Harriet Fraser Traffic Engineering & Transportation Planning

PO Box 40170
Upper Hutt
5140
M 027 668 5872
E harriet@harrietfraser.co.nz

16 February 2021

Russell Hooper

Copy via email: russellhooperconsulting@gmail.com

Dear Russell

Underhill Road, Featherston – Aggregate Crushing Activity
Traffic Assessment

Further to your request, I am pleased to provide you with this traffic assessment in response to a request for further information from Council. I understand that a resource consent has been lodged and Council in their email of 5 November 2020 has requested:

'Please provide a traffic assessment detailing vehicle movements, vehicle entry points, road safety and the associated effects'.

Each of these matters are discussed in turn below.

1. Vehicle Movements

There will be a range of vehicle activity associated with the site. On weekends and public holidays there is not expected to be any traffic activity onto or off the site associated with the transportation of material.

On weekdays there will be many days when there will also be no traffic activity associated with the site. I understand that a typical level of activity might include either one or twot single unit trucks making a round trip of 45 minutes. With proposed operational hours of 8am to 5pm and allowing for a lunch break, some 11 to 22 round trips could reasonably be anticipated resulting in 22 to 44 truck movements per day through the local road network. Typically the truck drivers will load their own truck.

Peak truck activity associated with the site will likely be seasonal and subject to demand for the material produced. Peak truck activity is limited by the number of trucks that can be loaded, the intention is that only one truck would be loaded at a time. Single unit trucks take around 10 minutes to load and a truck and trailer around 15 minutes.

As such, and again allowing for a lunch break, up to around 50 single unit trucks or 34 truck and trailers could be loaded during the working day. This would result in up to 68 to 100 truck movements per day depending on the truck types used. It is expected that during times of peak demand material would most likely be transported by truck and trailer.

In summary, the level of truck activity at the site will be zero truck movements on weekends and public holidays and also on many weekdays. When material is being transported, it will

typically be at a rate of between 22 and 44 truck movements per day and on occasion up to 68 to 100 truck movements at times of peak demands.

2. Vehicle Entry Points

The existing entry to the site is off Underhill Road and is shown in Photos 1 to 4.

Photos 1 & 2: Existing Access from Underhill Road and Widening on Opposite Side of Road

Photos 3 & 4: Views Along Underhill Road from Existing Access

As shown, this section of Underhill Road is straight and flat and the sight lines to approaching vehicles is excellent. It is proposed to close the existing access and open an access around 65m to the south in line with the existing fenceline within the site. It is proposed to include a double width gate, approximately 6m wide, to minimise the need for widening on the opposite side of Underhill Road. This access will be used for all truck movements onto and off the site. No trucks will use Algies Road to access or egress the site.

3. Road Safety

A search of the Waka Kotahi (NZTA) crash database has been undertaken for the most recent five year period for the area shown in Figure 1 below and extending along Underhill Road to the site.

