



HOKONUI ENERGY

WIND FARM

TRANSPORT FEASIBILITY REPORT

Report Amendment Register

Issue	Issue/amendment details	Date
1	For information	30 November 2025
2	Updated for MingYang MySE7.5-182 Turbine via Winton	30 March 2026

Name: Chris Cable

Position: Director

Date: 30/03/26

Contents

1	Introduction	3
2	Wind turbines.....	3
3	Transport Configurations	4
4	Southport	4
5	Route from South Port.....	6
6	Utilities.....	14
7	General Requirements.....	14
8	Overweight Permits.....	14
9	Conclusions	15
10	Limitations.....	15
11	Disclaimer.....	15
12	Appendix A	16

1 Introduction

Kina Consulting Engineers and Smith Crane and Construction have been engaged by Hokonui Energy Limited to conduct a feasibility study for transport of wind turbine components to Hokonui Windfarm in Southland.

We have investigated the transport feasibility based on components transported from SouthPort to the Northern site entry off Waimea Valley Road. Previous versions of the study investigated southern access options which we understand are no longer preferred by the client.

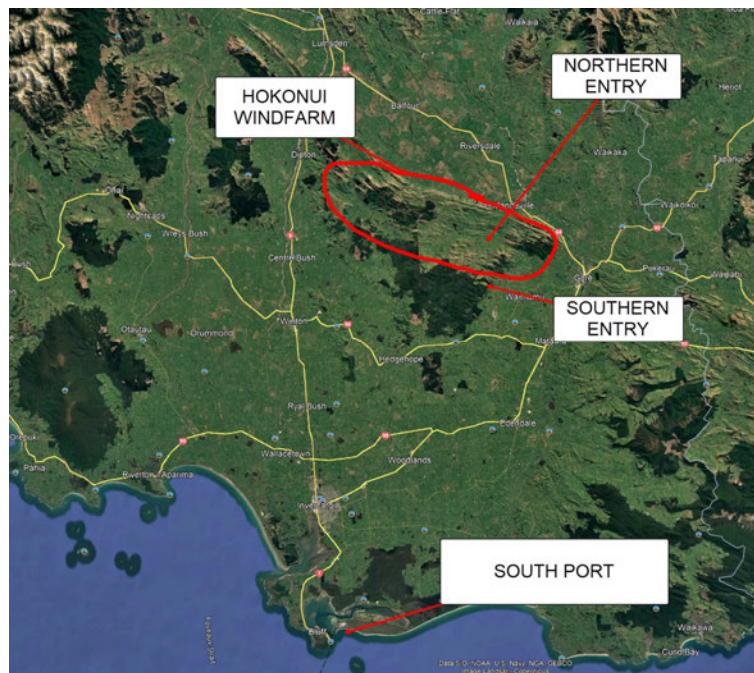


Figure 1 – Site Location

2 Wind turbines

This study is based on the Ming Yang MySE7.5-182 turbine components. The main components are:

- Drive Train – 7m x 3.8m X 3.71m – 91.8t
- Nacelle – 12.8m x 4.9m x 4.36m – 61.2t
- Hub – 4.8m x 4.43m x 4.24m – 53.36t
- Blade – 89m x 4.78m x 3.66m – 31.3t
- Transformers – 7.95m x 3.65m x 4.3m – 118.7t

Tower details have not been provided. We have assumed towers will be in the following ranges:

- Less than 95t each
- Less than 6m diameter
- Less than 36m total length
- Towers over 5m diameter are less than 22m long
- Tower over 5.5m diameter are less than 16m long

3 Transport Configurations

The proposed transport configurations that have been used in this study are shown in figure 2.

