\\ttgroup.local\corporate\Wellington\TT Projects\1017740\1017740.2000\WorkingMaterial\97_GIS\QGIS_MtCass\02_Maps\Stormwater.qgz Layout: Catchment labels Drawn by KTHA

Tonkin+Taylor

Exceptional thinking together www.tonkintaylor.co.nz

NOTES:

REV	DESCRIPTION	GIS	CHK	DATE
0	First version	XXXX	YYYY	10/09/20

LOCATION PLAN

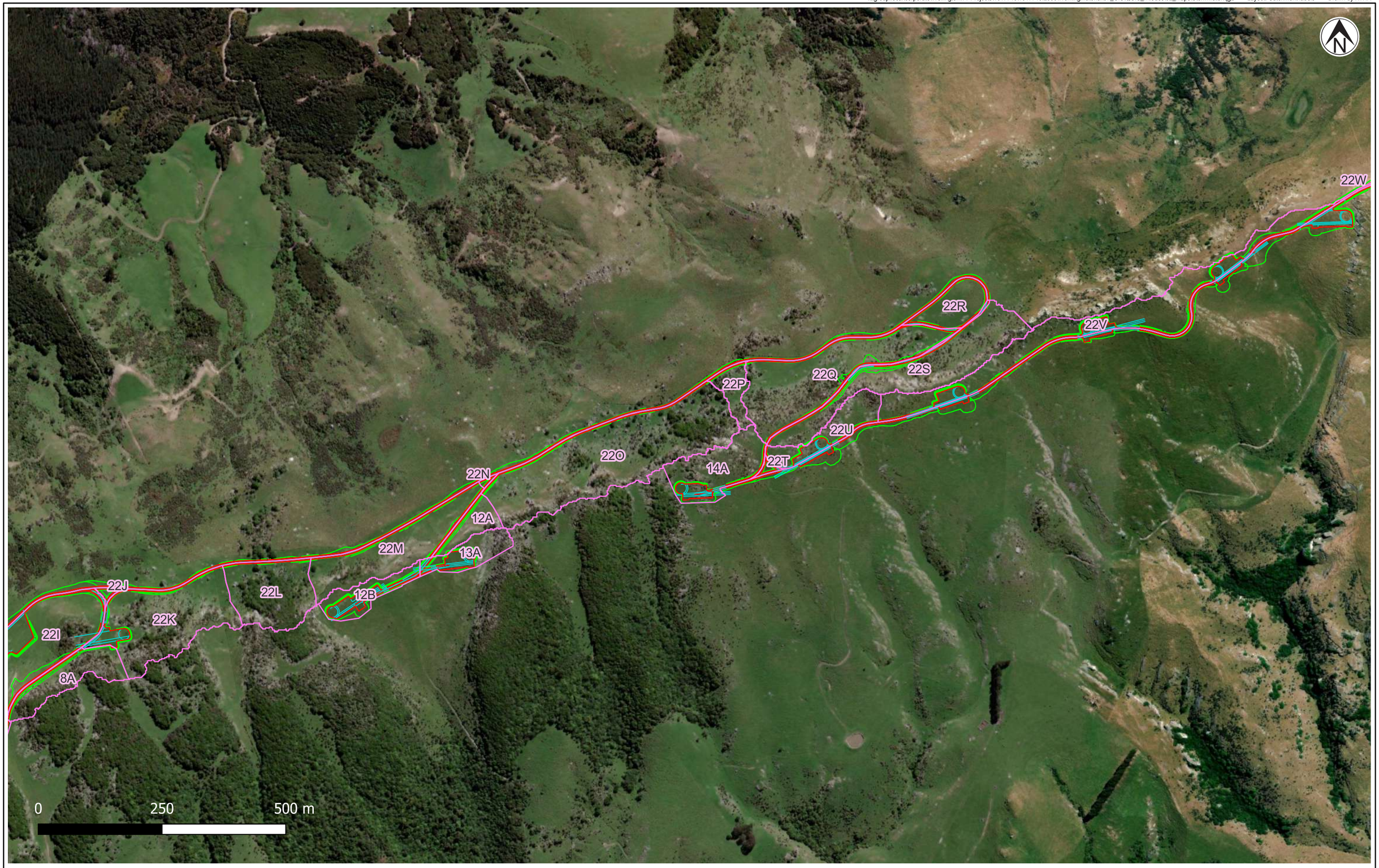
PROJECT No.	1017740.2000	
DESIGNED	KTHA	NOV.22
DRAWN	KTHA	NOV.22
CHECKED		
APPROVED		DATE

CLIENT **McCONNELL DOWELL CONSTRUCTORS LTD**

PROJECT **MOUNT CASS WINDFARM DETAILED DESIGN**

TITLE EROSION AND SEDIMENT CONTROL CATCHMENT LABELLING

SCALE (A3) 1:7,000 FIG No. FIGURE 2. REV 0



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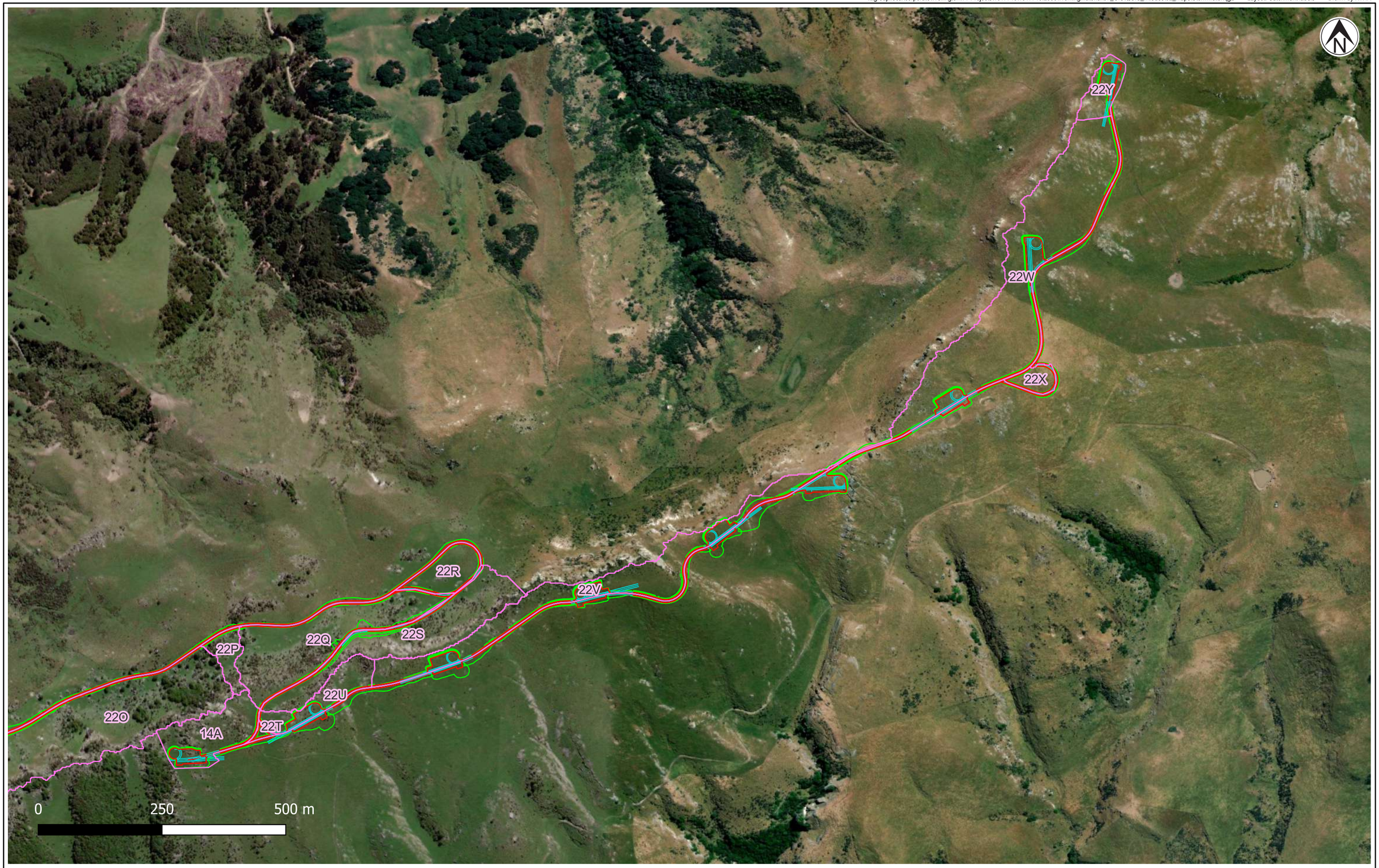
SCALE (A3) 1:7,000 FIG No. FIGURE 3. REV 0



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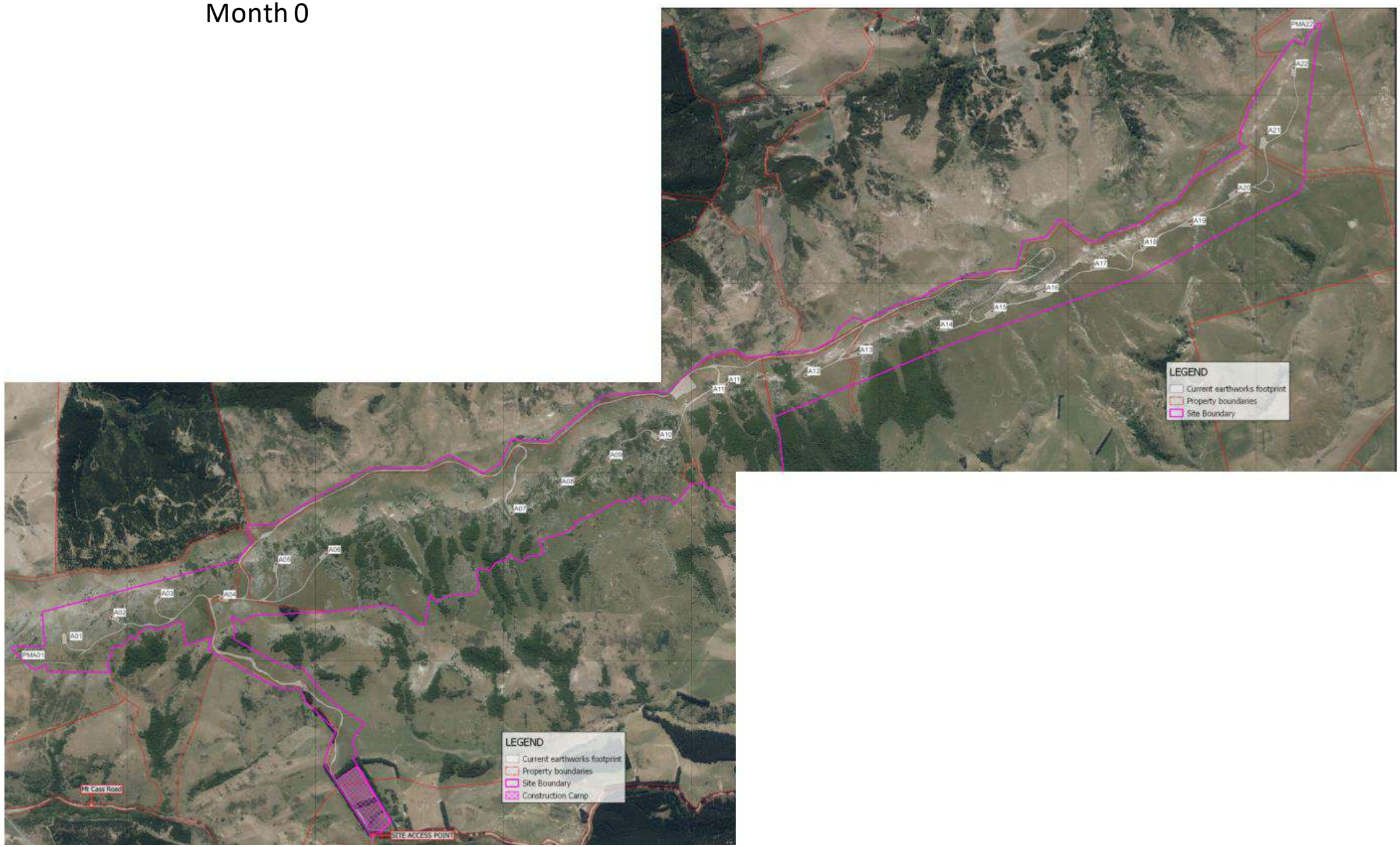
TITLE EROSION AND SEDIMENT CONTROL CATCHMENT LABELLING

SCALE (A3) 1:7,000 FIG No. FIGURE 4. REV 0

APPENDIX G – Construction sequence dates

Month 0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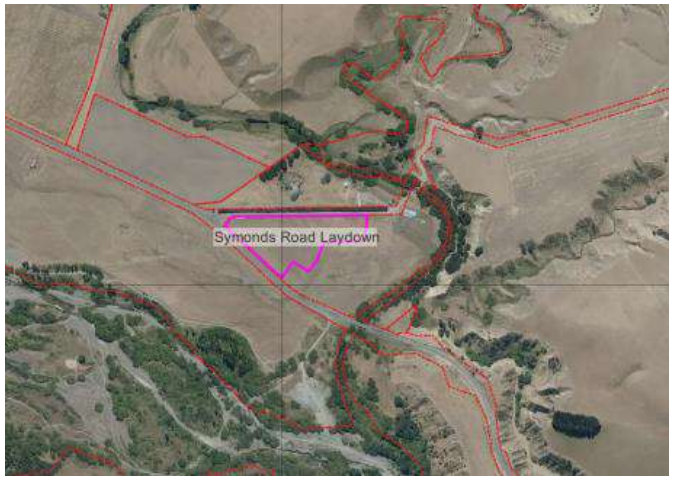
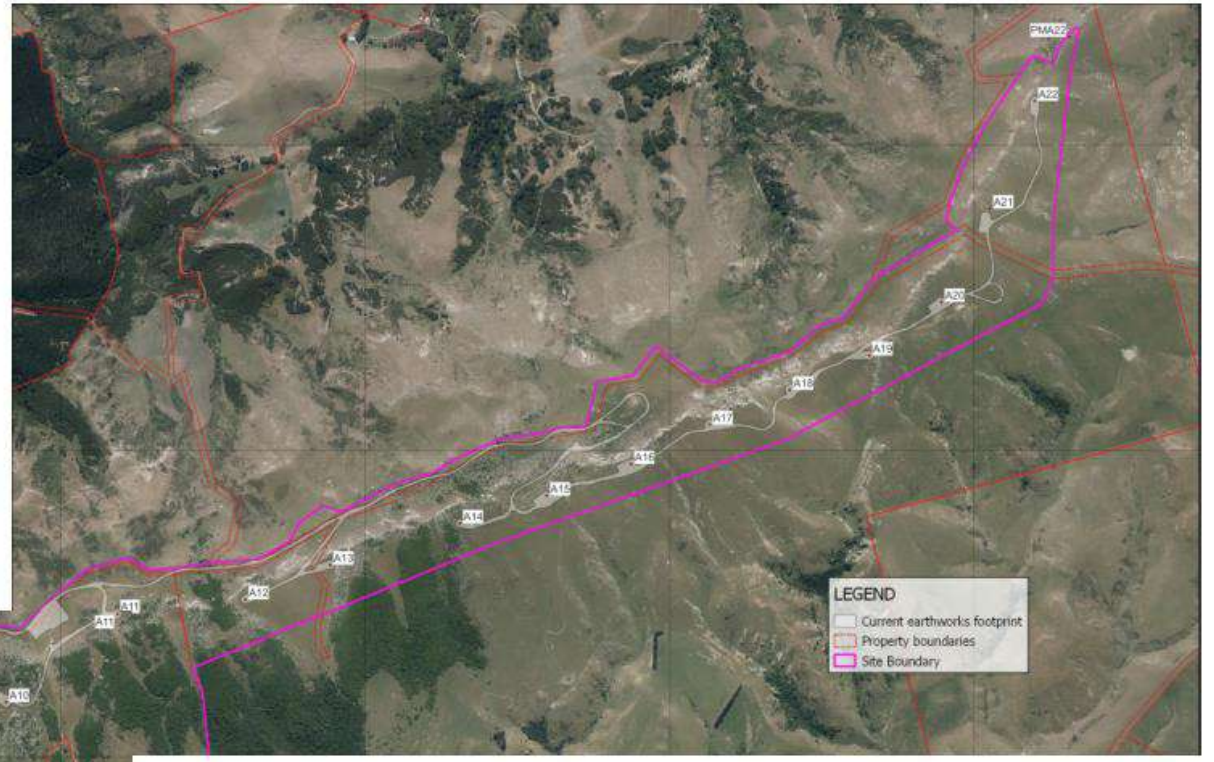
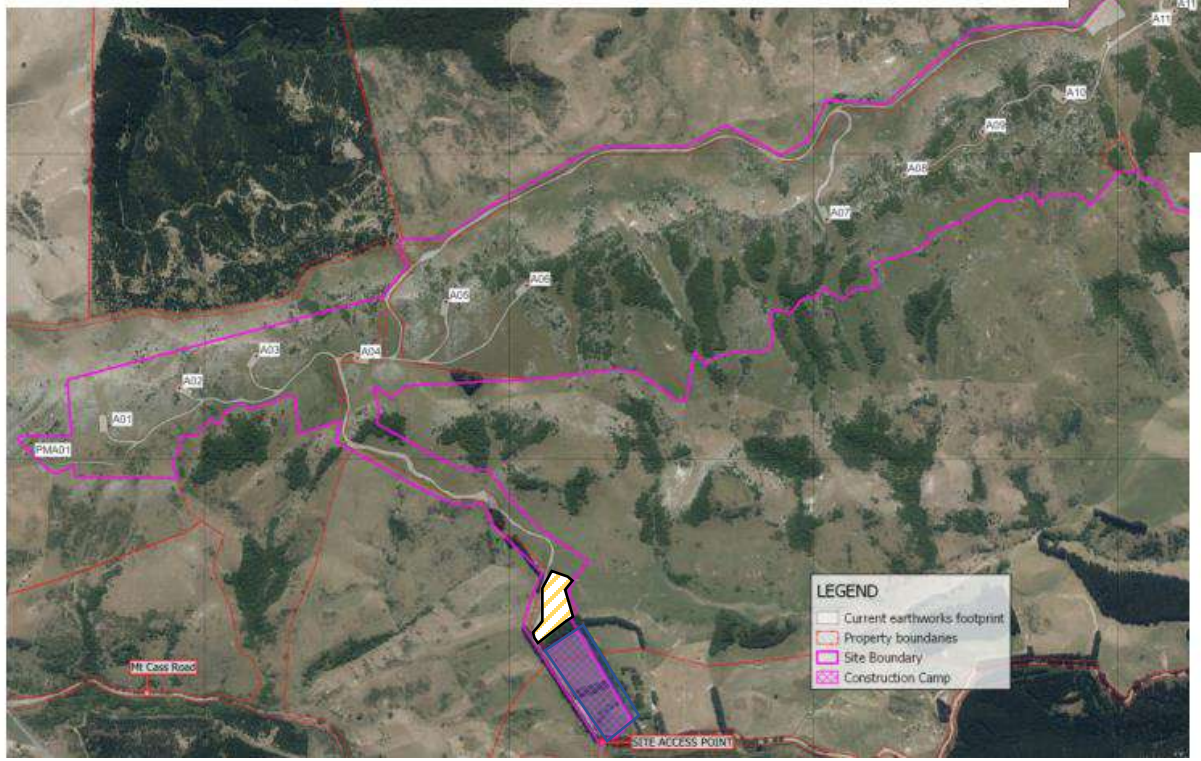
A08
A07
A06
A05
A04
A03
A02
A01
PMA01
LEGEND
Current earthworks footprint
Property boundaries
Site Boundary
Construction Camp
Mt Cass Road
SITE ACCESS POINT

Month 1







- Access Complete
- Track Earthworks
- Pavement
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- WTG - Complete
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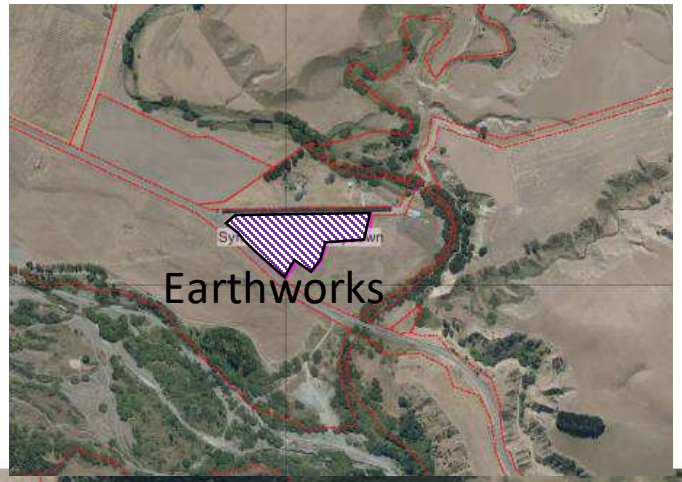
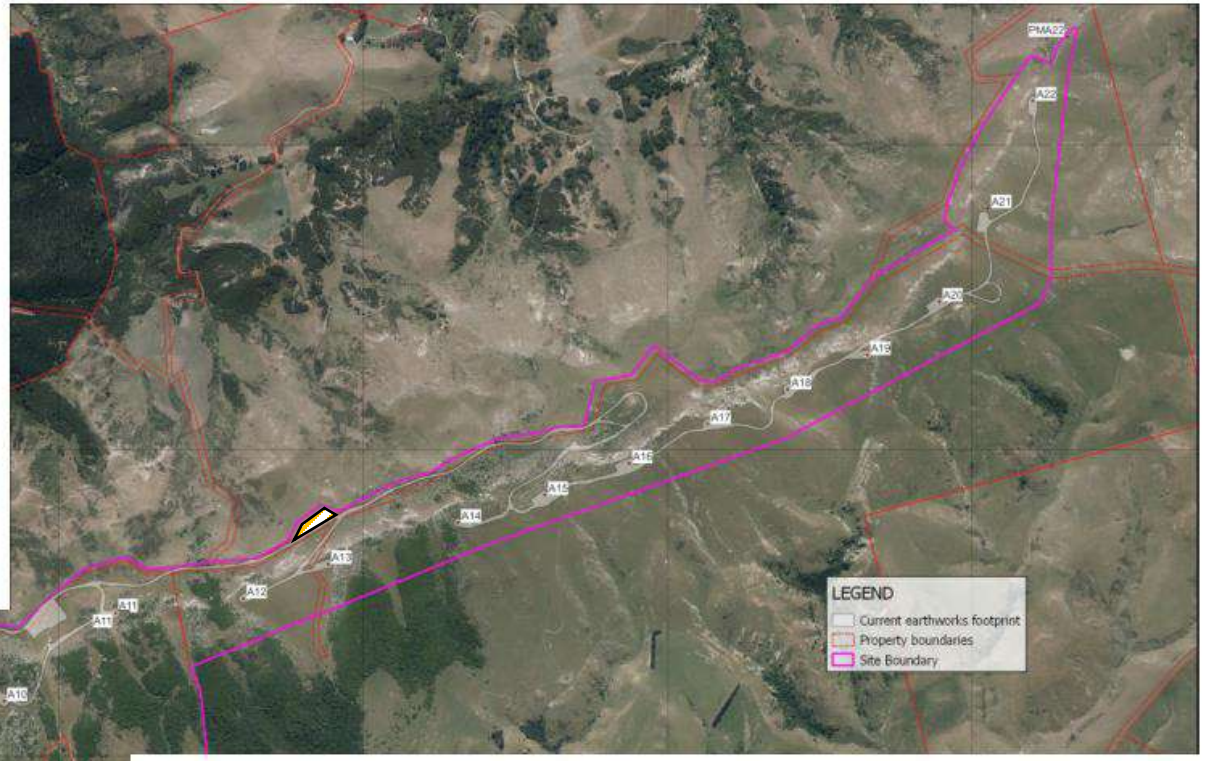
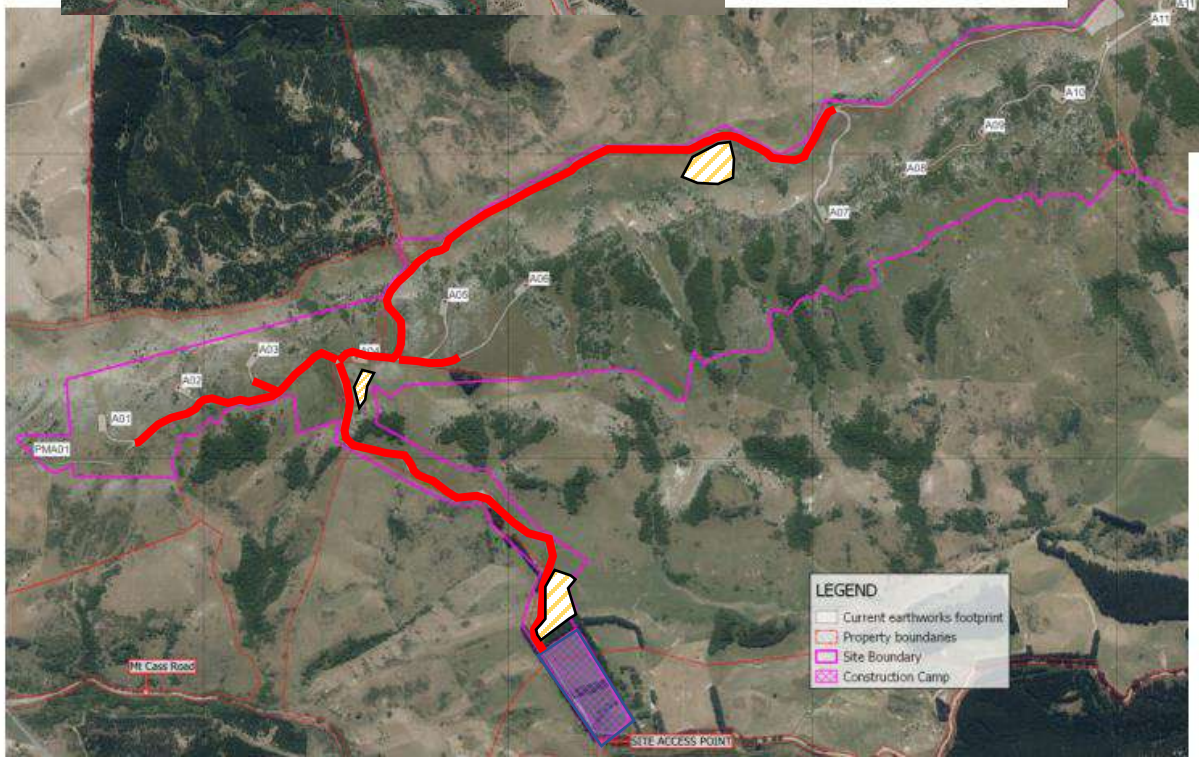
- WTG Foundation - Complete

Month 2







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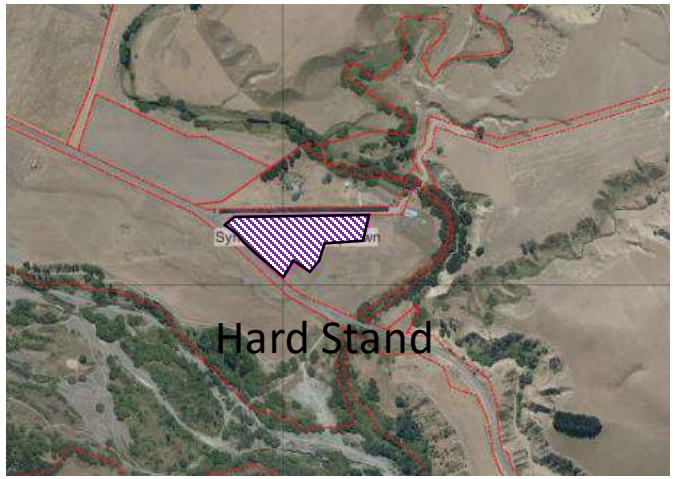
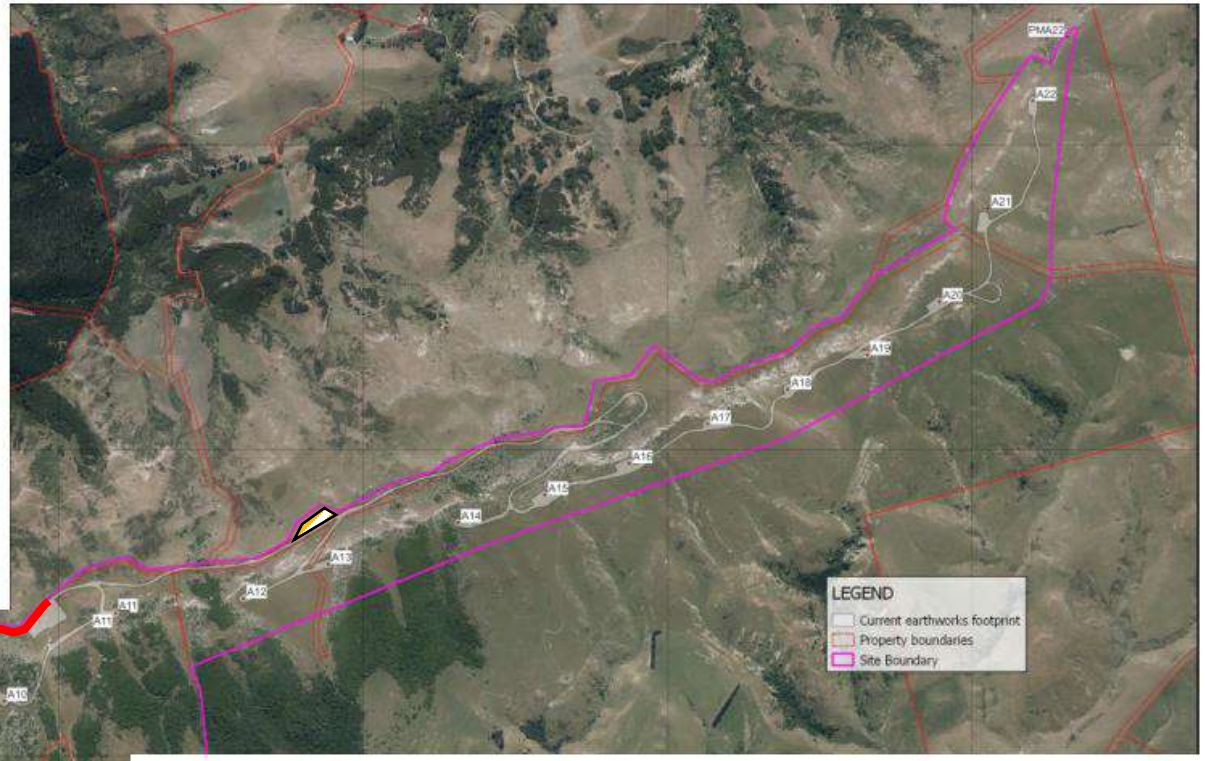
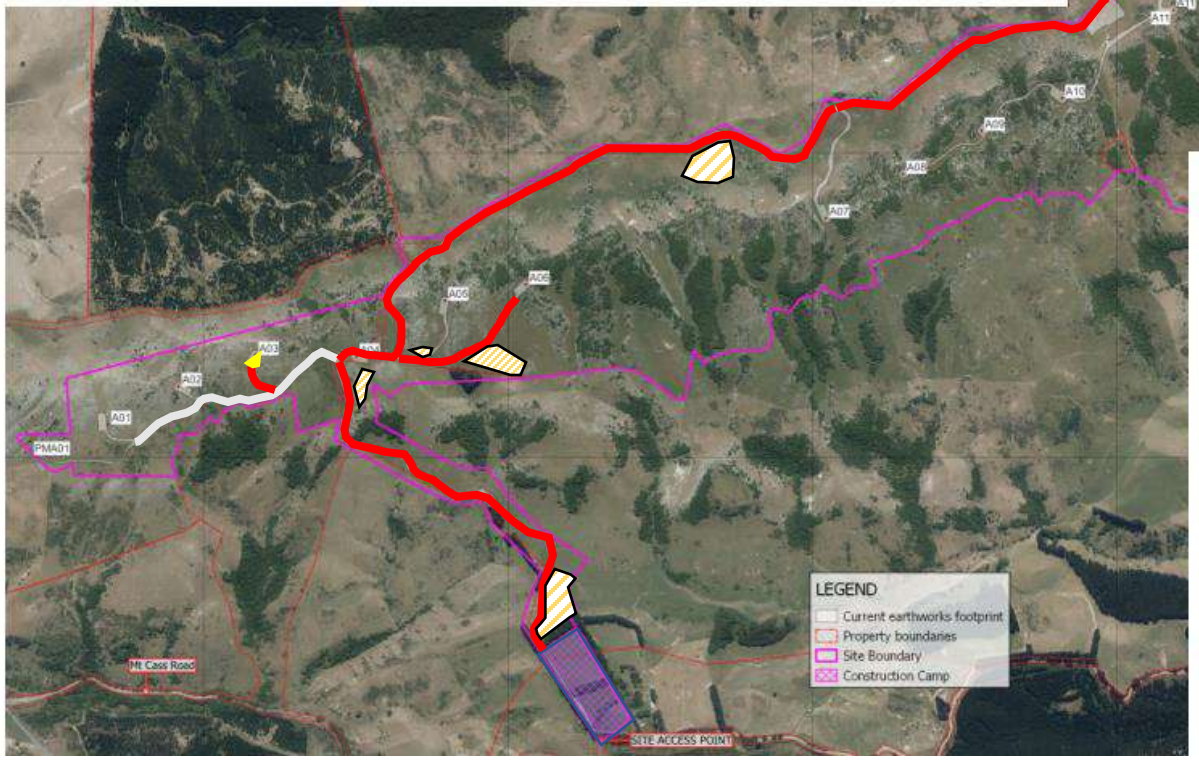
Month 3







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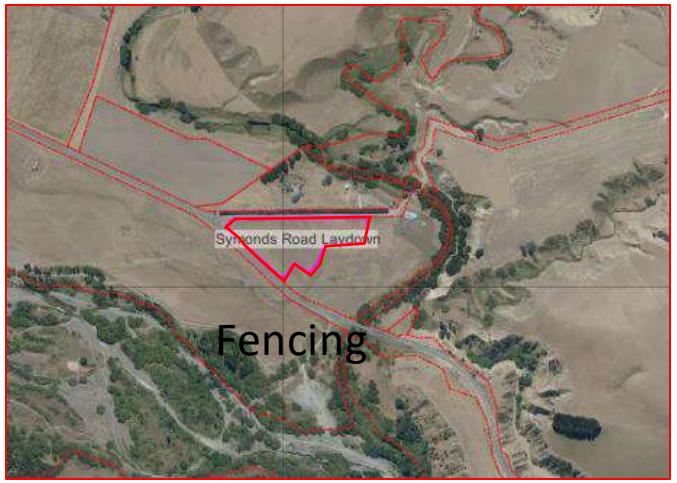
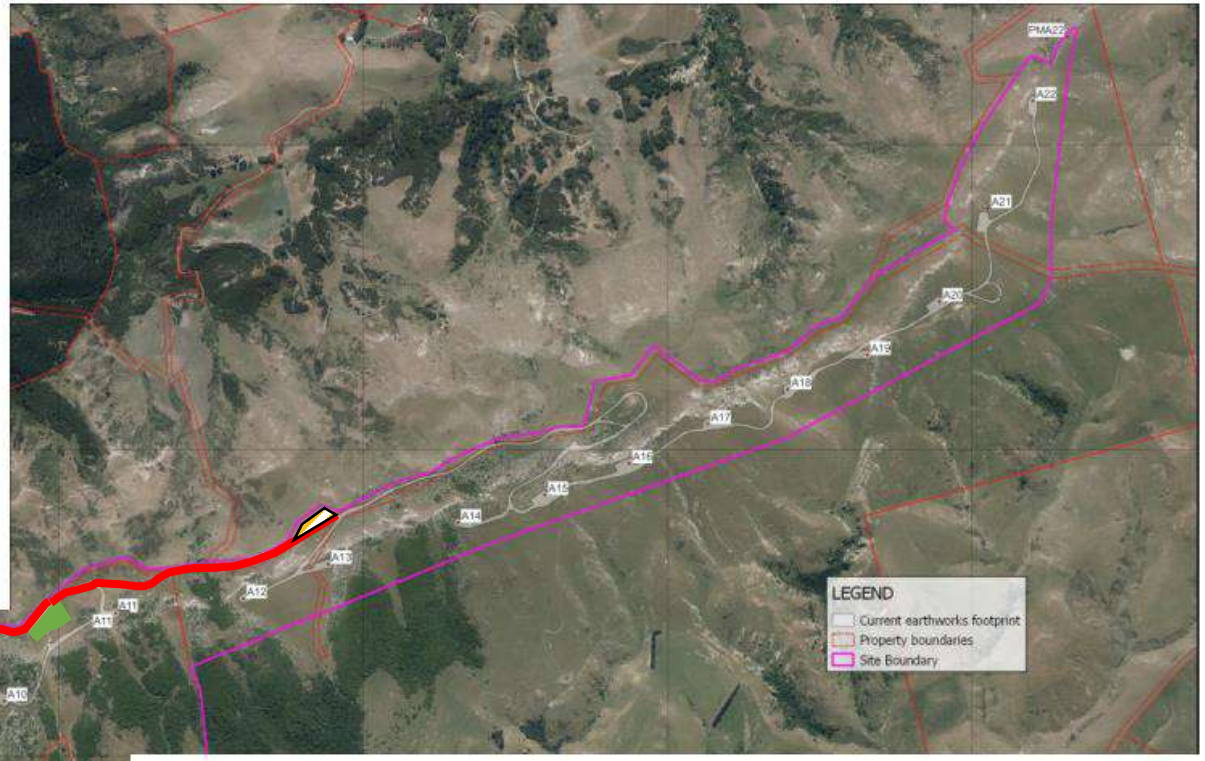
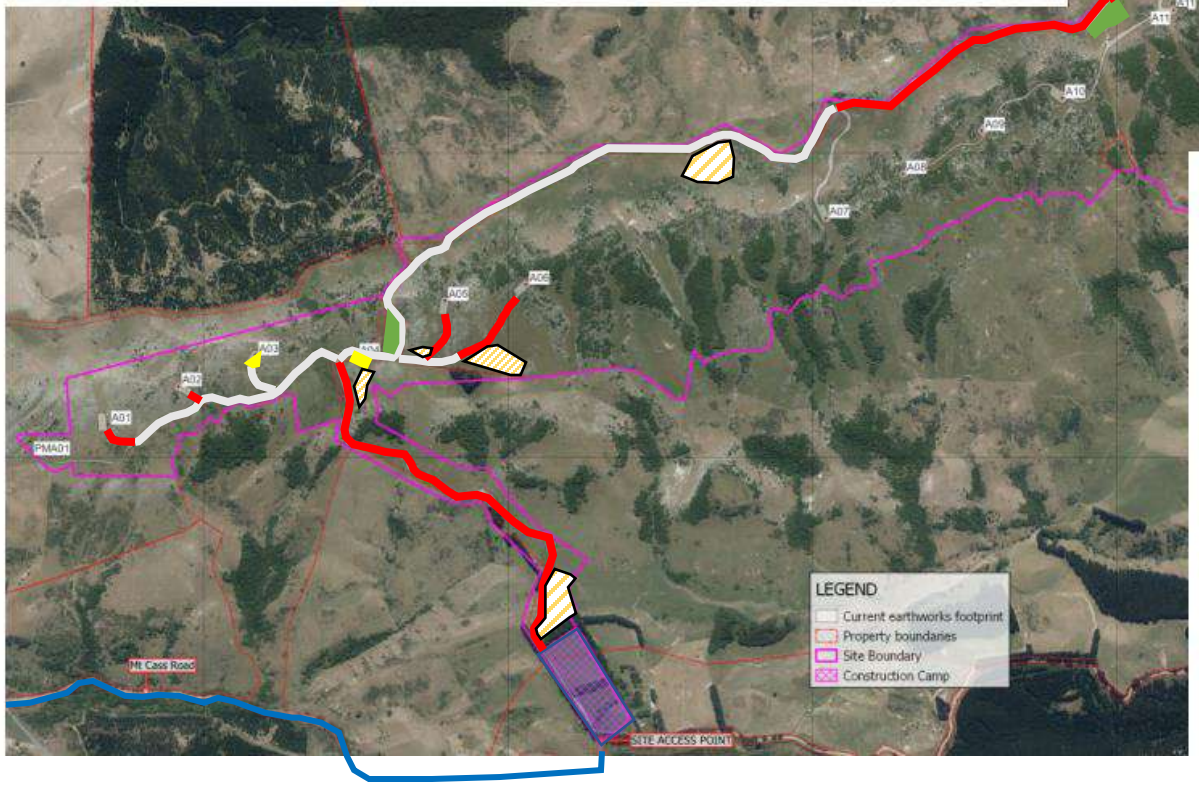
Month 4







