

Harrison Transportation

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276

28 November 2019

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Dear Tracy

Proposed Gull Service Station, Paraparaumu – Transportation Assessment.

Gull NZ propose to develop a new service station at 3 Kapiti Road, Paraparaumu. A transportation assessment report has previously been prepared, with an updated report dated October 2018 that responded to Council's request for further information. Council, in their letter of 12 November 2018, have requested additional further information. Since the receipt of that request, some details of the proposed service station have changed. This report provides an addendum to the previous transportation assessment report to address the revised design and then responds to the relevant items of the request for additional information.

ADDENDUM TO THE TRANSPORTATION ASSESSMENT REPORT

1. Pedestrian Surveys

To provide additional data to assist with the design of the site access, additional pedestrian surveys have been carried out. These surveys were carried out by Team Traffic on Wednesday 30 October 2019, using video cameras to record pedestrian movements. The surveys were carried out between the following times:

- Morning peak: 7.00am to 10.00am.
- Evening peak: 3.00pm to 6.30pm.

The morning peak occurred between 8.00am and 9.00am. Within the evening peak, two separate peaks were identified, one between 3.30pm and 4.30pm, with a second between 5.15pm and 6.15pm.

The following pedestrian movements were recorded:

1. Using the underpass and the western side of Amohia Street, to and from the north.
2. Using the underpass, to and from anywhere else on the western side of Amohia Street.
3. Using the eastern side of Amohia Street, to and from the north.
4. Using the walkway on the western side of the railway line, between the railway station and Kapiti Road.

5. Walking along the southern side of Kapiti Road between the railway and Amohia Street.

The recorded pedestrian movements are shown on the following figure.

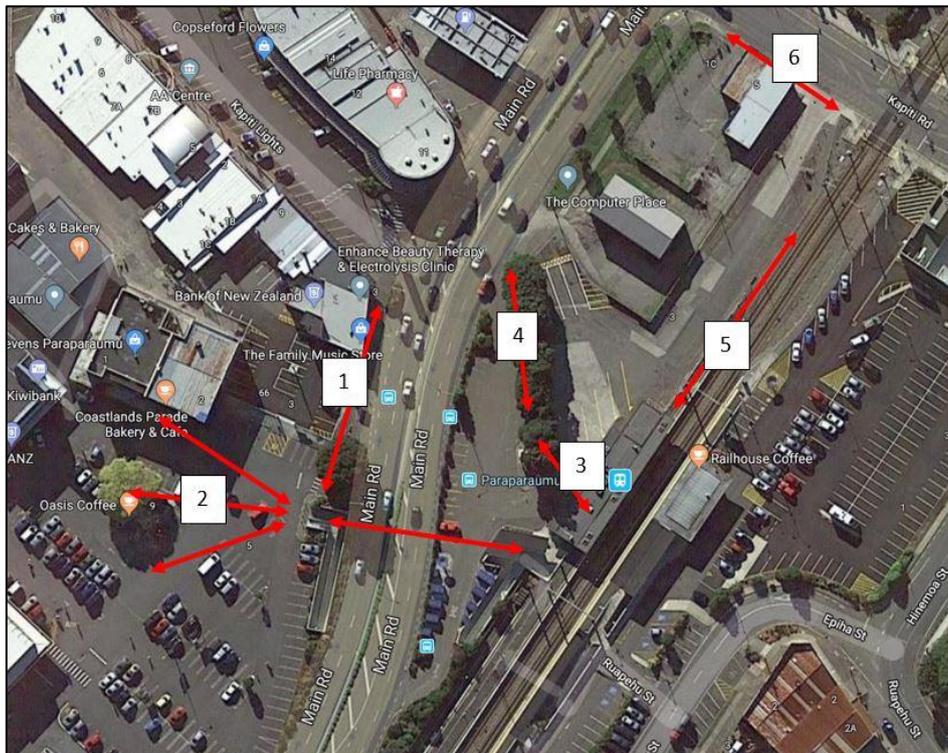


Figure 1: Pedestrian Surveys.

The results of the pedestrian survey are summarised in the following table.

Peak	Using Underpass		3 Bus Stops	4 Eastern Side Amohia Street	5 Walkway by Railway Line	6 Southern Side Kapiti Road
	1 Western Side Amohia Street	2 Western Side Anywhere Else				
Morning	29	142	72	8	9	4
Afternoon	89	236	78	11	24	7
Evening	32	170	61	17	97	7

Table 1: Pedestrian Survey Data (ped/h).

Table 1 shows that the largest pedestrian movement is using the underpass and then walking to and from the shopping centre. A relatively small proportion, up to 89 ped/h in the afternoon peak, use the underpass and then walk along the western side of Amohia Street.

The number of pedestrians recorded crossing between the railway station and the bus stops was up to 78 ped/h in the afternoon peak.

The number of pedestrians using the existing footpath on the eastern side of Amohia Street is very low, with a maximum of 17 ped/h in the evening peak.

2. Future Pedestrian Movements

It is understood that the proposed changes being implemented as part of the revocation of SH1 include:

- The installation of an at-grade pedestrian crossing of Amohia Street.
- The construction of pedestrian path to provide a step-free connection between the railway station and the proposed Amohia Street pedestrian crossing.
- The construction of an off-road shared pedestrian and cycle path along the eastern side of Amohia Street between the transport hub area and Kapiti Road, in addition to the on-road cycle lanes.

The installation of the at-grade crossing will lead to pedestrians using the crossing instead of the underpass. The survey identified the total number of pedestrians using the underpass as follows:

- Morning peak: 171 ped/h.
- Afternoon peak: 325 ped/h.
- Evening peak: 202 ped/h.

While some pedestrians are expected to continue to use the underpass, the above volumes represent an upper bound of the pedestrians that may choose to use the at-grade crossing.

The provision of the shared pedestrian and cycle path may lead to an increase in pedestrians using the path on the eastern side of Amohia Street instead of the path on the western side. While the number of pedestrians altering their route as a result of these changes will not be known until the changes are implemented, for the purpose of this assessment, a transfer of up to 50% of pedestrians from the western side of Amohia Street onto the eastern side of the street has been adopted. This will give pedestrian volumes on the eastern side of Amohia Street as follows:

- Morning peak: 23 ped/h.
- Afternoon peak: 56 ped/h.
- Evening peak: 33 ped/h.

It is expected that, while some cyclists will also use the shared path on the eastern side of Amohia Street, the number will be negligible when compared to the number of pedestrians as given above.