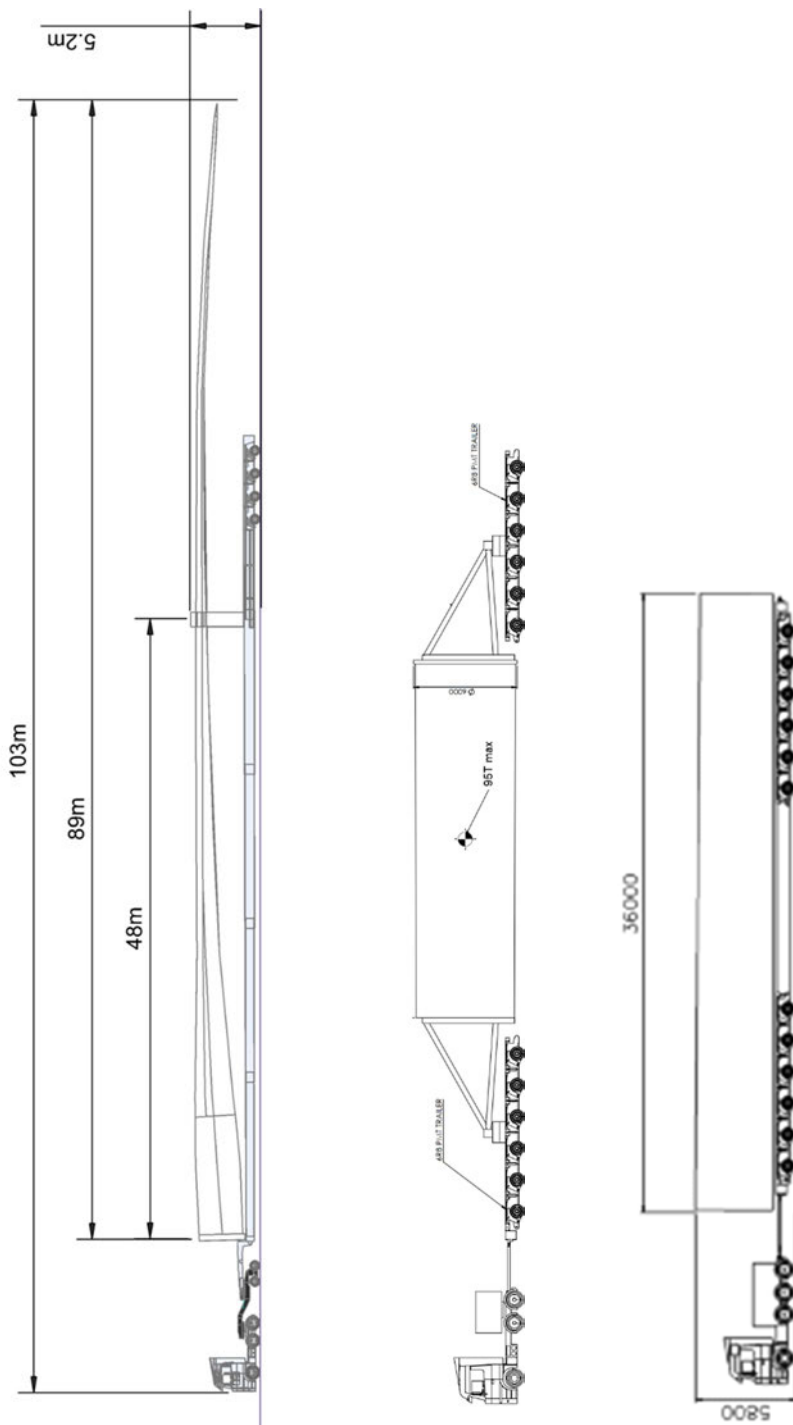


Figure 2 – Proposed Transporters

1. Faymonville wingmax (or similar) with dolly
2. 12 rows of 8 pmt transporter with bookends for towers over 5m
3. 12 rows of 8 PMT transporter with extension beam

Southport



Figure 3 – Southport

Berth 8 is the likely berth for wind turbine unloading and has been used for the Kaiwera Downs 2 project. 20,000m² of newly developed storage space is available at the Western end of site.

The bridge between the SouthPort berths and the mainland is a SouthPort asset and is therefore not included in the NZTA permitting scheme. Separate feasibility permits for this bridge are required to be coordinated direct with Southport. However, due to the expense of this process we recommend this is only undertaken once final selections of equipment are made.

Some localised changes to port facilities and gates may be needed to accommodate movements on the port. These potential modifications are beyond the scope of this study as they require detailed planning of the on-port logistics.

