flow
TRANSPORTATION SPECIALISTS

9 February 2023

Dylan Pell
Metlifecare
Level 4, 20 Kent Street
PO Box 37463
Newmarket
AUCKLAND 1151

Dear Dylan

METLIFECARE WHENUAPAI – TRANSPORT MEMO

Flow Transportation Specialists (Flow) has been commissioned by Metlifecare (the Applicant) to assess transport matters relating to the proposed retirement village at 99 Totara Road in Whenuapai, Auckland. The proposal includes 135 Independent Living Units (ILUs) and 50 care beds, with access onto Totara Road (the Proposal).

We have prepared this letter to support the application to the Minister for the Environment for fast-track consenting under the COVID-19 Recovery (Fast-track Consenting) Act 2020.

In summary, we consider that the Proposal

- is aligned with the Whenuapai Structure Plan, with regards to providing urbanised pedestrian and public transport infrastructure on Totara Road
- can provide safe vehicle access onto the existing transport network and provide for safe access to the strategic transport network
- can provide safe access to the existing public transport network, provided upgrades to the pedestrian and public transport infrastructure are provided on the site's frontage. These upgrades can be provided within the existing road corridor, without impacting neighbouring properties
- will generate around 26 vehicles per hour during peak periods, which is unlikely to have a noticeable impact on the road network. The traffic generation is much less compared to if it was developed as low density residential housing, as anticipated by the Whenuapai Structure Plan.

We are of the view that the existing transport network, with the proposed Totara Road upgrades, will provide safe access and connectivity to the surrounding network. The proposed upgrades can be accommodated within the existing road reserve without third party land. We do not consider there to be any transport matters that cannot be overcome to support the safe operation of the Proposal from a transport perspective.

1 THE SITE LOCATION AND TRANSPORT ENVIRONMENT

The site is located at 99 Totara Road in Whenuapai, Auckland, and has an area of 8.9 hectares. The surrounding area is rural in nature. Figure 1 shows the location of the Site in context with surrounding land uses. It is currently zoned as Future Urban Zone in the Auckland Unitary Plan (Unitary Plan).

Figure 1: Site location

The Whenuapai Town Centre is located approximately 2 km to the south. Access to the wider road network is provided through Brigham Creek Road to the south, which connects to SH16 to the west and SH18 to the east.

2 TRANSPORT ENVIRONMENT

Totara Road currently has the following features near the site

- road reserve width of 20 m, consisting of one lane in each direction, a 1.4 m wide footpath on the west side, and grass swales on each side
- a speed limit of 70 km/h in front of the site, which increases to 80 km/h south of the site
- there is a horizontal curve on Totara Road immediately north of the site, which has an advisory speed of 35 km/h

The 114 bus service operates on Totara Road, which connects Hobsonville Point to Westgate. This is a local service which typically operates at an hourly frequency. The nearest bus stops are located

approximately 550 m east of the site. This provides the site with some public transport connectivity, although the walking distance may be far for older residents.

Walking connectivity is somewhat limited in the area, with Totara Road only providing footpaths on one side in this area. There are no safe pedestrian crossing facilities along this stretch of Totara Road.

There are no dedicated cycling facilities in the immediate area. Cycling facilities are provided in the Whenuapai Town Centre approximately 1.6 km to the south. The stretch of Totara Road between the town centre and the Site is a rural road with no road shoulders, and cyclists must share the carriageway with general traffic.

3 THE FUTURE CONTEXT OF THE WIDER AREA

There are several documents which inform the expectations on development timing. We note however that two of these documents are non-statutory, being the Future Urban Land Supply Strategy and the Whenuapai Structure Plan. While being non-statutory, they are guiding documents which provide an understanding on transport and land use integration.

Statutory documents of importance relate to the Auckland Plan which provides a guide for the region's growth over the next 30 years, the Auckland Unitary Plan which sets the framework on how growth is delivered, with the Regional Land Transport Plan (RLTP) setting out the programme of transport investments over the next 10 years.