It is understood that pedestrians that choose to use the at-grade crossing will first cross between the railway station and the bus stops, then cross from the bus stops to the at-grade crossing. Similarly, pedestrians that choose to use the shared pedestrian and cycle path on the eastern side of Amohia Street will also cross between the railway station and the bus stops. This will increase the number of pedestrians crossing between the railway crossing and the bus stops as follows:

- Morning peak: 251 ped/h.
- Afternoon peak: 414 ped/h.
- Evening peak: 280 ped/h.

not included on the drawings. This report however recommends that a standard vehicle crossing be provided at the entry to the site from Amohia Street and that a raised pedestrian threshold be provided at the exit to the bus lay-by area, with a detailed design that is consistent with the facilities being proposed as part of the revocation process.

4. Entry from Amohia Street

The proposed entry to the site from Amohia Street will be in the form of a left turn from the left turn slip lane to the bus lay-by area. As vehicles using the slip lane are expected to travel at a slow speed to negotiate the left turn into the lay-by, any effects of the additional vehicles turning left into the site are expected to be negligible.

Vehicles entering the site from Amohia Street will cross over the proposed shared pedestrian and cycle path. The survey data, as given above, has identified an expected future pedestrian and cycle volume on the path of up to approximately 56 ped/h.

Both the Operative and Proposed District Plans require that there be no access to a service station across a footpath where the number of pedestrians exceeds 1,000 per hour for two or more hours per day. The expected pedestrian and cycle volumes on the shared path are less than this threshold.

The LTSA (now part of the NZTA) Road and Traffic Standard RTS13 "*Guidelines for service stations*" contains additional guidance for the management of the pedestrian and vehicle interface. For pedestrian volumes of less than 150 ped/h, the standard states:

"At low pedestrian flows, motor vehicles may dominate the driveway/footway interface so that pedestrians are forced to give way. Driveways should be designed to reinforce the motorist's obligation to give way to pedestrians."

To achieve this objective and to minimise any potential conflict with pedestrians and cyclists, it is proposed that the access be designed as a standard vehicle crossing with the existing footpath / proposed shared path being continuous across the access. This will indicate to pedestrians, cyclists and motorists, that pedestrians and cyclists have priority over vehicles.

5. Exit to Amohia Street via the Transport Hub Area

5.1. Pedestrian Movements

The proposed exit from the site will be via the existing transport hub area. The changes associated with the proposed revocation of SH1 include the provision of a new at-grade pedestrian crossing on Amohia Street. The survey data given earlier in this report has identified that a pedestrian volume of up to approximately 414 ped/h could use the at-grade route between the railway station and the proposed crossing.

As noted earlier, the District Plan requires that there be no access to a service station across a footpath where the number of pedestrians exceeds 1,000 per hour for two or more hours per day. The expected pedestrian and cycle volumes at the proposed service station exit are less than this threshold.

For pedestrian volumes in the range of 150 ped/h to 500 ped/h, RTS 13 states:

"Generally suitable for a service station. Special consideration should be given to ensure pedestrian amenity is maintained. For example, the number of driveways on frontage roads and driveway widths should be minimised where possible."

While the revocation plans provided to date do not show the provision of any infrastructure to accommodate pedestrian movements between the railway station and the pedestrian crossing it is understood that a raised platform is proposed, which will provide a step-free route between the railway station and the pedestrian crossing. Vehicles exiting the service station will be required to cross over this connection.

In accordance with the recommendation of RTS13, special consideration has been given to the design of the access to minimise any potential conflict between vehicles exiting the service station and pedestrians using the at-grade crossing. It is proposed that a raised pedestrian threshold also be provided at the exit from the service station to the transport hub area, constructed in accordance with Council's Standard Drawing RD-010 "*Raised Crossings*", to provide a continuous step-free footpath across the vehicle crossing. The standard design is shown on the following figure.

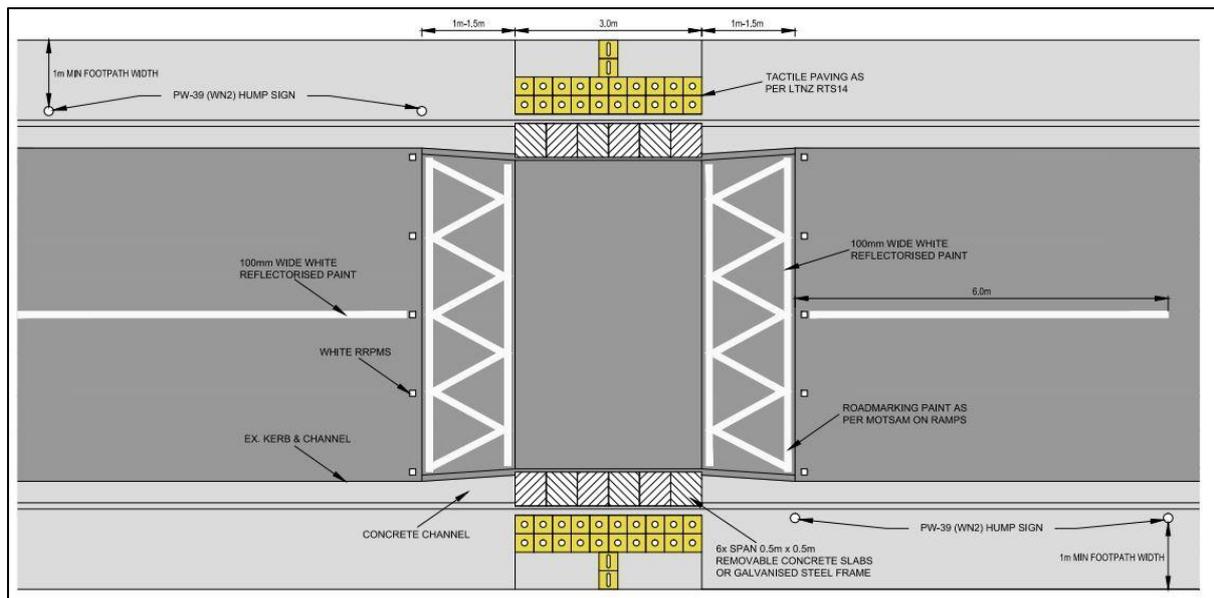


Figure 3: Standard Drawing for Raised Crossings.

Figure 3 shows that the standard design has a 3.0m wide crossing, but without a contrasting pavement surface. To provide additional amenity for pedestrians, it is proposed that the crossing be constructed with a contrasting pavement surface. To ensure that vehicles travel across the threshold slowly, it is recommended that this threshold also be constructed with a minimum height of 100mm and with a slope of 1:10 on the ramps on each side of the threshold.

While Drawing RD-010 specifies a minimum 3.0m wide pedestrian platform, to provide additional capacity for pedestrians, it is proposed that a minimum width of 5.0m be provided, which will be consistent with the proposed Amohia Street crossing. The proposed crossing will then provide a similar pedestrian facility to that at the Amohia Street crossing however with significantly lower traffic volumes and without traffic signal control.