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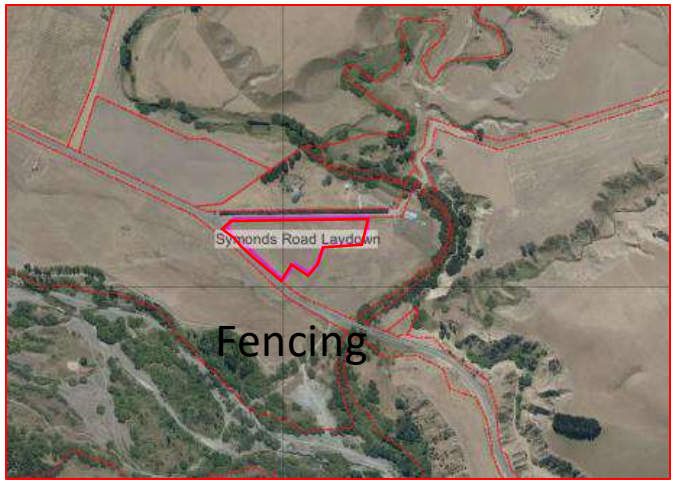
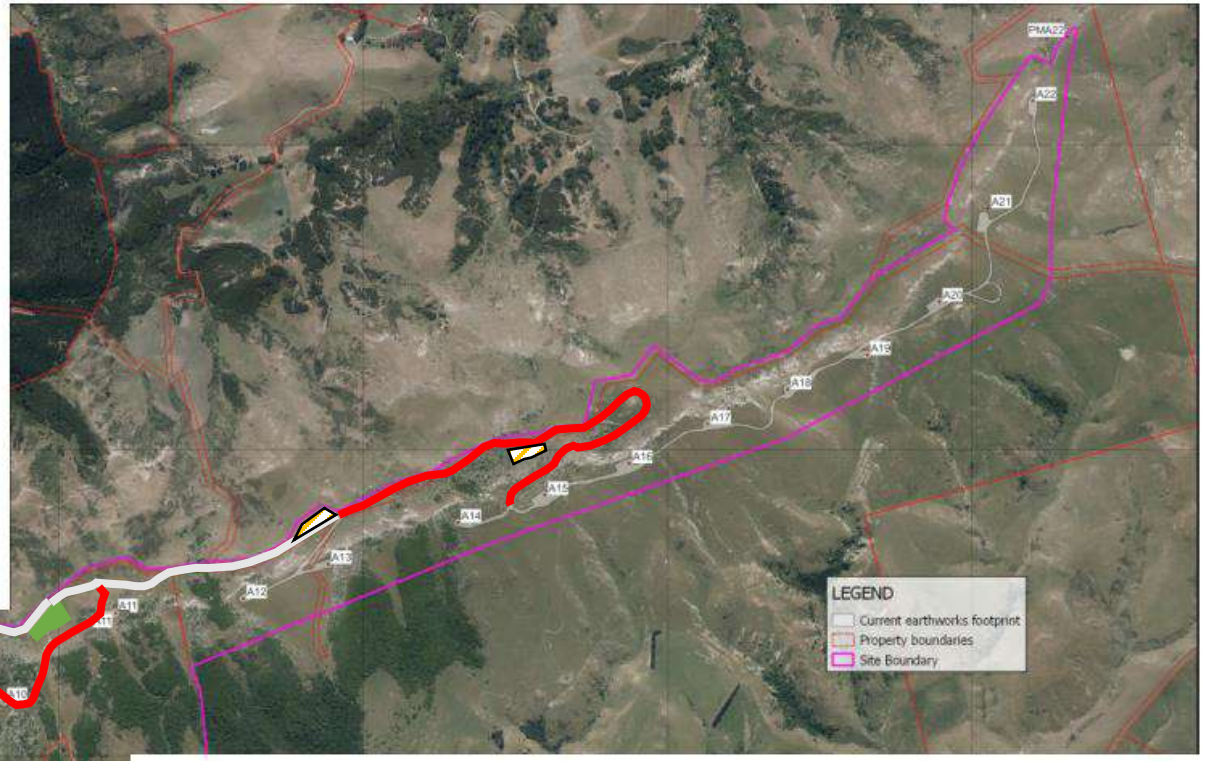
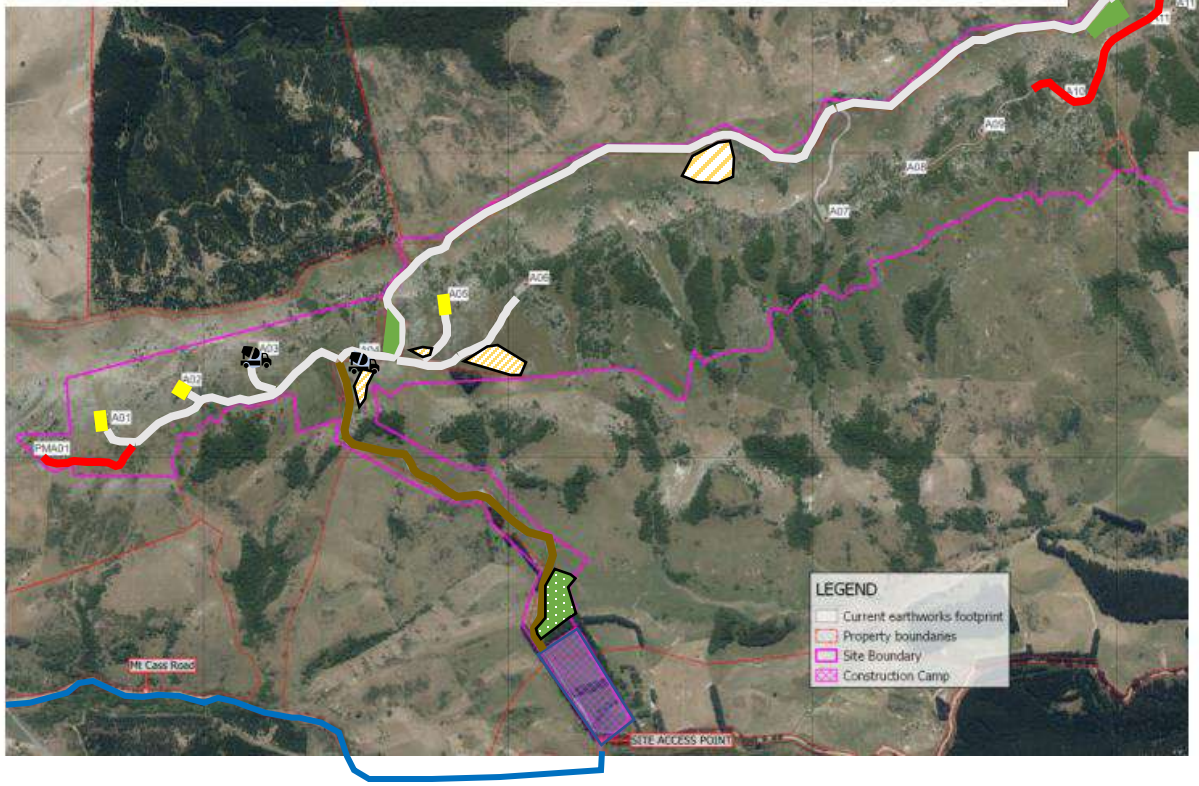
Month 5







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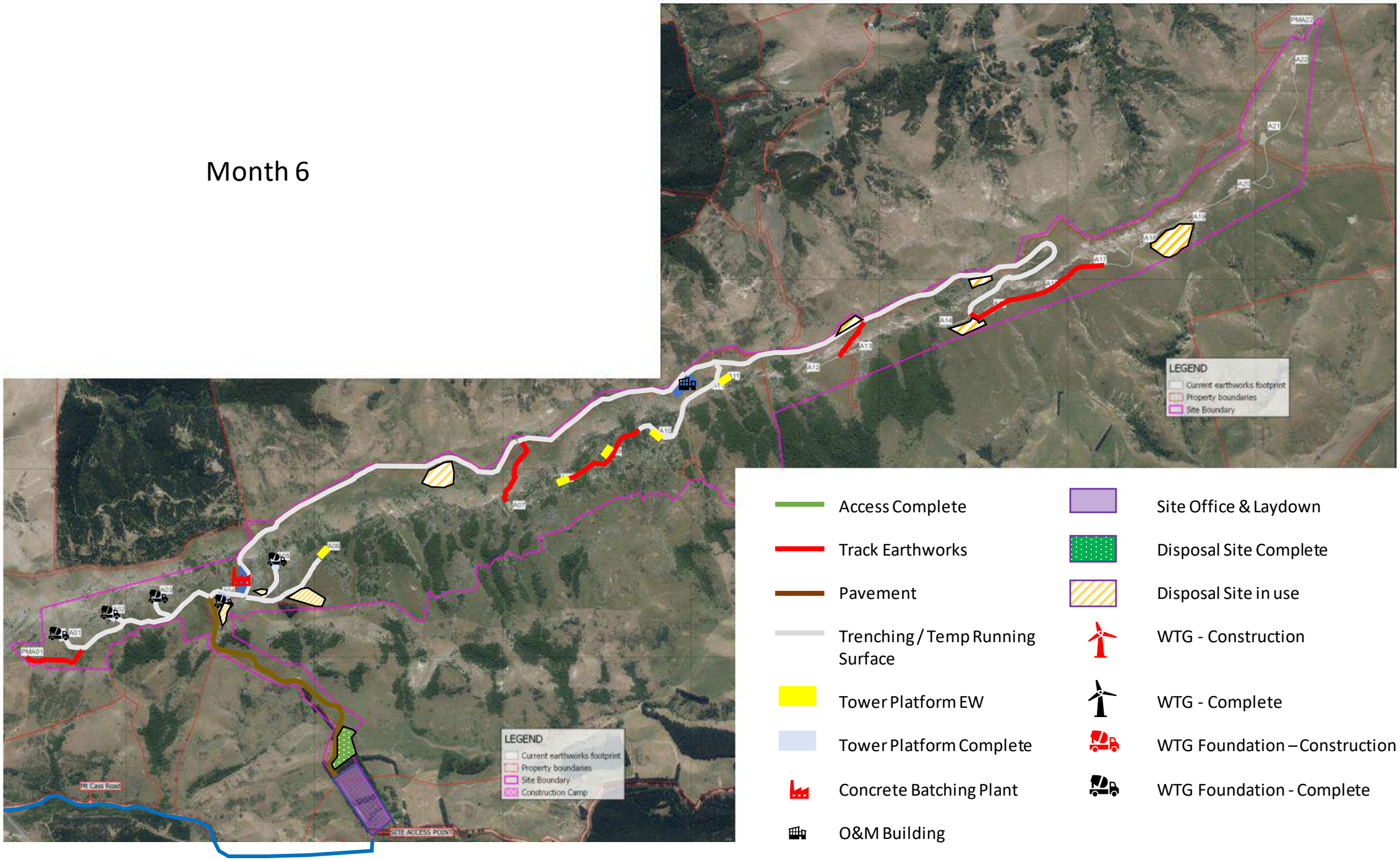
Month 6



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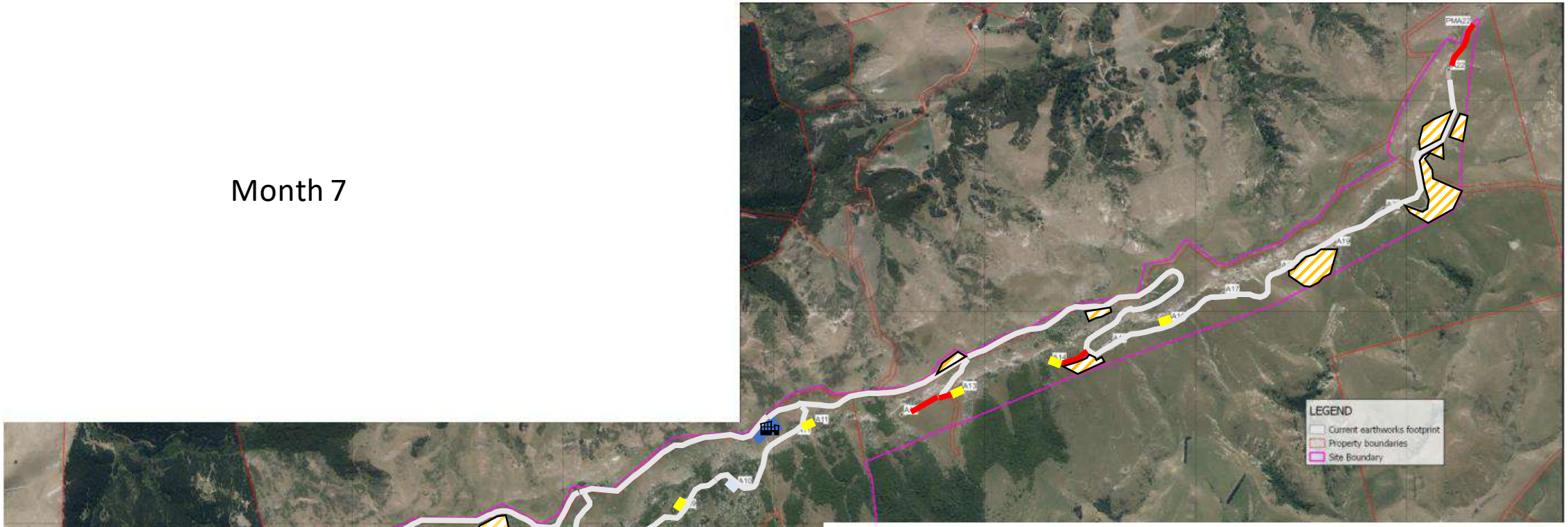
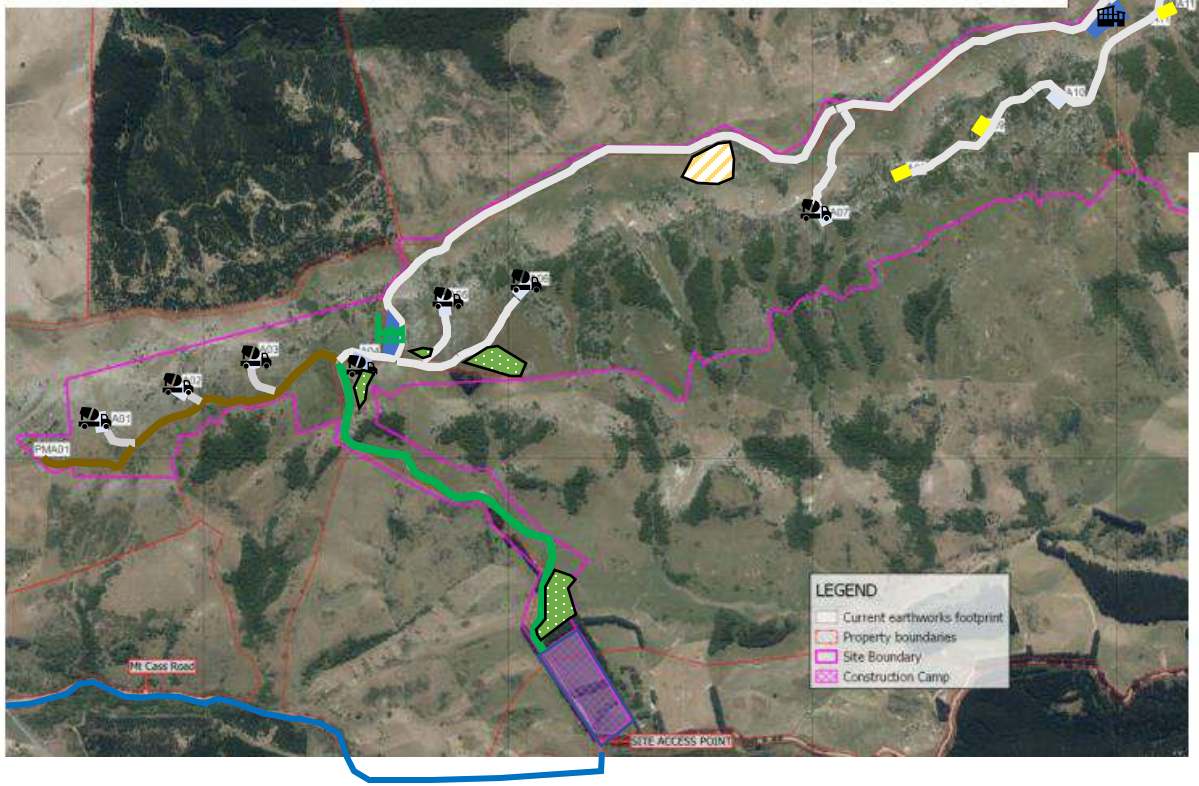
Month 7





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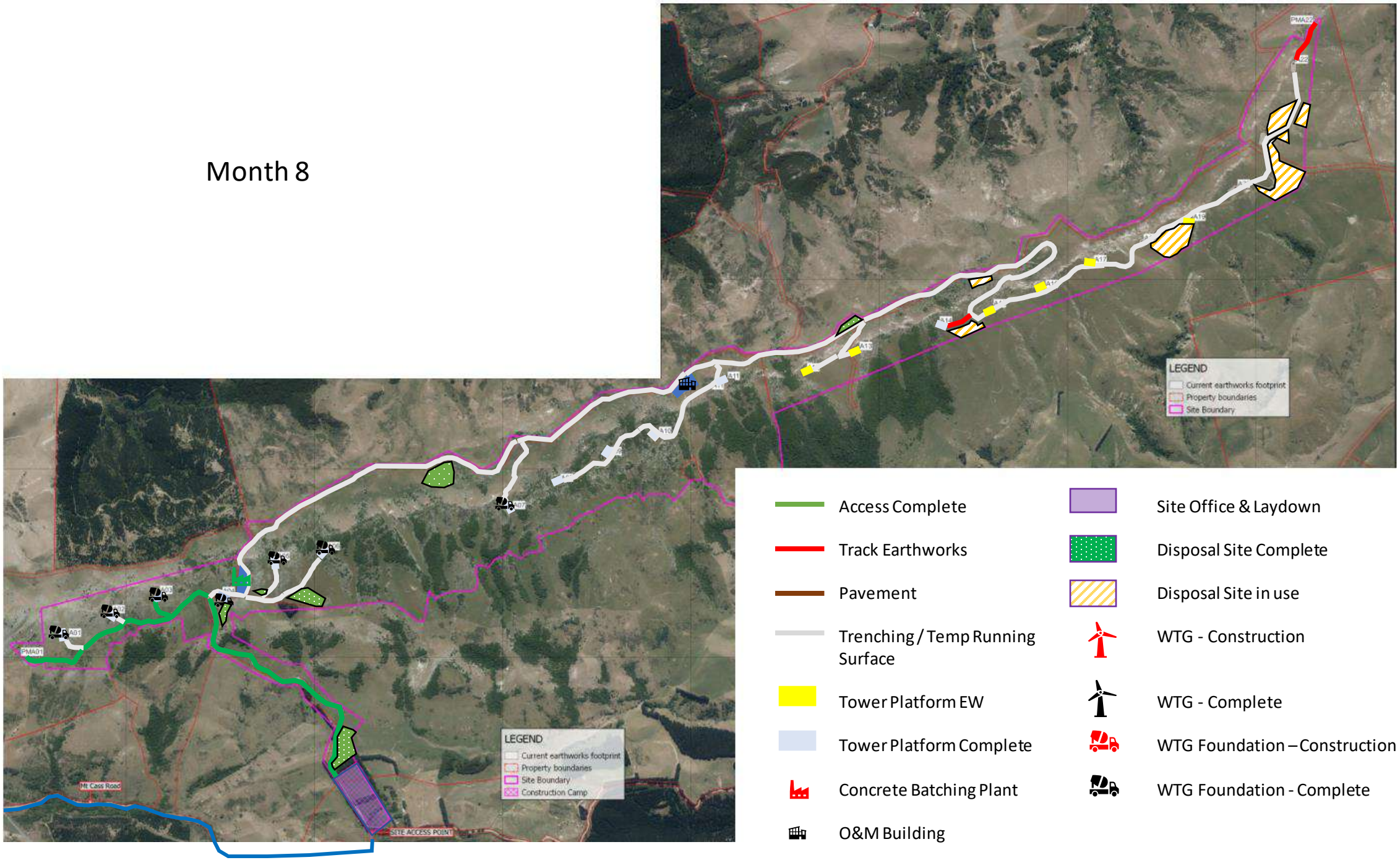
Month 8



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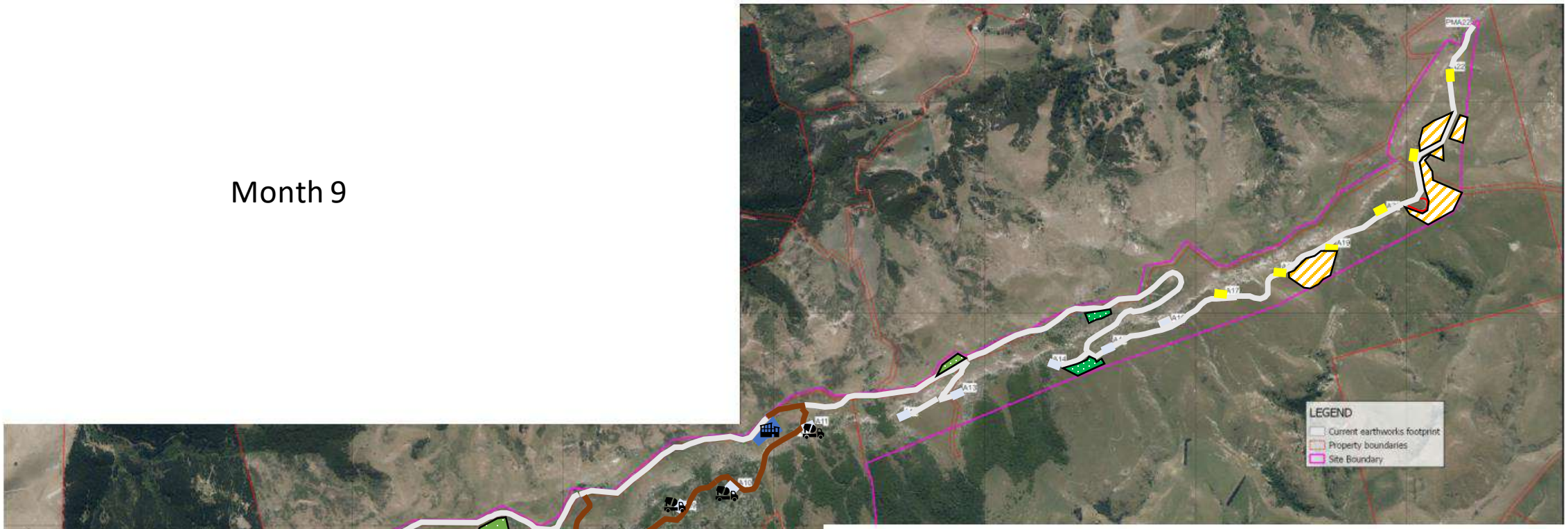

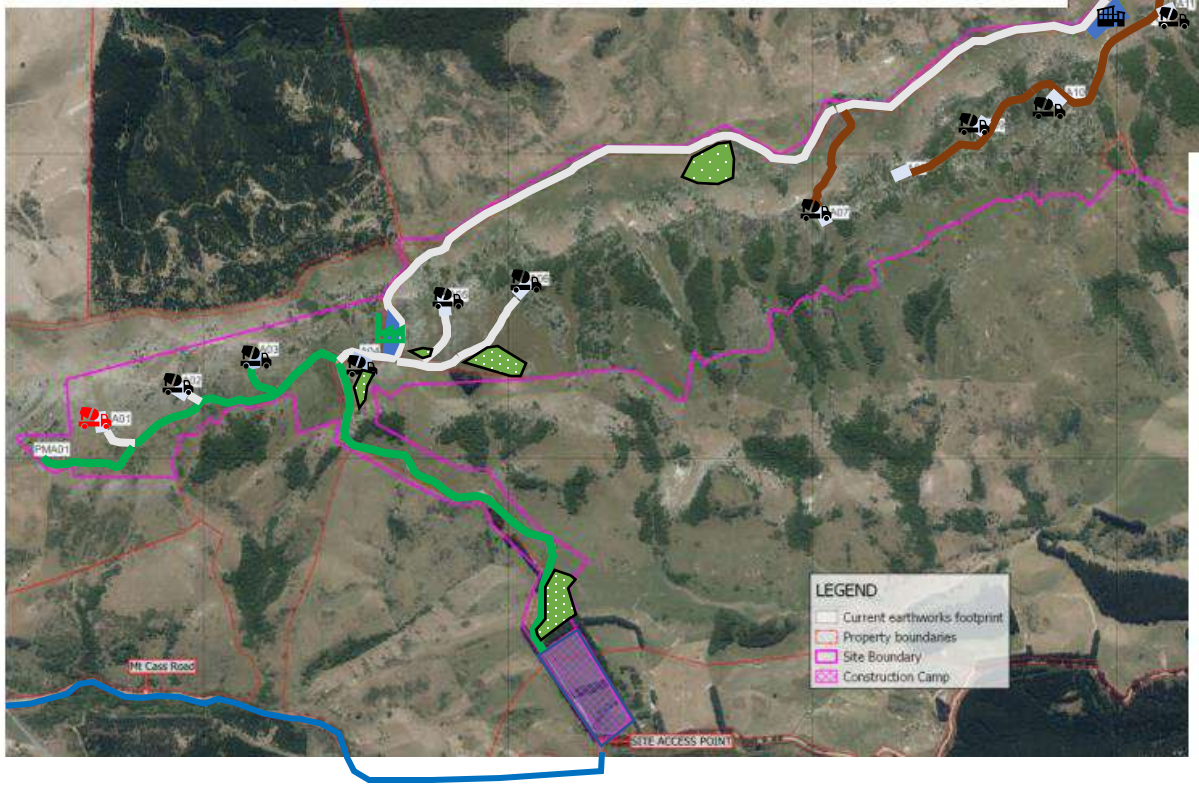

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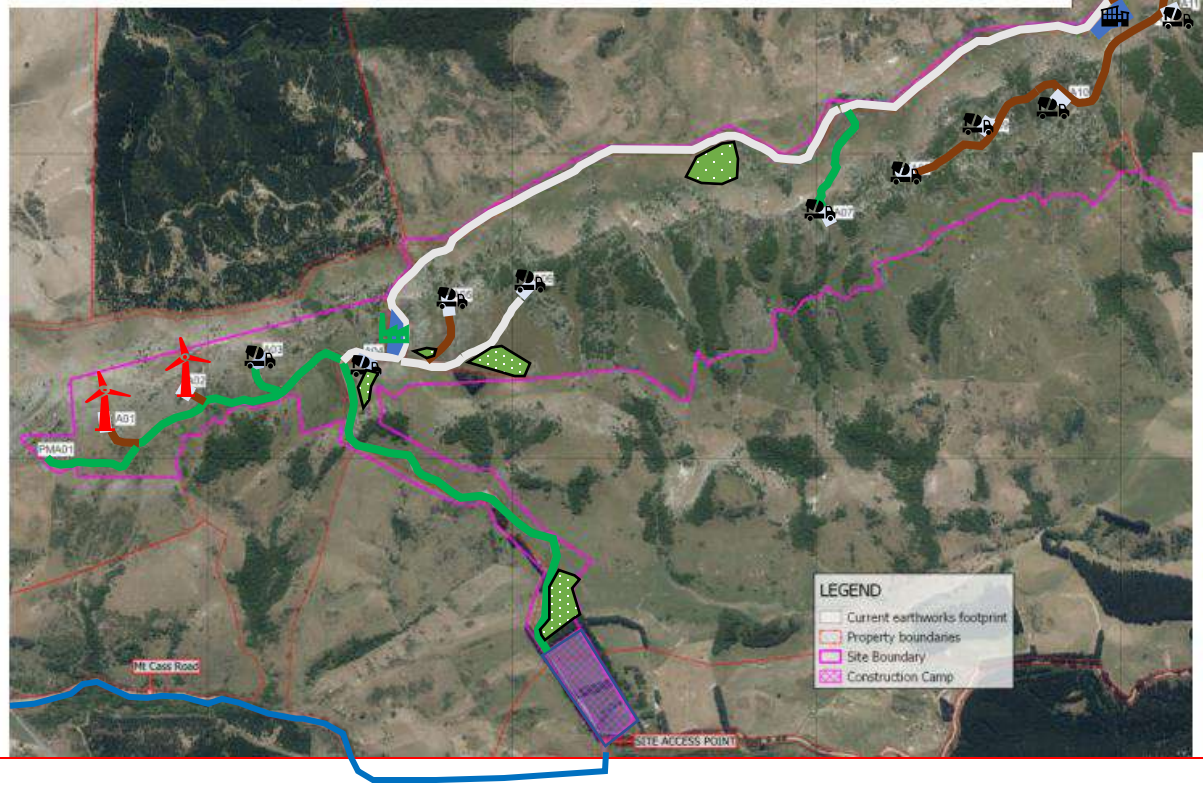
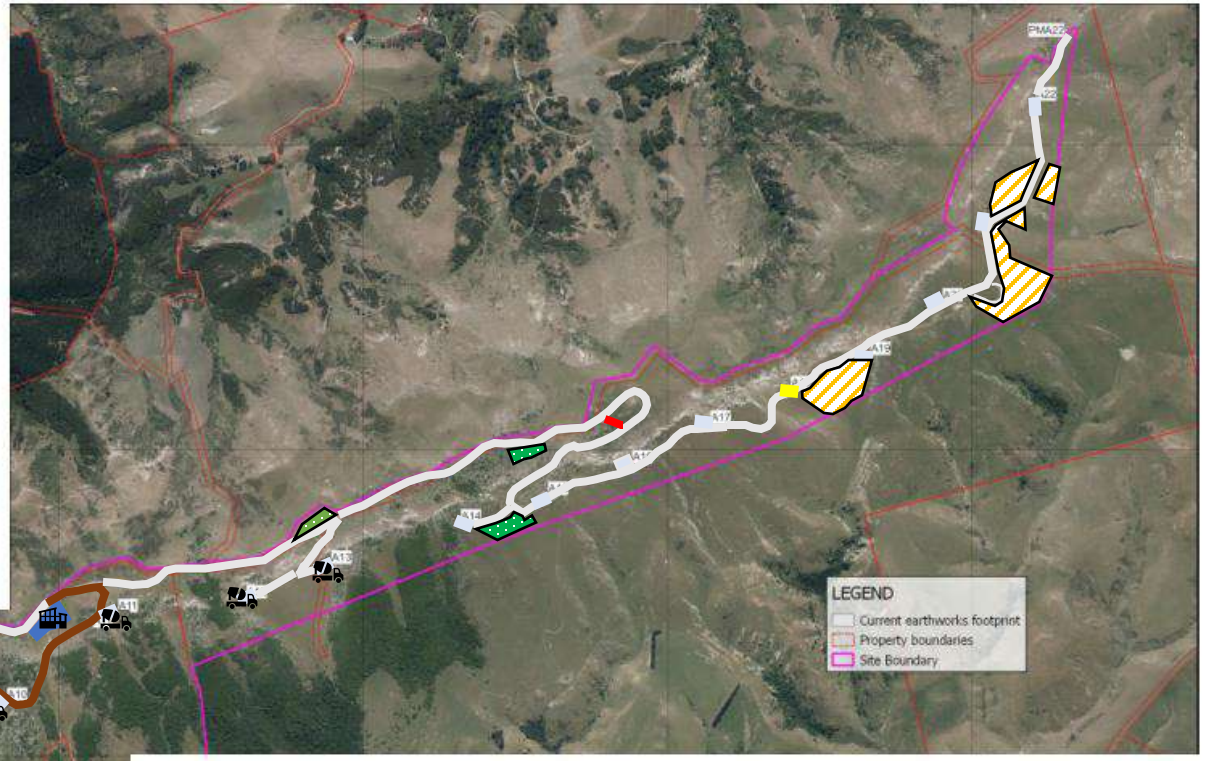
Month 10





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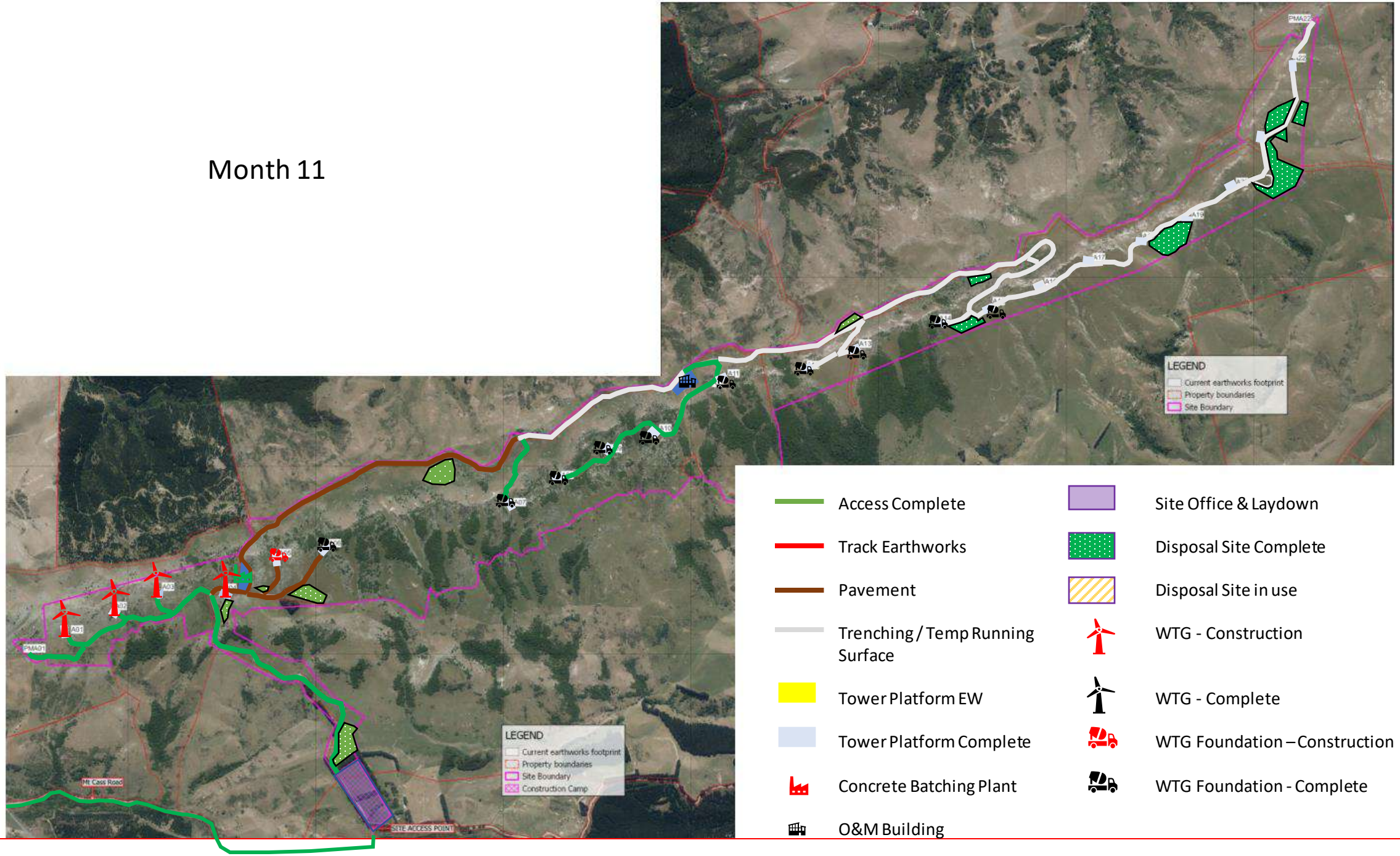
Month 11



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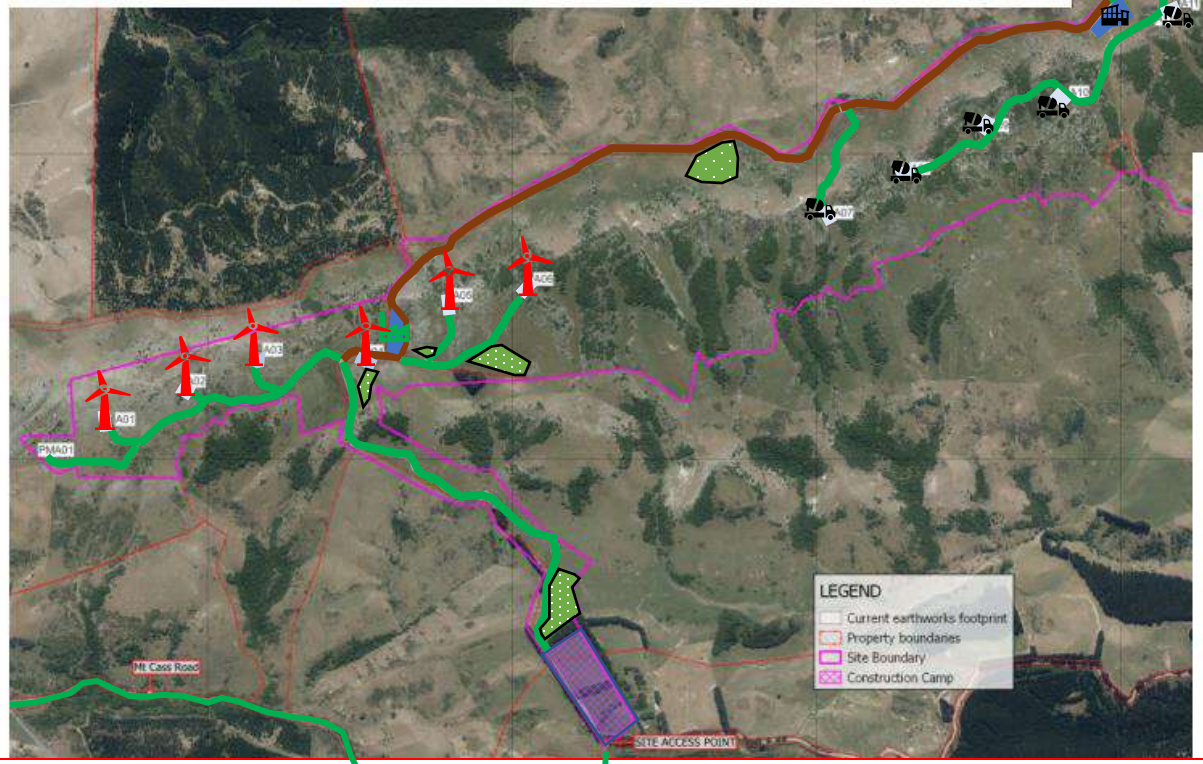
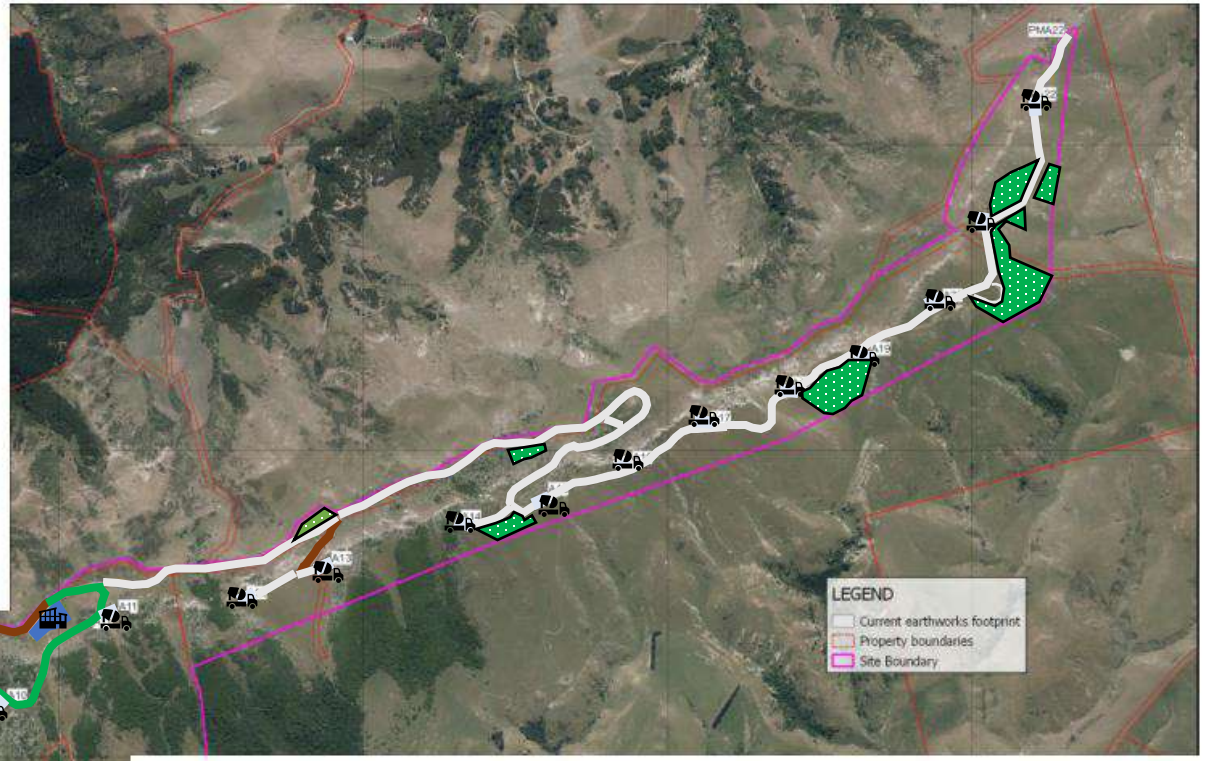
Month 12





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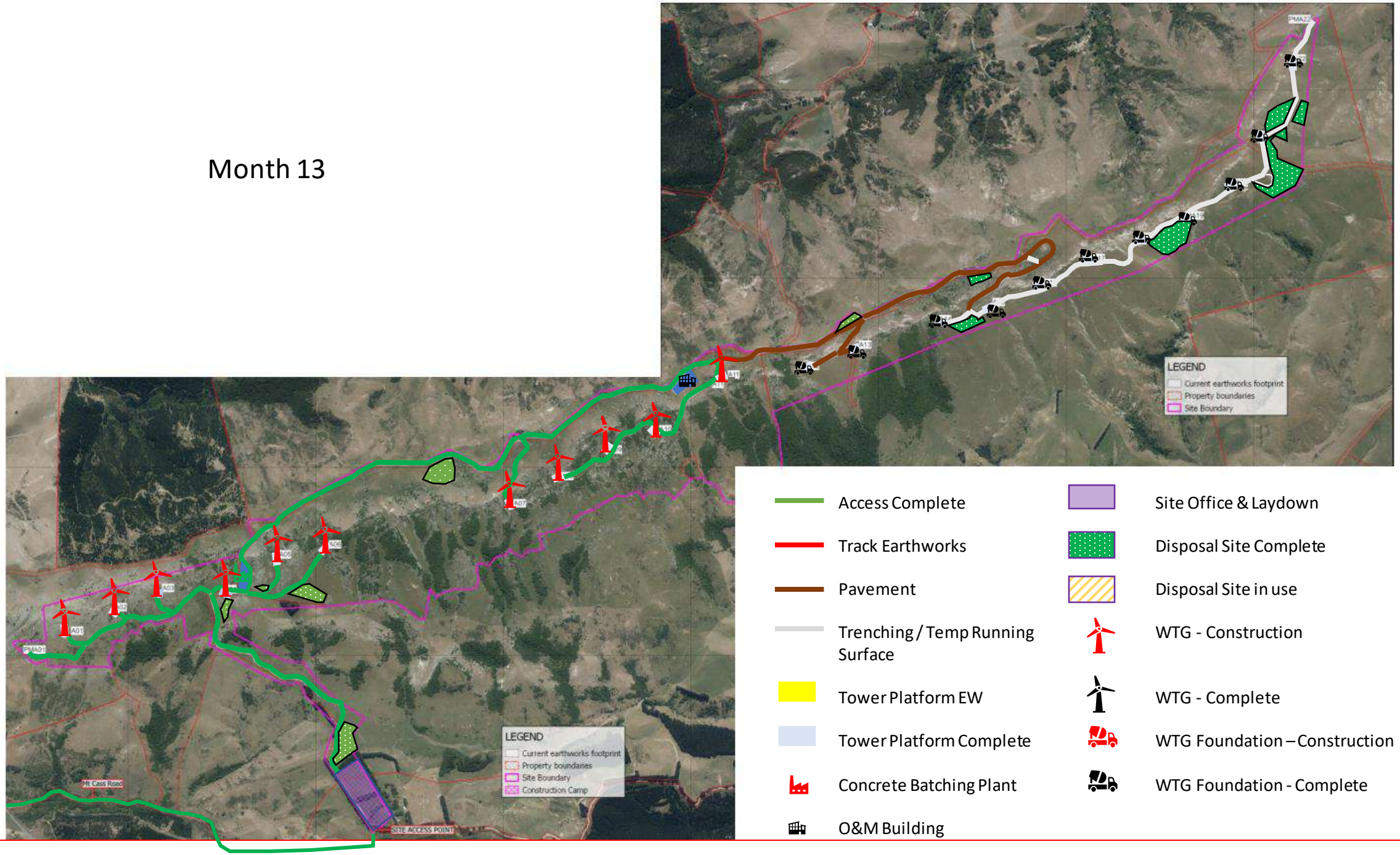
Month 13