4 Route from South Port



Figure 4 – Route

Our recommendation is that all components are transported via the route indicated. This is summarised as: Southport, Shannon Street, SH1, SH6, Josephville-St Patrick Rd, SH94, Waimea Valley Road

We have investigated transport via Gore, however significant works would be required to the heavy vehicle diversion to accommodate the towers, and blades would not be possible. The transport via Gore would also require many complex corners with greater interaction with public vehicles and more disruption/noise for residents. By contrast, the route via Winton is relatively straight and hence reduces the complex interaction with other road users. Significant cornering is limited and outside of residential areas.

Areas presenting significant restriction to the transport are indicated in the key plan below and discussed in further detail in subsequent images.

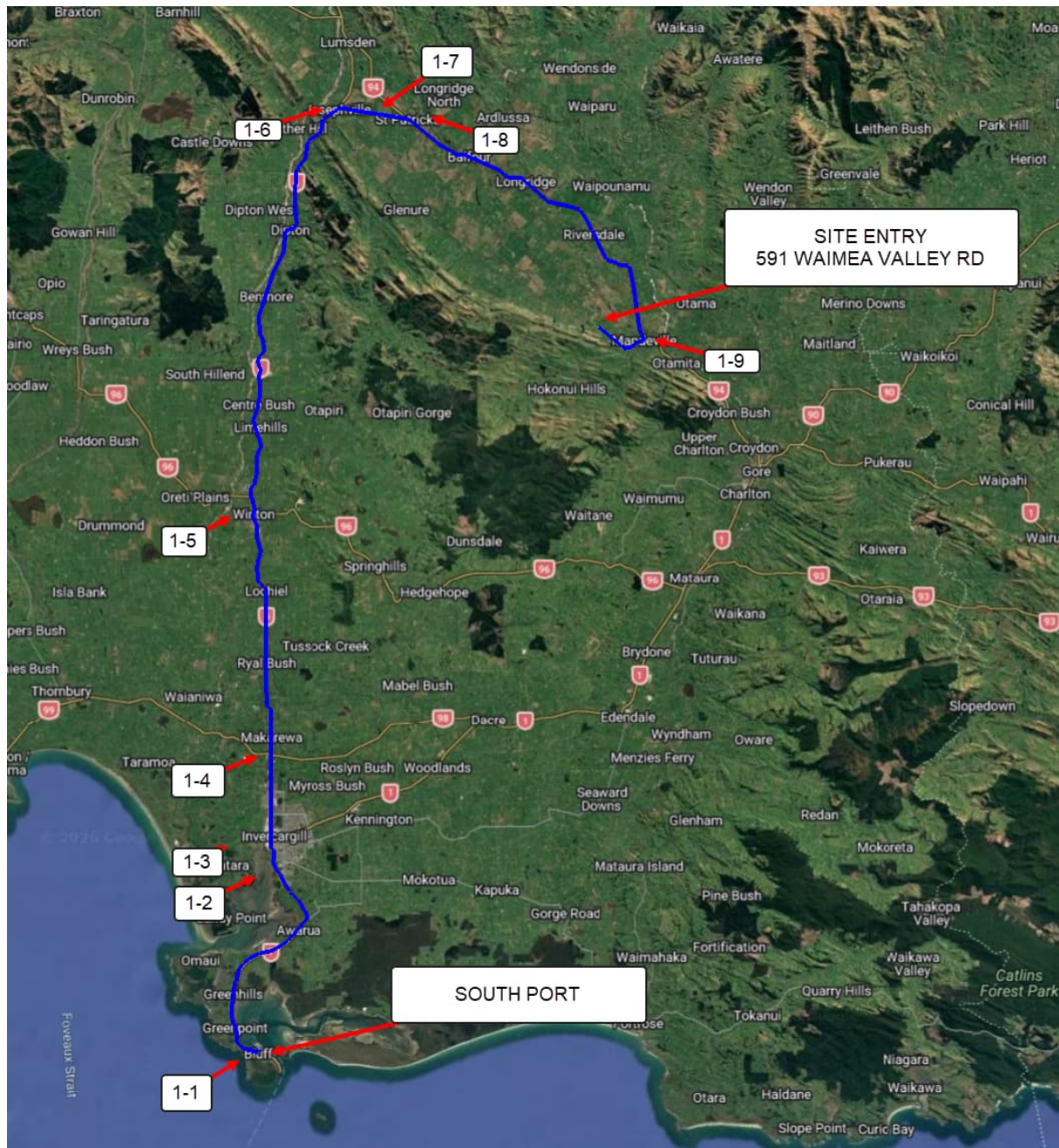
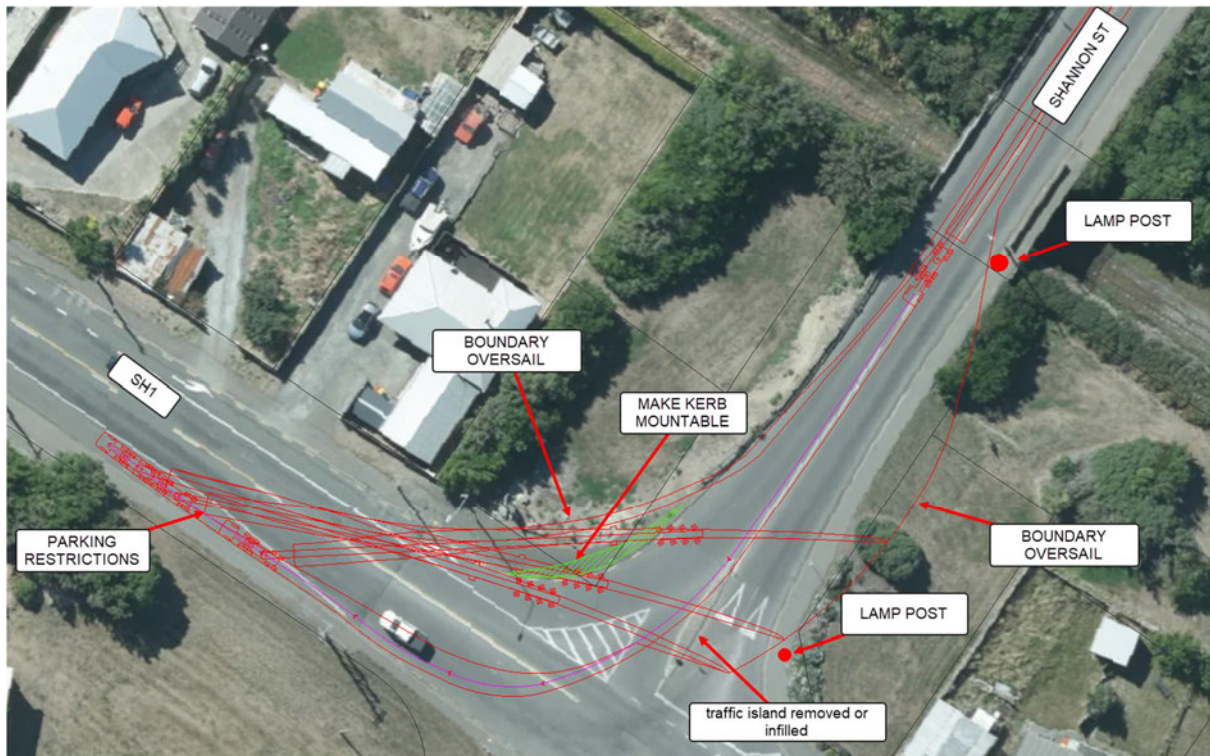