Figure 5 of the transportation assessment report identified an expected peak hour turning movement of 20 veh/h turning left out of the site onto Amohia Street. With the proposed revised access, these vehicles will exit via the proposed pedestrian platform. The volume of 20 veh/h is the equivalent of approximately one vehicle every three minutes. Given the relatively low number of vehicle movements, any queuing of vehicles at the crossing is expected to be minimal and readily contained within the site.

5.2. Sight Distances

For access to a State highway with a posted speed limit of 50 km/h, the District Plan specifies a minimum sight distance of 113m. The available sight distances at both at the exit from the site to the bus lay-bay and at the egress from the bus lay-by onto Amohia Street are less than that specified.

While the available sight distances do not meet the requirements of the District Plan for a State highway, the following points are noted:

- The State highway status of Amohia Street is proposed to be revoked.
- For non-State highways with a posted speed limit of 50 km/h, no minimum sight distance is specified.
- For service stations, minimum sight distances are specified in accordance with the 85th percentile operating speed of vehicles along the road.
- Due to the confined nature of the existing bus lay-by, vehicle operating speeds within the lay-by are assessed at less than 50 km/h.
- With the recommended raised platform at the proposed pedestrian crossing on Amohia Street, vehicle operating speeds on Amohia Street are expected to be less than 50 km/h.
- For service stations with access onto a road with an 85th percentile operating speed of up to 50 km/h, a minimum sight distance of 30m is required.

Given the slow vehicle speeds within the transport hub area, the sight distances at the exit from the site are considered appropriate. The available sight distance from the transport hub area onto Amohia Street appear to exceed the specified minimum of 30m, although a final check will be required once the final revocation plans are available. It is therefore assessed that, once the State highway status of Amohia Street is revoked, the available sight distances will then comply with the requirements of the District Plan.

5.3. Pedestrian Visibility

RTS13 has no specific requirements for visibility but refers to RTS6 "*Guidelines for visibility at driveways*". For high volume driveways crossing footpaths in areas with high pedestrian activity, this guide recommends pedestrian visibility splays as given in the following figure.

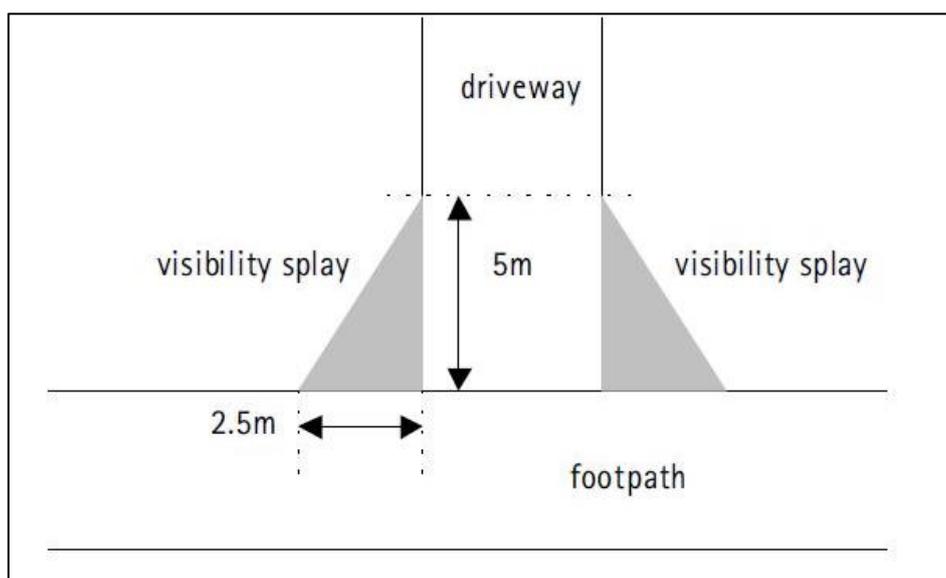


Figure 4: Pedestrian Visibility.

It is noted that the required pedestrian visibility shown on Figure 4 is of a higher standard than the similar requirements given in NZS2890.1:2004 "*Parking facilities Part 1: Off-street car parking*". The proposed design will provide visibility splays as required.

6. On-Site Manoeuvring

As previously, fuel tankers are proposed to turn left onto the site from the Amohia Street northern vehicle crossing and exit the site to Kapiti Road. The tracking of the design fuel tanker is shown on the attached Drawings 1 and 2. These show that the manoeuvring can be accommodated and that the fuel tanker is able to exit the site in a forward's direction.

The manoeuvring of light vehicles entering the proposed service station from the northern Amohia Street vehicle crossing and exiting via the southern vehicle crossing is shown on the attached Drawing 3. The drawing shows that the manoeuvring can be readily accommodated and that the vehicles are able to exit the site in a forward's direction.

RESPONSE TO THE REQUEST FOR FURTHER INFORMATION

1. Traffic Data

Council has queried the traffic data used in the original transportation assessment report. A traffic count has since been undertaken on Kapiti Road and the assessment in the report updated accordingly. It is understood that this is therefore resolved.

Council has stated that they still have some outstanding safety concerns. These are addressed in the relevant section of this report.

2. Peak Hour Congestion

Council has queried the times that the surveys that were undertaken. The queue length, pedestrian movement and driveway surveys were carried out between 8.00am and 9.30am and between 4.00pm and 5.30pm on Monday 13 August 2018. These surveys cover the morning and evening peak hour periods identified in the traffic count, being 8.00am to 9.00am and 4.00pm to 5.00pm. The pedestrian surveys have since been updated, as discussed earlier in this report.

3. Conflict Along Kapiti Road

Again, Council has queried the times of the surveys that were undertaken. This is addressed above.

Council has queried the potential queuing at the Kapiti Road access and the assessment given in Section 10.12 of the transportation assessment report. As noted in the report, the traffic generation of the proposed service station is expected to be primarily pass-by traffic that is already on the road network, there is expected to be very little additional traffic (excluding for now vehicles associated with the leased on-site car parking). Any additional queuing on the overall road network, other than at the site access, due to an increase in traffic is therefore expected to be negligible.

At the Kapiti Road access, vehicles turning left into the site will not be required to give way to any other vehicle movements. As the access has sufficient width to accommodate the two-

way movement of vehicles, entering vehicles will not need to give way to exiting vehicles. These vehicles will therefore have unimpeded access and the expected queue length is zero.