LEGEND
Current earthworks footprint
Property boundaries
Site Boundary
Construction Camp
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SITE ACCESS POINT
LEGEND
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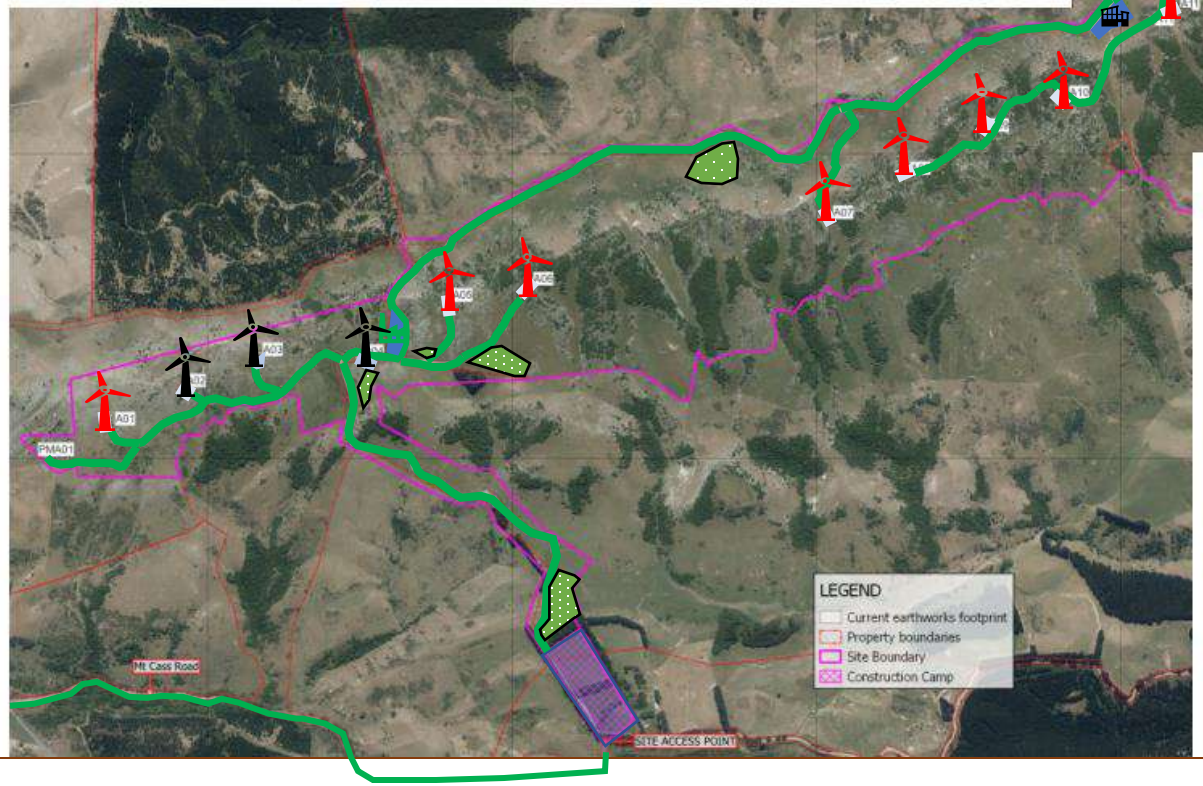
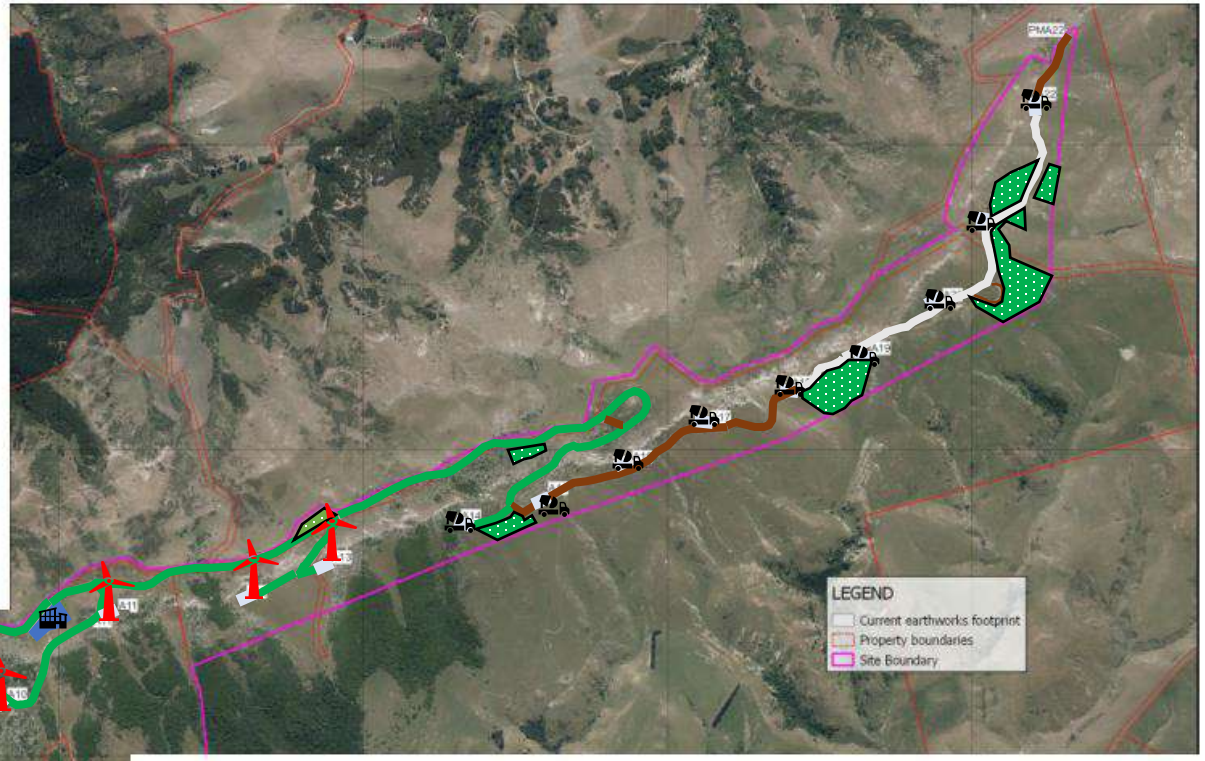
Month 14





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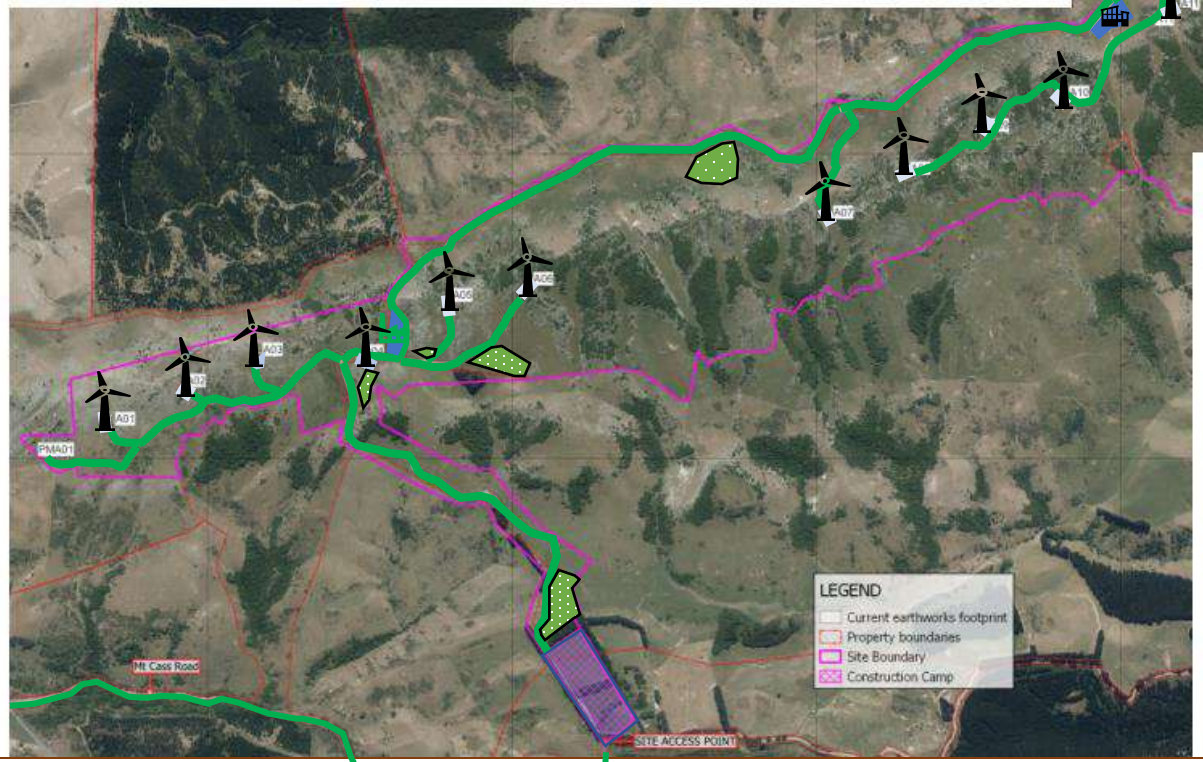
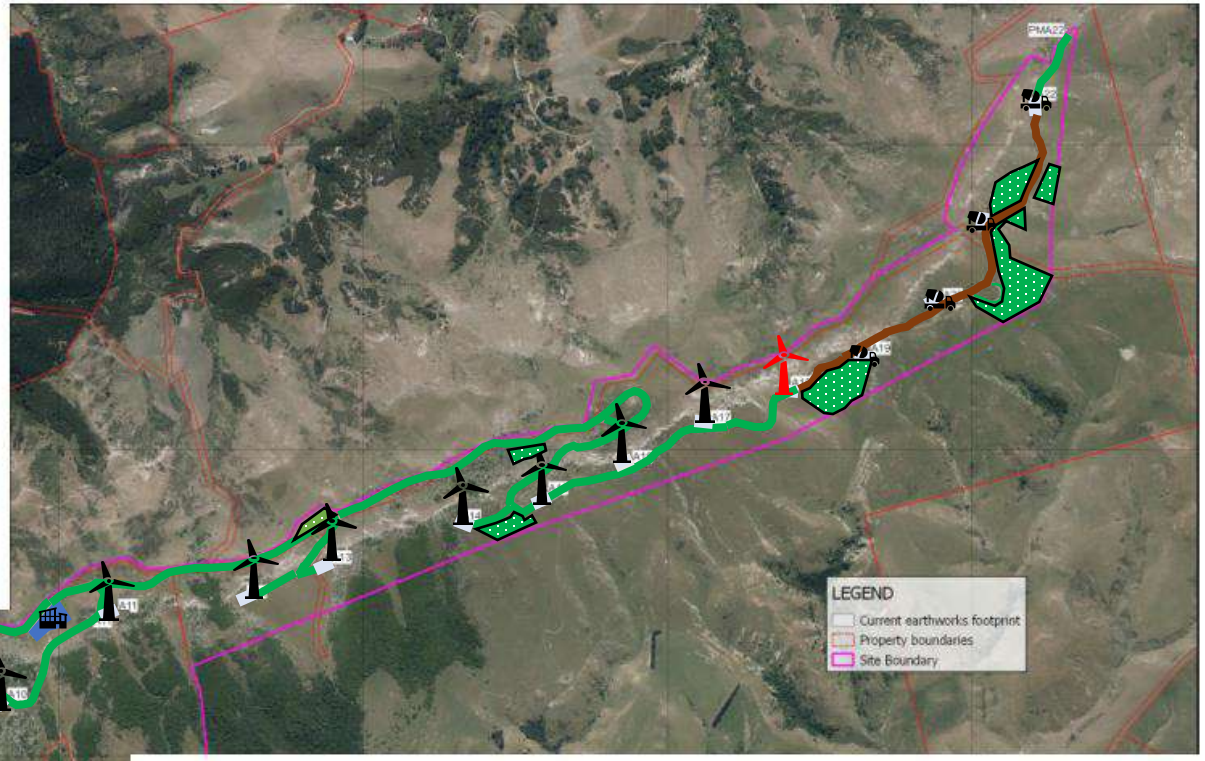
Month 15





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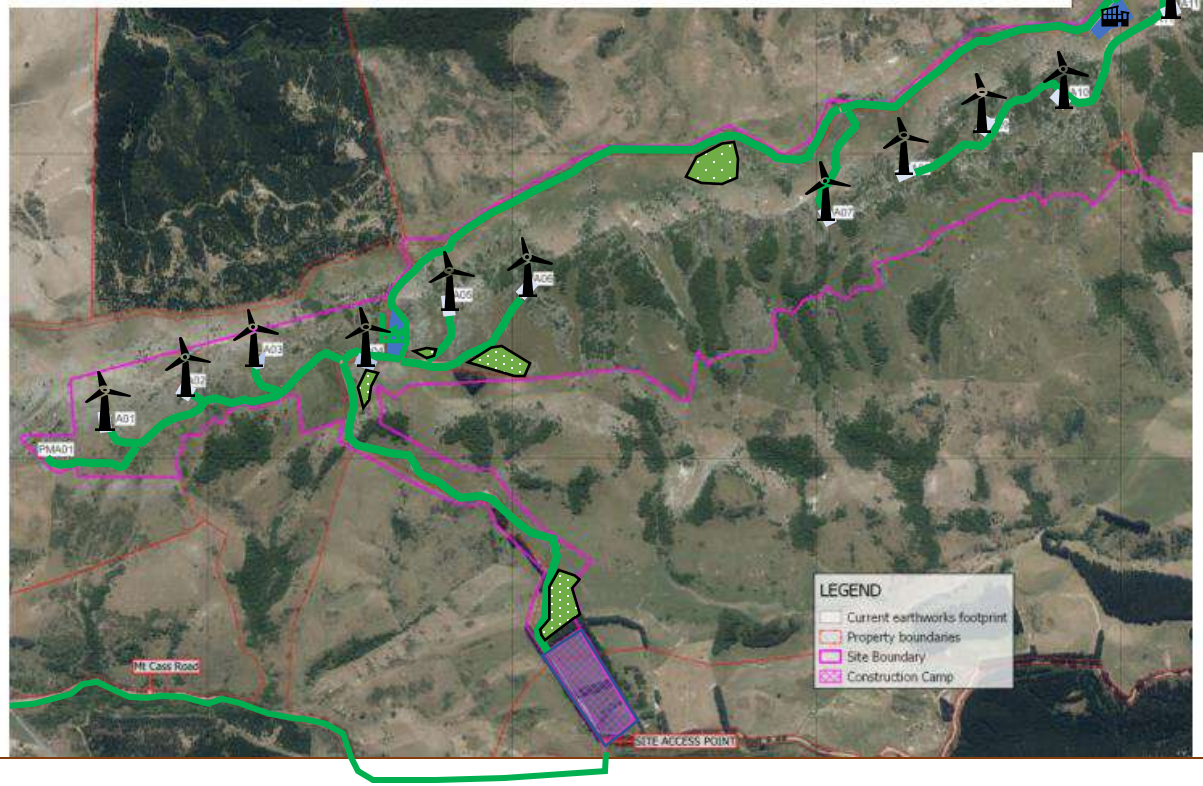
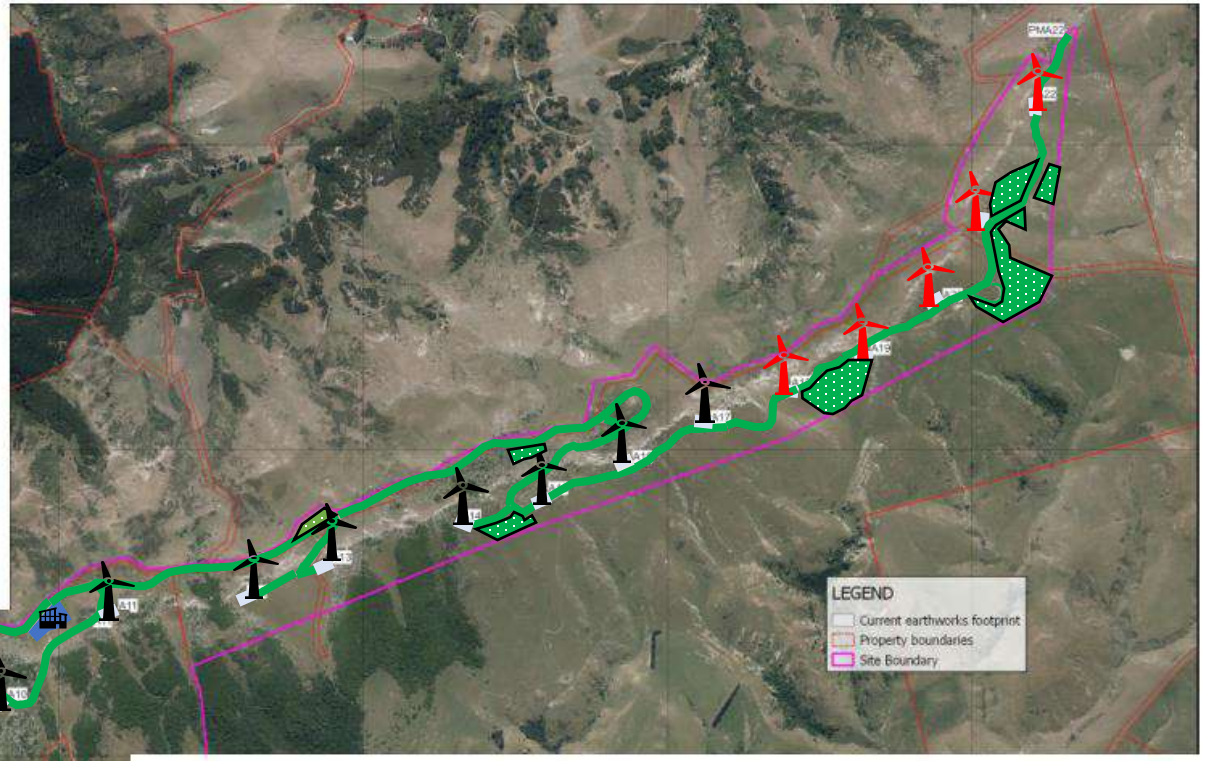
Month 16





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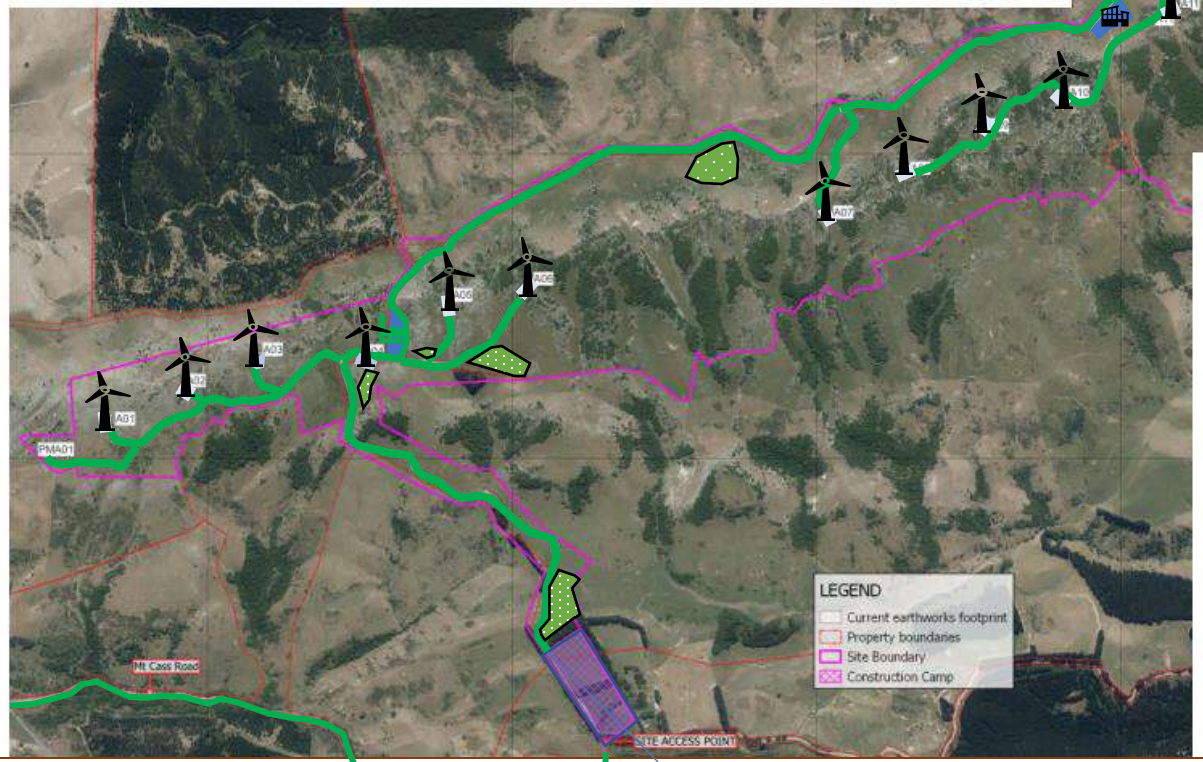
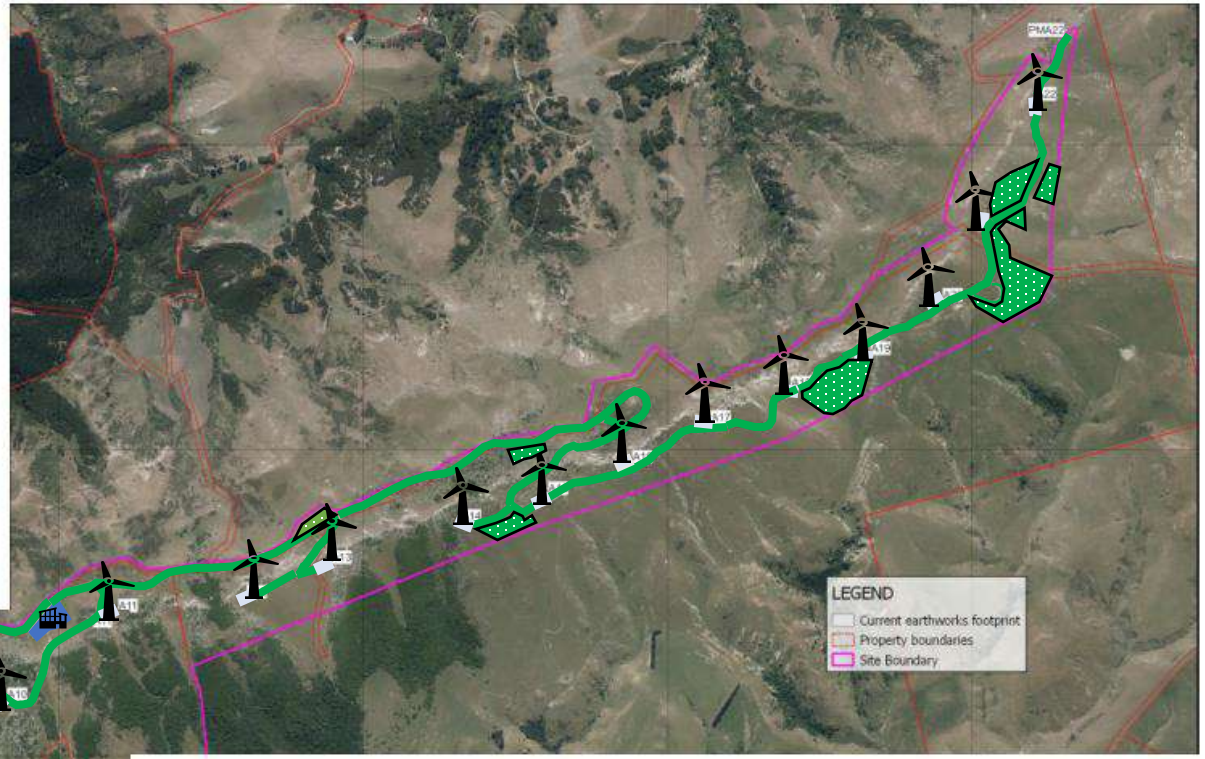
Month 17





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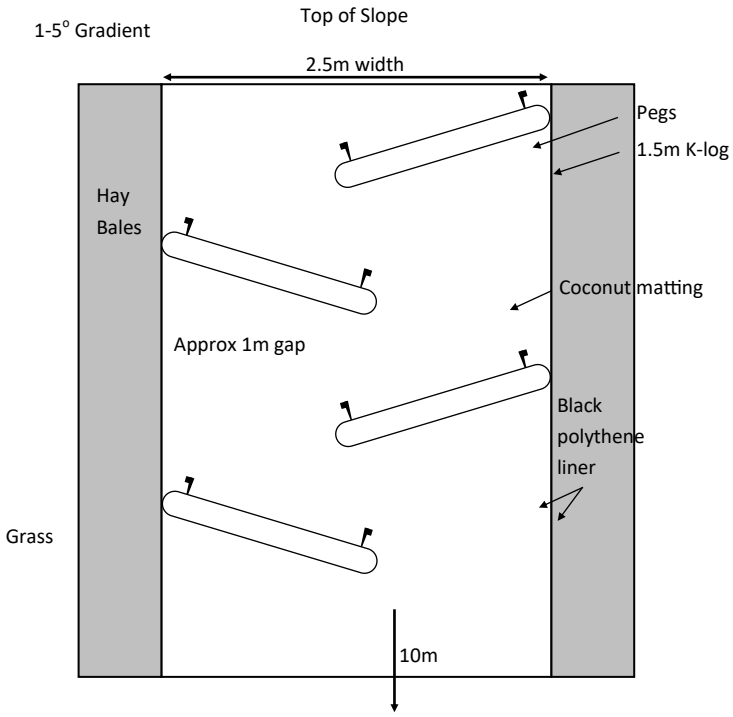
APPENDIX H – Kiwi-Log channel standard details (EnviroCo)

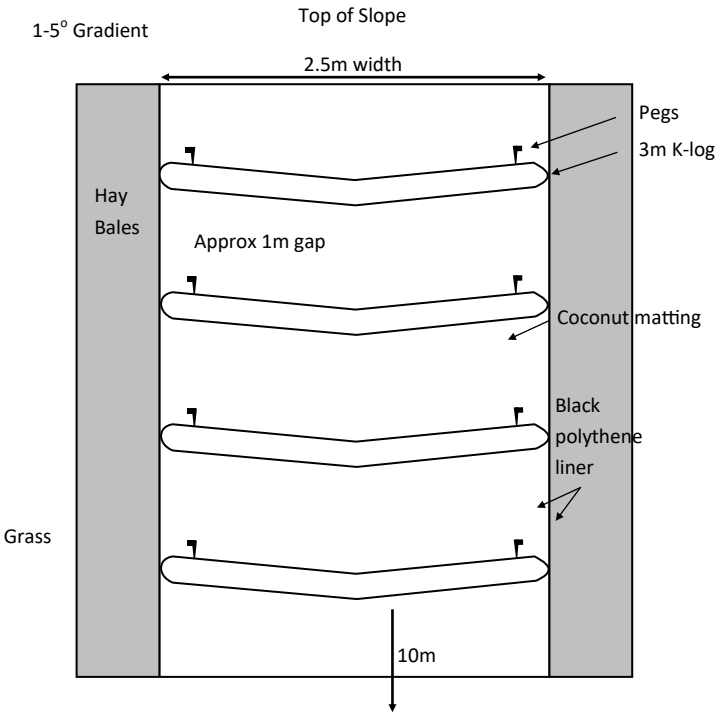
EnviroCo
ENVIRONMENTAL COMPLIANCE

Aerial View: Above-ground installation of 1.5m K-Logs



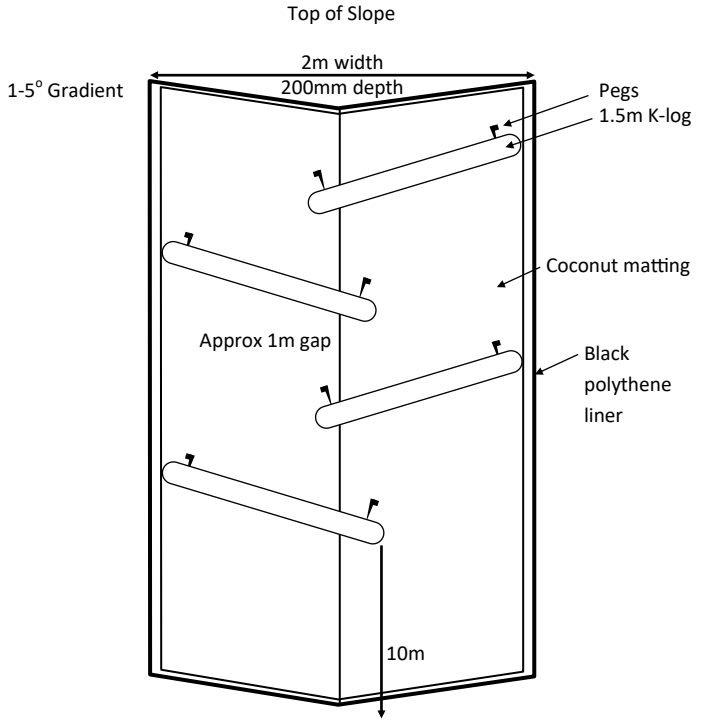
EnviroCo ENVIRONMENTAL COMPLIANCE

Aerial View: Above-ground installation of 3m K-Logs



EnviroCo
ENVIRONMENTAL COMPLIANCE

Aerial View: In-ground installation of 1.5m K-Logs

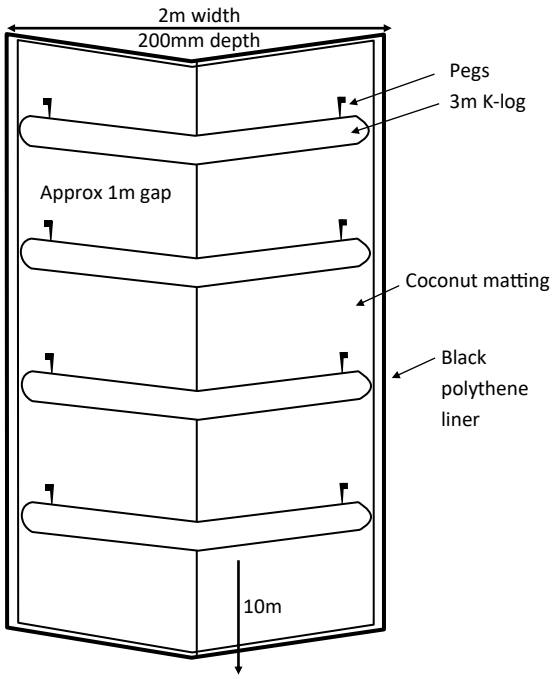


EnviroCo
ENVIRONMENTAL COMPLIANCE

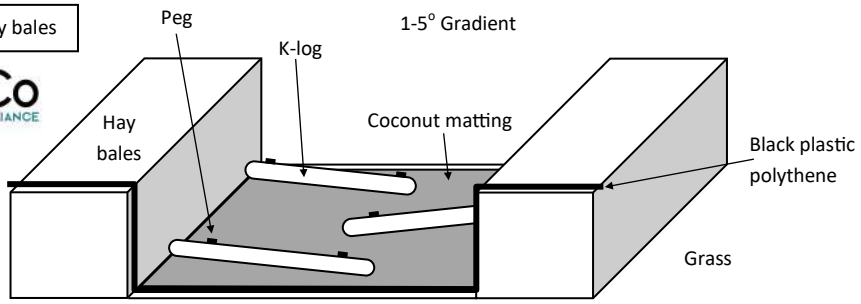
Aerial View: In-ground installation of 3m K-Logs

1-5° Gradient

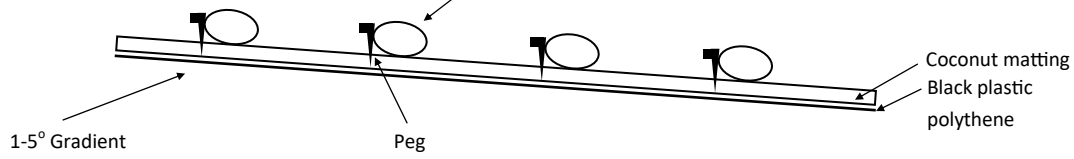
Top of Slope



Cross Section with hay bales



Cross Section of in-ground installation



Appendix E

B2 Dust Management Plan

Mt Cass Wind Farm
Dust Management Plan

Revision 5 – 22 March 2023

This document has been prepared for the benefit of Mt Cass Wind Farm Ltd (MCWF). No liability is accepted by this company or any employee or sub-consultant of this company with respect to its use by any other person. This disclaimer shall apply notwithstanding that the report may be made available to other persons of an application for permission or approval to fulfil a legal requirement.

Revision History

Version	Description	Date	Prepared by	Approved By
Rev 1	Draft	03 Mar 21	HW	SB
Rev 2	Draft – with AECOM inputs	14/04/2021	JW	SB
Rev 3	Draft - with MCD inputs	8/11/2022	CB	MC
Rev 4	MCD Updates post-SQIP and MCWF Review.	23/02/2023	CB	MC
Rev 5	Post CLG comments for HDC submission	22/03/2023	MC	GG

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1. Introduction

This Dust Management Plan (DMP) has been prepared to support the Construction Management Plan and the resource consents required for the construction of the Mt Cass Wind Farm (the Project) at Mt Cass, near Waipara in North Canterbury.

This DMP will also act as a guidance document for the site construction contractors to ensure the effective mitigation of dust generated by the Project.

1.1 Project Description

New Zealand is projected to need around 1,000 new wind turbines generating 3,390 megawatts (MW) of power to meet 2050 energy demands. The Project will make a positive contribution towards this goal, providing 22 wind turbines constructed along the 7.5-kilometre ridge on Mt Cass, producing 94 MW of power along with increasing supply resilience to the South Island's electricity supply while offsetting around 100,000 tonnes of CO2 emissions per year. The wind farm will have a net gain in biodiversity through the protection of 127 Hectares of predominantly native shrubland and forest and will include a proposed extension of the Mount Cass walkway.

The Site is located on Mt Cass, east of Waipara in North Canterbury, with the nearest city, Christchurch, approximately 50 km southwest of the site. The site lies within the territorial authority jurisdiction of Hurunui District Council (HDC) and Canterbury Regional Council (ECan). The Wind Farm will be constructed along the top of a topographic ridge which extends approximately 7 km in a north-easterly direction and comprises three dominant peaks; Mt Cass (524 m above sea level), Totara (557 m), and Oldham (496 m). Almost the entire ridge stands above the 500m contour. The Project will see 22 turbines constructed along the 7.5-kilometre ridge on Mt Cass. The project location is identified in Figure 1.

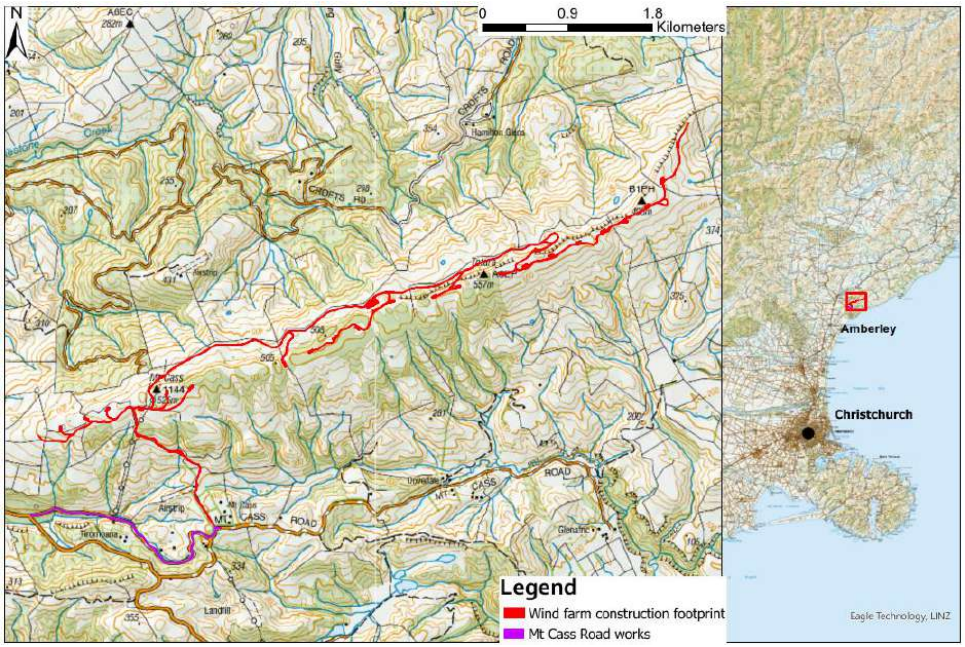

Figure 1 Mt Cass Wind Farm location

1.2 Purpose and Objectives

The purpose of this DMP is to:

- Provide a framework for managing dust management for the site during construction of the Project.
- Outline the consent conditions related to dust management at the site.
- Provide a source document for relevant procedures and reference documents to inform project personnel.
- Document the methods used to monitor and manage dust.
- Document the methods for managing complaints and keeping records related to compliance, and
- Document the responsibilities and reporting framework for dust management at the site.

The objective of this DMP is to:

- Detail the dust monitoring and mitigation measures which will be implemented on the site to reduce impacts on the receiving environment.
- Provide a safe workplace where visibility is not impaired by dust, and
- Ensure compliance with the Canterbury Air Regional Plan 2017 (CARP), specifically:
    - The discharge of odour, dust or smoke into air does not cause or is not likely to cause an adverse effect beyond the boundary of the property of origin, and
    - The discharge does not cause an offensive or objectionable effect beyond the boundary of the property of origin when dust/odour generating activities onsite are managed and mitigated in accordance with Schedule 2 outlined in CARP.

1.3 Resource Consent Conditions

The consent conditions relevant to the Dust Management are summarised in the tables below:

HDC Consent RC070250		
Condition Number	Requirement	Control for Condition
35.	Implementation of mitigation measures – Construction Phase*:* There shall be no objectionable or offensive dispersal or deposition of dust beyond the boundary of the site.	This Plan Section 2.4 & 3.6
63.	**Construction traffic** - e. ii) The provision for dust suppression, if necessary, on the routes used for the transport of goods to the site so that safe stopping sight distance is maintained at all times.	Section 3.4
154	The Consent Holder shall maintain and keep a Complaints Register for any complaints about the construction activities and operation of the wind farm received by the Consent Holder including complaints in relation to traffic, noise, dust, shadow flicker or blade glint. The Register shall record, where this information is available: The date, time and duration of the incident that has resulted in a complaint; The location of the complainant when the incident was detected; The possible cause of the incident; Any corrective action undertaken by the Consent Holder in response to the complaint, including timing of that corrective action; The date and details of the response given to each complainant. The Complaints Register shall be available to the Council and the Community Liaison Group at all reasonable times upon request.	Appendix A of CMP Section Complaints0 of this plan

ECan Consent CRC214153 and CRC214154		
Condition Number	Requirement	Control for Condition
1	Limit: The discharge shall be only fugitive dust from the handling and outdoor storage of bulk solid materials associated with a temporary concrete batching plant required for the construction of the Mt Cass Wind Farm located at Mt Cass, Waipara, within the area identified as 'construction footprint' as shown on Plan CRC214153A and CRC214154A, attached to and forming part of this resource consent.	Section 3.4
2.	Limit: The discharge of particulate matter shall not give rise to effects that are noxious, dangerous, offensive or objectionable beyond the boundary of the construction footprint as shown on Plan CRC214153A and CRC214153A.	This Plan
3.	Prior to the commencement of construction works at the site, the consent holder must prepare and implement a Dust Management Plan. The Dust Management Plan must be retained onsite at all times.	This Plan
4.	The exercise of this consent must be undertaken in accordance with the Dust Management Plan. In the event of inconsistency between the conditions of this consent and the provisions of the Dust Management Plan, then the conditions of this consent must prevail.	This Plan
5.	The purpose of the Dust Management Plan is to identify and implement the best practicable option (BPO) for avoiding and minimising the release of particulate matter beyond the boundary of the site, and to provide detail on how the conditions of this resource consent will be complied with.	Section 1.2
6.	Prior to submitting the Dust Management Plan to the Canterbury Regional Council Attention -Regional Leader Monitoring and Compliance, the Consent Holder must have the DMP reviewed by a Suitably Qualified and Experienced Practitioner (SQEP) in air quality to confirm that the measures proposed in the Dust Management Plan are appropriate to achieve compliance with condition (2) of this resource consent.	Section 3.2
7.	The Dust Management Plan shall include but not be limited to:	This Plan
	A description of the activities that will result in the discharge of contaminants into air;	Section 2.1 & 3.4
	A description of how often the contaminants will be discharged;	Section 2.2
	A description of the location of the discharge, including a description of the activities that occur on neighbouring properties	Section 2.4 & 3.4

ECan Consent CRC214153 and CRC214154		
Condition Number	Requirement	Control for Condition
1	Limit: The discharge shall be only fugitive dust from the handling and outdoor storage of bulk solid materials associated with a temporary concrete batching plant required for the construction of the Mt Cass Wind Farm located at Mt Cass, Waipara, within the area identified as 'construction footprint' as shown on Plan CRC214153A and CRC214154A, attached to and forming part of this resource consent.	Section 3.4
	An explanation as to how any adverse effects on sites that are sensitive to Ngai Tahu, such as statutory acknowledgement areas, silent file areas or wāhi tapu or wāhi taonga are to be managed;	Section 2.4
	A description of the management practices being implemented to minimise the discharge or the effects of the discharge of contaminants to ensure compliance with this consent;	Section 3.4 & 3.6
	Identification and contact details of the persons responsible for carrying out all actions in relation to meeting the requirements of this consent;	Section 3.1& 3.2
	A system of training for employees and contractors to make them aware of the requirements of the DMP;	Section 3.3
	A method for recording and responding to complaints from the public;	Section 0
	Procedures for managing dust when staff are not on site.	Section 0, 4.1, 4.3, 4.4
8.	The Dust Management Plan shall be provided to Canterbury Regional Council on request. The Dust Management Plan may be amended at any time. Any amendments shall be: Only for the purpose of improving the efficacy of the dust control measures and shall not result in reduced discharge quality; and Consistent with the conditions of this resource consent.	Section 4.40
9.	The Consent Holder shall use the best practicable options at all times to ensure compliance with condition (2). These measures shall include but not be limited to:	Section 3.4

ECan Consent CRC214153 and CRC214154		
Condition Number	Requirement	Control for Condition
1	Limit: The discharge shall be only fugitive dust from the handling and outdoor storage of bulk solid materials associated with a temporary concrete batching plant required for the construction of the Mt Cass Wind Farm located at Mt Cass, Waipara, within the area identified as 'construction footprint' as shown on Plan CRC214153A and CRC214154A, attached to and forming part of this resource consent.	Section 3.4
	A water truck which shall be available and used as necessary to wet down haul roads and other areas of operation as required; Sealing of access road shown as 'sealed access' on Plan CRC214153A as soon as practicable. The sealed portion of access road shall be regularly maintained such that it does not result in the production of dust; Constructing and maintaining any unsealed access roads so they are comprised of an aggregate base with surfaces that are graded and free of potholes; A speed limit of 40 kilometres per hour, which shall be maintained for all vehicles on the Southern Access Road from the Mt Cass Road access to the Ridgeline; Locate stockpiles in locations to maximise wind sheltering as much as possible; Minimising drop heights during earthworks and movement of materials; Stabilisation of exposed areas not required for construction, access or parking along with completed fill and spoil areas as soon as practicable; Assessing weather and ground conditions (wind and dryness) at the start of each day and ensure that applicable dust mitigation measures and methods are ready for use prior to commencing construction activities; Limiting exposed surfaces as far as practicable; Placing a rumble strip and/or wheel wash on the site access road to assist in removing muddy material from vehicle wheels before they exit the site during construction; Keeping exposed surfaces damp during dry windy weather conditions; Heavy vehicles with fine material shall cover their loads; Undertaking routine site inspections of visible dust emissions each day; Completing regular inspections of stockpiles to check temporary bunds and confirm that dust controls are functioning and effective.	This is Mt Cass Rd
10.	The consent holder shall maintain a record of the site inspections required by condition (9)(m) and (n). Copies of this record shall be provided to the Canterbury Regional Council on request.	Section 3.5.2

ECan Consent CRC214153 and CRC214154		
Condition Number	Requirement	Control for Condition
1	Limit: The discharge shall be only fugitive dust from the handling and outdoor storage of bulk solid materials associated with a temporary concrete batching plant required for the construction of the Mt Cass Wind Farm located at Mt Cass, Waipara, within the area identified as 'construction footprint' as shown on Plan CRC214153A and CRC214154A, attached to and forming part of this resource consent.	Section 3.4
11.	A record of any complaints relating to dust shall be maintained and provided to Canterbury Regional Council on request. The record of complaints shall include: a. The location where the particulate matter was detected by the complainant; b. The date and time when the particulate matter was detected; c. A description of the wind speed and wind direction when the particulate matter was detected by the complainant; d. The most likely cause of the particulate matter detected; and e. Any corrective action undertaken by the consent holder to avoid, remedy or mitigate the particulate matter identified by the complainant.	Section 3.5.1

2. Air Quality Impact on Surrounding Environment

2.1 Potential Dust Sources

The construction of the Project will involve the following key activities:

- Construction of access road and hard stands
- Construction and operation of a concrete batching plant
- Construction of turbine foundations
- Erection of wind turbines
- Earthworks
- Aggregate stockpiling for access track pavement and concrete production.
- Crushing and screening of rock
- Cement stabilisation of steep sections of the access track
- Mt Cass Road Upgrade
- Erosion and sediment controls
- Stormwater
- Electrical ducting

Dust emissions are anticipated to occur through the production and use of shingle roads as well as from the rock crushing activities which are anticipated to occur onsite and storage of crushed rock product. Dust will also occur from storage and movement of concreting aggregates. A summary of the Project construction operations which could result in dust emissions are as follows:

- Earthworks activities
- Transportation of project materials such as:
    - On-site cut materials.
    - Clean gravels or filter materials from local quarries; and,
    - General fill from cut locations
    - Spoil to disposal sites
- Loading on-site cut materials to trucks
- Unloading of the above materials
- Stockpiling of the above materials
- The land disturbance associated with the construction of site amenities and buildings including:
    - Site offices, storage areas and workshops
    - Concrete batching plant and aggregate storage areas
    - Energy substation buildings and switchyard

- Construction for active turbine sites including:
    - Construction of working platforms/foundations at each turbine site
    - Laying of underground cables between the turbine sites and the substation.