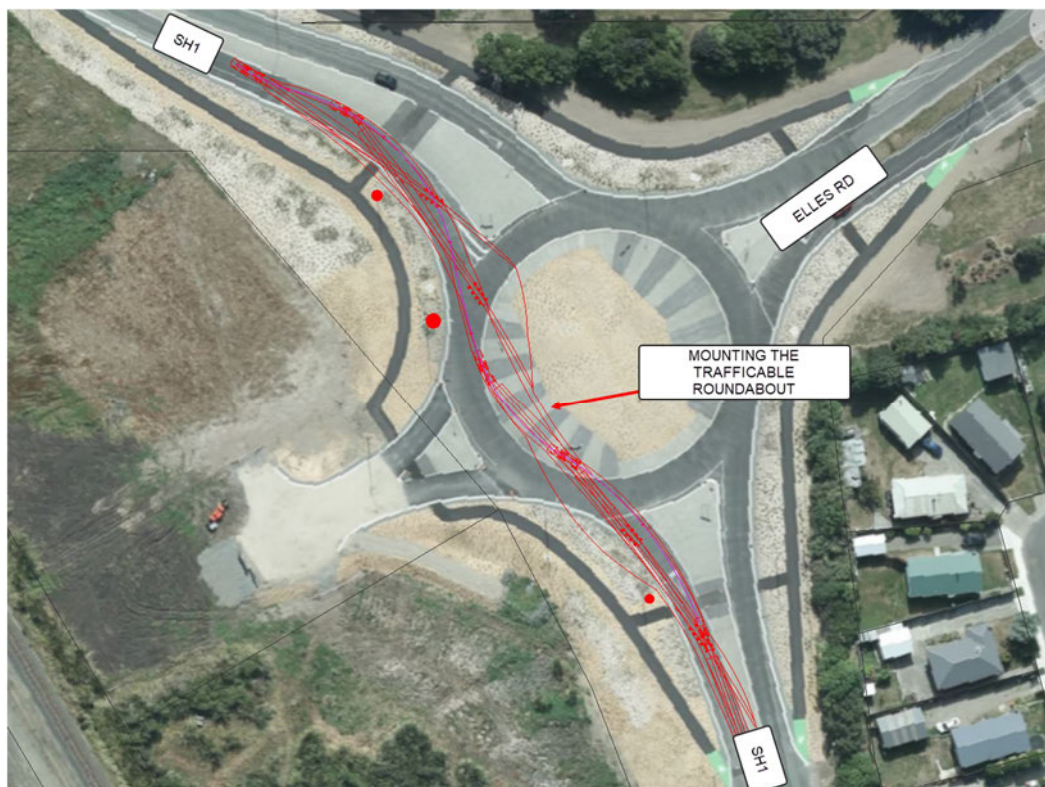
Figure 4 – Route Restrictions



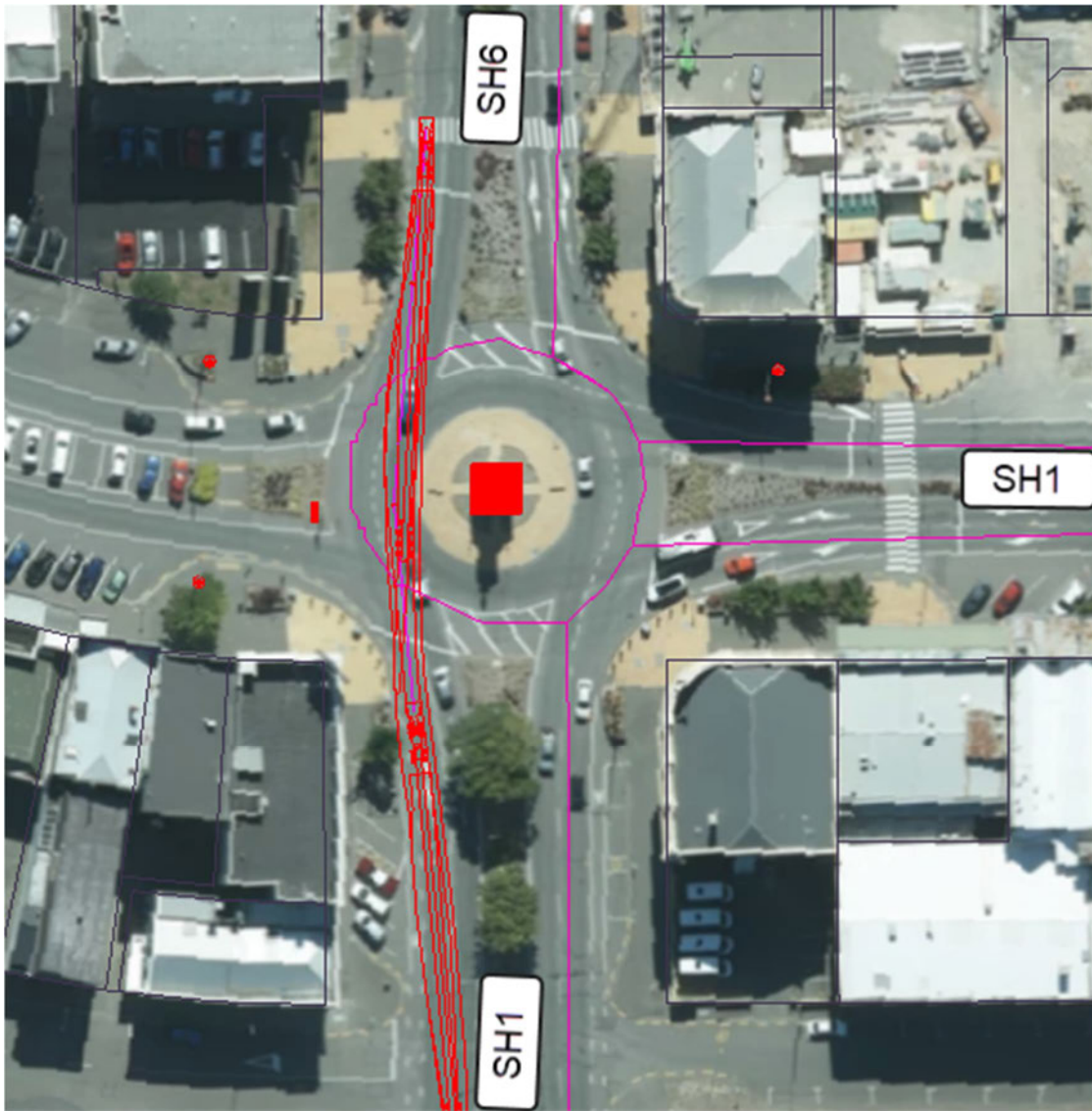
1-1 Shannon Street to SH1

The kerb on the inside of the corner will need to be mountable and the pavement will need to be able to take wheel loadings. Alternatively, the lamp post on the outside of the intersection could be moved. The blade transport requires oversailing property boundaries on the inside and outside of the corner requiring landowner approval.

The traffic island appears to be partly grassed. This should be made trafficable or the island should be removed, especially for the long heavy loads like transformers.

