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Proposed Douglas Links Golfcourse Muhunoa Road West, Ōhau Integrated Transportation Assessment

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1 Background & Scope

1.1 Background

Grenadier Developments Limited (**GDL**) is proposing to construct and operate a golf-course, Douglas Links, at the western end of Muhunua West Road, Ōhau, for which consent is sought from the Horowhenua District Council (**HDC**) and Horizons Regional Council (**HRC**).

The proposal will result in potential effects associated with vehicular activity, in particular the use of Muhunua Road West and its intersection with State Highway 1 (**SH1**). Effects may also be associated with parking, servicing / loading, disability access and pedestrian / cycle activity.

1.2 Scope

The purpose of this document is to assess the proposal in terms of any potential effects upon the operation of the transportation network, identify appropriate mitigation measures and assess compliance with the relevant provisions of the Horowhenua District Plan (**HDP**).

This document forms part of an Assessment of Environmental Effects (**AEE**), which in turn supports the application for resource consent to be lodged with HDC.

2 Existing Situation

2.1 Location

The location of the application site is shown by **Figure 2.1**.

The site is accessed from the western end of Muhunua West Road, 7.7kms west of its intersection with SH1 at Ōhau.

2.2 Road Environment

Muhunua West Road

Travelling west from the SH1 intersection, the initial 250m section of Muhunua West Road is semi-urban in nature, with a 50km/hr speed limit, 13m carriageway width, a footpath on its northern side, frequent accesses and limited street lighting (**Photo 2.1**). Beyond the Jervois Terrace intersection, the road becomes more rural in nature, with an 80km/hr speed limit, a 5.5-6.5m carriageway, no footpath or lighting, grassed verges and more widely spaced driveways to rural properties (**Photo 2.2**).



Photo 2.1: Muhunua West Road, Ōhau (dashcam, October 2020)



Photo 2.2: Muhunua West Road, W of Ōhau (dashcam, October 2020)

Approximately 2kms from the SH1 intersection, the speed limit drops to 60km/hr and the carriageway is generally 5.0 - 5.5m wide but narrowing to a minimum of 3.7m (over a distance of around 100m) to the west of the Kikopiri Marae (**Photo 2.3**). Forward sightlines are generally good but limited in some areas as a result of the horizontal curvature of the road and/or vertical crests.

Further west and towards the termination of the road, the carriageway widens with broader grassed verges (**Photo 2.4**).



Photo 2.3: Muhunua West Road, W of Kikopiri marae (dashcam, October 2020)



Photo 2.4 Muhunua West Road, end of road – site access on left (dashcam, October 2020)

SH1 Intersection

The NZ Transport Agency (**NZTA**) has recently implemented a number of measures to improve safety through the Ōhau area, including a lowering of the speed limit, closure of some side roads and improvements to the intersection layout.

The SH1 intersection with Muhunua West Road and Muhunua East Road is priority-controlled. SH1 through the intersection is now subject to an 80km/hr speed limit and street lighting is provided. A single lane is provided in each direction, separated by a flush median which accommodates right-turn bays approximately 20m long in each direction. Ancillary lanes are provided for the left-turn movements in both directions which are 40-45m in length (excluding tapers).

Both of the side roads are subject to 'Stop' controls. Sightlines are over 300m in each direction. Pedestrian and cycle movements between Muhunua West and East Roads are accommodated by an underpass on the northern side of the intersection.



Photo 2.5: View to SW along SH1 towards Muhunua West/East Road intersection



Photo 2.6: View to SE towards SH1 intersection from Muhunua West Road approach



Figure 2.1: Location Plan (Source: HDC mapping)

2.3 Traffic Volumes

HDC recently (November 2020) installed two automatic traffic counters on Muhunua West Road. These recorded average daily traffic volumes of 980 vehicles/day to the west of the SH1 intersection and 300 vehicles/day to the west of the Papaitonga Lake Road intersection (locations shown by **Figure 2.1**). These volumes are low and well within the capacity of the road.

The NZTA maintains a traffic counter on SH1 a short distance to the south of Ōhau¹. The most recent information for 2018 indicates that typical daily traffic volumes are 17,750 vehicles/day, of which 9.9% are heavy vehicles.

2.4 Crash History

The crash history for the existing roads in this area for the period since January 2015 has been obtained from the database maintained by the NZTA.