- Upgrade of Mt Cass Road
- Preparation of disposal sites and laydown areas
- Movement of materials into and out of laydown areas.

- Movement of spoil to and within disposal sites
- Rehabilitation of laydown areas and disposal sites
- Wheel generated dust on unsealed roads/ surfaces
- Trenching activities.

2.2 Hours of Construction

The construction of the project is expected to take between approximately 12 and 18 months to complete. Works would primarily be undertaken between the standard working hours of 7 am to 7 pm during weekdays and Saturdays 7am – 5pm. However, there is the potential for some night works to occur, on an as needed basis.

2.3 Meteorology

Wind speed and direction was monitored at 11m above ground level at a location on the Mt Cass summit ridgeline between May 2005 and September 2006. A wind rose for the data collected during this period is presented in Figure 2. Winds are primarily from the north and north-west, with slightly less frequent north-east, south-west and southeast winds also occurring. Due to the location at the top of the ridgeline, average winds speeds are high (8.0 m/s or 29 km/hr) with winds above 9.0 m/s (32 km/hr) occurring about 37 % of the time. The highest wind speeds measured were about 30 m/s (108 km/hr). These high winds are likely to generate more dust emissions for construction works located along the ridgeline compared with activities lower down the mountain (e.g., traffic movement on the access road).

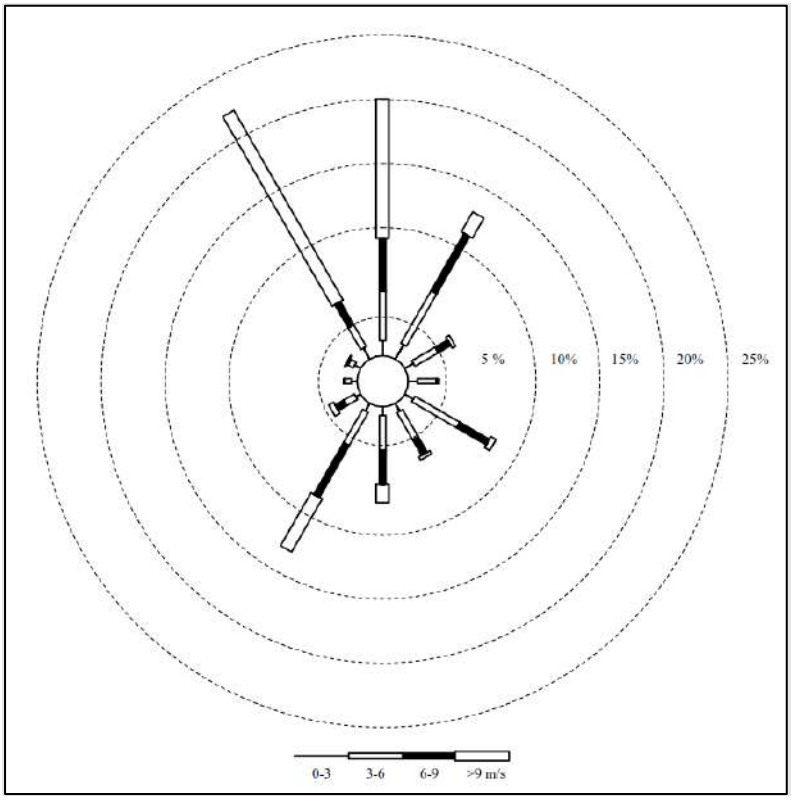

Figure 2 Wind rose for Mt Cass summit wind measurements 2005-2006 (Source: MainPower)

Wind speed and direction are monitored at the nearby NIWA-operated Waipara West station, located about 13 kilometres to the west of the project. Wind speed and direction data for the period 2015 to 2019 is presented in Figure 3 (all hours) Figure 4 (by season). The wind speeds measured at Waipara West are likely to be more representative of conditions at lower elevations – i.e., where sensitive receptors are located – and are therefore included for comparison.

The Waipara West station is situated in a valley running east west and as such displays a high frequency of westerly winds, especially during autumn and winter. The strongest winds (up to a maximum of about 19 m/s or 68 km/hr) are from the northwest and can occur during any season.

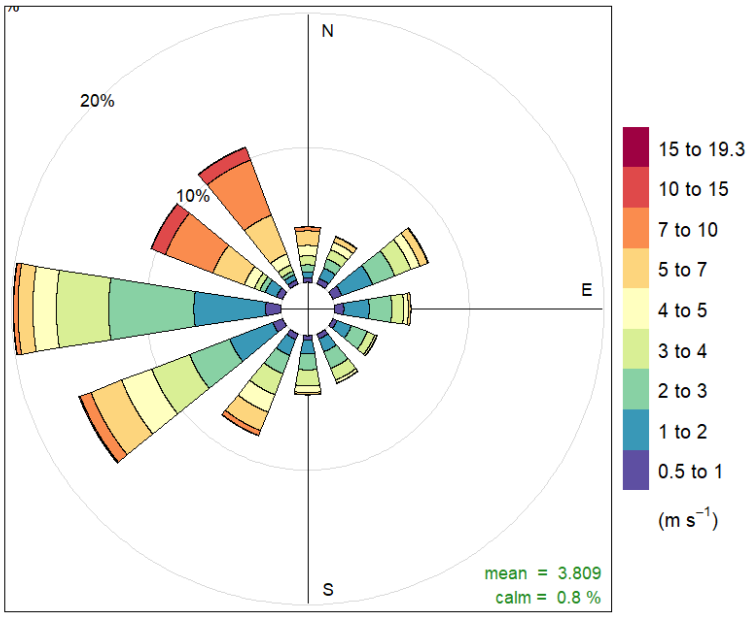

Figure 3 Annual Wind rose for Waipara West – 2015 to 2019

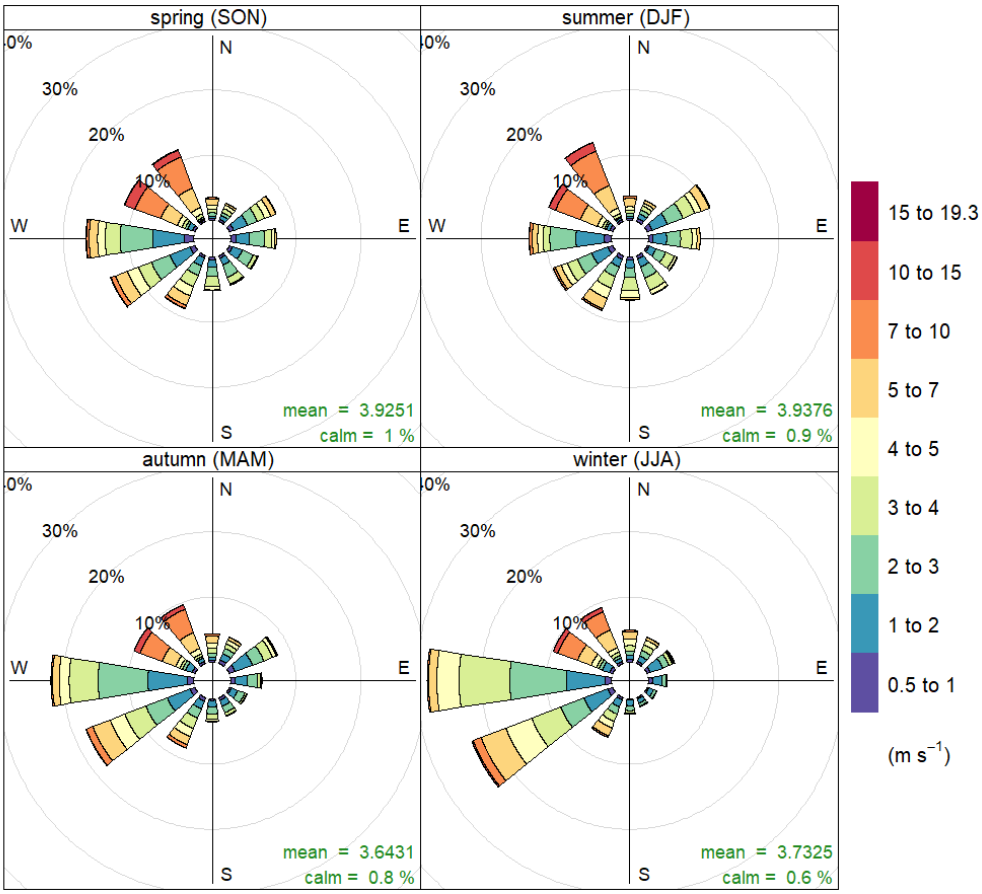

Figure 4 Seasonal Wind Roses for Waipara West – 2015 to 2019

2.4 Receiving Environment

2.4.1 Sensitive Receptors

It has been identified that there are no previously recorded Wāhi Taonga, Wāhi Tapu/Urupā or Ngāi Tahu Silent Files within the Project site nor is the proposal in a Statutory Acknowledgement Area.

From an amenity perspective, dust emissions from Project construction activities would typically impact locations within about 500 m of where the construction activities are undertaken. This is due to the larger size fraction of particles (TSP and PM10) that result from mechanical disturbance of materials, which fall out of suspension in the air relatively quickly. Smaller particles (PM2.5) may travel considerably further, however emissions of PM2.5, which are typically formed by combustion processes or from sea salt are not expected in large quantities for the Project and would disperse to very low concentrations beyond 500m of the site.

As a conservative measure, receptors within about three kilometres have been identified for inclusion in the assessment. The risk of dust impacts at any of the receptors beyond 500 m, however, is very low.

The nearest potentially affected sensitive receptors relative to the Project construction footprint and 500 m buffer are shown in Table 1 and presented graphically in **Error! Reference source not found.**. The WTG construction laydown yard receptor details including name, relative elevation and distance to the Project's construction footprint are summarised in Table 2 and shown graphically in Figure 6.

Receptor ID	Name	Elevation Difference from Nearest Construction Footprint (m)	Distance from Construction Footprint (m)
1	Hamilton Glens	300	1,400
2	Dovedale	370	1,800
3	The Wattles	370	2,000
4	Tiromoana	20	120
5	Simmonds	320	1,800
6	Glenafric	440	2,900

Table 1 Identified sensitive receptors in relation to construction footprint and 500m buffer, laydown areas and disposal sites

Table notes: 1. Elevation difference compared with the southern end of the access road.

2. Information sourced from AQIA (pg. 9, section 5.3), which was submitted with the original resource consent application.

Receptor ID	Address	Building type/ comments	Distance from Construction Footprint (m)
7 &	23 Symonds Rd	Dwelling	65m
8	47 Symonds Rd	Dwelling	145m
9	n/a	Waipara River	300m
10	133 Mt Cass Rd	Dwelling	630m

Table 2 Identified Sensitive Receptors within 1km of the WTG Laydown Area

Information within table sourced from Google Earth

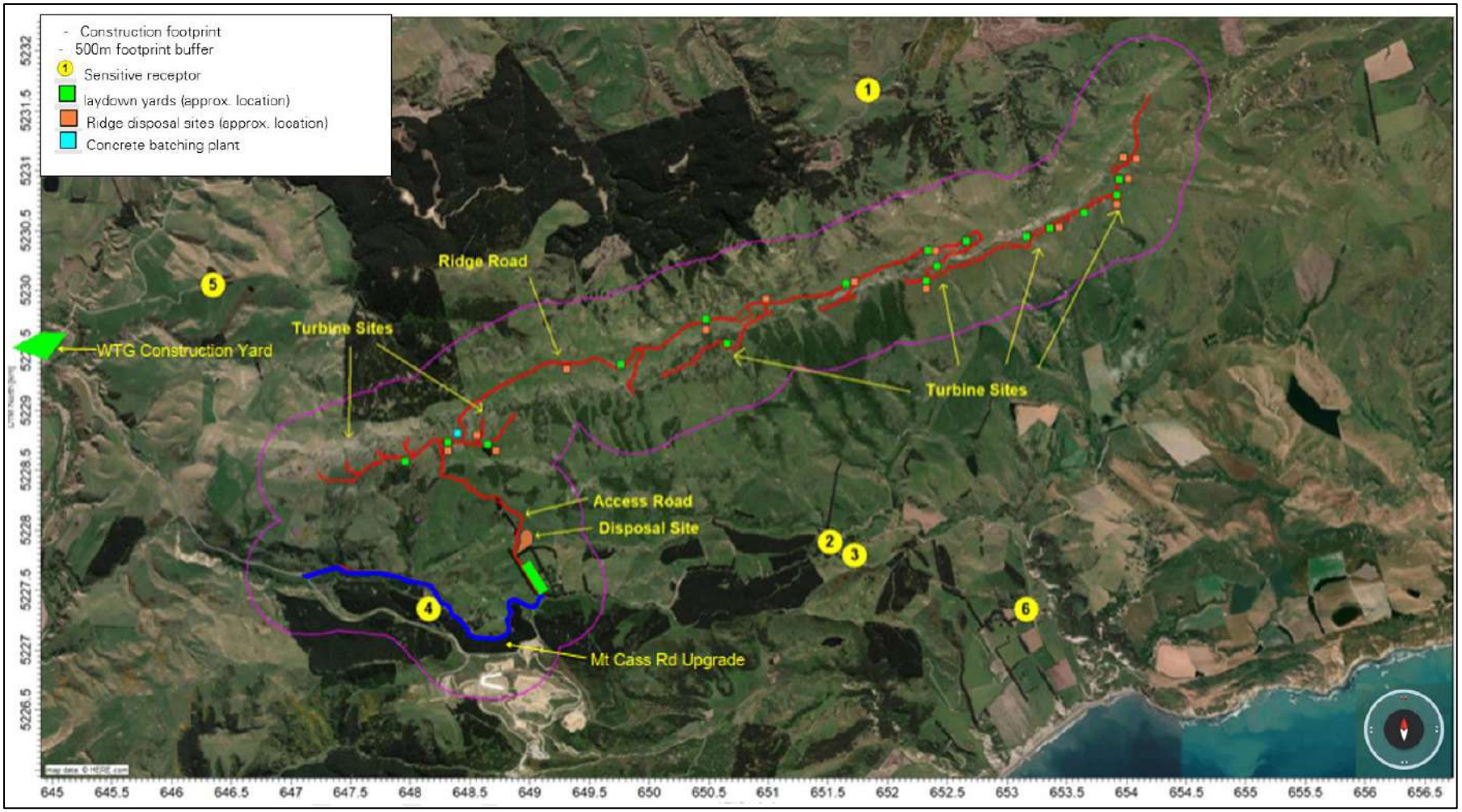

Figure 5 Sensitive receptor locations in relation to construction footprint and 500m buffer, laydown areas and disposal s

Figure 6 Sensitive Receptor Locations Within 1km of the WTG Laydown Yard

3. Implementation and Operation

3.1 Key Project Personnel

Key personnel for the Project are presented in Table 3.

Note: All Roles marked 'TBC' in Name section are still to be recruited. This will be achieved prior to construction.

Consent Holder – Mt Cass Windfarm Ltd				
Role	**Company**	**Name**	**Phone**	**Email**
Project Director	MCWFL	Greg Gummer	021 738 995	greg.gummer@mainpower.co.nz
Construction Manager - Primary Contact	MCWFL	TBC		
Secondary Contact (Civils)	MCWFL	Michael Carstens	027 247 1713	michael.carstens@mainpower.co.nz
Secondary Contact (Electrical)	MCWFL	Neil Wiggins	021 027 33133	neil.wiggins@mainpower.co.nz
Senior Project Coordinator	MCWFL	Lisa Yuyi	021 779 380	lisa.yuyi@mainpower.co.nz
Council Representatives				
Compliance Officer	Hurunui District Council	TBC		
Compliance Officer	Environment Canterbury	TBC		
cBoP – McConnel Dowel Constructors				
Role	**Company**	**Name**	**Phone**	**Email**
Project Manager	MCD	Phil Owen	021 638 726	Phil.owen@mcdgroup.com
Construction Manager	MCD	David Kidd	027 703 9803	David.kidd@mcdgroup.com
Site Manager	MCD	TBC		
HSEQ Manager	MCD	Clint Hill	027 702 8309	Clint.hill@mcdgroup.com
Project Environmental Advisor	MCD	Caitlin Burns	021 759 938	caitlin.burns@mcdgroup.co.nz

Foreman (Environmental)	MCD	TBC		
Earthworks Manager	Taylor Contracting	Shannon Proctor	021 501 894	shannon@taycon.co.nz
Batching Plant Manager	Firth	Mark Cresswell	027 477 6958	mark.cresswell@firth.co.nz
eBoP – ElectroNet				
Role	**Company**	**Name**	**Phone**	**Email**
Project Manager	ElectroNet	Matt Daffin	027 586 9102	MDaffin@electronet.co.nz
Environmental Advisor	Electronet	Sandy Keown Scott	027 235 4021	sandyk@electronet.co.nz
S&I Contractor – SGRE				
Role	**Company**	**Name**	**Phone**	**Email**
Project Manager		TBC		
Environmental Advisor		TBC		

Table 3 Key Contacts List

3.2 Structure and Responsibility

Mt Cass Wind Farm (MCWF) is the holder of the consent for the site and has the ultimate responsibility to ensure that all statutory requirements and conditions of consent are complied with, and site activities are carried out in accordance with the DMP. Table 4 contains the roles and responsibilities applicable to this DMP.

Role	Role Responsibilities
MCWFL Project Director	To ensure overall compliance with resource consent conditions;
MCWFL Project Contract Manager	To ensure complaints made to or by HDC or ECan are communicated to the Site Manager for investigation and rectification; To ensure any Total Suspended Particle (TSP) monitoring is completed by a Suitably Qualified and Experienced Practitioner (SQEP); and To ensure the DMP is current and reviewed. Is the primary point of contact as required under the resource consent.
All Contractor Project Managers	To ensure that all their staff are properly trained and understand the requirements of the DMP.

	To ensure that the dust control and mitigation measures and procedures outlined in the DMP are implemented effectively. To ensure that the conditions of the resource consent for discharges to air are always complied with. To ensure that the dust monitoring programme is carried out as required. To ensure that complaints are investigated as outlined in the DMP. To ensure that dust emissions are avoided and mitigated as far as is practicable; To ensure there are adequate personnel and equipment on site at all times to enable the dust control and mitigation measures outlined in the DMP to be implemented effectively, including in extreme weather events
STMS	Ensure that dust does not affect visibility on Mt Cass Rd

Table 4 Roles and Responsibilities

All personnel on site are responsible to ensure that their activities comply with the requirements of the DMP.

3.3 Training

It is the responsibility of the Individual Contractors to implement an on-going training and induction programme for all contractors and staff. The purpose of this programme is to make all personnel working on site aware of and understand the purpose and requirements of the DMP and the resource consent conditions and the ramifications of a failure to comply with these requirements. With respect to dust management, the training programme for all personnel on site will include at least the following aspects:

- The responsibilities of all personnel for carrying out the work on site in a manner which does not result in adverse effects on the environment, local residents and in accordance with DMP;
- The potential legal ramifications of adverse environmental effects occurring as a result of the project and non-compliance with resource consent conditions;
- The minimum requirements for dust and odour control for all activities on site;
- The requirements for staff to monitor weather and visually inspect the site for dust discharges, assess the adequacy of dust control methods and implement additional dust control methods when required;
- The actions to be taken in an extreme dust and weather event; and
- The actions to be taken if a complaint is received from the public or consent authority.

3.4 Dust Controls and Sources

The dust prevention controls summarised in Table 5 shall be employed for the Project during construction.

Source of Dust	Controls
Access road (construction and vehicle use)	• Compact all unconsolidated surfaces where practicable; • Limit exposed surfaces as much as possible; • Keep exposed surfaces damp in dry, windy weather conditions. • Stabilise cleared areas not required for construction, access or for parking if liable to cause excessive dust during windy conditions. Methods may include grassing or the establishment of vegetative cover. • Water Cart will be used to mitigate dust caused by construction and vehicle movements
Mt Cass Rd Upgrade	• Dust will be controlled initially via implementing a TSL of 30 kph. • A water cart will be used if dust becomes a visibility issue for road users. • The road involves the widening and upgrade of Mt Cass Road sections of the road will be chip sealed as soon as practical.
Temporary Stockpiles	• All material deposited in temporary stockpiles will be in areas specified by the contractor. • Limit the height of uncovered stockpiles to reduce wind entrainment Stockpiles exceeding 3 m in height have a higher risk of discharging dust; • Align stockpiles to maximise wind sheltering as much as possible; • Maximise shelter from winds as far as practicable. • Water Cart will be used on an as required basis
Cut to waste Stockpiles (located in disposal sites)	• Cut to waste/spoil permeant stockpiles will be limited to 3m in height and stabilised by grassing or the establishment of vegetative cover as soon as practicable. • Before grass seeding stockpiles will be capped by track rolling • Any stockpile to remain in place for more than 4 consecutive weeks shall be seeded if intended to remain for more than 4 months. • Water Cart will be used on an as required basis
Vehicles	• Limit vehicle speeds to 40 km/hr through the works areas and along the southern access road. If dust is an issue, then this can be revised. • Cover loads of fine materials; 2.5 micrometres in diameter (PM2.5 known as 'fine particles') or any materials where concern of dust is noted as a mitigation when required • Minimise mud and dust tracked-out onto the surrounding road network by using wheel cleaning facilities at site exits to sealed roads; • Switch engines off when not in use.
Earthworks (including Mt Cass Road realignment works)	• Complete earthworks as per guidelines laid out in the Erosion and Sediment Control plan and any other relevant documentation. • Stabilise exposed areas not required for construction, access or parking, along with completed fill and spoil areas as soon as practicable. • Minimise the extent of surface disturbance. • Limit drop heights.

Source of Dust	Controls
Concrete Batching Plant	• Cement will be handled in silos • Cement delivery from tanker to silo to weighing truck is a sealed system. • Aggregates will be washed prior to coming to the site as part of the concrete production process • Sprinklers on sand stocks if required. • Water carts on hard stand areas. • Loading bays partially enclosed with dust extraction system at load point on main plant.
Miscellaneous	• Take account of daily forecast wind speed, wind direction and soil conditions before commencing an operation that has a high dust potential. If dust cannot be controlled, works must stop until it is controlled.

Table 5 Project specific dust mitigation controls

3.5 Complaints

3.5.1 Complaints Process

The Consent Holder shall establish and publicise contact details for a liaison officer, so that members of the local community have a specified and known point of contact should they wish to raise any issues that may arise during construction and operation of the wind farm. A logbook detailing all calls and any action taken shall be kept and made available to Hurunui District Council on request.

Detail MCWFL Complaints process:

1. Complaint issued via
    a. Website https://www.mtcasswindfarm.co.nz/contact-us,
    b. Phone 0800 309080 - Greg Gummer Project Director / liaison officer
    c. Direct engagement from site staff via contact details provided at the project notice board at the site entrance.
    d. Hurunui District Council 03 314 8816
2. MCWFL direct complaint to the relevant contractor or address inhouse if operational
3. Record complaint on complaints register at noted in 3.5.2 below
4. Rectify issue
5. Provide feedback and closes out on register

3.5.2 Complaints Register

Complaints may be referred by one or more of the regulatory authorities, a member of the public or a member of the project team. It is the responsibility of the MCWF Construction Manager or suitably qualified personnel to respond to and follow up all complaints regarding dust. Actions to be taken when a complaint is received:

- Fill out a complaint form;
- Note the time, date, identity and contact details of complainant (if provided). Note if complaint has been referred from a consent authority;
- Record wind direction and strength and weather conditions;
- Record description of the dust emission from the complainant;
- Undertake a site inspection. Note all dust producing activities that have taken place, person responsible for the site and the dust mitigation methods used. Order any remedial action necessary;
- If complaint was related to an event in the recent past, (if possible) note any dust producing activities that were underway at that time;
- (Preferably within two hours) visit the area from where the complaint originated to ascertain if dust is still a problem;
- Immediately after the initial investigations have been completed, contact the complainant to explain any problems found and remedial actions taken;
- If necessary, update any relevant procedures to prevent any recurrence of problems; and
- Complete complaint form and file on complaint register.

The complaints register shall be available to the Council and the Community Liaison Group at all reasonable times upon request.

Within 5 days of receipt of any complaint in accordance with condition [155], the Consent Holder shall advise the Hurunui District Council of the details of any complaint received and, where appropriate, of any remedial or corrective action taken, including the response provided to the complainant.

A template of this register is available in Appendix A in the Construction Management Plan

3.6 Monitoring and Review

Due to the distance between the largest dust sources (earthworks on the Mt Cass ridgeline) and nearby sensitive receptors, dust impacts are unlikely. Based on this, specific instrumental dust monitoring is not required for the entirety of the project. However, for the first 6-months of the project, during which the predominant amount of earthworks will occur, instrumental dust monitoring will be carried out using Site Hive Units. An assessment will occur at the end of 6-months to decide if they are required for a longer period.

Visual dust monitoring shall be conducted across the main site and laydown areas daily throughout the entirety of the project. Visual monitoring activities will primarily be the responsibility of the Site Manager and are presented in Table 6. These will be recorded and available to the Canterbury Regional Council on request.

Activity	Frequency
Check weather forecast for high winds that may blow dust towards the nearest receptors. Plan appropriate dust management responses to be discussed in the morning toolbox meeting.	Daily
Inspect land adjacent to the site for signs of dust deposition.	Weekly
Inspect stockpiles daily to check temporary bunds, height and alignment.	Daily
Inspect site entrance to ensure minimal dust track out onto public roads	Daily
Maintain a visual monitoring log in the site environmental diary.	Daily
Weekly environmental site check of controls for dust, sediment and erosion noise and any other relevant environmental controls used on site.	Weekly

Table 6 Project Specific Visual Dust Monitoring Activities

4. Reporting

4.1 MCWF Construction Manager to Relevant Contractors Project Manager:

MCWFL shall report the following to personnel involved in site operations:

- Advice of any complaints regarding dust and/or odour received during previous works,.

4.2 Contractor to MCWF Construction Manager

- Report any complaints back to MCFW Construction Manager.

4.3 Construction Manager to ECan Compliance Officer

MCWF shall report the following to ECan:

- Advice of any complaints received regarding dust and/or odour as soon as practicable after a complaint is received.
- A copy of the DMP 30 working days prior to commencement on site and if any significant revisions of the DMP are made during the year.

4.4 ECan Compliance Officer to MCWF Construction Manager

ECan to advise MCWF of any complaints they receive regarding dust and/or odour from the site as soon as practicable after a complaint has been lodged.

4.5 Amendments

The DMP will be reviewed and updated, with the necessary approval, throughout the course of the Project to reflect changes in construction techniques, staging or the natural environment. Approval from ECan will be required for any relevant revisions of a material nature for the DMP. The review will take into consideration:

- Any significant changes to construction activities or methods;
- Key changes to roles and responsibilities within the Project;
- Changes in industry best practice standards or recommended dust controls;
- Changes in legal or other requirements (social and environmental legal requirements, consent conditions, Transport Agency objectives and relevant policies, plans, standards, specifications and guidelines);
- Results of inspection and maintenance programmes, logs of incidents, corrective actions, internal or external assessments; and
- The outcome of investigations into discharges of dust and/or odour.

Reasons for making changes to the DMP will be documented. A copy of the original DMP document and subsequent versions will be kept for the Project records and marked as obsolete. Each new/updated version of the DMP documentation will be issued with a version number and date to eliminate obsolete DMP documentation being used.

Appendix F

B3 Hazardous Substance Management Plan

Mt Cass Wind Farm
Hazardous Substance Management Plan

Revision 5 – 22 March 2023

This document has been prepared for the benefit of Mt Cass Wind Farm Ltd (MCWF). No liability is accepted by this company or any employee or sub-consultant of this company with respect to its use by any other person. This disclaimer shall apply notwithstanding that the report may be made available to other persons of an application for permission or approval to fulfil a legal requirement.

Revision History

Version	Description	Date	Prepared by	Approved By
Rev 1	Draft	03 Mar 21	HW	SB
Rev 2	Draft	19 Apr 21	NT, HL	SB
Rev 3	MCD Inputs	1 Dec 22	CB	MC
Rev 4	MCD Updates post-SQIP and MCWF Review	23 Dec 23	CB	MC
Rev 5	Post CLG review and Submission to HDC	22 Mar 2023	MC	GG

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1. Introduction

1.1 Purpose

This plan has been prepared to support the Construction Management Plan (CMP), inform people involved in the Mt Cass Wind Farm project how to control and manage Hazardous Substances and to comply to the requirements of the resource consent and any other regulatory requirements during the construction phase of the wind farm. For an overview of the project refer to the CMP.

1.2 Overview

The Hazardous Substance Management Plan is the primary responsibility of the MCWF Construction Manager who is responsible for ensuring that this plan is in place and communicated to the individual contractors delivering the project. For a Mt Cass Wind Farm project overview refer to the CMP.

The plan sets out Hazardous Substance risks and associated management processes to mitigate the identified Project risks.

During construction, each Contractor will be responsible for ensuring that this plan is correctly implemented and will review all documentation relating to this plan before it is finalised and issued.

Site induction for all personnel must include a briefing on this plan including the main content of this plan and any SOP's relevant to the task being performed.

2. Consent Conditions

Appendix C of the Construction Management Plan includes a matrix of all consent conditions that are included in the Construction Management Plan and Subplans. The following are the specific conditions that pertain this plan:

HDC Consent Conditions	Control for Consent Conditions
Construction Management Plan	
32) The Construction Management Plan shall include, but not be limited to:	
r. Spill contingency measures and procedures for the management of hazardous substances.	Section 4 and Appendix C of this plan.
Hazardous Substances Management	
112) The Consent Holder shall ensure that all contaminant storage shall be bunded or contained in such a manner so as to prevent the discharge of contaminants. All contaminant storage areas with the exception of turbines and transformers are to be located in accordance with MWH plan 21357201- C103.	Section 4 and Appendix C of this plan.
113) Site refuelling shall be controlled by the development of operating procedures to minimise the risk of spills. Those procedures shall be incorporated in a Site Oil Spill Contingency Plan for mobile refuelling which shall be submitted to the Hurunui District Council for certification. This plan shall address: a. Purpose and Policy b. Safety c. Description of the wind farm site d. Characteristics of oils and hydrocarbons used at the site e. Potential spill sources and risks f. Preventative measures g. Training h. Spill response organisation i. Equipment and operators j. Equipment available off site k. Immediate response l. Media releases m. Debriefing n. Points to consider o. Document review p. Appendix 1 : Telephone numbers q. Appendix 2 : Pollution Report and Incident Forms r. Appendix 3 : Safety Data Sheets	Appendix C

114) All machinery and plant shall be regularly maintained in such a manner so as to minimise the potential for leakage of contaminants.	Appendix D – Plant Management
115) Spill kits shall be available on site to deal with any accidental spillage beyond the bunded area.	Section 3.6
116) All contaminants (e.g. fuel, hydraulic oils, lubricants etc) shall be removed at the end of the construction period except for those required for ongoing maintenance of the wind farm and operational activities.	Section 3.1
117) All storage and use of hazardous substances shall be in accordance with the provisions of the Hazardous Substances and New Organisms Act 1996 (HSNO), including compliance with any required emergency management plan, site test location certificate, and stationary container test certificate.	Section 3
118) Any transformer erected on site shall be accompanied by containment measures sufficient to ensure that no transformer oil will be released into the environment in the event of spillage.	Section 3.1
ECan Consent Conditions for CRC214150, CRC214151, CRC214152	**Control for Consent Conditions**
31,38 & 38 respectively) During works the Consent Holder shall take all practicable measures to prevent spills of hazardous substances being discharged into surface water. Such measures shall include, but not be limited to: a. All practicable measures shall be undertaken to prevent oil and fuel leaks from vehicles and machinery; b. Refuelling of machinery and vehicles shall not occur within 20 metres of any waterway, drain or wetland and shall be supervised throughout the whole activity; c. All refuelling equipment shall have a shut-off valves; d. The storage of fuel and other hazardous substances shall not occur within 20 metres of any water body, drain or wetland, and shall be stored securely; e. All vehicles and works areas shall have a spill kit capable of absorbing the quantity of fuel and other hazardous substances that may leak or be spilt; and f. Spill containment equipment shall be immediately available and kept on site at all times.	Appendix B & C

32, 39 & 39 respectively) The Consent Holder shall immediately inform the Incident Response at the Canterbury Regional Council of a leak or spill on land that is greater than 10 litres or a spill of any size that enters surface water. Within 24 hours of the spill the Consent Holder shall provide the Regional Leader – Monitoring and Compliance with the following information: a. The date, time, location and estimated volume of the spill; b. The cause of the spill; c. The type of contaminant(s) spilled; d. Observations and photos of any spilt material once it enters the aquatic environment; e. Clean up procedures undertaken; f. Details of the steps taken to control and remediate the effects of the spill on the receiving environment; g. An assessment of the potential ecological effects of the spill; and h. Measures to be undertaken to prevent a recurrence.	Appendix B & C

3. General Hazardous Substance Control Measures

3.1 Key Principles and Approaches

Hazardous Substance control measures will be set up to minimise the extent of spills yielded from the Project site during construction.

All Hazardous Substance control measures will be fully established within each construction area before physical works commence in that area. Removal of the Hazardous Substance control devices and reinstatement of the area on completion of the works will also form part of the civil works component of the project.

All contaminants (e.g., fuel, hydraulic oils, lubricants etc) will be removed at the end of the construction period except for those required for ongoing maintenance of the wind farm and operational activities.

3.2 Safety Data Sheets (SDS)

A file of SDS's pertaining to common chemicals used on the construction site is held in hard copy in a file by the contractor on site at an easy to find location at the construction camp and is identified by a sign stating SDS as well as the maximum quantity stored onsite, the location and any specific storage or segregation conditions that may be required. An electronic file will also be held to allow printing of SDS so that they can be incorporated into work packs and issued to staff.

3.3 Hazardous Substance Register

Any new chemicals brought on to the site shall be identified to the site safety officer and a copy of the corresponding SDS shall be provided and filed. All Chemicals on site must be recorded on the Hazardous Substance Register. This will be store both online and in hard copy in the main site office. MCWFL will be responsible for ensuring that all contractors maintain this register.

3.4 Use of Hazardous Substances

A risk assessment conducted to ensure the safety of personnel who may use the substance and employees using hazardous substances shall be given information, instruction, supervision, or training in the:

- Identification, properties and potential hazards of dangerous substances including access to Specification Data Sheets (SDS)
- Correct use, fitting and storage of personal protective equipment
- Correct procedures for safe storage and handling of hazardous substances including any prescribed exposure standard.
- Emergency procedures in case of a spill, leak, fire or explosion

3.5 Storage

All contaminant storage shall be bunded or contained in such a manner so as to prevent the discharge of contaminants, this will mitigate the risk of discharges of hazardous substances or fuels/lubricants into watercourses or stormwater. All contaminant storage areas with the exception of turbines and transformers, are to be located in accordance with Appendix A for this plan. These areas have been chosen as they are flat hardstand areas, which have been nominated for construction laydown. Fuel spillage kits will be on-site in case of a fuel spillage emergency.

Storage of fuels and chemicals on site will be kept to a minimum, however any fuels and or chemicals stored on site shall be stored in a manner to prevent and contain spills. All containers used shall be clearly marked and approved for the specific use.

Should a diesel fuel tank be required on site it would be located within a plastic lined bunded area which will be able to contain 1.2 times the capacity of the stored fuel. A mobile spill kit shall be located near the fuel area to deal with any spills outside of the bunded area. Where practical, temporary refuelling locations for mobile equipment will be located at hard stand areas (i.e. Compacted roads or laydown area) or batching plant to minimise the number of locations where potential spills could take place.

Petrol shall be stored in jerry cans and placed in a bunded area or inside a suitably sized container if being transported across the site. When not in use, petrol is to be stored in a appropriate container. Funnels or extended nozzles shall be used to minimise fuel spillage when fuelling equipment.

3.6 Spill Kits

240L Oil Spill kits will be stored in the below areas:

- At site laydown areas with Hazardous Storage.
- At each designated refuelling site.
- Accessible within 20 m of any stationary equipment that stores fuel.
- Work areas where a spill risk is present.

Where chemicals are brought to site, suitable 100L chemical spill kits will be placed next to storage locations.

4. Specific Hazardous Substance Control Measures

4.1 Maintenance of machinery and equipment

All machinery and equipment brought to the site is to be inspected prior to use to identify any maintenance issues which may result in spills of hazardous substances. Regular maintenance and inspections of machinery and equipment are to be undertaken to ensure any issues are identified and rectified quickly.

4.2 Site Refuelling procedure and Oil Spill Contingency Plan

A site refuelling procedure has been prepared for the site, which sets out the refuelling process, safety and environmental controls and what to do in the event of a spill. This is included in Appendix B.

An Oil Spill Contingency Plan has been prepared for the site, which sets out the measures to mitigate the risk of oil spills and the protocols to be followed in the event of a spill. This is included in Appendix C.

4.3 Oil for transformers

4.3.1 Oil for transformer at Substation

The amount of oil contained the transformer will be approximately 32,000 litres.

The transformer will sit within a concrete bund that is sized to contain 120% of the transformer oil volume. The bunded area will discharge to an oil-water interceptor sump which will be constructed below the bunded area to collect any spills and separate it from surface water run-off.

The oil-water separator will intercept small oil leaks from the transformer area and will discharge clean water to ground.

In the event of a major oil leak from the transformer the oil-water system has an automatic shut off which prevents further flow into the oil interceptor and will contain the oil within the bunded area. In this instance an alarm will be sent to Mt Cass Wind Farm maintenance staff.

4.3.2 Oil for transformer internal to each wind turbine

A transformer is required for each turbine. The transformers are oil filled and will be housed within the WTG towers that have a sealed base and can hold 110% of the transformer oil volume.

4.4 Explosives

No explosives are required for the Project construction.

4.5 Concrete Batching Plant

There is only one concrete batching location for this site. There are sinkholes at this site. These will be protected by silt fences and the concrete plant and earthworks will be sited to avoid the sinkholes.

4.5.1 Specific Management for Discharges

Wash Down water

To minimize the amount of wash down water, only the concrete truck chutes will be washed down between concrete loads. The required wash down water for this activity is small. Water will be added to the agitator bowl prior to the truck leaving site however the water is to be discharged back at the depot NOT on site.

The wash down water from the concrete truck chutes will be discharged into an interceptor system to control the discharge of contaminants to ground. The interceptor will take the form of a concrete lined pit fitted with a weir. The wash down water will flow over the weir into a second pit where the remaining cement particles will settle out naturally. The remaining water will be recycled for use in agitator bowl washing, chute washing and concrete production. Sludge and debris from the pit will be regularly removed.

Surplus Concrete

Surplus concrete will be controlled by discharging into 1m3 blocks at the concrete batching plant. These will be removed from site upon completion.

4.5.2 Storage of Materials

Cement

Cement will be stored in a horizontal cement silo.

Aggregates

Concrete floors will be poured to protect the natural ground from contamination of the aggregates. 3 stockpiles will be created on top of the concrete floor. The stockpiles will be contained using a temporary wall around three sides of the stockpile using 1m3 concrete blocks stacked to 3 high. The aggregates are moved from stockpile to the batching plant using front end loaders.

Concrete Additives

Concrete additives will be stored in a bunded area at the concrete batching site.

4.6 General

Covered waste bins will be provided at the main site office at the entrance to the site and at the various satellite smoko/Portacom offices throughout the site for collection of waste drums, oily rags, absorbent material, oil filters, grease cartridges etc.

Oily rags and used absorbents are to be bagged before being put into waste bins

All waste oil shall be removed from site.

5. Training – On-site Personnel

Site personnel will undertake a site induction which will educate them in

- Refuelling procedures
- Spill Response plan
- Storage requirements of chemicals on site
- Locations of SDS, spill kits and fire extinguishers

Personal carrying out refuelling using fuel trucks will have task specific training.

6. Roles and Responsibilities

Table 1 contains the roles and responsibilities applicable to this Hazardous Substance Plan. For contact details for below, contractors and landowners refer to Oil Spill Contingency Plan Appendix A

Role	Role Responsibilities
MCWFL Project Director	Reporting any spill event over 10l to HDC and ECan
MCWFL Construction Manager	For ensuring that this plan is communicated to the individual contractors and is implemented on-site. Is the primary point of contact as required under the resource consent.
Environmental Advisor	Reviewing and reporting on environmental performance. Inspection of works to assess environmental compliance with the plans.
Contractors Project Managers	Inspections, auditing and checking of environmental management practices and procedures. On-site compliance with consent conditions and other requirements and tracking compliance information. Report to the client changes to construction techniques or natural environmental changes which require alterations to existing consents or new resource consents. Prepare, review and update the Plan Update and maintain the environmental portion of the Project Risk Register. Training of all staff, including subcontractors.
Machine Operators	Are responsible for ensuring that the refueling protocols in this plan are followed. Reporting any incidents or accidents.

Table 1 Key Roles

7. Emergency Response

The development of emergency response plans is discussed in section 8 of the CMP.

Appendix C of this plan contains an Oil Spill Contingency Plan

Up to date physical copies of SDS will be available in site offices and at any specific storage locations.

8. Monitoring and Maintenance During Construction

On-going site monitoring by the contractor and wider project team will be undertaken as part of the control measures. This will ensure that all the control measures detailed in this plan have been properly implemented and are functioning effectively.

Monitoring shall occur for the full duration of the work. Any control measures requiring maintenance or adaptation to allow construction tasks to occur shall be identified and implemented by the Environmental Manager to ensure continual compliance. Key role responsibilities are identified in the following:

Procedure: Monitoring will be undertaken based on the elements and frequencies Table 2 will involve recording notes relating to each inspection and associated corrective actions.

Element Inspected	Frequency	Inspection details
Plant Condition	Daily	Daily Prestart Inspection
Fire Extinguishers	6 Monthly	Pressure Test
Spill Kit	Weekly	Spill Kits Inventory
HASNO Register	Monthly	Quantities and correct chemicals
SDS	Monthly	Relevant SDS on site
Compliance with the refuelling procedure	Weekly	Weekly Site Inspection
Compliance with this plan	Monthly	Site Audit
Spill Response	6 Monthly	Spill response Drill
Emergency Response	At start of project and then Annually	Emergency Evacuation Drill

Table 2 Compliance Monitoring Requirements

9. Complaints

9.1 Complaints Process

The Consent Holder shall establish and publicise contact details for a liaison officer, so that members of the local community have a specified and known point of contact should they wish to raise any issues that may arise during construction and operation of the wind farm. A logbook detailing all calls and any action taken shall be kept and made available to Hurunui District Council on request.

Detail MCWFL Complaints process

1. Complaint issued via
    a. Website https://www.mtcasswindfarm.co.nz/contact-us,
    b. Phone 0800 309080 - Greg Gummer Project Director / liaison officer
    c. Direct engagement from site staff via contact details provided at the project notice board at the site entrance.
    d. Hurunui District Council 03 314 8816
2. MCWFL direct complaint to the relevant contractor or address inhouse if operational
3. Record complaint on complaints register at noted in 9.2 below
4. Rectify issue
5. Provide feedback and closes out on register

9.2 Complaint Register

A register for any complaints about the construction activities and operation of the wind farm received by the Consent Holder. The register shall record, where this information is available:

- The date, time and duration of the incident that has resulted in a complaint.
- The location of the complainant when the incident was detected.
- The possible cause of the incident.
- Any corrective action undertaken by the Consent Holder in response to the complaint, including timing of that corrective action.
- The date and details of the response given to each complainant.

The complaints register shall be available to the Council and the Community Liaison Group at all reasonable times upon request.

Within 5 days of receipt of any complaint in accordance with condition [0155], the Consent Holder shall advise the Hurunui District Council of the details of any complaint received and, where appropriate, of any remedial or corrective action taken, including the response provided to the complainant.

A template of this register is available in the Construction Management Plan in Appendix A.