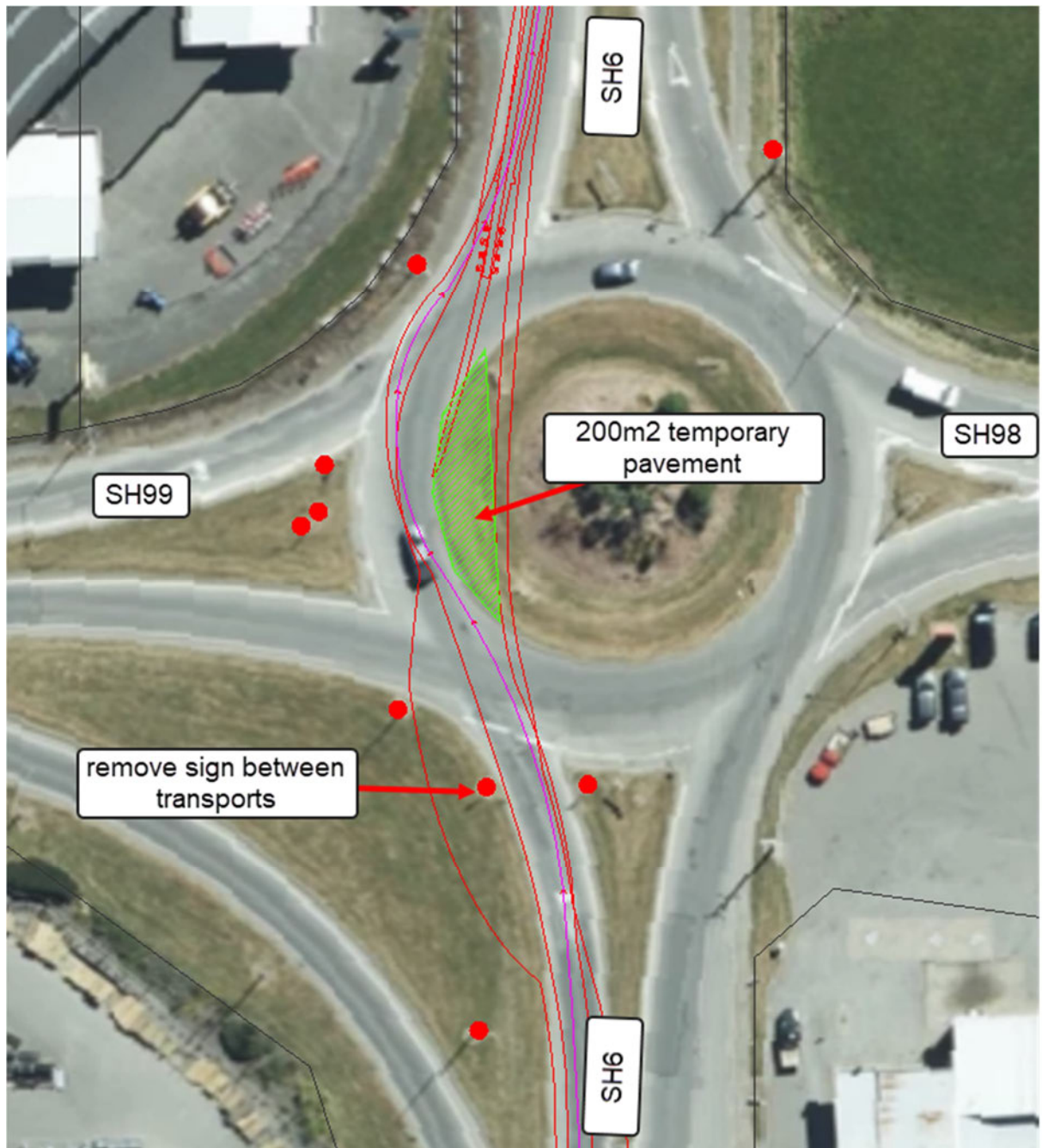


1-2 SH1 intersection to Elles Road (no works required)

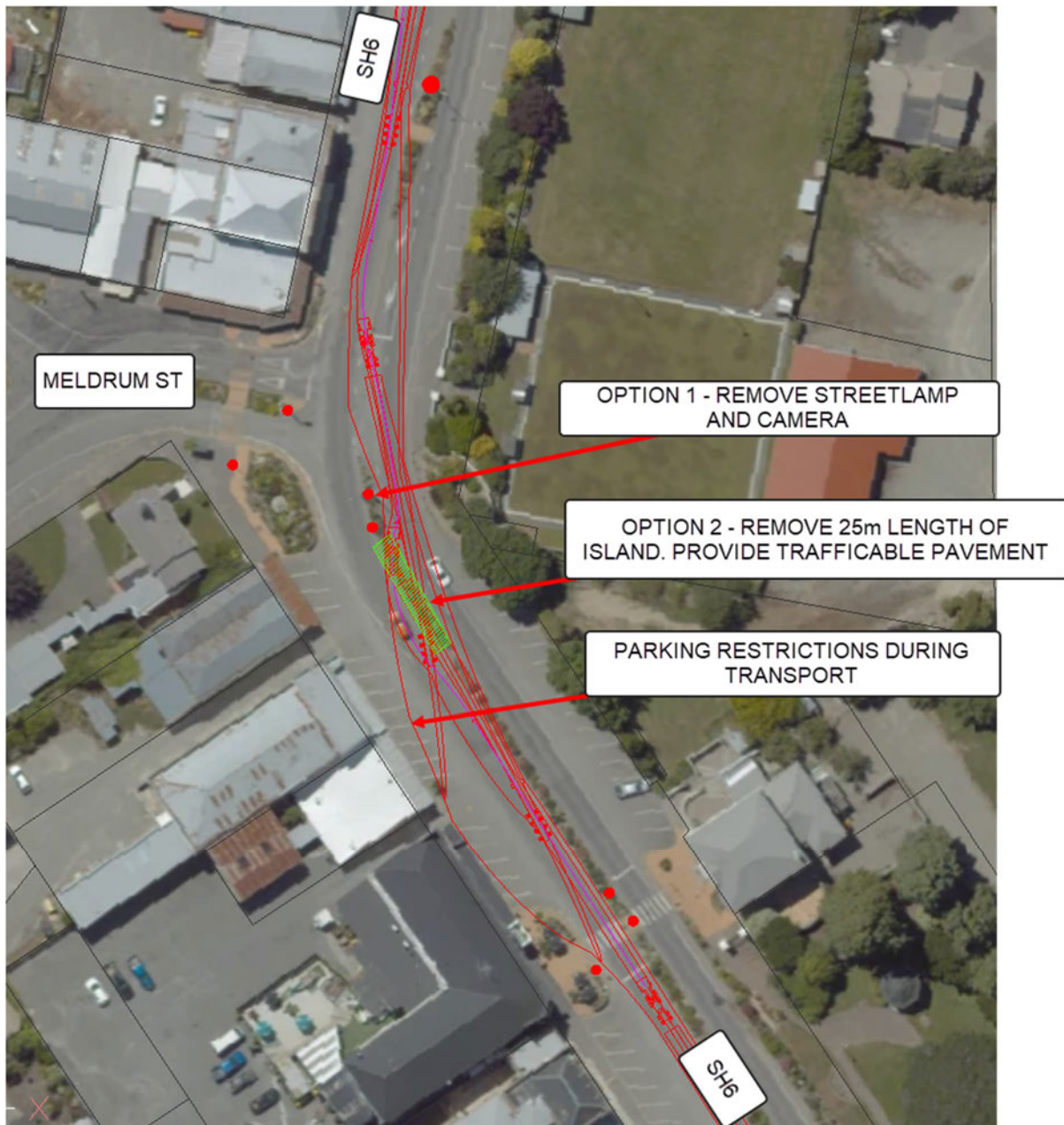


1-3 SH1 to SH6 intersection – Invercargill town center

This intersection is easily manageable for the blade trailer. Some tree trimming and temporary parking restrictions may be needed.



1-4 – Lorneville. Signage on island will need removing between transports and a pavement added along the Western edge of the roundabout.