Six incidents have been recorded at or close to the SH1 / Muhunua West Road intersection:

- May 2017 (Tuesday, 9am) a car turned out of Muhunua East Road into the path of a southbound bus (one minor injury);
- October 2017 (Wednesday, 5pm) a car turning right to SH1 North from Muhunua East Road collided with another proceeding straight across from Muhunua West Road (no injuries);
- April 2018 (Thursday, 2pm) a car turning right into Muhunua West Road from SH1 North collided with a northbound vehicle (one minor injury);
- August 2018 (Saturday, 9am) a northbound car on SH1 lost control, colliding with a power pole to the north of the intersection (one minor injury);
- August 2019 (Friday, 10pm) a northbound car on SH1 turned right into Muhunua East Road at excessive speed and rolled (no injuries); and
- February 2020 (Saturday, 4pm) a northbound car on SH1 swerved off the road, colliding with one waiting to exit Muhunua West Road and the pedestrian barrier (speeding, police pursuit) (no injuries).

Four incidents have been recorded along Muhunua West Road:

- January 2017 (Wednesday, 9pm) a stolen car collided with another travelling in the opposite direction on a rise in the road to the west of the Kikopiri Marae (no injuries);
- March 2017 (Friday, 7am) a car turning right into Western Rise collided with an eastbound vehicle on Muhunua West Road (no injuries);
- April 2017 (Sunday, 4pm) a car exiting Western Rise collided with an eastbound vehicle on Muhunua West Road (no injuries); and

¹ Site Reference 01N00988

- August 2017 (Thursday, 7pm) a westbound car left the road near the Kikopiri Marae, crashing through a fence and overturned in a paddock (alcohol suspected) (no injuries).

These incidents all occurred prior to the implementation of a 60km/hr speed limit on most of Muhunua West Road in late 2019.

This record of recent crashes does not indicate any systemic safety problems with the road network in this area.

By law, only those crashes involving personal injuries are required to be reported. Accordingly, it is possible that a number of other non-injury crashes may have occurred which have not been included in these records.

2.5 Walking, Cycling and Public Transport

With the exception of the pedestrian/cycle underpass within Ōhau, there are no specific facilities for pedestrians or cyclists along Muhunua West Road.

There are no public bus services in this area. School bus services operate along part of Muhunua West Road.

A public access strip runs along the northern boundary of the application land, providing access to the beach from the end of Muhunua West Road.

2.6 Planned Developments / Changes to Road Network

Neither of the roading authorities (HDC, NZTA) have any relevant planned upgrade works in this area.

2.7 Existing Activity

The application site is currently rural dune-land with minimal associated traffic activity.

3 The Proposal

3.1 Facilities

GDL proposes to construct and operate an 18-hole golf-course, the Douglas Links, on the application land. The development will include:

- an 18-hole golf-course;
- a driving range;
- a club house (with dining area, lounge, kitchen, changing areas, gym, equipment storage space and staff area);
- a maintenance yard (including sheds and parking);
- horse stables;
- owners cottage; and
- accommodation units (10 2-bedroom units).

3.2 Vehicular Access & Parking

An entry gate to the site will be provided on the southern side of Muhunoa West Road 40m east of its existing termination point.

This will connect to a internal road with 5m carriageway providing access to the facilities above and a 40-space parking area adjacent to the clubhouse and accommodation units.

The parking area will include two mobility spaces reserved for use by players, guests or staff with disabilities. These spaces will be located close to the clubhouse entrance with wheelchair access in-between.

The maintenance yard will have a direct access from Muhunoa West Road, approximately 35m to the west of the main entry gate and this will also be connected to the internal road accessing the owners house and the horse stables. The maintenance yard will provide 26 parking spaces around its perimeter (of which two will be mobility spaces).

3.3 Operation

The Douglas Links will operate 7 days/week but with variable rates of visitation by day and by season (highest at weekends and in the summer months).

Large scale tournaments or professional events will not be hosted. The facilities will not be hired for any external events such as weddings, conferences or private parties.

The accommodation units will only be available for the users of the golf-course and will not be let independently.

3.4 Beach Access

The Applicant is currently working on proposals to enhance public access to the coast from the end of Muhunoa West Road.

4 Assessment of Effects

4.1 Potential Effects

The potential transportation effects of the proposal are:

- the safety of vehicular movements entering and exiting the site;
- the impacts of additional vehicular activity along Muhunua West Road;
- the impacts of additional vehicular turning activity at the SH1 / Muhunua West Road intersection;
- the adequacy of on-site parking provision, disability access and servicing facilities; and
- construction traffic activity.