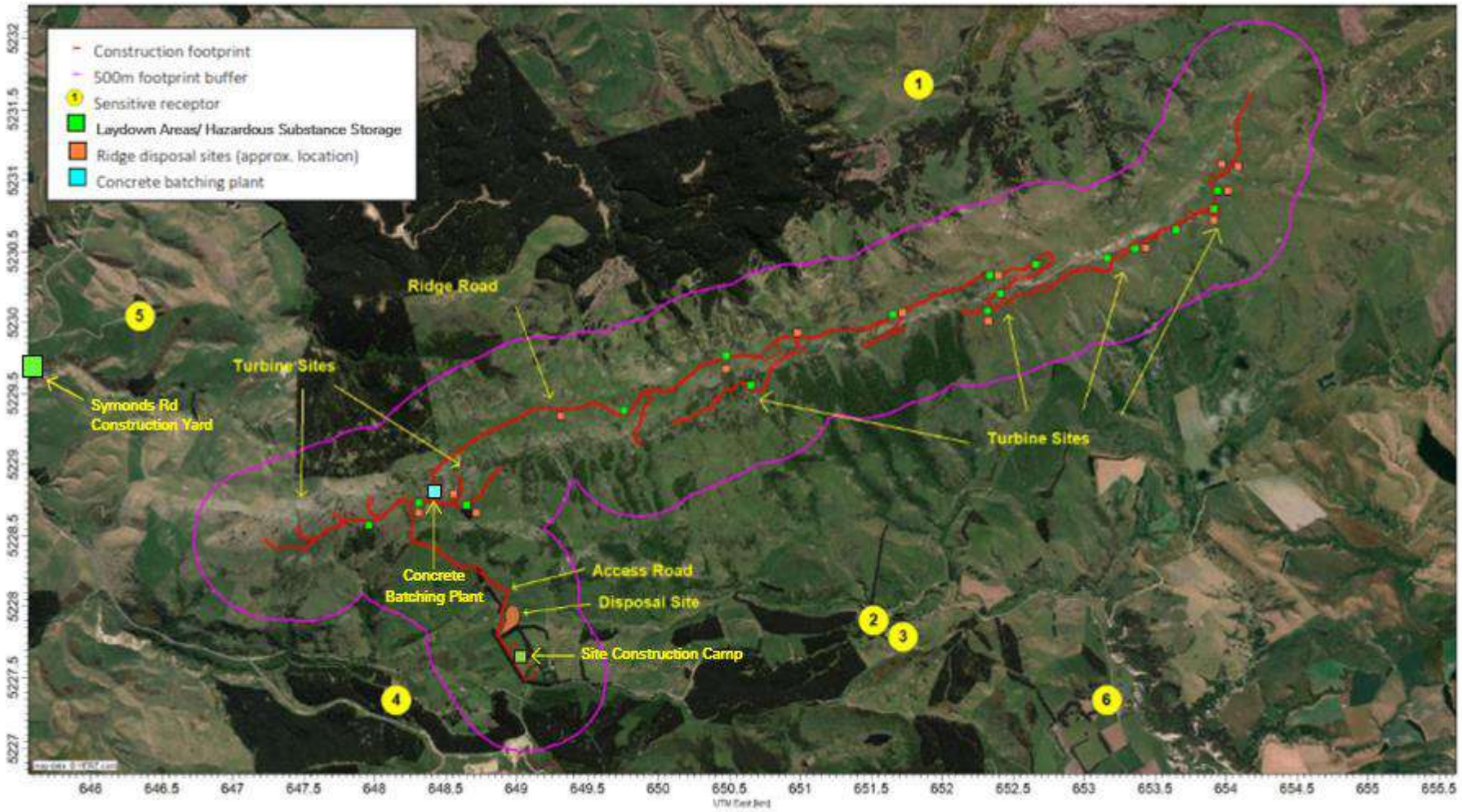
10. Appendices

Appendix	Description
A	Hazardous Substances Storage Locations
B	Site refuelling operating procedures
C	Site Oil Spill Contingency Plan
D	Incoming – Outgoing Plant Inspection
E	Contaminated Land Discovery Protocol

APPENDIX A – Hazardous substances storage locations

Appendix A - Hazardous substances Storage Areas

There will be 3 main Hazaedous Substance Storage areas: The Site Construction Camp, Concrete Batching Plant and the Symmonds Road Construction Yard. The other storage areas will have temporary Hazardous Substance Storage which will used while construction of nearby turbines occur.



APPENDIX B – Site refuelling procedures

Mt Cass Wind Farm Refuelling Procedure

Context

All fuelling will be done using a 5000-litre fuel truck (owned and operated by the contractor) or mini-tankers to minimise the fuel volumes carried on-site at any anyone time. The tankers will travel through the site to fuel each piece of equipment which requires it. Where ever possible re-fuelling will be carried out in site laydown areas or other flat hardstands.

Where access is not possible with the fuel truck, plant will be filled by using trailer tankers or utes that have special fuel tanks on the deck.

Proper storage, maintenance and refuelling is important as;

- Improper storage or refuelling can lead to ground and water contamination and have negative environmental impacts.
- Spills and failure to follow maintenance procedures can delay the project and impact the environment.

Safety Controls

- Fuel Tank Operator (FTO) must be trained and competent for the refuelling role, must be inducted to site, and be able to enact the emergency response plan
- Flashing beacons and headlights must be on when on site. They must also wear the correct PPE for refuelling, safety glasses, impervious gloves and long sleeves and trousers to avoid skin contact, a hard hat, hi vest, and safety boots.
- The FTO must carry radio telephone and be tuned to the correct channel for that area. Positive radio contact must be made with the plant operator within the sight safety zones. The plant operator must engage all ground engaging tools or brakes and exit the plant while refuelling.
- All refuelling must be undertaken working on level ground and in well-lit areas. While fuelling, the hose to be placed in such a position that it doesn't become a trip hazard

Environmental Controls

- No maintenance of vehicles, refuelling, decanting or temporary fuel storage shall take place in or within 20 metres of open excavations, sinkholes, exposed groundwater, any waterway or drainage lines.
- All fuels or chemicals on site must be suitably stored, labelled and secured within secondary bunding controls.
- A 140L spill kit is to be available site offices and smoko rooms. These spill kits must be a marine spill kit (i.e., an "oil only" spill kit which includes oil booms). All machinery must have an in-cab spill kit as well, if working within 20m of waterways.

In the event of a spill, the contractor shall follow procedure as per the Responding to Spills EPI.

- Report all spills to the Supervisor immediately after implementing the following 7 steps described further in the Responding to Spills EPI:
    1. Stop – Assess the Situation
    2. Control – stop the source
    3. Contain – prevent spill spread
    4. Clean – absorb the spill
    5. Communicate – report and notify
    6. Collection and Disposal
    7. Decontaminate, Report and Restock
- Provide an incident report to the Environmental team within 24 hours, or immediately inform after responding if the spill is greater than 10 litres or a spill of any size enters surface water.
- No water may be discharged from the refuelling and maintenance area without Environmental team approval.
- Weekly visual inspections are to take place for all tank connections and piping for leaks and must be repaired as necessary.
- No vehicle or plant storage in sensitive areas, on flood plains or within 20m of a watercourse for more than 8 hours. If storage is required for more than 8 hours, a method statement must be developed outlining appropriate spill containment measures.
- A funnel or spout is to be used when refuelling from a jerry can to minimise spills.
- All staff to be trained in spill response procedures.

Refuelling Process

- Prior to entering site, engage your flashing beacon and headlights on
- The FTO will ensure a clear, safe access and exit to the machinery prior to refuelling starting. FTO will park no closer than 5m to the piece of machinery or have a physical barrier between the Fuel Tanker and the piece of machinery
- FTO not to disembark vehicle until it is safe to do so i.e. machinery have parked and shut down. Use open spaces for ventilation to avoid inhalation of fumes or fine mists.
- Never leave the fuel truck unattended while it’s fuelling
- Operator to switch off machine and exit during the fuelling process, maintaining three points of contact, and if waiting, staying in a safe zone 30m from refuelling process.
- Machine Operator can only move the machine when FTO has driven off a distance of 30m

APPENDIX C – Site Oil Spill Contingency Plan

Mt Cass Wind Farm
Oil Spill Contingency Plan

Revision 2 – 1 December 2022

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Revision History

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Rev 1	AECOM draft incorporated to address MCWF review	25 Mar 21	Shona Hobbs (AECOM)	
Rev 2	MCD Input	1 Dec 22	CB	

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1. Introduction

1.1 Purpose of Document

This Oil Spill Contingency Plan provides an outline of practices and procedures to be adopted by all parties during the design and construction of the Mt Cass Wind Farm. It is intended to set out minimum standards for mitigation and management of hazardous material handling during mobile refuelling for the construction works, and contingency actions to be undertaken in the event of a spill.

2. Safety

A site-specific health and safety plan (SSHSP) will be prepared for the site works, and all staff entering the site shall be inducted into this plan. Task-specific Safe Work Method Statements for chemical handling, refuelling and maintaining vehicles on site shall be prepared by the relevant contractors and shall be incorporated into the wider SSHSP.

3. Description of the Wind Farm Site

The Mt Cass Ridge is a prominent ridge defining the seaward side of the Waipara Basin. Mt Cass is approximately 5 km southeast of the Waipara Township and the ridge runs parallel to State Highway 1 ending near Omihi. The main ridge consists of a limestone escarpment with a steep northerly face and a gentler southerly slope that is intersected by a number of ephemeral streams and gullies that drain to the south where they meet either Wash Creek or Dovedale Stream.

The land-use on the ridge is predominantly pastoral farming and is grazed by sheep and cattle. Some sections, located on steeper slopes and rock pavements where grazing is limited, are dominated by native bush. A number of threatened and at risk plant species are present at the Mt Cass site

There are no permanent water bodies on the ridge, but there are several ephemeral streams and gullies which will be crossed by the planned access road and will have culverts built to accommodate seasonal overland flow. In addition to this, there are several ephemeral tarns on the northern side of the ridge and natural sink holes are present There are no existing stormwater systems in place at the site, however stormwater management structures will be constructed during the site development.

4. Characteristics of Oils and Fuels Used at the Site

The following compounds are considered to be those likely to be most widely used during the planned site works, however other fuels or oils may also be used in small volumes. Safety Data Sheets (SDS) that are compliance compliant with the Hazardous Substances (Safety Data Sheets) Notice Amendment 2017 be kept in an on-site chemicals register that will be held at the site office and available electronically to all project staff for all chemicals stored or brought to site.

Diesel is a multi-component hydrocarbon liquid mixture of C9-C20 hydrocarbons, with an average of C15. It is generally a clear pale yellow liquid with a characteristic oil odour that

floats on water and produces vapours that are heavier than air. Diesel is combustible, may be fatal if swallowed and enters airways, causes mild skin irritation, and is suspected of causing cancer. Diesel is toxic to aquatic life with long-lasting effects.

Petrol is a multi-component hydrocarbon liquid mixture of C4-C12 hydrocarbons. It is generally clear or pale yellow with a characteristic odour, floats on water and produces vapours that are heavier than air. The greatest risks to human health are posed by the presence of benzene, which is 1% by volume in modern fuels. Petrol is extremely flammable, may be fatal if swallowed and enters airways, causes mild skin irritation, and is suspected of causing cancer. Petrol is also toxic to aquatic life with long-lasting effects.

Transformer oil is a multi-component hydrocarbon liquid mixture of C15-C30 hydrocarbons. It is generally a clear brown liquid that will float on water, has a mild petroleum odour, and produces vapours that are heavier than air. It will burn but may not ignite readily and causes mild skin and eye irritation. No ecological data are available for this material however oil spills can smother and suffocate aquatic life by preventing passage of oxygen into water. Oil contamination can also foul and smother birds and marine animals.

Hydraulic oil is a highly refined mineral oil liquid mixture of C15-C30 hydrocarbons. It is generally a clear liquid with a petroleum odour that will float on water and produces vapours that are heavier than air. It will burn but is not easily ignited and causes mild skin and eye irritation. No ecological data are available for this material however oil spills can smother and suffocate aquatic life by preventing passage of oxygen into water.

5. Potential Spill Sources and Risks

Approximately 6.8 km of internal ridge road are required to access the turbine sites. The ridge road and turbine platform areas are near the top of the ridge, and the access road will be formed on a succession of cuts and fills. In addition to the road and the turbines, the wind farm will require the construction of a substation comprising two buildings and a switchyard, sited near the ridge. Internal transmission lines to the substation will be buried in trenches along the ridge road, while transmission lines from the substation to Waipara will be on overhead poles. During construction, a temporary concrete batching plant will also be created at the wind farm site.

Equipment will require refuelling during each stage of construction. Where practical, temporary refuelling locations for mobile equipment will be located at laydown and hard stand areas, to minimise the number of locations where potential spills could take place. As construction progresses, the location of these areas will change to keep pace with the location of the works.

Stationary equipment is anticipated to include large scale equipment that cannot readily be relocated for the purposes of refuelling (e.g. cranes), storage of fuel and oil for formwork, concrete curing, and plant lubrication, and permanent or semi-permanent installations such as transformers and generators.

Activities which have the potential to cause a spill of oil or fuel to the environment are summarised as follows:

- Mobile refuelling of plant and site vehicles
- Refuelling of stationary equipment such as cranes and generators
- Storage of oil and fuel for on-site equipment (transformers, cranes, generators)
- Damage to hydraulic hoses etc on construction equipment

A general plan showing the layout of proposed laydown areas and hazardous chemical storage is presented in the Hazardous Substance Plan Appendix A . This plan will be updated once the layout is confirmed with the contractor.

6. Preventative Measures

6.1.1 Refuelling of Mobile Plant

- No maintenance of vehicles, refuelling, decanting or temporary fuel storage shall take place in or within 20 metres of open excavations, sinkholes, exposed groundwater, any waterway or drainage lines.
- No refuelling activities shall take place within 100m of a wetland.
- Figure D2 (Appendix D) identifies the known locations of ephemeral streams and wetlands in relation to the planned road alignment and construction footprint. Figure D3 (Appendix D), provides known locations of sink holes in relation to the planned road alignment and construction footprint .
- Any time that refuelling takes place a spill kit must be immediately available to access from the location of the refuelling event. This spill kit must be sufficient to absorb the quantity of oil and petroleum products that may be spilt in that work area.
- Refuelling shall be by mini-tankers to minimise the volumes of fuel carried on site at any one time.
- As far as possible, refuelling shall be limited to designated locations at laydown areas.
- Designated refuelling areas shall have an impermeable liner (e.g. concrete or clay) and temporary bunds in place.
- Temporary bunded containment areas shall be designed to contain 110% of the maximum volume of fuel that can potentially be lost during a single event.
- Water should not be allowed to accumulate in bunded containment areas – construction of these temporary bunded locations shall allow for either installation of a pipe with a shut-off value, or site operators shall plan for pumping out of accumulated water if required.
- Spill kits shall be kept at each designated refuelling site.
- All mobile plant and equipment and all refuelling trucks shall be inspected prior to the start of works. Equipment with hydraulic hoses that are damaged or in poor repair shall be refused entry to the site.
- At the completion of site works, refuelling containment areas will be removed as part of the overall rehabilitation of the construction areas.

6.1.2 Stationary Equipment – Temporary

- All stationary equipment that cannot be relocated for refuelling purposes shall be located at least 20 m from open excavations, exposed groundwater, natural sink holes or a surface water body. Exceptions to this must be assessed on a case by case basis and should be discussed with the environmental consultant and the

regional council prior to proceeding. An example of where an exception may be required would be if a generator is required to be less than 20 m from an open excavation due to the configuration of the equipment that it is powering.
- Spill kits shall be kept on site at each works area. Any stationary equipment that stores fuel shall have a spill kit accessible within 20 m.

6.1.3 Storage of Fuel and Oil

An inventory of the volumes and types of chemicals stored on site shall be prepared and kept up to date by the site manager. All contaminant storage areas with the exception of transformers are to be located in accordance with MWH plan Z1357201-C103. This plan will be updated with more detail once the layout is confirmed with the contractor.

- All storage and use of hazardous substances shall be in accordance with the provisions of the Hazardous Substances and New Organisms Act 1996 (HSNO) and Health and Safety at Work (Hazardous Substances) Regulations 2017 (HSW Hazardous Substances Regulations), including compliance with any required emergency response plan, site location compliance certificate, and stationary container compliance certificate.
- Movable All stationary tanks and containers must be located within a suitable containment compound. The capacity of the compound shall be at least 110% of the capacity of the largest stationary container within it, whilst also meeting any overall capacity requirements deemed necessary by HSW Hazardous Substance Regulations. Where earth is placed to form a compound wall, the wall shall have a minimum top width of 300 mm and shall have a slope no greater than 1 to 1 . The compounds shall be periodically drained to minimise the accumulation of water, for example by means of an oil stop valve, pumping, installation of a pipe through the compound wall.
- Storage of flammable materials must comply with the HSW Hazardous Substances Regulations, including availability of appropriate numbers of fire extinguishers detailed in Schedule 4 of the regulations.

6.1.4 Maintenance of Equipment

All machinery and plant brought to site shall be regularly maintained and inspected prior to use. Equipment that is damaged or in poor repair shall be refused entry to the site.

6.2 Training

As part of an overall site induction all staff must be briefed on the spill response procedures set out in this document. A copy of this plan shall be available at the site office and in electronic format to all staff working on the project.

Any contractor entering the site shall be briefed during the site induction regarding the location of spill kits, the primary contact people in the event of a spill, and the reporting limits (anything over 10 L must be notified to council).

7. Spill Response

7.1 Spill Response Organisation

Roles and Responsibilities:

Mt Cass Wind Farm Construction Manager

- Has overall responsibility for the Oil Spill Contingency Plan
- Ensures that the Oil Spill Contingency Plan is up to date, reviewed and approved, and available to all personnel on site.
- Issues any revisions to the plan to the relevant Regulatory bodies (Hurunui District Council and Environment Canterbury)
- Updates the Construction Management Plan with the latest Oil Spill Contingency Plan revision.
- Ensures all contractor and subcontractor staff are adequately inducted and trained in spill response procedures including emergency procedures.
- Ensures reviews and audits of contractors task specific spill management procedures are undertaken
- Ensures chemical storage complies with relevant HSNO and HSW regulations including obtaining any appropriate location certificates if required.
- Ensures inventory of chemicals held on site is current and up to date, and that spill kits are available and in good condition at all refuelling locations.
- Reports incidents to the regulatory authorities.

Wind Farm, Separate Contractors, Sub Contractor and Contractors Project Manager

- Develops task specific SWMS in relation to fuel handling and refuelling activities and submits for review and approval.
- Ensures they follow all requirements of the Oil Spill Contingency Plan and their SWMS.

Mt Cass Wind Farm Contaminated Land Specialist

- If contamination occurs due to a spill event, the MCWF shall engage a contaminated land specialist to undertake appropriate investigations and provide recommendations for remediation / mitigation measures.

7.2 Equipment and Operators

Mobile refuelling equipment shall be operated by trained staff with appropriate licenses for fuel handling and dangerous goods transport.

Spill kits and fire extinguishers should be readily available at all locations where refuelling events take place. An inventory of the location and condition of these items shall be kept in the site office and shall be available electronically to all staff working on the project. The Mt Cass Wind Farm Project Manager shall be responsible for arranging for the maintenance and regular inspection of this equipment.

7.3 Spill Response Equipment Available Off-site

In the event of a major spill, temporary containment should be sufficient to capture lost fuel or oil and prevent it migrating to ground or into nearby water bodies. Following containment, the captured fuel shall be removed from site by sucker truck and disposed of to a suitably licensed facility. Companies such as Hydrovac Ltd operate 24 hour emergency spill response service out of Christchurch, approximately a 1 hour drive from the site.

7.4 Immediate Response

In the event of a spill of fuel during refuelling or due to damage to a piece of equipment the following actions will be undertaken:

Implement the four C's

1. Control
2. Contain
3. Clean Up
4. Communicate

Step 1: stop – assess the situation

Ensure the situation is safe. In all circumstances the safety of personnel shall be the priority, don't compromise your health or safety. Establish an exclusion zone to protect others.

Step 2: control – stop the source

- Stop the leak or spill if safe to do so
- Close valves on pipes, seal hoses that may have ruptured, pick up containers, seal/plug holes

Step 3: contain – prevent spill spread

- Form a barrier around the spill (use booms)
- If it is a large spill in a drain, a temporary rock/sand or even earthen bund may be required

Step 4: clean – absorb the spill

- Use absorbent material and pads to absorb the spill
- Work from the perimeter of the spill to the centre/source, use as much of the spill kit material as necessary to absorb the spill

Step 5: communicate – report and notify

- Inform Site Supervisor or the HSE Manager/Environmental Representative of ALL SPILLS, no matter how small
- Take photographs of the spill if possible

Step 6: collection and disposal

- Sweep/collect the absorbent material
- Place into a separate waste bag

- Dispose of material into prescribed waste bins only (i.e. contaminated soils and oily rags and absorbents)
- Take photographs of the area following clean up

Step 7: decontaminate report and restock

- Dispose of any soiled PPE
- If you have made contact with any hazardous substance, wash the affected part of the body. This may require a shower
- Advise HSE Manager/Environmental Representative that incident has been closed out
- Restock the Spill Response Kit

For larger scale spills within a lined containment system, ensure drainage valve is closed and arrange for removal of contained liquid by sucker truck to an appropriately licensed disposal facility. Copies of the waste disposal documents should be obtained and be able to be provided on request to the relevant Regional Authority.

Inspect any nearby stormwater system or surface water body to ascertain whether the spill has had any impact on these systems. This includes inspection of ephemeral streams that may be dry at the time of the incident.

Report the incident through the incident reporting procedure and notify the Mt Cass Wind Farm CM, who will then advise the Regional Authority and, if applicable, the contaminated land specialist.

7.4.1 Personal Protective Equipment (PPE)

All workers directly handling fuels and oils shall wear appropriate PPE. Specific needs will need to be determined on a case-by-case basis but, as a minimum, the following should be used:

- Overalls or long trousers and a long-sleeved shirt
- Impermeable Gloves (e.g. nitrile)
- Waterproof safety boots or gumboots
- Safety glasses or other appropriate eye protection

7.4.2 Notification

The Canterbury Regional Council Regional Leader - Compliance Monitoring must be informed within 24 hours of any spill greater than 10 L in size.

The notification shall include the following information:

- The date, time, location and estimated volume of the spill
- The cause of the spill;
- The type of hazardous substance(s) spilled;
- Clean up procedures undertaken;
- Details of the steps taken to control and remediate the effects of the spill on the receiving environment;
- An assessment of any potential effects of the spill; and
- Measures to be undertaken to prevent a recurrence.

8. Media Releases

Refer to construction management plan for details - INFORMATION REQUIRED FROM MAINPOWER / PROJECT TEAM RE PROCEDURE FOR THIS

9. Debriefing

Following the initial incident response, an incident investigation shall be undertaken by the project safety team. The findings of this investigation and any applicable lessons learned shall be shared with the wider project team and any corrective actions identified implemented.

10. Points to Consider

As the project site is physically large and may have more than one construction activity taking place simultaneously in different parts of the site, clear lines of reporting and communication are essential to ensure that spill events are responded to rapidly and are appropriately recorded and notified.

In order to minimise the risk of spill reporting being overlooked, it is important that even short-term contractors entering the site are briefed during their site induction as to the appropriate spill response actions and reporting limits.

A printed, laminated, one-page summary of this the spill procedure response plan shall be included in site spill kits and/or hung in site offices and lunchrooms. This is to be developed by the contractor at a later date and is not outlined in this document.

Consistent with the requirement of the Regulation 5.12 of the HSW Hazardous Substance Regulations the plan should be tested at least every 12 months to demonstrate whether the plan is workable and effective. If a person, procedure, or action specified in an emergency response plan is changed, the plan must be tested within 3 months of the change to demonstrate whether

- the new person can perform his or her functions under the plan; and
- the new procedure or action is workable and effective.

So far as is reasonably practicable, the plan must be amended in response to the findings of a test to ensure that the plan is workable and effective. A record of tests carried out and of the results of those tests must be kept.

11. Document Review

This Oil Spill Contingency Plan provides a framework for managing the potential risks associated with spillage of oil or fuel during the planned site works at Mt Cass Wind Farm. It is an operational document, and its relevance and the procedures given herein need to be reviewed in light of any new circumstances that occur or information that may be presented.

12. Appendices

Appendix	Description
A	Telephone Numbers
B	Pollution Report and Incident Forms
C	Safety Data Sheets
D	Layout and Setback Plans

APPENDIX A - Telephone Numbers

Consent Holder – Mt Cass Wind Farm Ltd				
Role	**Company**	**Name**	**Phone**	**Email**
Project Director (Primary Contact)	MCWFL	Greg Gummer	021 738 995	Greg.gummer@mainpower.co.nz
Construction Manager	MCWFL	TBC		
Project Engineer (Civils) Secondary Contact	MCWFL	Michael Carstens	027 2471713	michael.carstens@mainpower.co.nz
Senior Project Coordinator	MCWFL	Lisa Yuyi	021 779380	lisa.yuyi@mainpower.co.nz
Project Engineer (Electrical) Secondary Contact	MCWFL	Neil Wiggins	027 33133	neil.wiggins@mainpower.co.nz
CBoP – McConnell Dowell				
Project Manager	MCD	Phil Owen	021638726	Phil.owen@mcdgroup.com
Construction Manager	MCD	David Kidd	0277039803	David.kidd@mcdgroup.com
Site Manager	MCD	TBC		
Project Environmental Advisor	MCD	Caitlin Burns	021759938	Caitlin.burns@mcdgroup.com
EBoP - Electronet				
Project Manager	ElectroNet	Matt Daffin	0275869102	MDaffin@electronet.co.nz
Environmental Advisor	ElectroNet	Sandy Keown	0272354021	sandyk@electronet.co.nz
S&I Contractor – Siemens Gamesa Renewable Energy				
Project Director	SGRE	Sumblli Rohit	TBC	rohit.sumbli@siemensgamesa.com
Project Manager	SGRE	Akshar Sheth	TBC	
Regulators				
Hurunui District Council				
Environment Canterbury	ECan	24hr Pollution Hotline	0800 765 588	N/A
Landowners				

	Mt Cass Station Ltd	Andrew Heard Sarah Heard	03 314 6022 021 272 7522 (Andrew)	
	Dovedale Farm	Emma Gardiner	03 314 6744 027 268 2737 (Emma)	
	Hamilton Glens	Leighton Croft Jane Croft	03 314 5889 027 208 4187	
	Transwaste - Kate Valley Landfill	Rangi Lord	03 359 1800 021 288 4348	

APPENDIX B - Incident Forms

Project Name: **Project No:** **Incident No:**

Incident Reported					
Actual Incident Date:			**Actual Incident Time**:		
Incident Reported Date:			**Incident Reported Time**:		
Company Performing Work:		☐ Direct		☐ Indirect	
Reported by:	**Name:**		**Company:**		
Incident Details					
Shift Details:		☐ Day Shift – Permanent / Office Work		☐ Afternoon Shift	
☐ Other Roster Arrangements		☐ Day Shift - Rostered		☐ Night Shift	
Shift Start Date:			Shift Start Time:		
Shift End Date:			Shift End Time:		
% of shift worked:		Days of rostered work:		Total days in roster:	
Incident Location					
Specific Location:					
Description of Incident – steps leading up to the Incident / Activity being completed / what happened:					
Immediate Actions Taken:					
Attachments					
Images / Documents:	Insert below or attach at end of report				
Witness Statements:	Fill in Incident Witness Statement (**HSEQ-HS-FRM007-GEN-ALL)** and attach to end of report				
Categorise Incident					
☐ Environmental Impact **Level 1 to 3** (continue using this form)					
☐ Environmental Impact Near Miss **Level 1 to 3** (use form REF-HSEQ-ENV-FRM003-GEN-ALL)					

☐ Non Conformance **Level 1 to 3** (use Environmental Non-Conformance form REF-HSEQ-ENV-FRM005-GEN-ALL)			
Review			
Reviewers should review the initial incident and decide if the Incident is accepted. When making changes to the initial incident report or discarding the report the reviewer should enter comments into the Reviewers Comments field.			
Reviewer's Name:		☐ Accept Incident	☐ Discard Incident
Reviewer's Comments:			
Is this report a duplicate or non-HSEC incident?		☐ Yes	☐ No
Is this a notifiable Incident?		☐ Yes	☐ No
Incident Notifiable to Government Agency or Regulators			
Agency Notified:			
Person Notified:			
Notification Method:	☐ Email	☐ In person	☐ Phone
Notification Date:		Notification Time:	
Notification Comments:			
Environmental Impacts			
Note: For the impacts selected below, refer to the sections after to add in more specific details.			
☐ Air		☐ Fauna	
☐ Flora		☐ Complaint (no sub-section)	
☐ Land		☐ Cultural Heritage	
☐ Noise & Vibration		☐ Groundwater	
☐ Surface Water		☐ Waste	

Air			
☐ Dust	☐ Emissions	☐ Black Smoke	
Flora			
☐ Loss of habitat		☐ Damage to protected flora	
☐ Introduction of weed species		☐ Introduction of disease	
Species Affected:			
Land			
☐ Soil Erosion		☐ Spill to land (choose below)[1]	
☐ Disturbance of existing contamination		☐ Acid sulphate soils	
Area (M^2) of land affected? (leave blank if n/a)			
[1]Type of spill to land:	☐ Hydrocarbon	☐ Chemical	☐ Effluent
Noise & Vibration			
☐ Noise		☐ Vibration	
Surface Water			
☐ Spill to Water[2]	☐ Release to Surface Water	☐ Unauthorised abstraction of Groundwater	
Type of Spill to Water[2]:	☐ Hydrocarbon	☐ Chemical	☐ Effluent
Estimated Quantity / Volume of Discharge:			
Fauna			
☐ Injury to Animal		☐ Death to Animal	
☐ Introduction of Pest Species		☐ Introduction of Disease	
Species Detail:			
Cultural Heritage			
☐ Disturbance or damage		☐ New discovery	
Groundwater			
☐ Spill to Water[3]	☐ Release to Marine Water	☐ Unauthorised abstraction of Groundwater	
Type of Spill to Water[3]:	☐ Hydrocarbon	☐ Chemical	☐ Effluent
Estimated Quantity / Volume of Discharge:			
Waste			
☐ General Waste		☐ Hazardous Waste	
Impact Report			
Provide a description of the impact report and include any data that helps quantify the impact:			

Estimated Cost ($)		
☐ <$5k	☐ $5k - $50k	☐ >$50k

Environmental Impact Incident Severity Rating		
Actual Rating	**Description of Environmental Impact** Please rate the actual severity based on the actual consequence of this incident	**Consequence Descriptor**
A ☐	Spills of hydrocarbons and chemicals that are contained and do not result in environmental impact	Low
B ☐	Low level environmental impacts to the localised area. Easily rectified with minimal effort and cost	Moderate
C ☐	Environmental impacts that affect individual protected species or small areas of protected habitat Impact to cultural heritage artefacts.	Serious
D ☐	Significant environmental impact at the local level. Death of protected species of loss of habitat without permission.	Major
E ☐	Severe environmental impacts to the local or regional environment. The death of multiple protected species or the widespread loss of protected habitat without permission.	Catastrophic

Potential Rating	**Description of Potential Environmental Impact** Please rate the potential severity based on what could have occurred during this incident relevant to maximum reasonable consequence	**Consequence Descriptor**
A ☐	Spills of hydrocarbons and chemicals that are contained and do not result in environmental impact	Low
B ☐	Low level environmental impacts to the localised area. Easily rectified with minimal effort and cost	Moderate
C ☐	Environmental impacts that affect individual protected species or small areas of protected habitat Impact to cultural heritage artefacts.	Serious
D ☐	Significant environmental impact at the local level. Death of protected species of loss of habitat without permission.	Major
E ☐	Severe environmental impacts to the local or regional environment. The death of multiple protected species or the widespread loss of protected habitat without permission.	Catastrophic

Ranking of Likelihood - Please rate the likelihood of the incident occurring on the project again			
Rank	**Probability (Frequency)**	**Description**	**Likelihood Descriptor**
1 ☐	< 5% chance of occurrence during the project	The event may occur only in exceptional circumstances	**Rare**

2 ☐	≥ 5% & < 15% chance of occurrence during the project	The event could occur at some time	**Unlikely**
3 ☐	≥15% & < 35% chance of occurrence during the project	The event should occur at some time	**Possible**
4 ☐	≥35% & <65% chance of occurrence during the project	The event will probably occur in most circumstances	**Likely**
5 ☐	≥65% chance of occurrence during the project	The event is expected to occur in most circumstances	**Almost certain**

Risk Rating (Level of Risk) - Select the Risk Rating using the table below. Choose the highest of either the Actual Rating or the Potential Rating against the likelihood to get the correct rating:

Likelihood	**Severity**				
	A- Low	**B- Moderate**	**C- Serious**	**D-Major**	**E-Catastrophic**
5 Almost certain	☐ **Moderate A-5**	☐ **High B-5**	☐ **Very High C-5**	☐ **Extreme D-5**	☐ **Extreme E-5**
4 Likely	☐ **Low A-4**	☐ **Moderate B-4**	☐ **High C-4**	☐ **Very High D-4**	☐ **Extreme E-4**
3 Possible	☐ **Low A-3**	☐ **Moderate B-3**	☐ **High C-3**	☐ **High D-3**	☐ **Very High E-3**
2 Unlikely	☐ **Low A-2**	☐ **Low B-2**	☐ **Moderate C-2**	☐ **High D-2**	☐ **High E-2**
1 Rare	☐ **Low A-1**	☐ **Low B-1**	☐ **Low C-1**	☐ **Moderate D-1**	☐ **Moderate - E-1**

Golden Rule Breaches – Select rules

☐ Start Safe	☐ Cranes & Lifting
☐ Working at Height	☐ Working Near Mobile Plant
☐ Operating Mobile Plant	☐ Driving Vehicles
☐ Energised Equipment	☐ Electrical Equipment
☐ Trenching & Excavation	☐ Confined Space

Environmental Green Rule Breaches – Select rules

☐ Spills	☐ Noise & Vibration
☐ Soil & Erosion	☐ Hazardous Materials
☐ Plant & Equipment	☐ Dust & Emissions
☐ Water & Wastewater	☐ Fauna & Flora
☐ Archaeology & Heritage	☐ Recycling

Investigation Selection – All actual Very High and Extreme ratings must use the Critical Incident Investigation Form. For High incidents, discuss which form to use with the Region Environmental Manager (or equivalent in your Region).

☐ Basic Root Cause (continue below)
☐ **ICAM** - Incident Cause Analysis Method (Use Critical Incident Investigation Form MMS # **020-F103-100**)
Select all Contributing Factors that apply to this incident / near miss
Absent or Failed Defences (DF)
☐ **DF1:** The hazardous condition was not recognised by any persons involved.
☐ **DF2:** Inspection systems were missing that should have detected the hazardous condition.
☐ **DF3:** Inspection systems existed but failed to detect the hazardous condition.
☐ **DF4:** The correct isolation was not used.
☐ **DF5:** Safety devices were inoperative at the time of the incident.
☐ **DF6:** The hazardous substances were not clearly identified.
☐ **DF7:** Standard Work Practices existed but were not in use.
☐ **DF8:** Standard Work Practices were missing for the task.
Organisational Factors (OF)
☐ **OF1:** The design / quality of the equipment / tools / work area contributed to the incident / near miss.
☐ **OF2:** The written / known SWP / JSEA did not anticipate the factors / hazards which led to the incident / near miss.
☐ **OF3:** Changes had been made to equipment, the environment, procedures or personnel.
☐ **OF4:** There was insufficient communication and discussion of hazards and Stand Work Practices (i.e. Toolbox Talks).
☐ **OF5:** The person(s) involved were not aware that protective equipment was required.
Task / Environment Conditions – Human Factors (HF)
☐ **HF1:** The person(s) involved were not physically capable of performing the job (good health, no impairment, vision, hearing, etc.)
☐ **HF2:** The person(s) involved were affected by drugs / alcohol.
☐ **HF3:** The person(s) involved were affected by fatigue.
☐ **HF4:** The person(s) involved had known personal issues that could have affected the person(s) actions.
☐ **HF5:** The person(s) involved had a slip up / lapse in concentration (lapse of attention, inadvertent omissions).
Task / Environmental Conditions – Workplace (TE)
☐ **TE1:** Fault(s) in the equipment / tools / work area contributed to the incident / near miss.
☐ **TE2:** Unacceptable standards of housekeeping contributed to the incident / near miss.

☐	**TE3:** Inadequate means of access contributed to the incident / near miss.
☐	**TE4:** Unsafe equipment contributed to the incident / near miss.
☐	**TE5:** Poor visibility contributed to the incident / near miss.
☐	**TE6:** Noise contributed to the incident / near miss.
☐	**TE7:** The poor condition of roads contributed to the incident / near miss.
☐	**TE8:** Slippery or uneven footing contributed to the incident / near miss.
☐	**TE9:** Inclement weather (rain, wind, heat, fog, snow, etc.) contributed to the incident / near miss.
☐	**TE10:** Adverse atmospheric conditions (toxic or hazardous fumes, gas, dust) contributed to the incident / near miss.
Individual / Team Actions (IT)	
☐	**IT1:**Person(s) involved had not been instructed / trained in the SWP / JSEA / Permit.
☐	**IT2:** Person(s) involved had not been deemed competent in the SWP / HSEA / Permit.
☐	**IT3:** Person(s) involved deviated from written / known SWP / JSEA / Permit.
☐	**IT4:** There is a history of similar incidents / near misses occurring when the same task has been performed in this workplace.
☐	**IT5:** Person(s) involved had not been made aware of historical incidents / near misses that had occurred when the task was previously performed.
☐	**IT6:** Person(s) involved did not receive frequent contact from Supervisors / personnel to discuss / review hazards and SWP / JSEAs (Toolbox meetings, etc.)
☐	**IT7:** The actions of other persons were contributory.
☐	**IT8:** Person(s) involved made mistakes (lack of knowledge to select the appropriate plan of action).
☐	**IT9:** Person(s) involved performed violations (deviation from understood and accepted normal practice for whatever reason).

Close Out Actions – insert the reference number (e.g. IT8) followed by the required actions:

Reference	Action(s)	Responsibility	Due Date

Root Cause			
Contributing Factors			

Incident Review & Investigation Approval			
Report Author Name:			
Date:		**Signature:**	

Superintendent Name:			
Date:		**Signature:**	

Environmental Advisor Name:			
Date:		**Signature:**	

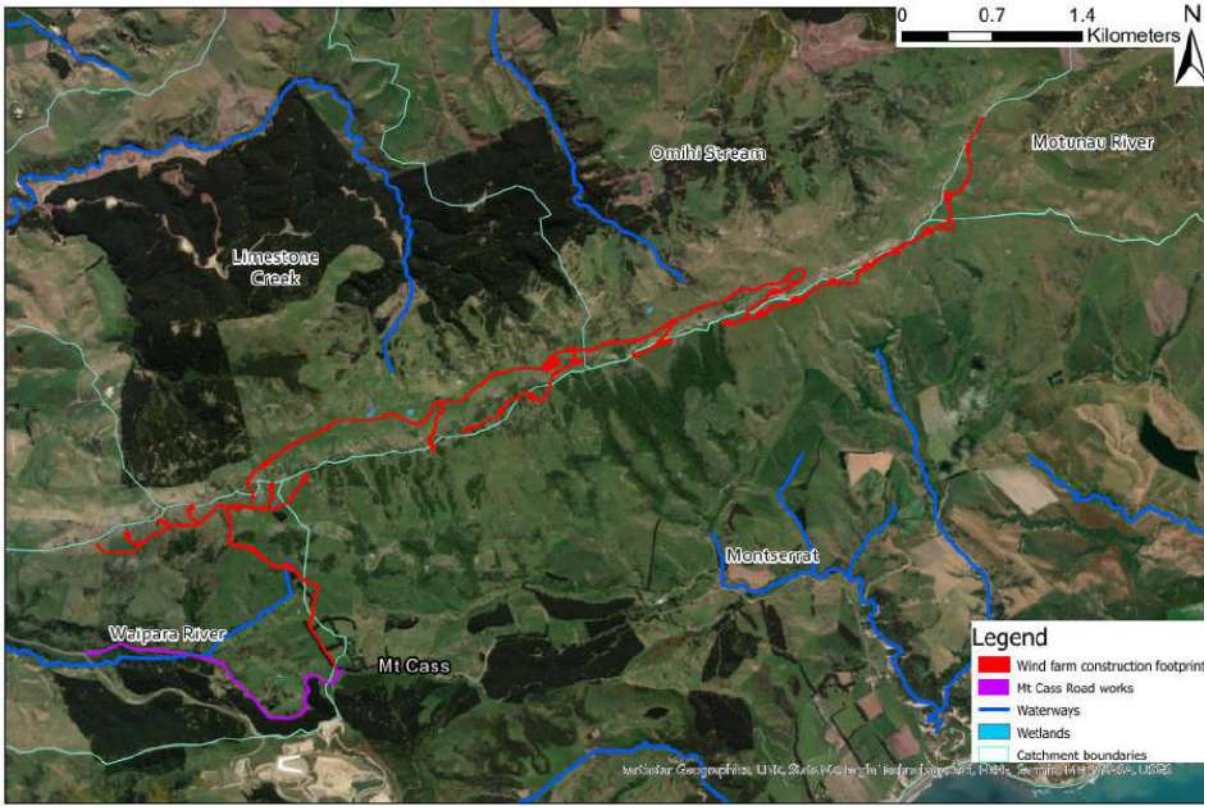
Project Manager Name:			
Date:		**Signature:**	

APPENDIX C – Safety Data Sheets

Up to date physical copies available in site offices and at any specific storage locations.

