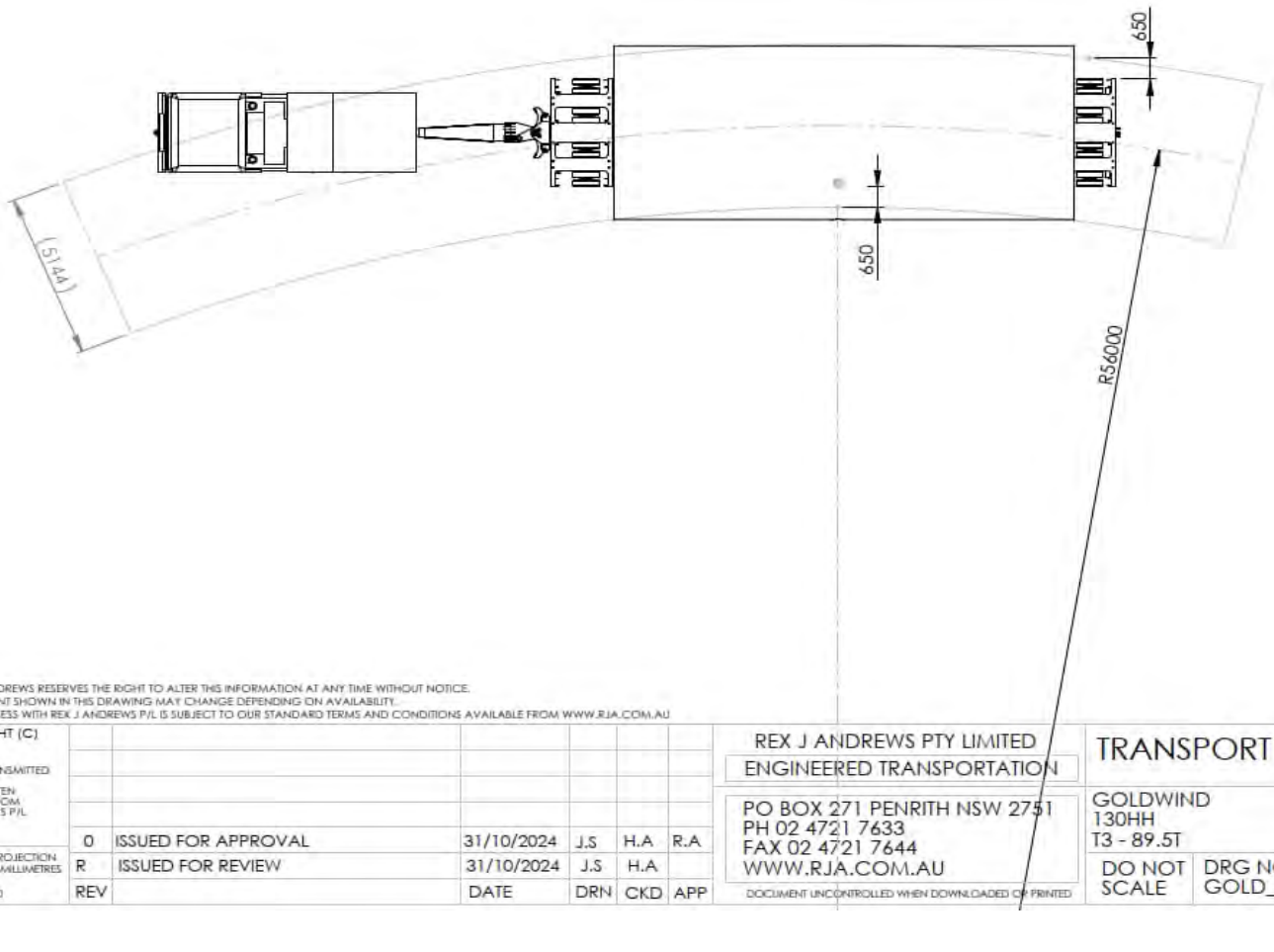
TRANSPORT PROPOSAL

GOLDWIND
130HH
T3 - 89.5T

DO NOT SCALE

DRG NO: GOLD_130HH_T03C

A4



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THIRD ANGLE PROJECTION
DIMENSIONS IN MILLIMETRES
TOLERANCES
- LINEAR ± 5.0

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TRANSPORT PROPOSAL

GOLDWIND
130HH
T3 - 89.5T

DO NOT SCALE | DRG NO: GOLD_130HH_T03C | A4

Mid Tower T4

Axle No.	Distance From Previous Axle	No. Of Tyres Per axle	Tyre Width	Ground Contact Width	Axle Mass Requestd	Total Gross Per Vehicle Group	
1		2	279mm	2.5	6		Prime mover
2	3.2	8	279mm	2.5	9.25	24.5	
3	1.37	8	279mm	2.5	9.25		
4	6	8	215mm	3.4	14.3		
5	1.8	8	215mm	3.4	14.3		
6	1.8	8	215mm	3.4	14.3	128.7	4x8-5x8 Extending Platform Trailer
7	1.8	8	215mm	3.4	14.3		
8	7.22	8	215mm	3.4	14.3		
9	1.8	8	215mm	3.4	14.3		
10	1.8	8	215mm	3.4	14.3		
11	1.8	8	215mm	3.4	14.3		
12	1.8	8	215mm	3.4	14.3		

Total Length	30.39	metres
Total Gross Combination	153	Tonnes

Structure Exceedances

Tommy Creek - 37%

Mass of load	89.6

Unladen Dimensions

Width	3.4
Length	32.94
Height	4.3
Unladen Mass	63.4

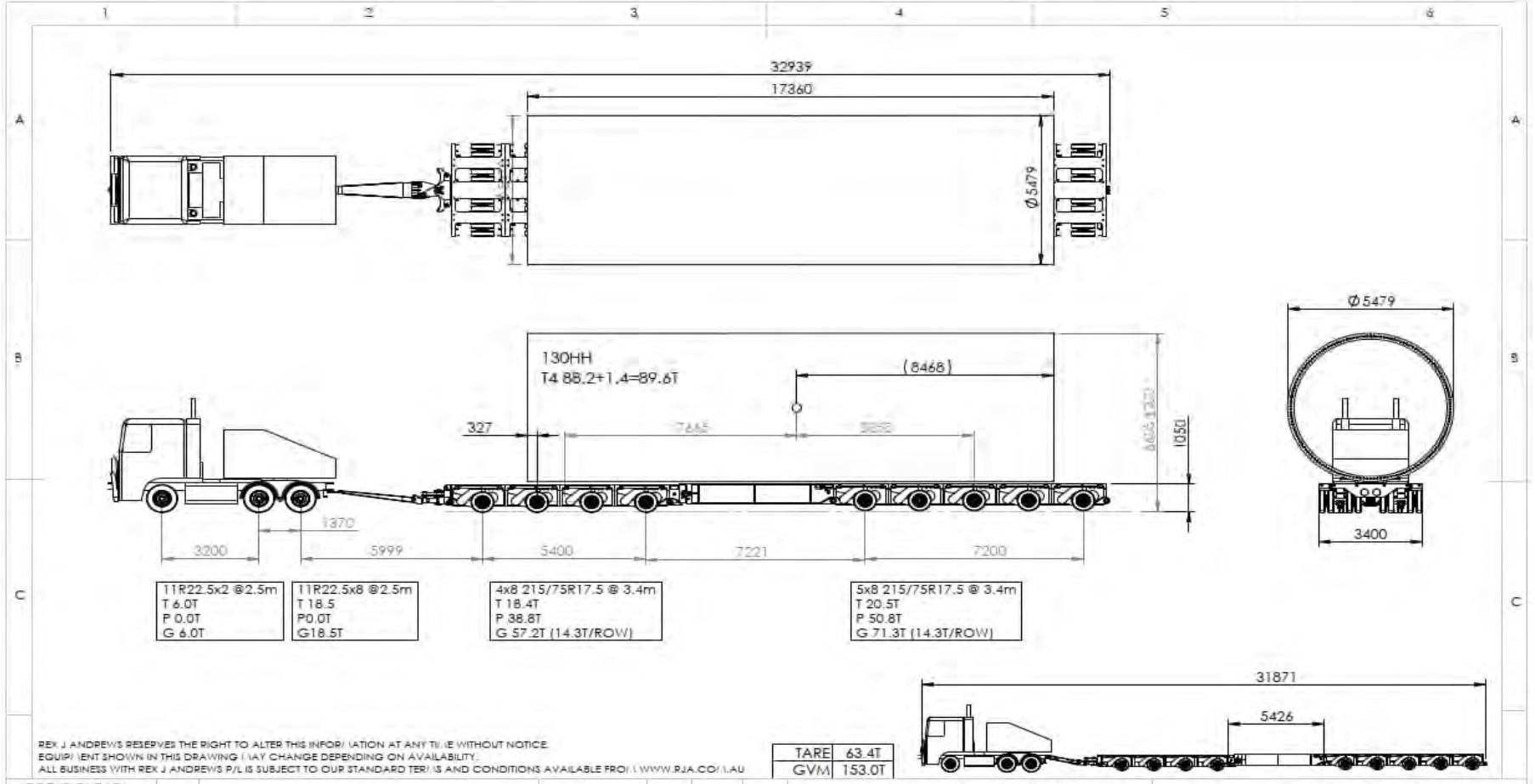
Laden Dimensions

Width	5.48
Length	32.94
Height	6.6
Laden Mass	153

Payload Dimensions

Width	5.48
Length	17.36
Height	5.48

Insert diagram from Route assessment here



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TARE	63.4T
GVM	153.0T

THIRD ANGLE PROJECTION
DI\ \ENSIONS IN / \ILLI\ \ETRES
TOLERANCES
- LINEAR ± 5.0

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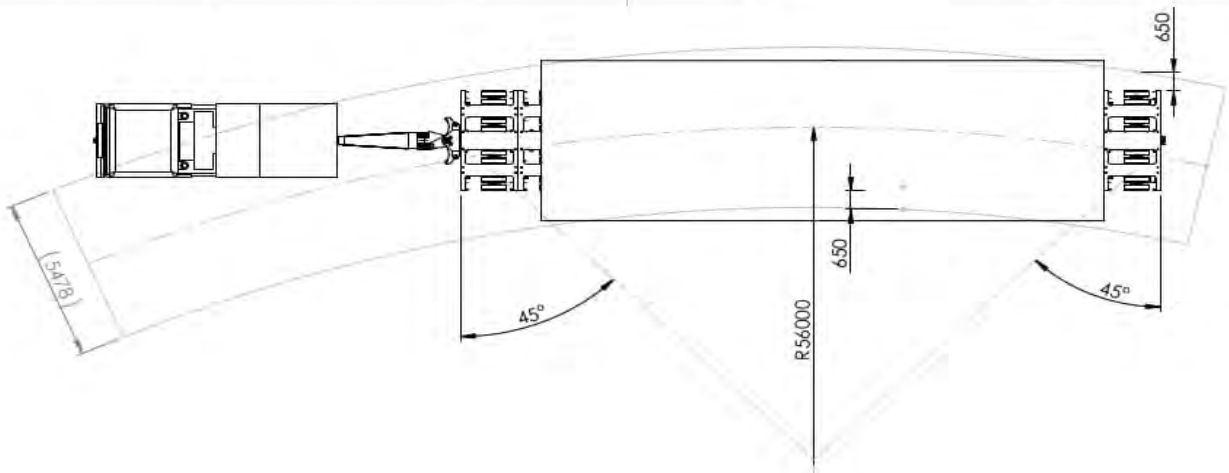
TRANSPORT PROPOSAL

GOLDWIND
130HH
T4 - 89.6T

DO NOT SCALE | DRG NO: GOLD_130HH_T04D | A4



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THIRD ANGLE PROJECTION
DIMENSIONS IN MILLIMETRES
TOLERANCES
- LINEAR ± 5.0

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R	ISSUED FOR REVIEW	31/10/2024	J.S	H.A	

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TRANSPORT PROPOSAL

GOLDWIND
130HH
T4 - 89.6T

DO NOT SCALE | DRG NO: GOLD_130HH_T04D | A4

Mid Upper tower T5

Axle No.	Distance From Previous Axle	No. Of Tyres Per axle	Tyre Width	Ground Contact Width	Axle Mass Requestd	Total Gross Per Vehicle Group	
1		2	279mm	2.5	6		Prime mover
2	3.2	4	279mm	2.5	9.25	24.5	
3	1.37	4	279mm	2.5	9.25		
4	6	8	215mm	3.4	11.8		4x8 - 4x8 Extendable Platform Trailer
5	1.8	8	215mm	3.4	11.8		
6	1.8	8	215mm	3.4	11.8	93.2	
7	1.8	8	215mm	3.4	11.8		
8	10.82	8	215mm	3.4	11.5		
9	1.8	8	215mm	3.4	11.5		
10	1.8	8	215mm	3.4	11.5		
11	1.8	8	215mm	3.4	11.5		

Total Length	32.19 metres
Total Gross Combination	117.2 Tonnes

Structure Exceedances
None

Mass of load	57.9

Unladen Dimensions

Width	3.4
Length	34.74
Height	4.3
Unladen Mass	59.3

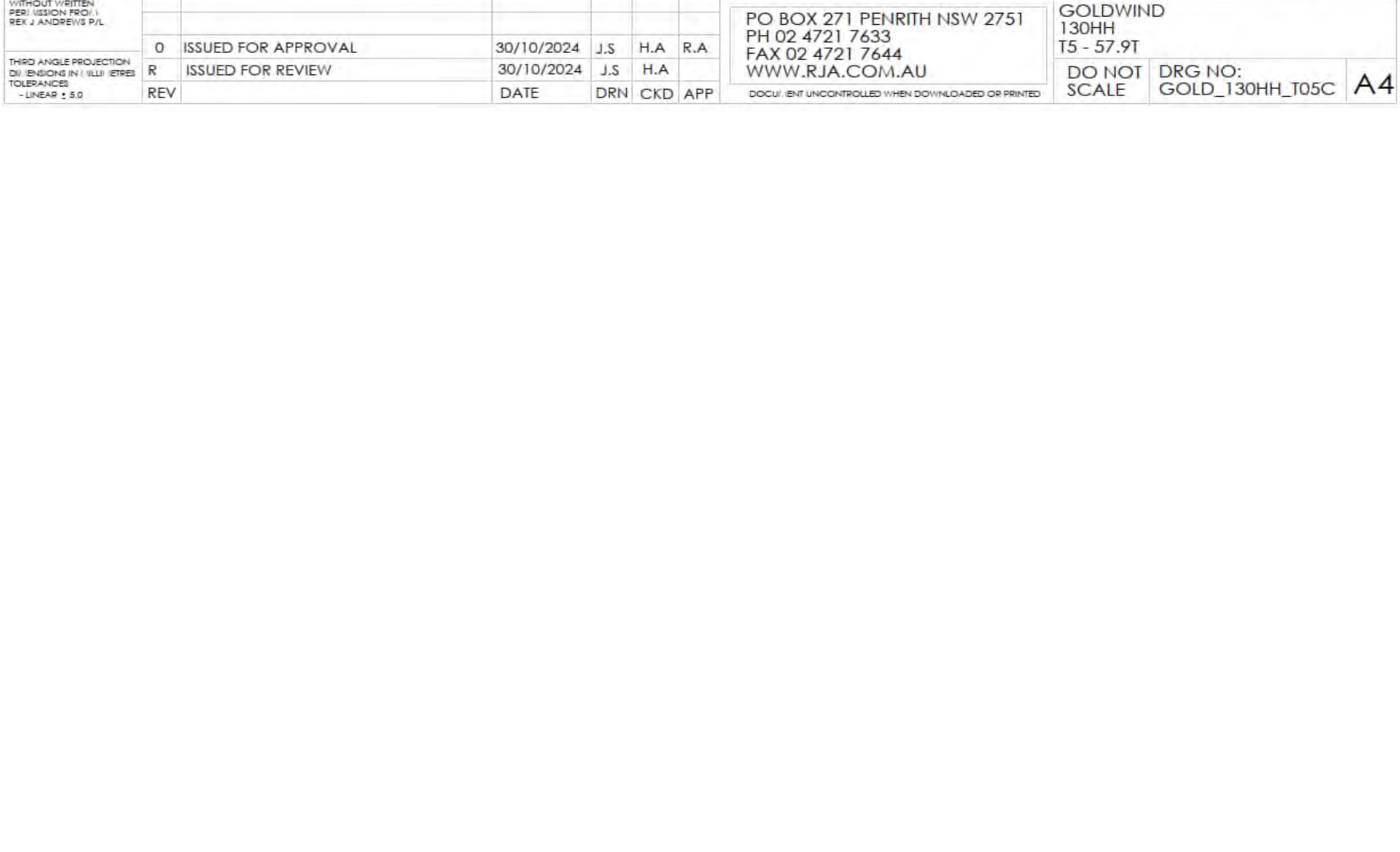
Laden Dimensions

Width	5.47
Length	34.74
Height	6.56
Laden Mass	117.2

Payload Dimensions

Width	5.47
Length	17.36
Height	5.47

Insert diagram from Route assessment here



THIRD ANGLE PROJECTION
DI\ \ENSIONS IN / \ILLI \ETRES
TOLERANCES
- LINEAR ± 5.0

REV		DATE	DRN	CKD	APP
0	ISSUED FOR APPROVAL	30/10/2024	J.S	H.A	R.A
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TRANSPORT PROPOSAL

GOLDWIND
130HH
T5 - 57.9T

DO NOT SCALE | DRG NO: GOLD_130HH_T05C | A4

Upper Tower T6

Axle No.	Distance From Previous Axle	No. Of Tyres Per axle	Tyre Width	Ground Contact Width	Axle Mass Requestd	Total Gross Per Vehicle Group	
1		2	279mm	2.5	6		
2	3.2	8	279mm	2.5	9.25	24.5	Prime mover
3	1.37	8	279mm	2.5	9.25		
4	6	8	215mm	3.4	12.9		
5	1.8	8	215mm	3.4	12.9		
6	1.8	8	215mm	3.4	12.9	109.6	
7	1.8	8	215mm	3.4	12.9		4x8-5x8 extending platform
8	12.63	8	215mm	3.4	11.6		
9	1.8	8	215mm	3.4	11.6		
10	1.8	8	215mm	3.4	11.6		
11	1.8	8	215mm	3.4	11.6		
12	1.8	8	215mm	3.4	11.6		

Total Length	35.8 metres
Total Gross Combination	133.9 Tonnes

Structure Exceedances

Tommy Creek - 12%

Mass of load	70.5

Unladen Dimensions

Width	3.4
Length	33.69
Height	4.3
Unladen Mass	63.4

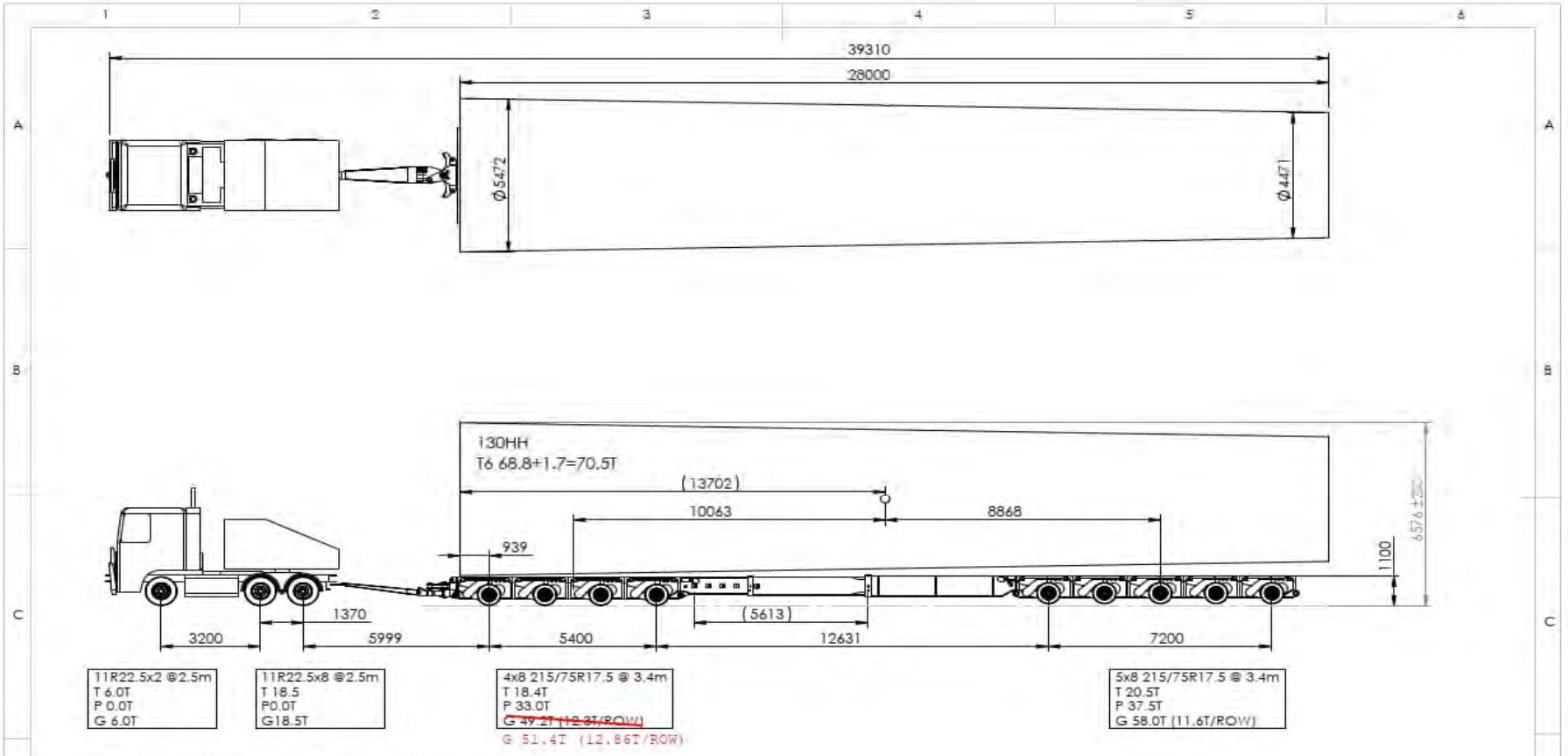
Laden Dimensions

Width	5.47
Length	39.31
Height	6.58
Laden Mass	133.9

Payload Dimensions

Width	5.47
Length	28
Height	5.47

Insert diagram from Route assessment here



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TOLERANCES
- LINEAR ± 5.0

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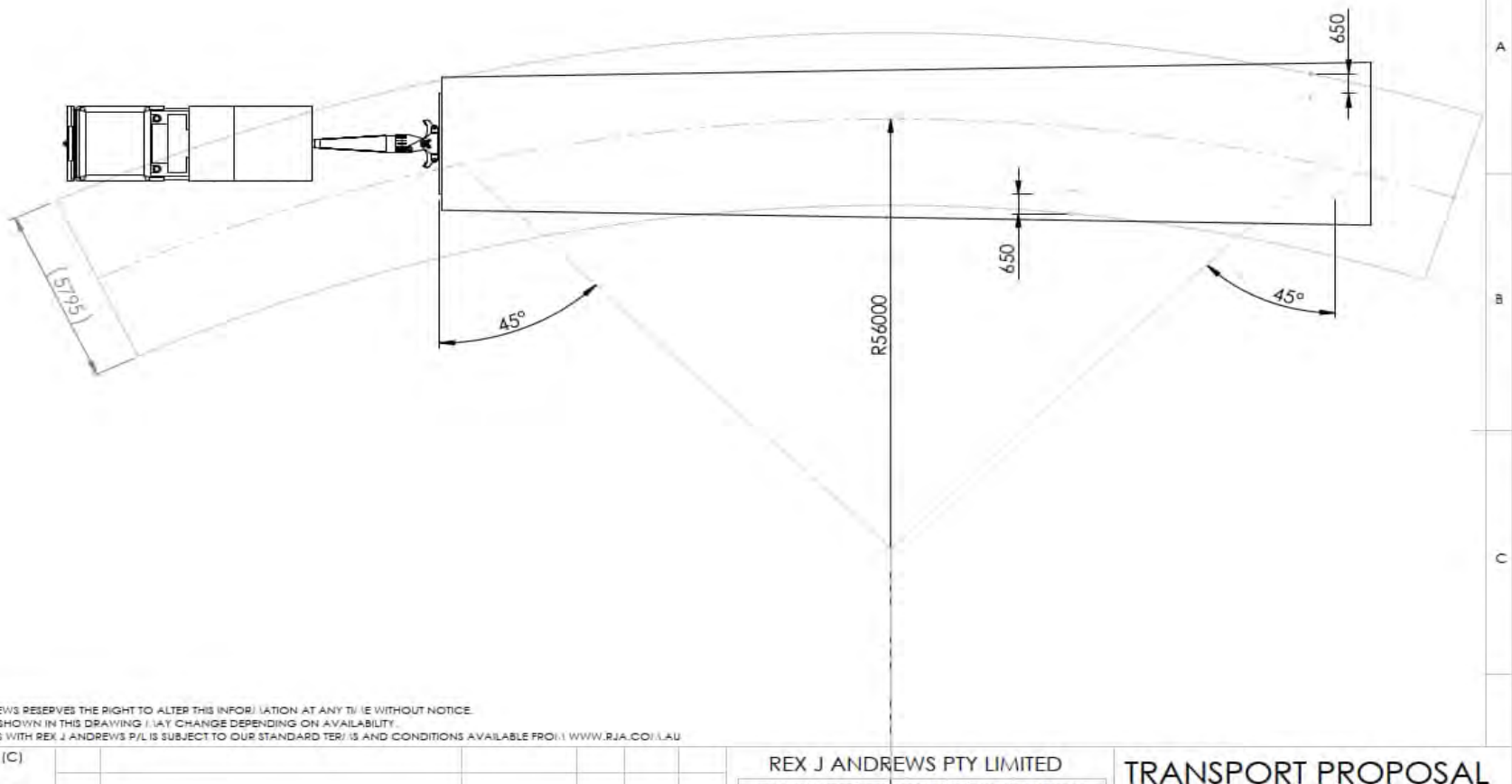
GOLDWIND
130HH
T6 - 70.5T

DO NOT SCALE | DRG NO: GOLD_130HH_T06E | A4



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DIMENSIONS IN MILLIMETRES
TOLERANCES
- LINEAR ± 5.0

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TRANSPORT PROPOSAL

GOLDWIND
130HH
T6 - 70.5T

DO NOT SCALE | DRG NO: GOLD_130HH_T06E | A4

Top tower T7

Axle No.	Distance From Previous Axle	No. Of Tyres Per axle	Tyre Width	Ground Contact Width	Axle Mass Requestd	Total Gross Per Vehicle Group	
1		2	279mm	2.4	6		
2	3.2	8	279mm	2.4	9.25	24.5	Prime mover
3	1.37	8	279mm	2.4	9.25		
4	6	8	215mm	3.4	11.9		
5	1.8	8	215mm	3.4	11.9		
6	1.8	8	215mm	3.4	11.9	94.8	4x8 - 4x8 Extending Platform Trailer
7	1.8	8	215mm	3.4	11.9		
8	15.32	8	215mm	3.4	11.8		
9	1.8	8	215mm	3.4	11.8		
10	1.8	8	215mm	3.4	11.8		
11	1.8	8	215mm	3.4	11.8		

Total Length	36.69 metres
Total Gross Combination	119.3 Tonnes

Structure Exceedances
None

Mass of load	60

Unladen Dimensions

Width	3.4
Length	39.24
Height	4.3
Unladen Mass	59.3

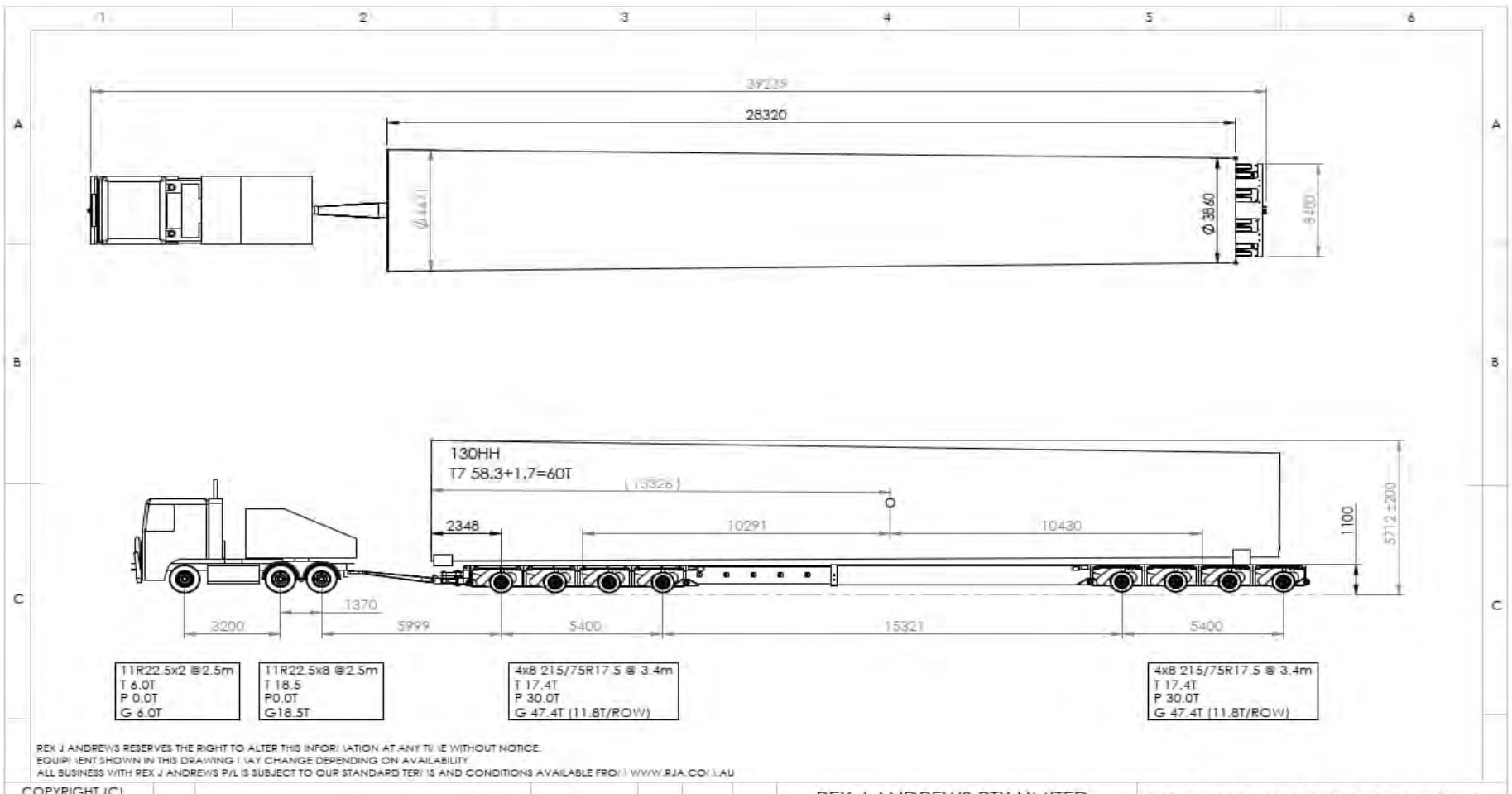
Laden Dimensions

Width	4.45
Length	39.24
Height	5.71
Laden Mass	119.3

Payload Dimensions

Width	4.47
Length	28.32
Height	4.47

Insert diagram from Route assessment here



REV		DATE	DRN	CKD	APP
1	TRAILER CLOSED 1 HOLE	15/11/2024	J.S	H.A	R.A
0	ISSUED FOR APPROVAL	30/10/2024	J.S	H.A	R.A
R	ISSUED FOR REVIEW	30/10/2024	J.S	H.A	

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DI/ \ENSIONS IN / \ILLI/ \ETRES
TOLERANCES
- LINEAR ± 5.0

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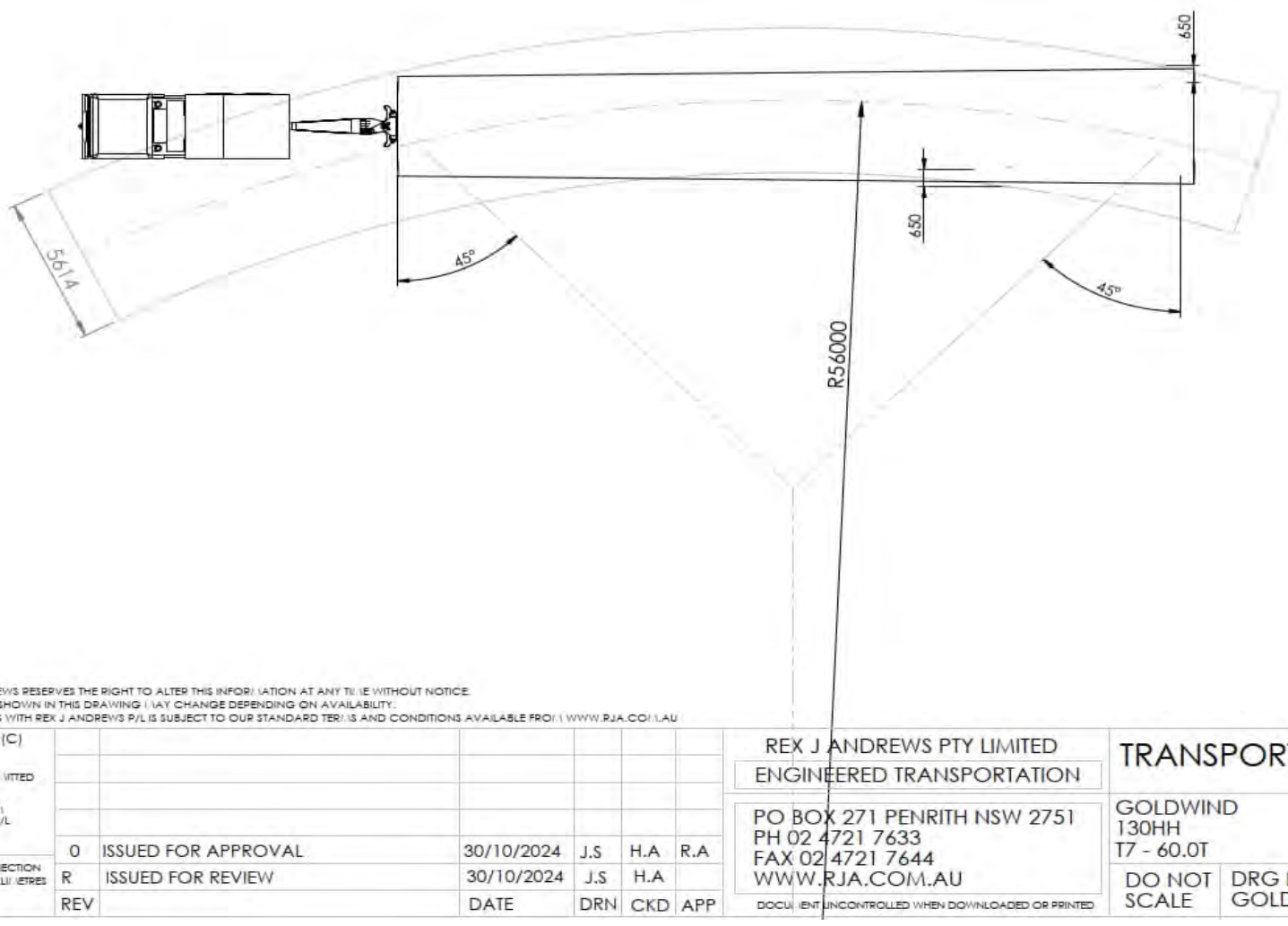
TRANSPORT PROPOSAL

GOLDWIND
130HH
T7 - 60.0T

DO NOT SCALE | DRG NO: GOLD_130HH_T07B | A4



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TOLERANCES
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TRANSPORT PROPOSAL

GOLDWIND
130HH
T7 - 60.0T

DO NOT SCALE | DRG NO: GOLD_130HH_T07B | A4

Transformer

Axle No.	Distance From Previous Axle	No. Of Tyres Per axle	Tyre Width	Ground Contact Width	Axle Mass Requestd	Total Gross Per Vehicle Group	
1		2	279mm	2.4	6.25		
2	3.2	4	279mm	2.4	8.4	23.05	Prime mover
3	1.37	4	279mm	2.4	8.4		
4	3.2	8	215mm	4.2	11.1		2x8 Dolly
5	1.3	8	215mm	4.2	11.1		
6	7.6	8	215mm	4.2	11.1	77	
7	1.2	8	215mm	4.2	11.1		4x8 Low Loader
8	2.4	8	215mm	4.2	11.1		
9	1.2	8	215mm	4.2	11.1		

Total Length	21.47 metres
Total Gross Combination	89.2 Tonnes

Structure Exceedances
None

Mass of load	56.2

Unladen Dimensions

Width	2.5
Length	25
Height	4.3
Unladen Mass	32

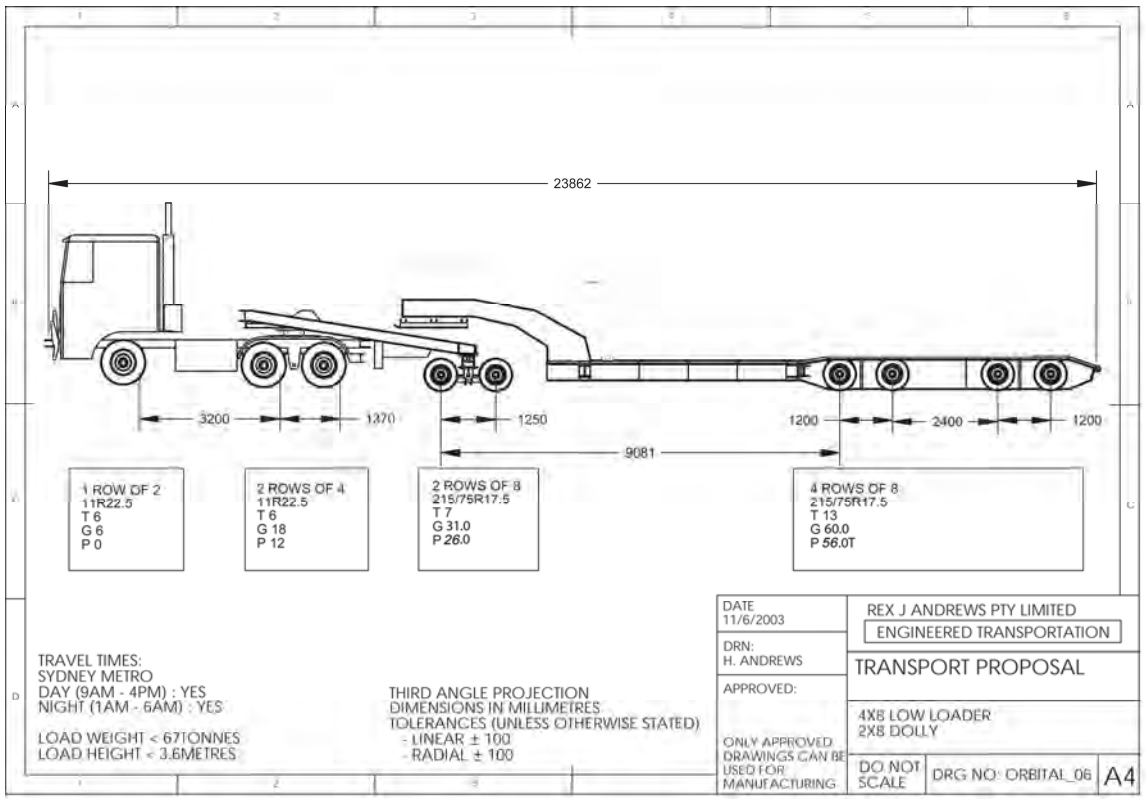
Laden Dimensions

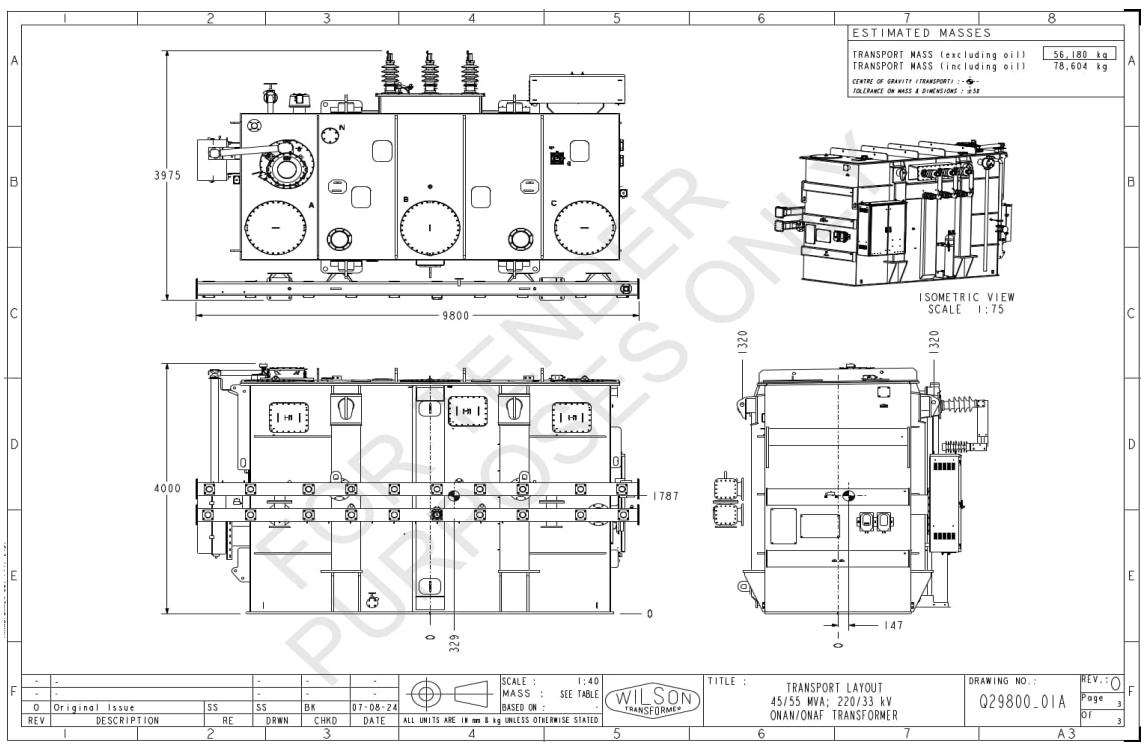
Width	4.8
Length	26
Height	5.2
Laden Mass	89.2