3.1 The Auckland Plan

The Auckland Plan sets out the anticipated timeframes for Whenuapai's development. The site is located within Whenuapai Stage 2, where land development is projected for 2028-2032 (Map 28 of the Auckland Plan). Major transport projects are set out in the Auckland Plan that ensure transport infrastructure is aligned with land use development. While the RLTP provides a more recent 10-year programme, the Auckland Plan has major projects, such as the SH16-18 interchange completion occurring within Decade Two (2028-2038).

The SH16-18 interchange project is critical to the Whenuapai area as it removes the need for strategic trips travelling between SH16 (north) and SH18 (east) away from Brigham Creek Road. As a result, the timing of widespread land use development within Whenuapai is dependent on this project. However, this does not preclude isolated and low traffic intensity land use developments from progressing ahead of the interchange.

3.2 Regional Land Transport Plan

The most recent Auckland RLTP provides an outline of transport investments for 2021 to 2031. The following projects are scheduled near the Whenuapai area

- Northwest Bus Improvements – Bus station at Westgate and interim bus stops at Lincoln Road and Te Atatu (2021-2024), $85 million

- Greenfield transport infrastructure – Northwest. Projects to support priority greenfield growth areas, including upgrade of Trig Road and new Redhills connections (bulk of funding occurs in 2026-2031, with costs between 2021 and 2026 anticipated to be land acquisition), $142 million
- Northwest Growth Improvements – Local road upgrades supporting growth and facilitating better active and public transport in the Northwest growth area (funding occurs in 2026-2031), $186 million
- SH18 Squadron Drive Interchange Upgrade – West facing ramps to complement existing east facing ramps (2021-2027), $68 million

These projects are primarily focused on relieving pressure from the SH18 Brigham Creek interchange. There are limited projects through the Whenuapai Village, although Brigham Creek Road has been upgraded in recent years, as has the recently urbanised southern section of Totara Road. Collectively, the RLTP projects will improve the accessibility of the site to the wider transport network.

3.3 The Future Urban Land Supply Strategy

The Future Urban Land Supply Strategy (FULSS) was adopted by the Council in July 2017. The FULSS identified Whenuapai Stage 1 as 'development ready' in 2018–2022 and Whenuapai Stage 2 as development ready in 2028 – 2032. The site is located within the Stage 2 area.

Despite the site being identified for future urban growth for the past 23 years within many separate Council strategy documents, it is still zoned as Future Urban Zone with no clear pathway for it to be 'development ready'. The deferral of breaking ground in Whenuapai Stage 2 until 2028 was based on the unavailability of bulk wastewater capacity pending the completion of the Northern Interceptor. That infrastructure is now in place.

3.4 The Whenuapai Structure plan

The site is zoned Future Urban Zone in the Unitary Plan, and has not yet been live zoned for urban development. Future urban development within Whenuapai is guided by the Whenuapai Structure Plan (2016)[1], which

- identifies the Site for future "low density" residential zoning
- identifies the Site as part of the "Stage 2" live zoning, expected between 2017 and 2027
- identifies Totara Road as a key bus and cycling corridor through the area. Urbanisation is expected to require Totara Road be upgraded to include footpaths, protected cycle infrastructure, bus stops, lighting and drainage, among other elements.

The proposed development of the site is consistent with the use that is anticipated in the Structure Plan. The project is considered to give effect to the overall objectives and aspirations of the Structure Plan but

[1] https://www.aucklandcouncil.govt.nz/plans-projects-policies-reports-bylaws/our-plans-strategies/place-based-plans/Documents/whenuapai-structure-plan-september-2016.pdf

in an accelerated delivery timeframe owed to the consenting process under the Fast Track Consenting Act.

4 THE PROPOSED DEVELOPMENT

4.1 Proposed activities

The proposed retirement village will consist of 135 ILUs and 50 care beds, a total of 185 retirement village units. The anticipated number of residents and staff members for the development is summarised in Table 1.