Vehicles turning right into the site will only need to give way to westbound vehicles on Kapiti Road and vehicles turning left into the site. There are two scenarios to consider as follows:

- When there is a stationary queue of vehicles westbound on Kapiti Road: Hatched markings are presently provided on the road pavement that are intended to prevent vehicles stopping across the site access. The gap created by these hatched markings will allow a vehicle to turn into the site when there is a stationary westbound queue. Hence there is not expected to be any appreciable queue of eastbound vehicles while there is a stationary westbound queue.
- When there is a moving flow of vehicles westbound on Kapiti Road: Vehicles turning right into the site do have the potential to disrupt the eastbound flow of traffic on Kapiti Road. The analysis given in Section 10.12 and Table 13 of the transportation assessment report covers this situation. The modelling has been carried out on the basis that a vehicle stopped waiting to turn right into the site will block the right hand through traffic lane. The analysis has identified an expected 95th percentile queue length of 0.1 vehicles. This shows that any queueing associated with the right turn into the site is expected to be negligible.

In practice, it is expected that if there is any significant delay to the right turn movement into the site from Kapiti Road, then regular users may choose to alter their route so that they instead turn left into the site from Amohia Street. This re-routing of vehicles will have the effect of reducing any potential queueing associated with the Kapiti Road right turn.

It is noted that any queuing associated with vehicles exiting the site will be contained within the site and will not affect the existing queues on the road network.

The proposed site layout includes 28 car parking spaces. It is understood that these will be leased, rather than being made available for public parking. The peak hour traffic generation of a car park is typically 0.7 veh/h/space, giving a peak hour traffic generation of approximately 20 veh/h. The movements are expected to be primarily inbound during the morning peak and outbound during the evening peak. It is expected that some vehicles will choose to use the Kapiti Road access while some will use the Amohia Street access. While the likely distribution of vehicle movements between the two roads is not known, again it is noted that, if there is any significant delay to the right turn movement into the site from Kapiti Road, then regular users may choose to alter their route so that they instead turn left into the site from Amohia Street.

The expected traffic generation of 20 veh/h is however small (on average one vehicle every three minutes) and is less than the daily variation in hourly traffic volumes. It is also expected that the majority of parking spaces are likely to be leased to commuters, who are likely to arrive before and depart after the peak on the road network. Any effects associated with these parking spaces are therefore expected to be minimal.

4. Comparable Service Stations

Council has queried how the existing service stations given in the transportation assessment report are comparable. The service stations given in Figure 4 of the transportation assessment report are comparable in that they are all Gull, automated self-service service stations whereby customers pay at the pump. The service stations included are:

- SH16 Kumeu.
- Te Rakau Drive Auckland (eastbound).
- Norton Road Hamilton.
- Ohaupo Road Hamilton (southbound).
- SH2 Bethlehem (eastbound).
- Fraser Street Tauranga.
- Parton Road Tauranga.
- Rifle Range Road Taupo.

The service stations are located adjacent to roads with a range of frontage traffic volumes which allows the relationship between traffic volumes and traffic generation to be determined. The data is therefore directly relevant to the proposed service station.

The Norton Road, Ohaupo Road and Bethlehem stations are located adjacent to busy intersections. Due to the relatively low number of automated Gull service stations, no data is available for a service station located adjacent to a railway line.

5. Traffic Generation

Council has queried the traffic generation rate used in the assessment. The traffic generation rate is based on a percentage of passing traffic determined from information at other Gull service stations. This has been addressed in Section 8.1 of the transportation assessment report and the additional information above. As every transaction requires two traffic movements, an inbound and an outbound movement, the adopted transaction rate of 2.0% gives a traffic generation rate of 4% of the passing traffic. This is consistent with published data, such as given in the ITE "*Trip Generation*" reference.

6. Pedestrian Movements

Council has requested an assessment of any changes to pedestrian movements associated with the revocation process. This is given in Section 2 of this report. This has identified that there is expected to be an increase in the number of pedestrians crossing both the entry to the site from Amohia Street and the exit from the site via the transport hub area. To accommodate the pedestrian movements, it is proposed to provide a standard vehicle crossing at the entry from Amohia Street and a raised pedestrian threshold at the exit to the transport hub area. These treatments are consistent with the expected pedestrian movements, with any potential conflict with pedestrians assessed as negligible.

7. Safety Assessment

7.1. Manoeuvring from Site to Road

Council has noted that manoeuvring to and from the site has been a safety issue in the past. The crash history given in the transportation assessment report identified two crashes associated with the Kapiti Road access, one involving a bus turning right into the railway station hitting a pedestrian and one involving a bus turning right into the railway station hitting a car stopped at the traffic lights. The safety issues therefore appear to be primarily associated with the use of the site by buses. It is understood that the buses were using the site on a regular basis, whereas the traffic associated with the proposed service station will be primarily light vehicles.

The crash history has not identified any crashes related to the existing Amohia Street access. While the proposed changes associated with the revocation process are expected to increase the number of pedestrians and cyclists using the paths across the vehicle crossings, as noted above, it is recommended that raised thresholds be provided at both the Amohia Street entry and exit, which will minimise any potential conflict with pedestrians and cyclists.

7.2. Rat Running

This has previously been addressed.

7.3. Conflict with Mobil Service Station

Council has identified potential conflict with the existing Mobil service station. The access to the Mobil service station is located opposite and to the west of the proposed Gull access. A clear line of sight is available between the two access driveways, so vehicles exiting the Mobil site will have a clear view of vehicles exiting the Gull site. While vehicles turning right out of the Mobil site will be required to give way to vehicles turning left out of the Gull site, vehicle speeds are expected to be low. Any conflict is expected to be negligible.

7.4. Swept Paths

Council has identified instances where the tracking of tankers appears to over-run the median. The drawings have been prepared using pdf copies of the drawings as provided by Council. For improved accuracy, a copy of the drawings is required in dwg format. While drawings in this more accurate format have been requested, NZTA has declined to provide copies.

The Gull fuel tankers are no bigger than the standard NZTA 19.0m long heavy vehicle that is used for road design purposes. It is expected that NZTA will design the road in accordance with current design standards, which will include the provision of appropriate lane widths to accommodate heavy vehicles of this size. Provided that the NZTA design of the road is in accordance with current design standards, then it will safely accommodate the tracking of the fuel tanker, without tracking over the raised median.

Revised tracking is attached that shows the fuel tanker crossing from the through traffic lane onto the left turn lane and keeping within the dashed continuity lines, as permitted.

7.5. Slip Lane

Council are concerned about potential conflict between vehicles using the Amohia Street northern access and vehicles exiting the Jaycar site and the bus stops. The proposed change to a one-way entry at this access will minimise these potential conflicts by removing the exit movement from the site in this location.

Council are also concerned about tankers crossing the cycle lane on entry to the site. Revised tracking is attached that shows the fuel tanker crossing from the through traffic lane onto the left turn lane and keeping within the dashed continuity lines, as permitted.