Payload Dimensions

Width	4.8
Length	9.8
Height	4

Insert diagram from Route assessment here





Switchroom

Axle No.	Distance From Previous Axle	No. Of Tyres Per axle	Tyre Width	Ground Contact Width	Axle Mass Requestd	Total Gross Per Vehicle Group	
1		2	279mm	2.4	6.25		Prime mover
2	3.2	4	279mm	2.4	9.2	24.65	
3	1.37	4	279mm	2.4	9.2		
4	6	8	215mm	4.2	9		
5	1.8	8	215mm	4.2	9		
6	1.8	8	215mm	4.2	9	104	
7	1.8	8	215mm	4.2	9		
7	10.8	8	215mm	4.2	8		4x8-4x8 extending platform
7	1.8	8	215mm	4.2	8		
7	1.8	8	215mm	4.2	8		
7	1.8	8	215mm	4.2	8		

Total Length	32.17 metres
Total Gross Combination	128.65 Tonnes

Structure Exceedances
None

Mass of load	35

Unladen Dimensions

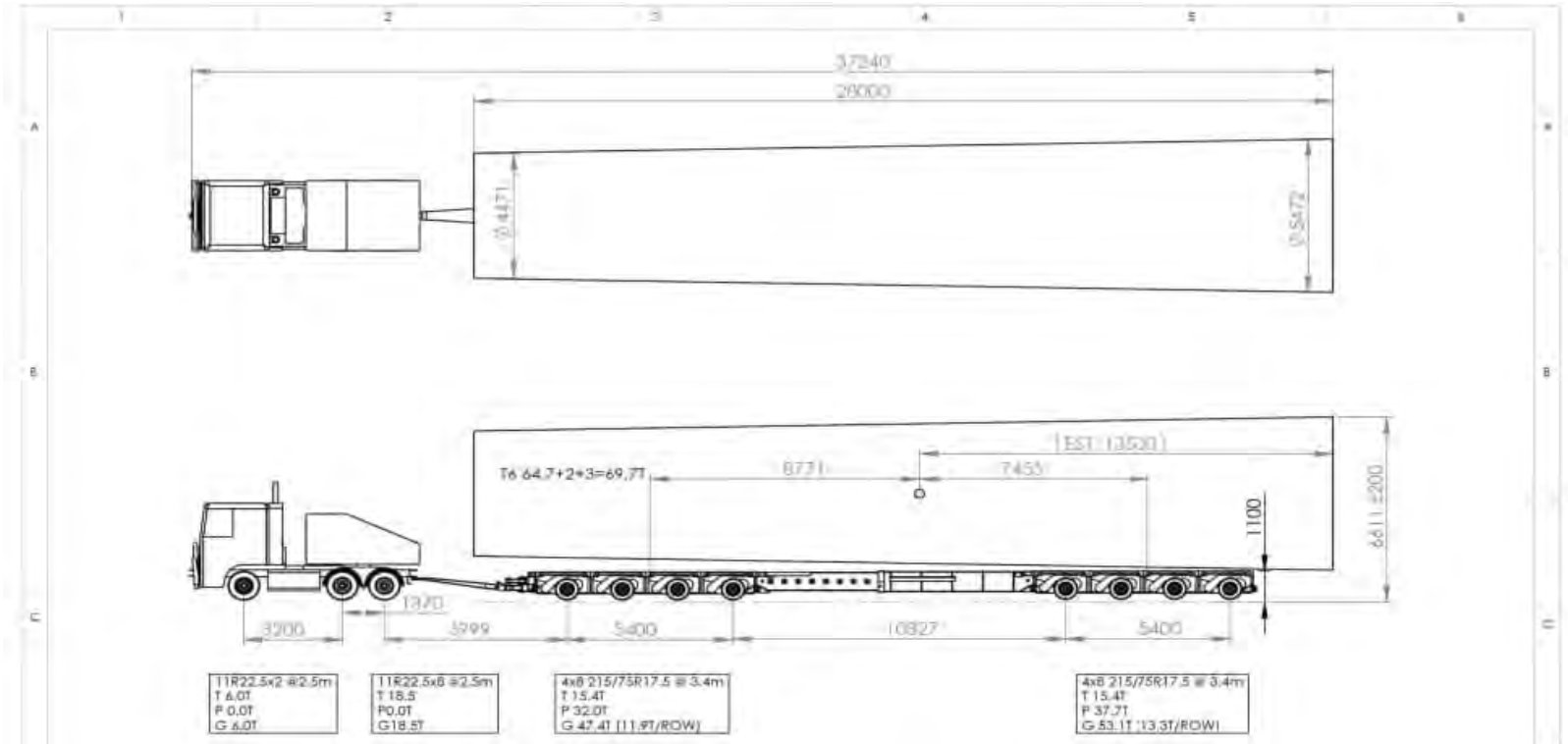
Width	4.2
Length	34.1
Height	4.3
Unladen Mass	55.5

Laden Dimensions

Width	4.5
Length	40
Height	5.5
Laden Mass	91.5

Insert diagram from Route assessment here

(Layout is indicative of transport combination only. Payload not represented, but is expected to be dimensionally simple - rectangular with pitched roof)



10.3 High Load Conflict Register

Dugald River Wind Farm
Inland Transport - High Load Conflict Register
Project Description: **48 MW(8 x Goldwind GW165/MW Turbine) Wind Farm**

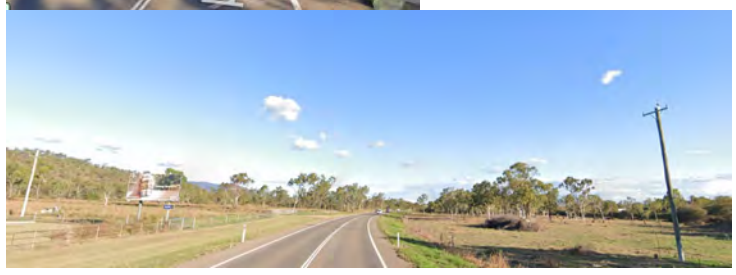
Revision	Description	Compiled By	Date
1	Initial Revision - Combines Scoping Completed Mar-25 & Mar-24	Chris Kellie	6/05/2025

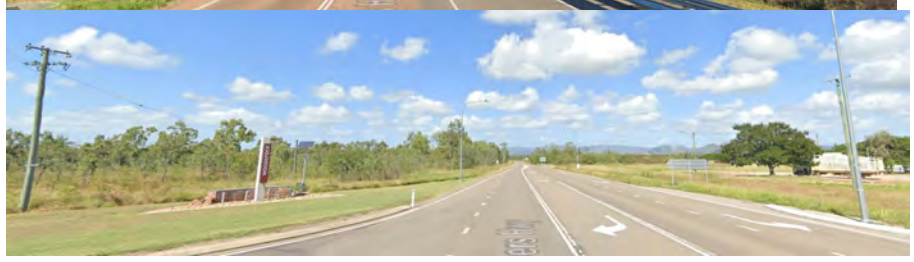
Route Sections	Description	Highest Load (m)	Conflict Qty	LV	HV	Special Conditions
1	Port of Townsville Gate to intersection Southern Port access road and Bruce highway	6.8	0	0	0	
2A	Intersection of Southern Port access road/Bruce highway via flinders highway, to intersection of New Queen Road/Devereux Street	6.6	17	3	14	
2B.1	Intersection of Southern Port access road/Bruce highway via bruce highway, to intersection herveys range road/gregory development road	6.8	13	2	11	Bypass Riverside Blvd overpass via angus smith drive, contraflow on Bruce highway ring road/charters towers road westbound
2B.2	intersection herveys range road/gregory development road, gregory development road, to intersection of hacket terrace/New queen Road(flinders highway)	6.8	50	39	11	
3	intersection of hacket terrace/New queen Road(flinders highway) to intersection of New Queen Road/Devereux Street	6.8	4	3	1	
4A	intersection of New Queen Road/Devereux Street, via flinders highway, to intersection victory street/flinders highway	5.36	0	0	0	5.5m rail overpass
4B	intersection of New Queen Road/Devereux Street via New queen road, Enterprise Street, Millchester Rd, Victory street, to intersection of victory street/flinders highway	6.8	7	6	1	
5	intersection victory street/flinders highway to flinders highway, andrew daniels drive(cloncurry), hensley drive, burke development road, dugald river mine (kalkadoon way)	6.8	57	33	24	New Hughenden Town Centre Bypass New Richmond Town Centre Bypass Existing Julia Creek Main Street Bypass Tommy Creek Bridge bypass
		Total	**148**	**86**	**62**	

Load Number	Load Name	Laden Height (m)
1	Nacelle Bodies	5.189
2	Generator	5.62
3	Hubs	5.2
4	Blades	5.376
5	Tower T1	6.8
6	Tower T2	6.6
7	Tower T3	6.6
8	Tower T4	6.6
9	Tower T5	6.56
10	Tower T6	6.58
11	Tower T7	5.71
12	Main Power Transformer	5.2
13	Switchroom	5.5

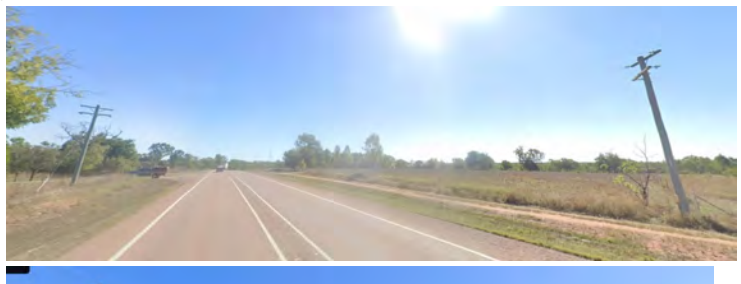
No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset			Ac	Temp	Route #	Highest Load(m)	Voltage(kV)	LV or HV	Conflict		Remark	Pictures
Item No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	L	M	R		Temp (°C)			Voltage(kV)				Remark/scope	
1	Gate											(Heading)					
2	Berwell Rd Boundary st			Intersection						1	6.8	N/A	N/A	N/A	N/A		
3	Berwell Rd			Traffic Island						1	6.8	N/A	N/A	N/A	N/A		
4	Berwell Rd Ross River			Bridge	1150		1400			1	6.8	N/A	N/A	N/A	N/A		
5	Berwell Rd			Vehicle Monitoring Camera						1	6.8	N/A	N/A	N/A	N/A		
6	Berwell Rd Becomes Southern Port Rd									1	6.8	N/A	N/A	N/A	N/A		
7	Southern Port Rd			Bridge	1100		1100			1	6.8	N/A	N/A	N/A	N/A		
8	Southern Port Rd Racecourse Rd	2114150		Transmission	16	16	16		Temp 3	1	6.8		132	HV	FALSE	clear	
9	Southern Port Rd			Floodway	800		800			1	6.8	N/A	N/A	N/A	N/A		
10	Southern Port Rd	2114150		HV Mains	8.15	8.5	9		Temp 3	1	6.8		66	HV	FALSE	marginally clear on RHS. RJA measured 7.98m min 23Jan24. Raise pole 2114150	
11	Southern Port Rd Stuart crk No 1			Bridge	1100		1100			1	6.8	N/A	N/A	N/A	N/A		
12	Southern Port Rd Stuart crk No 2			Bridge	1100		1100			1	6.8	N/A	N/A	N/A	N/A		
13	No 3			Bridge	800		800			1	6.8	N/A	N/A	N/A	N/A		
14	Southern Port Rd			Truck Parking Bay						1	6.8	N/A	N/A	N/A	N/A		
15	Southern Port Rd Heleen Downs rd			Traffic Light outreach arm		5.81				1	6.8	N/A	N/A	N/A	N/A	travel in right lanes	
16	Southern Port Rd			Traffic Island						1	6.8	N/A	N/A	N/A	N/A		
17	Southern Port Rd			Traffic Lights						1	6.8	N/A	N/A	N/A	N/A		
18	Southern Port Rd			Traffic Light outreach arm	6.6	5.85				1	6.8	N/A	N/A	N/A	N/A	Travel in right lanes	
19	Southern Port Rd \ Bruce Hwy \			Intersection							#N/A	N/A	N/A	N/A	(Heading)		
20	Flinders Hwy	6007154		Transmission	9	8.7	8.5			2A	6.6	66	HV	FALSE		clear	
21	Flinders Hwy			Traffic Island						2A	6.6	N/A	N/A	N/A			
22	Flinders Hwy			Traffic lights		5.81				2A	6.6	N/A	N/A	N/A		clear right side of lights. Contraflow if required	
23	Flinders Hwy Stuart creek			Bridge	1100		1100			2A	6.6	N/A	N/A	N/A			
24	Flinders Hwy	5000500		Transmission	12.8	12.5	12		38°	2A	6.6	66	HV	FALSE		clear	
25	Flinders Hwy Rail Overpass			Bridge	2000		2000			2A	6.6	N/A	N/A	N/A			
26	Flinders Hwy Near southward rd	5126426		LV Open Mains	6.9	6.8	7.2		38°	2A	6.6	0.4+11	HV	TRUE		as per WR1869120 scope - remove LV	
27	Flinders Hwy	5125231		HV Mains	8.3	8.3	9.3		38°	2A	6.6	11	HV	FALSE		clear	
28	Flinders Hwy	5125243		OH Stay	8.6	8.2	8			2A	6.6	0	LV	FALSE		clear	

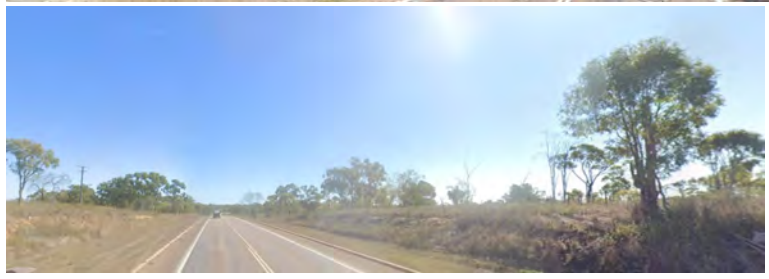
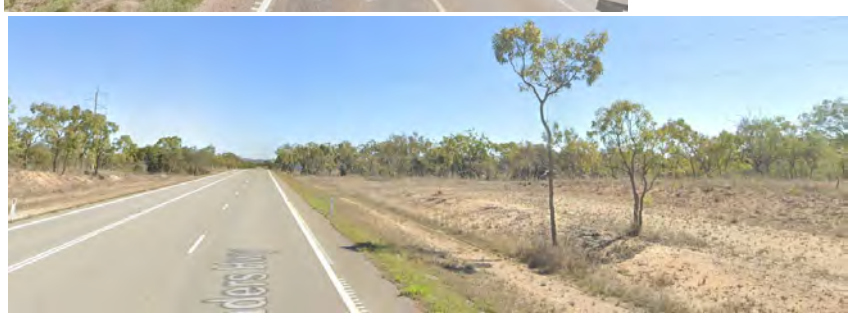
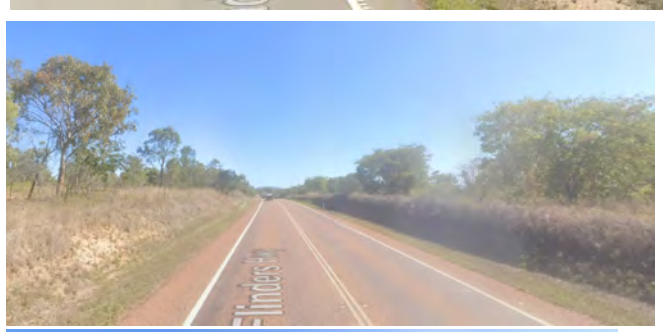
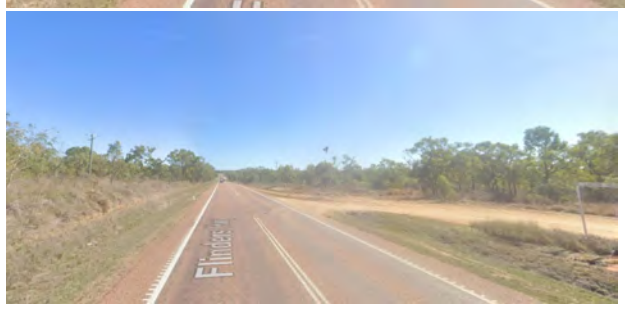
No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset			Ac	Temp	Route #	Highest Load(m)	Voltage(kV)	LV or HV	Confli		Remark	Pictures
Item No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	L	M	R		Temp (°C)			Voltage(kV)		Conflict?		Remark/scope	
29	Flinders Hwy Near Mt Stuart Road	5004680		Transmission	8.8	8.8	9		38°	2A	6.6 66	HV		FALSE		clear	
30	Flinders Hwy Mt Stuart Road	5135251		HV Mains	9.7	9.7	10		38°	2A	6.6 11	HV		FALSE		clear	
31	Flinders Hwy - Mt Stuart Road	5135250		Stay Bollard	7.2	7.7	8.4			2A	6.6 0	LV		FALSE		clear on right	same photo as above
32	Flinders Hwy Brunei St	51351361		LV 95ABC	8.5	7.7	7.6		38°	2A	6.6 0.23(INS)	LV		FALSE		clear on left.	
33	Flinders Hwy Bougainville St	5136035		HV Mains	9.5	9.3	9.3		38°	2A	6.6 11	HV		FALSE		clear	
34	Flinders Hwy - Stoney Ck			Bridge-Barrier-Barrier	800		800			2A	6.6 N/A	N/A		N/A			
35	Flinders Hwy	5117024		HV Mains	8	7.4	7.5		38°	2A	6.6 11	HV		TRUE		as per WR1869120 scope - Raise(replace) pole 5117024	
36	Flinders Hwy - Ampol- Kieran St			Traffic Light outreach arm	5.47		5.66			2A	6.6 N/A	N/A		N/A		Clear through centre/right	
37	Flinders Hwy Truck stop Ampol			Traffic Light outreach arm	5.61		5.73			2A	6.6 N/A	N/A		N/A		Clear through centre/right	same photo as above
38	Flinders Hwy Pats Rd	5143990		Transmission	11.5	11.3	11.3		37°	2A	6.6 66	HV		FALSE		Clear	
39	Flinders Hwy Pats Rd	10401381		HV Mains	9.6	9.5	9.45		37°	2A	6.6 11	HV		FALSE		clear	
40	Flinders Hwy Pats Rd	5117015		HV Mains	8.7	8.5	8.4		37°	2A	6.6 11	HV		FALSE		clear	
41	Flinders Hwy	5125835		HV Mains	9.1	8.9	8.9		37c	2A	6.6 11	HV		FALSE		clear	
42	Flinders Hwy - Stuart Ck			Bridge-Barrier-Barrier	800		800			2A	6.6 N/A	N/A		N/A			
43	Flinders Hwy	1265TR1066		Transmission	15	15	15		37c	2A	6.6 132	HV		FALSE		clear	
44	Flinders Hwy - H R Mayston Bridge			Railway Barrier-Barrier	800		800			2A	6.6 N/A	N/A		N/A			

No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset			Ac	Temp	Route #	Highest Load(m)	Voltage(kV)	LV or HV	Confli		Remark	Pictures
Item No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	L	M	R		Temp (°C)			Voltage(kV)		Conflict?		Remark/scope	
45	Flinders Hwy	5125987		HV Mains	13.8	13.7	13.6		37°	2A	6.6	11	HV	FALSE		clear	
46	Flinders Hwy - Leewood Rd	5185122		HV Mains	9.6	9.6	9.8		37°	2A	6.6	11	HV	FALSE		clear	
47	Flinders Hwy #999	5125951		HV Mains	8.5	8.7	9		37°	2A	6.6	11	HV	FALSE		clear, although there is scope listed against this item in WR1869120 to raise 5125951. and measurements approx 1m low er	
48	Flinders Hwy #1051	5125942		HV Mains	7.2	7.2	8		38°	2A	6.6	11	HV	TRUE		raise pole 5125942. this conflict is not present in WR1869120 scope.	
49	Flinders Hwy	5125937		HV Mains	7.5	7.1	6.9		38°	2A	6.6	11	HV	TRUE		raise pole 5125937 as per WR1869120 scope	
50	Flinders Hwy - Oak Valley	5125931		HV Mains	7.9	7.7	7.8		38°	2A	6.6	11+66	HV	FALSE		new midspan pole as per WR1869120 scope	
51	Flinders Hwy - Oak Valley	5125932		LV Streetlight Service	8.6	8	7.6		38°	2A	6.6	0.23(INS)	LV	FALSE		clear with insulation verified	same photo as above
52	Flinders Hwy - Booth Rd	5125926		HV Mains	7.4	7.4	7.7		38°	2A	6.6	11	HV	TRUE		re-tension as per WR1869120 scope	
53	Flinders Hwy	5006933		HV Mains	8.5	8.2	8.5		38°	2A	6.6	11	HV	FALSE		clear	
54	Flinders Hwy - Anthill Ck			Bridge Barrier-Barrier	800		800			2A	6.6	N/A	N/A	N/A			
55	Flinders Hwy - Stonehouse Ck			Bridge Barrier-Barrier	800		800			2A	6.6	N/A	N/A	N/A			
56	Flinders Hwy	5006894		Stay Bollard	10.4	9.4	9.4			2A	6.6	0	LV	FALSE		clear	
57	Flinders Hwy - Hocking Rd	5127107		Swer	7.4	7.3	7.5		38°	2A	6.6	19.1	HV	TRUE		re-tension as per WR1869120 scope	
58	Flinders Hwy - Toonpan Lagoon			Bridge Barrier-Barrier	800		800			2A	6.6	N/A	N/A	N/A			

No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset			Ac	Temp	Route #	Highest Load(m)	Voltage(kV)	LV or HV	Confli		Remark	Pictures
Item No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	L	M	R		Temp (°C)			Voltage(kV)		Conflict?		Remark/scope	
59	Flinders Hwy	12133790874		Transmission	20	20	20		38°	2A	6.6	275	HV	FALSE		clear	
60	Flinders Hwy	12133795533		Transmission	20	20	20		38°	2A	6.6	275	HV	FALSE		clear	same photo as above
61	Flinders Hwy - Field Road	5004506		Transmission	8.6	8.1	8.2		38°	2A	6.6	66	HV	FALSE		as per WR1869120 scope, raise (replace) 5004506 and change to horizontal	
62	Flinders Hwy	2102370		HV Mains	7.8	7.7	7.9		35°	2A	6.6	11	HV	FALSE		as per WR1869120 scope, raise (extend) one or both poles	
63	Flinders Hwy	2102378		HV Mains	7.6	7.2	7		35°	2A	6.6	11	HV	TRUE		raise (extend) both poles 2102377 / 2102378. Measurement missingf from WR1869120	
64	Flinders Hwy - Wood Stock Giru	2102378		HV Mains	7.9	7.7	7.8		35°	2A	6.6	11	HV	FALSE		as per WR1869120 scope, raise(replace) pole 5245972	
65	Flinders Hwy Woodstock Intersection	2102366		HV Mains	9.6	96	9.6		35°	2A	6.6	11	HV	FALSE		clear	
66	Flinders Hwy #3597	2126735		HV Mains	9.4	9.6	10		35°	2A	6.6	11	HV	FALSE		clear	
67	Flinders Hwy Truck pads	5075199		Transmission	7.6	7.4	7.4		35°	2A	6.6	66	HV	TRUE		as per WR1869120 scope, raise(replace) both poles, change conductor orientation, add stays	
68	Flinders Hwy			Truck Parking Bay						2A	6.6	N/A	N/A	N/A			
69	Flinders Hwy #4073 Landsdown Research Stn	5005545		HV Mains	9.1	9.1	9.3			2A	6.6	11	HV	FALSE		clear	
70	Flinders Hwy - Double Barrel Ck			Bridge Barrier-Barrier	800		800			2A	6.6	N/A	N/A	N/A			
71	Flinders Hwy	L0155794673		Transmission	17	17	17			2A	6.6	275	HV	FALSE		clear	
72	Flinders Hwy - Calcium Rd	2143384		HV Mains	9.1	8.9	9			2A	6.6	11	HV	FALSE		clear	
73	Flinders Hwy - Deadmans Gully			Bridge Barrier-Barrier	800		800			2A	6.6	N/A	N/A	N/A			
74	Flinders Hwy - Caltex service station									2A	6.6	N/A	N/A	N/A			

No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset			Ac	Temp	Route #	Highest Load(m)	Voltage(kV)	LV or HV	Confli		Remark	Pictures
Item No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	L	M	R		Temp (°C)			Voltage(kV)		Confli ct?		Remark/scope	
75	Flinders Hwy #4935	5072196		Transmission	11.1	10.8	10.6		38°	2A	6.6	66	HV	FALSE		clear	
76	Flinders Hwy	5132924	752	HV Mains	9	9.2	9.4		38°	2A	6.6	11	HV	FALSE		clear	
77	Flinders Hwy - Reid River			Bridge Barrier-Barrier	800		800			2A	6.6	N/A	N/A	N/A			
78	Flinders Hwy Charters Towers Sign	5001431		HV Mains	7.3	7.2	7.3		38°	2A	6.6	11	HV	TRUE		as per WR1869120 scope, raise both poles	
79	Flinders Hwy - Telstra Hut#5313	5001430		LV Service	6.9	6.6	6.5		38°	2A	6.6	0.4(INS)	LV	TRUE		as per WR1869120 scope, raise pole 5001433	
80	Flinders Hwy Reid River	5001449		LV Open Mains	8.4	7.9	7.4		38°	2A	6.6	0.4	LV	TRUE		as per WR1869120 scope, raise pole 5001433 & 5001449	
81	Flinders Hwy - Ellenvale Rd	2143580		HV Mains	9.7	9.7	9.7		38°	2A	6.6	11	HV	FALSE		clear	
82	Flinders Hwy		T60		#N/A	#N/A	#N/A			2A	6.6		LV	N/A			
83	Flinders Hwy - Cardington Rd	5072274		Transmission	8.5	8.6	8.8		38°	2A	6.6	66	HV	FALSE		clear	
84	Flinders Hwy - Oakey Ck		T70	Bridge Barrier-Barrier	800		800			2A	6.6	N/A	N/A	N/A			
85	Flinders Hwy - Seven Mile Ck			Bridge Barrier-Barrier	800		800			2A	6.6	N/A	N/A	N/A			
86	Flinders Hwy - Eight Mile Ck			Bridge Barrier-Barrier	800		800			2A	6.6	N/A	N/A	N/A			
87	Flinders Hwy - Haughton River			Bridge Barrier-Barrier	800		800			2A	6.6	N/A	N/A	N/A			
88	Flinders Hwy #7553	5239790		Sweir	10.1	10.2	10.5			2A	6.6	19.1	HV	FALSE		clear	
89	Flinders Hwy	5072247		Transmission	9.4	9.1	10			2A	6.6	66	HV	FALSE		clear	
90	Flinders Hwy	5239777		Sweir	12.1	11.7	11.4		38°	2A	6.6	19.1	HV	FALSE		clear	
91	Flinders Hwy - Burdekin River Falls Turn OFF		T80	Railway Barrier-Barrier	1400		1400		38°	2A	6.6	N/A	N/A	N/A			

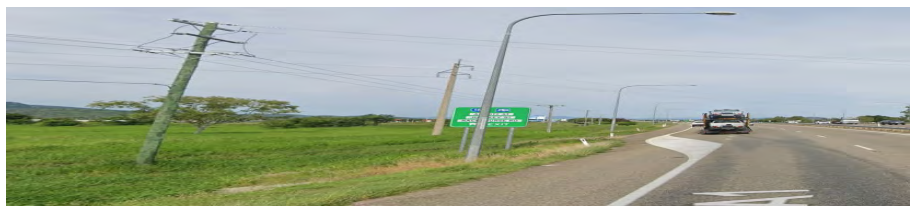
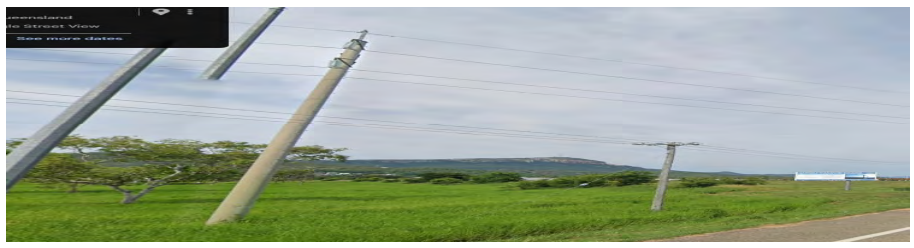
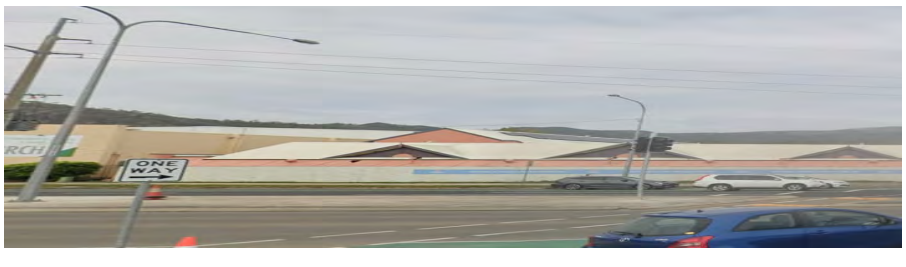
No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset			Ac	Temp	Route #	Highest Load(m)	Voltage(kV)	LV or HV	Confli		Remark	Pictures
Item No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	L	M	R		Temp (°C)			Voltage(kV)		Conflict?		Remark/scope	
92	Flinders Hwy Sub Station, Mingella Rd	11290320		HV Mains	9.5	9.1	8.4			2A	6.6	11	HV	FALSE		clear	
93	Flinders Hwy - Sub Station, Mingella Rd	5222141		Swer	10.6	10.3	10.1		37°	2A	6.6	19.1	HV	FALSE		clear	
94	Flinders Hwy			Truck Parking Bay						2A	6.6	N/A	N/A	N/A			
95	Flinders Hwy #8283	5221605		Swer	7.8	8.2	8.8		37°	2A	6.6	19.1	HV	FALSE		as per WR1869120 scope, install mid span pole	
96	Flinders Hwy	5072159		Transmission	7.5	7.2	8.1		35°	2A	6.6	66	HV	TRUE		per WR1869120 reokace 5048160	
97	Flinders Hwy - Ten Mile Ck			Bridge Barrier-Barrier	800		800			2A	6.6	N/A	N/A	N/A			
98	Flinders Hwy #10133 - Radio Tower	2045934		HV Mains	8.7	8.5	8.6			2A	6.6	11	HV	FALSE		WR1869120 indicates scope to replace 2045934 despite clear	
99	Flinders Hwy Bivouac Junction	2051849	T110	HV Mains	7.3	7.9	8.2		36°	2A	6.6	11	HV	TRUE		per WR1869120 scope install mid span pole.	
100	Flinders Hwy - Macrossan Bridge - Burdekin River			Bridge Barrier-Barrier	800		800			2A	6.6	N/A	N/A	N/A			
101	Flinders Hwy	2045891		HV Mains	8	7.7	7.7		37°	2A	6.6	11	HV	FALSE			
102	Seltheim				#N/A	#N/A	#N/A			2A	6.6		LV	N/A			
103	Flinders Hwy	2051815		HV Mains	8.4	8.4	8.8		37°	2A	6.6	11	HV	FALSE		clear	
104	Flinders Hwy - Ampol, servo stn Moorelands Rd	5072145		LV 95ABC	8.6	8.1	8.2		38°	2A	6.6	0.4(ins)	LV	FALSE		as per WR1869120 scope, raise 10555040	
105	Flinders Hwy	5072144		LV Open Mains	7.6	7.3	7.4		38°	2A	6.6	0.23	LV	TRUE		as per WR1869120, replace 2051640	
106	Flinders Hwy #10957	2045889		HV Mains	8.1	7.8	8		38°	2A	6.6	11	HV	FALSE		as per WR1869120, replace both poles	
107	Flinders Hwy	5063744		Transmission	7.7	7.4	7.5		38°	2A	6.6	66	HV	TRUE		raise (replace) 5063744	

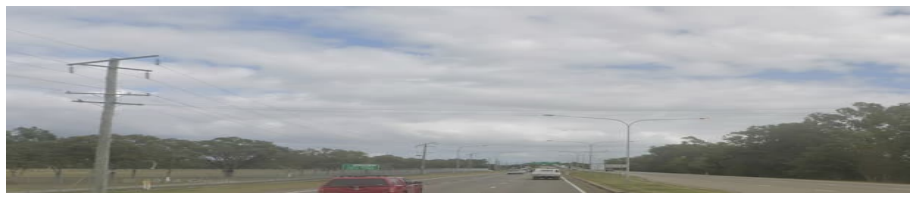
No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset			Ac	Temp	Route #	Highest Load(m)	Voltage(kV)	LV or HV	Confli		Remark	Pictures
Item No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	L	M	R		Temp (°C)			Voltage(kV)		Confli ct?		Remark/scope	
108	Flinders Hwy - Moonlight Ck	2051798		HV Mains	8.2	8	8.1		38°	2A	6.6 11		HV	FALSE		as per 1869120 replace both poles	
109	Flinders Hwy - Moonlight Ck			Bridge Barrier-Barrier	800		800			2A	6.6		LV	FALSE			
110	Flinders Hwy - #11451	2051607		HV Mains	7.2	7	6.9		40°	2A	6.6 11		HV	TRUE		as per wr1869120 - replace 2051607 and add midspan pole	
111	Flinders Hwy -11607	2046046	T120	HV Mains	8	7.7	7.5		40°	2A	6.6 11		HV	TRUE		as per wr1869120 - install midspan pole	
112	Flinders Hwy	2068677		HV Mains	10.5	10.3	10.4		40°	2A	6.6 11		HV	FALSE		clear	
113	Flinders Hwy -11801	2068675		HV Mains	8.1	8	8.1		41°	2A	6.6 11		HV	FALSE		as per 1869120 - replace both poles	
114	Flinders Hwy - Serenity Rd	5200266		Transmission	12	11.6	11.6		41°	2A	6.6 132		HV	FALSE		clear	
115	Flinders Hwy #12049 "Toukae"	2068629		HV Mains	9.5	9.4	9.5		41°	2A	6.6 11		HV	FALSE		clear	
116	Flinders Hwy - Gladstone Ck Rd	2068616		HV Mains	8.5	8.3	8.1		41°	2A	6.6 11		HV	FALSE		as per 1869120 - add mid span pole	
117	Flinders Hwy - Gladstone Ck Rd	2068616		HV Mains	9.9	9.7	9.8		41°	2A	6.6 11		HV	FALSE		clear	
118	Flinders Hwy - Motor Cycle Track	2068633		HV Mains	8	7.9	7.8		42°	2A	6.6 11		HV	FALSE		as per WR1869120 - replace both poles	
119	Flinders Hwy - Gladstone Ck			Bridge Barrier-Barrier	800		800			2A	6.6		LV	FALSE			

No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset			Ac	Temp	Route #	Highest Load(m)	Voltage(kV)	LV or HV	Conflict?		Remark	Pictures
Item No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	L	M	R		Temp (°C)			Voltage(kV)				Remark/scope	
120	Flinders Hwy - Beverage Drive	2068782		HV Mains	9.4	9.2	9.2		42°	2A	6.6 11		HV	FALSE		clear	
121	Flinders Hwy - Mosman Ck	2146007		Transmission	9	8.7	9.2		42°	2A	6.6 66		HV	FALSE		clear	
122	Flinders Hwy 80Km sign	5320666	T132	HV Mains	8	8.3	8.6		42°	2A	6.6 11		HV	FALSE		as per wr1869120 - replace 10615841	
123	Flinders Hwy becomes Hacket Street - duplicate of other measurements										#N/A		LV	(Heading)			
124	Hacket st/Wheelers st	2153735		HV Mains	7.2	6.8	6.7		42°		#N/A		N/A	N/A		DUPLICATE - more recent measurements exist	
125	Hacket st/Wheelers st	5335256		OH Stay	6.8	6.9	7.1		42°		#N/A		N/A	N/A		DUPLICATE - more recent measurements exist	
126	Hacket st Ergon sub	5325252		HV Mains	11	8	8		42°		#N/A		N/A	N/A		DUPLICATE - more recent measurements exist	
127	Hacket st School zone	5346168		HV Mains	7.9	6.7	6.2		42°		#N/A		N/A	N/A		DUPLICATE - more recent measurements exist	
128	Hacket st/Hale st	2094556		LV 95ABC	7.2	6.9	7.2		42°		#N/A		N/A	N/A		DUPLICATE - more recent measurements exist	
129	Hacket st #1	2094557		LV Service	7.8	6.8	6.8		42°		#N/A		N/A	N/A		DUPLICATE - more recent measurements exist	
130	Hacket st/Jocky Club	2094555		LV Service	6.5	5.3	5.7		42°		#N/A		N/A	N/A		DUPLICATE - more recent measurements exist	
131	Hacket st/O'Kane st	2094554		LV 95ABC	7.5	7.3	8		42°		#N/A		N/A	N/A		DUPLICATE - more recent measurements exist	

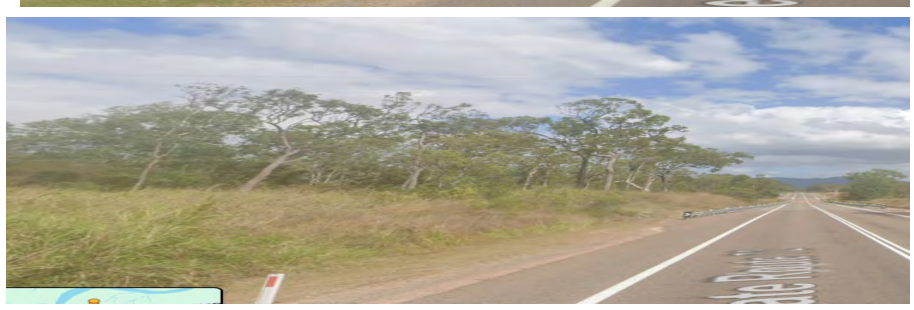
No.	Address / Reference Point	Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset			AC	Temp	Rout e #	Highest Load(m)	Voltage(kV)	LV or HV	Confli ct?	Remark	Pictures
Item No.	Address / Reference Point	Pole #	Kms	Mains Type - Structual Asset	L	M	R		Temp (°C)		)	Voltage(kV)			Remark/scope	
142	Halcket St	20600		LV Swervice	6.3	5.6	5.5	4.C		#N/A		N/A	N/A		CLICK TE : more rocore about Remarks excel	
141	Halcket St #25	20600		LV Swervice	6.9	6.4	6.2	4.C		#N/A		N/A	N/A		CLICK TE : more rocore about Remarks excel	
140	Halcket St	20600		LV Swervice	7.2	6.7	6.7	4.C		#N/A		N/A	N/A		CLICK TE : more rocore about Remarks excel	
139	Halcket St #25	20600		LV Swervice	7.4	7.1	7.2	4.C		#N/A		N/A	N/A		CLICK TE : more rocore about Remarks excel	
138	Halcket St #33	20600		LV Swervice	7.5	7.2	7.3	4.C		#N/A		N/A	N/A		CLICK TE : more rocore about Remarks excel	
137	Halcket St #34	20600		LV Swervice	7.5	7.3	7.4	4.C		#N/A		N/A	N/A		CLICK TE : more rocore about Remarks excel	
136	Halcket St Mcleod St	20600		LV Swervice	7.5	7.1	7.2	4.C		#N/A		N/A	N/A		CLICK TE : more rocore about Remarks excel	
135	Halcket St Clarkson	20600		LV SSAC	6.7	6.8	7.3	4.C		#N/A		N/A	N/A		CLICK TE : more rocore about Remarks excel	
134	Halcket St	20600		LV Swervice	6	6.3	7.5	4.C		#N/A		N/A	N/A		CLICK TE : more rocore about Remarks excel	
133	Halcket St #7 Near Catholic College	20600		LV Swervice	5.8	5.8	6.4	4.C		#N/A		N/A	N/A		CLICK TE : more rocore about Remarks excel	
132	Halcket St #5 Near Catholic College	20600		LV Swervice	6	5.8	6.4	4.C		#N/A		N/A	N/A		CLICK TE : more rocore about Remarks excel	

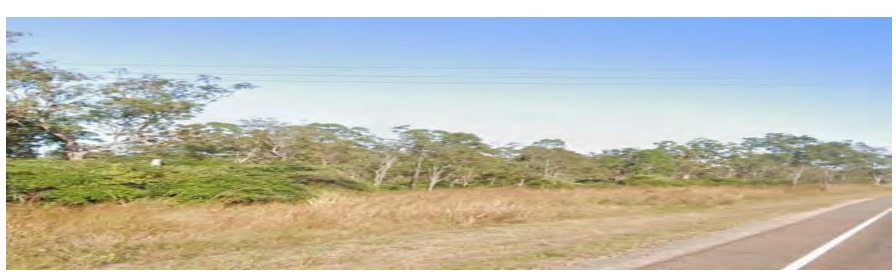
No.	Address / Reference Point	Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset			AC	Temp (°C)	Rout e #	Highest Load(m)	Voltage(kV)	LV or HV	Confli ct?	Remark/scope	Pictures
Item No.	Address / Reference Point	Pole #	Kms	Mains Type - Structual Asset	L	M	R		Temp (°C)	Rout e #	Highest Load(m)	Voltage(kV)	LV or HV	Confli ct?	Remark/scope	Pictures
143	Hatchet St Burdock Park Tyres	10800	HV Mains	8	6.2	6.1	42°		42°	#N/A	N/A	N/A	N/A			
144	Hatchet St Burdock Park Tyres	10800	LV Open Mains	5.5	5.6	6.1	42°		42°	#N/A	N/A	N/A	N/A			
145	Hatchet St	10800	LV Service	6	5.7	6	42°		42°	#N/A	N/A	N/A	N/A			
146	Hatchet St Dalgety	10800	LV Service	7.4	6.9	6.9	42°		42°	#N/A	N/A	N/A	N/A			
147	Hatchet St 457	10800	LV Service	6.7	6.7	7.1	42°		42°	#N/A	N/A	N/A	N/A			
148	Hatchet St Pyrex Kitchen Ware	10800	HV Mains	8	6.2	6	42°		42°	#N/A	N/A	N/A	N/A			
149	Hatchet St 453	10800	LV Service	6	5.7	6	42°		42°	#N/A	N/A	N/A	N/A			
150	Hatchet St 471	10800	LV Service	6	5.8	6	42°		42°	#N/A	N/A	N/A	N/A			
151	Hatchet St 477	10800	LV Service	6.4	6	6.1	42°		42°	#N/A	N/A	N/A	N/A			
152	Hatchet St 472	10800	LV Service	5.8	5.7	6	42°		42°	#N/A	N/A	N/A	N/A			
153	Hatchet St Pyrex Kitchen Ware	10800	LV Open Mains	6	6	6.2	42°		42°	#N/A	N/A	N/A	N/A			