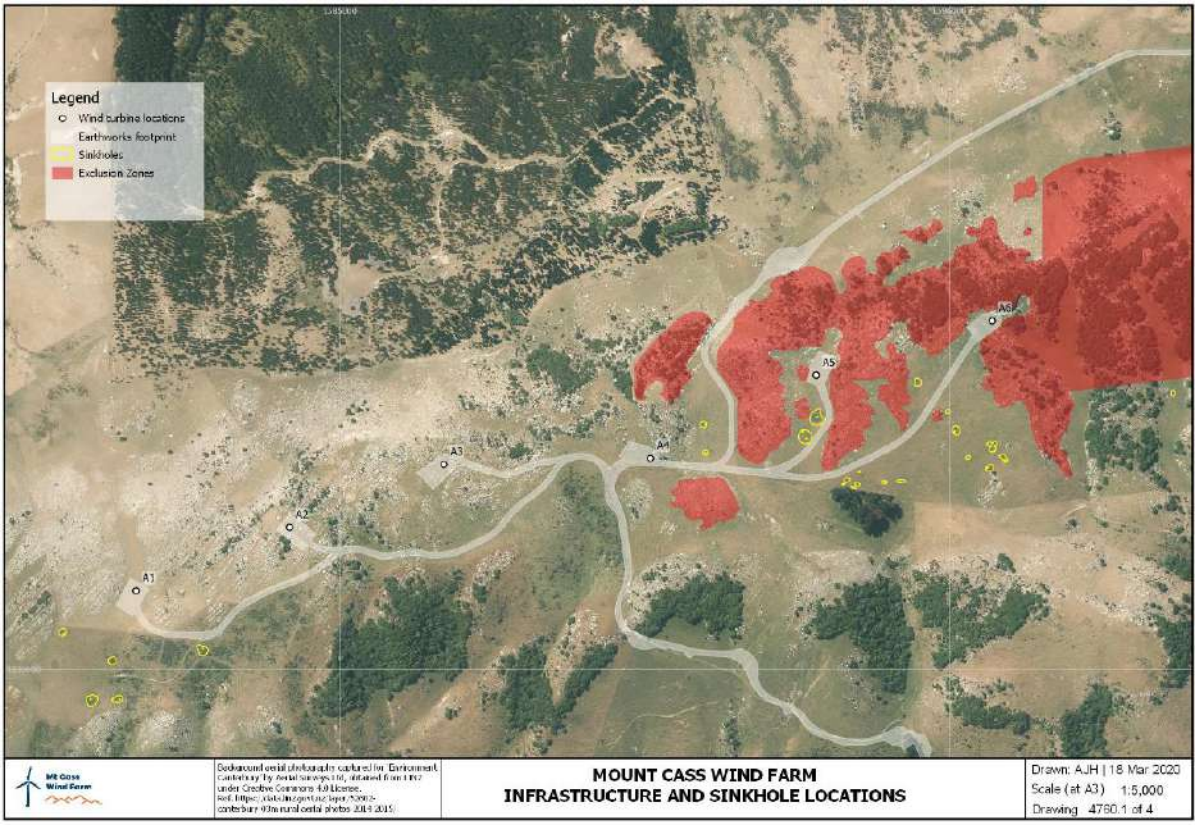
APPENDIX D – Layout and Setback Plans

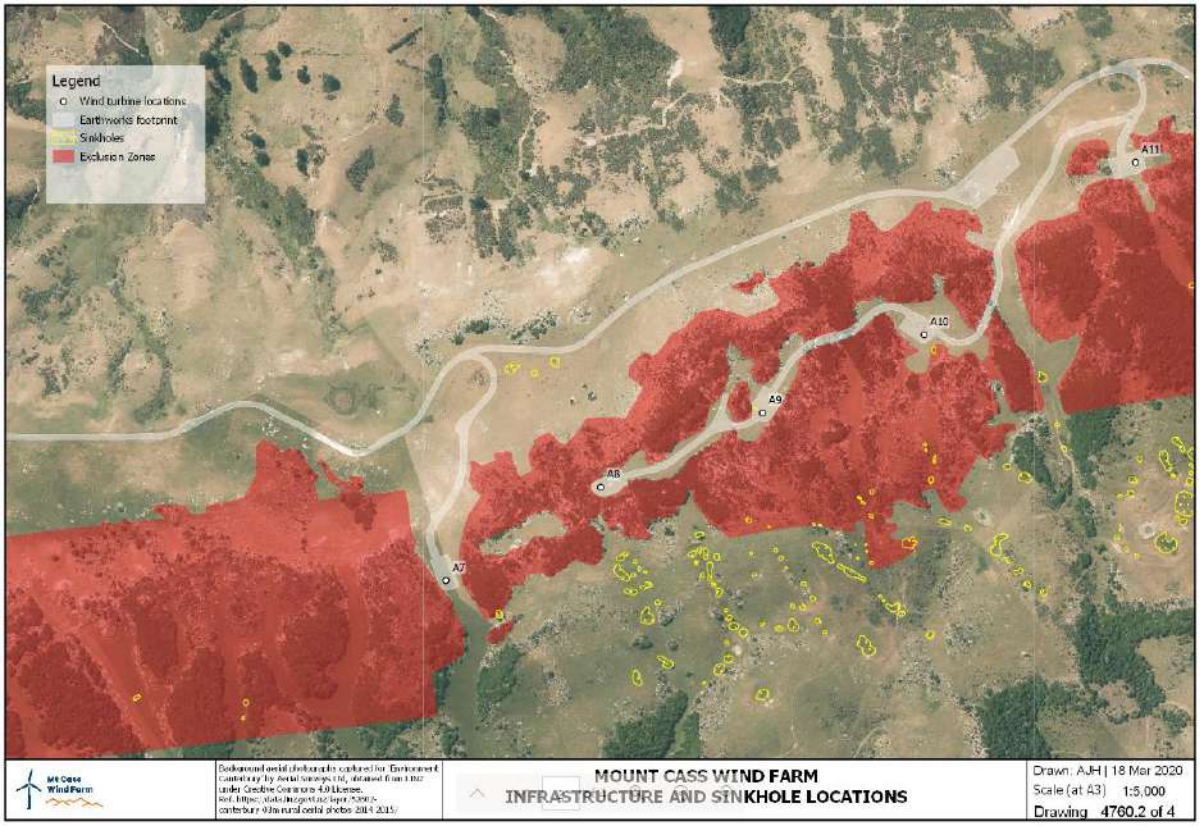
D1 - WATERWAYS, WETLANDS, CATCHMENT BOUNDARIES, MT CASS WIND FARM

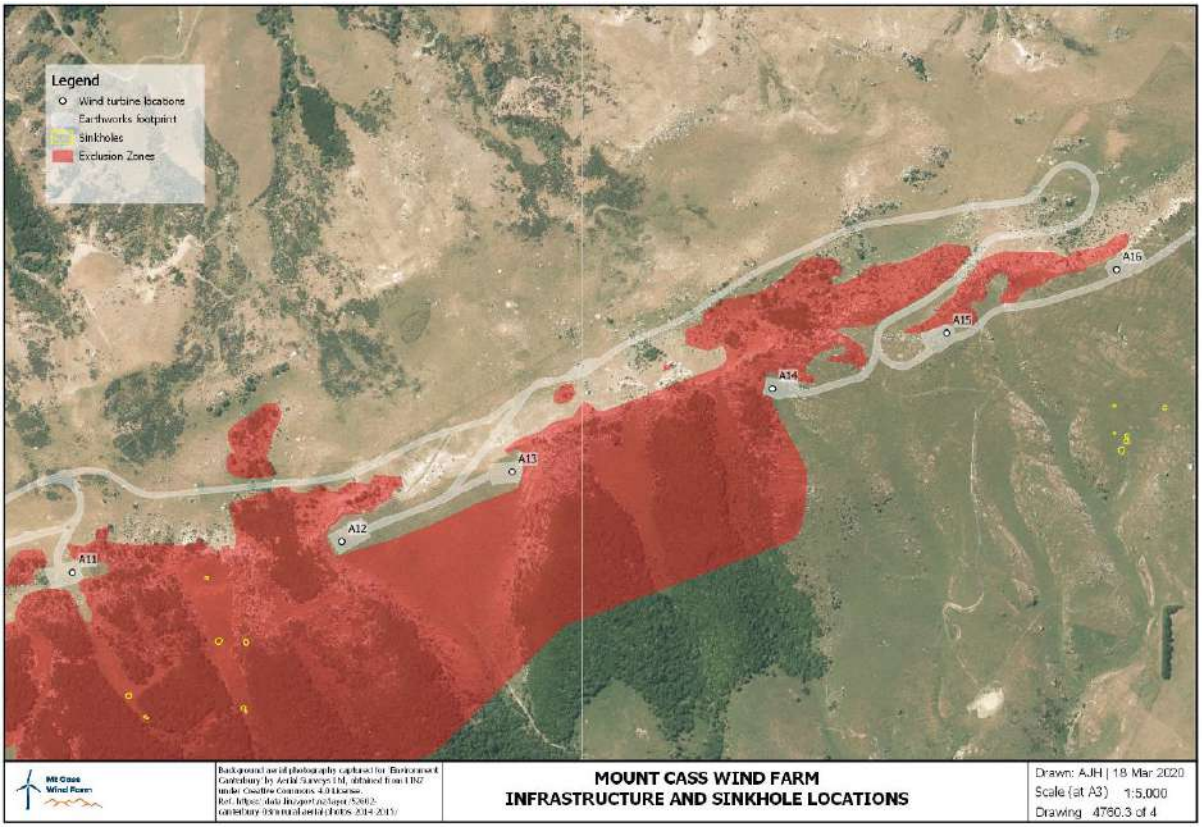


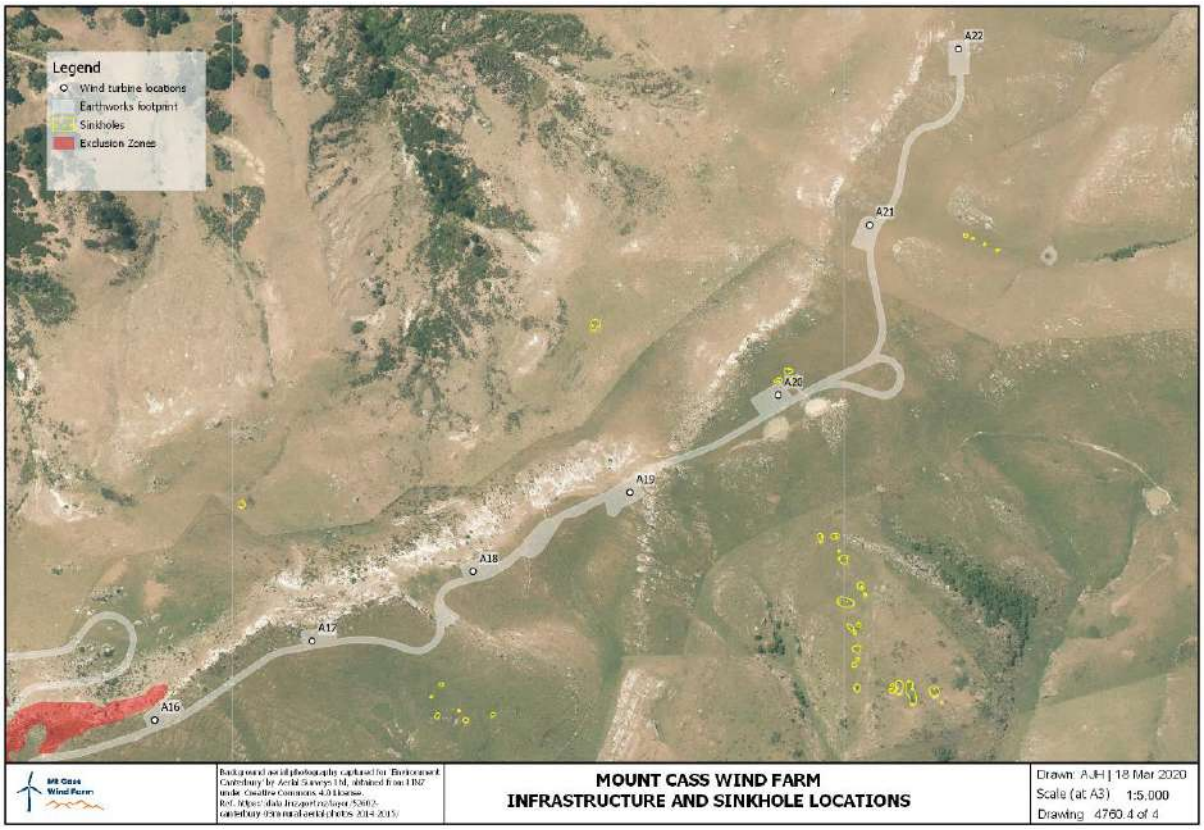
Sourced from AEE (Figure 11)

D2 – SINKHOLE LOCATIONS






Legend
Wind turbine locations
Earthworks footprint
Sinkholes
Exclusion Zones
A16
A15
A14
A13
A12
A11
Mt Cass Wind Farm
MOUNT CASS WIND FARM
INFRASTRUCTURE AND SINKHOLE LOCATIONS
Drawn: AJH | 18 Mar 2020
Scale (at A3) 1:5,000
Drawing 4760.3 of 4


Legend
Wind turbine locations
Earthworks footprint
Sinkholes
Exclusion Zones
A22
A21
A20
A19
A18
A17
A16
Mt Cass Wind Farm
MOUNT CASS WIND FARM
INFRASTRUCTURE AND SINKHOLE LOCATIONS
Drawn: AJH | 18 Mar 2020
Scale (at A3) 1:5,000
Drawing 4760.4 of 4

APPENDIX D – Incoming / Outgoing Plant Inspection

INCOMING / OUTGOING PLANT INSPECTION

Contractor / Supplier:			
Description:		**Make:**	
Rego Number:		**Model:**	
Serial Number:		**Date of Manufacture:**	
KM / HRS at Inspection:		**KMs / HRS at last Service:**	
Serviced By:		**Date Serviced:**	
Estimated Hire Duration:		**Next Service Due:**	
MCD Allocated Site No.:		**Proposed / On Site Date:**	

Record Result of Check: Good Condition: **INITIALS** Bad Condition: **X** Not Applicable: **N/A**

Description * Refer to Operators Manual # Refer to Plant Service History	S/C Confirm	MCD/BE Verify	**Description**	S/C Confirm	MCD/BE Verify
General Safety Equipment (All Plant)			**Cranes**		
All safety signs / stickers are in place *	*	*	CraneSafe sticker. Date: / /		
Emergency Stops are fitted / working			Regulatory authority plant registration certificates available in unit Date: / /		
Beacon is fitted and working, if mobile plant / vehicle / UHF Fitted			Handrails, if required.		
Any lifting / rigging gear is tagged			Load charts available/SWL clearly marked *	*	*
Any lift point is engineered / stamped *	*	*	Load indicators fitted and working (electronic) *	*	*
Has a Noise Level Test been taken (where applicable)			Wire rope certs, hook certs 10yr inspection #	#	#
Fire extinguisher is fitted and in date – within 6 months. Date: / /			**Concrete boom pump/ line pump**		
Bunding is supplied to **ALL** stationary plant			Regulatory authority plant registration certificates available in unit		
Reverse alarm fitted & working, if mobile plant/vehicles			Line thickness testing reports completed and available? (Concrete volume records for twin wall lines – under OEM maximum)		
Is first aid kit required **YES / NO** If yes, has it been supplied. Date: / /			All pipeline joints are fitted with safety clip and locks.		
Access / egress adequate (steps, ladders, handrails)			**Gensets / Light towers / Electrical / Welders**		
Operator controls in good condition and labelled where applicable for function (pedals, hand brakes, emergency stop controls etc.).			Electrics are tested and tagged		
Walk Around Check (All Plant)			RCD is fitted and tested (monthly)		
Panel damage			Any damage on leads		
Oil / fluid leaks			Light operation and mast *	*	*
Broken lights / glass / mirrors			**Excavators / Earthmoving Equipment**		
Lights operate correctly			Anti-burst valve *	*	*
Battery isolator fitted and working *	*	*	Quick Hitch in good condition *	*	*
All tyres are in safe condition			ROPS (Roll Over Protection Structure) and FOPS (Falling Object Protection Structure) fitted *	*	*
Seats / seat belts operational and in good condition			Condition of buckets / blades		
Wipers / washers			Tracks and running gear in good condition		
Check brakes are operational			Safety pin fitted to attachments e.g. hydraulic quick hitch		

INCOMING / OUTGOING PLANT INSPECTION

Description * Refer to Operators Manual # Refer to Plant Service History	S/C Confirm	MCD/BE Verify	Description	S/C Confirm	MCD/BE Verify
Clean, free of soil, mud and foreign materials (including weeds and seeds)			**Compressors and Pumps**		
Forklifts / Access Equipment			Last receiver/boiler inspection date (max 2yrs) *	*	*
Harness latch on bars present *	*	*	Safety valve test date (max 4yrs) *	*	*
All attachments are tested and tagged			B/A Test Date: ____/_____/_____ *	*	*
ROPS (Roll Over Protection Structure) and FOPS (Falling Object Protection Structure) fitted *	*	*	**Hydraulic Power Pack / Units**		
Safe Working Limits (SWL) clearly marked			Oil / fluid leaks		
Electrical test and tag is current on power outlets			All hoses for wear and damage		
(Boom lifts) Fall arrest harnesses are available on plant, inspected, tagged, and in good condition			Hydraulic oil is biodegradable, if working near or over water *	*	*
OEM Secondary Protective System (SPS) installed on all Boom Type Elevated Work Platforms (eg Pressure-sensitive operator contact device, Protective structure, Proximity systems, Contact switches)			All hoses are sheaved that work near or over water		
Marine Vessels & Equipment					
Certificate of Operation (COO) is current & onboard					
Certificate of Class survey is current & onboard					
Vessel Safety Management System (VSMS) is current & onboard					
Flag State Certificate (FSC) is current & onboard					
All other maritime certificates & insurances are current (refer current Periodic Inspection – Marine Vessels & Equipment or equivalent)					
Vessel name and number displayed clearly					
Vessel's / ship's log onboard					
Navigation, radios & safety equipment supplied, working & in date (as per survey requirements)					
Visual hull, propellers, cargo damage evident					
Refer to current Periodic Inspection for specific condition					

TAKE PHOTOS OF THE ITEM – ENSURE YOU INCLUDE ANY DAMAGE

Supply of MANDATORY documentation:

Description	S/C Confirm	MCD/BE Confirm	Description	S/C Confirm	MCD/BE Confirm
Plant Risk Assessment is supplied			Suppliers incoming inspection provided		
Log book supplied			Operators manual specific to item of plant - sighted and kept with plant		
Last inspection & service report/history are in the plant & service sticker applied/noted in log book.			Weed and seed hygiene declaration / certificate attached (if required)		
Add site specific requirements					

Notes / Comments

X : BAD CONDITION - where the plant is found to not conform to the above, then it will be Tagged out and prevented from commencing work on the site until the non-compliance is rectified.

Actions / Repairs to be Undertaken:	**Action Closed By** (date & initial)**:**

SUBCONTRACTOR CONFIRMS THAT THE ITEM OF PLANT COMPLIES WITH ALL SAFETY REQUIREMENTS AND (IF REQUIRED) ANY REPAIRS HAVE BEEN COMPLETED.

NAME: _____ **POSITION:** _____

INCOMING / OUTGOING PLANT INSPECTION

SIGNED: _____ **DATE:** / /

McConnell Dowell/Built Environs will not reimburse the Contractor / Supplier for any down / lost time so caused from any non-conformance. This form does not remove any liability for the plant supplier to conform to the relevant WHS Legislation.

OFFICE USE ONLY

I consider that the equipment is in suitable condition for use.

NAME: _____ **POSITION:** _____

SIGNED: _____ **DATE:** / /

IF SUITABLE, ATTACH SITE INSPECTION STICKER TO PLANT / VEHICLE

This is to certify that the plant being supplied conforms to the relevant WHS legislation and the requirements as detailed above. McConnell Dowell/Built Environs will check this Incoming Outgoing Plant Inspection to ensure the supplier has verified compliance to legislative requirements and to register the plant on the site. The operator will be required to participate in ongoing training and perform work in accordance with the relevant Work Method Statement.

APPENDIX E – Contaminated Land Discovery Protocol

Contaminated Land Discovery Protocol

Table 1 Site Identification

Site Name:	Mt Cass Wind Farm
Site Location:	791 Mt Cass Road, Waipara, North Canterbury
Legal Description/s	Lot 16 & 17 DP 424383, Section 108 SO 469452, Part Lot 1 DP 5900, RS39401, Lot 2 DP 401564
Site Area (ha):	Approximately 580ha
Site Zoning:	Rural
Current Site Use:	Agricultural - Stock grazing

Context:

The site stretches 7.5km through farmland along a ridge in the foothills bordering the Waipara Valley. In consideration of this site, access and laydown areas have also been included within this investigation. Although no Hazardous Activities and Industries List (HAIL) activities were identified along the ridgeline itself, a fertilizer bulk storage bunker (HAIL Activity A6) is present beside the Main Access Road, to the south of the ridge. A conceptual site model indicates that construction workers building the main access road may be at risk of coming in contact or inhaling heavy metals in soil, associated with this fertilizer storage bunker. Sampling of natural soils from four locations along the ridge returned results that were not health significant.

As the site present a large area of land, there is the potential for further contaminated land to be discovered during works.

Process:

In the event that any unexpected contaminated soil or material is uncovered by the works, an Contaminated Land Discovery Protocol shall be implemented by following the steps below:

1. Earthworks within ten metres of the encountered contaminants shall cease immediately;
2. All practicable steps shall be taken to prevent the contaminated material becoming entrained in stormwater. Immediate steps shall include, where practicable:
   - Diverting any stormwater runoff from surrounding areas away from the contaminated material; and
   - Minimising the exposure of the contaminated material, including covering the contaminants with an impervious cover;
3. Notification of the Canterbury Regional Council, Attention: Contaminated Sites Manager and Regional Leader – Monitoring and Compliance, within 24 hours of the discovery;

4. Earthworks within ten metres of encountered contaminants shall not recommence until a suitably qualified and experienced contaminated land practitioner (SQEP) confirms to Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance;
5. All records and documentation associated with the discovery shall be kept and copies shall be provided to the Canterbury Regional Council upon request.

Any material removed from the site during the works that is potentially or confirmed as contaminated, shall be disposed of at a facility authorised to receive such material.

Appendix G

B4 Archaeology Management Plan

Mt Cass Wind Farm
Accidental Discovery Protocol Plan

Revision 6 – 15/05/23

This document has been prepared for the benefit of Mt Cass Wind Farm Ltd (MCWF). No liability is accepted by this company or any employee or sub-consultant of this company with respect to its use by any other person. This disclaimer shall apply notwithstanding that the report may be made available to other persons of an application for permission or approval to fulfil a legal requirement.

Revision History

Version	Description	Date	Prepared by	Approved By
Rev 1	Draft	03 Mar 21	HW	SB
Rev 2	Draft – for Waitaha ki Waitaha and Ngāi Tūāhuriri input	20 Apr 21	HL	SB
Rev 3	MCD Input	1-Dec 22	DK	MC
Rev 4	MCD – Issue post review feed Back	23/02/23	DK	MC
Rev 5	Post CLG review, HDC Submission	23/03/23	MC	GG
Rev 6	ADP and Site Sensitivity cultural Protocol Approved	15/05/23	MC	GG

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1.2 Overview 3
1.3 Existing site conditions 3
2. Consent Conditions 5
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4.2 Accidental Discovery Protocol for Wāhi Tapu, Wāhi Taonga and Urupā - Ngāi Tūāhuriri 8
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4.4 Consultation and Communication 9
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1. Introduction

1.1 Purpose

This plan has been prepared to support the Construction Management Plan, inform people involved in the Mt Cass Wind Farm (the Project) the procedures for Accidental Discovery of cultural material or sites and to comply to the requirements of the resource consent and any other regulatory requirements during the construction phase works.

1.2 Overview

The Accidental Discovery Protocol is the primary responsibility of the Project Manager and begins with hazard awareness and risk minimisation. The plan sets out Accidental Discovery risks and associated Management Processes to mitigate the identified Project Risks.

During construction, the Civil Contractor will be responsible for ensuring that this plan is correctly implemented and will review all documentation relating to this plan before it is finalised and issued. Site induction for all personnel must include a briefing on this plan including the main content of this plan and any SOP's relevant to the task being performed.

1.3 Existing site conditions

Ngāi Tahu iwi has established mana whenua in the South Island and Ngāi Tūāhuriri is one of the five primary hapū of Ngāi Tahu whānui, whose takiwā (territory) includes the Mount Cass. Te Rūnanga o Ngāi Tahu is the governing body that oversees Ngāi Tahu activities and is made up of elected representatives of the 18 Papatipu Rūnanga. Te Ngāi Tūāhuriri Rūnanga is an incorporated society representing one of the 18 Papatipu Rūnanga and their traditional rohe extends from Hakatere (Ashburton) and Waikirikiri (Selwyn) Rivers to the Hurunui.

Waitaha ki Waitaha also have a historical and cultural connection to the site separate from Ngāi Tahu, with reference to specific matters such as Matariki and the monitoring of braids of the Waimakariri river as it traversed the plains between Te Waihora and near to Amberley.

There are no previously recorded Wāhi Taonga, Wāhi Tapu/Urupā or Ngāi Tahu Silent Files within the Project site. However there are identified archaeological sites within the wider vicinity as identified in Figure 1. The archaeological sites identified include human burials and occupational rock shelters.

There is a possibility that unrecorded archaeological sites may be discovered as a result of construction activities and this Plan is proposed to ensure archaeological site or site of cultural significance uncovered during the construction process is appropriately managed and any effects mitigated.

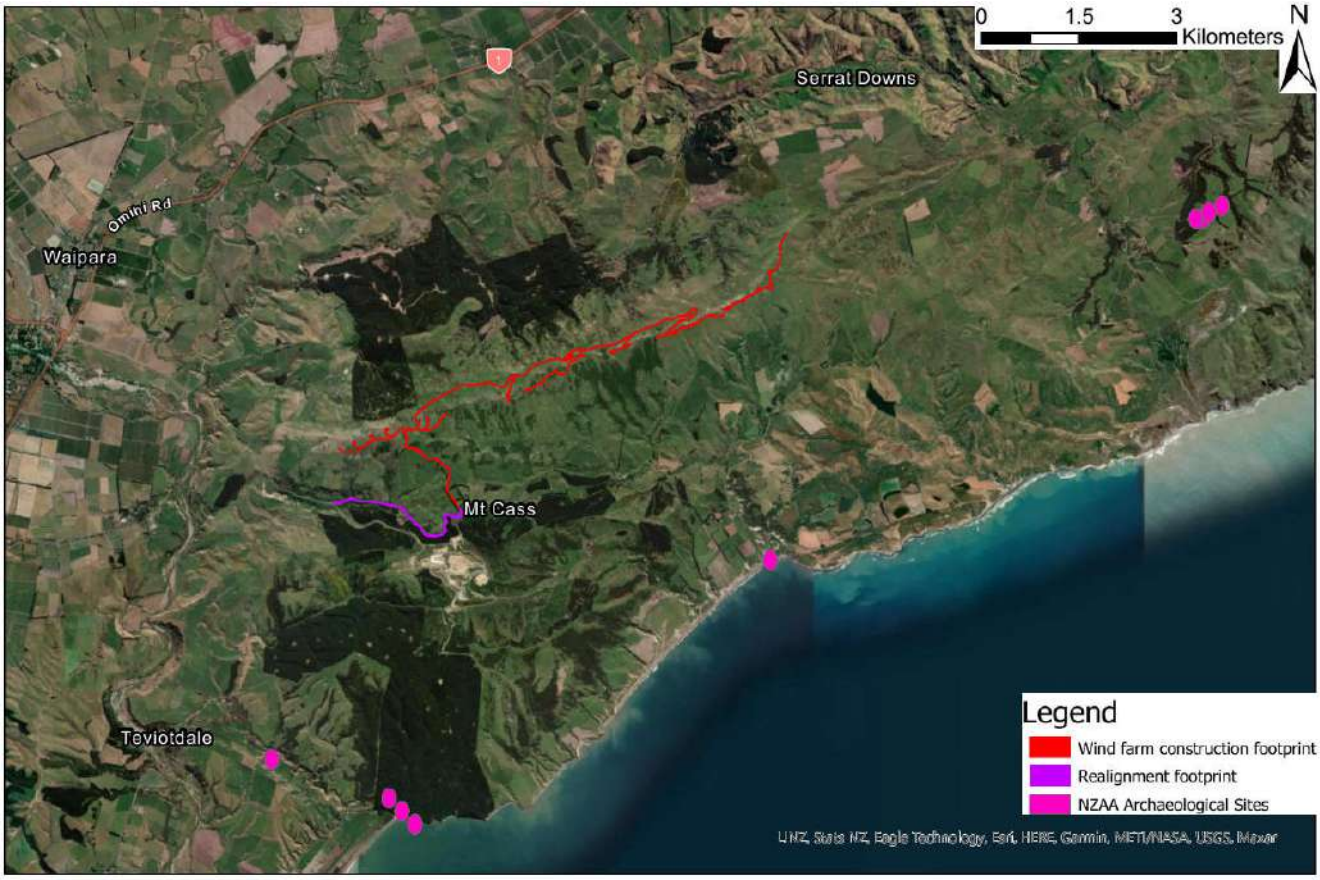

Figure 1 New Zealand Archaeological sites within the wider area of the Project Site

2. Consent Conditions

Appendix C of the Construction Management Plan includes a matrix of all consent conditions that are included in the Construction Management Plan and Subplans. The following specific conditions relevant to this plan are set out below:

Consent Conditions	Control for Consent Conditions
Accidental Discovery Protocol	
122) In the event of the accidental discovery of any archaeological remains the following shall occur: a. All activity affecting the immediate area will cease and the New Zealand Historic Places Trust be notified. b. The site shall be secured to ensure the archaeological remains are not further disturbed. c. Works affecting the archaeological remains shall not recommence until the necessary authorities under the Historic Places Act 1993 are obtained. d. If human remains/koiwi tangata are located, in addition to the steps above the NZ Police shall be contacted. e. Wāhi Tapu, Wāhi Taonga and Urupā Protocol shall be implemented if relevant.	Refer Section 4.1 of this Plan.
123) The Consent Holder shall offer to enter into a Discovery Protocol for Wāhi Tapu, Wāhi Taonga and Urupā jointly with Te Runanga o Ngai Tahu and Te Ngai Tūāhuriri Runanga. The purpose of a "Discovery Protocol for Wāhi Tapu, Wāhi Taonga and Urupā shall be to: a. Manage and protect the integrity of known and unknown archaeological sites from damage and loss; b. Maximise the opportunity to retrieve physical and archaeological evidence from disturbed sites; c. Obtain quality information on the lives of people , their activities, food, resource use, trails and habitation areas of Ngai Tahu ancestors from archaeological sites; and d. Ensure Te Ngai Tūāhuriri Runanga is satisfied with the management of any koiwi tangata. e. The Protocol shall include the following requirements: i). An offer to engage a representative of Te Ngai Tūāhuriri Runanga trained in the discovery and recognition of archaeological sites to advise, oversee and where necessary be present during site preparation, excavation and construction, to act as advisor to the Consent Holder on identification of Wāhi Tapu, Wāhi Taonga, Urupa or historic cultural sites. ii). The Consent Holder shall consult with Te Runanga o Ngāi Tahu and Te Ngai Tūāhuriri Runanga to determine in accordance with tikanga Maori if there are any matters of protocol which tangata whenua wish to undertake in relation to the commencement of any development works, significant events or the commissioning of the completed works. iii). The Consent Holder shall ensure that contractors involved with earthmoving activities have received appropriate training and are aware of the requirement to undertake and monitor earthmoving activities in a way that enables the identification of Wāhi Tapu, Wāhi Taonga, Urupā or historic cultural sites. Te Runanga o Ngai Tahu and Te Ngai Tūāhuriri Runanga shall be offered a contract to provide appropriate training to contractors.	Refer Section 4.2 and Appendix A of this Plan.

iv) Immediately it becomes apparent that a Wāhi Tapu, Wāhi Taonga, Urupā or historic cultural site has been discovered, earthmoving activities shall stop in the location of the discovery. The contractor shall shut down all machinery or activity immediately, leave the location and advise the Consent Holder of the occurrence. v) in cases other than where suspected Koiwi Tangata (human remains) are suspected: 1. The representative of Te Ngai Tūāhuriri Runanga shall be consulted by the Consent Holder of the site to determine what further actions are required to safeguard the site or its contents, and to avoid, remedy or mitigate any damage to the site. 2. Work in the area of the discovery may only continue once all the necessary authorities under the Historic Places Act 1993 are obtained. vi) Where Koiwi Tangata (human remains) are suspected: 1. The Consent Holder shall take steps immediately to secure the site of the Koiwi Tangata in a way that ensures the koiwi tangata are untouched. 2. The Consent Holder shall be responsible for notifying the Te Ngāi Tūāhuriri Runanga, the Police and the Historic Places Trust that suspected Koiwi Tangata have been uncovered. 3. The Consent Holder of the site shall make its staff available to meet and guide Kaumatua, the Police and Historic Places Trust staff to the site, assisting with, any requests that they may make. 4. Earthmoving operations in the vicinity of the Koiwi Tangata shall remain halted until the Kaumatua; Police and Historic Places Trust staff have marked off the area around the affected area and given approval for earthmoving operations to begin. vii). Work in the affected area may only continue once: 1. if the Koiwi Tangata are not of Maori origins, all the necessary legal authorisations are obtained. 2. if the Koiwi Tangata are of Maori origins, all the necessary legal authorisations are obtained and with the express agreement of the Kaumatua.	
124) The Consent Holder shall comply with any Discovery Protocol for Wāhi Tapu, Wāhi Taonga and Urupā jointly entered into with Te Runanga o Ngai Tahu and Te Ngai Tūāhuriri Runanga, to the extent necessary to give effect to the mandatory requirements in the above condition	Refer Section 4.2 and Appendix A of this Plan.
125) The Consent Holder shall provide Te Runanga o Ngai Tahu, Te Ngai Tūāhuriri Runanga and the Historic Places Trust with the following information no less than 10 working days prior to any earthmoving activities: a. A schedule of the dates of all significant earthmoving events, their sequence and duration. b. The Consent Holder shall invite Te Runanga o Ngai Tahu and Te Ngai Tūāhuriri Runanga to attend any episode of significant earthmoving activity.	Refer Section 4.4 of this Plan.
126) Prior to commencing construction, the Consent Holder shall consult with the three Hapu of Waitaha to ensure that up to six Kaumatua representatives are provided with sufficient opportunity to visit the site at a mutually agreed time to Inspect: a. All areas of the site that have been identified for excavation; and b. Any other locations of interest to Waitaha ki Waitaha within the wider outline area.	Refer Section 4.3 of this Plan.
127) Following the visit to the site by the Kaumatua representatives under condition [126] the Consent Holder shall prepare a Site Cultural Sensitivity Protocol (SCSP) to be included in the Construction Management Plan. The SCSP shall: a. Be prepared in consultation with Waitaha ki Waitaha; b. Include protocols and process for dealing in a culturally safe manner with all sites identified under condition [126] as being of potential cultural concern or significance to Waitaha ki Waitaha;	Refer Section 4.3 and Appendix B of this Plan.

c. Provide for a procedure whereby a nominated representative of Waitaha ki Waitaha is able to receive regular updates of the construction programme and the implementation of the SCSP; d. Require the Consent Holder, in consultation with Waitaha ki Waitaha, to place interpretative Panels (signs) on all sites or features of cultural significance to ensure that the cultural and historical significance of each site can be recognised and understood; and e. include an appropriate procedure whereby: i) The representative described in condition [127.c] and up to six Kaumatua are able to visit the site during the construction period to inspect all of the sites described in condition [126] as required by Waitaha Ki Waitaha; and ii). All of Waitaha Ki Waitaha and its associates are, after construction, able to access the site to observe and celebrate significant cultural events and occurrences on an ongoing basis.	
The Consent Holder shall prepare an Accidental Discovery Protocol (ADP) as part of the Construction Management Plan prior to construction of the wind farm. The ADP shall be prepared in consultation with Waitaha ki Waitaha and the New Zealand Historic Places Trust, the ADP shall be put in place for any earthmoving or ground modification that occurs during the construction and operation of the wind farm: a. The ADP shall set out the steps to take should any prehistoric (Maori) or historic archaeological site be found as a result of any earthmoving or ground modification that occurs during the construction and operation of the wind farm at any time. b. in the event that koiwl tangata (human skeletal remains), taonga or artefact material are discovered during site construction, the Consent Holder shall, without delay: i). Cease all work within the immediate vicinity of the discovery; ii). Notify their nominated Archaeologist, the Consent Authority, Waitaha ki Waitaha and the New Zealand Historic Places Trust; iii). Enable a site inspection by, Waitaha ki Waitaha and their advisors, and the New Zealand Historic Places Trust who shall determine the nature of the discovery and the further action required, including whether an Archaeological Authority is required under the Historic Places Act 1993. iv). in the case of accidental discovery of an archaeological site a programme of archaeological site investigation shah be carried out by the Consent Holder Any such site shall be properly excavated, recorded, analysed and reported upon under the supervision of an appropriately qualified archaeologist. All archaeological work shall be carried out to the best professional standards. v). Any koiwi tangata or taonga shall be handled and removed by Waitaha ki Waitaha responsible for the tikanga (custom) appropriate to its removal and preservation. c. Upon completion of tasks [128.b.i] to [128.b.v] above, and provided all statutory permissions have been obtained, the Consent Holder may recommence site construction following consultation with the Consent Authority, Waitaha ki Waitaha, and the New Zealand Historic Places Trust.	Refer Section 4.1 of this Plan.

3. General Control Measures

Under the Heritage New Zealand Pouhere Taonga Act 2014 an archaeological site is defined as any place associated with pre-1900 human activity, where there is material evidence relating to the history of New Zealand. For sites solely of Māori origin, this evidence may be in the form of accumulations of shell, bone, charcoal, burnt stones, etc. In later sites, artefacts such as bottles or broken glass, ceramics, metals, etc, may be found or evidence of old foundations, wells, drains, tailings, races or other structures. Human remains/kōiwi may date to any historic period.

It is unlawful for any person to destroy, damage, or modify the whole or any part of an archaeological site without the prior authority of Heritage New Zealand Pouhere Taonga. This is the case regardless of the legal status of the land on which the site is located, whether the activity is permitted under the District or Regional Plan or whether a resource or building consent has been granted. The Heritage New Zealand Pouhere Taonga Act 2014 provides for substantial penalties for unauthorised damage or destruction.

Should any unrecorded archaeological sites be found during the construction process the provisions of the Heritage New Zealand Pouhere Taonga Act 2014 will apply.

4. Specific Control Measures

4.1 Accidental Discovery Protocol - General

In the event of the accidental discovery of any archaeological remains the following shall occur:

- All activity affecting the immediate area will cease and the following organisations notified:
    - Heritage New Zealand Pouhere Taonga
    - Hurunui District Council (HDC)
    - Canterbury Regional Council (Environment Canterbury)
    - Ngāi Tūāhuriri Rūnanga and Waitaha ki Waitaha if the site or material is determined to be Kōiwi Tangata (human bones) or taonga (treasured artefacts)
    - New Zealand Police if the archaeological material is determined to be Kōiwi Tangata (human bones)
- The site shall be secured to ensure the archaeological remains are not further disturbed.
- Works affecting the archaeological remains shall not recommence until the necessary confirmation or authority from Heritage New Zealand Pouhere Taonga is obtained.
- Wāhi Tapu, Wāhi Taonga and Urupā Protocol shall be implemented if relevant.

In accordance with condition an ADP is also to be prepared in consultation with Waitaha ki Waitaha and Heritage New Zealand Pouhere Taonga. The final protocol will be included in this section.

4.2 Accidental Discovery Protocol for Wāhi Tapu, Wāhi Taonga and Urupā - Ngāi Tūāhuriri

The joint development of a Project site specific ADP for Wāhi Tapu, Wāhi Taonga and Urupā is to be offered to Te Runanga o Ngāi Tahu and Te Ngāi Tūāhuriri Runanga. Where this is agreed to by Ngāi Tahu and Ngāi Tūāhuriri Runanga the details of the protocol will be included in this section and the full protocol included in Appendix A.

The Consent Holder shall consult with Te Runanga o Ngāi Tahu and Te Ngai Tūāhuriri Runanga to comply with consent conditions 123, 124, and 125.

4.3 Site Cultural Sensitivity Protocol (SCSP)

A SCSP is required to be prepared prior to commencing construction and implemented during construction. Prior to developing the SCSP a site visit by up to six Kaumatua representatives of Waitaha ki Waitaha is to occur to inspect all areas of the site identified for excavation and any other locations of interest.

4.4 Consultation and Communication

Consultation with Ngāi Tūāhuriri Rūnanga and Waitaha ki Waitaha is required through the development of the ADP for Wāhi Tapu, Wāhi Taonga and Urupā and the SCSP with Waitaha.

Communication required during construction includes:

- No less than 10 working days prior to any earthmoving activities a schedule of dates of all significant earthmoving events and their scheduled duration is to be provided to Ngāi Tahu and Ngāi Tūāhuriri Runanga.
- Ngāi Tahu and Ngāi Tūāhuriri Runanga are to be invited to attend any episode of significant earthmoving activity.
- Notify the relevant organisations if archaeological material or sites are identified during construction.

5. Training – On-site Personnel

Site personnel will undertake a site induction so they are aware of the project consent conditions and requirements in relation to both the ADP and SCSP.

The Construction Manager shall ensure that contractors involved with earthmoving activities have received appropriate training and are aware of the requirement to undertake and monitor earthmoving activities in a way that enables the identification of Wāhi Tapu, Wāhi Taonga, Urupā or historic cultural sites. Te Runanga o Ngai Tahu and Te Ngai Tūāhuriri Runanga are to be offered a contract to provide appropriate training to contractors.

6. Monitoring and maintenance During Construction

As part of the control measures, on-going site monitoring by the contractor and wider project team will be undertaken. This will ensure that all the protocols detailed in this plan have been properly implemented and are functioning effectively.

The following shall be recorded throughout the Project construction to document compliance with this Plan:

- Records of training of on-site personnel in the identification of archaeological or culturally significant sites.
- Records of any visits to the site of representatives of Waitaha Ki Waitaha, Te Runanga o Ngāi Tahu and Te Ngāi Tūāhuriri Runanga or Heritage New Zealand Pouhere Taonga, including any observations made.
- Records of any discovery of material or sites and the implementation of the relevant ADP.

7. Appendices

Appendix	Description
A	Accidental Discovery Protocol
B	Site Cultural Sensitivity Protocol

APPENDIX A - Accidental Discovery Protocol

Appendix A: Accidental Discovery Protocol -Rev 2 Dated 15/05/23

PRIOR TO COMMENCEMENT OF ANY WORKS, A COPY OF THIS ADP SHOULD BE MADE AVAILABLE TO ALL CONTRACTORS WORKING ONSITE.

Purpose

This Accidental Discovery Protocol (ADP) sets out the procedures that must be followed in the event that taonga(Māori artefacts), burial sites/kōiwi (human remains), or Māori archaeological sites are accidentally discovered.

The Protocol is provided by the Nation of Waitaha in recognition of the significance of Mt Cass known traditionally as Te Whariu O Te Huringa.

Background

Land use activities involving earthworks have the potential to disturb material of cultural significance to tangata whenua. In all cases such material will be a taonga, and in some cases such material will also be tapu. Accidental discoveries may be indicators of additional sites in the area. They require appropriate care and protection, including being retrieved and handled with the correct Māoritikanga(protocol).

Under the *Heritage New Zealand Pouhere Taonga Act 2014,* an archaeological site is defined as any place associated with pre-1900 human activity, where there is material evidence relating to the history of New Zealand. It is unlawful for any person to destroy, damage or modify the whole or any part of an archaeological site (known or unknown) without the prior authority of the NZ Historic Places Trust (NZHPT). This is the case regardless of the legal status of the land on which the site is located, whether the activity is permitted under the District or Regional Plan or whether a resource or building consent has been granted. The NZHPT is the statutory authority for archaeology in New Zealand.

Note that this ADP does not fulfill legal obligations under the Heritage New Zealand Pouhere Taonga Act 2014 regarding non-Māori archaeology. Please contact the Historic Places Trust for further advice.

Immediately following the discovery of material suspected to be a taonga, kōiwi or Māori archaeological site, the following steps shall be taken:

1. All work on the site will cease immediately.
2. Immediate steps will be taken to secure the site to ensure the archaeological material is not further disturbed.
3. The contractor/ works supervisor/ owner will notify Waitaha together with Ngai Tuahuriri Runanga and the Area Archaeologist of Heritage NZ. In the case of koiwi (human remains), the New Zealand Police must be notified.
4. Waitaha, Ngai Tuahuriri and Heritage New Zealand will jointly appoint/ advise a qualified archaeologist who will confirm the nature of the accidentally discovered material.
5. If the material is confirmed as being archaeological, the contractor/works supervisor/owner will ensure that an archaeological assessment is carried out by a qualified archaeologist, and if appropriate, an archaeological authority is obtained from NZHPT before work resumes (as per the Heritage New Zealand Pouhere Taonga Act 2014).
6. The contractor/works supervisor/owner will also consult Waitaha on any matters of tikanga(protocol) that are required in relation to the discovery and prior to the commencement of any investigation.
7. If kōiwi (human remains) are uncovered, in addition to the steps above, the area must be treated with utmost discretion and respect, and the kōiwi dealt with according to both law and tikanga, as guided by Ngai Tuahuriri Runanga and Waitaha.
8. Works in the site area shall not recommence until authorised by the Nga Tuahuririi Rūnanga, Waitaha, Heritage New Zealand (and the NZ Police in the case of kōiwi) and any other authority with statutory responsibility, to ensure that all statutory and cultural requirements have been met.
9. All parties will work towards work recommencing in the shortest possible time frame while ensuring that any archaeological sites discovered are protected until as much information as practicable is gained and a decision regarding their appropriate management is made, including obtaining an archaeological authority under the Heritage New Zealand Pouhere Taonga Act 2014 if necessary. Appropriate management may include recording or removal of archaeological material.
10. Although bound to uphold the requirements of the Protected Objects Act 1975, the contractor/ works supervisor/ owner recognises the relationship between Waitaha and Ngai Tahu and any taonga (Maori artefacts) that may be discovered

IF IN DOUBT, STOP AND ASK; TAKE A PHOTO AND SEND IT TO THE HNZ ARCHAEOLOGIST

Contact Details

Waitaha ki Waitaha Cultural Consultancy	027 5780145	pakauwaka@gmail.com
NZHPT Archaeologist	03 357 9615	archaeologistcw@historic.org.nz
NZHPT Southern Regional Office	03 357 9629	infosouthern@historic.org.nz
NZHPT Māori Heritage Advisor	03 357 9620	mhadvisorcw@historic.org.nz
NZ Police	111	

APPENDIX B - Site Cultural Sensitivity Protocol

Appendix B: Site Cultural Sensitivity Protocol

Site Cultural Sensitivity Protocol for inclusion in Construction Management Plan- Rev 3 Dated 15/05/23

Background

1. Condition 126 of Resource Consent RC070250 requires preparation of a Site Cultural Sensitivity Protocol to be included in the Construction Management Plan for the Mt Cass Wind Farm. A copy of conditions 126-128 is attached to this document as Appendix 1.