7.6. Tanker Exit to Kapiti Road

While the drawings show that a fuel tanker, turning left out at the Kapiti Road access, will track over all three westbound traffic lanes, the drawing shows that the tanker will not be required to cross onto the opposing eastbound traffic lanes. It is understood that tanker deliveries will typically be outside of peak hours when traffic volumes will allow this manoeuvre to be undertaken. It is also noted that the tanker will be able to wait on the site until the traffic lanes are available without affecting the flow of traffic.

The drawings show that the left turn exit movement of cars can be accommodated within the nearside traffic lane. While the required clearance extends over the lane line, in practice, it is considered unlikely that a vehicle would turn left out of the site into the nearside lane at the same time as a vehicle is travelling through in the outer lane.

7.7. Left Turn Exit to Amohia Street

Council has noted that the drawings show a vehicle exiting from the Amohia Street vehicle crossing over-running the median and landscaping. The proposed access has been revised as discussed earlier in this report so that vehicles exit to the transport hub area. With the revised access design, vehicles will no longer cross over the landscaping or the median island.

7.8. Delivery Vehicles Crossing Landscaping

Council has noted that the drawings show tankers crossing landscaping that is proposed as part of the revocation process and a lane that will not exist in future. Again, with the revised access design, vehicles will no longer cross over the landscaping or traffic lanes that will not be available in future.

7.9. Tanker Left Turn From Kapiti Road Onto Amohia Street

Council has requested a drawing showing the tracking of a tanker turning left from Kapiti Road onto Amohia Street. It is confirmed that the proposed tanker route does not include a left turn from Kapiti Road onto Amohia Street.

It is noted that when the tanker turns left out of the site onto Kapiti Road, the tractor unit of the tanker will track over the right turn lane before straightening up. Once straightened up, the tanker will only occupy the central through traffic lane. It is understood that the delivery plan for the site can specify that tankers do not exit the site until sufficient space is available for the manoeuvre. As deliveries will typically be once or twice per week, any effects of the exit manoeuvre are expected to be negligible.

7.10. Vehicles Turning Left Onto Amohia Street

Council has stated that vehicles turning left onto Amohia Street will create conflict with cyclists, southbound traffic and the entry to the (railway) station. As noted earlier, the design of the proposed service station has been updated so that light vehicles will exit via the transport hub area. This will avoid potential conflict between vehicles exiting the site, vehicles entering the transport hub area and cyclists.

7.11. Crash Rate

Council has noted that the intersection of Amohia Street and Kapiti Road has a high crash rate. The reported crash history was given in section 6 of the TIA report, with an assessment given in Section 12 of the report. This noted that the number of crashes is expected to reduce as traffic volumes reduce following the opening of the SH1 expressway. It is also noted that the traffic associated with the service station is expected to be primarily pass-by traffic, with little additional traffic. It is also noted that the proposed access to the site will be greater than 30m from the intersection, minimising any potential effects on the intersection. It is therefore assessed that any effects on the safety of the intersection will be negligible.

7.12. Conflict Between Car Park Users:

As noted earlier, it is expected that the car parks will be leased to commuters, who are likely to arrive prior to, and depart after, the morning and evening peaks of the road network. A

footpath is available along the eastern side of these car parks, however for approximately half of the parking spaces, this footpath is elevated and therefore not able to be used. While the number of pedestrian movements is expected to be small, speed humps are proposed to be provided within the parking area to ensure that vehicle speeds are compatible with the movement of pedestrians. A white line is also proposed which will direct southbound vehicles away from the parked cars, leaving an area for pedestrians. The updated drawings show that the tankers will track close to but will not track over the car parks.

7.13. Swept Path of Delivery Vehicles

As noted above, the updated drawings show that the tankers will track close to, but will not track over, the car parks. As the spaces will be leased, a maximum size vehicle can be specified in the lease agreement. This will ensure that a truck over 5.0m long will not be permitted to use the parking spaces.

7.14. Conflict Between Delivery Vehicles and Pedestrians

Addressed in item 7.12 above.

7.15. Car Parking for Service Vehicles

The servicing of equipment by vans is infrequent and occurs outside of peaks. While the provision of a dedicated parking space for the van is not considered necessary, the latest plan shows a dedicated parking space that may be used by the service van when required.

7.16. Disabled Spaces

The latest plans show two disabled car parking spaces in accordance with District Plan requirements.

7.17. Sight Lines

Council has queried the available sight distances at the proposed exit onto Amohia Street. As discussed earlier in this report, a revised design is now proposed with the exit onto Amohia Street relocated via the existing transport hub area.

An assessment of the available sight distances is given earlier in this report.

7.18. Access Spacing

Council has expressed concern at the close proximity of the proposed access to the existing Jaycar access. This was addressed in Section 10.6 of the transportation assessment report. The author is not aware of any specific derivation for the required minimum spacing of 15m between accesses, as given in the District Plan. A comparison with the NZTA requirements for a State highway, as given in the "*Planning Policy Manual*" (PPM), shows no minimum spacing for speeds of less than 70km/h.

Reasons for providing a minimum spacing between accesses are typically:

- To reduce the number of accesses along a route.
- To provide a refuge area between access where pedestrians may wait, if required.
- To minimise conflict between vehicle turning movements.

In the case of the subject site, increasing the available separation distance to the required 15m will not reduce the number accesses along Amohia Street. The proposed separation

distance is sufficient to provide a pedestrian refuge area between the accesses. The proposed design with dedicated left turn entry lane and separate left turn exit will minimise any potential conflict between the accesses. It is therefore considered that any effects of the non-compliant separation distance will be negligible.

7.19. Traffic Flow Within Site

This has been addressed.

7.20. Right Turn Movements In and Out Of Kapiti Road

Council has stated that there is no way right turn movements in and out of the site can be prevented at the Kapiti Road access. It is confirmed that it is not proposed to ban the right turn movements.

Section 3 of this report has identified that, when there is a stationary queue of vehicles westbound on Kapiti Road, the hatched markings will minimise the number of vehicles stopping across the site access allowing right turn movements in and out of the site. When there is a moving flow of vehicles westbound on Kapiti Road, the analysis given in the transportation assessment report shows that the right turn movements are expected to operate efficiently with low delays, negligible queues and a high level of service. It is noted that the right turn out of a site typically has the lowest level of service. Any queuing associated with right turning vehicles exiting the site will be contained within the site and will not affect the flow of traffic on Kapiti Road.

8. Additional Comments

Council's Roading Team has commented that more up to date revocation plans are available. As noted in Section 7.4 of this additional report, a copy of the latest plans in pdf format has been provided and, while more accurate plans in dwg format have been requested, this request has been declined. The drawings have however been updated using the most recent pdf drawings that have been provided.