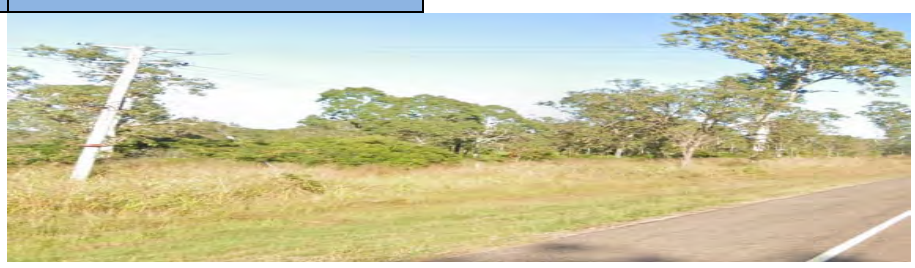
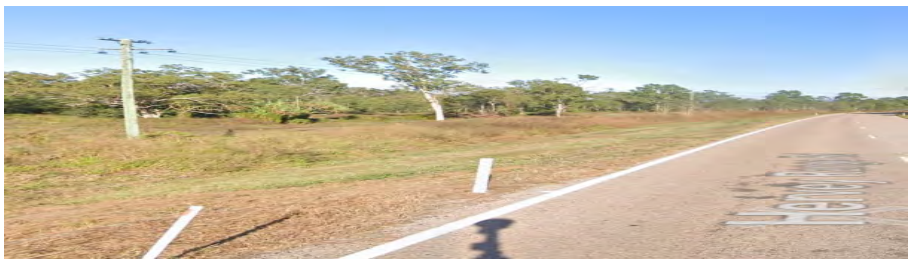
No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset			Ac	Temp	Route #	Highest Load(m)	Voltage(kV)	LV or HV	Confli		Remark	
Item No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	L	M	R		Temp (°C)			Voltage(kV)		Conflict?		Remark/scope	Pictures
154	Hacket st #85	206586		LV Service	7	6.5	6.5		43		#N/A		N/A	N/A		LOCATE - more recent measurements exist	
155	Hacket st #89	504035		LV Service	6.3	5.8	6		43		#N/A		N/A	N/A		LOCATE - more recent measurements exist	
156	Hacket st #93	206580		LV Service	6	5.7	6.2		43		#N/A		N/A	N/A		LOCATE - more recent measurements exist	
157	Hacket st Charters Towers Motel	206908		LV 954BC	6.5	6	6.5		43		#N/A		N/A	N/A		LOCATE - more recent measurements exist	
158	Hacket st Charters Towers Motel	513057		LV Service	6.7	6.8	8		43		#N/A		N/A	N/A		LOCATE - more recent measurements exist	
159	Hacket st			Traffic Island							#N/A		LV	N/A			
160	Bruce Hwy / Ring			Intersection							#N/A		LV	(Heading)			
161	Bruce Hwy	2102726		HV Mains		8.2			Temp 3	2B.1	6.8	11	HV	FALSE	photo is opposite direction of travel Maginally clear. Raise 2102726(2102729?) if required		
162	Bruce Hwy	2063637		HV Mains		9.8			Temp 3	2B.1	6.8	11	HV	FALSE	clear		
163	Bruce Hwy 66KV	10528800		Transmission		11.8			Temp 3	2B.1	6.8	66	HV	FALSE	clear		
164	Bruce Hwy Entrance to Race Course	5125487		HV Mains		8.6			Temp 3	2B.1	6.8	11	HV	FALSE	clear		
165	Bruce Hwy Entrance to Race Course			Traffic Light outreach arm	6.5					2B.1	6.8 N/A	N/A	N/A	N/A	travel in right lanes		
166	Bruce Hwy Stuart Drive 66KV	5001607		HV Mains	11	11	11		Temp 3	2B.1	6.8	66	HV	FALSE	clear		
167	Bruce Hwy			Traffic Light outreach arm		5.72				2B.1	6.8 N/A	N/A	N/A	N/A	travel in right lane	same photo as above	

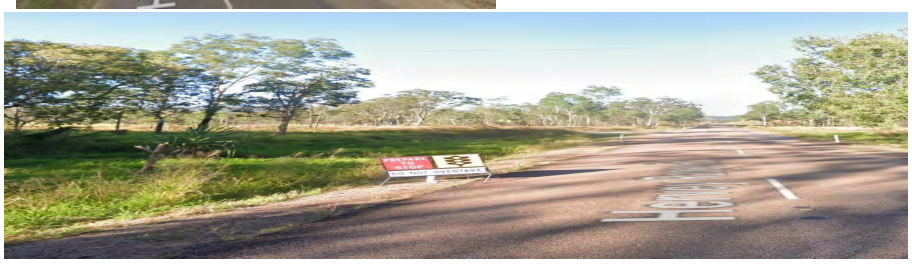
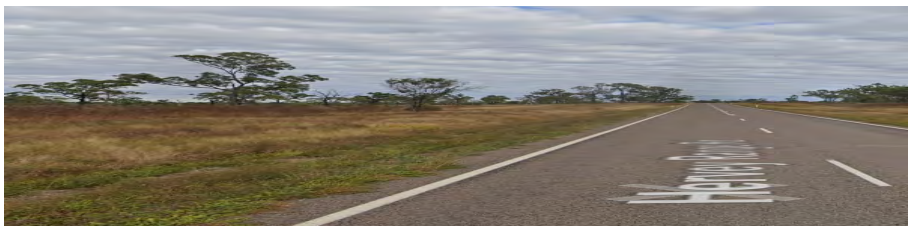
No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset			Ac	Temp	Route #	Highest Load(m)	Voltage(kV)	LV or HV	Conflict?		Remark	Pictures
Item No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	L	M	R		Temp (°C)			Voltage(kV)				Remark/scope	
168	Bruce Hwy Cluden Drive 66KV	5001612		Transmission	10	10	10		Temp 3	2B.1	6.8	66	HV	FALSE		clear	
169	Bruce Hwy Melyon Black Drive			Traffic Light outreach arm		5.96				2B.1	6.8	N/A	N/A	N/A		Travel right lanes	
170	Bruce Hwy	5259092		HV Mains	6.2	6.3	6.3	LIFT	Temp 3	2B.1	6.8	11	HV	TRUE		Make gantry with 1 mid span pole	
171	Bruce Hwy	5259100		HV Mains	8.6	7.6	7.6	LIFT	Temp 3	2B.1	6.8	11	HV	TRUE		5259097? In LUAL travel in left lane? Otherwise, add mid span pole adjacent 5136824	
172	Bruce Hwy			O-H Gantry (signs)	5.8	5.8	5.8	LIFT		2B.1	6.8	N/A	N/A	N/A		lifting sign as an option - would require a new foundation and at the least - 1.6+m of additional legs. TMR engagement required on sign effectivesnes, strucutral for sign. Road outage... Alternatively, might be able to use the verge to circumvent it. Some civil works may be required on the shoulder for bearing capacity. Windlab have a designed solution already	
173	Bruce Hwy	10066097		Comms Cable	7.9	7.7	7.4	LIFT	Temp 3	2B.1	6.8	0+11+66	HV	FALSE		11kV is another ~1m above.. should be ok. Confirm rules on assets other than power?	
174	Bruce Hwy			O-H Bridge	5.5	5.4				2B.1	6.8	N/A	N/A	N/A		Don't take this route...	
175	Bruce Hwy			VMS Board	6.7					2B.1	6.8	N/A	N/A	N/A		couldn't locate - temporary? If not, assume it can be circumvented by RH lane	
176	Bruce Hwy 66KV	5201905		Transmission	9.3	9.2	9		Temp 3	2B.1	6.8	66	HV	FALSE		clear	
177	Bruce Hwy 132KV	1614STR8187		Transmission	14	14	14		Temp 3	2B.1	6.8	132	HV	FALSE		clear	
178	Bruce Hwy 66KV	5201838		Transmission	8.2	8.2	8.2		Temp 3	2B.1	6.8	66	HV	FALSE		not clear per ESR 2013 S2P2D2 for vehicles ≥66kV. replace 5201838 with taller pole	

No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset			Ac	Temp	Route #	Highest Load(m)	Voltage(kV)	LV or HV	Confli		Remark	
Item No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	L	M	R		Temp (°C)			Voltage(kV)		Confli ct?		Remark/scope	Pictures
179					#N/A	#N/A	#N/A			2B.1	6.8		LV	N/A			
180	Range Road				#N/A	#N/A	#N/A			2B.1	6.8		LV	N/A			
181	Hervey Range Road			Traffic Lights						2B.1	6.8	N/A	N/A	N/A			
182	Hervey Range Road				#N/A	#N/A	#N/A			2B.1	6.8		LV	N/A			
183	Hervey Range Road HRR Bedrock	5014640		HV Mains	7.1	6.9	6.75	LIFT	Temp 3	2B.1	6.8	11+66	HV	TRUE		intended contraflow on median/easybound lanes cut shoulder (lower RL) and/or 11kV make buried. 66kv height? Statutory distance above? Install mid span pole to raise 11 +66, or mid span pole off 66kV centreline (west) to raise 11kV only. Greg clarify if measurements are taken on west bound side of road only or across both directions	
184	Hervey Range Road #811 Refuse Centre	5207030		LV Service	6.3	6.3	6.4	LIFT	Temp 3	2B.1	6.8	0.23(INS)	LV	TRUE		Lift/Disconnect - not powering/staying anything? missing from LUAL database.	
185	Hervey Range Road Rangewood Drive	5204005		HV Mains	6.6	6.9	7.3	LIFT	Temp 3	2B.1	6.8	11	HV	TRUE		raise 5204005	
186	Hervey Range Road Alice River	5207171		HV Mains	9	9.5	9.8		Temp 3	2B.1	6.8	11	HV	FALSE		clear is this the same? This has different pick IDs and the height looks unrealistic. If it's not and is a conflict - raise/buoy assuming this may have since been removed?	
187	Hervey Range Road Alice River	5207171		HV Mains	9	9.5	9.8		Temp 3	2B.1	6.8	11	HV	FALSE		clear	
188	Hervey Range Road 132KV	1643STR4249		Transmission		18.9			Temp 3	2B.1	6.8	132	HV	FALSE		clear	
189	Hervey Range Road	2102785		HV Mains	9.4	9.4	9.4		Temp 3	2B.1	6.8	11	HV	FALSE		clear	
190	Hervey Range Road Black River Road	2102796		HV Mains	8.5	8.5	8.7		Temp 3	2B.1	6.8	11	HV	FALSE		clear	





No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset			Ac	Temp	Route #	Highest Load(m)	Voltage(kV)	LV or HV	Conflict?	Remark	Pictures
Item No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	L	M	R		Temp (°C)			Voltage(kV)			Remark/scope	
191	Hervey Range Road Black River Road	2102751		HV Mains	8.3	7.8	7.6	LIFT	Temp 3	2B.1	6.8	11 HV		TRUE	travel left/shoulder. If required raise 2102751	
192	Hervey Range Road #1783	2102755		HV Mains	7.5	7.5	7.7	LIFT	Temp 3	2B.1	6.8	11 HV		TRUE	missing from LIAL and google maps. Assuming new property pole across road. Raise pole northern side of road.	
193	Hervey Range Road #1836	2102524		HV Mains	7.9	7.9	7.9		Temp 3	2B.1	6.8	11 HV		FALSE	raise poles 2102835, 2102524	
194	Hervey Range Road	2102758		HV Mains	7.7	7.5	7.4	LIFT	Temp 3	2B.1	6.8	11 HV		TRUE	ergon raise/bury. Intermediate pole to north?	
195	Hervey Range Road	2102527		Swer	10.6	10.6	10.6		Temp 3	2B.1	6.8	19.1 HV		FALSE	clear	
196	Hervey Range Road	2102527		HV Mains	8.3	8.1	7.8	LIFT	Temp 3	2B.1	6.8	11 HV		FALSE	travel on left. If required, raise 2102527	
197	Hervey Range Road #1943	2102529		HV Mains	8	8.3	8.7		Temp 3	2B.1	6.8	11+19.1 HV		FALSE	travel on left. If required, raise 2102529 or add midspan pole on south side of road	
198	Hervey Range Road Pet Resort	2102540		LV 95ABC	6.1	6.1	6.1	LIFT	Temp 3	2B.1	6.8	0.23(INS) LV		TRUE	no slack to lift. Raise both poles.	
199	Hervey Range Road #2341	2102848		Swer	9.8	9.6	9.7		Temp 3	2B.1	6.8	19.1 HV		FALSE	clear	
200	Hervey Range Road Pads				#N/A	#N/A	#N/A			2B.1	6.8	LV		N/A		
201	Hervey Range Road Townsville Marksman Rifle Club	5074811		Transmission		12.3			132KV	2B.1	6.8	132 HV		FALSE		

No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset			Ac	Temp	Route #	Highest Load(m)	Voltage(kV)	LV or HV	Confli		Remark	
Item No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	L	M	R		Temp (°C)			Voltage(kV)		Confli ct?		Remark/scope	Pictures
202	Hervey Range Road Rifle Club	1220STR7860		Transmission		15			275KV	2B.1	6.8	275	HV	FALSE		clear	
203	Hervey Range Road Hervey Range Shooting Complex	2102775		HV Mains	9	8.9	9			2B.1	6.8	11	HV	FALSE		clear	
204	herveys range road pipers lookout	5043978		SWER	0	0	0			2B.1	6.8	19.1	HV	TRUE		no elevation info - visually looks quite high - 10mp Deep - confirm existence - google street view link - imagery opposite direction of travel for clarity	
205	Hervey Range Road Camp Gedling	5043986		Swer	9.5	9.4	9.5		Top of	2B.1	6.8	19.1	HV	FALSE		clear	
206	Hervey Range Road #3353	5047128		Swer	6.9	6.8	6.9	LIFT	Temp 3	2B.1	6.8	19.1	HV	TRUE		mid span pole on west side	
207	Hervey Range Road Before Edward Road	5050480		Swer	8.4	8.2	8.3		Temp 3	2B.1	6.8	19.1	HV	FALSE		marginally clear(245m lateral span). If required - midspan pole west side of road.	
208	Hervey Range Road "Speed Creek"	2107014		HV Mains	11.8	11.7	11.2		Temp 3	2B.1	6.8	11	HV	FALSE		clear	
209	Hervey Range Road Range Control	2107017		HV Mains	9.1	9.2	9.3		Temp 3	2B.1	6.8	11	HV	FALSE		clear. Corrected - previously 2107013 (LIAL incorrect)	
210	Hervey Range Road	5200777		Swer	7.8	7.7	7.8	LIFT	Temp 3	2B.1	6.8	19.1	HV	TRUE		Ergon raise - mid span pole?	
211	Hervey Range Road Laroona Sectionalizer	5200812		Swer	9.9	9.9	9.9		Temp 3	2B.1	6.8	19.1	HV	FALSE		clear	

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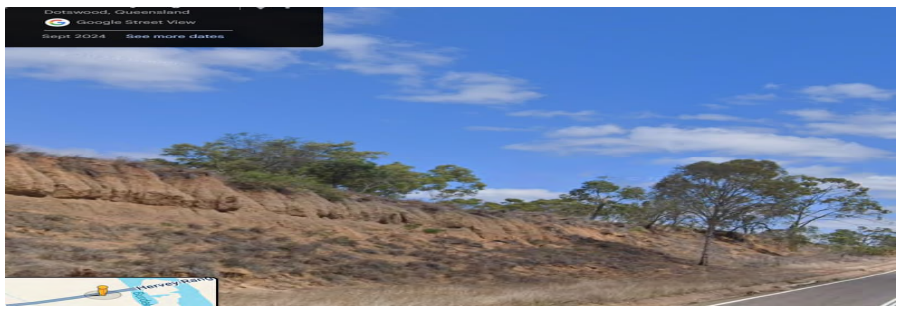
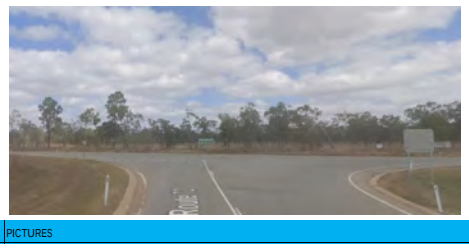
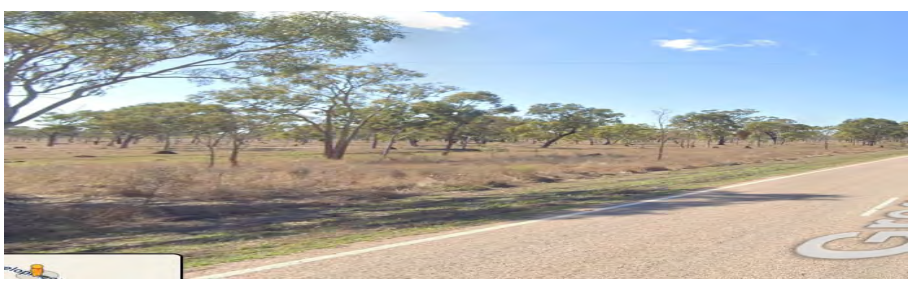
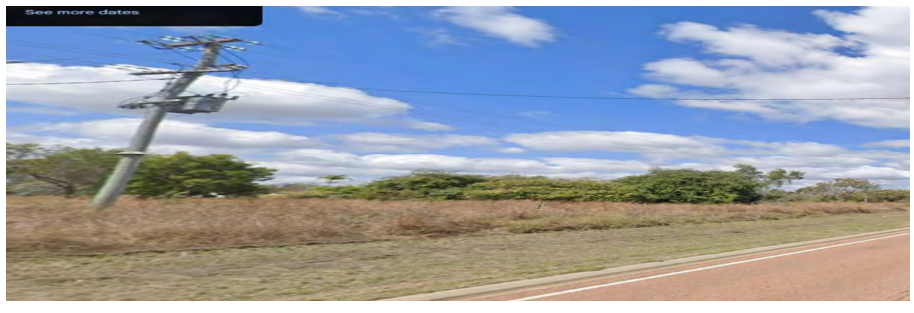
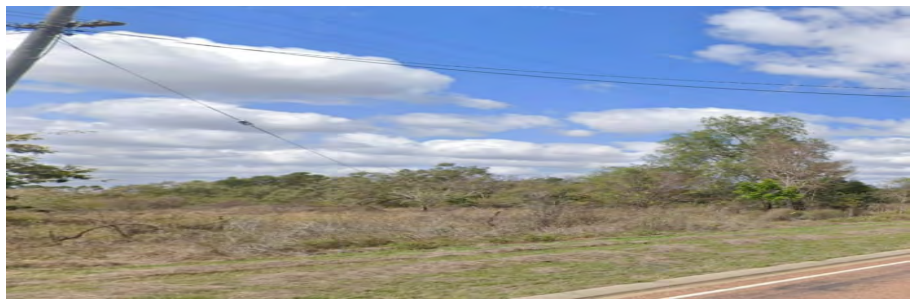
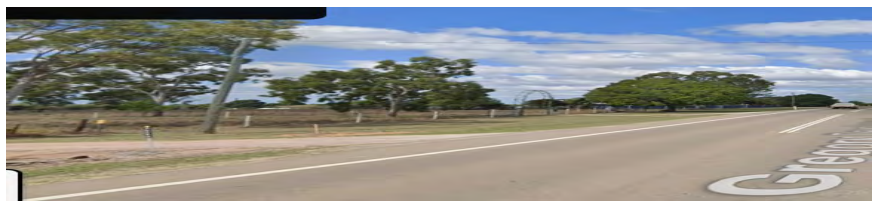
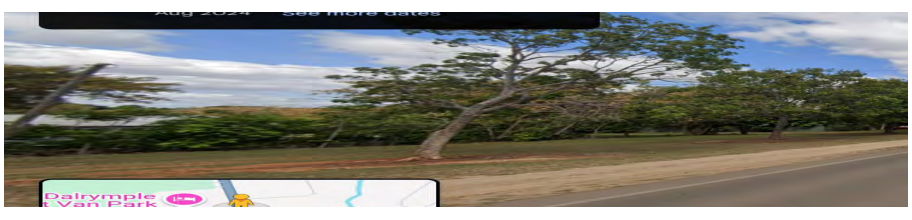
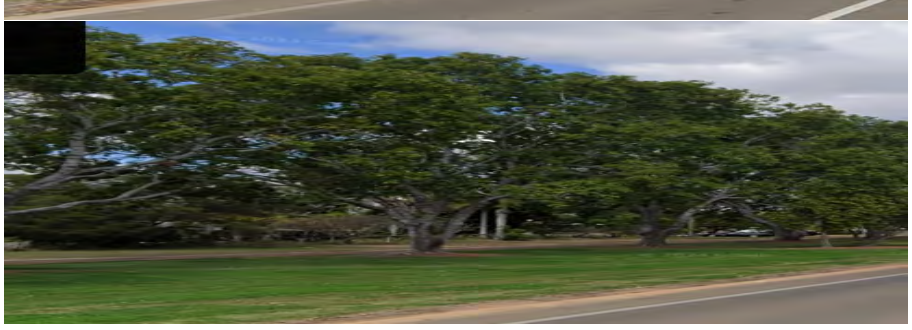
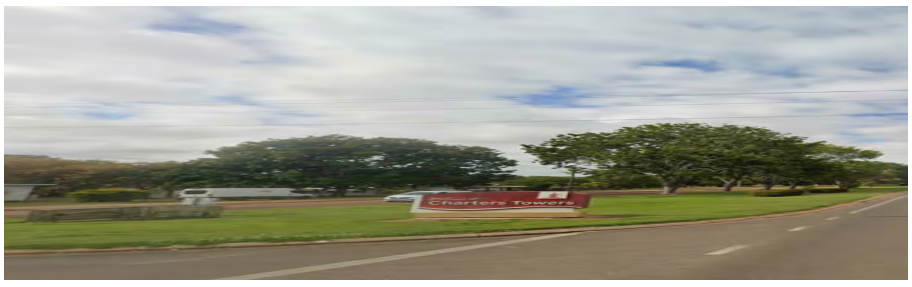
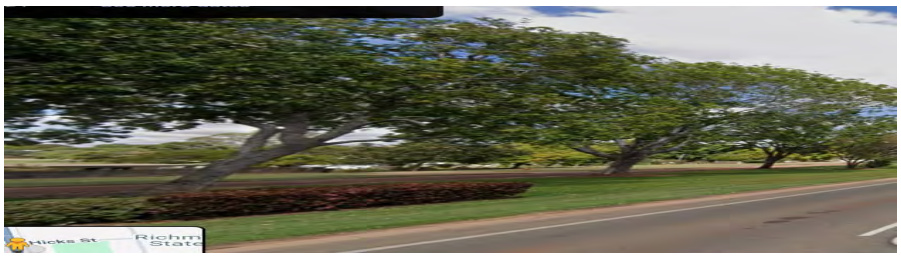
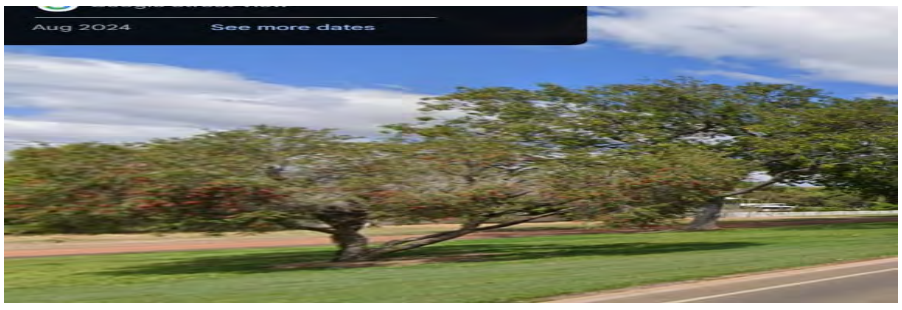
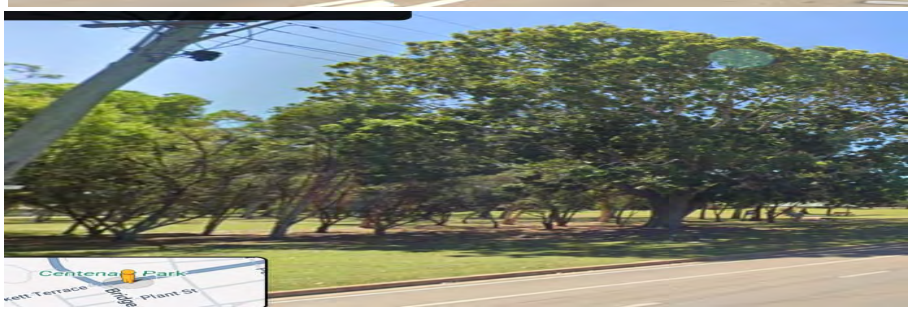
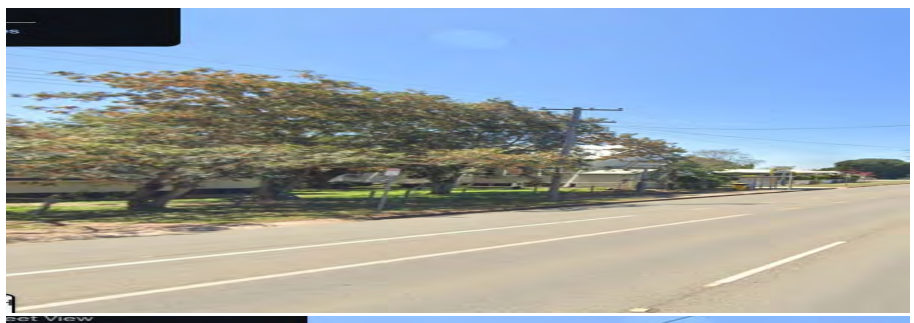
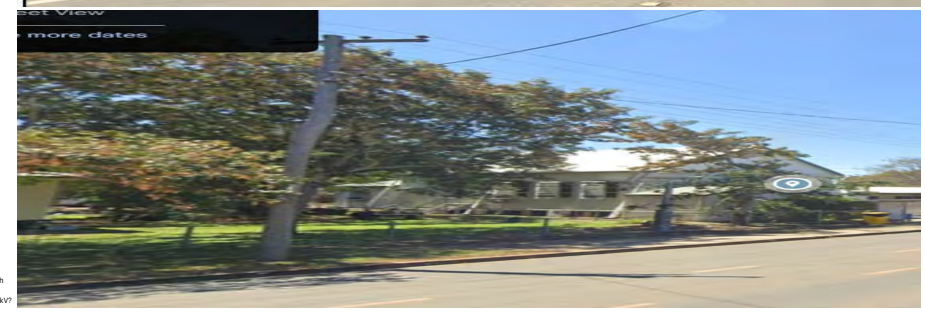
Item No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	L	M	R		Temp (°C)			Voltage(kV)		Confli ct?		Remark/scope	Pictures
212	Hervey Range Road	5164384		Swer	7.9	7.8	7.9	LIFT	Temp 3	2B.1	6.8	19.1	HV	FALSE		ergon raise - mid span pole south side	
213	Bridge			Bridge						2B.1	6.8 N/A		N/A	N/A			
214	Hervey Range Road Starlight Station	5164392		Swer	7.8	7.7	7.9	LIFT	Temp 3	2B.1	6.8	19.1	HV	TRUE		ergon raise , or isolate/provide backup power - serves single property pole	
215	Hervey Range Road	5072649		Swer	8.2	8.1	8.2		Temp 3	2B.1	6.8	19.1	HV	FALSE		marginally clear. If requiredе, install mid span pole on north side of road.	
216	Charters Towers										#N/A		LV	(Heading)			PICTURES
217	Gregory Dev. Road Bassalt River			Bridge						2B.2	6.8 N/A		N/A	N/A			
218	Gregory Dev. Road	5135537		Swer	9	8.8	8.6		Temp 3	2B.2	6.8	19.1	HV	FALSE		clear	
219	Gregory Dev. Road Ergon Recloser	6039744		Swer	8.4	8.3	8.4		Temp 3	2B.2	6.8	19.1	HV	FALSE		clear	
220	Gregory Dev. Road #42364	5164225		Swer	8.2	8.2	8.4		Temp 3	2B.2	6.8	19.1	HV	FALSE		marginally clear. If required, install mid span pole.	
221	Gregory Dev. Road #41874 Comms Tower	5157426		Swer	6.5	6.4	6.5	LIFT	Temp 3	2B.2	6.8	19.1	HV	TRUE		ergon raise? Mid span pole north of road	
222	Gregory Dev. Road Wenaree Stn #40912	6071407		Swer	8.9	9	9.1		Temp 3	2B.2	6.8	19.1	HV	FALSE		clear	
223	Gregory Dev. Road Fletcher Crk camp site	5148585		Swer	7	7	7.2	LIFT	Temp 3	2B.2	6.8	19.1	HV	TRUE		ergon raise with midspan pole?, or isolate and lift?	
224	Gregory Dev. Road				#N/A	#N/A	#N/A			2B.2	6.8		LV	N/A			

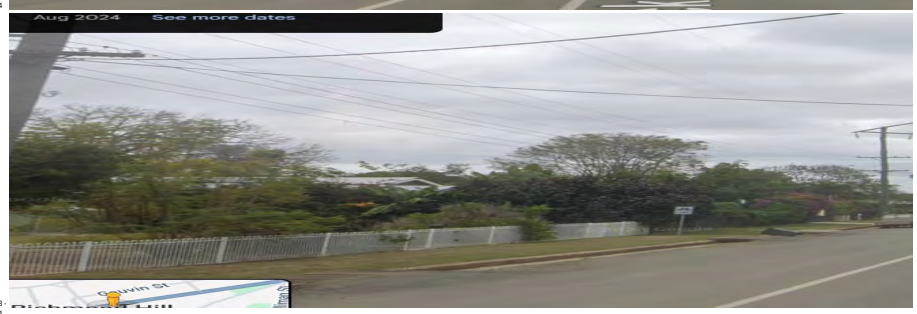
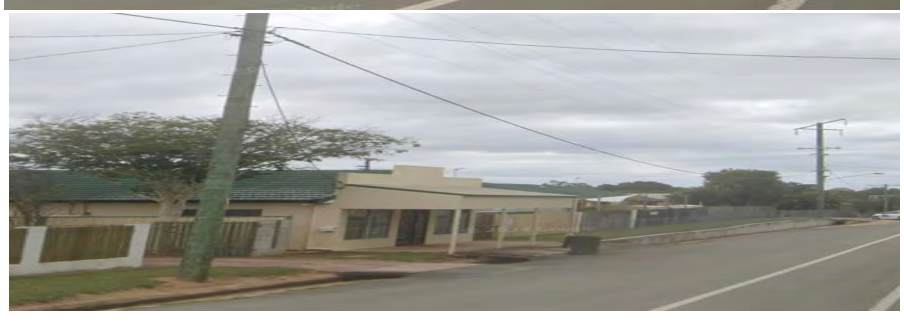
No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset			Ac	Temp	Route #	Highest Load(m)	Voltage(kV)	LV or HV	Confli		Remark	
Item No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	L	M	R		Temp (°C)			Voltage(kV)		Confli ct?		Remark/scope	Pictures
225	Gregory Dev. Road Big End #39077	5148605		Swer	9.2	9.2	9.3		Temp 3	2B.2	6.8	19.1	HV	FALSE		clear	
226	Gregory Dev. Road G & E Long #38968	5148592		Swer	9.8	9.7	9.6		Temp 3	2B.2	6.8	19.1	HV	FALSE		clear. Discrepancy to LUAL numbers	
227	Gregory Dev. Road #38896	5148595		Swer	9.7	9.8	10.2		Temp 3	2B.2	6.8	19.1	HV	FALSE		clear	
228	Gregory Dev. Road Fletcherview #38601	5148580		Swer	9.1	9.1	9.1		Temp 3	2B.2	6.8	19.1	HV	FALSE		clear	
229	Gregory Dev. Road	2046312		Swer	8.4	8	8		Temp 3	2B.2	6.8	19.1	HV	FALSE		travel in left of lane	
230	Gregory Dev. Road Brumby #36883	2052807		HV Mains	8.6	8.1	7.9		Temp 3	2B.2	6.8	11	HV	FALSE		travel in left of lane. if required, additional pole on west side of road.	
231	Gregory Dev. Road #36763	2052771		HV Mains	7.6	7.5	7.6	LIFT	Temp 3	2B.2	6.8	11	HV	TRUE		ergon raise - 2 mid span poles on roadsides to make gantry above roads? 11kV radial appears to supply 3-4 customers if isolation is an option (switch/fuse would need to be added on east end)	
232	Gregory Dev. Road Wilson Crt	2052911		HV Mains	8.2	8.4	8		Temp 3	2B.2	6.8	11	HV	FALSE		clear through centre if required, raise 2025911 &2025959	
233	Gregory Dev. Road	2052969		HV Mains	11.3	11	10.9		Temp 3	2B.2	6.8	11	HV	FALSE		clear	
234	Gregory Dev. Road Tea Tree Crs	2052688		HV Mains	8.6	8.3	8.2		Temp 3	2B.2	6.8	11	HV	FALSE		clear on left	

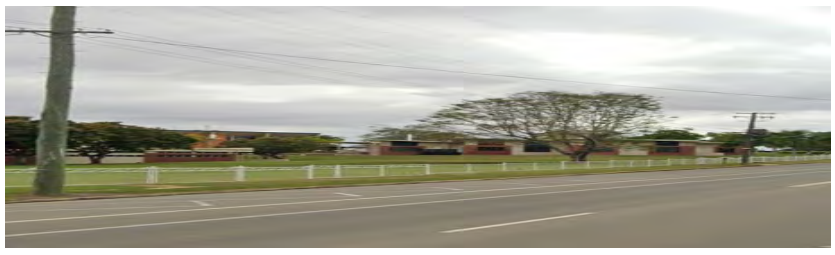
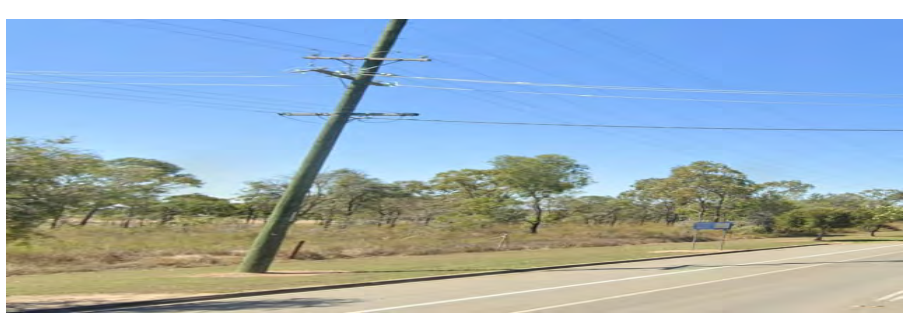
No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset			Ac	Temp	Route #	Highest Load(m)	Voltage(kV)	LV or HV	Confli		Remark	
Item No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	L	M	R		Temp (°C)			Voltage(kV)		Conflict?		Remark/scope	Pictures
235	Gregory Dev. Road #36441	2058685		LV Service	6.2	6.1	6.3	LIFT	Temp 3	2B.2	6.8	0.23(INS)	LV	TRUE		lift on left lane(about midspan) missing from LUAL. Otherwise, make gantry with 2 new poles	
236	Gregory Dev. Road Daylight Lane	2052895		LV Open Mains	7.7	7.5	7.4	LIFT	Temp 3	2B.2	6.8	0.23	LV	TRUE		lift and pass. Otherwise, raise/extend service pole (extension pole)	
237	Gregory Dev. Road #36409	2052683		LV Service	7.2	6.8	7	LIFT	Temp 3	2B.2	6.8	0.23(INS)	LV	TRUE		lift and pass on left. Otherwise raise(extend) service pole	
238	Gregory Dev. Road #36401	2052682		LV Service	6.6	6.3	6.8	LIFT	Temp 3	2B.2	6.8	0.23(INS)	LV	TRUE		2 x ABC lift and pass. Otherwise raise service pole (replace)	
239	Gregory Dev. Road Cemetry	2052689		HV Mains	6.3	5.9	5.9	LIFT	Temp 3	2B.2	6.8	11	HV	TRUE		appears to serve one customer (cemetery) option to install substitute generation at premises and isolate 11kV fuses, earth, lift, pass or, ergon raise with mid span poles for gantry	
240	Gregory Dev. Road Cemetry	2046376		LV Service	5.9	5.8	6	LIFT	Temp 3	2B.2	6.8	0.23(ins)	LV	TRUE		lift and pass, alternatively, raise 676(extend) and 376(replace)	
241	Gregory Dev. Road Cemetry	2052675		HV Mains	7.1	6.8	7	LIFT	Temp 3	2B.2	6.8	11	HV	TRUE		crosses at shallow angle. Long span and road is in middle As per above, create dedicated crossing gantry and add spans back NW and supersede LV service crossings. Alternatively get a volume discount on HDD for service crossings	
242	Gregory Dev. Road #36326	2052675		LV Service	7.4	6.8	6.6	LIFT	Temp 3	2B.2	6.8	0.23(ins)	LV	TRUE		lift and pass left. Alternatively raise hardware on right (extension pole)	
243	Gregory Dev. Road #36316 7 Day Hire	2052674		LV Service	7.8	7.4	7.3	LIFT	Temp 3	2B.2	6.8	0.23(ins)	LV	FALSE		pass left. If required, raise 678 (extend)	
244	Gregory Dev. Road #36305	2052673		LV Service	6.9	6.2	5.8	LIFT	Temp 3	2B.2	6.8	0.23(INS)	LV	TRUE		lift and pass left. If required, mid span pole west side of road & raise(extend) 377	

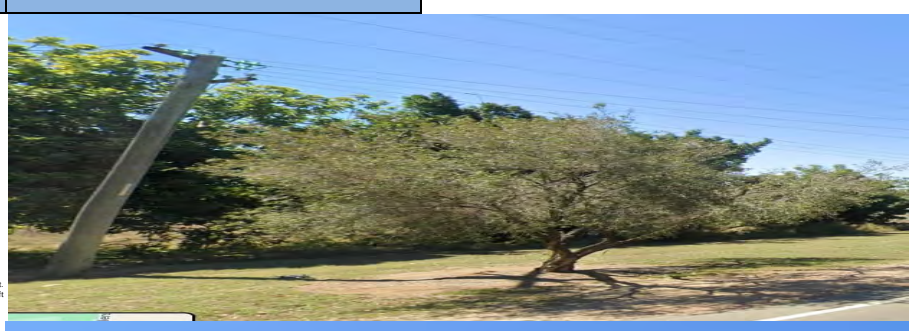
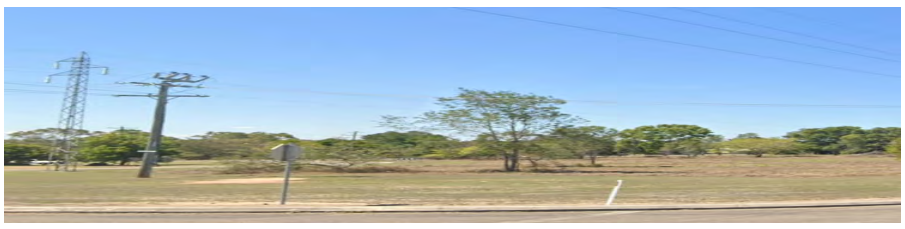
No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset			Ac	Temp	Route #	Highest Load(m)	Voltage(kV)	LV or HV	Confli		Remark	
Item No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	L	M	R		Temp (°C)			Voltage(kV)		Confli ct?		Remark/scope	Pictures
245	Gregory Dev. Road #36284	2052670		LV Service	7.4	7.3	7.3	LIFT	Temp 3	2B.2	6.8 0.23(INS)	LV		FALSE		lift and pass left. If required, mid span pole west side of road & raise(extend) 679	
246	Gregory Dev. Road #36274	2052709		LV Service	6.7	6.6	7.5	LIFT	Temp 3	2B.2	6.8 0.23(INS)	LV		TRUE		lift and pass right? If required, raise(replace) service pole on left	
247	Gregory Dev. Road Kirrima st	2069041		HV Mains	8.3	8.8	9.1		Temp 3	2B.2	6.8	11 HV		FALSE		clear	
248	Gregory Dev. Road	6038491		HV Mains	8.7	9	9.5		Temp 3	2B.2	6.8	11 HV		FALSE		clear	
249	Gregory Dev. Road Read Rd	2064258		HV Mains	7.8	8.1	8.4	LIFT	Temp 3	2B.2	6.8	11 HV		FALSE		clear on right. Otherwise, midspan pole on east side of road	
250	Gregory Dev. Road Hearn st	2069118		HV Mains	8.1	8.1	8.4		Temp 3	2B.2	6.8	11 HV		FALSE		clear on right, otherwise raise(extend) 10024028	
251	Gregory Dev. Road Van Park	2029698		LV Service	6.6	6.4	6.9	LIFT	Temp 3	2B.2	6.8 0.23(INS)	LV		TRUE		lift and pass left. Otherwise, raise(replace)	
252	Gregory Dev. Road Gold City Motel	2069117		LV Service	6.2	5.8	5.9	LIFT	Temp 3	2B.2	6.8 0.23(INS)	LV		TRUE		lift and pass left. Otherwise restring via 2064201	
253	Gregory Dev. Road Bridge	2021758		LV Service	6.9	6.6	6.6	LIFT	Temp 3	2B.2	6.8 0.23(INS)	LV		TRUE		lift and pass left. Otherwise raise (extend) 2069197	
254	Gregory Dev. Road Hewett st	2030275		LV Open Mains	7.1	7.2	7.5	LIFT	Temp 3	2B.2	6.8	0.23 LV		TRUE		lift and pass left. Tree might need a trim. Otherwise, mid span pole in centre median (and convert to abc?)	
255	Gregory Dev. Road #38	2069190		LV Service	6.5	7	7.7	LIFT	Temp 3	2B.2	6.8 0.23(INS)	LV		TRUE		lift and pass left. LUAL missing relocation. Otherwise, mid span pole on centre median	