4.2 Likely Levels of Vehicular Activity

As described in **Section 3**, levels of activity are expected to be variable by day of week and season.

On a typical day, around 50-60 players are expected to visit, most of which are expected to travel with two people in each vehicle – this includes overnight guests. Allowing for a small number of staff and service vehicle movements, this is likely to result in a total of around 80 vehicle movements each day (40 arrivals, 40 departures).

On a 'peak' day, traffic activity may be around 50% higher, with 120 vehicle movements each day (60 arrivals, 60 departures).

Importantly, the pattern of arrivals and departures is unlikely to exhibit any significant peaks, with movements generally spread throughout the course of each day.

4.3 Safety of Vehicle Access and Egress

Negligible levels of background traffic activity in the vicinity of the access from Muhunua West Road, combined with good sightlines means that the access will operate safely and efficiently.

4.4 Muhunua West Road

The low existing traffic activity on Muhunua West Road means that the addition of 80 – 120 vehicle movements per day will be significant in percentage terms. In absolute terms, such increases will not be sufficient to give rise to any material capacity or safety issues along the road, particularly given the reduction in the speed limit for most of the rural section of the road.

As noted in **Section 2.2**, the carriageway width drops below 4m for a section of Muhunua West Road to the west of the Kikopiri Marae, effectively limiting the use of the carriageway to one direction of traffic movement at a time. Although the operation of the golf-course would increase the probability of vehicles in opposing directions needing to pass in this area, this probability would remain low. Within this section, the wide grassed verges,

together with good forward visibility and the lowered speed limit means that vehicle passing will occur with only a possibility of some minor inconvenience associated with a need to slow down or wait momentarily for another vehicle to pass.

4.5 SH1 / Muhunua West Road intersection

The addition of 80 - 120 vehicle turning movements per day at the SH1 / Muhunua Road West intersection is likely to result in only a small increase in the delays experienced by turning movements, especially the right-turn manoeuvres from the north and towards the south.

With the implementation of a recent package of safety improvements in the vicinity of this intersection, the additional turning manoeuvres will be able to be accommodated without compromising safety in this area. In particular, the additional demands from the north will not result in queues extending beyond the available length of the right-turn bay and any additional queuing on the Muhunua West Road approach will not affect movements on the state highway.

4.6 On-Site Facilities

The provision of a total of 66 off-street parking spaces (40 by the clubhouse and 26 around the maintenance yard) will accommodate the demands generated by players, guests and staff. The remote rural location of the site means that, in the unlikely event of any occasional additional parking demand, this could be accommodated within the site and there is no possibility of any effects arising from parking along the public road frontage.

All parking spaces will meet the geometric requirements of standard AS/NZS 2890.1: 2004², ensuring their convenience and safety of use.

The provision of four disability parking spaces will comply with the requirements of Standard AS/NZS2890.6: 2009.³

Servicing activity associated with the operation of the golf-course will be minimal, primarily limited to occasional courier vans, food deliveries or refuse collection. There is no necessity for the provision of a specific loading area.

Plenty of space will be available to accommodate the manoeuvring requirements of all service vehicles.

4.7 Construction

The site preparation and construction phases of the project will result in some additional vehicular movements in this area, especially trucks. The level of activity will be negligible and little different to that associated with the construction of private dwellings. Consequently, there will be a negligible impact upon other vehicle movements in this area.

² Parking Facilities. Part 1: Off-Street Car Parking. Standard AS/NZS 2890.1: 2004. *Standards New Zealand, 2004.*

³ Parking Facilities. Part 6: Off-Street Car Parking for People with Disabilities. Standard AS/NZS2890.6: 2009. *Standards New Zealand, 2009.*

5 District Plan Provisions & Compliance

5.1 Relevant Plan & Status

The relevant plan is the Horowhenua District Plan (**HDP**). The application site is located in the 'Rural' zone.

5.2 Rules

Chapter 21 of the HDP defines district-wide rules relating to transportation matters.

An assessment of the golf-course proposal against the relevant rules is described below.

Rule 21.1.1 (d) (Vehicle Access) requires that:

- i. all vehicle access points shall be sited in accordance with Table 21-1, Table 21-2 and Rule 21.1.6
- ii. no vehicle access shall have a gradient in excess of 1 in 8.