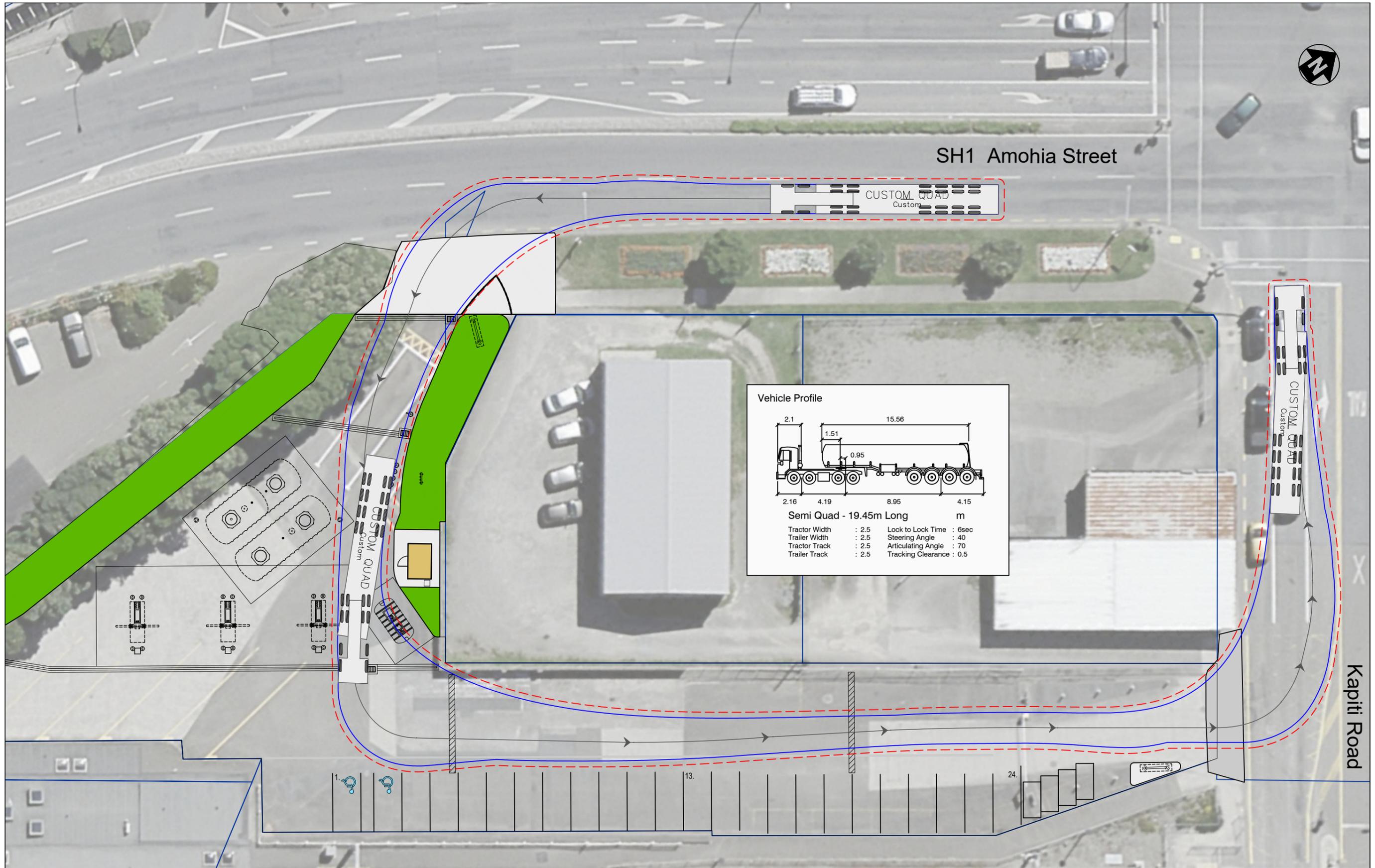
We trust that this additional assessment provides sufficient information, however, if you have any queries or require any clarification please do not hesitate to contact us.

Yours sincerely,



Bruce Harrison

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Mobile: 027 221 6926
Email: bruce@harrisontransportation.co.nz



Vehicle Profile

Semi Quad - 19.45m Long m

Tractor Width	: 2.5	Lock to Lock Time	: 6sec
Trailer Width	: 2.5	Steering Angle	: 40
Tractor Track	: 2.5	Articulating Angle	: 70
Trailer Track	: 2.5	Tracking Clearance	: 0.5

No	DESCRIPTION	DATE	CHK
1	Sight tracking added	23.10.18	BH
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