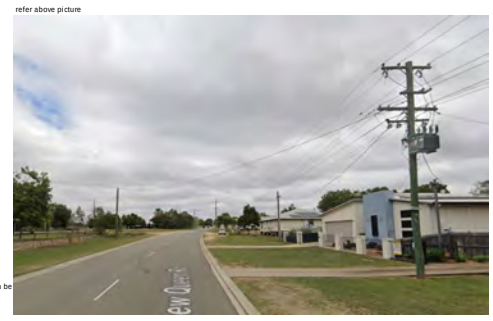
No. / Item No.	Address / Refrence Point	Pole # / Pole #	Kms / Kms	Mains Type - Structual Asset / Mains Type - Structual Asset	Height of Mains / Asset L	M	R	Ac	Temp / Temp (°C)	Route #	Highest Load(m)	Voltage(kV) / Voltage(kV)	LV or HV	Conflict?	Remark / Remark/scope	Pictures
256	Gregory Dev. Road #39	2069183		LV Service	6.8	7	7.5	LIFT	Temp 3	2B.2	6.8 0.23(INS)	LV		TRUE	lift and pass left. Otherwise, mid span pole on centre median	
257	Gregory Dev. Road Hicks st	2029684		LV Open Mains	7.7	7.8	8.1	LIFT	Temp 3	2B.2	6.8 0.23 + 11	HV		FALSE	tigertail to reduce stat clearance?, otherwise Ergon raise KV with mid span pole off-centreline to 11kV	
258	Gregory Dev. Road #50	2064230		LV Service	5.8	6	6.5	LIFT	Temp 3	2B.2	6.8 0.23(INS)	LV		TRUE	lift and pass left. Otherwise, mid span pole on centre median	
259	Gregory Dev. Road	2068894		LV Service	6.7	7.1	7.6	LIFT	Temp 3	2B.2	6.8 0.4(INS)	LV		TRUE	lift and pass left. Otherwise, mid span pole on centre median	
260	Gregory Dev. Road Retirement home	2068893		LV 95ABC	5.5	6.2	7.1	LIFT	Temp 3	2B.2	6.8 0.4(INS)	LV		TRUE	lift and pass left. Otherwise, mid span pole on centre median	
261	Gregory Dev. Road	2021789		LV Open Mains	8.2	7	6.7	LIFT	Temp 3	2B.2	6.8 0.4+11	HV		TRUE	clear on left(isolate>), otherwise: west and south turnoffs cease to be highway - existing left side pole - additional crossarm NW side, remove open LV mains. Sidewalk stays to balance removed tension. new tall pole on left side of street with perpendicular crossarms (13+m), kN to suit or stayed, string from RHS pole to new pole to LHS pole. or , new transformer - only stays required	
262	Hacket			Traffic Island						2B.2	6.8 N/A	N/A		N/A		
263	Hacket st			Traffic Island						2B.2	6.8 N/A	N/A		N/A		
264	Hacket st Charters Towers Motel	5131557		LV Service	8	6.8	6.7	LIFT	Temp 3	2B.2	6.8 0.23(ins)	LV		TRUE	lift in centre if not clear on left	
265	Hacket st Charters Towers Motel	2069083		LV 95ABC	6.5	6	6.5	LIFT	Temp 3	2B.2	6.8 0.23(ins)	LV		TRUE	lift in centre if not clear on left	
266	Hacket st #93	2069082		LV Service	6.2	5.7	6	LIFT	Temp 3	2B.2	6.8 0.23(ins)	LV		TRUE	lift centre, pass left or centre	
267	Hacket st #89	5094225		LV Service	6	5.8	6.3	LIFT	Temp 3	2B.2	6.8 0.23(ins)	LV		TRUE	lift centre, pass left or centre	

No. / Item No.	Address / Refrence Point		Pole # / Pole #	Kms / Kms	Mains Type - Structual Asset / Mains Type - Structual Asset	Height of Mains / Asset L	M	R	Ac	Temp / Temp (°C)	Route #	Highest Load(m)	Voltage(kV) / Voltage(kV)	LV or HV	Confli / Conflict?	Remark / Remark/scope	Pictures
268	Hacket st	#85	2094599		LV Service	6.5	6.5	7	LIFT	Temp 3	2B.2	6.8 0.23(ins)	LV		TRUE	lift centre, pass left or centre	
269	Hacket st	Paradise st	2094511		LV Open Mains	6.2	6	6	LIFT	Temp 3	2B.2	6.8 0.4 + 11	HV		TRUE	both LV and HV likely require removal. LV transformer is off to the left 1 x pole away. increase in conductor height likely not acceptable due to 66KV on south side of street -disconnect 11kV and LV spans, new terminal insulators required on pole 2094630. replace with stay at top of poles, add new pole top TX to 2094630. For HV, bury from pole 2094630 to 2094511 or accept loss of redundancy.	
270	Hacket st	#72	2094590		LV Service	6	5.7	5.8	LIFT	Temp 3	2B.2	6.8 0.4(ins)	LV		TRUE	lift and pass left or centre	
271	Hacket st	#77	5109041		LV Service	6.1	6	6.4	LIFT	Temp 3	2B.2	6.8 0.4(ins)	LV		TRUE	lift and pass left or centre missing from LUAL	
272	Hacket st	#71	2094596		LV Service	6	5.8	6	LIFT	Temp 3	2B.2	6.8 0.4(ins)	LV		TRUE	lift and pass left or centre. Alternatively resupply from another taller property pole same side of street	
273	Hacket st	#69	5094224		LV Service	6	5.7	6	LIFT	Temp 3	2B.2	6.8 0.4(ins)	LV		TRUE	lift and pass left or centre. Alternatively resupply from another taller property pole same side of street. Establish insulated or open mains on south side of street under 66kV? Missing from LUAL	
274	Hacket st Care	Peek st - Blue	2094547		HV Mains	8.9	8.6	8.6		Temp 3	2B.2	6.8	11 HV		FALSE	clear - potential option for resupply	
275	Hacket st	#67	5131555		LV Service	7.1	6.7	6.7	LIFT	Temp 3	2B.2	6.8 0.23(INS)	LV		TRUE	lift and pass left missing from LUAL	
276	Hacket st	Deighton st	5109040		LV Service	6.9	6.9	7.4	LIFT	Temp 3	2B.2	6.8 0.23(INS)	LV		TRUE	lift and pass left missing from LUAL	

No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset			Ac	Temp	Route #	Highest Load(m)	Voltage(kV)	LV or HV	Confli		Remark	
Item No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	L	M	R		Temp (°C)			Voltage(kV)		Confli ct?		Remark/scope	Pictures
277	Hacket st	5094223		LV Service	6	5.7	6	LIFT	Temp 3	2B.2	6.8	0.23(INS) x 2	LV	TRUE		lift and pass left or raise service on south side ofr street missing from LUAL	
278	Hacket st Burdekin st, Barrs Tyres	2094539		LV Open Mains	6.1	5.6	5.5	LIFT	Temp 3	2B.2	6.8	0.4 + 11	HV	TRUE		likely 11kV is also too low (assuming +1m) Install off centre mid span pole raising 66 and 0.4, replace 0.4 as 95ABC	
279	Hacket st Burdekin st, Barrs Tyres	2094595		HV Mains	11.7	11.4	11.6		Temp 3	2B.2	6.8		66 HV	FALSE		clear	
280	Hacket st	2094595		LV Streetlight Service	5.5	5.6	6.3	LIFT	Temp 3	2B.2	6.8	0.23(INS)	LV	TRUE		lift and pass left or centre alternative possible underslinging of LV ABC 2094253 - > 5131554 -> 2094595 -> 2094594	
281	Hacket st #45	2094594		LV Service	6.2	6.4	6.9	LIFT	Temp 3	2B.2	6.8	0.23(INS)	LV	TRUE		lift and pass left or centre alternative possible underslinging of LV ABC 2094253 - > 5131554 -> 2094595 -> 2094594	
282	Hackett st	2094519		LV Service	6.7	6.7	7.2	LIFT	Temp 3	2B.2	6.8	0.23(INS)	LV	TRUE		lift and pass left or centre	
283	Hacket st #35	5094520		LV Service	7.2	7.1	7.4	LIFT	Temp 3	2B.2	6.8	0.23(INS)	LV	FALSE		lift and pass left or centre	
284	Hacket st #33	2094518		LV Service	7.3	7.2	7.5	LIFT	Temp 3	2B.2	6.8	0.23(INS)	LV	FALSE		lift and pass left or centre	
285	Hacket st #34	2094517		LV Service	7.6	7.3	7.5	LIFT	Temp 3	2B.2	6.8	0.23(INS)	LV	FALSE		lift and pass left or centre	

No.	Address / Refrence Point		Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset			Ac	Temp	Route #	Highest Load(m)	Voltage(kV)	LV or HV	Confli		Remark	Pictures
Item No.	Address / Refrence Point		Pole #	Kms	Mains Type - Structual Asset	L	M	R		Temp (°C)			Voltage(kV)		Confli ct?		Remark/scope	
286	Hacket st	Mcleod st	2094515		LV Service	7.2	7.1	7.5	LIFT	Temp 3	2B.2	6.8 0.23(INS)	LV		FALSE		lift and pass left or centre	
287	Hacket st	Columbia st	2094556		LV 95ABC	7.3	6.8	6.7	LIFT	Temp 3	2B.2	6.8 0.4(INS)	LV		TRUE		lift midspan and pass left or centre	
288	Hacket st		2094503		LV Service	7.5	6.3	6	LIFT	Temp 3	2B.2	6.8 0.4(INS)	LV		TRUE		lift mid span and pass left or centre pole could be replaced with taller (services to houses replaced)	
289	Hacket st Columbia Catholic College	#7 near	2094502		LV Service	6.4	5.8	5.8	LIFT	Temp 3	2B.2	6.8 0.4(INS)	LV		TRUE		lift midspan and pass left or centre	
290	Hacket st O'Kane st	#5, near	2094555		LV Service	6.4	5.8	6	LIFT	Temp 3	2B.2	6.8 0.23(INS)	LV		TRUE		lift midspan and pass left or centre missing from lual	
291	Hacket st	O'Kane st	2094554		LV 95ABC	8	7.3	7.5	LIFT	Temp 3	2B.2	6.8 0.23(INS)	LV		FALSE		lift midspan and pass left or centre	
292	Hacket st	Jocky Club	2094553		LV Service	5.7	5.3	6.5	LIFT	Temp 3	2B.2	6.8 0.23(INS)	LV		TRUE		lift midspan and pass left or centre missing from lual	
293	Hacket st	#1	2094507		LV Service	6.8	6.8	7.8	LIFT	Temp 3	2B.2	6.8 0.23(INS)	LV		TRUE		lift midspan and pass left or centre missing from lual	
294	Hacket st	Hate st	2094606		LV 95ABC	7.2	6.9	7.2	LIFT	Temp 3	2B.2	6.8 0.4(INS) + 11	HV		TRUE		photo shows the ABS is typically an open point. Install disconnect links/edo frame/new crossarm on pole 5108647, open, earth(if required), lift ABC, and pass left or centre. Or restring via 2094507, having replaced the pole.	

No.	Address / Refrence Point		Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset			Ac	Temp	Route #	Highest Load(m)	Voltage(kV)	LV or HV	Conflict		Remark	Pictures
Item No.	Address / Refrence Point		Pole #	Kms	Mains Type - Structual Asset	L	M	R		Temp (°C)			Voltage(kV)		Conflict?		Remark/scope	
295	Hacket st	School oval	5048159		HV Mains	6.2	6.7	7.9	LIFT	Temp 3	2B.2	6.8	11	HV	TRUE		appears to be typical open point. Install ABS atop pole 5048160, lift and pass centre/left. Or simply remove / restay	
296	Hacket st	Ergon sub	5029253		HV Mains	9.3	9.6	10.1		Temp 3	2B.2	6.8	66	HV	FALSE		clear	
297	Hacket st	Wheelers road	5029254		OH Stay	7.1	6.9	6.8	LIFT	Temp 3	2B.2	6.8	0 + 0	LV	TRUE		lift? Or re-stay	
298	Hacket st	Wheelers road	2153735		HV Mains	6.7	6.8	7.2	LIFT	Temp 3	2B.2	6.8	11	HV	TRUE		make open points - poles 2156534 / 2156385 and resupply. lift (height to 66kV midspan needs to be checked). Alternative mid span pole with height step(taller on south span, maintain height north span . Stay to balance moments)	
299	Mount Isa											#N/A		LV	(Heading)			
300	Flinders Hwy				Island \ Divided Road						3	6.8	N/A	N/A	N/A			
301	Flinders Hwy	Hugh Quinn Cres				#N/A	#N/A	#N/A			3	6.8		LV	N/A			
302	Flinders Hwy		2068751	0.1	LV 95ABC	8	7.7	7.6	LIFT	Temp 3	3	6.8	0.4 (INS)	LV	FALSE		pass left. Lift if required	
303	Flinders Hwy		2068728	0.6	HV Mains	7.6	7.4	7.2	LIFT	Temp 3	3	6.8	11	HV	TRUE		11kv needs to be raised. Short strain span of 25m across road (no sag). Replace poles with taller and raise crossing. Or Install 2 new 13m poles east of existing, add sidewalk stays for existing. New crossarm on 5029260 to transition E/W. Both new poles will have 2 x crossarms for transition.	
304	Flinders Hwy					#N/A	#N/A	#N/A		Temp 3	3	6.8		LV	N/A			
305	Flinders Hwy		5029261	0.6	O \ H Stay Wire	7.5	7.4	7.3	LIFT	Temp 3	3	6.8	0 + 66	HV	FALSE		pass left. Lift if required.	
306	Flinders Hwy		2155896		O \ H Stay Wire						3	6.8	0	LV	TRUE		clarify if still in place	
307	Flinders Hwy		11205920	0.9	LV Service	7.8	7.5	7.5	LIFT	Temp 3	3	6.8	0.23 (INS)	LV	FALSE		pass left. Lift if required.	

No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset			Ac	Temp	Route #	Highest Load(m)	Voltage(kV)	LV or HV	Confli	Remark	
Item No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	L	M	R		Temp (°C)			Voltage(kV)		Conflict?	Remark/scope	Pictures
308	Flinders Hwy	5081314	1.4	LV 95ABC	7.5	6.8	6.1	LIFT	Temp 3	3	6.8 0.4(INS)		LV	TRUE	Lift and pass left. Or taller pole to west, re run ABC and following streetlight service from new pole.	
309	Flinders Hwy	5081315	1.5	LV Streetlight Service	6.8	6.4	6.6	LIFT	Temp 3	3	6.8 0.23(ins)		LV	TRUE	as above: Lift and pass left. Or taller pole to west, re run ABC and following streetlight service from new pole.	
310	Blade Route Continues straight here								Blade Rou		#N/A		LV	N/A		
311											#N/A		LV	N/A		
312	Tower Sections Route										#N/A		LV	(Heading)		
313	Turn Right Onto New Queen Rd	5081325		LV Streetlight Service	6.5	6.4	6.5	LIFT	Temp 3	4B	6.8 0.23(ins) + stay		LV	TRUE	Not enough slack to lift to 7.3m+, therefore raise required. Stay cannot be trivially removed so will need to stay in place. Raise pole 5081333	
314	New Queen st Deverux st	5081325		OH Stay	6.8	7	7.2	LIFT	Temp 3	4B	6.8 0.23(ins) + stay		LV	TRUE	As Above: Not enough slack to lift to 7.3m+, therefore raise required. Stay cannot be trivially removed so will need to stay in place. Raise pole 5081333	refer above picture
315	New Queen st	5081336		LV Service	7.3	7.1	7.2	LIFT	Temp 3	4B	6.8 0.23(ins)		LV	FALSE	Lift and pass left. Crossing can be removed by rerunning ABC's 5081325> 5081333>5081334> 5081336 as per above	
316	New Queen st #20	5081350		HV Mains	9.2	9.2	9.2		Temp 3	4B	6.8	11	HV	FALSE	clear	
317	New Queen st Bennett st	5087350		Pilot Cable	8.7	8.6	8.5		Temp 3	4B	6.8 0 + 0.4		LV	FALSE	clear	
318	New Queen st ct auto group	5081351		LV Service	6.8	6.7	6.8	LIFT	Temp 3	4B	6.8	0	LV	TRUE	restring 5081371>5081353>5081354	
319	New Queen st Dundee st	5085312		stay wire	8.5	8.2	8		Temp 3	4B	6.8 0.23 (INS)		LV	FALSE	pass left - lift if required	
320	New Queen st Ergon Depot	5081371		Pilot Cable	7.2	7.5	8.4	LIFT	lv bund	4B	6.8	0	LV	FALSE	lift and pass right	

No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset			Ac	Temp	Route #	Highest Load(m)	Voltage(kV)	LV or HV	Confli		Remark	
Item No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	L	M	R		Temp (°C)			Voltage(kV)		Confli ct?		Remark/scope	Pictures
321	New Queen st Craven st	5081373	0.5	LV 95ABC	7.8	7.5	7.3	LIFT	Temp 3	4B	6.8 0.4 (ins)	LV		FALSE		lift and pass right	
322	New Queen st Farmer st	5081373		LV Open Mains	8.4	7.8	7.2	LIFT	Temp 3	4B	6.8 0.4+11	HV		TRUE		TBC. Possibly simply remove(or isolatd/tigertail?) LV and rely on supply from pole 5081403 TX to supply farmer street? Or bury LV from 5081373/5081401?	
323	New Queen st #5	5081374		LV Service	7.3	7.5	7.2	LIFT	Temp 3	4B	6.8 0.23(INS)	LV		FALSE		lift and pass centre/right	
324	New Queen st #3	5081375	0.6	LV Service	8	7.8	8	LIFT	Temp 3	4B	6.8 0.23(INS)	LV		FALSE		lift and pass centre	
325	New Queen st #1	5081376		LV Service	8	7.8	8	LIFT	Temp 3	4B	6.8 0.23(INS)	LV		FALSE		lift and pass centre	
326	New Queen st Transformer pole	5081377	0.7	LV Service	8.2	7.8	7.1	LIFT	Temp 3	4B	6.8 0.23(INS)	LV		FALSE		lift and pass left	
327	Enterprise St				#N/A	#N/A	#N/A			4B	6.8	LV		N/A			
328	Enterprise st #11	5081378	0.7	LV Service	7.03	6.94	7.21	LIFT	Temp 3	4B	6.8 0.23(INS)	LV		TRUE		replace pole 5081383 with taller	
329	Enterprise st fire station	5081379		Comms Cable	7.6	8	8.4	LIFT	Temp 3	4B	6.8 0 + 0.23(INS)	LV		FALSE		pass right. Lift if required.	
330	Enterprise st at the pub	5081380		LV Streetlight Service	6.8	6.8	6.8	LIFT	Temp 3	4B	6.8 0.23 (INS)	LV		TRUE		Bury. Appears to be existing trenches cut across road. TBC destination	
331	Millchester St				#N/A	#N/A	#N/A			4B	6.8	LV		N/A			

No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset			Ac	Temp	Route #	Highest Load(m)	Voltage(kV)	LV or HV	Confli	Remark	
Item No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	L	M	R		Temp (°C)			Voltage(kV)		Confli ct?	Remark/scope	Pictures
332	Millchester st rail comms	4356		Railway Crossing	6.9	6.8	6.7	LIFT		4B	6.8 0.47 (INS)	LV		TRUE	rail powerline. Not present in LUAL. Bare conductors may be defunct. Conductors could be moved ~1m up the pole. Alternatively conductors could be buried and and poles stayed. Might just be neutral screened 230v cable	
333	street				#N/A	#N/A	#N/A		Temp 3	4B	6.8	LV		N/A		
334	Victory Street p#12031282	12031282	1	LV Streetlight Service	7.72	7.29	7.59	LIFT	Temp 3	4B	6.8 0.23(ins)	LV		FALSE	lift and pass centre Or, bury wiring from 2156052	
335	Hwy										#N/A	LV		N/A		
336											#N/A	LV		N/A		
337	on Flinders Hwy								Via Hole ir		#N/A	LV		(Heading)		
338	Flinders Hwy	5235559		LV Service	8.5	8.5	8.5		Temp 3	4A	5.36 0.23 (INS)	LV		FALSE	clear	
339	Flinders Hwy			O-H Bridge	5.5	5.5	5.5		Temp 3	4A	5.36 N/A	N/A		N/A		
340	Flinders Hwy	2153803		LV Service	8.4	8	8.3		Temp 3	4A	5.36 0.23(INS)	LV		FALSE	clear	
341	Flinders Hwy	2155316		HV Mains	9	9	9		Temp 3	4A	5.36	11 HV		FALSE	clear	
342	Flinders Hwy	5048717		LV Streetlight Service	7.2	7.2	7.3		Temp 3	4A	5.36 0.23(ins)	LV		FALSE	lift and pass centre, or bury from 2155918	
343	Flinders Hwy	2155925		LV 95ABC	7.8	7.8	7.9		Temp 3	4A	5.36 0.23(ins) + 11	HV		FALSE	pass centre, lift if required. Or, new taller pole adjacent 2155920. rerun abc	
344	Flinders Hwy	2155926		LV Service	7.5	7.7	7.9		Temp 3	4A	5.36 0.4(ins)	LV		FALSE	lift and pass left. Or replace pole 6038492 with taller pole	
345	Intersection										#N/A	LV		N/A		
346											#N/A	LV		N/A		
347	Intersection								Towers &		#N/A	LV		(Heading)		

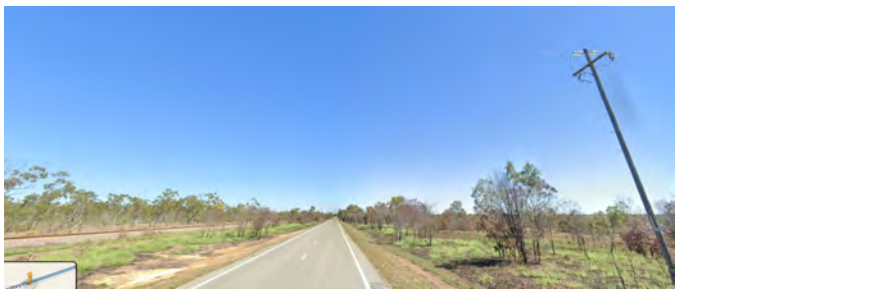
No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset			Ac	Temp	Route #	Highest Load(m)	Voltage(kV)	LV or HV	Confli	Remark	
Item No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	L	M	R		Temp (°C)			Voltage(kV)		Confli ct?	Remark/scope	Pictures
348	Flinders Hwy - York st Victory st	2156055		LV 95ABC	7.1	7	7.3	LIFT	Temp 3	5	6.8 0.4 (INS)	LV		TRUE	lift and pass centre. Otherwise Replace 2155804 with taller pole, Restring abc to greater height	
349	Flinders Hwy - York st #18	2155927	0.1	LV Service	7.2	7.1	7.3	LIFT	Temp 3	5	6.8 0.4 (INS)	LV		FALSE	lift and pass centre. Or restring 2156056>2156057>intermediate(?) >2156058	
350	Flinders Hwy - York st	2156059		LV Service	6.9	6.8	6.9	LIFT	Temp 3	5	6.8 0.4 (INS)	LV		TRUE	restring via 2156056 with 95 ABC	
351	Flinders Hwy - York st #27	2155928		LV Service	6.16	6.11	6.71	LIFT	Temp 3	5	6.8 0.4 (INS)	LV		TRUE	replace pole 2156056 with taller. Restring with 95ABC	
352	Flinders Hwy - York st Bluff Rd	2155929	0.2	LV 95ABC	7.4	7.3	7.4	LIFT	Temp 3	5	6.8 0.4 (INS)	LV		FALSE	lift and pass centre. Or, restring via 2156056>intermediate(?)> 2155194, restring with 95ABC	
353	Flinders Hwy - York st Bluff Rd	6003750	0.2	HV Mains	12	12	12		Temp 3	5	6.8	11 HV		FALSE	clear	see above picture
354	Flinders Hwy - York st	2153814		LV Service	7.2	7	7.2	LIFT	Temp 3	5	6.8 0.23(INS) + 0	LV		TRUE	lift and pass centre. Or, restring abc on catenary with hangers, and pass on left, or via 2155194	
355	Flinders Hwy - York st #43 butchers shop	2155407	0.3	LV Service	6.4	6	6.45	LIFT	Temp 3	5	6.8 0.4 (INS)	LV		TRUE	replace 6004710 with taller pole.	
356	Flinders Hwy - York st	2153944	0.4	LV Service	6.1	5.9	6.2	LIFT	Temp 3	5	6.8 0.4 (INS)	LV		TRUE	restring 2156234 via 2156232	
357	Flinders Hwy - York st	2153944	0.4	LV Service	6.8	6.8	7	LIFT	Temp 3	5	6.8 0.4 (INS)	LV		TRUE	lift and pass centre. Or, replace 2156232 with taller pole.	

No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset			Ac	Temp	Route #	Highest Load(m)	Voltage(kV)	LV or HV	Confli		Remark	
Item No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	L	M	R		Temp (°C)			Voltage(kV)		Confli ct?		Remark/scope	Pictures
358	Flinders Hwy - York st	2155561	0.4	LV Service	6.6	6.6	6.8	LIFT	Temp 3	5	6.8 0.4 (INS)	LV		TRUE		lift and pass right. Or replace pole 2156233 with taller.	
359	Flinders Hwy - York st	2153945		LV Service	6.95	7	7.2	LIFT	Temp 3	5	6.8 0.4 (INS)	LV		TRUE		lift and pass centre. Or, replace pole 2155559 with taller pole.	
360	Flinders Hwy - York st Cemetry rd	2155409	0.6	LV 95ABC	6.8	6.8	7	LIFT	Temp 3	5	6.8 0.4 (INS)	LV		TRUE		lift and pass right. Or replace pole 2156235 with taller. Or restring from 215559	
361	Flinders Hwy - York st Sadds rd	2155563		LV Service	6.5	6.4	6.8	LIFT	Temp 3	5	6.8 0.4 (INS)	LV		TRUE		replace 2155566 with taller pole. Or restring via pole 2153948	
362	Flinders Hwy - York st	2155410	0.7	LV Service	7.4	7.2	7.1	LIFT	Temp 3	5	6.8 0.4 (INS)	LV		FALSE		lift and pass left. Or replace pole 2153948 with taller pole.	
363	Flinders Hwy - York st	2156237	0.8	LV Service	6.5	6.4	6.5	LIFT	Temp 3	5	6.8 0.4 (INS)	LV		TRUE		restring via 2153948	
364	Flinders Hwy - York st	2155568	0.8	LV Service	6.5	6.7	6.8	LIFT	Temp 3	5	6.8 0.4 (INS)	LV		TRUE		lift and pass centre. Or replace pole 2155564 with taller	
365	Flinders Hwy - York st	2155568		LV Service	7.2	7	7.2	LIFT	Temp 3	5	6.8 0.4 (INS)	LV		TRUE		restring via 2155564. or raise pole 2153947	
366	Flinders Hwy - York st	2155411		lv service	6.8	6.9	6.8	LIFT	Temp 3	5	6.8 0.23 (INS)	LV		TRUE		raise 2153946. Or restring via 2153947.	

No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset			Ac	Temp	Route #	Highest Load(m)	Voltage(kV)	LV or HV	Confli		Remark	
Item No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	L	M	R		Temp (°C)			Voltage(kV)		Confli ct?		Remark/scope	Pictures
367	Flinders Hwy - York st	2156238		LV 95ABC	8.3	8.5	8.5		Temp 3	5	6.8	0.4(INS) + 11	HV	FALSE		clear	
368	Flinders Hwy - York st	2155429	0.9	LV Service	6.8	6.6	6.8	LIFT	Temp 3	5	6.8	0.23(INS)	LV	TRUE		raise 2155594	
369	Flinders Hwy - York st Country Road Motel	2155121	1	LV Streetlight Service	6.8	6.8	7.4	LIFT	Temp 3	5	6.8	0.23(INS)	LV	TRUE		restring via 2155593 or 2156310	
370	Flinders Hwy - York st	2155121		LV Service	7.4	7.2	7.4	LIFT	Temp 3	5	6.8	0.4(INS)	LV	FALSE		lift and pass centre. Or raise pole 2156310 (already extended)	
371	Flinders Hwy - York st	2155307	1.1	LV Service	6.6	6.28	6.45	LIFT	Temp 3	5	6.8	0.4(INS)	LV	TRUE		lift and pass centre. Or raise pole 2156309	
372	Flinders Hwy - York st Natal Downs Rd	2154025		LV Service	7.6	7.5	7.9	LIFT	Temp 3	5	6.8	0.4(INS)	LV	FALSE		lift and pass center. Or raise pole 2156308.	
373	Flinders Hwy - York st Norton General Store	2155124	1.2	LV Service	6.83	6.55	6.92	LIFT	Temp 3	5	6.8	0.4(INS)	LV	TRUE		lift and pass centre. Or raise pole 2154045	
374	Flinders Hwy Thompson st #24	2155313		LV Service	6.5	6.1	6.6	LIFT	Temp 3	5	6.8	0.4(INS)	LV	TRUE		lift and pass left. Or raise 2154046	
375	Flinders Hwy Thompson st #26	2156314		LV Service	6.5	6.3	6.7	LIFT	Temp 3	5	6.8	0.4(INS)	LV	TRUE		lift and pass left. Or raise 6005888	

No.	Address / Refrence Point		Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset			Ac	Temp	Route #	Highest Load(m)	Voltage(kV)	LV or HV	Conflict		Remark	Pictures
Item No.	Address / Refrence Point		Pole #	Kms	Mains Type - Structual Asset	L	M	R		Temp (°C)			Voltage(kV)		Conflict?		Remark/scope	
376	Flinders Hwy	Thompson st	2154029		LV Service	7.4	7.8	9	LIFT	Temp 3	5	6.8 0.23(ins)	LV	FALSE		clear on right	
377	Flinders Hwy Browson Park	Thompson	6074270		LV Service	7.2	7	7.2	LIFT	Temp 3	5	6.8 0.23(ins)	LV	TRUE		lift and pass centre. Or raise 6074255	
378	Flinders Hwy	Puma Fuel	2155651	2.9	HV Mains	9.2	9.1	9.2		Temp 3	5	6.8	11 HV	FALSE		clear	
379	Flinders Hwy	Sale Yards	2154488	3	HV Mains	8.2	8	8.2		Temp 3	5	6.8	11 HV	FALSE		clear on left	
380	Flinders Hwy	Depot Rd	2154080		LV Open Mains	8	8	8		Temp 3	5	6.8 0.23 + 11	HV	FALSE		minimally clear... lift if required. Otherwise change mains to ABC to reduce clearance requirement	
381	Flinders Hwy gate	Saleyards	2155657		LV Open Mains	6.8	6.7	8.8	LIFT	Temp 3	5	6.8	0.4 LV	TRUE		lift and pass left. Or add midspan pole on east	
382						#N/A	#N/A	#N/A			5	6.8	LV	N/A			
383	Flinders Hwy	#13091	2155074		LV Open Mains	6.4	6.7	7.7	LIFT	Temp 3	5	6.8	0.23 LV	TRUE		lift and pass right. Or install midspan pole on east side of road	
384	Flinders Hwy		2051903		HV Mains	8	8	8		Temp 3	5	6.8	11 HV	FALSE		marginally clear. Otherwise. Install midspan pole on west side of road	
385	Flinders Hwy		2051903		HV Mains	9.4	9.4	9.4		Temp 3	5	6.8	11 HV	FALSE		clear	
386	Rd				Intersection	#N/A	#N/A	#N/A			5	6.8	LV	N/A			

Item No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset L	M	R	Ac	Temp (°C)	Route #	Highest Load(m)	Voltage(kV)	LV or HV	Conflict?		Remark/scope	Pictures
387	Flinders Hwy	2154498	4.6	HV Mains	8	8	8		Temp 3	5	6.8	11 HV		FALSE		marginally clear. Otherwise raise poles 2154498 & 11761280	
388	Flinders Hwy Riffles Transport	2155678	4.8	HV Mains	9.4	9.4	9.4		Temp 3	5	6.8	11 HV		FALSE		clear	
389	Flinders Hwy #13174	2155083	5.2	HV Mains	8.7	8.7	8.7		Temp 3	5	6.8	11 HV		FALSE		clear	
390	Flinders Hwy #13211	2155679		HV Mains	7.4	6.9	6.9	LIFT	Temp 3	5	6.8	11 HV		TRUE		extend poles both sides	
391	Flinders Hwy Stockholm Rd	6004628	5.9	HV Mains	8.1	8.1	8.2		Temp 3	5	6.8	11 HV		FALSE		clear. Otherwise midspan pole on north of road may be required	
392	Flinders Hwy	2154101	5.9	HV Mains	8.4	8.1	8.2		Temp 3	5	6.8	11 HV		FALSE		assuming double up with above	
393	Flinders Hwy Stockholm Rd	2154516		HV Mains	7.2	7.2	7.4	LIFT	Temp 3	5	6.8	11 HV		TRUE		raise poles 2154516 & 2154101	
394	Flinders Hwy #13655	5159186		Swer	8.6	8.5	8.5		Temp 3	5	6.8	19.1 HV		FALSE		clear	
395	Flinders Hwy	5159179		Swer	7.9	7.7	7.6	LIFT	Temp 3	5	6.8	19.1 HV		TRUE		raise pole 5159179	

Item No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset L	M	R	Ac	Temp (°C)	Route #	Highest Load(m)	Voltage(kV)	LV or HV	Conflict?		Remark/scope	Pictures
396	Flinders Hwy			Railway Crossing						5	6.8	N/A	N/A	N/A		level crossing	
397	Flinders Hwy	2051702		HV Mains	9	8.9	9		Temp 3	5	6.8	11	HV	FALSE		clear	
398	Flinders Hwy Severnvale Rd		17.4	HV Mains	9	9.8	10		Temp 3	5	6.8	11	HV	FALSE		appears to be duplicate?	
399	Flinders Hwy	2046061		HV Mains	9.7	9.8	10		Temp 3	5	6.8	11	HV	FALSE		clear	
400	Flinders Hwy	2046083		HV Mains	8.5	8.4	8.5		Temp 3	5	6.8	11	HV	FALSE		clear	
401	Flinders Hwy Ugala	5255006	24.1	Swer	8.5	8.5	8.7		Temp 3	5	6.8	19.1	HV	FALSE		clear	
402	Flinders Hwy	5234227	34.8	Swer	10.3	10.2	10.4		Temp 3	5	6.8	19.1	HV	FALSE		clear	
403	Flinders Hwy Baffles Crk	5234443	42.7	Swer	7.6	7.5	7.6	LIFT	Temp 3	5	6.8	19.1	HV	TRUE		raise pole 5234443	
404	Flinders Hwy			Swer	9.2	9.1	9.2		Temp 3	5	6.8	19.1	HV	FALSE		no asset number or mile marker? Undear on location	
405	Flinders Hwy	5257878	50.7	Swer	9.5	9.4	9.5		Temp 3	5	6.8	19.1	HV	FALSE		clear	

No.	Address / Refrence Point		Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset			Ac	Temp	Route #	Highest Load(m)	Voltage(kV)	LV or HV	Conflict?		Remark	Pictures
Item No.	Address / Refrence Point		Pole #	Kms	Mains Type - Structual Asset	L	M	R		Temp (°C)			Voltage(kV)				Remark/scope	
406	Flinders Hwy	Barrington Rd	5258704	54.8	Swer	9.3	9.2	9.3		Temp 3	5	6.8	19.1	HV	FALSE		clear	
407	Flinders Hwy	Homestead	5042402	74.3	HV Mains	9.7	9.6	9.7		Temp 3	5	6.8	11	HV	FALSE		clear	
408	Flinders Hwy	Homestead	5042377	74.9	HV Mains	8.7	8.5	8.8		Temp 3	5	6.8	11	HV	FALSE		clear	
409	Flinders Hwy 66KV	Cape River	5028519	97	Transmission	10.1	10	10			5	6.8	66	HV	FALSE		clear	
410	Flinders Hwy	Cape River	5050036	97.9	HV Mains	10.4	10.4	10.6		Temp 3	5	6.8	11	HV	FALSE		clear	
411	Flinders Hwy	132KV	11180166	98	Transmission	9.2	9	9.1		Temp 3	5	6.8	66	HV	FALSE		clear	
412	Flinders Hwy Brookdale	#23171	5085840	105.4	HV Mains	9.8	9.8	10		Temp 3	5	6.8	11	HV	FALSE		clear	
413	Flinders Hwy Pentland		5044022	107	LV 95ABC	7.8	7.9	8.1	LIFT	Temp 3	5	6.8	0.4(INS) + 11	HV	FALSE	marginally clear with visual inspection. Alternatively, new pole to divert abc higher		
414	Flinders Hwy	Pentland Rail Station	5088449	107.4	LV Service	7.6	7.4	7.8	LIFT	Temp 3	5	6.8	0.4(INS)	LV	FALSE	lift and pass left. Alternatively raise iron post		
415	Flinders Hwy	#62	5088443	107.7	LV Open Mains	7.8	7.9	8.1	LIFT	Temp 3	5	6.8	0.4	LV	FALSE	lift and pass left. Alternatively raise 5088443		

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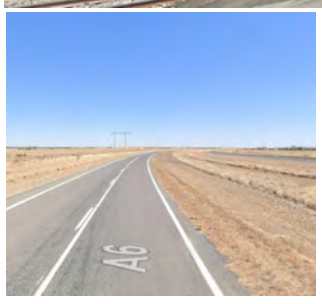
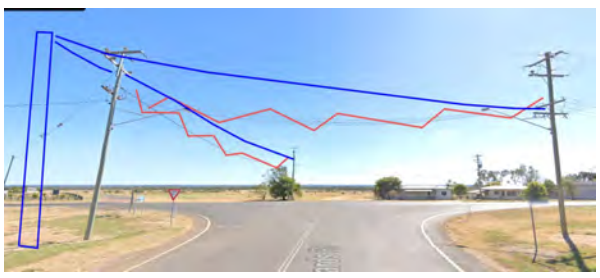
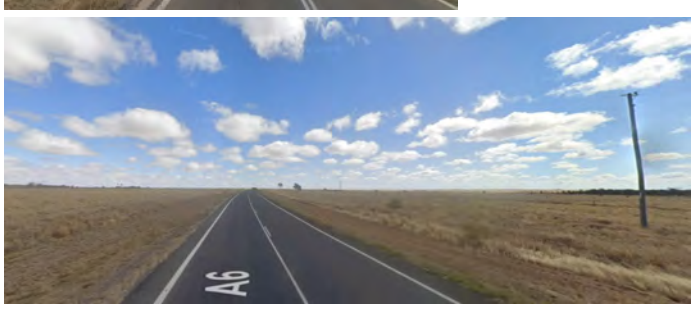
Item No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	L	M	R		Temp (°C)			Voltage(kV)		Confli ct?		Remark/scope	
416	Flinders Hwy	5060454	115	Transmission	12	12.1	12.4		Temp 3	5	6.8	132 HV		FALSE		appears to have been transposed and pole #missing. Clear	
417	Flinders Hwy	5060381	137.4	Transmission	14	14	14		Temp 3	5	6.8	132 HV		FALSE		appears to have been transposed. Clear	
418	Flinders Hwy Danna stn	5129068	148	Swer	11.8	11.6	11.9		Temp 3	5	6.8	19.1 HV		FALSE		clear	
419	Flinders Hwy Torrens Crk	5128983	158	Swer	8.4	8.2	8.1		Temp 3	5	6.8	19.1 HV		FALSE		marginally clear.	
420	Flinders Hwy Exchange Hotel	5128968	159.2	LV Service	6.8	6.8	6.8	LIFT	Temp 3	5	6.8 0.23(INS)	LV		TRUE		lift and pass left. Or raise 5128968 &/or other pole	
421	Flinders Hwy Radio Tower	10162081	179	Swer	7.7	7.6	7.7	LIFT	Temp 3	5	6.8	19.1 HV		TRUE		add mid span pole	
422	Flinders Hwy	5128834	190	Swer	9.6	9.5	9.7		Temp 3	5	6.8	19.1 HV		FALSE		clear	
423	Flinders Hwy Prarie	11750480	204.2	Swer	11	9.6	9.5		Temp 3	5	6.8	19.1 HV		FALSE		clear	
424	Flinders Hwy Muttaburra T-off	5028142	204.2	Swer	9.7	9.6	9.7		Temp 3	5	6.8	19.1 HV		FALSE		clear	
425	Flinders Hwy Prarie Hotel	5129393	204.5	LV 95ABC	8.9	8.8	8.9		Temp 3	5	6.8 0.4(INS)	LV		FALSE		clear	