2. Following a tangi on 12 March 2020 a letter was prepared setting out the expectations of Waitaha. These expectations have been incorporated into this protocol.

3. Prior to the inspection of sites, and the laying down of protocols of our tikanga and ritenga, for all the Tower sites chosen, by the Mt Cass Wind Farm Ltd, a ceremony was held in the Atea of Te Whariu, whereby our Grandmother Councilors Kathleen Tuhiwai-Wharemate, and Meretaka Taylor – Rakete, ceremonially conducted a Tangi Powhiri, on the 12th March 2020 site visit, Danny Te Rakai Watson and Te Porohau Ruka Te Korako did the blessings and whaikorero to pay tribute to our ancient ancestors who are entombed in the limestone caves, by way of our ancient funerary practices.

4. This tangi powhiri ceremonial was to open the overall site for the commencement of the first stages of site preparation and for the laying down of the preparation and initial buildup of gear and cover for the machines and men who will be working on the site.
5. This stage of ceremony has now cleared the way for all preparatory work to begin during this late summer early autumn of 2020.

The Accidental Discovery Of Archaeological Materials, Or Skeletal Remnant

6. The Waitaha Nation, registered its Interests and ownership of the funerary remnants, the archeological fragments and instruments of our ancestors, before the Hurunui District Council and the Environment Court, our vested, Cultural, Traditional and Environmental ties and interests, to our ancient and present day Te Whariu o Te Huringa o Waitaha (Mt Cass).
7. That during any preparatory construction work and or maintenance of the Wind Farm, any accidental discoveries of archeological artefacts, must be dealt with under the attached Accidental Discovery Protocol including immediate notification to the office of:

WAITAHA CULTURAL CONSULTANTS,
Te Porohau Ruka Te Korakora, Kaikohe, +64 27 578 0145, akauwaka@gmail.com
Kenneth McAnergney, Christchurch. Ken.mcanergney@outlook.com

8. Waitaha ki Waitaha Cultural Consultancy, will notify those Government Agencies, deemed necessary under the Traditional and Cultural knowledge and tikanga held in The Waitaha Wananga of Kohatutakanga, For avoidance of doubt this is additional to any obligations Mt Cass Wind Farm Limited has to notify either Heritage New Zealand or the New Zealand Police under any resource consent or accidental discovery protocol. The information contained in the Wananga Schools of Learning of Waitaha, every village and bone deposit is known and catalogued, for our Waitaha Nation Families who lived in these ancient and recent past histories of our villages in all our Islands of New Zealand.

9. In accordance with the Accidental Discovery Protocol a qualified archaeologist will be engaged and the archaeologist will engage with the Waitaha representatives on any matters of protocol prior to undertaking any investigation:
    - TE POROHAU RUKA TE KORAKORA,
    - ROBERT KENNETH McANERGNEY,
    - TUWHARERANGI RUKA TE KORAKORA,
    - DANNY TE RAKAI WATSON, AND OUR LEGACY HOLDER
    - MICHAEL GIBBS
10. If practicable, taking into account health and safety requirements, TE POROHAU RUKA TE KORAKORA, ROBERT KENNETH McANERGNEY, TUWHARERANGI RUKA TE KORAKORA, DANNY TE RAKAI WATSON, AND OUR LEGACY HOLDER MICHAEL GIBBS will be able to visit the site of the accidental discovery of archeological material, as soon as is practically possible after any investigation to enact ceremonial matters to be conducted in the ritual tikanga and ritenga of Waitaha.

11. The artefacts will be photographed in situ, carefully with reverence, bound and protected and placed in appropriate plaited kete, or containers, where they will be carefully removed into known Tomo, already housing many of our ancient ancestors.

12. There may be a need for a Huihuinga to reinter, but for ease of working and timing, a case by case format can and will be considered by the Tohunga,, either, to place in tomo, or even to be catalogued and photographed for the future records of our Waitaha Museum. That will bear its mana, tapu, ihi, wana, wairua and wheirua, in its own magic and difference from the many other streams of Polynesia, and importantly so for those new arrivals into our landscape treasury.

13. An appropriate budget for Financial and Practical support, transport, food and accommodation costs, will be set aside and paid on Invoice, by the Mt Cass Wind Farm Ltd, to the Waitaha ki Waitaha Consultancy to enable Elders to participate in Site Visits in accordance with condition 126 of Resource Consent RC070250, and, those chosen Waitaha Elders, will help in the production of reports for the Hapu and Whanau, and for the implementation of required protocols of behavior and support activities for the future.

14. These written reports are to be registered, with The Mt Cass Wind Farm Ltd, and Waitaha ki Waitaha Cultural Consultancy (1986).

15. It is the understanding of Waitaha ki Waitaha Cultural Consultancy, that the Project Director of the Mt Cass Wind Farm and the Waitaha Executive Council comprising of Te Porohau Ruka Te Korakora, Kenneth McAnergney, Junko Nakatani, Tuwharerangi Ruka Te Korakora, Kathleen Tuhiwai-Wharemate, Meretaka Taylor-Rakete, and Geoffrey Rakete, will answer any of the questions and queries arising from the day to day running of this accord. Also present in this understanding will be Michelle Kingi and Solomon Tohu who are the representatives of our Waitaha Legacy of Leadership.

16. SITE INSPECTIONS, SITE PREPARATION AND ANY LAND FORMING AND MOVING ACTIVITIES, EITHER FOR THE CONSTRUCTION OF THE CONCRETE TOWER BASES, OR REFORMING OF ANY SITE WORKS WILL BE REPORTED TO EACH PARTY, AND THAT DUE CARE AND ATTENTION WILL BE AT ALL TIMES EXERCISED.

Inspections and future engagement

17. The inspections in the future, if ever needed, must be well resourced and will be carried out under the tikanga and ritenga of The Wananga of Kohatutakanga. Whereby all matters of ceremonial will be applied in the Ancient forms, relevant to the Te Whariu o Te Huringa o Waitaha, and our Ancestors who are interred therein in situ.

18. The Agreement in Principle, signed by and on behalf of The Nation of Waitaha, by Te Porohau Ruka Te Korako, in the immediate future, will be the accord that will enable The Mt Cass Wind Farm Ltd, to construct and maintain, unimpeded the Wind Farm to be located, in and around our Waitaha Sacred sites of Te Whariu o Te Huringa o Waitaha.

19. Mt Cass Wind Farm Limited and Waitaha ki Waitaha Cultural Consultancy (1986), using its access to prior knowledge of the entire site, will write scoping reports, to be presented to the three major hapu of Waitaha and interested parties attached to this and other sites in the future developments in the overall project of the Mount Cass Wind Farm Ltd.

20. Notwithstanding these matters, the continued building and site preparations will be ongoing after ceremonial karakia and ritenga for the individual sites are completed under the due care and diligence of Te Wananga o Te Kohatutakanga are completed under guidance of the Tohunga.

Background

21. Condition 126 of Resource Consent RC070250 requires preparation of a Site Cultural Sensitivity Protocol to be included in the Construction Management Plan for the Mt

Cass Wind Farm. A copy of conditions 126-128 is attached to this document as Appendix 1.

22. Following a tangi on 12 March 2020 a letter was prepared setting out the expectations of Waitaha. These expectations have been incorporated into this protocol.

23. Prior to the inspection of sites, and the laying down of protocols of our tikanga and ritenga, for all the Tower sites chosen, by the Mt Cass Wind Farm Ltd, a ceremony was held in the Atea of Te Whariu, whereby our Grandmother Councilors Kathleen Tuhiwai-Wharemate, and Meretaka Taylor – Rakete, ceremonially conducted a Tangi Powhiri, on the 12th March 2020 site visit, Danny Te Rakai Watson and Te Porohau Ruka Te Korako did the blessings and whaikorero to pay tribute to our ancient ancestors who are entombed in the limestone caves, by way of our ancient funerary practices.

24. This tangi powhiri ceremonial was to open the overall site for the commencement of the first stages of site preparation and for the laying down of the preparation and initial buildup of gear and cover for the machines and men who will be working on the site.

25. This stage of ceremony has now cleared the way for all preparatory work to begin during this late summer early autumn of 2020.

126. Prior to commencing construction, the Consent Holder shall consult with the three Hapu of Waitaha to ensure that up to six Kaumatua representatives are provided with sufficient opportunity to visit the site at a mutually agreed time to Inspect:

a. All areas of the site that have been identified for excavation; and

b. Any other locations of interest to Waitaha ki Waitaha within the wider outline area.

127. Following the visit to the site by the Kaumatua representatives under condition **[126]** the Consent Holder shall prepare a *Site Cultural Sensitivity Protocol (*SCSP*)* to be included in the Construction Management Plan. The SCSP shall:

a. Be prepared in consultation with Waitaha ki Waitaha;

b. Include protocols and process for dealing in a culturally safe manner with all sites identified under condition **[126]** as being of potential cultural concern or significance to Waitaha ki Waitaha;

c. Provide for a procedure whereby a nominated representative of Waitaha ki Waitaha is able to receive regular updates of the construction programme and the implementation of the SCSP;

d. Require the Consent Holder, in consultation with Waitaha ki Waitaha, to place Interpretative Panels (signs) on all sites or features of cultural significance to ensure that the cultural and historical significance of each site can be recognised and understood; and

e. Include an appropriate procedure whereby:

   i. The representative described in condition **[127.c]** and up to six Kaumatua are able to visit the site during the construction period to inspect all of the sites described in condition **[126]** as required by Waitaha Ki Waitaha; and

   ii. All of Waitaha Ki Waitaha and Its associates are, after construction, able to access the site to observe and celebrate significant cultural events and occurrences on an ongoing basis.

128. The Consent Holder shall prepare an Accidental Discovery Protocol (ADP) as part of the Construction Management Plan prior to construction of the wind farm. The ADP shall be prepared in consultation with Waitaha ki Waitaha and the New Zealand Historic Places Trust, the ADP shall be put in place for any earthmoving or ground modification that occurs during the construction and operation of the wind farm:

a. The ADP shall set out the steps to take should any prehistoric (Māori) or historic archaeological site be found as a result of any earthmoving or ground modification that occurs during the construction and operation of the wind farm at any time.

b. In the event that koiwi tangata (human skeletal remains), taonga or artefact material are discovered during site construction, the Consent Holder shall, without delay:

   i. Cease all work within the immediate vicinity of the discovery;

   ii. Notify their nominated Archaeologist, the Consent Authority, Waitaha ki Waitaha and the New Zealand Historic Places Trust;

iii. Enable a site inspection by, Waitaha ki Waitaha and their advisors, and the New Zealand Historic Places Trust who shall determine the nature of the discovery and the further action required, including whether an Archaeological Authority is required under the Historic Places Act 1993.

iv. In the case of accidental discovery of an archaeological site a programme of archaeological site investigation shah be carried out by the Consent Holder Any such site shall be properly excavated, recorded, analysed and reported upon under the supervision of an appropriately qualified archaeologist. All archaeological work shall be carried out to the best professional standards.

v. Any koiwi tangata or taonga shall be handled and removed by Waitaha ki Waitaha responsible for the tikanga (custom) appropriate to its removal and preservation.

c. Upon completion of tasks **[128.b.i]** to **[128.b.v]** above, and provided all statutory permissions have been obtained, the Consent Holder may recommence site construction following consultation with the Consent Authority, Waitaha ki Waitaha, and the New Zealand Historic Places Trust.

Appendix H

B5 Noise Management Plan

Mt Cass Wind Farm
Construction Noise Management Plan

Revision 5 – 23 March 2023

This document has been prepared for the benefit of Mt Cass Wind Farm Ltd (MCWF). No liability is accepted by this company or any employee or sub-consultant of this company with respect to its use by any other person. This disclaimer shall apply notwithstanding that the report may be made available to other persons of an application for permission or approval to fulfil a legal requirement.

Revision History

Version	Description	Date	Prepared by	Approved By
Rev 1	Draft	03/03/21	HW	SB
Rev 2	Updated Draft	21/04/21	NT	SB
Rev 3	Draft MCD Input	1 Dec 22	CB	MC
Rev 4	MCD Updates post SQIP and MCWF Review	01 Mar 23	CB	MC
Rev 5	Post CLG Meeting and HDC submission	23/03/23	MC	GG

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1. Introduction

1.1 Purpose

This plan has been prepared to support the Construction Management Plan, to inform people involved in the Mt Cass Wind Farm (MCWF) project how to control noise and comply with the requirements of the resource consent and any other regulatory requirements during the construction phase works.

1.2 Overview

The Noise Management Plan (NMP) is primarily the responsibility of the MCWF Construction Manager and begins with hazard awareness and risk minimisation.

The plan sets out noise risks and associated management processes to mitigate the identified project risks.

During construction, the individual contractors will ensure that this plan is correctly implemented for their scope of work and will review all documentation relating to this plan before it is finalised and issued. There may also be a requirement for this plan to be updated, and hence it will effectively remain a live document throughout the duration of the works.

In general, the project is "Low risk" from a construction noise perspective, given the setback from works to houses, however the Mt Cass Road Upgrade and Symonds Rd the Construction Yard portion of works is in close proximity and will require enhanced management. In addition, night works (primarily concrete batching) have the potential to cause annoyance and will need to be managed.

Site induction for all personnel must include a briefing on this plan, including the main content of this plan and any Safe Operating Procedures (SOPs) relevant to the tasks being performed.

1.3 Consent Conditions

Appendix C of the Construction Management Plan (CMP) includes a matrix of all consent conditions that are included in the Construction Management Plan and Sub plans. The following are the specific conditions that pertain to this plan:

Consent Conditions	Control for Consent Conditions
Construction Construction Management Plan	
32) The Construction Management Plan shall include, but not be limited to:	
g. A description of the sources of noise and the methods to be used to meet condition [131].	Refer to section 3Sources of Noise
Noise Definitions	
129) The following definitions shall apply for the purposes of these conditions:	
a. Where noise measurement or assessment is required, these shall be undertaken in accordance with NZS6801:2008 "Acoustics-— Measurement of Sound", and NZS 6802:2008 "Acoustics— Environmental Noise". Wind turbine sounds shall be measured and assessed in accordance with NZS 6808:2010 "Acoustics - Wind farm Noise".	Section 2 & 4 2 for noise criteria & Section 5 for noise monitoring requirements
b. Reference to “dwelling” shall mean any dwelling existing at the time of granting of this consent.	
c. Notional boundary shall have the meaning set out in NZS 6802:2008.	
d. “Noise Sensitive Activities” shall have the meaning set out as “Residential Activity” in paragraph 2.2 of NZS 6802:2008.	
Construction Activities	
130) All construction, earthworks, site remediation and decommissioning, shall be designed and carried out in accordance with the New Zealand Standard NZS 6803:1999 "Acoustics - Construction Noise" and shall comply with Table 2 of that standard for “long term duration”.	

1.4 Key Project Personnel

Key personnel for the project are presented in Table 1.

Consent Holder – Mt Cass Windfarm Ltd				
Role	**Company**	**Name**	**Phone**	**Email**
Project Director	MCWFL	Greg Gummer	021 738 995	Greg.gummer@mainpower.co.nz
Construction Manager - Primary Contact	MCWFL	TBC		
Secondary Contact (Civils)	MCWFL	Michael Carstens	027 247 1713	michael.carstens@mainpower.co.nz
Secondary Contact (Electrical)	MCWFL	Neil Wiggins	021 027 33133	neil.wiggins@mainpower.co.nz
Senior Project Coordinator	MCWFL	Lisa Yuyi	021 779 380	lisa.yuyi@mainpower.co.nz
Council Representatives				
Compliance Officer	Hurunui District Council	TBC		
Compliance Officer	Environment Canterbury	TBC		
cBoP – McConnel Dowel Constructors				
Role	**Company**	**Name**	**Phone**	**Email**
Project Manager	MCD	Phil Owen	021638726	Phil.owen@mcdgroup.com
Construction Manager	MCD	David Kidd	0277039803	David.kidd@mcdgroup.com
Site Manager	MCD	TBC		
HSEQ Manager	MCD	Clint Hill	0277028309	Clint.hill@mcdgroup.com
Project Environmental Advisor	MCD	Caitlin Burns	021 759938	caitlin.burns@mcdgroup.co.nz

Foreman (Environmental)	MCD	TBC		
Earthworks Manager	Taylor Contracting	Shannon Proctor	021501894	shannon@taycon.co.nz
Batching Plant Manager	Firth	Mark Cresswell	0274776958	mark.cresswell@firth.co.nz
eBoP – ElectroNet				
Role	**Company**	**Name**	**Phone**	**Email**
Project Manager	ElectroNet Services	Matt Daffin	027 586 9102	MDaffin@electronet.co.nz
Environmental Advisor	ElectroNet Services	Sandy Keown Scott	027 235 4021	sandyk@electronet.co.nz
S&I Contractor – SGRE				
Role	**Company**	**Name**	**Phone**	**Email**
Project Manager	SGRE	Akshar Sheth	TBC	aksar.sheth@siemensgamesa.com
Project Director	SGRE	Rohit Sumbli	TBC	rohit.sumbli@siemensgamesa.com

Table 1 Project Key Contacts List

1.5 Roles and Responsibility

Table 2 below details the responsibilities of the key project personnel involved in administering this plan during the project.

Role	Role Responsibilities
MCWFL Project Director	To ensure overall compliance with resource consent conditions.
MCWFL Project Contract Manager	To ensure complaints made to or by HDC are communicated to the Site Manager for investigation and rectification. To ensure the NMP is current and reviewed. Is the primary point of contact as required under the resource consent.
All Contractor Project Managers	To ensure that all their staff are properly trained and understand the requirements of the NMP. To ensure that the noise control and mitigation measures and procedures outlined in the NMP are implemented effectively. To ensure that the conditions of the resource consent for noise level are always complied with. To ensure that the noise monitoring programme is carried out as required. To ensure that complaints are investigated as outlined in the NMP. To ensure all construction, earthworks, site remediation and decommissioning, are designed and carried out in accordance with the New Zealand Standard NZS 6803:1999 "Acoustics - Construction Noise. To ensure all noise generating equipment is maintained to a high standard at all times, including regular inspection of all specific noise control devices outlined in the NMP to ensure the noise control and mitigation measures can be carried out effectively.
Environmental Advisor	Inspections, auditing and checking of environmental management practices and procedures. On-site compliance with consent conditions and other requirements and tracking compliance information. Report to the client changes to construction techniques or natural environmental changes which require alterations to existing consents new resource consents. Prepare, review and update the Plan Update and maintain the environmental portion of the Project Risk Register. Training of all staff including subcontractors.

Table 2 Project Roles and Responsibilities

2. General Control Measures

2.1 Key Principles and Approaches

Noise control measures will be set up to ensure all construction, earthworks, site remediation and decommissioning, are designed and carried out in accordance with the New Zealand Standard NZS 6803:1999 "Acoustics - Construction Noise" and shall comply with Table 2 of that standard for “long term duration” or more than 20 weeks, as set out in Table 3.

Day	Time	$L_{Aeq(1h)}$	L_{AFmax}
Weekdays	0630h - 0730h	55 dB	75 dB
	0730h - 1800h	70 dB	85 dB
	1800h - 2000h	65 dB	80 dB
	2000h - 0630h	45 dB	75 dB
Saturday	0630h - 0730h	45 dB	75 dB
	0730h - 1800h	70 dB	85 dB
	1800h - 2000h	45 dB	75 dB
	2000h - 0630h	45 dB	75 dB
Sundays and public holidays	0630h - 0730h	45 dB	75 dB
	0730h - 1800h	55 dB	85 dB
	1800h - 2000h	45 dB	75 dB
	2000h - 0630h	45 dB	75 dB

Table 3 Construction Noise Limits Outlined in Resource Condition 130

2.2 Pre-construction Noise Assessment Method

A noise assessment was carried out prior to construction to assess the proposed construction plant and equipment. The noise estimates gained will be validated using noise monitoring equipment at the beginning of works and monitored for the first 2 months of construction to ensure continued compliance.

The noise estimates were assessed by the below method:

1. Each building/sensitive receiver was distance mapped from the specified building site to the closest point of construction works using Google Earth. This assessment identified the following locations for assessment.
    a. The construction yard on Symonds Rd & Mt Cass Rd intersection
    b. The Mt Cass Rd Upgrade
    c. The main site offices and start of the windfarm access track.

This information is contained in Table 5.

2. The estimated noise level at 10m for each piece of plant/equipment was gained from NZS 6803:1999 or the NZTA construction noise calculator.
3. The appropriate estimated noise level was then assessed using the 'Sound decay with distance' calculation method. This calculation method describes each item of equipment as a 'point' source and the sound levels decrease 6dB each time the distance from the source doubles (20×log10(distance)). It is also noted that at large distances (e.g. >200m), ground and air absorption can significantly reduce the actual noise levels at receivers, therefore predicted noise levels are generally quite conservative.
4. The estimated noise level was assessed from the potentially affected building/sensitive receiver to the closest point of construction works, using the distance previously gained from Google Earth. Following this method, the estimated noise levels will reduce as construction progresses up the hill and therefore is currently estimated at the highest noise potential.
5. Estimated noise levels were then assessed against the noise allowances listed in Table 3.

Important considerations for Tables 6-8:

- The closest building/sensitive receiver for the Mt Cass Public Rd upgrade in Table 5 is 120m. Given the rules of the sound decay with distance calculation method, this has been calculated using an 80m distance.
- The closest building/sensitive receiver to the Mt Cass Wind Farm construction is 860m and this has been assessed using a 640m distance.
- The closest building/sensitive receiver to the Concrete Batching Plant is 1433m and has been assessed at using a 640m distance.
- Noise Assessment will be checked and verified at actual distances with noise monitoring equipment once construction begins.

As these distances are further away in reality, the noise assessment that has been provided is very conservative for the majority of potentially affected buildings/sensitive receivers.

2.3 Planned Hours of Work

The working hours and planned activities are outlined in Table 4 below:

Day	Working hours:	Planned activities:
Monday - Friday	0700h – 1900h	Main construction works
Saturday	0700h – 1700h	
Monday - Friday	0730h – 1800h	Mt Cass Road Upgrade Mt Cass Road Construction Yard
Saturday	0730h – 1800h	
Monday - Sunday	1800h-0700h Night works	Concrete batching and concrete pours for the 22 tower foundations. Delivery and installation of Wind turbine components.

Table 4 Planned Hours of Work

2.4 Affected Persons

The site is located and accessed via Mt Cass Rd approximately 7.5 km from State Highway 1 at Waipara. Table 5 below presents the distance of residential houses to the closest parts of the construction site and visually shown in Figure 1.

Reference	Address	Building type/comments	Distance to works
Mt Cass Road and Wind Farm			
1	2 Loffhangen Drive	Waipara Primary School	4700m
2	6 Mt Cass Road	Allied Petroleum SH1 Service Station	4200m
3	Mt Cass Road RD3	Dovedale Farm	1800m
4	Crofts Road, RD3	Hamilton Glens Farm	1400m
5	554 Mt Cass Road, Teviotdale	Tiromoana Station/Transwaste	120m Mt Cass Rd upgrade 860m Mt Cass Wind Farm
6	Mt Cass Station, Symonds Road, RD3	Organic Farm Holdings Ltd	2840m
7	1076 Mt Cass Road, Waipara	The Wattles	2000m
8	1306 Mt Cass Road, Waipara	Glenafric	2900m
9	192, 224 Reeces Rd and 21 Crofts Road	Omihi Hills Vineyard Netherwood 21 Crofts Road	2960m
Construction yard - Intersection of Mt Cass & Symonds Rd			
1	2 Loffhangen Drive	Waipara Primary School	2400m
2	6 Mt Cass Road	Allied Petroleum SH1 Service Station	1680m
6	Mt Cass Station, Symonds Road, RD3	Organic Farm Holdings Ltd	1500m
10	23 & 47 Symonds Rd	Dwellings	80m and 145m respectively
11	133 Mt Cass Rd	Dwelling	630m
12	782 Kathryns Ln	Dwelling	1600m
13	51 Mt Cass Road	Dwelling	1300m
Concrete Batching Plant (see figure 5 for location)			
5	554 Mt Cass Road, Teviotdale	Dwelling	1433

Table 5 Potentially Affected Receivers

Information within table sourced from Google Earth

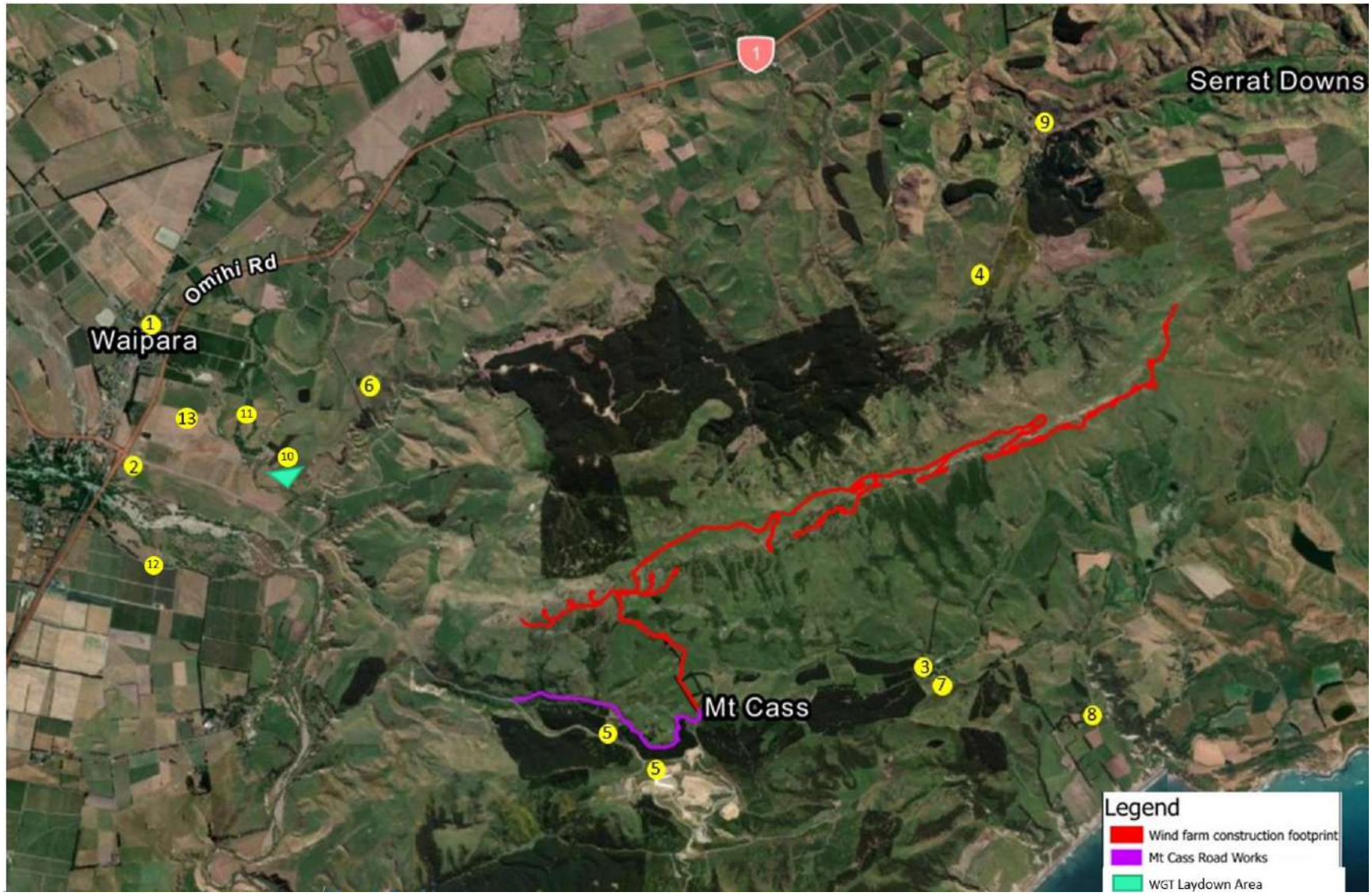

Figure 1 Potential Noise Affected Receivers (Google Earth)

The land ownership of the Project site is shown in Figure 2 below:

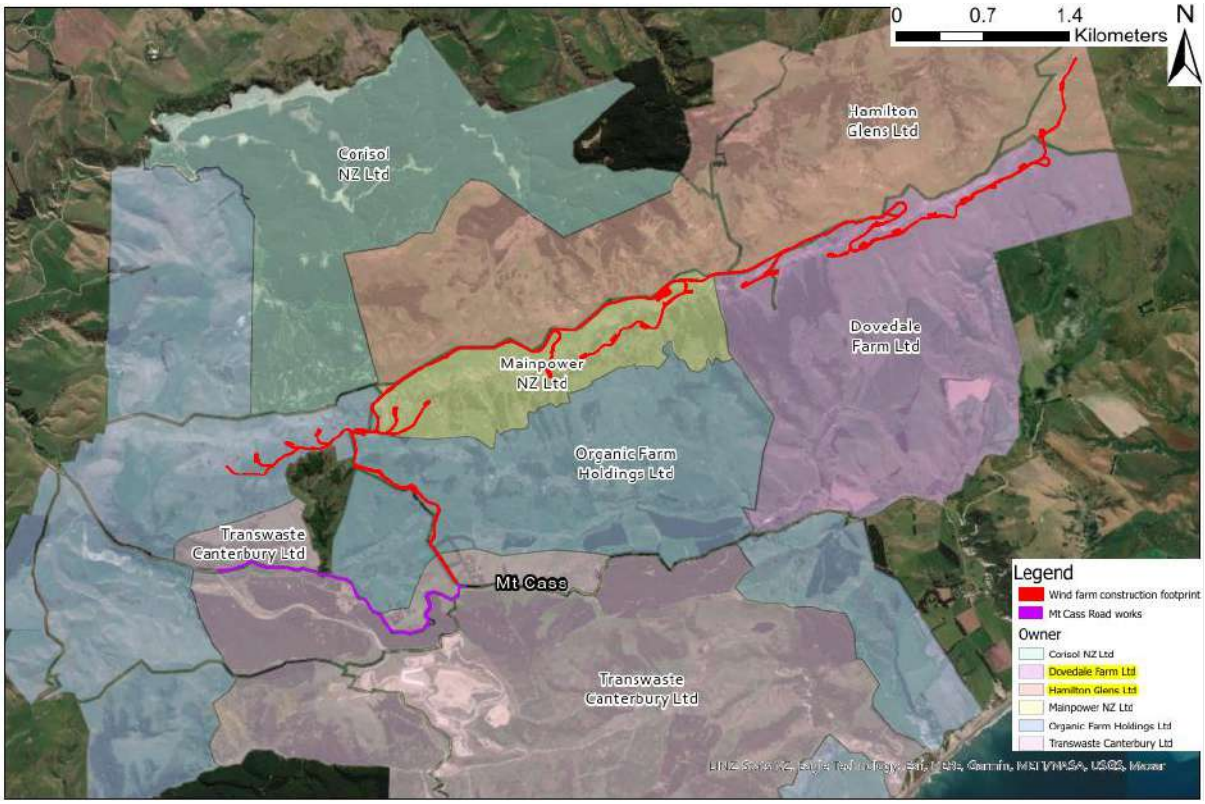

Figure 2 Land Ownership (LINZ Stats NZ)

3. Sources of Noise

Table 6 lists all significant plant proposed to be used on the site. The sound level for each item of plant has been estimated from library data in New Zealand Standard 6803; 1999 Annex C or NZTA Construction Noise Calculator. During initial site noise monitoring the validity of this data will be confirmed and adjusted where necessary for the major items of equipment.

Table 6 lists the planned plant for the construction of Mt Cass wind Farm

Quantity	Equipment	Model	Estimated L_{Aeq} at 10 m	Estimated L_{Aeq} at 640m	Data reference
x5	Dozers	John Deere & CAT	81dB	45dB	NZS 6803_1999 Annex C
x2	Dump Truck	Volvo	82dB	46dB	NZS 6803_1999 Annex C
x2	Loader	Hitachi & CAT	84dB	48dB	NZS 6803_1999 Annex C
x1	Roller	CAT	86dB	50dB	NZS 6803_1999 Annex C
x6	Excavator	Hitachi	88dB	52dB	NZS 6803_1999 Annex C
x1	Crusher	Terex Finlay	93dB	57dB	NZS 6803_1999 Annex C
x1	Tracked Crane (moving)	Kabelco	86dB	50dB	NZS 6803_1999 Annex C
x1	Screen	Terex Finlay	48dB	12dB	NZS 6803_1999 Annex C
x2	Grader	John Deere & CAT	84dB	48dB	NZS 6803_1999 Annex C
1x	Concrete saw		90dB	54dB	NZTA
	Batching Plant		80dB	44dB	NZS 6803_1999 Annex C

Table 6 Sound Levels for Construction Equipment for Mt Cass Wind Farm

Table 7 lists the plant planned for the Mt Cass public road upgrade

Quantity	Equipment	Model	Estimated L_{Aeq} at 10 m	Estimated L_{Aeq} at 80m	Data reference
X2	Dozers	TBC	81dB	63dB	NZS 6803_1999 Annex C
x2	Loader	TBC	84dB	48dB	NZS 6803_1999 Annex C
x1	Roller	TBC	86dB	50dB	NZS 6803_1999 Annex C
X2	Excavator	TBC	88dB	52dB	NZS 6803_1999 Annex C

Table 7 Sound Levels for Construction Equipment for Mt Cass Public Road Upgrade

Table 8 lists the plant planned for construction of the Construction yard at the Mt Cass Road and Symonds Rd corner

Quantity	Equipment	Model	Estimated L_{Aeq} at 10 m	Estimated L_{Aeq} at 80m	Data reference
1x	Excavator	TBC	88dB	70dB	NZS 6803_1999 Annex C
1x	Dozer	John Deere or CAT	81dB	63dB	NZS 6803_1999 Annex C
1x	Grader		84dB	66dB	NZS 6803_1999 Annex C
1x	Loader	Hitachi or CAT	84dB	48dB	NZS 6803_1999 Annex C
2x	Truck		77 dB	59dB	NZS 6803_1999 Annex C
1x	Plate compactor (Compactor rammer)		80dB	62dB	NZS 6803_1999 Annex C
1x	Grinder (9 inch)		86dB	68dB	NZTA
1x	Roller		86dB	68dB	NZS 6803_1999 Annex C
1x	Dump Truck		82dB	64dB	NZS 6803_1999 Annex C

Table 8 Sound levels for construction equipment for Symonds Rd Construction Yard

Table 9(a-f) show the key activities likely to generate significant noise and shows the approximate duration of the activity and the equipment that is likely to be used.

Topsoil Stripping - Symonds Rd Construction Yard				
Equipment	Lp@10	Qty	Duty	Equivalent Lp@10
D8 Dozer	81	1	40%	77 dB
Excavator	88	2	60%	89 dB
Dump truck	82	1	60%	80 dB
Total				90 dB
Distance				80 m
Level at distance (with facade correction)				74 dB
Level at distance (with facade correction & screening noise suppression)				69 dB

Table 9a

Topsoil Stripping - Mt Cass Rd upgrade				
Equipment	Lp@10	Qty	Duty	Equivalent Lp@10
D8 Dozer	81	1	40%	77 dB
Excavator	88	2	60%	89 dB
Dump truck	82	1	60%	80 dB
Total				90 dB
Distance				120 m
Level at distance (with facade correction)				71 dB

Table 9b

General Earthworks - Symonds Rd Construction Yard				
Equipment	Lp@10	Qty	Duty	Equivalent Lp@10
D8 Dozer	81	1	80%	80
Excavator	88	1	80%	87
Dump Truck	82	1	80%	81
Roller	86	1	80%	85
Compactor	80	1	80%	79
Total				91 dB
Distance				80 m
Level at distance (with facade correction)				75 dB
Level at distance (with facade correction & screening noise suppression)				70 dB

Table 9c

General Earthworks Mt Cass Rd Upgrade				
Equipment	Lp@10	Qty	Duty	Equivalent Lp@10
D8 Dozer	81	1	80%	80
Excavator	88	2	80%	87
Dump Truck	82	1	80%	81
Roller	86	1	80%	85
Compactor	80	1	80%	79
Total				91 dB
Distance				120 m
Level at distance (with facade correction)				74 dB

Table 9d

Crushing and Screening - Mt Cass Wind Farm				
Equipment	Lp@10	Qty	Duty	Equivalent Lp@10
Crusher	93	1	80%	92
Screen	48	1	100%	48
Loader	84	1	80%	83
Total				93 dB
Distance				860 m
Level at distance (with facade correction)				57 dB

Table 9e

Pavements - Mt Cass Wind Farm				
Equipment	Lp@10	Qty	Duty	Equivalent Lp@10
Rollers	86	2	40%	85
Trucks	77	2	60%	78
Grader	84	1	60%	82
Roller	86	1	70%	84
Compactor	80	1	70%	78
Total				87 dB
Distance				860 m
Level at distance (with facade correction)				51 dB

Table 9f

Table 9(a-f) Significant Construction Noise Generating Activities based on percentage used

The construction of the Symonds Rd Construction Yard has a natural noise barrier with a significant vegetation shelter belt which according to NZTA Highway Noise Barrier Design Guide will reduce noise by 5dB. This will bring the noise volumes within the consent requirements. Another mitigation that can be put in place to ensure the noise does not exceed the limits is an earth bund using topsoil from the construction of the Yard.

The Mt Cass Rd upgrade exceeds the noise allowances in Table 3 by 4dB. This is a pre-construction assessment, and these noise levels will be checked and verified once construction begins. Given the plant used for this upgrade is not confirmed as it has yet been assigned to a contractor it will be particularly important to confirm these assumptions with noise monitoring equipment once works begins and update this management plan with the results. It is also important to recognise that this potential noise exceedance will only exist while all equipment list is being used at the 80m mark to the closest sensitive receiver, as works move away the noise will only lessen and the next closest sensitive receiver being over 1km distance away is not close enough for noise to be a concern.

Noise Assessment will be checked and verified at actual distances with noise monitoring equipment once construction begins and the updated results will be added to this management plan. If there are any concerns the MCWF Construction Manager must provide details to the Hurunui District Council. If noise is found to exceed the allowances, the following details are to be provided:

- the justification for breaching the criteria,
- the mitigation/management procedures that will be followed including notification of affected parties.

4. Control Measures and Mitigation

Initial calculations have been conducted for the main items of equipment based on the outlined construction methodology and minimum distances to the nearest neighbours. On this basis the general noise control measures in Table 10 have been identified as likely to be required to maintain compliance with the construction noise criteria and conform to good practice.

Equipment/process	General noise control measures
Truck and trailers, pavers, ADTs bulldozers, water pumps, graders, compactors	Modern plant will be used, and equipment fitted with exhaust mufflers and sound proofing
Dewatering pumps for drainage and excavations Generators for various works	Fixed items of equipment such as pumps and generators shall, where practicable, be located in positions where noise effects to residents in the vicinity are minimised. Due to the site topography the use of dewatering pumps is unlikely.
Pavement Aggregate importation and compaction	For work involving stationary equipment close to residential areas, the equipment will either have silences fitted or external noise screen can be employed
Mt Cass Road Heavy Vehicle Movements on Public Roads	Speed limits of 30km have been set as a mitigation measure. This is also noted in Section 6.4.4 of the Traffic Management Plan.
Mt Cass Rd Upgrade	Specific controls/mitigation to be added once works in assigned to a contractor.
All works	All noise generating equipment shall be maintained to a high standard at all times, including regular inspection of all specific noise control devices
All works	Secondary exhaust mufflers may be fitted on noisy machines
All works	Keep equipment well maintained and specify quieter models where possible; use straps rather than chains;
All works	Toolbox training sessions to inform contractors of noise sensitivities

Table 10 Noise Control Measures

5. Monitoring and Maintenance During Construction

As part of the control measures, monitoring by the relevant contractor will take place as detailed below.

- Verify the sound levels assumed for each of the major items of equipment, and assess the effectiveness of noise control measures relative to the controls listed in this plan.
- During the first 2 months, every two weeks, to check ongoing compliance with the construction noise criteria.
- If required, in response to construction noise-related complaints.

Following each noise survey, the results will be reported on the Contractors' survey report template, and any issues discovered will be investigated. Results will be recorded and provided to the client, including any non-conformances.

Any control measures requiring maintenance or adaptation to allow construction tasks to occur shall be identified and implemented by the Environmental Advisor to ensure continual compliance.

5.1 Noise Instrument Monitoring Method

Noise monitoring shall be conducted by the contractors' staff in accordance with NZS 6801:2008 and NZS 6803:1999.

Noise monitoring will be conducted using the dedicated sound level meter kit detailed in Table 11 below which will be stored in the Contractors main site office for the duration of the project. The calibration will be verified by an accredited laboratory annually and the sound level meter and microphone biannually.

Equipment	Make	Model	Serial	Last verification
Sound level meter				
Software				
Microphone				
Calibrator				
Wind shield				
Tripod				
Other				

Table 11 Sound Level Meter Kit

An example of a record sheet is provided below:

Element Inspected	Frequency	Inspection details

If noise monitoring indicates that project noise criteria are being exceeded, and that was not anticipated in the schedule of equipment (Section 5) for the activity/location, then the management schedule will be immediately reviewed. A separate noise plan for this location will then be prepared if one doesn't already exist.

6. Stakeholder Engagement

A key aspect of this construction noise management plan is stakeholder engagement. The site contact for the public for the duration of the works will be the MCWF Project Director. There will be the following communication with the community regarding construction noise issues:

- There will be a contact number available on site, and this number will be prominently displayed at the entrance to the site so that they are clearly visible to the public.
- Prior to the works starting a letter drop will be distributed to all neighbours noted in Table 5
- The Community Liaison Group will be engaged to review this plan.
- Further information will be regularly provided to the affected neighbours with an update on the progress of the works, and the specific activities (including locations) due to be undertaken next. This may be provided by email updates and website updates.
- Prior to any particularly noisy processes identified in a construction noise management schedule, the affected neighbours will be contacted individually. Neighbours will be informed why the night works are required as well as the proposed timing of the specific works and where practicable any times which are particularly sensitive for neighbours will be avoided.

7. Training – On-site Personnel

Site personnel will undertake a site induction, so they are aware of the project consent conditions. Separate to the site induction and for personnel that are operating any plant within the vicinity of the nearby affected parties, further specific training will be undertaken outlining the Resource Consent conditions and this noise management plan.

Any site personnel who will be responsible for monitoring noise levels will be specifically trained in the use of the monitoring equipment.

8. Complaints

8.1 Complaints Process

The Consent Holder shall establish and publicise contact details for a liaison officer, so that members of the local community have a specified and known point of contact should they wish to raise any issues that may arise during construction and operation of the wind farm. A logbook detailing all calls and any action taken shall be kept and made available to Hurunui District Council on request.

Detail MCWFL Complaints process

1. Complaint issued via
    a. Website https://www.mtcasswindfarm.co.nz/contact-us,
    b. Phone 0800 309080 - Greg Gummer Project Director / liaison officer
    c. Direct engagement from site staff via contact details provided at the project notice board at the site entrance.
    d. Hurunui District Council 03 314 8816
2. MCWFL direct complaint to the relevant contractor or address inhouse if operational
3. Record complaint on complaints register at noted in 8.2 below
4. Rectify issue
5. Provide feedback and closes out on register

Depending on the nature of the complaint the initial response could be to immediately cease the activity pending investigation. However, in most it might not be practicable to provide immediate relief. The complainant, council and the client will be informed of actions taken. Contact details for council are recorded in the overall construction management plan.

Where the initial response does not address the complaint, further investigation, corrective action and follow-up monitoring shall be undertaken as appropriate. The complainant, council and the client will be informed of actions taken.

8.2 Complaints Register

A register for any complaints about the construction activities and operation of the wind farm received by the Consent Holder including complaints in relation to traffic, noise, dust, shadow flicker or blade glint. The register shall record, where this information is available:

- The date, time and duration of the incident that has resulted in a complaint.
- The location of the complainant when the incident was detected.
- The possible cause of the incident.
- Any corrective action undertaken by the Consent Holder in response to the complaint, including timing of that corrective action.
- The date and details of the response given to each complainant.