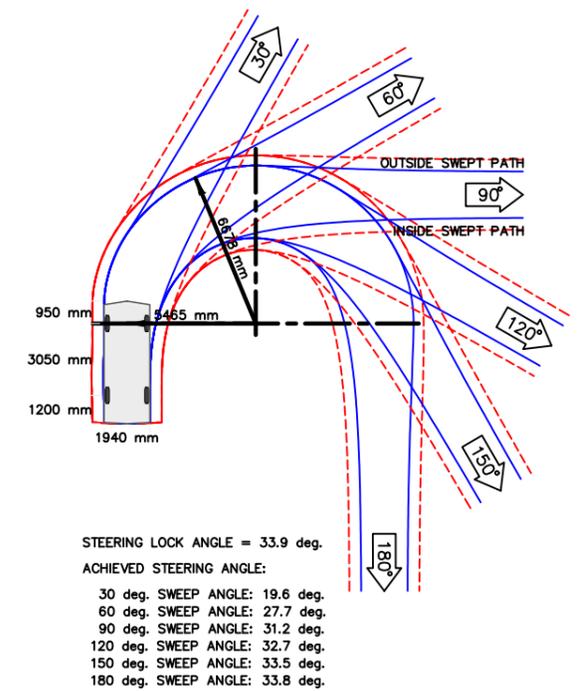
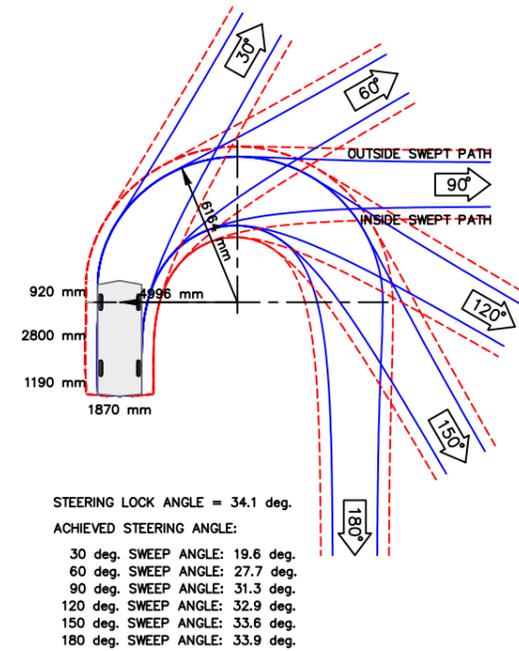
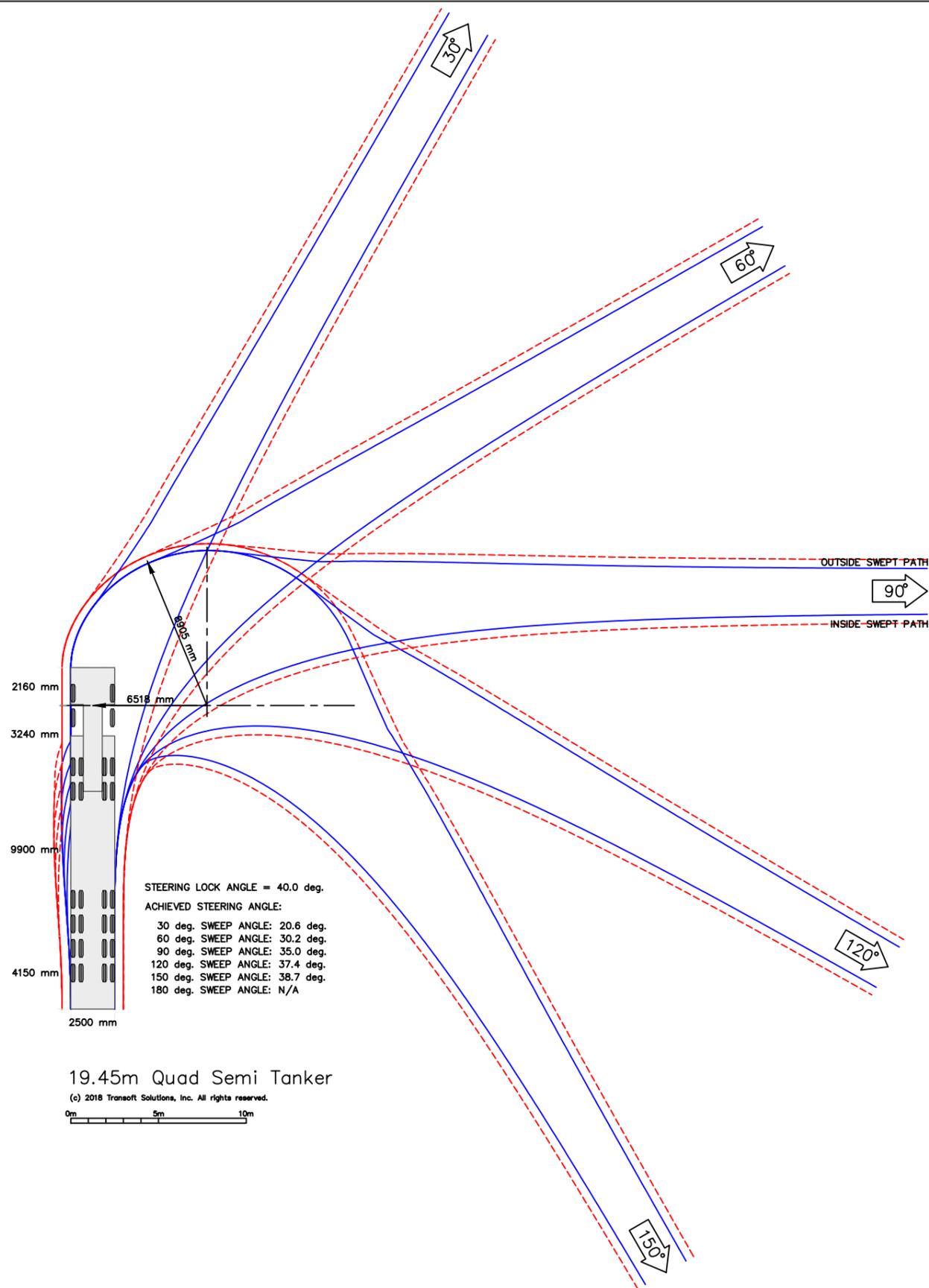
Gull Paraparaumu
 3 Kapiti Road, Paraparaumu
 Vehicle Tracking



Harrison Transportation
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 Email: bruce@harrisontransportation.co.nz

Design	BH	Job No.	CAD File	Z158
Drawn	JT	276	Plot Date	03.07.19
Checked	BH		Rev.No.	
Date	16.03.18	Drawing No.	276-01	1
Drawing	1 of 8			