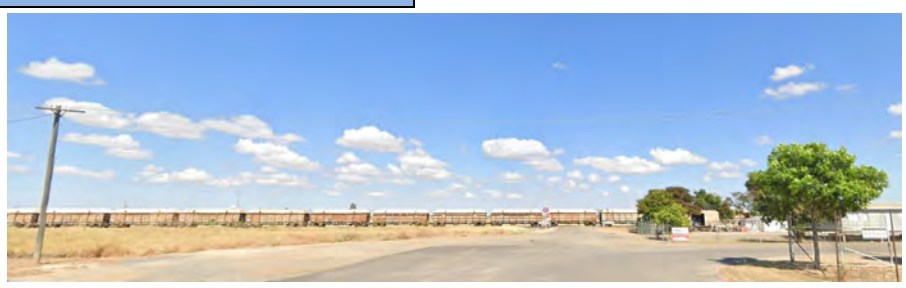
No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset			Ac	Temp	Route #	Highest Load(m)	Voltage(kV)	LV or HV	Conflict?		Remark	Pictures
Item No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	L	M	R		Temp (°C)			Voltage(kV)				Remark/scope	
426	Flinders Hwy Prarie Hotel End of Town	5129396	204.5	LV Service	8	7.6	8	LIFT	Temp 3	5	6.8	0.23(INS)	LV	FALSE		marginally clear. Lift and pass left. Or raise poles 2129394 & 5129396	
427	Flinders Hwy Elington windfarm	52335236	219	Swer	11	11	10		Temp 3	5	6.8	19.1	HV	FALSE		clear	
428	Flinders Hwy Monavale	5233225	227	Swer	8.2	8.1	8.3		Temp 3	5	6.8	19.1	HV	FALSE		marginally clear, pass on right. Otherwise raise 5233225	
429	Flinders Hwy	5233214	234	Swer	8.4	8.3	8.2		Temp 3	5	6.8	19.1	HV	FALSE		clear on left	
430	Flinders Hwy Rail Xing	HP403	234.7	Transmission	13	13	13		Temp 3	5	6.8	66	HV	FALSE		clear	
431	Flinders Hwy	HP422	240.9	Transmission	13.1	13.1	13.1		Temp 3	5	6.8	66	HV	FALSE		clear	
432	Flinders Hwy	5155113	243	Swer	9.2	9.4	9.6		Temp 3	5	6.8	19.1	HV	FALSE		clear	
433	Flinders Hwy	5071835	245	Transmission	10	10	10		Temp 3	5	6.8	66	HV	FALSE		clear	
434	Flinders Hwy	5071629	247	Transmission	11	11	11		Temp 3	5	6.8	66	HV	FALSE		50718297 Clear	
435	Left Turn Onto Dirt Road Before Railway Crossing				#N/A	#N/A	#N/A			5	6.8		LV	N/A			
436	Dirt access Road	5071827	247.5	Transmission	10.1	10.4	10.6		Temp 3	5	6.8	66	HV	FALSE		clear. No street view available	

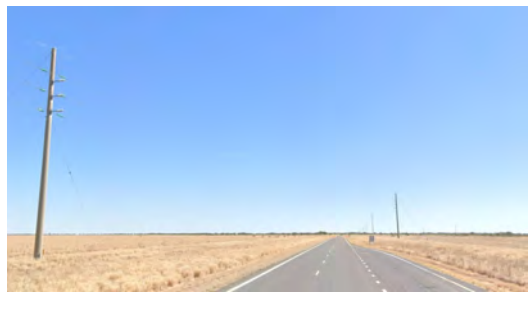
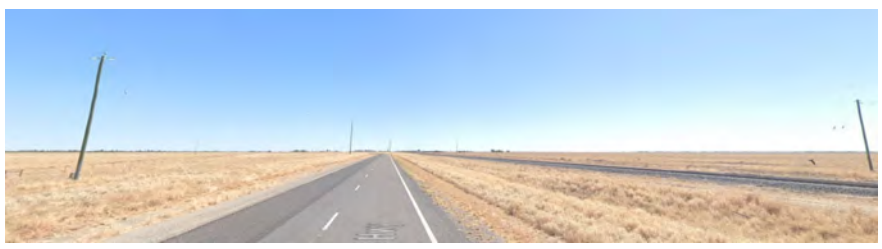
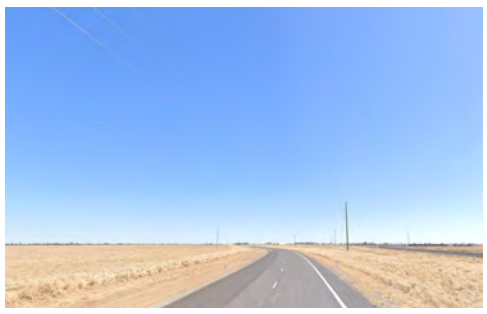
No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset			Ac	Temp	Route #	Highest Load(m)	Voltage(kV)	LV or HV	Conflict?		Remark	Pictures
Item No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	L	M	R		Temp (°C)			Voltage(kV)				Remark/scope	
437	Dirt access Road	5071325		HV Mains	10	10	10.1		Temp 3	5	6.8	33	HV	FALSE		clear. No street view available	
438	Right Turn Onto Kennedy Development Road				#N/A	#N/A	#N/A			5	6.8		LV	N/A			
439	Kennedy Development Road	2063487	248	Swer	8.8	8.3	8.6		Temp 3	5	6.8	19.1	HV	FALSE		clear	
440	Kennedy Development Road		249.2	Railway Crossing						5	6.8	N/A	N/A	N/A			
441	Kennedy Development Road	5071818	249.4	HV Mains	9.2	9.2	9.2		Temp 3	5	6.8	66	HV	FALSE		clear	
442	Kennedy Development Road	5071817		OH Stay	14.8	12	9		Temp 3	5	6.8	0(stay)	LV	FALSE		clear	
443	Kennedy Development Road	5071734		HV Mains	7.2	7.3	7.4	LIFT	Temp 3	5	6.8	33 + 66	HV	TRUE		install mid span pole	
444	Kennedy Development Road	5255011		HV Mains	7.7	7.9	8	LIFT	Temp 3	5	6.8	33	HV	TRUE		install mid span pole	
445	Kennedy Development Road	2063473		HV Mains	7	7.11	7.2	LIFT	Temp 3	5	6.8	33	HV	TRUE		install mid span pole	
446	Kennedy Development Road	6072146	250	HV Mains	9	9	9		Temp 3	5	6.8	33	HV	FALSE		clear	
447	Street				#N/A	#N/A	#N/A			5	6.8		LV	N/A			
448	McLaren Street	2012385		LV 95ABC	6	5.9	6.1	LIFT	Temp 3	5	6.8	0.4(INS) + 33	HV	TRUE		restring 5095140->2012384-> trench to 5167513->2012385	

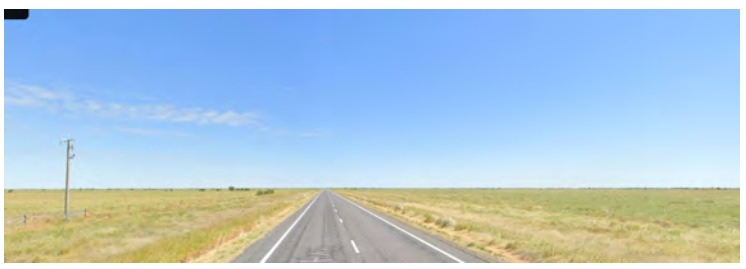
No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset			Ac	Temp	Route #	Highest Load(m)	Voltage(kV)	LV or HV	Confli		Remark	
Item No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	L	M	R		Temp (°C)			Voltage(kV)		Confli ct?		Remark/scope	Pictures
449	McLaren Street	2012385		HV Mains	9	9	9		Temp 3	5	6.8	33 HV		FALSE		clear	
450	McLaren Street	5167513		Pilot Cable	5.9	5.7.	5.6	LIFT	Temp 3	5	6.8 0+0.23(ins) + 33	HV		TRUE		trench to 5167513	
451	McLaren Street	12341200	250.5	LV Service	7	7	7	LIFT	Temp 3	5	6.8 0.23(ins)	LV		TRUE		unable to locate in street view or lual	
452	McLaren Street	2012378	251	OH Stay	11	14	15			5	6.8 0 (stay)	LV		FALSE			
453	SaleYards Road				#N/A	#N/A	#N/A			5	6.8	LV		N/A			
454	Saleyards Road	2012377		HV Mains	7.63	7.8	8.2	LIFT	Temp 3	5	6.8	33 HV		TRUE		install mid span pole	
455	Saleyards Road	2012377		HV Mains	9	9.4	9.6		Temp 3	5	6.8	33 HV		FALSE		clear	
456	Saleyards Road Henry st	5211189	250.9	HV Mains	8.7	8.7	8.7		Temp 3	5	6.8	33 HV		FALSE		clear	
457	Saleyards Road	5115603		LV Service	6.3	6.1	6.4	LIFT	Temp 3	5	6.8 0.4(ins)	LV		TRUE		lift and pass centre. Alternatively, raise pole 5115604 and install mid span pole adjacent 5115603	
458	Saleyards Road	5115597	251	OH Stay	6.2	6.4	6.5	LIFT	Temp 3	5	6.8 0(stay)	LV		TRUE		raise pole 5115597	

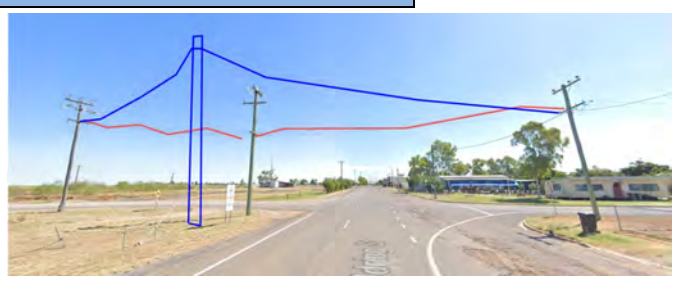
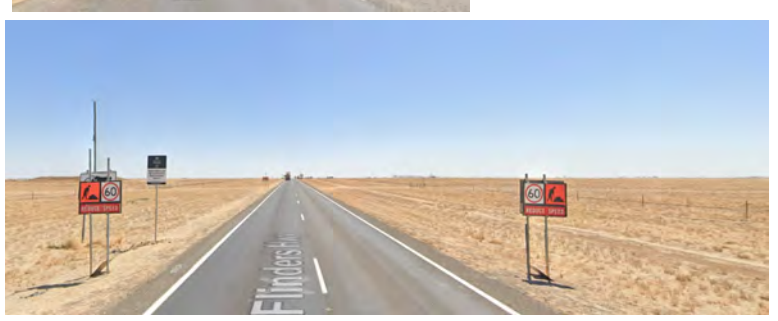
No. Item No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset L	M	R	Ac	Temp Temp (°C)	Route #	Highest Load(m)	Voltage(kV) Voltage(kV)	LV or HV	Conflict?	Remark Remark/scope	Pictures
459	Saleyards Road	5115596	251.3	LV Open Mains	6	6.2	6.4	LIFT	Temp 3	5	6.8	0.4	LV	TRUE	lift and pass left. Alternatively, install mid span pole on west side of road	
460	Saleyards Road	1197600		OH Stay	7.8	8.1	8.5	LIFT	Temp 3	5	6.8	0(stay)	LV	FALSE	clear	
461	Saleyards Road Lannermoor st	5115572	251.4	HV Mains	8.6	8.6	8.7		Temp 3	5	6.8	33	HV	FALSE	clear	
462	Saleyards Road	5115568	251.7	LV Open Mains	6.8	6.9	7	LIFT	Temp 3	5	6.8	0.4 + 33	HV	TRUE	potential intervoltage clearance issue with lift. New pole adjacent(southwest of) 5115568 to route LV higher.	
463	Hwy Towards Cloncurry				#N/A	#N/A	#N/A			5	6.8		LV	N/A		
464	Flinders Hwy Saleyard complex sign	5115568		LV 95ABC	6.3	6.1		LIFT	Temp 3	5	6.8	0.4(INS) + 33	HV	TRUE	potential intervoltage clearance issue with lift. New pole adjacent(southwest of) 5115568 to route LV higher.	
465	Flinders Hwy Driver reviver	5115567		HV Mains	7.8	7.7	8	LIFT	Temp 3	5	6.8	33	HV	TRUE	pass on right. Or install midspan pole	
466	Flinders Hwy Lights on the hill BP Serv Stn				#N/A	#N/A	#N/A			5	6.8		LV	N/A		
467	END OF TOWN		0		#N/A	#N/A	#N/A			5	6.8		LV	N/A		
468	Flinders Hwy	2012344	3.4	HV Mains	9	8.9	9		Temp 3	5	6.8	33	HV	FALSE	clear	
469	Flinders Hwy	5767532	4.9	Transmission	11.1	11.2	11.4		Temp 3	5	6.8	66	HV	FALSE	clear	
470	Flinders Hwy Green roof sheds	2034302		Swer	10	7.8	7.9	LIFT	Temp 3	5	6.8	19.1	HV	FALSE	clear on high side - measurements may be transposed	
471	Flinders Hwy Near Gunnerside rd #39753	2034210		Swer	10.1	10.3	10.4		Temp 3	5	6.8	19.1	HV	FALSE	clear	

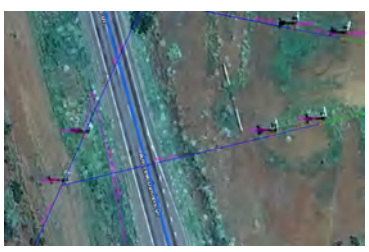
No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset			Ac	Temp	Route #	Highest Load(m)	Voltage(kV)	LV or HV	Conflict		Remark	
Item No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	L	M	R		Temp (°C)			Voltage(kV)		Conflict?		Remark/scope	Pictures
472	Flinders Hwy Near Turkey Nest Dam	5215977		Swer	8	8	8		Temp 3	5	6.8	19.1	HV	FALSE		marginally clear. If not, install midspan pole	
473	"Dunluce" & Telstra Hut	5215998		HV Mains	7.4	7.4	7.6	LIFT	Temp 3	5	6.8	33	HV	TRUE		install midspan pole south side of road. 2 phase	
474	Flinders Hwy Nindi Station	2110624		Swer	9.2	9.1	9.3		Temp 3	5	6.8	19.1	HV	FALSE		clear	
475	Flinders Hwy Sloans Crk rest area	2016533		Swer	10.6	10.2	9.8		Temp 3	5	6.8	19.1	HV	FALSE		clear	
476	Flinders Hwy Telstra Hut Kalboona	2110534		Swer	10.8	10.7	10.6		Temp 3	5	6.8	19.1	HV	FALSE		clear	
477	Flinders Hwy Barabon-Terranburby Rd	5216019		HV Mains	7.8	7.9	7.9	LIFT	Temp 3	5	6.8	33	HV	FALSE		install midspan pole south side of road.	
478	Flinders Hwy	2000452		HV Mains	7.8	7.7	7.9	LIFT		5	6.8	33	HV	TRUE		install midspan pole(s)	
479	Flinders Hwy	6004103		Swer	8	8	8			5	6.8	19.1	HV	FALSE		marginally clear. Missing from street view. Install mid span pole on east.	
480	Flinders Hwy Richmond	5116385		Transmission	11	11	11		Temp 3	5	6.8	66	HV	FALSE		clear. Unclear on which line in picture.	
481	Flinders Hwy Substation	5215980	39	Comms Cable	7.9	8	8		Temp 3	5	6.8	0(comms) + SWER	HV	FALSE		clear. Swer appears to be another 500+mm above	
482	STARTS HERE				#N/A	#N/A	#N/A			5	6.8		LV	N/A			
483					#N/A	#N/A	#N/A			5	6.8		LV	N/A			
484	Street				#N/A	#N/A	#N/A			5	6.8		LV	N/A			

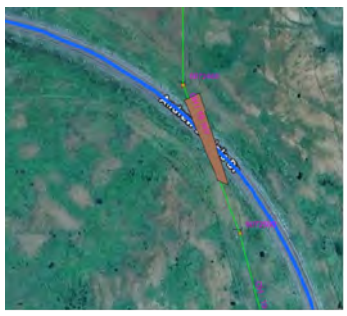
No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset			Ac	Temp	Route #	Highest Load(m)	Voltage(kV)	LV or HV	Conflict		Remark	
Item No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	L	M	R		Temp (°C)			Voltage(kV)		Conflict?		Remark/scope	Pictures
485	Burke Street	5207241	113	LV Open Mains	8.1	7.5	7.7	LIFT	Temp 3	5	6.8	0.23	LV	TRUE		lift and pass. Otherwise raise poles 5207241 &/or 5207240	
486	Burke Street			Railway Crossing						5	6.8	N/A	N/A	N/A			
487	Rodeo Grounds at Fork				#N/A	#N/A	#N/A		Burke	5	6.8		LV	N/A			
488	Dirt Road	5202328		HV Mains	9.4	9.2	9.2			5	6.8	33	HV	FALSE		clear. No street view	
489	Yards				#N/A	#N/A	#N/A		Dirt Rd	5	6.8		LV	N/A			
490	Sale Yards Toilets	5202331		HV Mains	9	9	9		Temp 3	5	6.8	33	HV	FALSE		clear	
491	Left Turn onto Saleyard Road	5202333	118.3	HV Mains	9.2	8.4	8.4		Temp 3	5	6.8	33	HV	FALSE		clear	
492					#N/A	#N/A	#N/A			5	6.8		LV	N/A			
493	FLINDERS HWY				#N/A	#N/A	#N/A			5	6.8		LV	N/A			
494					#N/A	#N/A	#N/A			5	6.8		LV	N/A			
495	TOWN				#N/A	#N/A	#N/A			5	6.8		LV	N/A			
496	Flinders Hwy Rodeo grounds on left	5202336		HV Mains	7.3	7.3	7.4	LIFT	Temp 3	5	6.8	33	HV	TRUE		install midspan pole north side	
497	Flinders Hwy Pattell road intersection	11143680	119.3	HV Mains	8.6	8.3	7.9		Temp 2	5	6.8	33	HV	FALSE		clear on left. Otherwise raise pole 11143681 crossarm	
498	Flinders Hwy	5246080	130	Swer					Temp 2	5	6.8	19.1	HV	TRUE		missing from conflict register. Present in steetview and LUAL. Likely to be below item	
499	Flinders Hwy	6287298	130	Swer	10.4	10.2	10.4		Temp 2	5	6.8	19.1	HV	FALSE		unable to locate on streeview or LUAL. Likely to be above item	

No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset			Ac	Temp	Route #	Highest Load(m)	Voltage(kV)	LV or HV	Conflict	Remark	Pictures
Item No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	L	M	R		Temp (°C)			Voltage(kV)		Conflict?	Remark/scope	
500	Flinders Hwy	5006300	130	Swer					Temp 2	5	6.8	19.1	HV	TRUE	missing from conflict register. Present in streetview and LUAL. Likely to be below item	
501	Flinders Hwy	5096201	14	Swer	9.1	9	8.9		Temp 2	5	6.8	19.1	HV	FALSE	unable to locate on streeview or LUAL. Likely to be above item	
502	Flinders Hwy 33Kv	5096200		HV Mains	11	10.9	11		Temp 2	5	6.8	19.1kv x 2	HV	FALSE	clear	
503	Flinders Hwy 66Kv	5116495	155	Transmission	13	12.8	13		Temp 2	5	6.8	66	HV	FALSE	clear	
504	Flinders Hwy 66Kv	5116509	159	Transmission	14	14	14		Temp 2	5	6.8	66	HV	FALSE	clear	
505	Flinders Hwy	5096264		Swer	10	10	10		Temp 2	5	6.8	19.1	HV	FALSE	clear	
506	Flinders Hwy 66Kv	5116528	164	Transmission	13.3	12.6	12.5		Temp 2	5	6.8	66	HV	FALSE	clear	
507	Flinders Hwy Maxwellton	5086262	165	Swer	9.4	9.3	9.3		Temp 2	5	6.8	19.1	HV	FALSE	clear	
508	Flinders Hwy Maxwellton	5096458	166	Swer	8.1	8.2	9		Temp 2	5	6.8	19.1	HV	FALSE	marginally clear. Install midspan pole if required	
509	Flinders Hwy	5064795	187	Swer	8.6	8.6	8.9		Temp 2	5	6.8	19.1	HV	FALSE	clear	

Item No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset L	M	R	Ac	Temp Temp (°C)	Route #	Highest Load(m)	Voltage(kV) Voltage(kV)	LV or HV	Conflict?		Remark Remark/scope	Pictures
510	Flinders Hwy Corella crk 79 km to JCreek	5064791	190	Swer	8.7	8.6	8.7		Temp 2	5	6.8	19.1	HV	FALSE		clear	
511	Flinders Hwy Radio cell phone tower	5116605	190	Transmission	13.3	12.7	13.1		Temp 2	5	6.8	66	HV	FALSE		clear	
512	Flinders Hwy "Nonda West" property	5039223	205	Swer	9.2	9.3	9.4		Temp 2	5	6.8	19.1	HV	FALSE		clear	
513	Flinders Hwy 66kv	5129124	214	Transmission	11.5	11.3	11.4		Temp 2	5	6.8	66	HV	FALSE		clear	
514	Flinders Hwy "Nelia"	5039352	217	Swer	9.2	9.2	9.2		Temp 2	5	6.8	19.1	HV	FALSE		clear	
515	Flinders Hwy Rail Xing	5129169	229	Transmission	11.8	11.9	11.7		Temp 2	5	6.8	66	HV	FALSE		clear	
516	Flinders Hwy Transmitter Towers	5096618	259	HV Mains	9.5	9.4	9.4		Temp 2	5	6.8	33	HV	FALSE		clear	
517	JULIA CREEK TOWNSHIP				#N/A	#N/A	#N/A			5	6.8		LV	N/A			
518	Turn left onto Flinders Hwy by pass				#N/A	#N/A	#N/A			5	6.8		LV	N/A			

No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset			Ac	Temp	Route #	Highest Load(m)	Voltage(kV)	LV or HV	Conflict?	Remark	Pictures
Item No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	L	M	R		Temp (°C)			Voltage(kV)			Remark/scope	
519	Flinders Hwy Bypass Cnr Mathews St	5205294	267	LV Open Mains	6.8	6.8	7.1	LIFT	Temp 2	5	6.8	0.4 + 33	HV	TRUE	limited slack to lift. Propose new pole southeast of 5205294 to reroute IV	
520	Flinders Hwy Bypass Cnr Top Pub	5205297		LV Service	7.5	7.4	7.6	LIFT	Temp 2	5	6.8	0.4(ins) + 33	HV	FALSE	marginally clear - small lift should be possible defspite above 33kV. Alternatively new pole to reroute LV	
521	Flinders Hwy Bypass Cnr Allison St	5118782		LV Service	7.3	7.2	7.3	LIFT	Temp 2	5	6.8	0.4	LV	TRUE	lift and pass center. Alternatively raise 5118782 &5224788(existing LV diversion)	
522	Flinders Hwy Bypass Cnr Allison St	5118783	267	HV Mains	9.3	9.3	9.4		Temp 2	5	6.8	33	HV	FALSE	clear	
523	Flinders Hwy Bypass at Pig Box	5118801		LV Open Mains	7.3	7.5	7.7	LIFT	Temp 3	5	6.8	0.4	LV	TRUE	no slack. Raise poles 5118801 & 5118802	
524	Flinders Hwy Bypass at Pigbox	5068099		HV Mains	8	7.9	7.8	LIFT	Temp 3	5	6.8	19.1 or 33	HV	FALSE	raise at pole 5068099	
525	Flinders Hwy Bypass Cnr Flinders intersection	5118888	268	HV Mains	8.6	8.6	8.6		Temp 3	5	6.8	33	HV	FALSE	clear	
526	Flinders hwy				#N/A	#N/A	#N/A			5	6.8		LV	N/A		
527	Julia Creek town ends				#N/A	#N/A	#N/A			5	6.8		LV	N/A		
528	Flinders Hwy IOR Truck S	10135871		HV Mains	7.6	7.7	7.8	LIFT	Temp 3	5	6.8	33	HV	TRUE	Raise at poles 10136871 & 10135840	
529	Flinders Hwy	5067749	270	Swer	9.5	9.3	9.4		Temp 3	5	6.8	19.1	HV	FALSE	clear	
530	Flinders Hwy Eddington	5068221	287	Swer	8.2	8.3	8.4		Temp 3	5	6.8	19.1	HV	FALSE	clear on right	

No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset			Ac	Temp	Route #	Highest Load(m)	Voltage(kV)	LV or HV	Confli		Remark	Pictures
Item No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	L	M	R		Temp (°C)			Voltage(kV)		Confli ct?		Remark/scope	
531	Flinders Hwy Eddington	5068220	287	Swer	7.9	7.9	8.2		Temp 3	5	6.8	19.1	HV	FALSE		midspan pole south side of road	
532	Flinders Hwy 40kms to Julia creek sign	5067613	307	Swer	7.6	7.4	7.6	LIFT	Temp 3	5	6.8	19.1	HV	TRUE		midspan pole south side of road	
533	Flinders Hwy Parking Bay rest area	10553920	337	Swer	9.7	9.7	9.7		Temp 3	5	6.8	19.1	HV	FALSE		clear	
534	Flinders Hwy Tower	5153998	347	Swer	8.6	8.5	8.6		Temp 3	5	6.8	19.1	HV	FALSE		clear	
535	Flinders Hwy Maxwellton	5025950	366	Swer	7.8	7.7	7.9	LIFT	Temp 3	5	6.8	19.1	HV	TRUE		mid span pole on south side of road	
536	Flinders Hwy Telstra Hut	50255873	378	Swer	9.2	9.1	9.2		Temp 3	5	6.8	19.1	HV	FALSE		clear	
537	Flinders Hwy	10985680	378	Swer	9.5	9.4	9.5		Temp 3	5	6.8	19.1	HV	FALSE		clear	
538	Flinders Hwy Winton Turn off				#N/A	#N/A	#N/A			5	6.8		LV	N/A			
539	Flinders Hwy	2142864		Swer	7.9	7.8	7.9	LIFT	Temp 3	5	6.8	19.1	HV	FALSE		install midspan pole on south side of road	
540	Cloncurry Bypass				#N/A	#N/A	#N/A			5	6.8		LV	N/A			
541	Andrew Daniels Drive				#N/A	#N/A	#N/A			5	6.8		LV	N/A			
542	Cloncurry By - Pass	5126726		HV Mains	7.7	7.6	7.7	LIFT	Temp 3	5	6.8	11	HV	TRUE		install mid span pole(s), or re route 11kV via 6038020> 5025972	
543	Cloncurry By - Pass	10738320		HV Mains	8.9	8.8	8.9		Temp 3	5	6.8	11	HV	FALSE		clear	

No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset			Ac	Temp	Route #	Highest Load(m)	Voltage(kV)	LV or HV	Conflict?		Remark	Pictures
Item No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	L	M	R		Temp (°C)			Voltage(kV)				Remark/scope	
544	Cloncurry By - Pass	5152770	404	Swer	9.3	9.2	9.3		Temp 3	5	6.8	19.1	HV	FALSE		clear	
545	Cloncurry By - Pass	6072460		Swer	8.5	8.3	8.1		Temp 3	5	6.8	19.1	HV	FALSE		clear on left	
546	Cloncurry By - Pass	6101024	404.8	HV Mains	9.9	9.7	9.5		Temp 3	5	6.8	11	HV	FALSE		clear	
547	Cloncurry By - Pass	10194911	405	HV Mains	9.9	9.6	9.4		Temp 3	5	6.8	11	HV	FALSE		clear	
548	Cloncurry By - Pass Sir Hudson Fysh Drive	5207316		HV Mains	9.8	9.6	9.4		Temp 3	5	6.8	11	HV	FALSE		clear	
549	Right Turn Onto Burke Development Rd				#N/A	#N/A	#N/A			5	6.8		LV	N/A			
550	Burke Development Rd	5214734	0.3	LV Service	6.2	6	5.9	LIFT	Temp 3	5	6.8	0.23(INS)	LV	TRUE		raise all hardware on 5214734	
551	Burke Development Rd			Bridge Barrier-Barrier	1000		1000			5	6.8	N/A	N/A	N/A			
552	Burke Development Rd			Truck Parking Bay						5	6.8	N/A	N/A	N/A			
553	Burke Development Rd			Transmission	12	12	12		220KV	5	6.8	220	HV	FALSE		clear	
554	Burke Development Rd	8105812	17	Swer	8.5	8.5	8.5		Temp 3	5	6.8	19.1	HV	FALSE		clear	
555	Burke Development Rd			Bridge Barrier-Barrier	800		800			5	6.8	N/A	N/A	N/A			
556	Burke Development Rd			Bridge Barrier-Barrier	800		800			5	6.8	N/A	N/A	N/A			
557	Burke Development Rd	5050292	42	Swer	9	9.2	9.4		Temp 3	5	6.8	19.1	HV	FALSE		clear	
558	Burke Development Rd	5050292		Truck Parking Bay	9.5	9.5	9.5			5	6.8	19.1	HV	FALSE		same line as above - measured from different point	
559	Dugald River Mine				#N/A	#N/A	#N/A			5	6.8		LV	N/A			
560	Kalkadoon Way			Airstrip						5	6.8	N/A	N/A	N/A			
561	Kalkadoon Way			Bridge Barrier-Barrier	1200		1200			5	6.8	N/A	N/A	N/A			

No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	Height of Mains / Asset			Ac	Temp	Route #	Highest Load(m)	Voltage(kV)	LV or HV	Conflict		Remark	
Item No.	Address / Refrence Point	Pole #	Kms	Mains Type - Structual Asset	L	M	R		Temp (°C)			Voltage(kV)		Conflict?		Remark/scope	Pictures
562	Kalkadoon Way	7432	64	Transmission	13	13	13		Temp 3	5	6.8	220 HV		FALSE	clear		
563	Security Gate		64														

10.4 Stakeholder Engagement Records

10.4.1 Minutes of Meeting – MMG/QPS/DTMR HV Access

MINUTES

TMR, QPS, MMG Discussion | Dugald River Wind Farm

Date	Wednesday 2nd July 2025	**Time**	4pm – 5pm
Place	MS Teams		
Minute Taker	Emma-Leigh Townend – A/Advisor Projects and Communications (TMR)		

	Attendees	**Apologies**
TMR Heavy Vehicle Access	Emma-Leigh Townend	
MMG	Christopher Kellie Daniel Bales	
QPS	Julie Mayo	

Introduction to Dugald Wind Farm

- MMG provided a brief introduction to the wind farm.

Points of Discussion

Convoy

- Most wind farms do not operate in convoy.
- Discussion for Clarke Creek convoy trial for tower sections was not supported by the road manager.
- No load over 70m combined length is supported at this stage (wind blades may reach 90m+ but 70m is the working limit).
- The typical offset between loads is around 30 minutes to give other road users access to the network, though this may vary depending on whether travel occurs during the day or at night.
- A realistic timeline for movements is likely limited to one turbine per week as fatigue is an issue both with QPS and drivers. This is to be considered during planning as it could significantly impact project scheduling.
- The sequence of turbine deliveries should be carefully considered “just in time” delivery schedules significantly strain QPS officer availability and can impact operational feasibility.
- A sufficient lay down area is something to factor into planning. Depending on the local rights on the land there may not be space for it however it would be a financial interest where turbines can be sorted out of order will prevent delays.

Escorting

- Wind farm loads typically sit at 5.5m high, MMG noted they will have one of the 6m wide turbines.
- Qube Logistics and Rex Andrews are commonly engaged for turbine transport. MMG confirmed the use of Rex Andrews for this project.
- Issues anticipated from Townsville port including high wires, coordination with energy providers is common to manage these.
- Escorting requirements depend on load dimensions.
- Possible flexibility on Stage 2 movements due to the long stretch of road and less overheads.
- Early engagement critical for escorting arrangements and training.

- Some sections (e.g., Hervey Range Road) noted as specific challenges.
- QPS officers cannot be replaced by non QPS or retired officers (no current provision in QLD).

Jurisdiction

- No change for QPS at district borders however officer handover requires load checks which take approximately half an hour.
- Further jurisdiction detail will depend on finalised TMP.

QPS Availability

- Strict fatigue management: 24-hour break every 14 days, 10-hour break for trips over 300+ km.
- QPS officers work rest days where possible but availability is limited.
- Escorting resources are stretched, QPS will explore cost savings where feasible but within limitations.
- Realistic timeline for movements likely limited to one turbine per week due to fatigue constraints for both QPS and drivers, this should be factored into early project planning and scheduling.

QPS Engagement Process

- Early engagement is crucial to allow scheduling, training, and logistical planning.
- Delivery schedule and logistics detail required as early as possible.
- TMP and TIA completion and transport operator engagement will enable more definitive feedback.

Pinch Points, Contra Flow, High Speed Difference (e.g. TR6 Conditions)

- Potential pinch points include high wires near port and possibly Charters Towers.
- Pull-over bays and contra flow conditions will need to be reviewed as part of TIA & TMP.
- Timing models need to consider line lifting and staging impacts on scheduling.

Traffic Management Plan

- A TMP is a prerequisite for assessment for District and QPS.
- TMP development should follow TIA completion and transport operator appointment.
- Once a TMP is submitted, QPS will conduct their own on-site route assessment (Ground Truthing).
- QPS and TMR will provide further input once TMP is available.
- TMP guidelines can be supplied to assist development.

Level Crossings

- Rail crossings will require discussion with LGAs who will be involved in future stakeholder meetings.

Rest Stop and Fatigue Management Considerations

- Pullover bays may need to be constructed, an example of this is Clarke Creek Wind Farm. This is something to be included in project planning.

- QPS will consider pullover bays, rest stops, and scheduling to manage fatigue upon review of the TMP.
- The suitability of rest stops will be assessed by QPS during their desktop review of the TMP/route and ground-truthing.
- Overnight stays may be required depending on timing with cost implications noted.

Traffic/ Community Interactions

- Community engagement critical and SARA paperwork outlines obligations.
- QPS interested in monitoring community unrest/protests an example given of Clarke Creek using SMS notifications during movements.
- Early operator engagement will support proactive community and stakeholder communication.

10.4.2 March 2026 Logistics Stakeholder Presentation

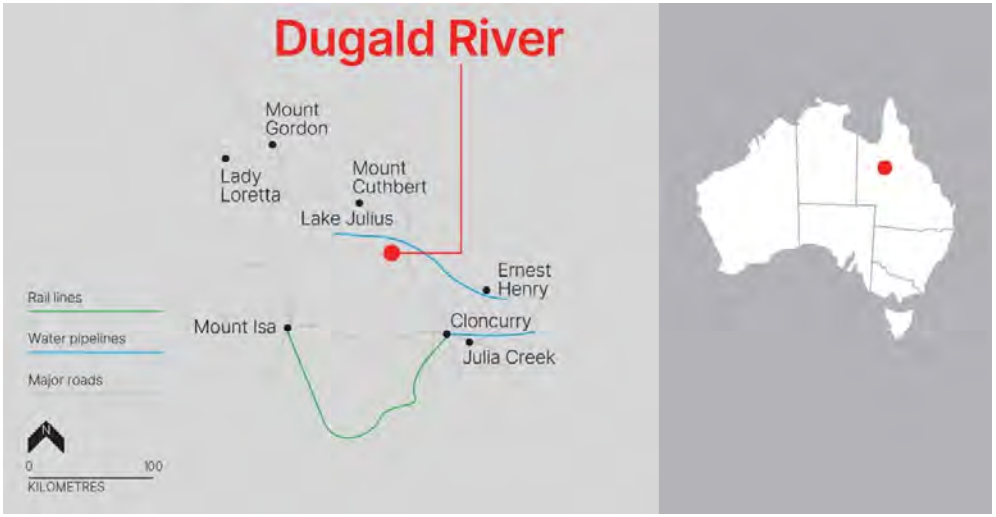
Dugald River Wind Farm

Project Update

ICMM International Council on Mining & Metals | MINING WITH PRINCIPLES

Snapshot of Dugald River Mine

Based on one of the world's highest-grade known zinc deposits, MMG's Dugald River mine is a top-10 global zinc operation located 65 kilometres north-west of Cloncurry in the North-West Minerals Province, Queensland.



Dugald River site overview video

170,000-180,000 tonnes
ANNUAL ZINC PRODUCTION

PRODUCTION COMMENCED
IN 2017, OFFICIAL OPENING 2018

857 JOBS

$450K+ SPENT IN LOCAL COMMUNITIES IN 2025

$12.5M SPENT WITH LOCAL BUSINESSES IN 2025

MINING LIFE
2043 BUT OPEN TO EXTEND

Why a Wind Farm?

- Supports the long-term future of Dugald River mine and other regional mining operations.
- Lowers reliance on high-cost gas fired power, while improving price stability.
- Unlocks growth opportunities across the region through the expansion of the Dugald River Wind Farm.
- Establishes the region as a renewable energy hub, supporting both existing and future mining operations.

Image: Kennedy Energy Park

Regional opportunities

- Enables regional road upgrades and investment in lifting powerlines for future renewable energy projects.
- Opens up new mining opportunities in the North West Minerals Province, through lower running costs.
- Positions the region as an early mover in large scale renewable energy projects.
- Establishes a project that demonstrates how to decarbonise remote mining operations.

Project Summary

Dugald River Wind Farm

8 x 6MW Wind Turbines

35MW/2Hr BESS

Option for expansion

MMG partnered with EDL as preferred project IPP to build, own, operate the wind farm

Powerline & road upgrades mid 2026 to Q2 2028

Road transport as early as Q3 2027, conservatively Q2 2028 (post wet season)

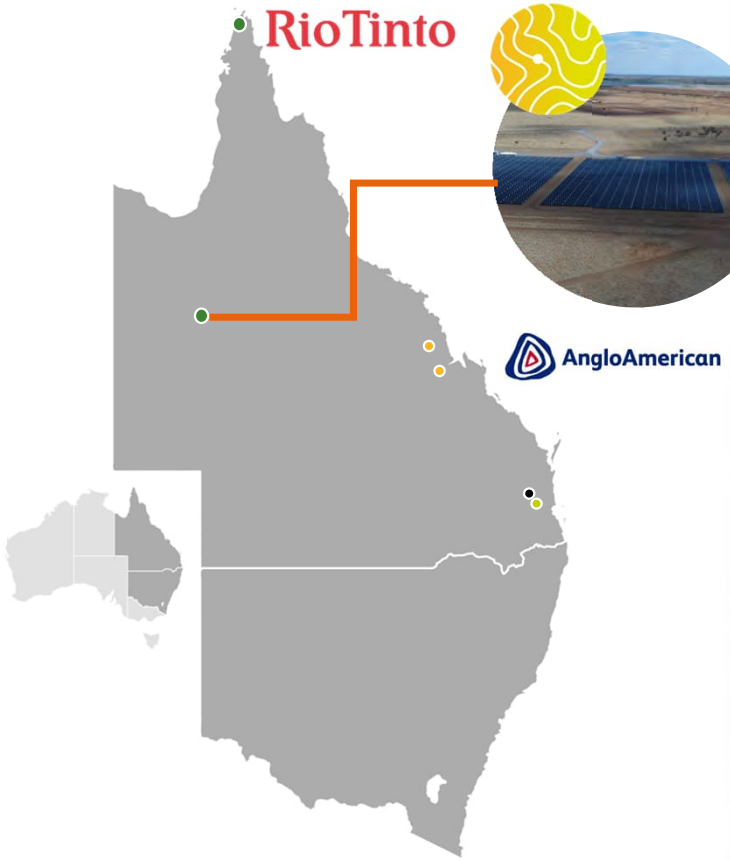
EDL Introduction

Queensland

5 power & gas facilities

187 employees

>A$63million spent with ~350 suppliers in Queensland (2025)



Cannington
Remote power station
Queensland, Australia

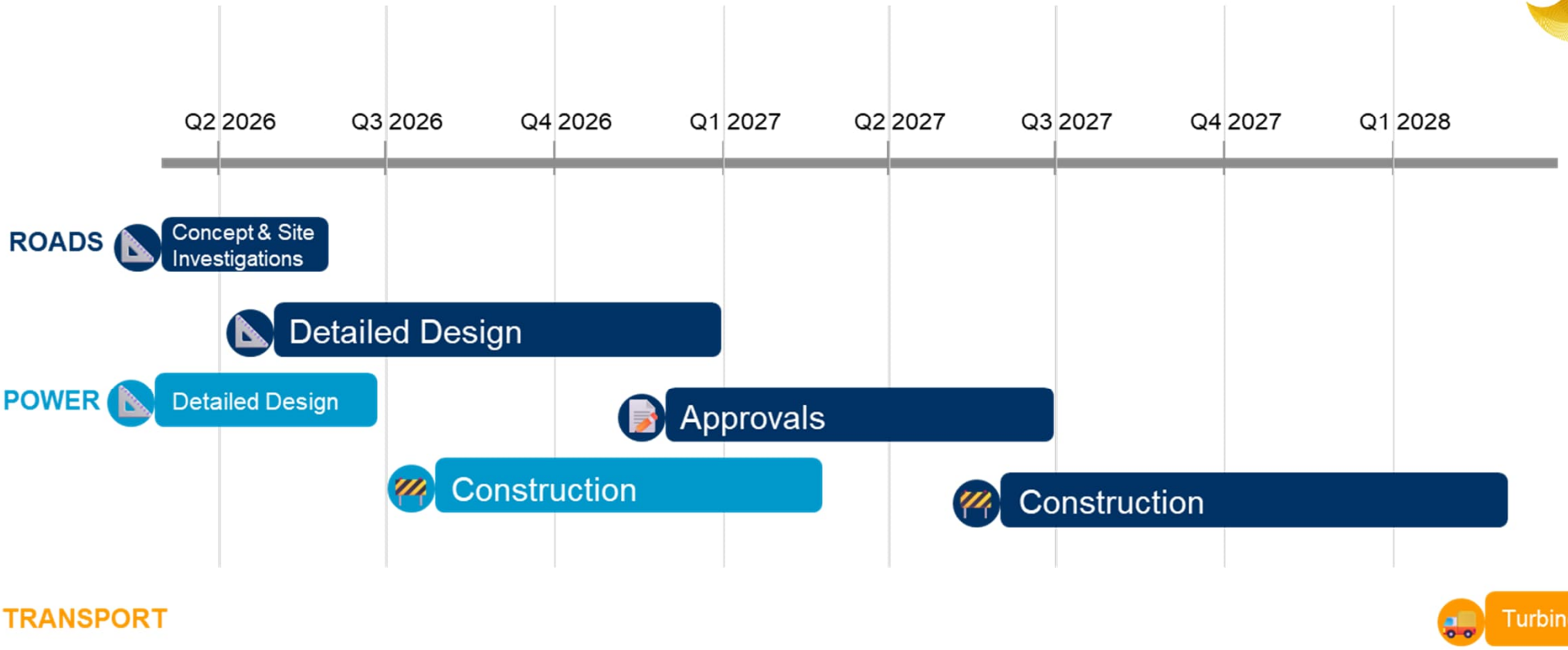
697 MW installed capacity

1997 Commenced QLD operations

~1.2 million cars off the road p.a.