1-5 – Winton

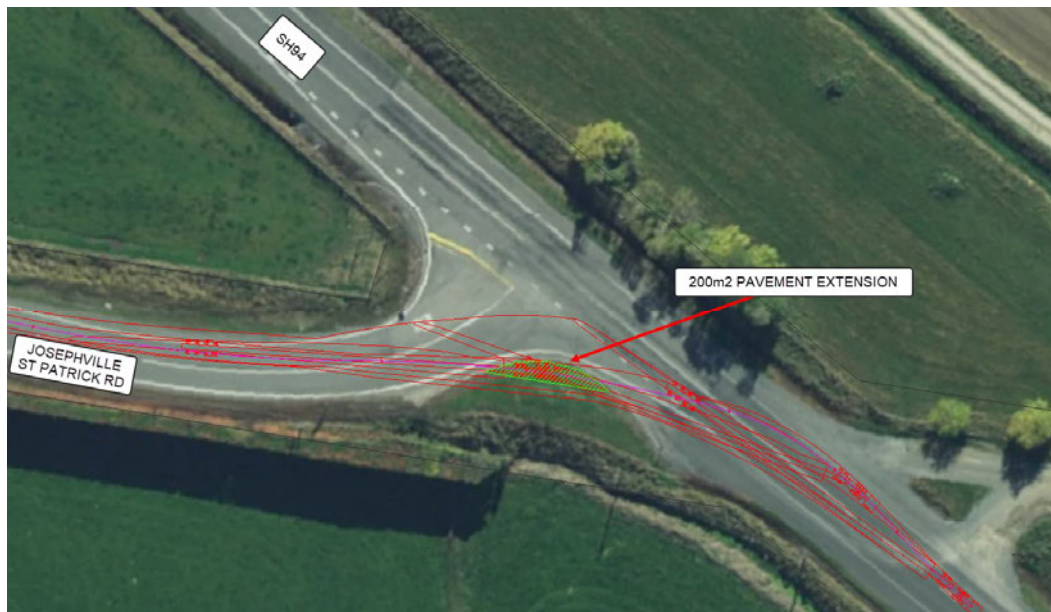
A streetlamp and separate CCTV camera require removal for the blade transportation, or some of the traffic island could be removed and replaced with trafficable pavement allowing the trailer to cross the road to avoid the streetlamp. Parking restrictions during transportation hours would be needed as blade tail-swing, and tower tracking could be obstructed.



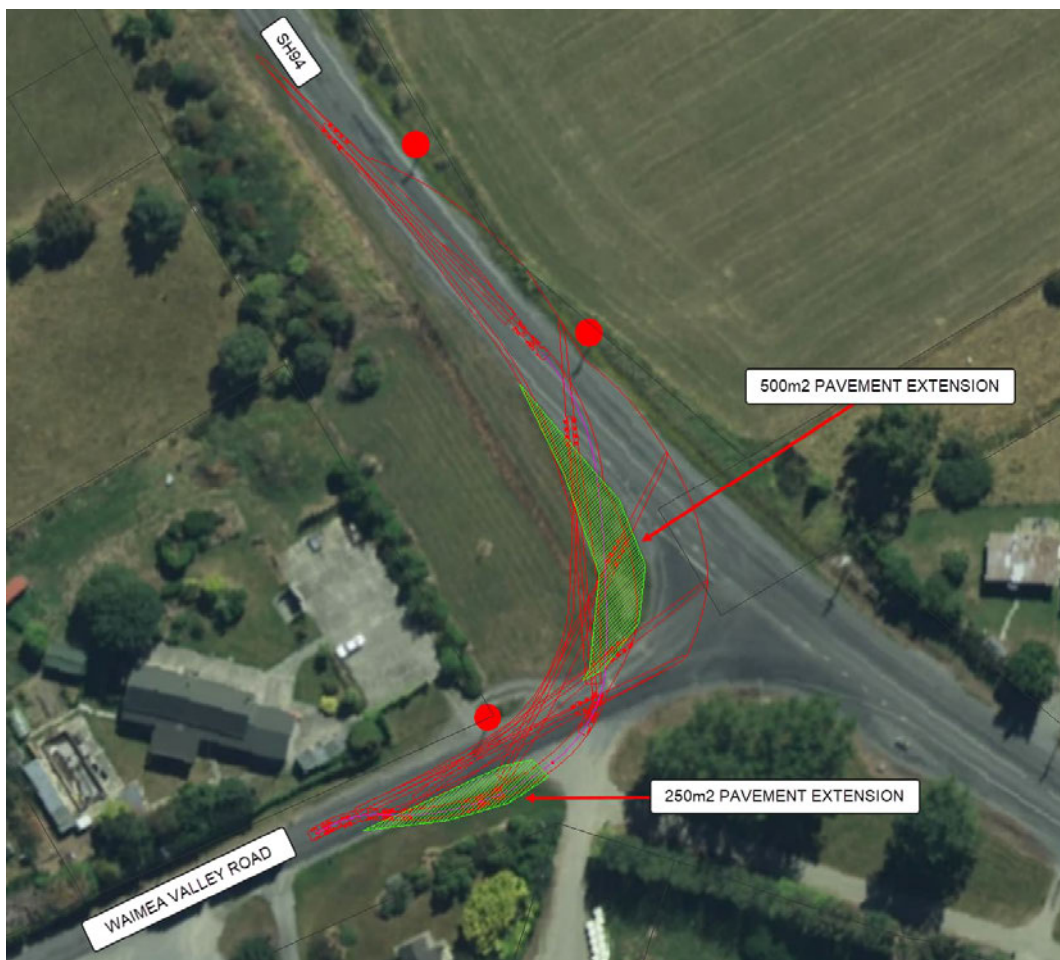
1-6 SH6 to Josephville St Patrick Road – Extend pavement on outside of corner.



1-7 Culvert strengthening or bypass on Josephville St Patrick road



- 1-8 Josephville – St Patricks Rd to SH94. Island in road reserve to have 200m2 additional pavement added to improve line through corner.



- 1-9 SH94 to Waimea Valley Road

Large pavement extension required in the road reserve both sides of the corner. This allows blade tail swing to avoid power poles and avoid boundary oversailing.

5 Utilities

The powerlines through the proposed route are covered by Electricity Invercargill and the Power Company. Other utility providers including fibre may also have overhead services.

A lines survey by an authorised company will need to be conducted to understand the height of lines along the proposed route. Over-height permits are needed for all transport over 4.3m in height and a powerline escort may be needed with outages in some areas. We recommend that following the lines survey, any lines below 6m are raised to reduce risk to personnel and the networks, and also to reduce the requirement on power-line escorts.

6 General Requirements

There are several aspects to consider when undertaking the transport of overweight & over dimension loads in New Zealand.

For any loads that are outside the standard dimensions for transport, these are divided into four categories by size. Each Category then has it's own requirement for Permits, Travel Times, Signage and Lighting and number of load pilots required (this is undertaken entirely by Certified Load Pilots in New Zealand as opposed to Police Escort).

A separate permit is required for loads that are overweight, and the driver of such loads must hold a Bridge Engineering Self Supervision (BESS) license to be able to comply with any restricted bridge crossings. Depending on the area of travel these may need to be sought from New Zealand Transport Agency for the State Highway Network or local Councils as the Road Controlling Authority for their own roading networks.

Loads that are over-height also require permission from any over-head utility owners, and they may elect to escort these loads, particularly if there is a requirement to lift or alter overhead lines.