DRAWING No
01
 SCALE
 1:300 @A3



No	DESCRIPTION	DATE	CHK
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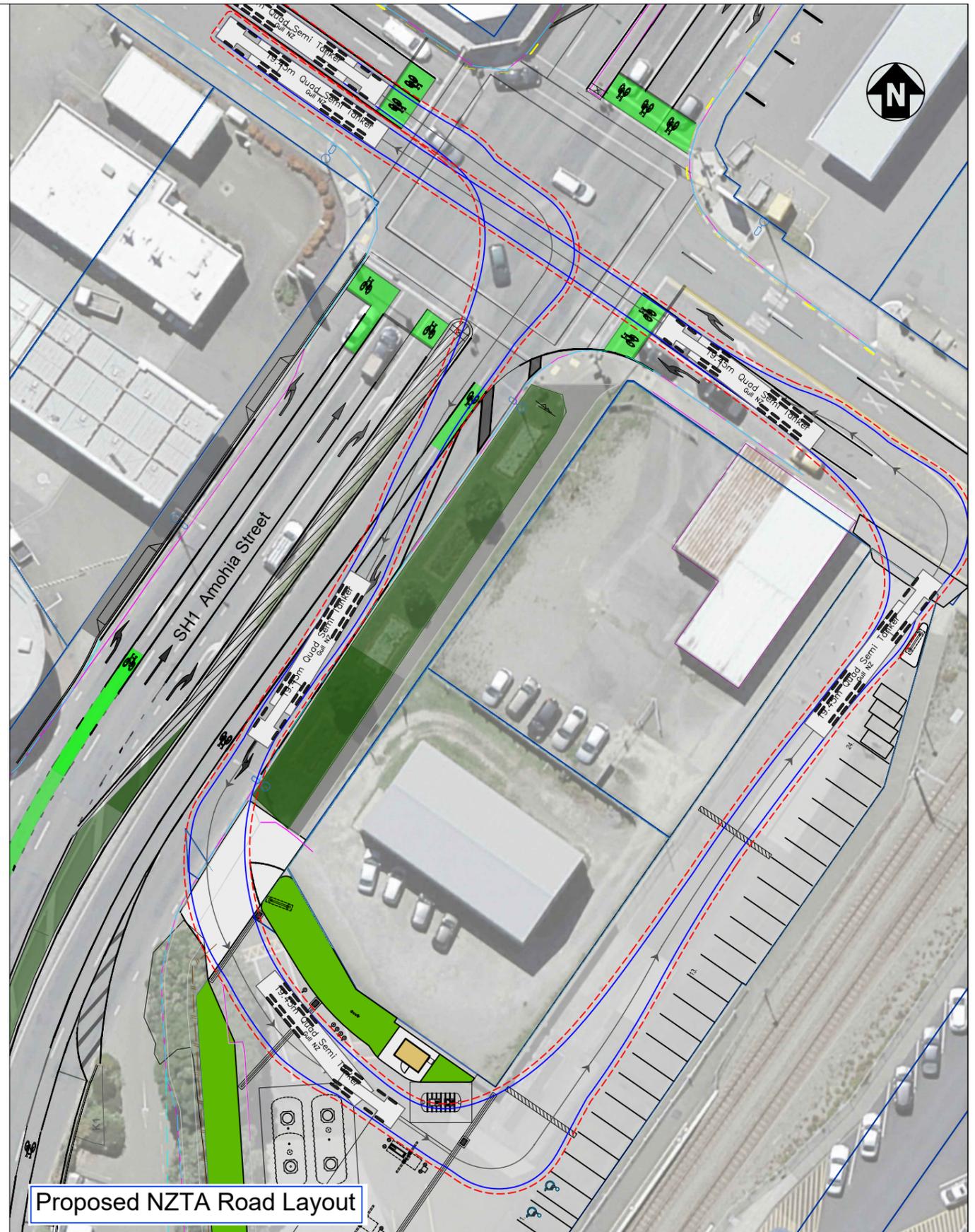
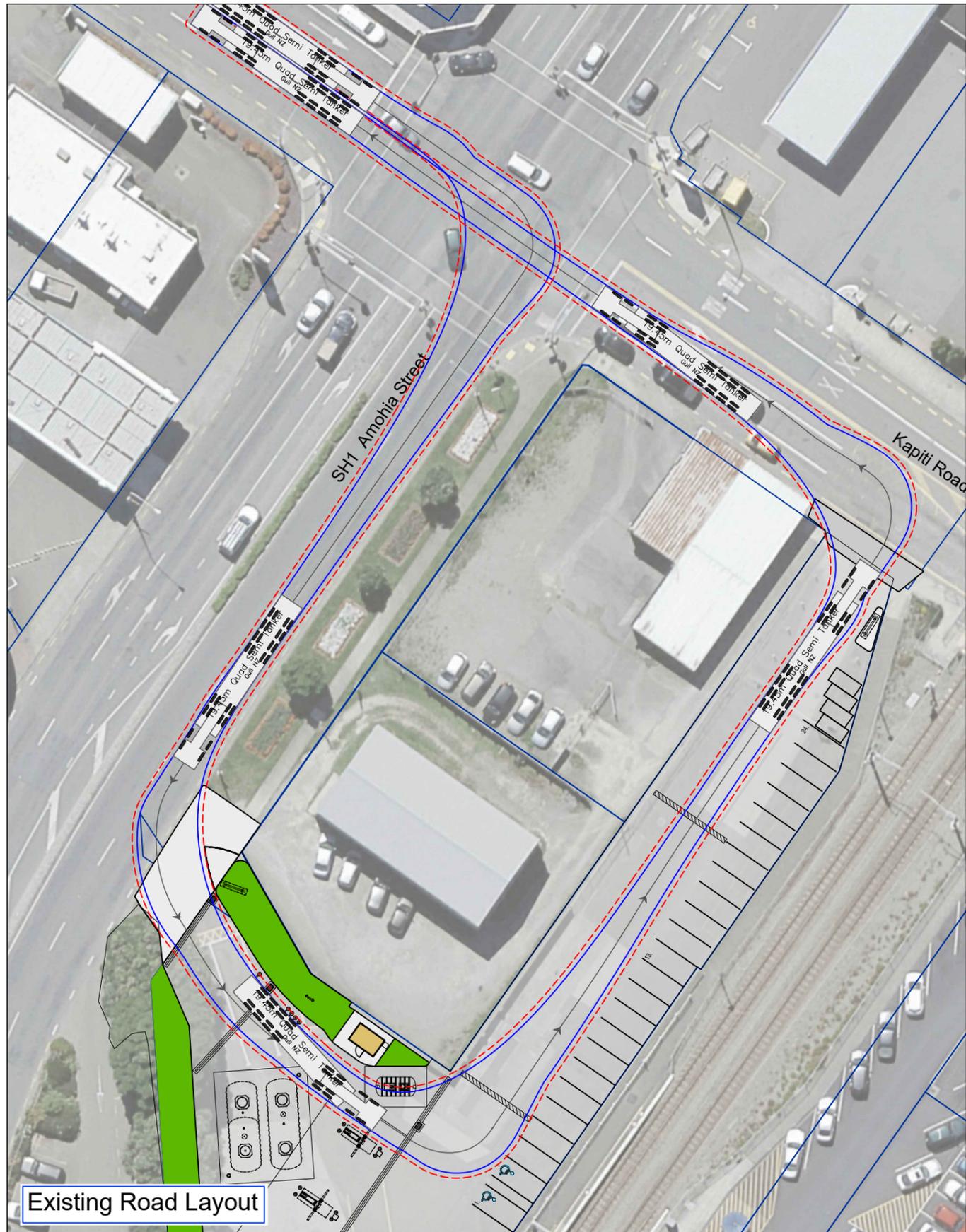
Gull Paraparaumu
 3 Kapiti Road, Paraparaumu
 Vehicle Tracking - NZTA Road layout



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Design	BH	Job No.	CAD File	Z158
Drawn	JT	276	Plot Date	03.07.19
Checked	BH		Rev.No.	
Date	16.03.18	Drawing No.		
Drawn	4 of 8	276-04		

DRAWING No
04
 SCALE
 N.T.S. @A3



No	DESCRIPTION	DATE	CHK
1	Sight tracking added	23.10.18	BH

Gull Paraparaumu
 3 Kapiti Road, Paraparaumu
 Tracking, Existing and Proposed Layouts



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Design	BH	Job No.	
Drawn	JT	276	CAD File Z158
Checked	BH		Plot Date 03.07.19
Date	16.03.18	Drawing No.	Rev.No.
Drawn	7 of 8	276-07	1

DRAWING No
07
 SCALE
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