Comments:

- *both access points will comply with the minimum sight stopping distance requirement (Table 21-1) of 115m for roads with a posted speed limit of 80 km/hr. Although the distance to the west along Muhunoa West Road would be less than this, this is because of the proximity of the access point to the turning head and all turning movements will be able to be made safely;*
- *the proposed access points will not comply with the minimum spacing requirement (Table 21-2) of 70m for local roads with a posted speed limit of 80 km/hr, as the two access points are only 35m apart. However, the achievable speeds in this area are low, being restricted by the termination point of Muhunoa West Road. For this reason, the proximity of the access points will not give rise to any safety issues associated with their use. The main access will upgrade, rather than be in addition to, an established access point;*
- *the formation and use of the crossings will comply with the requirements of Rule 21.1.6 which in turn require compliance with Council's Subdivision and Development Principles and Requirements (July 2014); and*
- *access gradients would comply with the requirement.*

Rule 21.1.1 (e) (Access Design Dimensions and Formation) requires that:

- i. all accessways shall be formed as prescribed in Table 21-3
- ii. provision shall be made for the collection and disposal of all surface water run-off and containment of water-borne contaminants and the maintenance thereof
- iii. any vehicle access which crosses a waterway shall incorporate culvert crossings appropriate to the volume of water in the waterway and the traffic load on the access.

Comments:

- *for the Rural zone, Table 21-3 requires a minimum 5m formed width, metalled to an all-weather standard, with a maximum length of 3kms – these requirements will be met;*
- *as a rural area, drainage will be to natural soakage (the access road will not be vested); and*
- *no waterways will be crossed.*

Rule 21.1.7 (Formation Standards, Roads & Accessways) requires that:

- the consent holder or developer shall form and construct all roads to comply with NZS4404 Land Development and Subdivision Infrastructure and Council's Subdivision and Development Principles and Requirements (July 2014) shall prevail where those provisions alter NZS4404:2010 unless otherwise stated
- the consent holder or developer shall form and construct all shared access ways, private ways and private roads to comply with Table 21-3

Comments:

- *the access road will be privately owned, operated and maintained and will comply with the requirements of NZS4404:2010 and Table 21-3.*

Rule 21.1.9 (Vehicle Parking Standards) requires that:

- each required parking space shall be provided with practical vehicular access from a public road
- sufficient manoeuvring space shall be provided to enable vehicles to enter and leave the parking area in a forward direction
- space dedicated for parking / access shall remain unobstructed by other activities
- space dimensions to comply with the requirements of AS/NZS2890.1:2004 (and AS/NZS 2890.6:2006 for disability parking)
- in the Rural zone, parking and access areas shall be formed and metalled to an all-weather standard and provided with surface water drainage and containment of water-borne contaminants
- all publicly-accessible parking areas to be provided with night-lighting
- number of parking spaces to be provided is defined by Table 21-4.

Comments:

- *all spaces will be accessible from the public road;*
- *all vehicles will be able to enter and leave the parking areas in a forward direction;*
- *parking / access areas will be unobstructed;*

- *spaces dimensions will comply with the geometric requirements;*
- *spaces will be metalled or sealed with appropriate drainage;*
- *night-lighting will be provided, consistent with the amenity of the clubhouse (e.g. bollard lighting); and*
- *none of the activities in Table 21-4 adequately describe the proposal – nonetheless, the number of spaces proposed will easily meet the typical demands generated by the golf-course facility, with space for any additional vehicles easily able to be accommodated if necessary.*

Rule 21.1.10 (Vehicle Loading Conditions) requires that:

- every activity shall make provision for the off-street loading and unloading of goods onto or from delivery vehicles associated with that activity

Comments:

- *as noted above, servicing activity will be minimal and primarily from small vehicles such as courier and delivery vans – servicing activity will take place from the parking / forecourt area adjacent to the clubhouse. A turning facility for horse-floats will be provided adjacent to the main access road.*

6 Conclusions

This assessment has reviewed the transportation aspects and potential effects of a proposed golf-course development, to be located at the western end of Muhunua West Road, and concludes that:

- the volume of additional traffic activity associated with the operation of the golf-course will be low and dispersed over time;
- this additional traffic activity will be able to be accommodated by Muhunua West Road and its intersection with SH1 without any adverse operational or safety effects which are more than minor;
- the on-site parking proposed will be adequate for the typical demands generated by the facility, but the nature of the site means that further areas are available for parking in the unlikely event that these are required; and
- the proposal will or is able to comply with most of the relevant transportation requirements of the district plan - although the access spacing requirement is not met, this non-compliance would not be associated with any adverse effects because of the low speeds in this area.

On the basis of the transportation issues addressed by this assessment, it is recommended that consent be granted for the proposal.