If crossing the railway network you must also seek permission from Kiwirail to cross their network, and in some areas this is also restricted by height due to overhead electrified lines.

The onus is on the transport operator to ensure that they can physically fit within the intended route.

7 Overweight Permits

A feasibility permit application was submitted for the route for the transformer which is the heaviest proposed load on the route. The application used an 18 rows of 8 trailer with push and pull trucks giving a gross mass of 263.4t and maximum axle weights of 11.2t.

The route includes state highways that are processed by NZTA and local roads that are processed by Southland District Council. The NZTA permit is attached at Appendix A. Southland District Council did not provide a permit, but advised that the only structure showing a DO NOT CROSS restriction is an Armco culvert on Jospehville-St Patricks Rd (RP 3217-3220) BSN 2103.

No specific loading data or drawings were provided for this culvert. Southland District Council's engineer, WSP, have advised they can undertake a specific assessment of the culvert for a fee. We understand similar structures have been strengthened by adding a concrete slab overtop.

We have assessed alternative routes through Lumsden and don't believe they are feasible. Options to bypass the culvert locally by negotiating with landowners and adding temporary bridging/culverts

off the road may be possible. However, we recommend that the load assessment/strengthening of the culvert is progressed as the main option as it will be simpler in the long-run.

8 Conclusions

We make the following conclusions:

1. The proposed MingYang MySE7.5-182 turbine components outlined in section 2 appear to be able to be delivered to the site subject to works being undertaken/approvals being received as outlined in the report.
2. Towers for the turbines are likely to be able to be transported subject to staying within the limits outlined in section 2.
3. Transport of all components via SH6 is preferred rather than going via SH1 to avoid the significant improvement works and public disruption that would be needed in Gore.
4. Assessment of the bridge to Southport, and a culvert on Josephville -St Patricks road is required.

9 Limitations

The study uses aerial imagery available at the time. In some areas, the resolution is not sufficient to pick up all obstructions or allow accurate understanding of the road widths and shoulders.

The study is desktop only and based on preliminary understanding of the project. Different turbines and transport equipment may affect loads used in feasibility permits and vehicle tracking requirements.

Vertical curves, cambers and their effects cannot be assessed by 2D desktop study and will need to be confirmed once preliminary equipment selections are made and more data becomes available.

Boundaries where noted are indicative. In some areas boundaries cross the roadway and ownership of the land is not clear. We have noted areas where a clear oversailing of a boundary occurs but we do not notify all encroachments.

Minor signage, give way signs, road names, marker arrows that may clash with the path are not always identified off a 2D study and some allowance shall be made to make these removable, and remove/replace them during transport.

10 Disclaimer

This report has been prepared for the use of Smith Crane and Construction and Hokonui Energy and is subject to and issued in accordance with the agreement between these parties. Kina Consulting Engineers Ltd accepts no liability or responsibility whatsoever for any use of or reliance upon this report by any other party.

Yours faithfully,



Chris Cable
Director
BE Civil (hons), CPEng

11 Appendix A

Feasibility Permits

Permit to exceed mass limits Under Section 5 of the Land Transport Rule: Vehicle Dimensions and Mass 2016
TSL No. 74902 SMITH CRANE & CONSTRUCTION LIMITED

 Is hereby authorised to use (vehicle description): **Transporter**

 Registered N^o(s): **QFN312, 237N2, 237N3, 86N35, 86N36, MSZ193**

 For Multiple trip(s) between **27-02-2026 to 26-03-2026**

 For the transport of: **1 x Transformer**

 On Route: **SH1S/Shannon St, Bluff to SH94/Waimea Valley Rd, Mandeville – see Page 2**

Over the route specified below, subject to the conditions, restrictions, and maximum mass limits in this Permit.

VAI: 1.43

Axle Number	1	2	3	4	5	6	7	8	9	10
Axle Type*	S	S	T	T	8	8	8	8	8	8
Individual Axle Mass Limit (kg)	8000	8000	8000	8000	11200	11200	11200	11200	11200	11200
Spacing from previous axle (m)	0.00	2.60	1.34	1.37	6.25	1.83	1.83	1.83	1.83	1.83
Tyre Size	385/65 R 22.5	385/65 R 22.5	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard

Axle Number	11	12	13	14	15	16	17	18	19	20
Axle Type*	8	8	8	8	8	8	8	8	8	8
Individual Axle Mass Limit (kg)	11200	11200	11200	11200	11200	11200	11200	11200	11200	11200
Spacing from previous axle (m)	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83
Tyre Size	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard

Axle Number	21	22	23	24	25	26
Axle Type*	8	8	S	S	T	T
Individual Axle Mass Limit (kg)	11200	11200	6000	6000	8900	8900
Spacing from previous axle (m)	1.83	1.83	8.25	1.80	2.50	1.37
Tyre Size	Standard	Standard	Standard	Standard	Standard	Standard

* S=Single tyred axle, T=Twin tyred axle, 4=Four tyred oscillating axle, 8=Eight tyred oscillating axle, 12=Twelve tyred oscillating axle, 16=Sixteen tyred oscillating axle. The tyre sizes shall be as indicated above.

The total mass on any individual axle, axle set, or combination of axles must not exceed the sum of the mass limits shown for those axles in the table above.

Critical Conditions

The vehicle must not—

1. Exceed the maximum permitted gross mass of **263,400** kilograms
2. Exceed design limits, such as GVM

3. Breach a travel restriction or requirement for a specified bridge or culvert. *These are detailed under the header Critical Conditions: 3. Restricted Travel Requirements*

Additional Conditions

1. *Separate Plant* - The carriage or towing of separate items of plant, equipment or materials not specifically nominated in the description of load is not permitted.
2. *Mass* - The mass of any axle shall not exceed the mass specified in this permit. The gross mass of the vehicle or combination of vehicles must not exceed the limit specified on the current certificate of loading issued to the vehicles.
3. *Authorised Agent* - The vehicle shall not be operated on a road or bridge under this permit when in the opinion of an authorised agent of the road controlling authority, as communicated to the operator, it would be contrary to public interest to do so.
4. *Non-Transferable* - This permit is not transferable either to other users of or to any vehicle other than the vehicle described by this permit.
5. *Weighing* – enforcement officers are authorised to divert vehicles from the approved route for the purpose of weighing, provided the diversion does not cross any under-strength bridges.
6. *RUC* - Any vehicle operating under this permit must have a valid RUC License for the permitted weight.