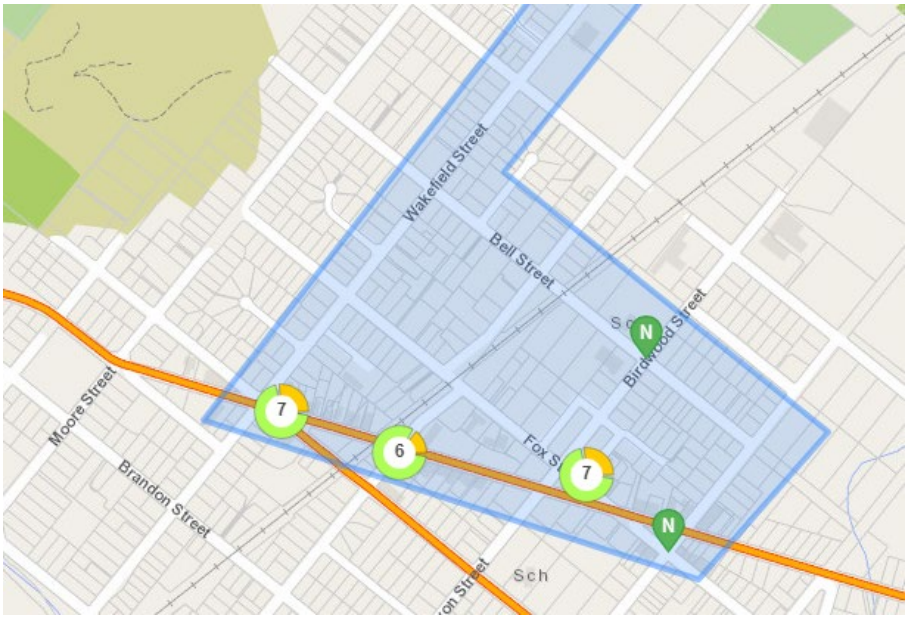

Figure 1: Extract from NZTA Crash Database

There has been one reported crash on Underhill Road/ Wakefield Street and this was reported recently in January 2021. It was a single vehicle minor injury crash close to the Algies Road intersection involving a northbound car losing control and going off the road. The crash factors include 'alcohol suspected'.

Of the crashes shown in Figure 1 only two involved trucks. The two crashes were both non-injury and occurred at the intersections of SH2 with each of Fox Street and Wakefield Street. The crash at the Wakefield Street intersection involved a car turning right being hit by an eastbound truck on SH2. The crash factors included 'overseas/migrant driver fail to adjust to nz roads'.

As such, I consider that there is no underlying road safety issues with truck movements through this part of the road network.

4. Traffic Effects

The main traffic effect associated with the proposal is the potential for adverse effects on road safety from the transportation of material from the site with trucks travelling through the local road network. I understand that truck drivers are currently instructed to travel at 40km/h or less on the unsealed section of Underhill Road, to access SH2 via Underhill Road and Wakefield Street and to be courteous to other drivers and pull over whenever possible.

Material will not be transported from the site every weekday. On those days when it is transported, there will typically be some 22 to 44 truck movements per day, 11-22 arrivals and 11-22 departures, with up to 6 truck movements in any one hour. This will typically involve one or two trucks travelling to and from the site all day. This level of truck activity is not expected to have any discernible adverse traffic effect. On occasions when there are peak demands there could be up 68 to 100 truck movements per day with up to 12 truck movements per hour. This level of truck activity will require some management.

The unsealed section of Underhill Road has a trafficable width of around 5m, this increases to around 5.6m on the sealed section and Wakefield Street has a sealed width of 11.8m. The 5m width on the unsealed section of Underhill Road is sufficient for a car and a truck to pass albeit at slow speeds. Two trucks can pass each other at slow speeds within the 5.6m wide carriageway and without impediment along Wakefield Street. Traffic flows on the unsealed section of Underhill Road are light and forward sight lines are excellent and there are opportunities for trucks to pull over if needed. It is however recommended that truck movements to and from the site are managed by radio to minimise trucks meeting each other along the unsealed and 5.6m wide sealed section.

There is no indication of an underlying road safety issue within the local road network to the north of SH2 within the area shown in Figure 1. There is also no indication of a traffic safety issue for trucks travelling through this part of the network, including along SH2. Given the straight and flat alignment of Underhill Road and Wakefield Street, sightlines to and from frontage properties and at intersections are generally good. It is recommended that the existing practice of trucks travelling to and from the site via Underhill Road and Wakefield Street is continued.

5. Recommendations and Conclusions

The following recommendations are included to assist with managing the traffic effects associated with peak demands for the transportation of material from the site:

- limit the loading of trucks to one truck at a time as this places a practical constraint on the number of trucks that can service the site:
- continue with the existing practice of all truck traffic taking the Underhill Road and Wakefield Street route to and from SH2;
- continue with truck drivers being instructed to drive at reduced speeds along the unsealed section, pull over when needed and be considerate of other road users; and
- on days when more than one truck is servicing the site, through radio contact minimise the risk of trucks meeting either on the unsealed section or the 5.6m wide sealed section of Underhill Road.

The combination of the constraint on loading, the reduced truck speeds on the unsealed section of Underhill Road and minimising the risk of trucks meeting along this section will also help with minimising any adverse traffic effects associated with dust from the road. With these measures in place, the traffic activity associated with the site can be safely managed and the local road network can be expected to continue to operate safely and efficiently.

Please do not hesitate to be in contact should you require clarification of any of the above.

Yours faithfully

Harriet Fraser

Harriet Fraser