The complaints register shall be available to the Council and the Community Liaison Group at all reasonable times upon request.

Within 5 days of receipt of any complaint in accordance with condition [0155], the Consent Holder shall advise the Hurunui District Council of the details of any complaint received and, where appropriate, of any remedial or corrective action taken, including the response provided to the complainant.

A template of this register is available in the Construction Management Plan Appendix A

Appendix I

B6 Traffic Management Plan

Mt Cass Wind Farm
Traffic Management Plan

Revision 6 – 22 March 2023

This document has been prepared for the benefit of Mt Cass Wind Farm Ltd (MCWFL). No liability is accepted by this company or any employee or sub-consultant of this company with respect to its use by any other person. This disclaimer shall apply notwithstanding that the report may be made available to other persons of an application for permission or approval to fulfil a legal requirement.

Revision History

Version	Description	Date	Prepared by	Approved By
Rev 1	Draft	03 /03/21	HW	SB
Rev 2	Updated Draft	16/04/21	NT	SB
Rev 3	MCD Input	1/12/22	DK	MC
Rev 4	MCD update post review comments	22/12/22	DK	MC
Rev 5	MCD update post review comments	01/03/23	DK	MC
Rev 6	Post CLG Review, and recent Transwaste discissions and final submission.	24/03/23	MC	GG

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1. Introduction

1.1 Purpose

The purpose of this plan is to inform people involved in the Mt Cass Wind Farm how to control traffic and to comply with the requirements of the HDC resource consent HR070250 and any other regulatory requirements during the construction works. The plan covers the construction of the wind farm.

1.2 Construction Traffic Management Plan Overview

The Traffic Management Plan is primarily the responsibility of the Project Director and begins with hazard awareness and risk minimisation.

The plan sets out Traffic Management risks and associated management processes to mitigate the identified Project Risks associated with construction traffic and how the relevant resource consent conditions identified in section 2 will be met.

During construction, the relevant Contractor engaged by MCWFL will be responsible for ensuring that this plan is correctly implemented and will review all documentation relating to this plan and their respective scope of works before it is finalised and issued. This TMP, as part of the overall CMP, is envisaged to remain a working document throughout the Project and inform all associated traffic management activities.

As the detailed design progresses the site-specific plans will be developed in to accommodate the scope of works.

Site induction for all personnel must include a briefing on this plan, including the main content of this plan and any SOPs relevant to the task being performed.

This plan forms part of the Projects Construction Management Plan (CMP) and must be read in conjunction with the CMP.

1.3 Project Overview

The project consists of building 7.5 km of access tracks along the Mt Cass Ridge Line to access the 22 WTG locations shown in Figure 1 below.

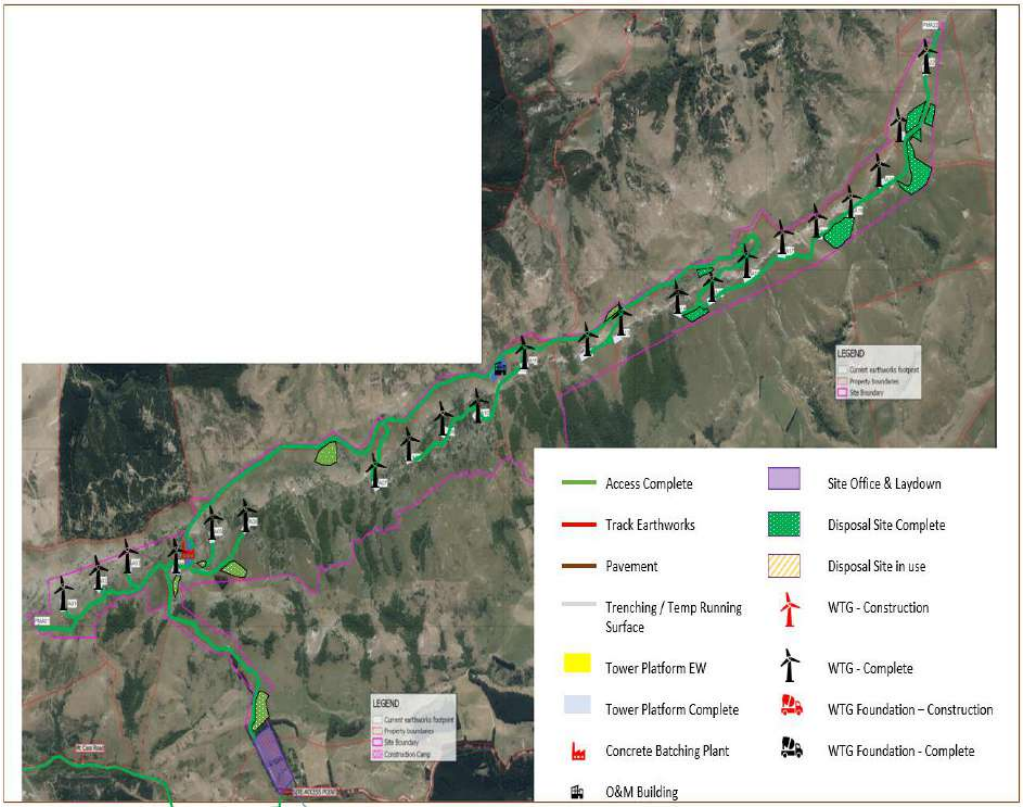

Figure 1 Mt Cass Wind Farm Schematic

The work on the Mt Cass site involves the earthworks and drainage to construct the access tracks from Mt Cass Rd to the WTG locations.

A concrete batching plant will be established at the consented location on the ridge line and will be used to pour the tower foundations.

The turbines will then be transported to a construction yard at the corner of Mt Cass Rd and Symonds Rd, then from here to their final locations on the ridge line.

Mt Cass road will be upgrade for this project from the Kate Valley Turn Off to the Site Entrance at Mt Cass Station. The scope of the work that affects traffic is detailed in section 4 of this plan.

1.4 Project Location

The Mt Cass Wind Farm (MCWF) project is located east of Waipara in North Canterbury and is 15km northeast of Amberley, New Zealand.

The location map in Figure 2 provides the sites location in relationship to Christchurch.

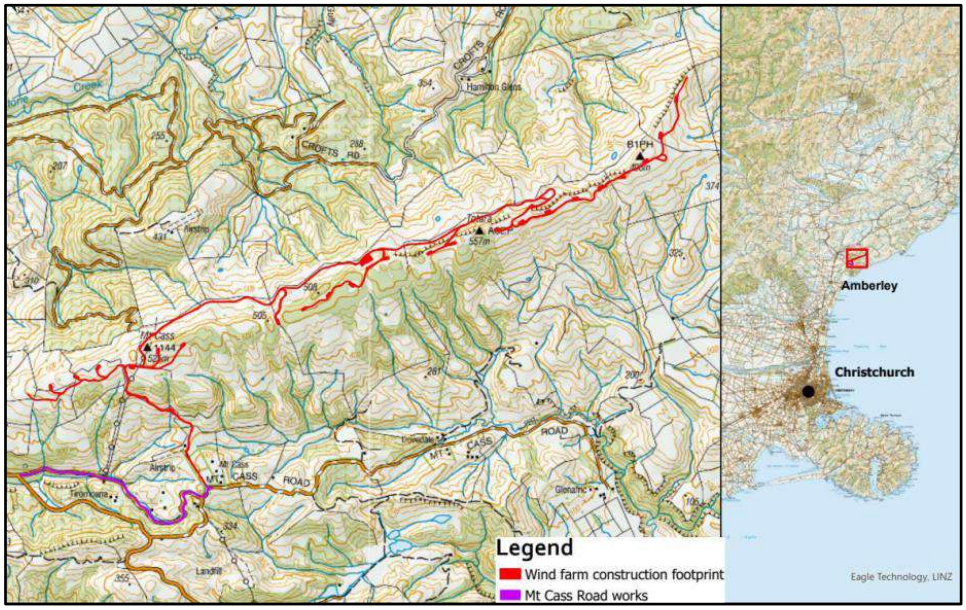

Figure 2 Mt Cass Wind Farm Location

The project is accessed from State Highway One via Mt Cass Rd. Mt Cass Road services the Kate Valley Land Fill and is a two-way sealed Road from the State Highway to the Kate Valley Turn off.

This section of the Mt Cass Rd has an estimated ADT is 240 and HVC is 50%.

From the Kate Valley turn off to the site entrance at Mt Cass Station the road becomes a narrow two-way road with unsealed sections, a single lane bridge and tight bends on a steep hill section.

This section of the Mt Cass Rd has an estimated ADT is 120 and HVC is 11%.

This section of road provides access to the local residents (Predominantly Farms), the Tiromoana Bush Walkway which will remain open during the project and beach access.

1.5 Construction Access Hours

Most of the construction work will take place between 07:00 to 19:00 Monday to Saturday.

Sundays, Public Holidays and agreed Christmas shut down periods will not be worked.

There will be the following requirements for night works

1. Concrete pours – These should not influence traffic management as they are off the road network and concrete is batched on site.
2. Delivery of turbine components, these will be carried as per the permitted requirements detailed in section 4 of this plan.

Access to the site will be restricted by the use of locked gates during non-schedule working hours.

1.6 Roads Used with in the HDC Region

Roads in the Hurunui District to be used by heavy construction traffic are:

Road Name	ADT	HCV (%)
State Highway 1 (Glasnevin Rd)	8,941	18.3%
State Highway 1 (Amberley)	11,142	12.9%
State Highway 1 (Leithfield)	10,319	15.1%
Mt Cass Road (SH1 to Kate Valley) *	240	49.6%
Mt Cass Road (Kate Valley to Site Access)	120	11.0%
Symonds Rd	20	10.0%
Amberly Beach Rd	900	8.1%
Webbs Rd	220	10.0%
Double Corner Rd	320	6.3%
Hursley Terrace Rd	350	11.0%

Table 1 HDC Roads to be used with ADT and % Heavy Vehicles (Source Mobileroad.org)

* *Information supplied from Kate Valley shows that they estimate 355 truck movements per day.*

1.7 Estimated Construction Traffic

Construction traffic will have peaks and troughs throughout the duration of the project depending on the tasks being carried out. The MCWFL has carried out initial estimates of construction traffic and estimate that the volume of heavy vehicles will increase by 26 vehicles a day or 128 per week on average and will peak at just over 300 movements a week. This is demonstrated in graph in Figure 3.

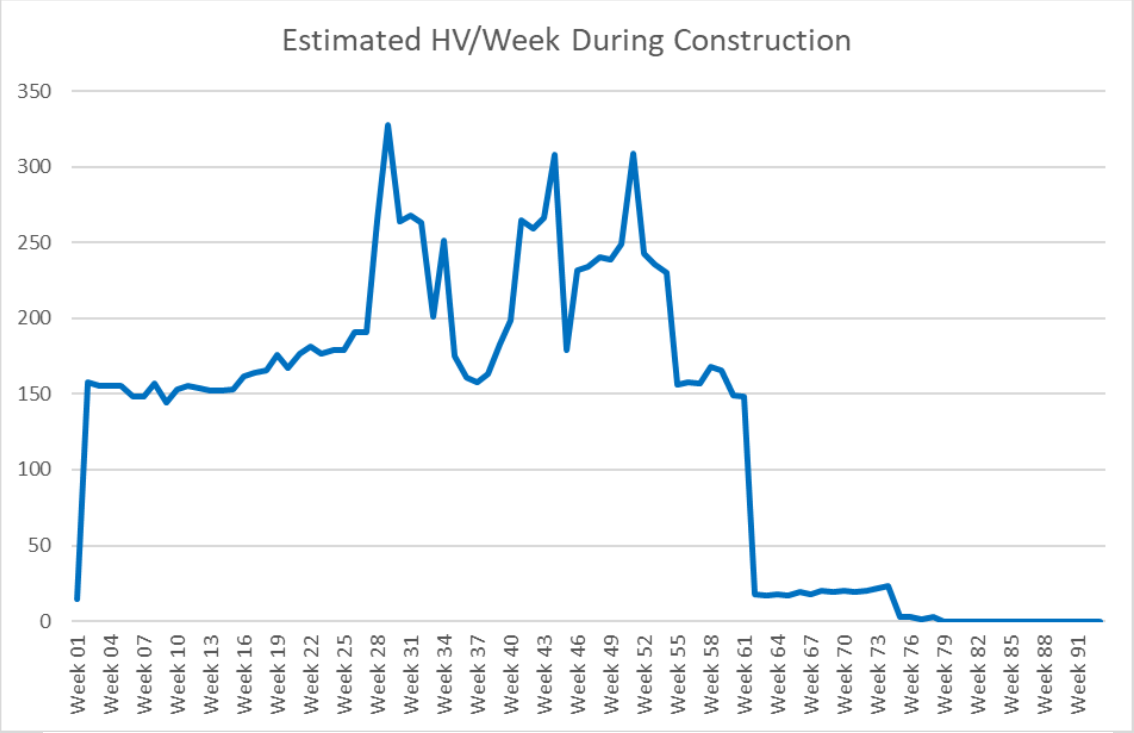

Figure 3 Estimated Heavy Vehicle Moments against Construction Duration

2. Consent Conditions

Appendix C of the Construction Management Plan includes a matrix of all consent conditions that are included in the Construction Management Plan and Subplans. Table 2 contains the specific conditions that pertain this plan.

Consent Conditions	Control for Consent Conditions
Construction Construction Management Plan	
31) The objective of the Construction Management Plan shall be to set out the practices and procedures to be adopted to ensure compliance with consent conditions and to meet the following objectives:	
i To ensure matters relating to the extent and timing of construction traffic, and the traffic management provisions to be put in place during this time, achieve a safe and efficient road network;	This Plan
32) The Construction Management Plan shall include, but not be limited to:	
h. Management of construction traffic as provided for in condition [63].	Set out below
Traffic Management 63) The Construction Management Plan shall set out in detail matters relating to the extent and timing of construction traffic activity, and temporary traffic management provisions to be put in place during construction, and shall:	Any individual TMP's will be put in place and approved by the relevant authorities. All vehicle movements including over size deliveries will be communicated with local landowners and Transwaste.
a. Be prepared after consulting with Transwaste Ltd, The Hurunui District Council and the New Zealand Transport Agency and shall implement the outcome of that consultation;	MCWFL to confirm Regular consultation will continue with Transwaste to ensure our presence minimises their operations. This may involve completing night works to move over dimensional or oversized loads or working in off peak periods where volumes are lower Waka Kotahi will be consulted, and the necessary permits will be gained by SGRE.

Consent Conditions	Control for Consent Conditions
	HDC will be consulted during the generation of TMP's for any public road interface.
b. Set out the nature and timing of local physical improvement works, if necessary, to be undertaken on Mt Cass Road at the Consent Holder's expense or as otherwise agreed with the Hurunui District Council;	Refer to sections 3.2 Mt Cass Rd Upgrade 8 Programme of Construction Works 6.3 Mt Cass Road
c. Set out in detail the sharing of maintenance costs for the section of Mt Cass Road between State Highway 1 and the entrance to the Kate Valley Landfill site during wind farm construction. This cost sharing arrangement will be negotiated by the Consent Holder and Transwaste Ltd and the outcome forwarded to Hurunui District Council.	MCWFL have commenced discussions with Transwaste to reach a fair agreement. The cost share agreement as listed in condition 63 c) will be in place prior to commencing onsite and the outcome will be sent to HDC.
d. Detail the intended traffic arrangements and provisions for the delivery of over-weight and over-dimensioned major components to the site, including any time restrictions for the movement of overweight and over-dimensioned vehicles; and	Refer Section 4
e. Detail the management of construction traffic (other than component delivery by over—dimension and overweight vehicles) during the construction phase. This shall include, as a minimum: Identifying all roads within the Hurunui District that are to be used by heavy construction traffic. The provision for dust suppression, if necessary, on the routes used for the transport of goods to the site so that safe stopping sight distance is maintained at all times.	Refer Section 1.6 Refer to section 6.3.8 and Dust Management Plan

Consent Conditions	Control for Consent Conditions
Ensure that all heavy construction traffic within the Hurunui District shall utilise those roads which have been identified to be used by heavy construction traffic in the certified Construction Management Plan. Identify the management practices to be adopted to avoid conflict with other users on the affected roads, including the safety of pedestrians and cyclists.	Refer to section 1.6 of this plan. Refer to section 6 of this plan

Table 2 Consent Conditions Relating to Traffic Management

3. Scope of Works

3.1 Scope Overview

The project is being delivered under a multi contractor model which is overseen by MCWFL. Under this model each contractor has individual responsibility for their traffic management requirements and permitting of over dimensional and overweight loads. The flow chart in Table 3 indicates the different scopes of work per contractor and the areas of traffic management required.

Mt Cass Wind Farm Limited			
cBoP Contractor	eBoP Contractor	Supply & Install Contractor	Unallocated
Site Access at Construction Laydown Construction Access to Mt Cass Windfarm access track Earthworks and Concrete Batching plant OD Loads	OD Loads (Provisionally prefabricated switch room) Electrical cable installation across Symonds Rd to the construction yard.	OD Loads – WTG components from Timaru Port and crane (location TBC)	Mt Cass Rd Upgrade This scope is still to be designed and the package let to a contractor.

Table 3 Contractor Scopes of Work

The main construction of the wind farm is located in farmland on Mt Cass and will not directly affect the road network.

The construction works that will require traffic management are shown in Figure 4 below.

Figure 4 - Overview of Construction Activities.

The main construction activities which will require traffic management are,

1. Construction yard at the junction of Mt Cass Rd and Symonds Rd. This will be predominantly built outside of the road reserve except for the site entrance.
2. Mt Cass Rd requires modifications to make it suitable for the large deliveries required for the project. At the time of writing, this section of the project was still being designed and the full scope is not known, 4.2 provides a preliminary indication of the scope of work. This plan takes this into account and will be updated to reflect the final traffic management requirements.
3. The main site access to the wind farm shown in purple will be built outside of the road reserve except at the site entrance. The site entrance is an existing entrance way that will be widened, and site fencing / gate installed.
4. Civil and electrical deliveries will require management on the section of Mt Cass Rd shown in red until the upgrade works are carried out to ensure that vehicles can safely pass each other.
5. Wind turbine deliveries will require traffic management from the construction laydown through to the site on both the yellow and red sections identified in Figure 4.
6. Wind turbine deliveries from the Port of Entry (Timaru) to the construction yard.

3.2 Mt Cass Rd Upgrade

The section of Mt Cass Road between the Kate Valley turnoff and the site entrance will be modified to allow negotiation off the tight bends for the over-sized vehicles needed for the project. At the time of writing of this plan MCWFL are still designing this work and are yet to let the construction scope to a contractor. Once the full scope is defined, a traffic management plan will be issued to HDC for approval. The traffic management will be agreed between the upgrade contractor and the civil contractor to ensure that both packages of work can take place concurrently under the respective TMPs.

Figure 5 to Figure 7 on the following pages provide a specimen design to indicate the likely scope of the works, in addition to the key outcome of a 5.2m road width being achieved.

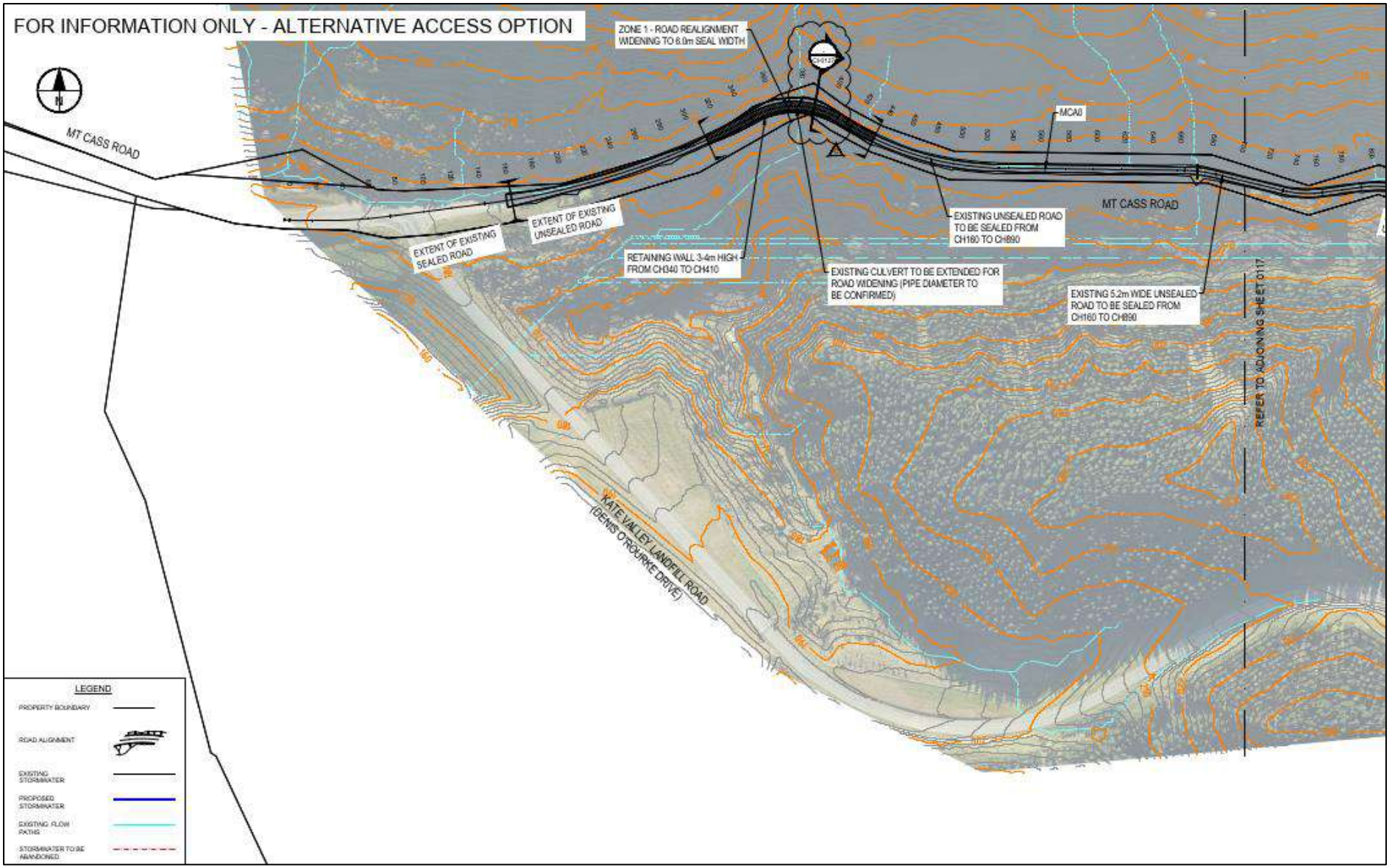

Figure 5 Mt Cass Rd Upgrade Section One.

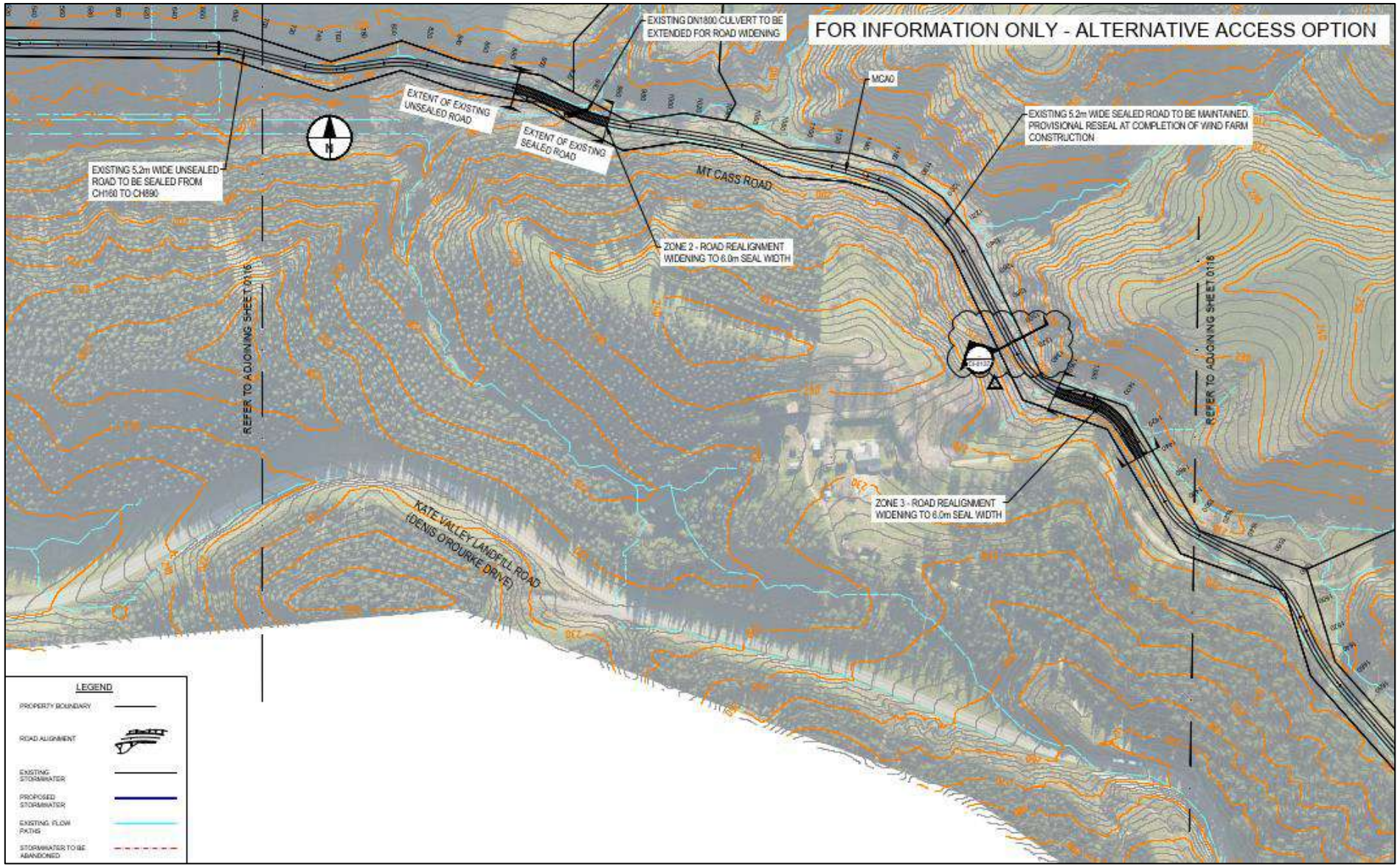

Figure 6 Mt Cass Rd Upgrade Section Two

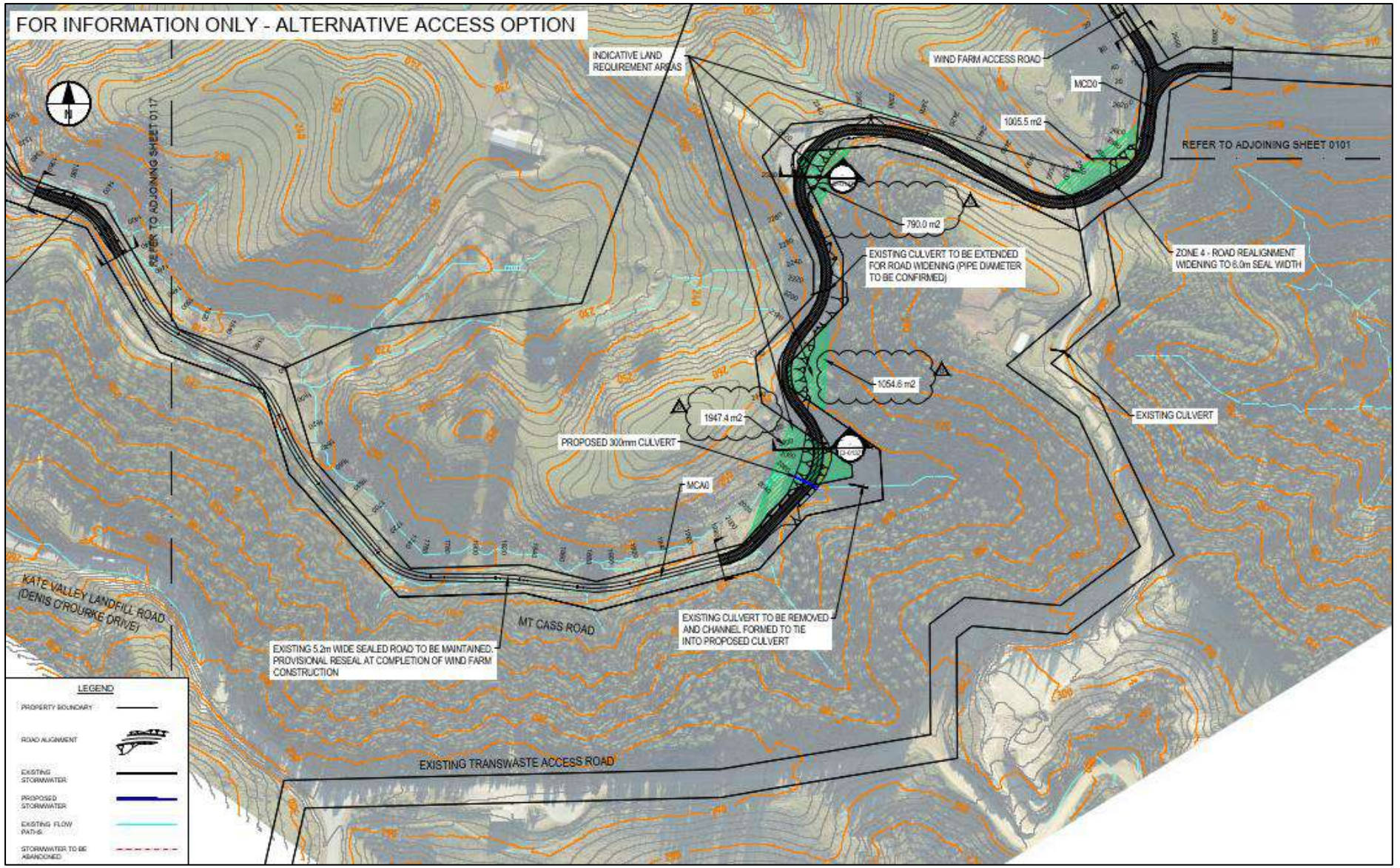

Figure 7 Mt Cass Rd Upgrade Section Three

3.3 Symonds Rd Construction Yard

At the intersection of Mt Cass Rd and Symonds Rd a construction yard is to be built to accommodate the wind turbine deliveries. The construction is expected to included earthworks, construction of a hard stand area and main site access onto Mt Cass Road. During construction it is proposed that the site will be accessed via Symonds Road to minimise disturbance on the busier Mt Cass Rd. The construction area and site access points are shown in Figure 8 and Figure 9 respectively.

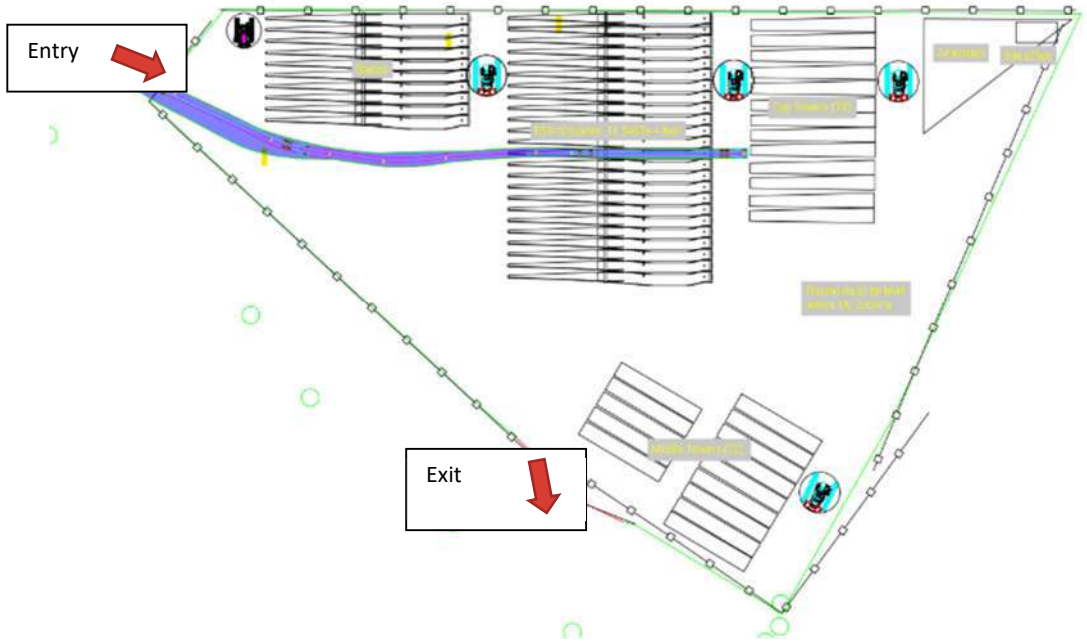

Figure 8 Symonds Road Construction Yard

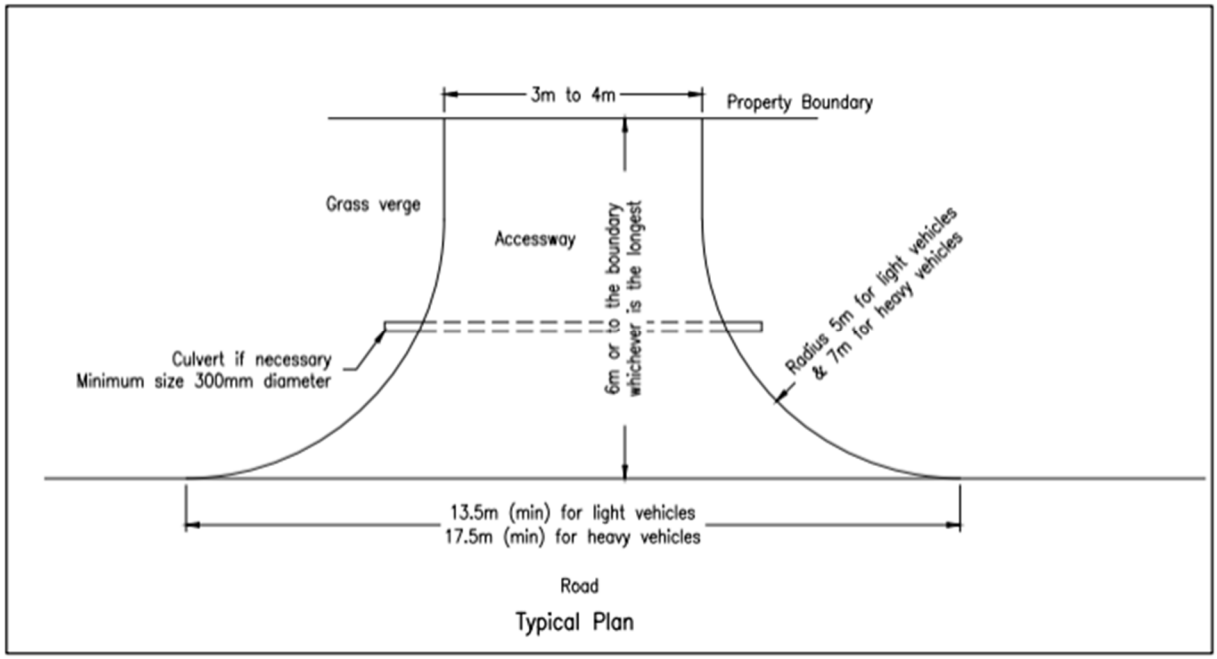

Figure 9 Indicative Symonds Construction Yard Site Entrance(HDC Development Engineering Standard R18)

3.4 General Deliveries

During the construction period, in addition to personnel travelling to and from work and excluding any oversize deliveries there are likely to be following traffic movements:

- Deliveries of containers and cabins (site compounds) – Flat deck trucks
- Deliveries of mobile plant (including batching plant) – Low Loaders
- Deliveries of water for construction – Water Tankers
- Deliveries of fuel – Fuel Tankers
- Deliveries of roading aggregates – Truck Trailers
- Deliveries of construction materials - Various
- Cranage – Low Loaders
- Access equipment – Flat Deck truck

4. Delivery of Over-Weight and Over-Dimensioned Components

4.1 Summary

All over-sized components will be brought to site and placed in a lay down area at the intersection of Mt Cass Road and Symonds Road, at which point the load will be transferred to a site trailer before being transported up the hill to its installation location.

The component delivery route from Timaru has been investigated in the concept phase of this project by Rex J Andrews Ltd. Based on a 59.5m blade the route has been assessed to be feasible.

Once the final design of the WTG components is completed the transport assessment will be finalised and the oversized deliveries planned in conjunction with the relevant authorities and the necessary permits/arrangements put in place prior to the loads being moved.

This process will take place at least 12 months before the deliveries are planned to ensure that there no conflicts with road construction on the proposed route and the traffic management required for it.

This TMP will be amended to reflect these agreements and the approved TMPs and Permits appended to this TMP.

The delivery timing of over-weight and over-dimensioned items will be programmed to meet Waka Kotahi NZ Transport Agency travel time restrictions.

The delivery of these items will not occur within the following times:

Category 2: No Travel Monday to Friday between 7.00am and 9.00am and 4.00pm to 6.00pm. Saturday and Sunday between 10.00am to 1.00pm and 4.00pm to 6.00am

Category 3: No Travel Monday to Friday between 7.00am and 9.00am and 4.00pm to 6.00pm. Saturday and Sunday between 12.00pm and 6.00am

Category 4b (Blades): Same restrictions as Category 3 but with additional pilots required subject to Waka Kotahi and local Authority approvals.

Note: Pilots to be provided as per above travel categories

4.2 Proposed Mt Cass Weekly Delivery Schedule Port of Entry to Construction Yard.

Table 4 below provides the current proposed delivery schedule per day for the WTG components from the Port of Entry (Timaru) to the Symonds Rd Construction Yard. This is to be confirmed but has been developed with discussion with Transwaste and the Turbine suppler.

Day	Component	Depart Timaru	Target Site Laydown/Hardstand Noting Transwaste discussions	Restricted travel from Laydown to Hard stand (ie blades and tower sections only)
Mon	Tower	Monday - 0130	Monday - 0630	7am- 9am
	Blade	Monday - 0200	Monday - 0630	7am- 9am
	Tower	Monday - 0130	Monday - 0630	7am- 9am
	Blade	Monday - 0200	Monday - 0630	7am- 9am
Tues	Nacelle	Tues - 0130	Tues - 0630	
	Blade	Tues - 0200	Tues - 0630	7am- 9am
	Tower	Tues - 0130	Tues - 0630	7am- 9am
	Blade	Tues - 0200	Tues - 0630	7am- 9am
	Generator	Tues - 0130	Tues - 0630	
Weds	Hub	Weds - 0130	Weds - 0630	
	Blade	Weds - 0200	Weds - 0630	7am- 9am
	Nacelle	Weds - 0130	Weds - 0630	
	Blade	Weds - 0200	Weds - 0630	7am- 9am
Thurs	Tower	Thurs- 0130	Thurs - 0630	7am- 9am
	Blade	Thurs - 0200	Thurs - 0630	7am- 9am
	Tower	Thurs- 0130	Thurs - 0630	7am- 9am
	Blade	Thurs - 0200	Thurs - 0630	7am- 9am
Friday	Hub	Friday - 0130	Friday - 0630	
	Blade	Friday - 0200	Friday - 0630	7am- 9am
	Tower	Friday - 0130	Friday - 0630	7am- 9am
	Blade	Friday - 0200	Friday - 0630	7am- 9am
	Generator	Friday - 0130	Friday - 0630	

Table 4 Proposed Delivery Schedule

4.3 Symonds Rd Construction Yard to Site

The components of the wind turbines will be transported from the construction yard to the site outside of Kate Valley operating hours to avoid conflicts between the WTG movements and the Kate Valley deliveries.

See Appendix A for the proposed laydown area.

5. General Control Measures

5.1 Key Principles and Approaches

Traffic Management Controls (TMC) will be put in place to ensure matters relating to the extent and timing of construction traffic, and the traffic management provisions to be put in place during this time, achieve a safe and efficient road network based upon its use. This includes communication protocols.

Temporary Traffic Management (TTM) is governed by legislation, specifically the Land Transport Act 1998, which provides for the system of rules governing road user behaviour.

All TMC will be planned for and implemented in accordance with the following guidelines:

- Waka Kotahi Code of Practice for Temporary Traffic Management (CoPTTM)
- Traffic Control Devices Manual (TCD manual)
- Land Transport Rule: Vehicle Dimensions and Mass 2016
- Health and Safety at Work Act 2015

6. Site Specific Controls

6.1 Communication

In addition to the monitoring of the construction traffic prior to starting works on site, consultation will be undertaken with residents and businesses to understand traffic movements. This will be especially important for the Transwaste operations. During the development of this plan MCWF, Transwaste and Turbine Supplier have had proactive discussions and we understand where their peak traffic movements are likely to occur. In summary the current proposal is to restrict the delivery of blade and tower sections transport from the Symonds Road laydown area to Transwaste turn off. This restriction would exist between 7am to 9am Monday to Friday. All other componentry could be delivered during standard times as in general Transwaste concern is the slow moving over dimensional loads especially during their peak period.

During the delivery of the over dimensional loads a rolling road closure will be required for public safety and load protection. This will be developed into the traffic management plan.

Transwaste have advised that they would support having the ability to allow their trucks to follow the pilot vehicles, as well as allowing the transportation of multiple components in a convoy format from the Symonds Road lay down to Transwaste turnoff however this is subject to traffic management approval and transport logistics.

Residents on Mt Cass Rd directly affected by the traffic management will be consulted individually and specific arrangements put in place where needed. They will have site contact numbers to allow them to arrange operational requirements such as stock trucks for example.

Upon contract award the Community Liaison Group will be made aware of all likely construction movements to and from the work site through a review of the CMP and an overview presentation.

Any changes to the anticipated TMP will be communicated as and when they are known. If any formal TMP's are required that may affect neighbouring properties, then these will also be communicated on an as required basis.

All site personnel and deliveries will be made aware of the requirements of this plan and any formal TMP's that are applied on site. This will include all companies required to deliver materials or equipment to site being provided with a required delivery route instruction that includes a copy of this traffic management plan.

The following will be key stakeholders for consultation on any TMP's that are put in place:

- Emergency Services
- Local Residents - (Community Liaison Group)
- Transwaste
- HDC
- SH1 Service Station
- DoC (walkers – Mt Cass Walkway)
- Any other known user of Mt Cass Road
- The Mt Cass Wind Farm website will be updated for progress.

6.2 Symonds Rd Construction Yard

The traffic management diagrams (TMDs) referred to in this section can be found in Appendix B of this plan.

To minimise disturbance to Mt Cass Rd the construction yard will be constructed using access off Symonds Rd. A TSL of 50kph will be put in place during the construction of this temporary site access, this is shown in TMD 2 in Appendix B.

The yard can be constructed without encroaching onto Mt Cass Rd for the full scope apart from the tie in of the main site access into Mt Cass Rd. During this phase of the construction the site access layout in TMD 1 will be used.

During the tie into Mt Cass Rd, a TSL of 30Kph and stop / go or shoulder closures will be used for this section of work which is relatively short duration. Refer to TMD's 3 and 4.

Once the yard is constructed the Mt Cass Road access will be used for the duration of the project. This will be controlled using the layout in TMD 6 with site access signs. When over dimensional loads are being moved in or out of the yard this plan makes provision for a stop / go layout if additional controls are required by the S&I contractor. This is shown in TMD 5.

6.3 Mt Cass Road

The Mt Cass Road section from the Kate Valley turn off to the site access at Mt Cass Station consists of a narrow road with sharp bends, some unsealed sections, and a narrow one lane bridge. It is anticipated that some enabling works will be required to facilitate this scope. This could include tree removal, pruning and localised road widening.

The key risks are large construction vehicles meeting each other or other vehicles on the narrow sections of the road.

Additionally, the contractors constructing the wind farm and the contractor carrying out the Mt Cass Rd upgrade works will need to co-ordinate their traffic management during the road upgrade which is forecast to take place between November 2023 and October 2024.

The following are the key controls proposed for the duration of the project.

6.3.1 Restricted Access

During the project there will be varying levels of restriction for safety reasons, a 30 km/hr temporary speed restriction will be in place from after the Kate Valley turnoff to the construction site entrance.