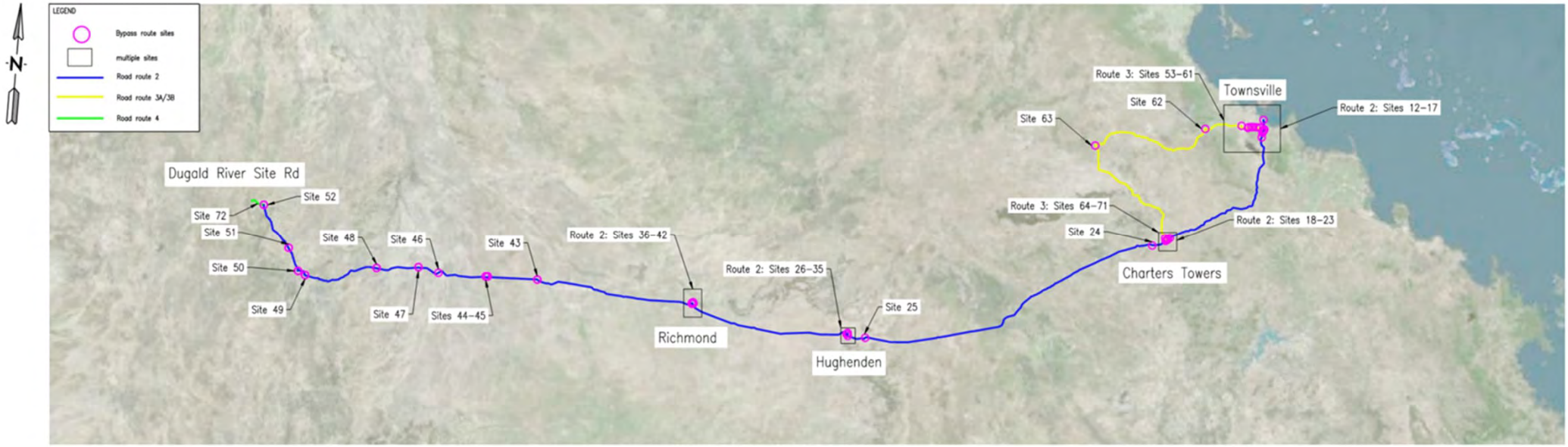
~3.3 million tCO_2-e abated p.a.

Proposed project schedule*



*Draft only

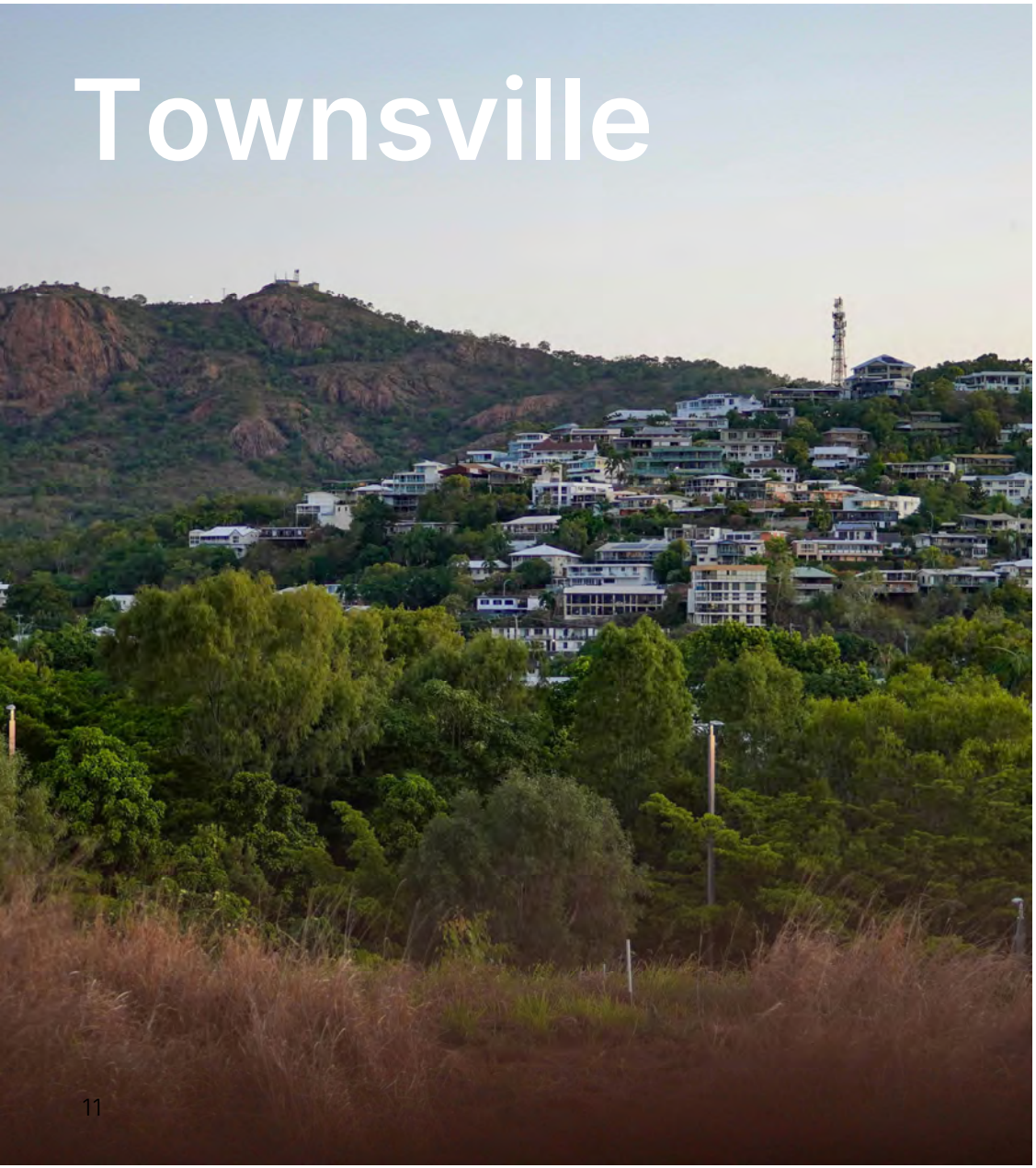
Route summary



EDL RIVER WIND FARM TRANSPORT ROUTE
NOT TO SCALE

*Draft only

A world of new energy



Summary

Port Facility Use – Reclamation Upgrade Anticipated by POTL

Road Furniture and powerline upgrades

OSOM Transport via Flinders Hwy and Hervey's Range Road to Charters Towers

Route summary – Townsville to Charters Towers

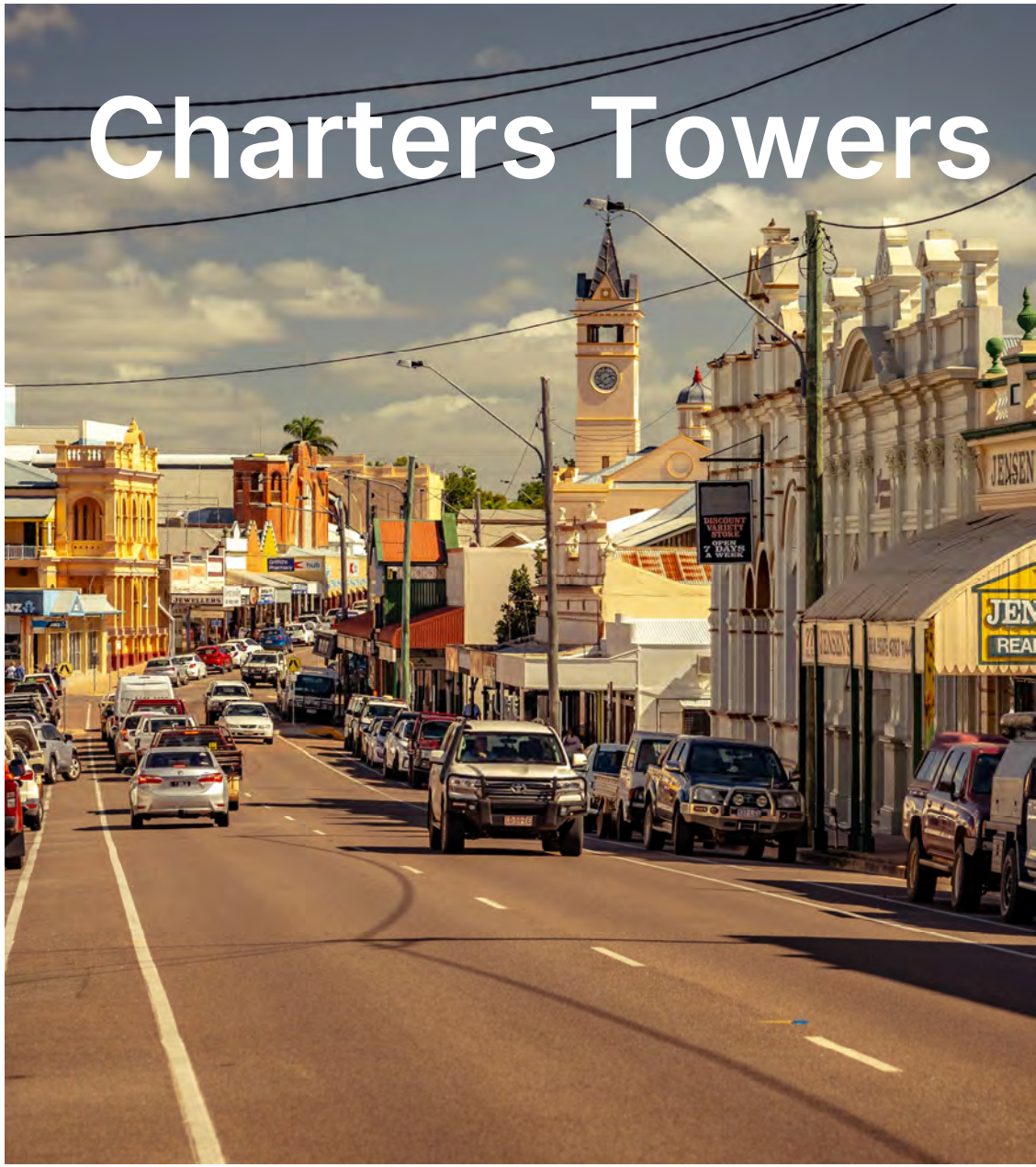
LOCALITY PLAN SITES 62 & 63 (TOWNSVILLE TO CHARTERS TOWERS)

Summary

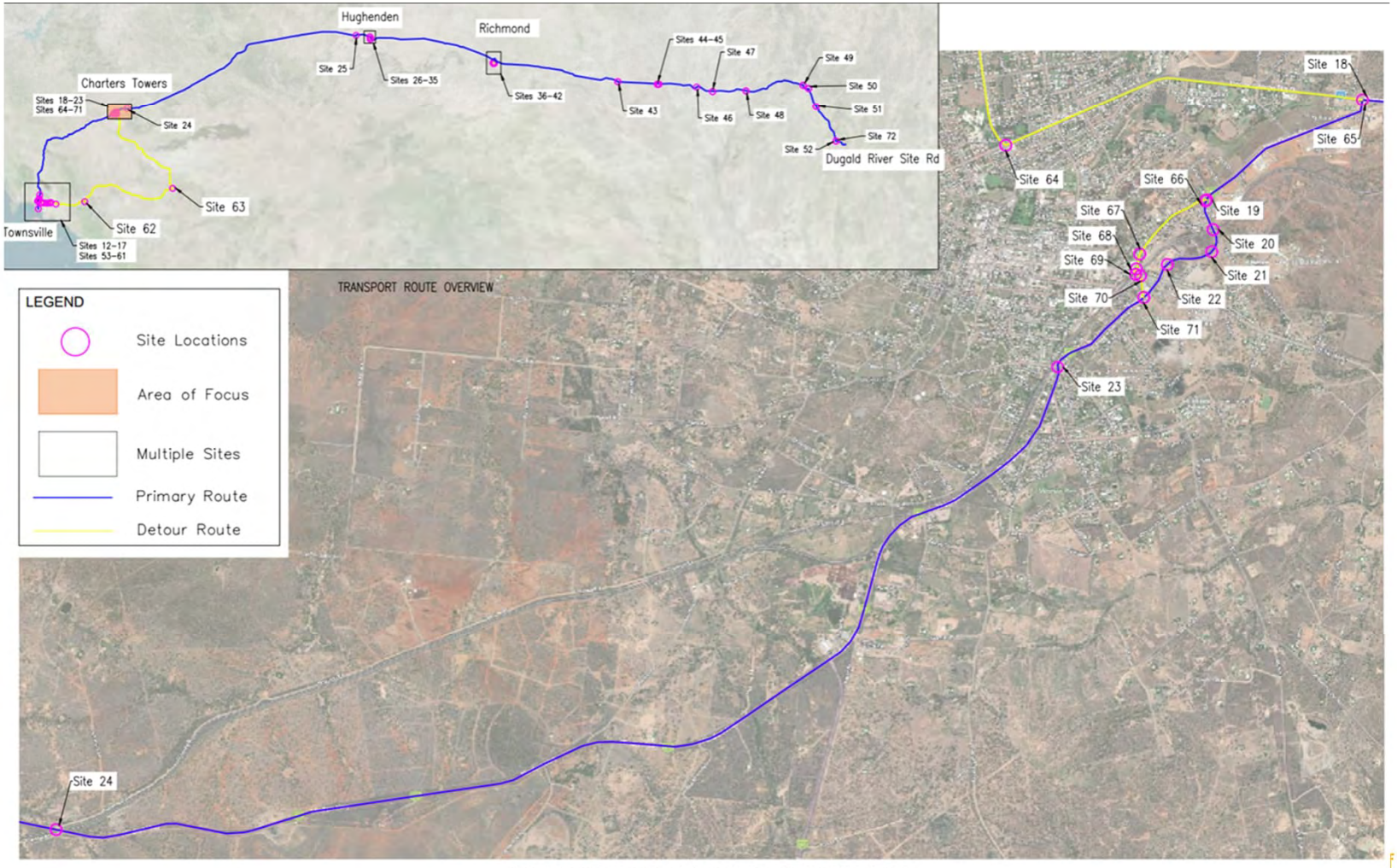
Powerline Upgrades – GDR & Hackett Street

Road Furniture Upgrades

OSOM Transport via Flinders Hwy and Hervey's Range Road to Charters Towers



Route summary – Charters Towers

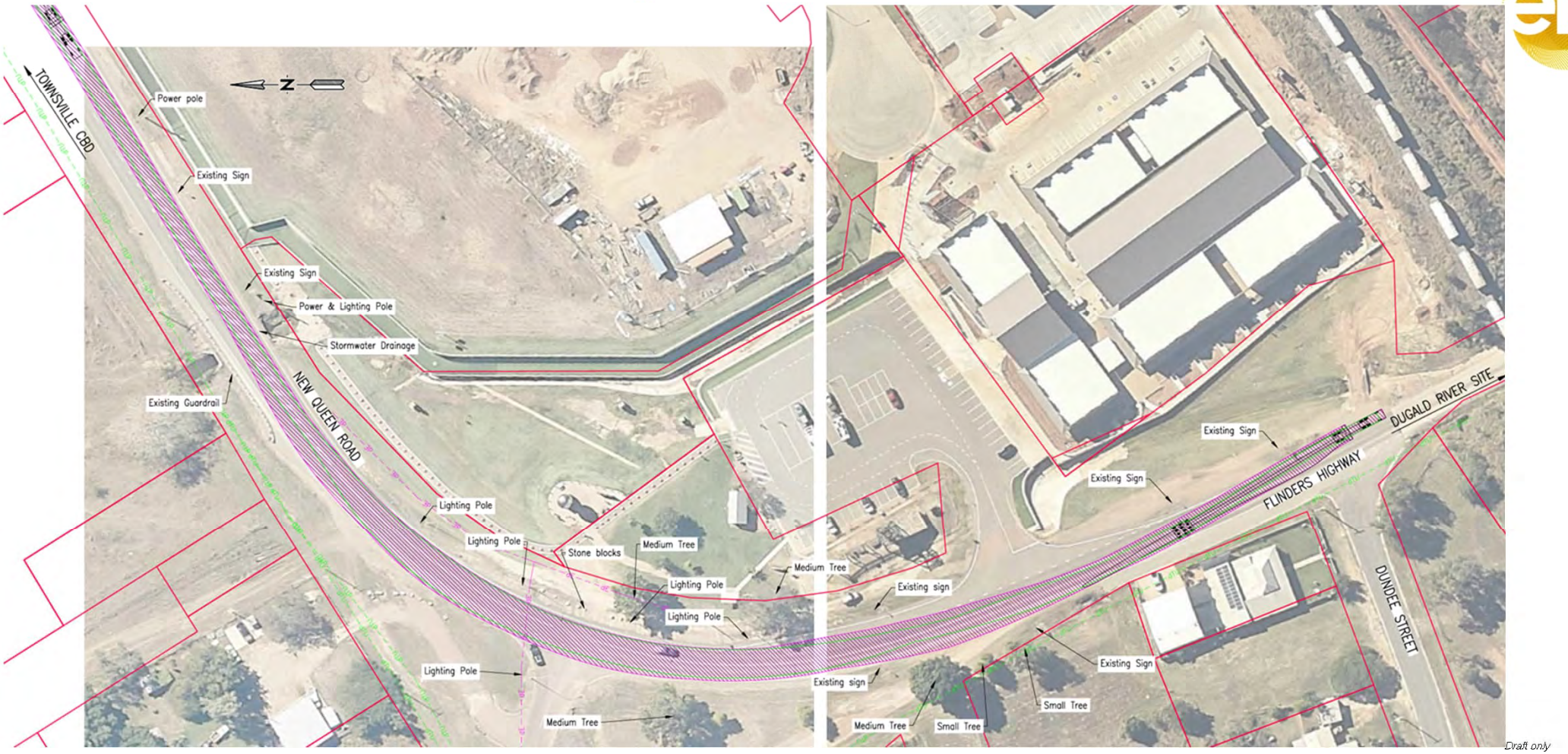


LOCALITY PLAN SITES 18 TO 23 & 64 TO 71 & 24 (CHARTERS TOWERS)
NOT TO SCALE

*Draft only

new energy

Route summary – Charters Towers



Draft only

Route summary – Charters Towers

*Draft only

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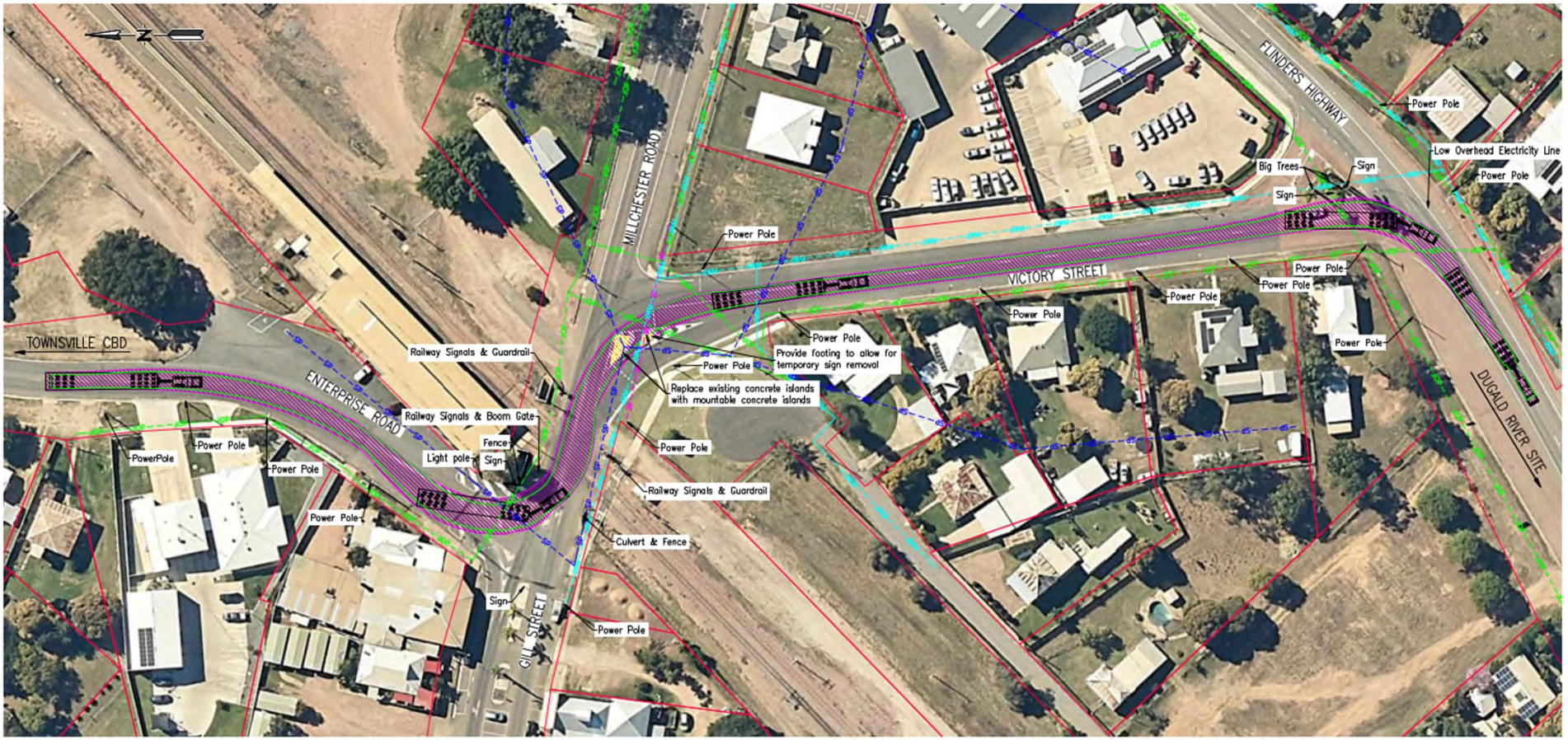
Route summary – Charters Towers



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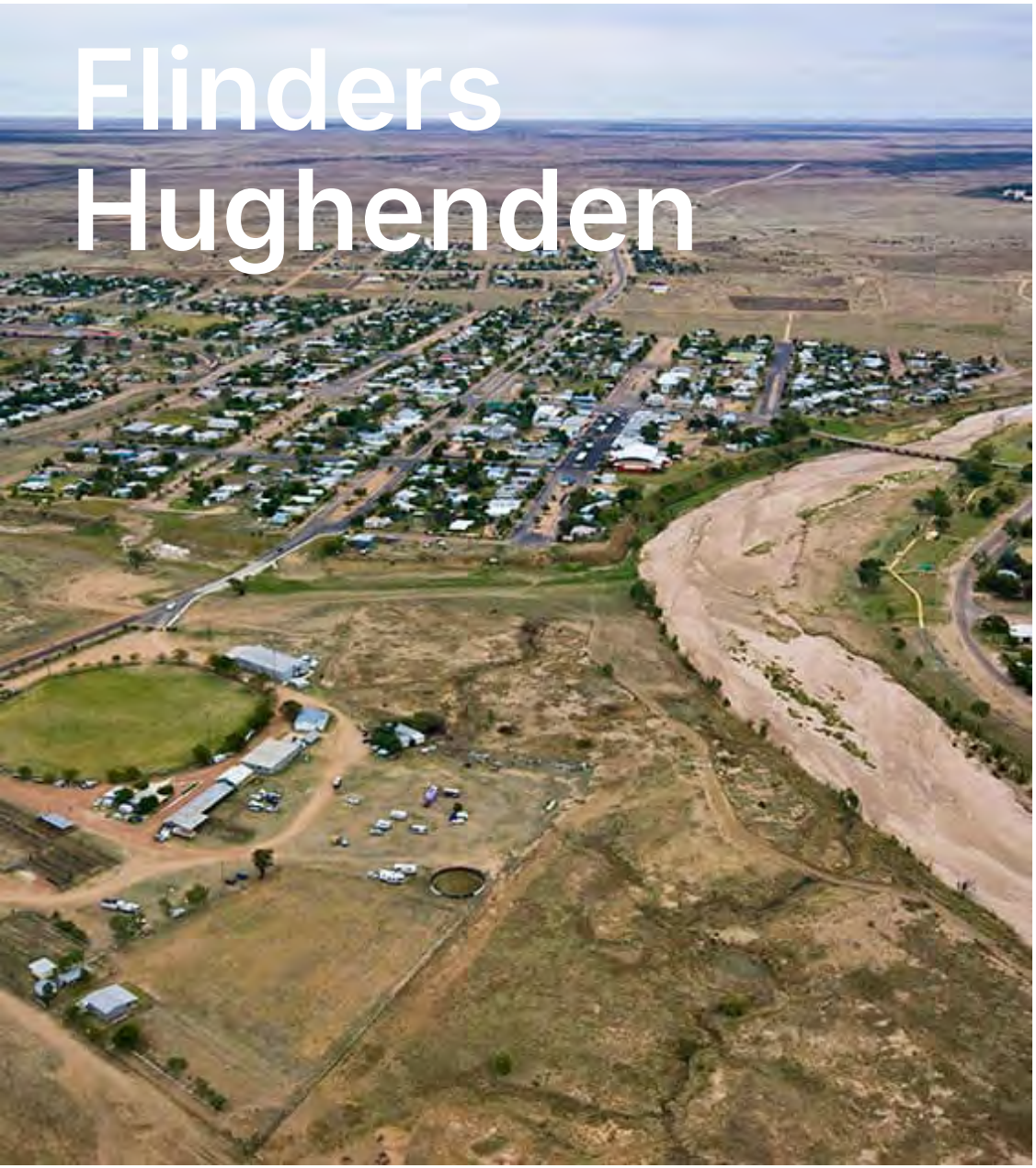
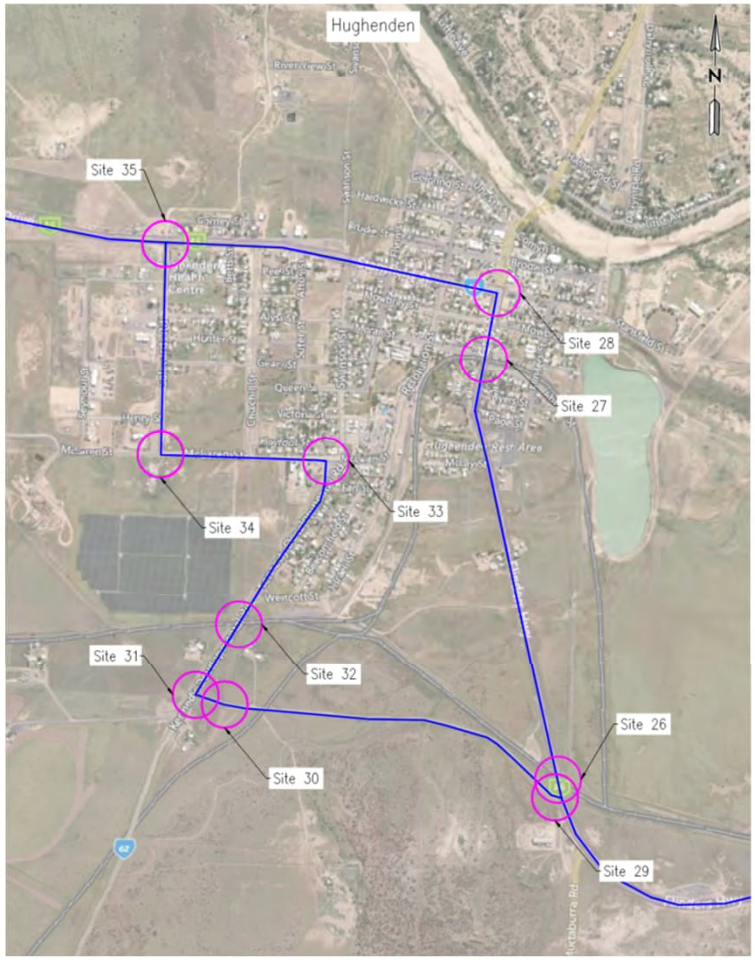


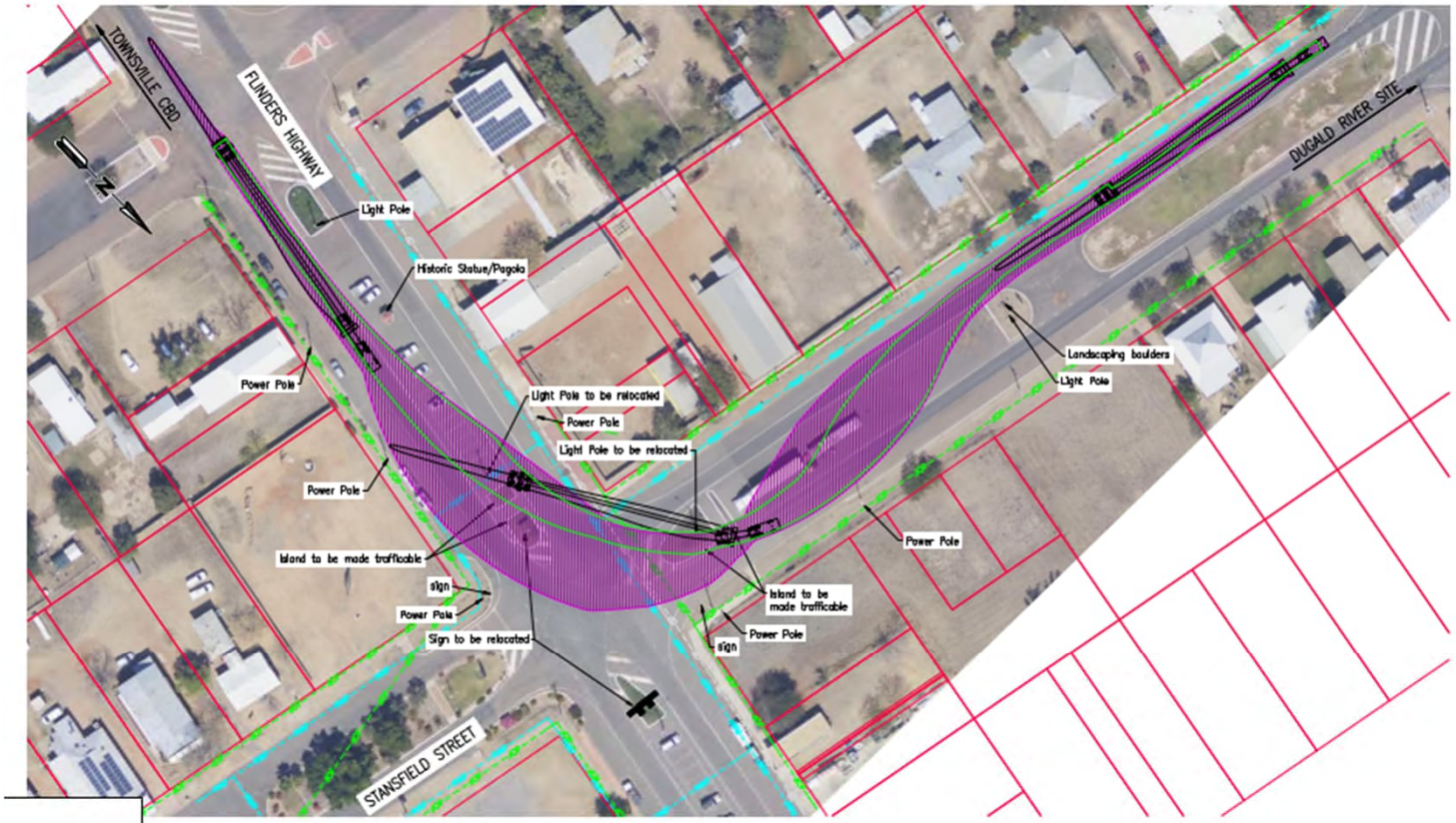
Summary

- Town Bypass
- Road Furniture works
- Other Projects

Route summary – Hughenden



Hughenden



y Boundary
lade Extents
Extents
Path Extents

PRELIMINARY
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PLOT DATE: Feb 27, 2026 - 6:11pm

NOTE:
FIGURED DIMENSIONS TO TAKE PRECEDENCE OVER SCALED MEASUREMENTS. VERIFY ALL ON SITE DIMENSIONS & LEVELS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION. CONTRACTOR TO NOTIFY ENGINEER IMMEDIATELY OF ANY DISCREPANCIES. COPYRIGHT OF THIS DRAWING IS VESTED WITH HARRISON INFRASTRUCTURE GROUP.

	DWN	CHK	APP	DATE

Original Size - A1

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CLIENT: EDL ENERGY

PROJECT: DUGALD RIVER WIND FARM
TRANSPORT ROUTE
PRELIMINARY DESIGN

TITLE: SITE 28 OSOM BLADE VEHICLE SWEPT PATH

Engineering Certification RPEQ:
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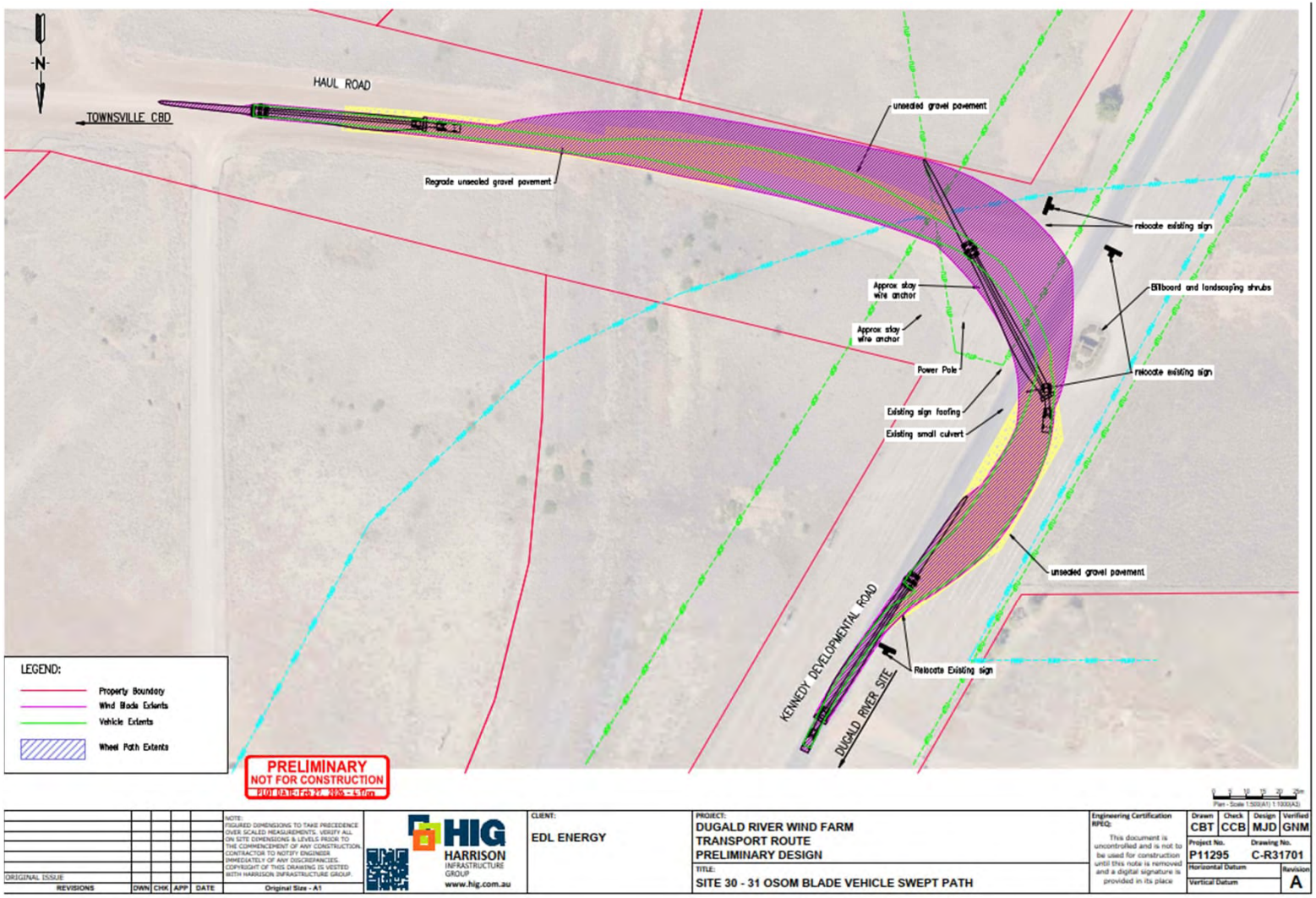
Plan - Scale 1:500@A1

Drawn	Check	Desi
CBT	CCB	MJ

Project No. P11295 Draw C-F
Horizontal Datum
Vertical Datum

A world of new energy

Hughenden



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REVISIONS	DWN	CHK	APP	DATE	NOTE: FIGURED DIMENSIONS TO TAKE PRECEDENCE OVER SCALED MEASUREMENTS. VERIFY ALL ON SITE DIMENSIONS & LEVELS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION. CONTRACTOR TO NOTIFY ENGINEER IMMEDIATELY OF ANY DISCREPANCIES. COPYRIGHT OF THIS DRAWING IS VESTED WITH HARRISON INFRASTRUCTURE GROUP. Original Size - A1	

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CLIENT: EDL ENERGY

PROJECT: DUGALD RIVER WIND FARM
TRANSPORT ROUTE
PRELIMINARY DESIGN

TITLE: SITE 30 - 31 OSOM BLADE VEHICLE SWEPT PATH

Engineering Certification RPEQ:
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Drawn	Check	Design	Verified
CBT	CCB	MJD	GNM

Project No. P11295 | Drawing No. C-R31701
Horizontal Datum | Vertical Datum | Revision A

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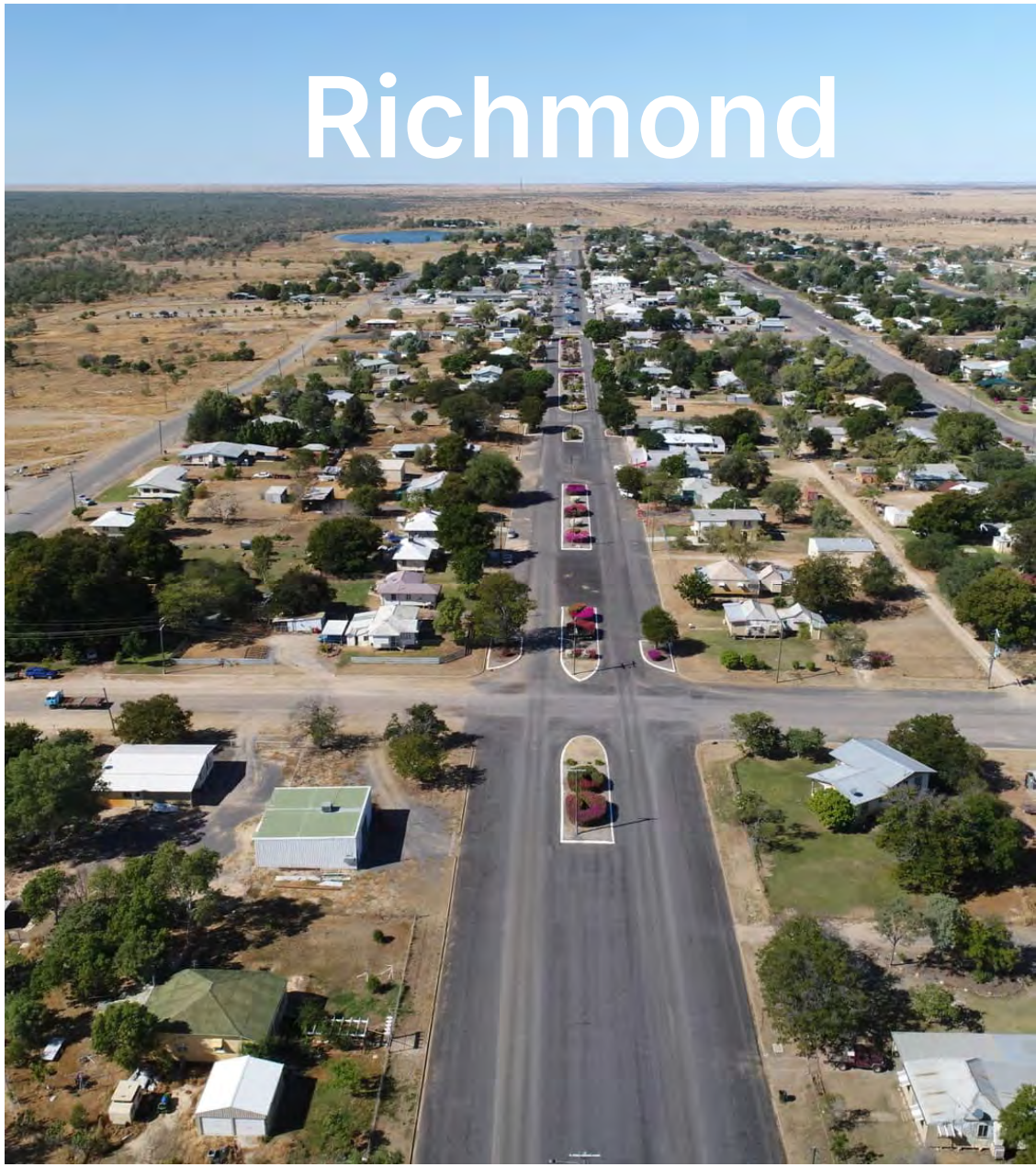
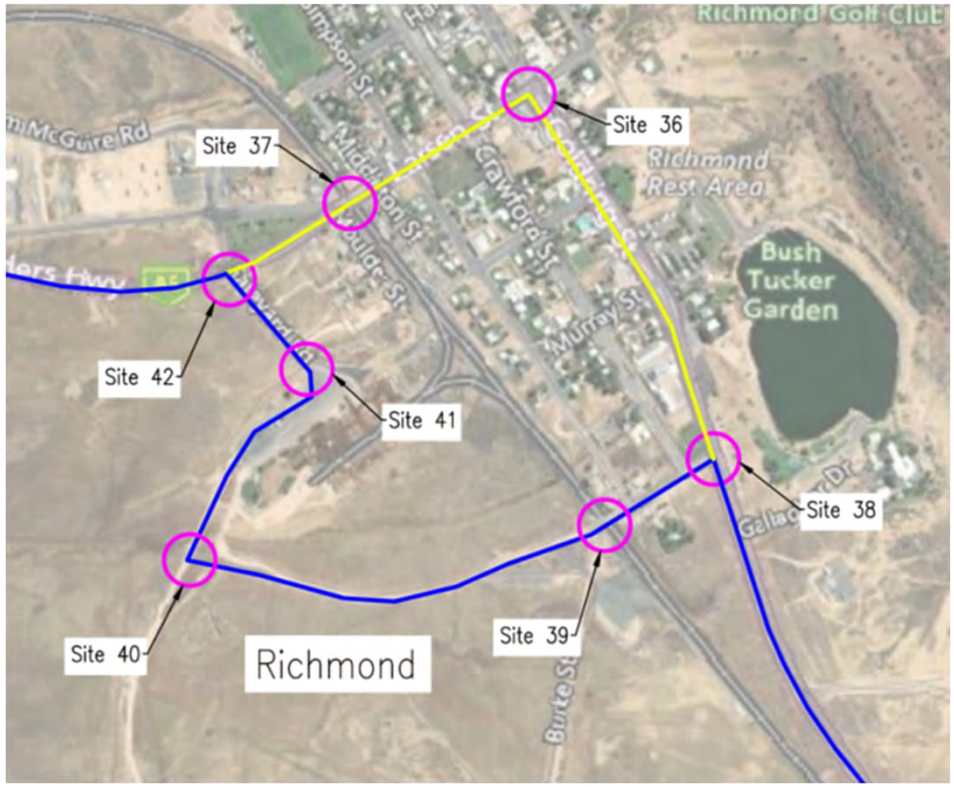
Summary