ROUTE AND SPECIAL INSTRUCTIONS:

Route

This permit applies only to the route or routes set out below (if any).

Section	Highway	From RP	From Junction	To RP	To Junction
1	SH1S	933 / 16.55		923 / 0.0	69
SH1S, from Shannon St, Bluff to SH6 Junction, Invercargill					
1	SH6	1175 / 0.0	69	1095 / 6.93	
SH6, from SH1S Junction to Josephville-St Patricks Rd intersection					
1	SH94	43 / 7.6		16 / 1.84	
SH94, from Josephville-St Patricks Rd intersection to Waimea Valley Rd Intersection, Mandeville					

Operator to obtain prior approval to travel on all Local Authority Roads.

Invercargill City Council - overweightpermits@icc.govt.nz

Southland District Council - op.opermits.invercargill@wsp.com

Special Instructions

The operator is responsible for ensuring that the load can negotiate overhead bridges, obstructions and structures. It is the operator's responsibility to get an over-dimensional permit if the vehicle requires one.

Requirement to observe permit conditions

A breach of weight limits specified on this form, or any permit condition, is an offence as provided in the *Land Transport (Offences and Penalties) Regulations 1999*.

Permit is invalid if:

- a. The permit is altered without authority
- b. The vehicles or persons operating the vehicles are not those described on the permit.

Revocation

This permit can be revoked, under clause 5.7 of the Rule.

Authorised Issuing Officer



Rachel Field

(Signature)

(Name)

26 February 2026

(Date)

Permit Issuing Officer
(for) NZ Transport Agency
Dunedin

(Designation)
(Controlling Authority)
(Location)

362123 - 26 February 2026

(Permit Dated)

Advisory Notes:

1. This permit does not exempt the holder from complying with all other acts, regulations and other laws (including those relating to certificate of loading and road user charges). Breaches of the conditions of the permit may also constitute offences in the terms of the Land Transport Act 1998.
 2. This permit must be carried on the vehicle and must be surrendered for inspection on the demand of any enforcement officer, or an authorised agent of the NZ Transport Agency or a road controlling authority.
 3. The conditions on the reverse of this form shall apply together with any other conditions on the attached sheets.
 4. *Overdimension* - For the transport of vehicles and loads that exceed the limits specified in Section 6 of the Land Transport Rule: Vehicle Dimensions and Mass 2016, a separate permit must be obtained from the Overdimension Permit Issuing Agency (OPIA) at the NZ Transport Agency, Palmerston North. OPIA contact number 0800 OVERSIZE / 0800 683774.
 5. *Railway Level Crossings* - Travel over level crossings is not fully covered by this permit. Operators of overweight and overdimension vehicles may require permission from KiwiRail or their agents for travel over railway level crossings
 6. *Tyre pressure* - Tyres must be operated at the pressures recommended by either the manufacturer or the Tyre and Rim Associations but not exceeding the maximum pressures stated in the Land Transport Rule 32013: Tyres and Wheels 2001.
-

Critical Conditions: 3. Restricted Travel Requirement

1. Engineering Supervision of bridges is required during the trip authorised by this permit. For purpose, the user to whom this permit issued to shall contact the agents of the road controlling authorities nominated.

2. Agents are:

**Bridge Engineering Self-Supervision (BESS) registered Driver.
BESS ID Card or Letter Must Be Carried In Vehicle**

Failure to produce VOIDS Permit

3. Bridge Engineering Self Supervision is permitted only for the bridge listed and the person named above.

Bridges requiring BESS are:

Bridge No.	State Highway	Route Position	Bridge Name	BSN	Speed*	Position*	Risk to Other Vehicles*	GPS Co-ords Lat/Long
1	1S	923/0.08	Otepuni Creek Culvert	9231	50	Own Lane	Not Significant	-46.41385/ 168.34747
2	1S	926/4.33	Waimatua Creek Bridge	9303	10	Own Lane	Low	-46.46687/ 168.37801
3	1S	926/6.55	Mokotua Stream Bridge	9325	10	Central	High	-46.48392/ 168.39103
4	1S	933/8.52	Greenhills Overbridge	9415	10	Central	High	-46.53728/ 168.30386
5	6	1111/1.97	Mitchells Creek Bridge	1113 0	20	Own Lane	Not Significant	-45.8752/1 68.37639
6	6	1111/4.36	Spirit Burn Bridge	1115 4	10	Own Lane	Low	-45.89615/ 168.37633
7	6	1157/5.93	Makarewa River Bridge	1162 9	10	Own Lane	Low	-46.30488/ 168.34354
8	94	16/2.4	Waimea Stream No.1 Bridge	185	10	Central	High	-45.98758/ 168.80111

*See the next page

BESS NOTES: Bridge Restriction Requirements

A. SPEED

The speed of the overweight vehicle shall not exceed the value shown while on the bridge.

B. POSITION

The vehicle shall travel in the left hand lane on all bridges except those for which alternative bridge engineering supervision instructions are specifically provided in this permit.

Own Lane - the overweight vehicle shall travel in its own lane as far as is practicable.

Offset - the overweight vehicle shall travel so that its centre is at the indicated distance from the kerb on the left of the vehicle.

Central - the overweight vehicle shall travel on that part of the bridge most favourable to the structure. This shall be:

- (i) central on the beam system for bridges with beams and concrete decks;
- (ii) central between kerbs for slab bridges;
- (iii) approximately central on the beam system but with wheels as near as possible over the beams for bridges with timber decks.

Opposite Bridge - the overweight vehicle shall use the bridge for the opposing traffic direction.

Ford or Bypass - the overweight vehicle **shall not cross the bridge** but use the adjacent ford or bypass.

C. TRAFFIC CONTROL – RISK TO OTHER VEHICLES

Other heavy vehicles proceeding in the same direction shall be spaced at least 30 metres from the overweight vehicle while it is on the bridge. Cars may be closer if necessary.

Where “offset”, “central” or “opposite bridge” is indicated for position, traffic travelling in the opposing direction shall be prevented from crossing the bridge while the overweight vehicle is on it.

Traffic control at bridge crossings shall be in accordance with the “Class 2 pilot course guide”

Traffic control requirements:

Risk to other vehicles	Traffic control requirements
Not significant	None required
Low	Overweight vehicle to have revolving amber light or flashing amber light visible from the rear together with rear facing retro-reflective hazard panels
High	Provide qualified traffic controllers or Class 1 or Class 2 certified pilots using approved industry procedures.