Town bypass

Furniture works



Route summary – Richmond



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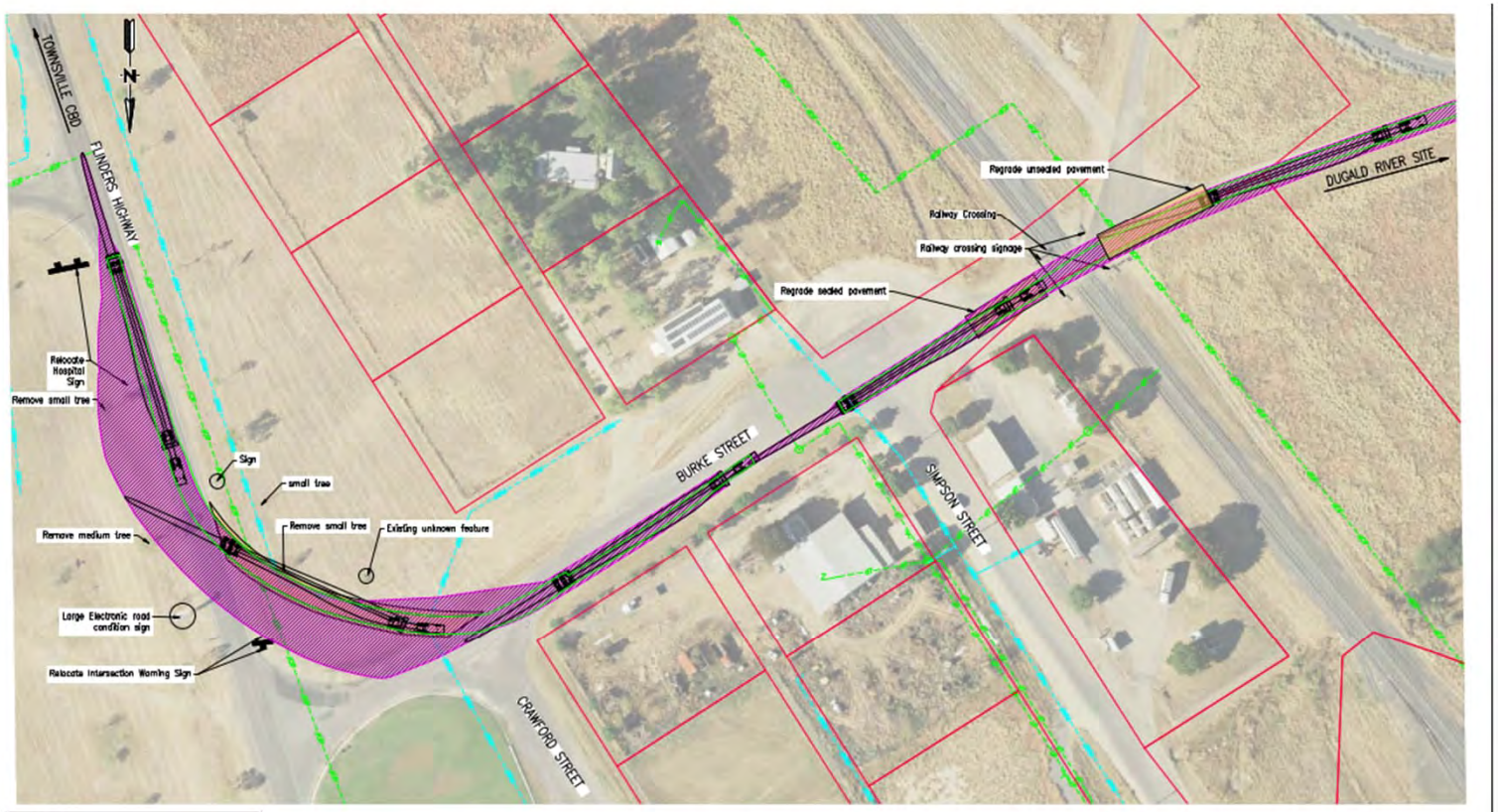
Richmond



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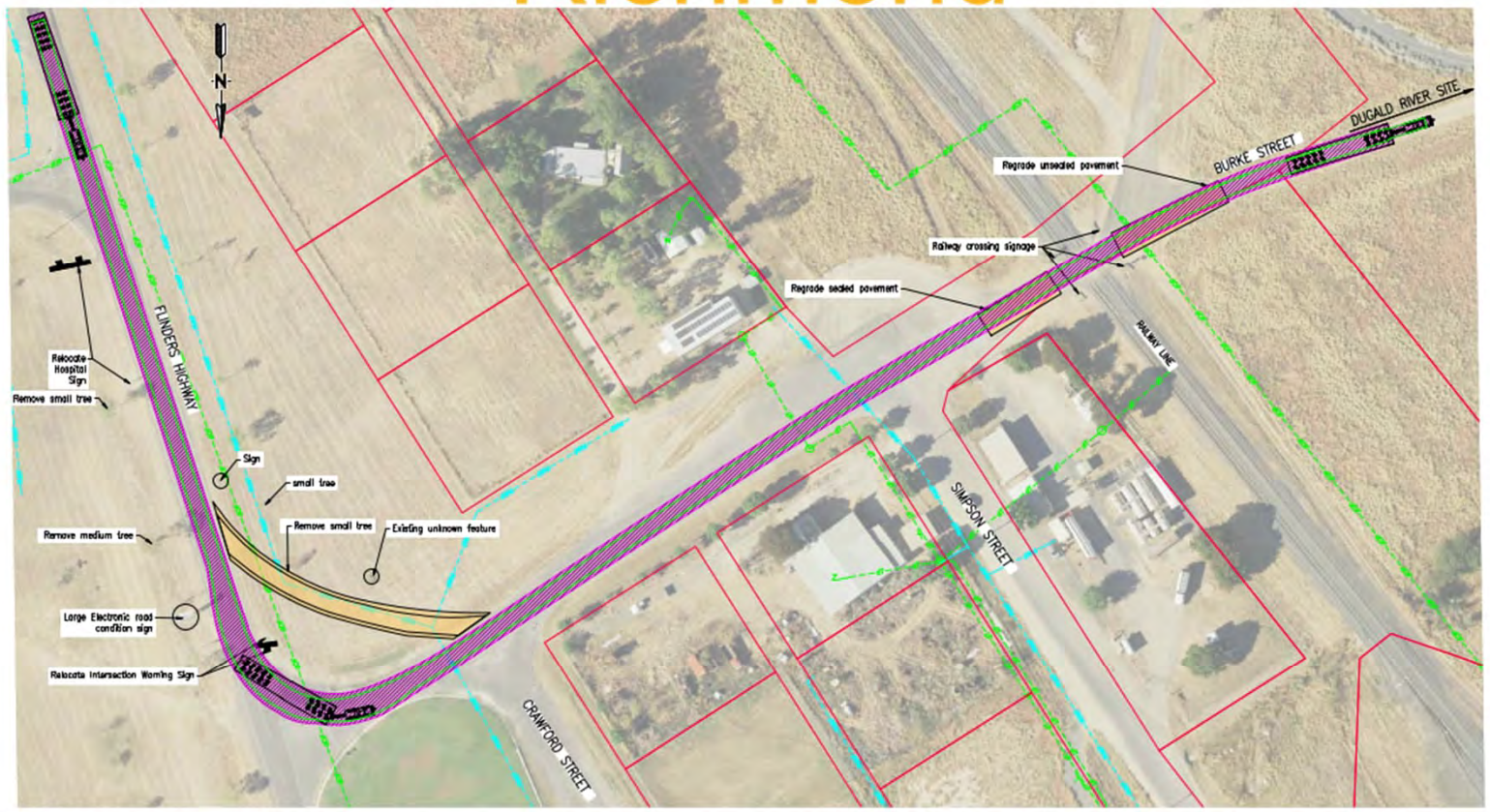
Richmond



LEGEND:

- Property Boundary
- Tower Extents
- Vehicle Extents
- Wheel Path Extents

PRELIMINARY
NOT FOR CONSTRUCTION
PLOT DATE: Feb 27, 2026 - 4:21pm

REVISIONS	DWN	CHK	APP	DATE
A ORIGINAL ISSUE				

NOTE:
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CLIENT: EDL ENERGY

PROJECT: DUGALD RIVER WIND FARM
TRANSPORT ROUTE
PRELIMINARY DESIGN

TITLE: SITE 38 & 39 OSOM TOWER SWEPT PATH

Engineering Certification RPEQ:
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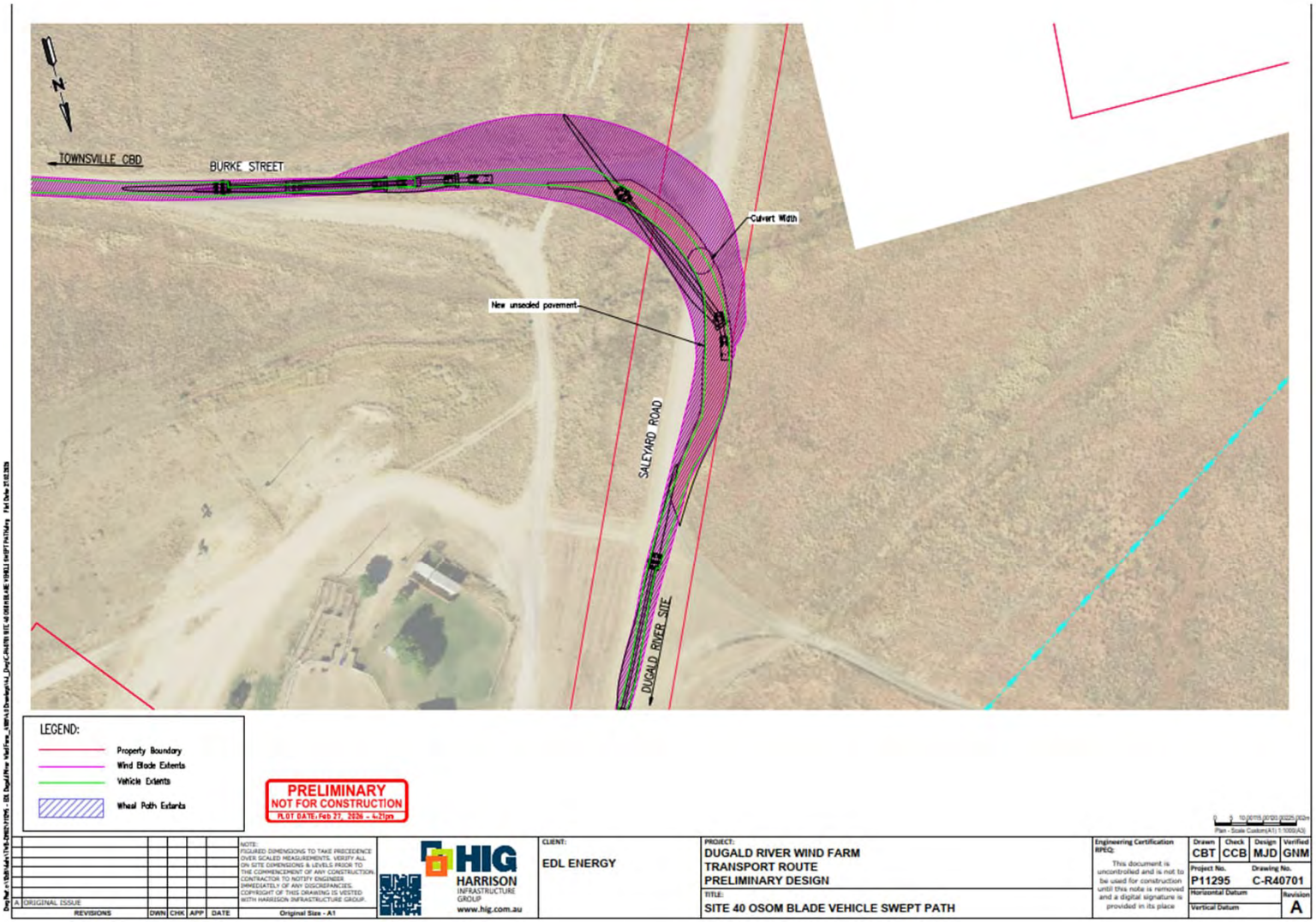
Drawn	Check	Design	Verified
CBT	CCB	MJD	GNM

Project No. P11295
Drawing No. C-R38702
Horizontal Datum
Vertical Datum
Revision A

Plan - Scale 1:500(A1) 1:1000(A3)

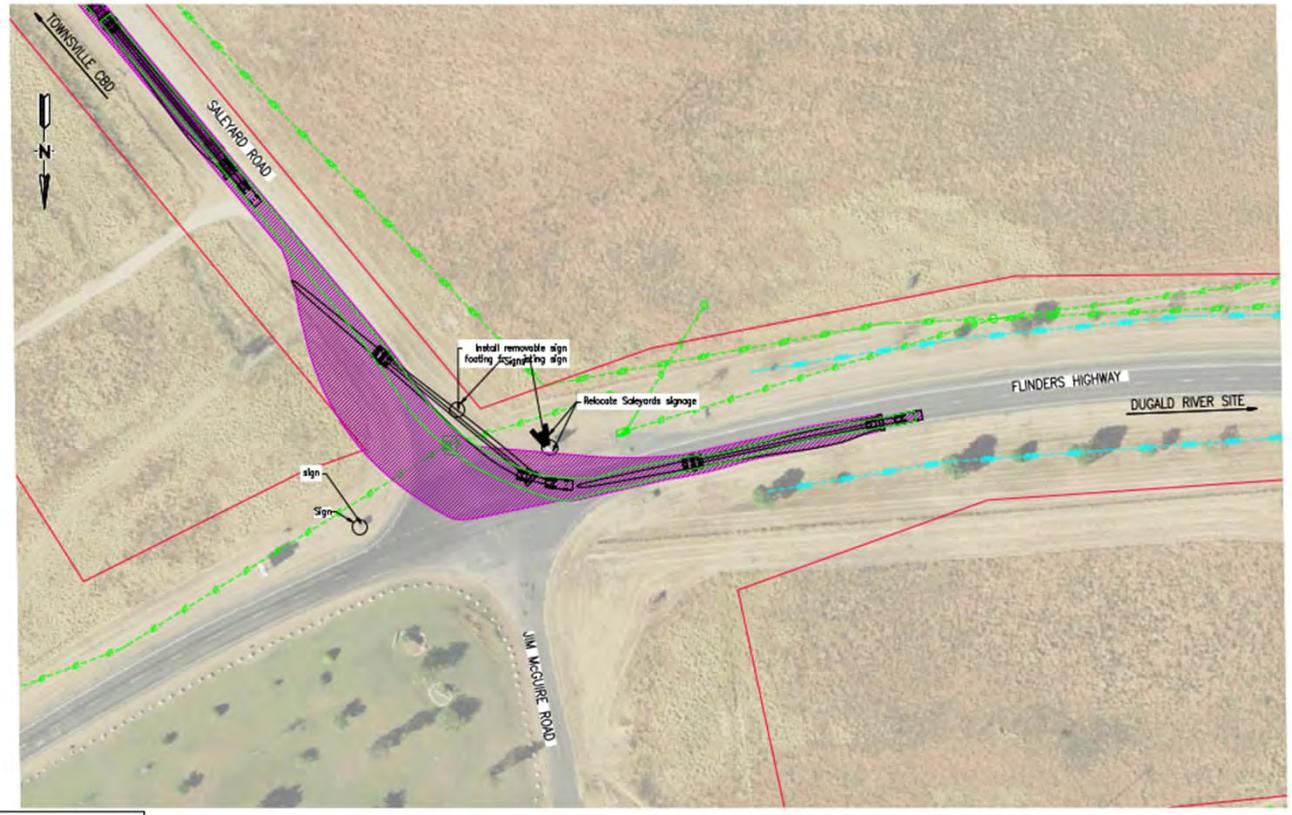
of new energy

Richmond



world of new energy

Richmond



LEGEND:
- Property Boundary
- Wind Blade Extents
- Vehicle Extents
- Wheel Path Extents

PRELIMINARY
NOT FOR CONSTRUCTION
PLOT DATE: Feb 22, 2024 - 5:27pm

*Draft only

Plan - Scale 1:500(A1) 1:1000(A3)

REVISIONS	DWN	CHK	APP	DATE
A ORIGINAL ISSUE				

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CLIENT: EDL ENERGY

PROJECT: DUGALD RIVER WIND FARM
TRANSPORT ROUTE
PRELIMINARY DESIGN

TITLE: SITE 42 OSOM BLADE VEHICLE SWEPT PATH

Engineering Certification RPEQ:
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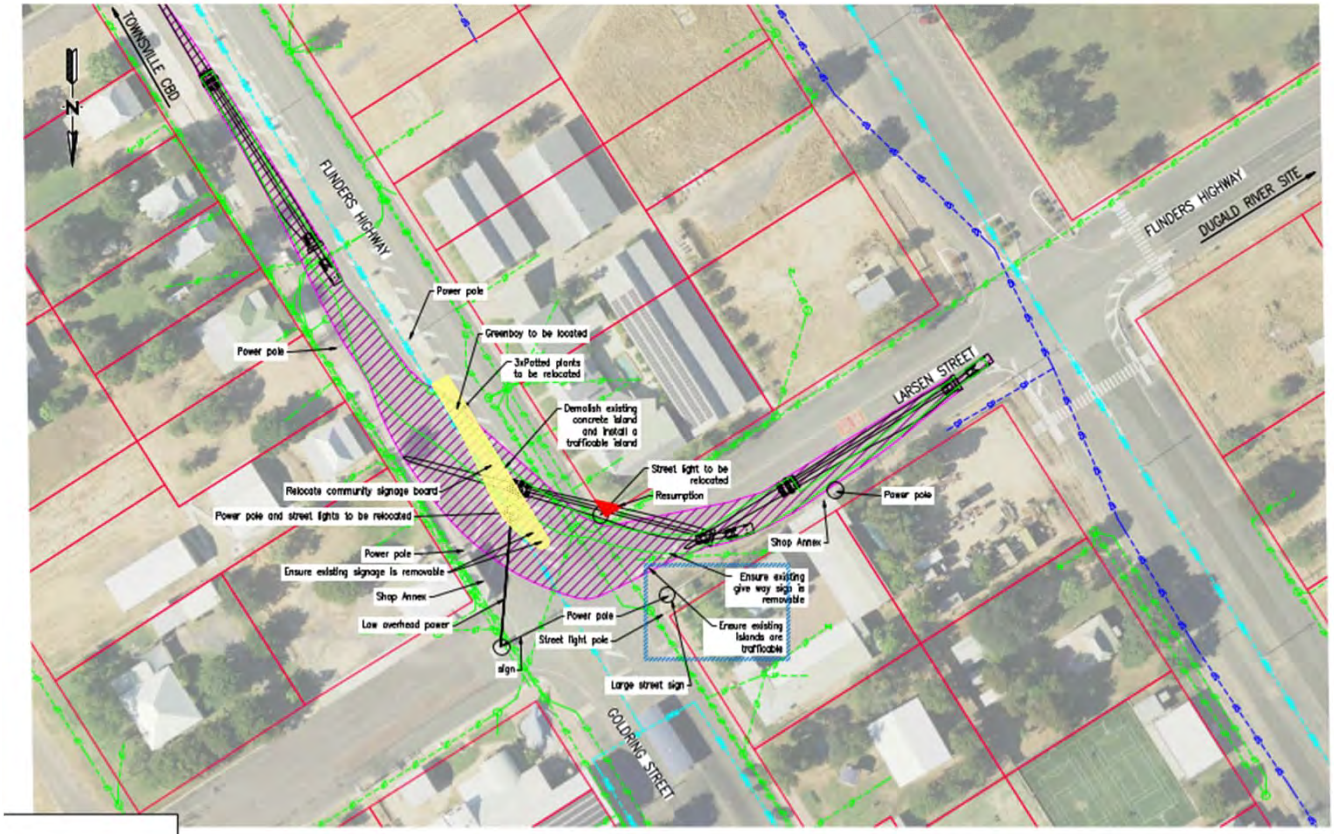
Drawn	Check	Design	Verified
CBT	CCB	MJD	GNM

Project No. P11295
Drawing No. C-R42701
Horizontal Datum
Vertical Datum
Revision A

Richmond



PRELIMINARY
NOT FOR CONSTRUCTION
PLOT DATE: Feb 27, 2026 - 4:19pm

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CLIENT: EDL ENERGY

PROJECT: DUGALD RIVER WIND FARM
TRANSPORT ROUTE
PRELIMINARY DESIGN

TITLE: SITE 36 OSOM BLADE VEHICLE SWEPT PATH

Engineering Certification RPEQ:
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Drawn	Check	Des
CBT	CCB	M.

Project No. P11295 C-

Horizontal Datum

Vertical Datum

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Summary

Use of Existing HV bypass

Minor Furniture & powerline works

Julia Creek

LEGEND:

- Property Boundary
- Wind Blade Extents
- Vehicle Extents
- Wheel Path Extents

PRELIMINARY
NOT FOR CONSTRUCTION

AL ISSUE						
REVISIONS	DWN	CHK	APP	DATE		

NOTE:
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CLIENT: EDL ENERGY

PROJECT: DUGALD RIVER WIND FARM
TRANSPORT ROUTE
PRELIMINARY DESIGN

TITLE: SITE 44 OSOM BLADE VEHICLE SWEPT PATH

Engineering Certification RPEQ:
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Drawn	Check	Design	Verified
CBT	CCB	MJD	GNM

Project No.	Drawing No.
P11295	C-R44701

Horizontal Datum
Vertical Datum
Revision: A

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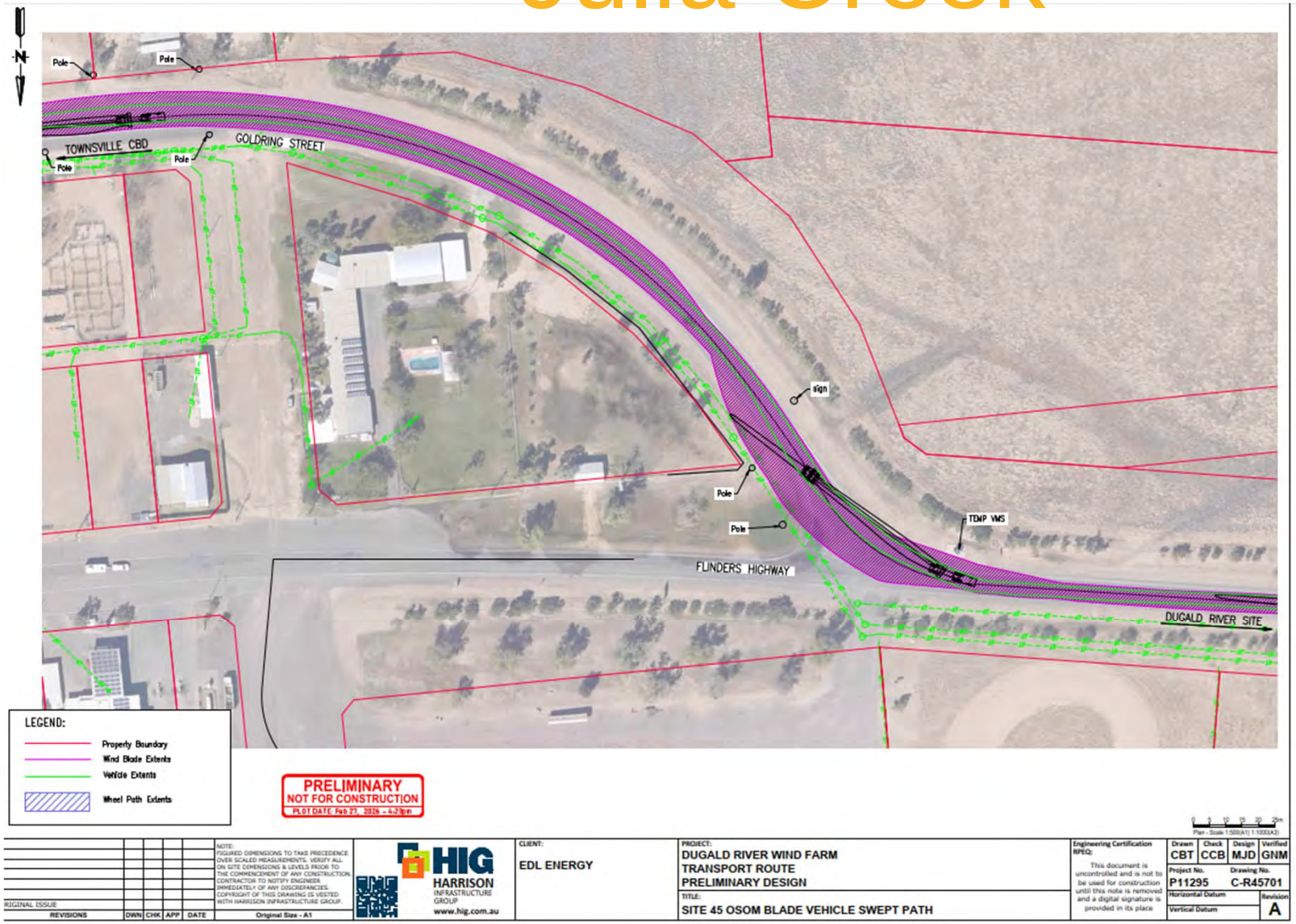
Julia Creek



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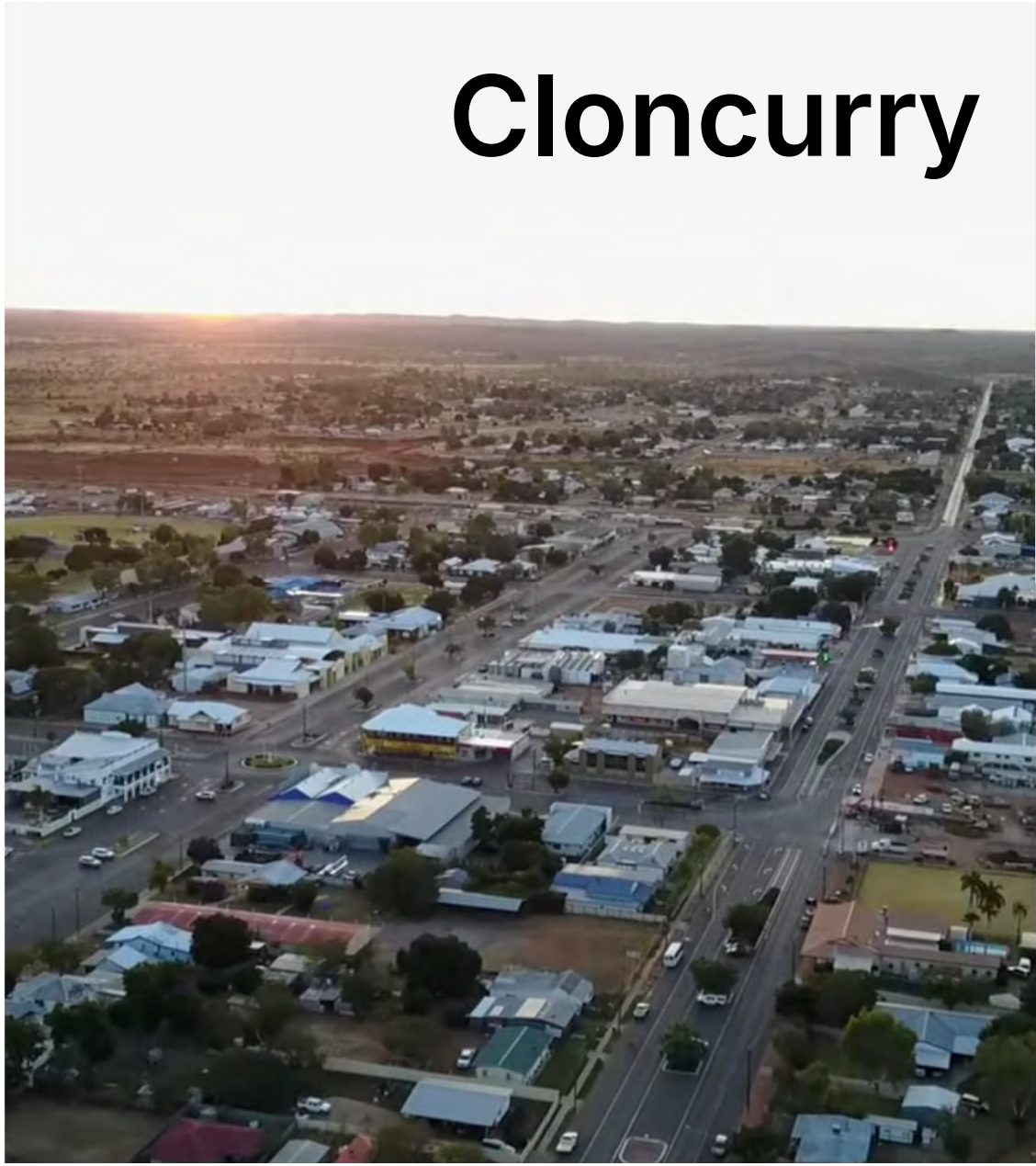
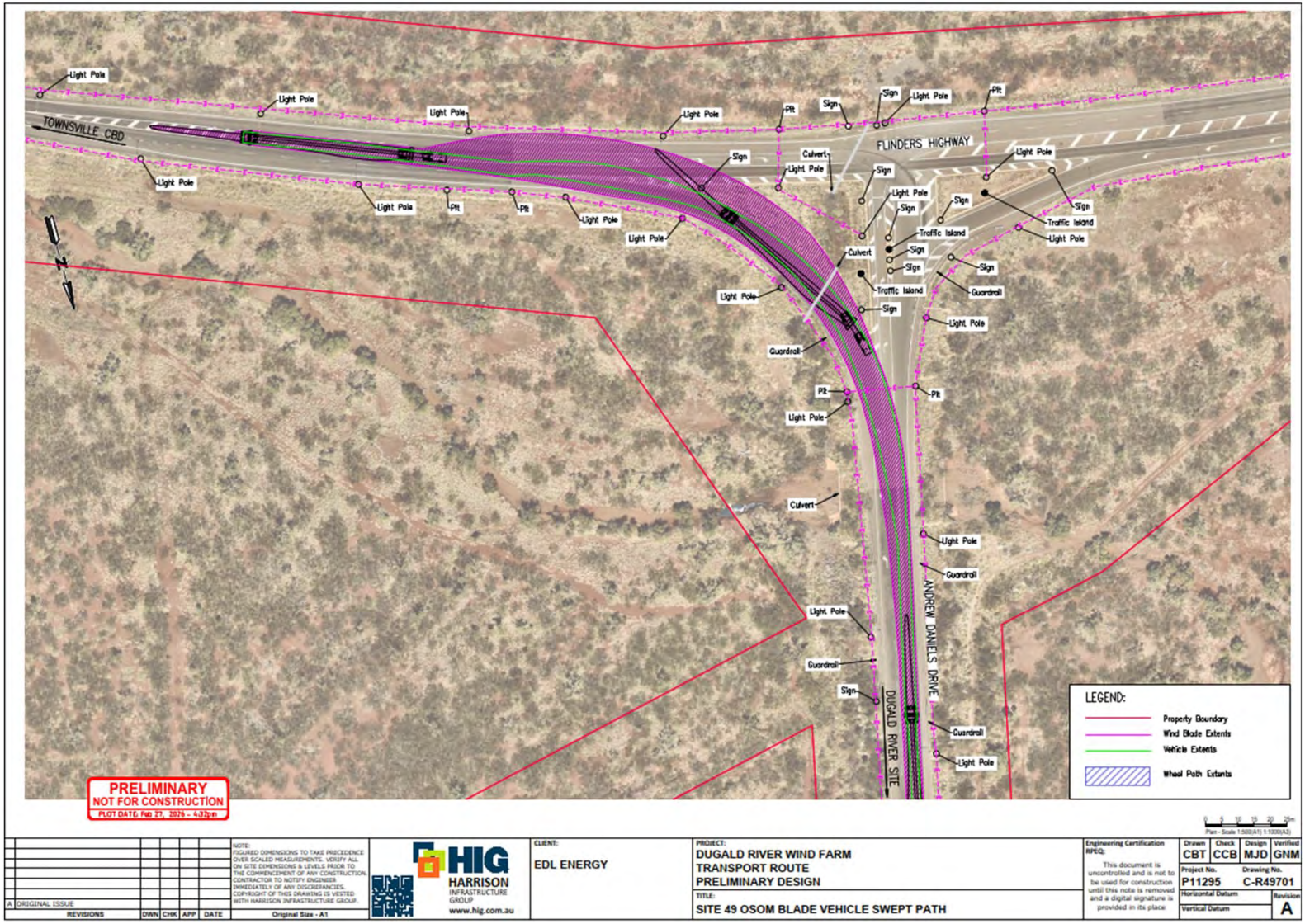
Summary

Use of existing Andrew Daniels Bypass

Tommy Creek Bridge



Cloncurry



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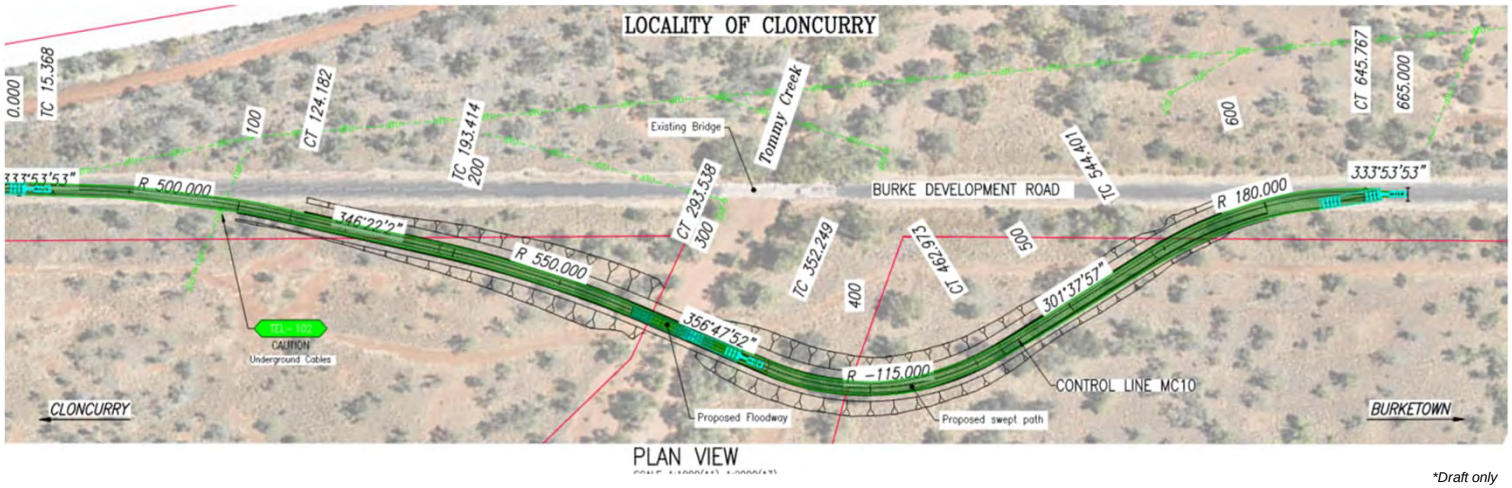
Route summary – Tommy Creek



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Questions

10.4.3 Minutes of Meeting – MMG/DTMR Northwest District

Meeting Minutes

Dugald River Wind Farm (DRWF) Project Update
MMG & DTMR North West District
Date: 19 March 2026
Location: DTMR North West District Office Cloncurry

Attendees:

MMG Dugald River Representatives

- **Daniel Bales** – Strategy Manager
- **Nick Johnson** – Community Relations
- **Chris Kellie** – Project Engineer
- **Rob James** - Manager SHEC

DTMR North West District

- **Henry Mascarenhas** – NW District Director
- **Asanka Dissanayaka –** A/Manager PPCM
- **Jeremy Chan** – Senior Engineer
- **Micah Limon –** Administration Officer

Meeting purpose

MMG met with DTMR North West District to provide an update on the Dugald River Wind Farm logistics task, particularly the proposed oversized overmass transport route from the Port of Townsville to Cloncurry, and to discuss key infrastructure constraints, bypass options and approval considerations along the route.

Project overview

MMG provided an overview of Dugald River Mine and the strategic importance of the Dugald River Wind Farm project. It was noted that the mine has a long operational life and that the wind farm is a critical project to help secure long-term, more reliable and lower-cost power supply for the mine. MMG advised that the project is also expected to support broader regional benefits, including enabling future industry, improving energy security and contributing to decarbonisation outcomes across the North West.
MMG outlined that Stage 1 of the project includes eight wind turbines, battery infrastructure and associated powerline works, with the current goal of having the road corridor and associated approvals ready to allow transport of turbine components in late 2027 if possible, or alternatively after the 2027–28 wet season.

Logistics route update

MMG advised that route planning has progressed significantly since previous discussions with DTMR and other stakeholders. The preferred logistics route remains from the Port of Townsville west to Cloncurry; however, due to constraints on the Bruce Highway / Flinders Highway corridor east of Charters Towers, particularly bridge and clearance limitations, four of the heaviest oversized overmass loads per turbine are now expected to travel via Harvey Range Road before rejoining the Flinders Highway corridor further west.
MMG noted that this is not the preferred outcome, but current corridor limitations do not allow all heavy loads to remain on the most direct route. The project team emphasised the importance of coordinated infrastructure planning so that upgrades undertaken for DRWF can also support future regional projects and other users of the OSOM corridor.

Discussion on corridor upgrades

A broad discussion was held regarding the importance of delivering corridor upgrades strategically and to an enduring standard, rather than only undertaking minimal short-term works to enable the DRWF project. MMG noted that, as the first major wind farm project in the region, DRWF is exposing infrastructure constraints that will also affect future renewable energy, mining and freight projects.
DTMR acknowledged the broader value of the corridor and the long-term benefit of undertaking upgrades that serve multiple users. MMG noted that discussions with Treasury and other government stakeholders have been generally supportive, with recognition that this is a once-in-a-generation opportunity to improve key infrastructure that will unlock broader regional development. However, MMG also acknowledged that the current cost burden for full corridor upgrades is beyond what the project can reasonably absorb on its own.

Key route locations discussed.

Charters Towers / eastern corridor

MMG discussed the route constraints east of Charters Towers and the need for some oversized overmass loads to use Harvey Range Road due to existing bridge and clearance restrictions. MMG also noted the complexity created by overlapping infrastructure requirements between DRWF and other proposed renewable projects in the region, including the challenge of trying to design and fund separate powerline or road solutions for the same corridor.

Hughenden

MMG advised that the preferred outcome at Hughenden is use of the southern bypass, with upgrades undertaken to improve long-term functionality and remove heavy vehicle traffic from the township where possible. DTMR noted this aligns with local preference and broader corridor planning logic.

Richmond

At Richmond, MMG advised several route options remain under consideration. While the local view appears more open to heavy vehicles continuing through town, MMG is also considering bypass-related options that may better suit the project and future heavy vehicle use. Further assessment will be required.

Julia Creek

MMG noted that Julia Creek appears comparatively straightforward, with the existing bypass likely to be suitable subject to some minor widening and turning adjustments for blade transport.

Cloncurry

MMG advised that the Cloncurry access arrangement appears relatively straightforward, requiring only limited works to enable turning movements onto the final access road.

Tommy Creek Bridge discussion

Tommy Creek was identified as the most significant road-related challenge on the overall logistics route. MMG presented the current concept design for a temporary low-level sidetrack / bypass solution near Tommy Creek, which would enable heavy components to cross the watercourse rather than rely on the existing bridge. MMG noted that while the concept may provide a way to keep the project moving, it is not a preferred long-term solution, particularly given MMG's intent to potentially expand the wind farm in future and the likelihood that additional turbine components may need to use the corridor in later years.

DTMR advised that Tommy Creek is already regarded internally as a high-priority structure, but that a permanent bridge replacement would likely fall outside the timing window for the current DRWF construction program. DTMR noted that even if funding became available, a permanent bridge solution would still require detailed design, approvals, cultural heritage and environmental processes, and specialist contractor availability, all of which would take considerable time. DTMR indicated that a best-case scenario for a bridge project would still likely be outside MMG's required timeframe.
DTMR also noted that contractor availability remains a major challenge due to ongoing flood damage restoration works and competing infrastructure projects across the region and the coast.

Temporary sidetrack / bypass approvals and constraints

DTMR advised that a temporary sidetrack / waterway barrier solution may be possible, but would be subject to environmental, fisheries, cultural heritage and internal departmental considerations. It was noted that any temporary solution would require further design refinement and review, and that there may be limits on how long a temporary structure could remain in place without triggering further assessment or approvals.
Discussion also occurred around whether parts of any temporary crossing could potentially remain in place between construction windows while only the actual water barrier section is removed and reinstated seasonally. DTMR noted this may be possible in principle, but would require further internal review and likely engagement with Fisheries and other relevant agencies to determine what is permissible.
DTMR advised that a new Cultural Heritage Officer is due to commence on 20 April, which should assist with clarifying the pathway for Traditional Owner engagement and internal process requirements in relation to Tommy Creek and any temporary crossing works.

Cultural heritage and environmental approvals

MMG advised that flora and fauna work has already been undertaken for the Tommy Creek area and that further clarity is now needed on how cultural heritage processes should be managed. DTMR indicated this will need to be worked through once the design is reviewed further and the new Cultural Heritage Officer commences. DTMR noted that the process may involve internal advice, contractor-led engagement pathways, and consideration of the relevant Traditional Owner and permit requirements.

Information requested by DTMR

DTMR requested that MMG provide the route maps and concept design material, including the alignment through townships and the Tommy Creek concept, so these can be shared internally with other engineers and decision-makers to help inform further review and discussion.
DTMR advised that once the material is received, they will raise the matter internally, including with their manager, to better understand the likely cost, strategic merit and whether there may be support for a longer-term infrastructure outcome rather than only a temporary project-specific workaround.

Agreed actions

1. **MMG to provide DTMR with the concept route maps and presentation material**, including township routing and Tommy Creek concept design, for internal review.
2. **DTMR to review the Tommy Creek concept internally** and seek preliminary feedback on both the temporary bypass option and the feasibility or merit of a more permanent long-term solution.
3. **DTMR to provide advice, where possible, on likely approval pathways and internal touchpoints** associated with a temporary Tommy Creek sidetrack / waterway barrier solution.
4. **DTMR to clarify cultural heritage process requirements** following commencement of the new Cultural Heritage Officer on 20 April.
5. **MMG and DTMR to continue engagement on timing, design refinement and approvals**, particularly in relation to Tommy Creek and any route works requiring DTMR involvement.

6. **DTMR to provide or assist with identifying a Dept of Fisheries contact**, if required, to support MMG's understanding of temporary waterway barrier requirements and possible seasonal reinstatement arrangements.

Summary

The meeting was constructive and provided DTMR North West District with an updated understanding of the DRWF logistics task, route constraints and timing requirements. Both parties acknowledged the significance of Tommy Creek as the key road challenge on the route, and the value of seeking a solution that not only supports the immediate project but also delivers broader long-term benefit to the corridor and regional communities. Further design review and internal DTMR consideration will now be required before the next stage of discussions.

10.4.4 Minutes of Meeting – MMG/Charters Towers Regional Council

Meeting Minutes

Dugald River Wind Farm (DRWF) Project Update
MMG / EDL – Charters Towers Regional Council
Date: Monday 16 March 2026
Location: Charters Towers Regional Council
Meeting Type: Project Update

Meeting Purpose

The purpose of the meeting was to provide Charters Towers Regional Council with an update on the Dugald River Wind Farm (DRWF) project, including project progress, proposed logistics routes, and key infrastructure considerations. The meeting also provided an opportunity for Council to raise local considerations and discuss coordination opportunities as project planning progresses.

Attendees

MMG Dugald River Mine

- **Daniel Bales** – Strategy Manager
- **Nick Johnson** – Community Relations
- **Chris Kellie** – Project Engineer

EDL Energy

- **Natalie Rose** – Head of Growth, Technology & Strategy
- **Dale Cartright** – Head of Project Development and Product Design

Charters Towers Regional Council

- **Cr Liz Schmidt** – Mayor, Charters Towers Regional Council
- **Karina Ewer** – Chief Executive Officer, Charters Towers Regional Council
- **Hayley Thompson** – Executive Manager, Corporate and Community Building
- **Nick Hall** – Executive Manager, Infrastructure and Operations

Project Overview

MMG provided an update on the Dugald River Wind Farm (DRWF) project being developed to support the long-term energy supply for Dugald River Mine.
Key points discussed:

- Dugald River Mine employs approximately 850 personnel and produces around 450,000 tonnes of zinc concentrate annually.
- The current approved mine life extends to 2039, with potential for extension.
- Energy costs and gas price volatility present operational risks.
- The wind farm project aims to provide greater energy security and price certainty for the mine.

Renewable Energy Strategy

The wind farm will complement Dugald River Mine's existing renewable energy arrangements, including the Mount Isa Solar Farm, with the aim of supplying approximately 75–80% renewable energy to the operation and reducing reliance on gas-fired generation within the North West Power System.

Wind Farm Project Details

Key details of the project include:

- Initial development: 8 wind turbines
- Approved capacity: up to 24 turbines
- Turbine size: 6 MW
- Hub height: approximately 135 metres

Future expansion may allow additional power to be exported into the North West Power System, supporting other mining developments in the region.

Battery Storage

A battery energy storage system has recently been incorporated into the project to:

- Support stability of the isolated North West Power System
- Optimise wind generation output
- Improve overall grid reliability

Project Delivery

MMG confirmed EDL Energy has been selected as the preferred Independent Power Producer (IPP) responsible for building, owning and operating the wind farm.
Under this arrangement:

- EDL will develop and operate the energy infrastructure
- MMG will act as the power offtaker for the project

EDL outlined its experience delivering energy infrastructure for remote mining operations across Australia.

Transport & Logistics

Transport logistics for turbine components were discussed.
Key details include:

- Approximately 108 oversize overmass (OSOM) vehicle movements
- Turbine blades approximately 93 metres in length
- Largest loads approximately 200 tonnes gross combination mass

Two potential transport routes are currently being assessed:

- Harvey Range Road route
- Bruce Highway / Flinders Highway route

Transport planning will require:

- Road furniture relocation
- Powerline lifting
- Intersection upgrades
- Traffic management planning

EDL confirmed that detailed route assessments and swept-path analysis are currently underway.

Infrastructure Considerations Raised by Council

Council highlighted several existing infrastructure considerations relevant to the proposed transport routes.

New Queen Road / Victory Street Intersection

Council identified the New Queen Road / Flinders Highway intersection as an existing safety concern due to current heavy vehicle volumes, turning movements and visibility constraints. Additional OSOM transport movements associated with the project could further increase pressure on this intersection.
Council highlighted that approximately 103,000 oversize overmass (OSOM) and multi-combination vehicle movements travel along the Flinders Highway each year, with a significant proportion utilising the New Queen Road / Victory Street bypass. This was noted to contextualise the importance of ensuring the safety and functionality of these intersections and their interface with the highway network.
Council noted that potential upgrades may require involvement from Transport and Main Roads (TMR).

Bridge Constraints

Council noted constraints associated with:

- Macrossan Bridge
- Reid River Bridge

MMG advised that discussions with Transport and Main Roads (TMR) indicate design work may be progressing in relation to these structures, however timeframes remain uncertain.
Council also raised concerns regarding the traversal of the heaviest project loads over the Ivan Baldwin Bridge, noting potential considerations around structural fatigue from repeated oversize and overmass movements, including those associated with other regional projects and defence transport activities. Council advised that this may require further assessment and coordination with the relevant authorities.

Hervey Range Road

Council noted that Hervey Range Road experiences ongoing heavy vehicle movements, including defence transport associated with the Australian Army's Hervey Range Training Area.
Council advised that an upcoming pavement assessment of Hervey Range Road is planned, which will inform the Army's continued ability to utilise the route for training activities. This assessment may also provide useful information regarding the road's capacity to accommodate additional heavy vehicle movements associated with regional infrastructure projects.

Powerline Upgrades

Significant powerline lifting and relocation works will be required along sections of the transport routes.
EDL noted that:

- Powerline works represent a major component of project logistics

- Coordination with Ergon Energy will be required
- Ideally, upgrades should occur once and accommodate future infrastructure users

Community & Traffic Considerations

Council provided advice regarding local conditions and community considerations.

Seasonal Considerations

Council noted that proponents should be mindful of the dry season and peak tourism period, when caravan and visitor traffic increases across the region.
Council acknowledged that the dry season is also the most suitable time for heavy transport activities, and understood this period will likely be required for turbine deliveries. It was noted that clear communication and appropriate traffic management will help minimise disruption during this time.

Local Traffic Considerations

Council also noted that the markets held at the Goldfield Shopping Complex periodically generate increased traffic volumes in the early morning and dawn hours. This was identified as a consideration when planning oversize transport movements through town during those times.

Local Road Network

Council identified several areas that may require consideration during logistics planning:

- Victory Street / Flinders Highway intersection
- Goldtower Road intersection
- Harvey Range community roads

Regional Infrastructure & Future Projects

Discussion also referenced other developments that may intersect with transport corridors, including:

- CopperString transmission project
- Future renewable energy developments
- Additional mining projects requiring OSOM transport

Council highlighted the importance of coordinated planning between proponents and government agencies as regional infrastructure demand continues to increase.

Government Engagement and Regional Advocacy

Council noted that proposed electoral redistributions may place sections of the Flinders Highway corridor, including key bridge infrastructure, within the electorate of the Hon. Dale Last MP, Minister for Natural Resources and Mines.
Council advised that the Minister has previously shown interest in infrastructure along the Townsville to Charters Towers corridor, particularly regarding freight and heavy vehicle movements.
It was noted that this may present an opportunity to advocate for appropriate investment into the corridor to support its role as a regional oversize overmass (OSOM) transport route, particularly given the increasing number of projects requiring access along this corridor.

Community Engagement

Council welcomed the project update and emphasised the importance of continued engagement as project planning progresses.
MMG confirmed it will continue consultation with:

- Local governments
- State agencies
- Community stakeholders

throughout the project development process.

Agreed Actions

Action	Responsibility
Provide updated transport route assessments as design progresses	MMG / EDL
Continue engagement with TMR regarding OSOM corridors and bridge constraints	MMG
Investigate potential intersection improvements, including New Queen Road	MMG / Council / TMR
Coordinate with Ergon Energy regarding powerline upgrades	MMG / EDL
Provide advance notice of proposed transport schedule once confirmed	MMG / EDL

Next Step

- Continue detailed transport route and logistics planning
- Progress project design and permitting
- Maintain engagement with Charters Towers Regional Council
- Provide further updates as project planning advances.

10.4.5 Minutes of Meeting – MMG/Flinders Shire Council

Meeting Minutes

Dugald River Wind Farm (DRWF) Project Update
MMG & Flinders Shire Regional Council
Date: 18 March 2026
Location: Flinders Shire Council Office

Attendees:

MMG Dugald River Representatives

- **Daniel Bales** – Strategy Manager
- **Nick Johnson** – Community Relations
- **Chris Kellie** – Project Engineer

Flinders Shire Regional Council

- **Cr Kate Peddle** – Mayor, Flinders Shire Council
- **Cr Nicole Flute** – Deputy Mayor, Flinders Shire Council
- **Cr Pete Fornasier** – Councillor, Flinders Shire Council
- **Cr Shane McCarthy** – Councillor, Flinders Shire Council
- **Cr Kerry Wells** – Councillor, Flinders Shire Council
- **Cr Kelly Carter -** Councillor, Flinders Shire Council
- **Cr Kim Middleton -** Councillor, Flinders Shire Council
- **Jacqueline Coleman –** Executive Support, Flinders Shire Council
- **Bruce Davidson –** Acting CEO, Flinders Shire Council
- **Barbra Smith –** Director of Communities. Flinders Shire Council
- **Misenka Duong –** Director of Engineering, Flinders Shire Council

Meeting Purpose

MMG met with Flinders Shire Council to provide an update on the Dugald River Wind Farm (DRWF) project, introduce EDL as MMG's delivery partner for the first stage of the wind farm, outline preliminary logistics and infrastructure planning, and seek Council feedback on key route, road and infrastructure considerations through Hughenden and the broader Flinders region.

Project Overview

MMG provided a high-level overview of Dugald River Mine, noting:

- The mine is located approximately 65km north-west of Cloncurry.
- It is a large underground zinc mine, operating since 2017, with mine life currently extending to around 2043.
- The site employs more than 850 people.
- Power is one of the mine's highest operating costs, and the project is being progressed to improve long-term energy security, reduce exposure to energy price volatility, and support decarbonisation objectives.

MMG advised the DRWF is being progressed primarily to support the mine's ongoing operation, with Stage 1 currently focused on:

- 8 wind turbines
- 6MW Goldwind turbines
- battery support for grid stability and renewable optimisation
- expansion potential up to 24 turbines in future

MMG noted that while the first 8 turbines are intended to support mine operations, the project has been designed with future expansion in mind, with approvals and planning framed to accommodate up to 24 turbines if required.

Delivery Model and Partnering

MMG introduced **EDL** as its independent power producer (IPP) partner for the project. It was explained that:

- EDL would build, own and operate the wind farm infrastructure.
- MMG would enter into a long-term power purchase/offtake arrangement.
- EDL was selected due to its experience delivering remote hybrid power solutions, including wind, solar and battery systems for mining and regional applications.

Planning and Approval Status

MMG advised that:

- EPBC processes had already been undertaken and previous approvals were obtained under the earlier framework.
- The project's current key approval pathway is through the Queensland development approval process.
- The project is also navigating the newer state-based renewable energy and community benefit framework requirements.
- MMG noted that, while the project is relatively small in scale and low in social impact compared with larger renewable projects, the evolving regulatory process is still creating significant complexity and time burden.

MMG also explained that, from a social performance perspective, the operation already undertakes rolling social impact assessment processes as part of standard mine governance, with the new legislative requirements effectively adding another layer to existing practice.

Community Benefit and Regional Context

MMG discussed the rationale used in its Community Benefit Agreement (CBA) approach, noting that the key community benefit associated with the DRWF is the role it plays in helping secure the long-term future of Dugald River Mine, including employment, local expenditure and ongoing economic contribution to the region. Discussion also covered the broader complexity faced by renewable generation proponents in the North West, particularly where projects are being asked to demonstrate community benefit despite relatively low long-term operational employment once construction is complete.
Council and MMG discussed the wider regional opportunity associated with renewable energy development, including:

- enabling lower-cost power in the North West Minerals Province
- supporting future mining projects and industrial activity
- possible attraction of energy-intensive industries, including data centres and battery storage
- the importance of infrastructure investment being planned for long-term regional use, not just individual projects

Logistics and Infrastructure Discussion

A significant portion of the discussion focused on transport logistics, OSOM access and infrastructure constraints.

MMG advised that:

- Preliminary permitting work originally assumed heavy loads could travel via the Flinders Highway.
- More detailed discussions with DTMR later identified issues with some of the heaviest components due to weight constraints rather than size alone.
- The heaviest components are associated with major wind turbine sections, including the generator/motor assemblies.
- Wind turbine blades would still travel via the Flinders Highway, but the heaviest loads create route and infrastructure issues that need further design and government support.

MMG noted that its current preference is to avoid the centre of Hughenden where possible and instead utilise the **bypass / alternative route**, subject to further design confirmation and treatment of a low point/dip in the road corridor.
Council strongly supported the principle of using the bypass rather than routing oversized loads through the centre of town. It was noted this would provide broader long-term benefit as a heavy vehicle route and reduce traffic management, furniture removal and disruption through the town centre.

Discussion also highlighted that:

- Any route upgrades should be considered in the context of future cumulative use by multiple renewable and industrial proponents, not just MMG.
- It would be inefficient and inequitable for the first project to bear the full cost of upgrades that will ultimately benefit many later proponents.
- There is value in collectively advocating for infrastructure to be upgraded once and upgraded properly.
- QIC may have a useful facilitation role in helping coordinate broader discussion between proponents and government around shared infrastructure needs and pinch points.

Road Corridor and Government Support

MMG reiterated that government support is critical to the project proceeding, particularly in relation to:

- road upgrades
- dedicated OSOM corridor establishment
- power line and network support
- broader enabling infrastructure linked to the North West energy transition

MMG noted that:

- the project is being advanced independently of CopperString due to uncertainty and delays
- however, some level of state support is still required because the mine cannot absorb the full cost of major enabling upgrades for a relatively small first stage project
- MMG's investment decision is dependent on obtaining government support for the OSOM corridor and associated infrastructure works
- MMG is seeking some form of commitment from government by the end of next month

Council indicated it would continue advocating for the bypass route and broader road improvements, particularly where these would benefit multiple users and improve long-term heavy vehicle access around Hughenden.

Timing

MMG advised the current indicative timing is:

- **2026:** ongoing design and planning
- **Late 2026 / end of year:** potential commencement of some power-related works
- **2027:** main construction period for power and road-related works
- **Late 2027 or early 2028:** turbine deliveries, subject to approvals and infrastructure readiness

MMG noted turbine delivery timing would ideally avoid major wet season impacts where possible.

Additional Discussion Points

Other matters raised during discussion included:

- the opportunity to ensure infrastructure upgrades support broader heavy vehicle and OSOM use over time
- interest in long-term opportunities such as electrified rail, future freight efficiencies and integrated regional energy planning
- local knowledge of other wind monitoring/mast infrastructure in the region, which Council may share with MMG for reference
- the importance of early route confirmation so Ergon's power line design work can proceed on the correct alignment

Council also noted that route planning should consider permanent upgrades such as:

- signs and street furniture
- islands/intersection treatments
- powerline relocations where needed
- surfacing/sealing improvements to support longer-term heavy vehicle use

Agreed Actions

- **MMG** to prioritise confirmation of the preferred bypass route and continue detailed design investigations, including checking the low point/dip on the route.
- **MMG** to feed Council's feedback into ongoing discussions with EDL and engineering teams.
- **MMG and Flinders Shire Council** to continue aligned advocacy for the bypass / OSOM corridor approach as the preferred long-term solution.
- **Council** to continue discussions internally regarding road sealing, heavy vehicle route planning and opportunities to leverage MMG's project as part of a broader infrastructure case.
- **Council** to provide updated contact details for the relevant incoming infrastructure/engineering contact for ongoing project liaison.
- **MMG** to maintain engagement with Council as route, traffic and infrastructure design progresses.
- **Council representative** to share details of the local met mast / wind infrastructure contact referenced in the meeting, for possible follow-up by MMG/EDL.

Closing

The meeting closed with both parties acknowledging strong alignment on the importance of planning infrastructure once, planning it properly, and ensuring the preferred road and OSOM solutions support not only the DRWF but broader future regional use.

10.4.6 Minutes of Meeting – MMG/ Richmond Shire Council

Meeting Minutes

Dugald River Wind Farm (DRWF) Project Update
MMG & Richmond Shire Regional Council
Date: 18 March 2026
Location: Richmond Shire Council Office

Attendees:

MMG Dugald River Representatives

- **Daniel Bales** – Strategy Manager
- **Nick Johnson** – Community Relations
- **Chris Kellie** – Project Engineer

Richmond Shire Council

- **John Walton –** Mayor | Richmond Shire Council

Purpose of Meeting

To provide Richmond Shire Council with an update on the Dugald River Wind Farm (DRWF), discuss logistics and transport routes, and seek Council input into road, bypass, and infrastructure considerations.

Project Overview (MMG Update)

DRWF Stage 1 includes:

- ~8 wind turbines (approx. 6MW each)
- Battery storage component
- Targeting ~80% renewable energy contribution (combined wind + existing solar)
- Potential expansion to up to 24 turbines in future.

EDL selected as preferred Independent Power Producer (IPP):

- Responsible for build, own, operate model
- MMG to take 100% of generated power (offtake agreement)

Project driven by:

- Power price volatility (gas exposure)
- Decarbonisation objectives
- Long-term operational stability for the mine

Energy & Regional Context (Discussion)

Council highlighted:

- Strong interest in renewable energy and battery technologies (including vanadium flow batteries)
- Potential for regional energy resilience, including backup supply for Richmond township

Discussion on broader energy challenges:

- Western Queensland grid constraints
- Importance of CopperString and transmission infrastructure
- Limitations of off-grid investment without broader network customers

Logistics & Inland Port Opportunity

Mayor Walton outlined concept for an inland port (approx. 16km east of Richmond):

- Located on highway and rail corridor
- Opportunity to support freight consolidation and logistics efficiency

Historical context:

- 2019 flood events demonstrated need for local storage and logistics capability

Council suggested:

- Opportunity for MMG to consider Richmond as a logistics hub instead of Hughenden

Potential synergies with:

- Rail loading
- Hardstand storage
- Container handling (reach stacker operations)

Transport Route & Road Infrastructure

Key Route (Current Planning):

- Townsville → Hervey Range → Charters Towers → Hughenden → Richmond → Site

Key Issues Raised:

- Flinders Highway constraints, particularly:
  - Burdekin River Bridge limitations for heavy/OSOM loads – Macrossan & Reid Bridge
- Current workaround:
  - Routing via Hervey Range and Charters Towers

Council Feedback:

- Strong advocacy for:
  - Development of a formal Oversize Overmass (OSOM) corridor
  - Long-term infrastructure upgrades rather than temporary solutions
- Noted:
  - Existing heavy vehicle volumes already significant across the region
- Potential political support:
  - Interest from State Government in strategic freight corridors

Richmond Bypass & Local Access

Council preference:

- Avoid full bypass of Richmond township
- Maintain controlled heavy vehicle access through town

Rationale:

- Supports local businesses (fuel, food, services)
- Existing route manageable with controls
- Alternative route discussed

Eastern bypass option linking to:

- Rail corridor
- CopperString infrastructure corridor

Council confirmed:

- Existing hardstand and rail loading areas are suitable with minor upgrades

Road Design & Construction Capability

- Council advised:
  - They are a Registered Road Authority (RRA) and can:
    - Deliver road construction works
    - Undertake maintenance and upgrades
- Capabilities include:
  - In-house crews and plant
  - Contractor management
  - Ability to deliver federally funded road projects
- Willingness to:
  - Partner on design and delivery of upgrades if required

Heavy Haulage Considerations

- Key components:
  - Blade lengths: ~80–90m+
  - Transport lengths: up to ~90m combinations
  - Generator components: up to ~200 tonnes (multi-axle distribution)
- Key considerations:
  - Turning radii (notably at key intersections)
  - Minor widening at select points
  - Dirt road sections requiring upgrade for heavy loads
- Council noted:
  - Existing experience managing similar heavy loads
  - Distributed axle loads reduce actual road/bridge impact

Timing Considerations

- Preferred transport window:
  - **Pre- or post-wet season**
- Council advised:
  - Dry conditions improve haulage reliability
  - Wet season risks for unsealed roads

Economic & Regional Development Discussion

- Council emphasised:
  - Importance of mining and energy projects to regional economies
  - Flow-on benefits across the Townsville–Cloncurry logistics corridor
- Noted opportunities:
  - Local procurement
  - Road upgrades
  - Increased freight and service demand
- Highlighted State funding opportunities:
  - Strategic infrastructure investment vs smaller community grants

Key Messages from Council

- Strong support for:
  - DRWF and broader mining sustainability initiatives
- Key priorities:
  - Long-term infrastructure solutions (not short-term fixes)
  - Maximising regional economic benefit
  - Maintaining freight and service activity within Richmond
- Encouragement for MMG to:
  - Continue advocacy with State Government (QTRC/Qld Gov)
  - Consider Richmond as a strategic logistics node

Actions

#	Action	Responsible	Timing
1	Share updated transport route and design maps with Council	MMG	Short-term
3	Continue engagement with State Government regarding OSOM corridor	MMG	Ongoing
4	Provide Council input into detailed road design (turning radii, upgrades)	Council	Design phase
5	Confirm preferred bypass vs in-town routing approach	MMG + Council	Design phase
6	Assess requirements for dirt road upgrades and rail crossing access	MMG + Council	Design phase

Next Steps

- MMG to:
  - Refine logistics and transport planning
  - Incorporate Council feedback into design
  - Continue stakeholder engagement across corridor
- Council to:
  - Provide technical input into road design and upgrade requirements
  - Support advocacy for regional infrastructure funding

10.4.7 Minutes of Meeting – MMG/ McKinlay Shire Council

Meeting Minutes

Dugald River Wind Farm (DRWF) Project Update
MMG & McKinlay Shire Regional Council
Date: 19 March 2026
Location: McKinlay Shire Council Office

Attendees:

MMG Dugald River Representatives

- **Daniel Bales** – Strategy Manager
- **Nick Johnson** – Community Relations
- **Chris Kellie** – Project Engineer

McKinlay Shire Council

- **Cr Janene Fegan –** Mayor | McKinlay Shire Council
- **Trevor Williams –** CEO | McKinlay Shire Council
- **Adam Sadler –** Director McKinlay Shire Council

Purpose of Meeting

MMG and project representatives met with Julia Creek Council to provide an update on the Dugald River Wind Farm (DRWF) project, discuss the proposed logistics route for oversized overmass (OSOM) loads, and seek Council's input on opportunities, constraints and advocacy priorities relevant to the project and broader regional infrastructure.

Project Overview

MMG provided an overview of Dugald River Mine, including its current operations, mine life and power requirements. It was explained that the proposed wind farm is intended to improve long-term energy security for the mine, reduce exposure to gas price volatility, and support decarbonisation objectives.
The project team noted that the initial proposed development includes:

- 8 turbines in the first stage
- Approximately 108 OSOM loads in total
- A battery energy storage system (BESS) of approximately 30–35 MW
- Potential future expansion to up to 24 turbines and greater generation/storage capacity

MMG also advised that the project has been restructured so it can potentially support broader regional power opportunities in the future, rather than being limited solely to the mine.

Energy and Regional Power Discussion

A broad discussion was held regarding energy supply challenges across the North West, including the lack of affordable and reliable power to support mining and industrial growth.
Council representatives discussed:

- The need for additional load and industrial demand in the region to support energy investment
- Challenges experienced in progressing battery and renewable projects locally

- The importance of future connection to the national grid and/or improved North West power solutions
- Concerns that critical minerals and regional development ambitions are constrained by inadequate energy infrastructure

MMG noted that while the wind farm may not necessarily deliver immediate cheaper power, it is intended to deliver price certainty and improved reliability, which is critical for the long-term viability of Dugald River Mine. There was also discussion about:

- CopperString and the need for earlier staged delivery of infrastructure between Cloncurry, Julia Creek and Mount Isa
- The importance of substations and spur line access for towns and industry, including Julia Creek
- Broader opportunities for long-duration storage, including vanadium battery solutions in the future

Logistics Route and OSOM Corridor

MMG and the project team outlined the indicative logistics approach for transporting turbine components from Townsville to site.
Key points discussed included:

- Smaller and blade loads are proposed to travel west along the Flinders Highway
- Larger and heavier components may require alternate routing via the Hervey Range/Charters Towers area due to bridge and access constraints
- The first stage project is relatively small in volume, but MMG emphasised the importance of treating this as part of a broader future OSOM corridor strategy for the region

Council acknowledged that:

- This project is likely to be one of the first of many future renewable and mining-related OSOM movements across the corridor
- Infrastructure upgrades should be undertaken strategically and once, rather than in a piecemeal manner by individual proponents
- The creation of a proper OSOM corridor would support future mining, agriculture, renewables and regional development

MMG highlighted that the major constraint is not only road geometry, but also power line lifting and corridor clearance requirements along the route.

Julia Creek-Specific Matters

Council confirmed that:

- The existing Julia Creek bypass is already in place and is expected to be the preferred route through town
- Only minor upgrades may be required locally for blade and high-load movement, subject to detailed design
- Consideration will need to be given to traffic management, stopping locations, refuelling, laydown and rest areas during movement periods

Council raised the importance of:

- Considering local traffic conditions and temporary traffic control arrangements where required
- Identifying suitable holding/staging points for OSOM loads
- Avoiding disruption during key local events and during the wet season period where possible

- Being mindful of road conditions immediately following the wet season, including patching, wheel rutting and deterioration once roads reopen

Council also suggested the local truck stop and other possible laydown/staging areas may be worth considering as detailed logistics planning progresses.

Advocacy and Infrastructure Priorities

A strong shared view emerged that advocacy is needed for coordinated government investment in both:

- OSOM corridor upgrades
- North West power infrastructure

Discussion focused on:

- The need for government funding support for road and power line upgrades
- The inefficiency of requiring each proponent to fund corridor upgrades in isolated sections
- The opportunity to use this project to strengthen the case for a regionally planned corridor from Townsville through to Mount Isa
- The importance of continued advocacy through forums such as MITEZ, regional road groups and discussions with DTMR, Energy Queensland, Ergon and QIC

Council indicated support for continued advocacy around:

- A fit-for-purpose OSOM route
- Improved rail and freight solutions
- Better power access for industry and future development in Julia Creek and the broader North West

Rail and Broader Regional Development

The meeting also included discussion on freight and rail.
Council noted:

- The importance of reducing freight on the Flinders Highway where possible
- The value of improved rail pricing and access
- Opportunities associated with intermodal and inland freight facilities in the region
- Increasing regional agricultural production and the future need for rail-based freight solutions, including if a cotton gin or expanded agricultural processing proceeds

MMG agreed that improved rail competitiveness and intermodal capability would support both mining and regional economic development outcomes.

Indicative Timeframes

MMG advised the current focus is to:

- Progress planning, approvals and detailed design now
- Commence powerline upgrade works from the second half of this year, subject to approvals and funding support
- Progress road upgrade works during 2027
- Bring turbine components to site in either late 2027 or early 2028, with a preference to move before the wet season if possible

MMG noted that significant planning is still required in relation to:

- Escorts and traffic control
- Staging and rest locations
- Detailed route design
- Community timing considerations
- Final permitting arrangements

Agreed Actions

1. **MMG / Project Team** to continue progressing detailed logistics planning for the DRWF transport corridor, including Julia Creek access arrangements.
2. **MMG / Project Team** to maintain engagement with Julia Creek Council as route design and movement planning becomes more detailed.
3. **MMG / Project Team and Council** to continue advocating for a coordinated, government-supported OSOM corridor from Townsville to Mount Isa, including power line lifting and strategic infrastructure upgrades.
4. **MMG / Project Team** to continue discussions with DTMR, Ergon, QIC, MITEZ and other relevant stakeholders regarding corridor and power infrastructure requirements.
5. **Julia Creek Council** to provide any further local considerations, event timing constraints or operational concerns for inclusion in detailed movement planning as required.

Closing

MMG thanked Julia Creek Council for their time and constructive input. Council welcomed the update and indicated a willingness to stay engaged as planning progresses.

10.4.8 Minutes of Meeting – MMG/ Cloncurry Shire Council

Meeting Minutes

Dugald River Wind Farm (DRWF) Project Update
MMG & Cloncurry Shire Council
Date: 19 March 2026
Location: Cloncurry Shire Council Office

Attendees:

MMG Dugald River Representatives

- **Daniel Bales** – Strategy Manager
- **Nick Johnson** – Community Relations
- **Chris Kellie** – Project Engineer

Cloncurry Shire Council

- **Greg Campbell –** Mayor | Cloncurry Shire Council

Meeting Purpose

To provide Cloncurry Shire Council with an update on the Dugald River Wind Farm (DRWF), including project timing, logistics planning, and key infrastructure requirements, and to discuss opportunities for government support to enable delivery.

Project Update Summary

- DRWF is progressing toward Final Investment Decision (FID) in Q2 2026.
- EDL Energy confirmed as preferred delivery partner (construction and operations), with strong experience in hybrid renewable energy systems across remote mining operations.
- Current focus is on:
    - Refining logistics routes from Townsville to site
    - Progressing detailed design inputs, particularly for transport corridors and powerline interactions
    - Early engagement with Ergon Energy on powerline design and constraints
- **Construction Timeline (indicative):**
    - Early works and road upgrades: late 2026 – 2027
    - Turbine delivery: 2027–2028 (with intent to bring forward where possible)
    - Installation targeted during dry season (2027 or 2028 depending on readiness)

Key Discussion Points

Oversize Overmass (OSOM) Logistics Corridor

- Significant challenges identified in establishing a fit-for-purpose OSOM corridor from Townsville to Cloncurry.
- Current approach requires:
    - Extensive powerline lifting/raising
    - Navigation of multiple conflict points (hundreds identified)
- Current design requirement of ~6.8m vertical clearance for turbine components is a major cost driver.
- Concern raised that:

- Each proponent is currently solving logistics independently
- This results in inefficient, duplicated costs and suboptimal outcomes
- There is a need for a coordinated, industry-wide corridor solution

Government Funding & Enabling Infrastructure

- Strong consensus that:
  - Industry cannot absorb full cost of enabling infrastructure upgrades.
  - Enabling infrastructure (roads, powerlines) should be considered government responsibility
- Discussion on potential funding sources:
  - CopperString project identified as the most logical funding mechanism
  - Agreement that energy funds should not be diluted to cover road/powerline upgrades
- Key message:

  Infrastructure should be delivered to support long-term regional growth, not just individual projects.

Network Constraints & Energy Market Challenges

- Broader concern raised regarding the North West Power System limitations, including:
  - Lack of transmission capacity
  - Limited ability for new entrants to export power
  - Market constraints discouraging private investment
- Noted that:
  - There is no shortage of capital for renewable projects
  - The key barrier is network access and market structure, not funding availability

Route Planning – Regional Considerations

Townsville to Charters Towers

- OSOM vehicles required to utilise Hervey Range Road (bypass)
- Significant powerline conflicts identified, particularly near Charters Towers
- Interaction with other projects (e.g. Mount Fox) creating overlapping infrastructure requirements

Charters Towers

- Key constraint areas:
  - New Queen Road intersection with Flinders Highway
  - Local infrastructure including rail crossings and urban interfaces
- Council feedback:
  - Current volumes manageable for DRWF (~8 turbines)
  - However, future demand (hundreds of turbines regionally) requires long-term planning solution

Hughenden

- Preferred approach:
  - Upgrade and utilise southern bypass
  - Minimise movement through town centre
- Alignment with Ergon requirements for access to substation infrastructure

Richmond

- Similar requirement for bypass upgrades
- Opportunity to keep OSOM traffic out of town where feasible

Strategic Opportunity – Future-Proofing Corridor

- Strong emphasis on:
  - Designing infrastructure for future regional demand (not just DRWF)
  - Recognising cumulative demand from multiple renewable and mining projects
- Recommendation:
  - Establish a dedicated, standardised OSOM corridor across the North West

Key Issues / Risks

- High cost and complexity of powerline raising and route preparation
- Lack of coordinated government-led infrastructure planning
- Network constraints limiting broader renewable investment
- Potential delays if route confirmation and design inputs are not finalised early

Agreed Actions

Action	Responsibility	Timeframe
Continue engagement with State Government regarding OSOM corridor funding (via CopperString alignment)	MMG	Ongoing
Progress detailed route validation and provide feedback to Ergon Energy	MMG / Ergon	Short-term
Advocate for coordinated, industry-wide infrastructure solution	MMG / Councils	Ongoing
Refine logistics planning incorporating council feedback (Charters, Hughenden, Richmond)	MMG	Pre-FID
Monitor and align with other regional projects to avoid duplication of infrastructure upgrades	MMG	Ongoing

Next Steps

- Finalise logistics corridor definition to support FID
- Continue multi-stakeholder engagement across councils, state agencies, and network providers
- Progress detailed design and cost validation
- Maintain advocacy for government-supported enabling infrastructure

10.4.9 Minutes of Meeting – MMG/DTMR – North, Northwest Districts, HV Access, E&T

MINUTES

TMR and Dugald Wind Farm Route Discussion | Dugald River Wind Farm

Date	Thursday, 19 June 2025	**Time**	1pm – 2pm
Place	MS Teams		
Chair	Ellen Ellis – Manager HV Access (TMR)		
Minute Taker	Emma-Leigh Townend – A/Advisor Projects and Communications (TMR)		

	Attendees	**Apologies**
TMR Heavy Vehicle Access	Mark Mitchell Ellen Ellis Emma-Leigh Townend	
MMG	Christopher Kellie Daniel Bales	
SMEC	Daniel Sullivan Peter De Boer	
TMR Structural Assessment	Phoebe Tay Steven Hunt	
TMR Northern District	Russell Evans Lisa Tremaine Andrew Thomas Jennifer McKenzie Denise Hinneberg Linda Henning	
TMR North West District	Kylee Petersen Jeremy Chan Tejaswi Vangapattu	

Agenda item 1 – Welcome

- Introduce stakeholder groups
- **Purpose of discussion:** Discuss flagging structures from the Dugald River Wind Farm route assessment.

Agenda item 2 – DRWF Context and Project Update – MMG

Update from MMG – Christopher Kellie & Daniel Bales:

- MMG has progressed project feasibility for Dugald River Wind Farm based on Flinders Highway access supported by the issuance of an NHVR permit in early 2024.
- Four key structures were initially identified as do not cross: Macrossan Bridge, Reid River Bridge (Flinders Hwy), Ivan Baldwin Bridge (Hervey Range Rd), and Tommy Creek Bridge (Cloncurry).
- MMG emphasized Flinders Hwy is logistically and economically optimal due to established freight routes and reduced community and infrastructure impacts.
- Daniel Bales expressed concern about the lack of access across these structures and reiterated the need for a clear understanding of whether alternative configurations or operational mitigations could enable crossings.

TMR Response – Kylee Petersen & Andrew Thomas:

- These structures have been listed as vulnerable/do not cross bridges for heavy vehicles since early 2020s, well before MMG's permit application. TMR was not responsible for the NHVR's approval without adequate cross-checking against TMR's known structure restrictions.
- TMR emphasized these do-not-cross classifications were not new or arbitrary.

Agenda item 3 – Hervey Range Road Bypass and Ivan Baldwin Bridge

Context and Issues – MMG:

- MMG confirmed Ivan Baldwin Bridge on Hervey Range Rd is part of the only currently viable alternate route.
- However MMG highlighted the operational downsides of this bypass. Difficult topography, poor road condition, significant impacts on Townsville and Charters Towers communities, increased utility coordination, and longer haul distances.
- MMG sought assurance that this route remains viable for all turbine components and is not at risk of future reclassification.

TMR Structural Feedback – Phoebe Tay, Steven Hunt, Joel Netley:

- Ivan Baldwin Bridge has been fully assessed under TMR's structural frameworks.
- Of the three proposed load configurations submitted by MMG, two are structurally acceptable. A third required clarification due to inconsistency between tabulated and drawn configurations (dolly spacing not matching across documentation).
- TMR emphasized that these assessments incorporate as of right comparisons and load path modelling condition inspections.
- TMR confirmed there is unlikely for added benefit for MMG or their contractors to undertake higher-tier assessments as TMR has already conducted the structural evaluation permissible both theoretically and practically.
- This route remains viable for access if MMG adheres to the approved configurations.

Next Steps:

- MMG to proceed with configurations cleared by TMR.
- Any changes to load or trailer design must be resubmitted for review.
- MMG to engage with TMR on Ring Road constraints, particularly gantry clearance.

Agenda item 4 – **Macrossan Bridge**

Context and Issues – MMG:

- MMG questioned whether limited, controlled access for a small number of key turbine components could be allowed via Macrossan Bridge.
- MMG asked whether operational strategies (slow speeds, bridge-centre lane travel) or strengthening could make the structure viable.

TMR Structural Feedback – Phoebe Tay, Joel Netley, Andrew Thomas:

- Macrossan Bridge is overstressed for the proposed loads, even under best case operational assumptions. Approximate overload ratio of 30% was confirmed.
- TMR assessments included advanced Tier 1S models, additional theoretical assessment is unlikely to change this outcome.

- TMR already applies operational allowances such as centreline travel, no other vehicles on the bridge, and speed control in their analysis outputs. These are not additional options to be requested they are the baseline assumptions.
- Joel Netley (TMR) advised that structural damage is already manifesting on this bridge which underscores the asset's fragility.
- TMR's internal view is that allowing heavier movements may compromise safety and long-term viability, not just for MMG, but for all freight users of this key corridor.
- Strengthening or remediation is not funded and would not be achievable within MMG's required timeframes.

Next Steps:

- No further assessments will be carried out by TMR.
- MMG may revise load configurations to reduce gross weight or explore alternate structural pathways.

Agenda item 5 – Reid River Bridge

Context and Issues – MMG:

- MMG again raised the idea of whether a small number of movements could be approved via Reid River particularly if operational parameters were tightly managed.

TMR Structural Feedback – Phoebe Tay, Russell Evans:

- Reid River Bridge has an overload ratio of 12%.
- As with Macrossan, TMR has already considered Live load distribution, Bridge-centre travel and Vehicle spacing assumptions
- Structural engineers confirmed that even with MMG's proposals for risk-managed movement these bridges cannot be crossed without compromising asset safety.
- MMG questioned whether alternative assumptions (two vehicles side-by-side vs one) would alter outcomes. Phoebe Tay reiterated that unless there is evidence-based data provided to support the assumption, taking into account of the fatigue analysis of allowing such loadings without compromising the structure safety, otherwise, it will not be acceptable from risk perspective.

Next Steps – MMG/TMR:

- MMG may explore revised load configurations (reduced axle loads, new trailer concepts).
- TMR will assess any revised proposals but no new bridge assessment work is planned under current parameters.

Agenda item 6 – Tommy Creek Bridge

Context and Issues – MMG/SMEC:

- MMG and SMEC asked whether it was worth considering new assessments or remodelling for Tommy Creek, particularly for large loads like generators.

TMR Feedback – Phoebe Tay, Kylee Petersen:

- Tommy Creek Bridge is overstressed (> 80% overload ratio) meaning failure is highly likely under any proposed movement.
- TMR has already undertaken advanced Tier 1S assessments, additional theoretical assessments are unlikely to change this outcome.
- Kylee Petersen confirmed that the preferred solution is a sidetrack bypass, which TMR supports.
- The sidetrack is within road reserve and avoids need for adjoining land acquisition. However, environmental and cultural heritage clearance, and traffic control permits are required.
- Timing around the wet season is critical, if sidetrack use is incomplete reinstatement may be required.

Next Steps:

- MMG to engage with TMR on design and approvals for sidetrack.
- Russell Evans and Kylie Petersen to provide guidance on road corridor permit requirements.
- MMG to liaise with Cultural Heritage parties and environmental consultants.

Agenda item 7 – Furniture modifications and Bypasses

Convoys and Escorts:

- Christopher Kellie requested clarification on police escort and convoy requirements.
- Emma-Leigh Townend advised QPS was unavailable for this meeting, and a separate meeting will be arranged with QPS, TMR and MMG to confirm:
    - Escort requirements
    - Convoy movement approvals
    - Traffic control coordination

Section 33 Works / Road Modifications:

- Jennifer McKenzie (TMR Northern District) identified as key contact for Section 33 works and roadside furniture matters.
- MMG to coordinate with Jennifer and CC TMR Heavy Vehicle Projects team on all proposals.

Agenda item 8 – Open Discussion