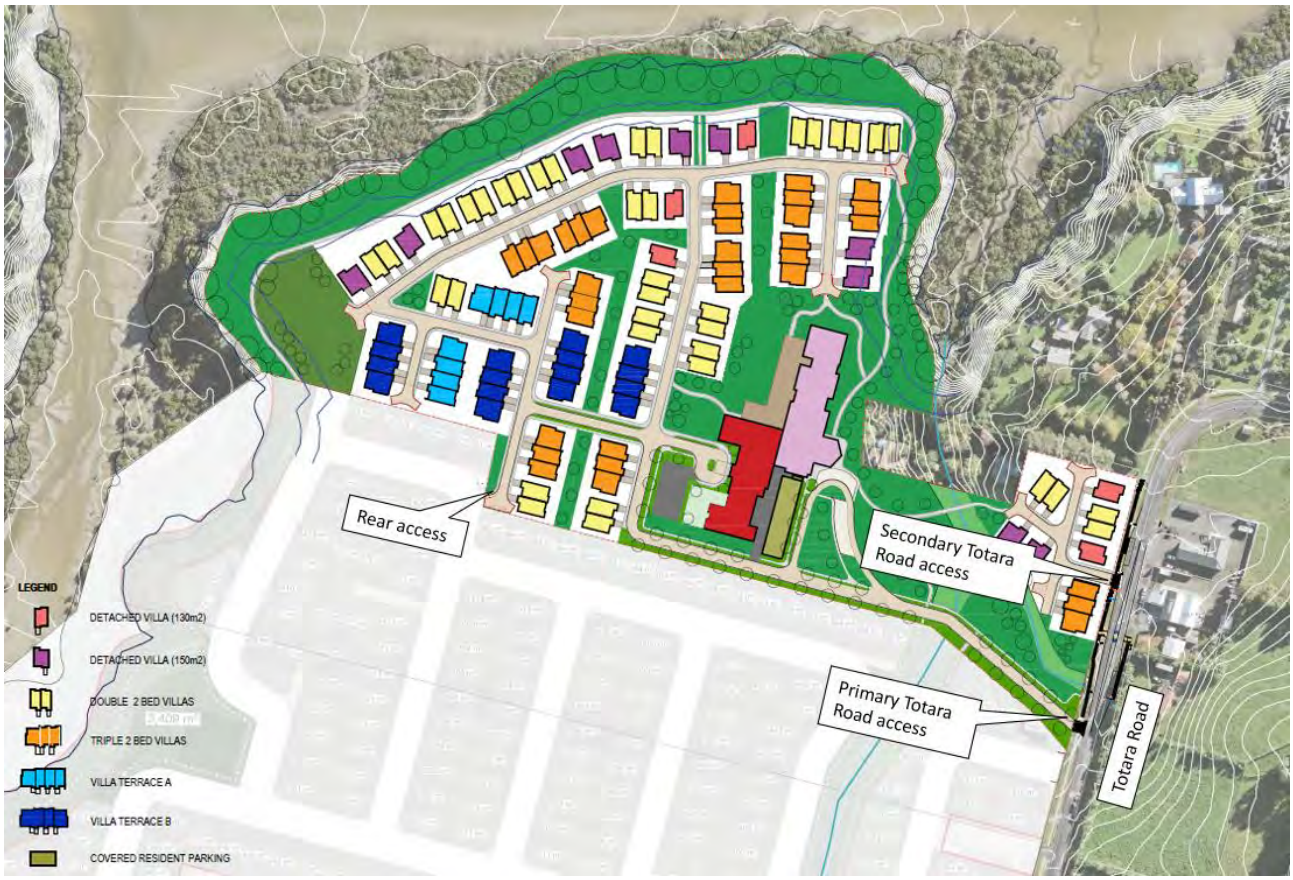
- The development is anticipated to accommodate 200 to 250 residents, based on average occupancies from other Metlifecare villages
- Approximately 15 FTE staff members are expected to service the ILU and care components of the village.

Table 1: Number of units, residents and staff members

Activity	Units	People per unit	Number of residents and staff
ILUs	135	1.3	176 residents
Care	50	1.0	50 residents
Staff, ILUs (FTE)	n/a	n/a	5 staff
Staff, Care (FTE)	n/a	n/a	10 staff
Total	**n/a**	**n/a**	**200 to 250 people**

A concept of the Proposal is shown in Figure 2, setting out the location of activities and transport elements. The internal road network will be developed further in later stages, but there are no reasons to prevent this from operating safely.

Figure 2: Proposal Concept



4.2 Totara Road upgrades

To support the development, we propose that the following upgrades are provided along the site frontage

- bus stops on both sides of Totara Road with concrete pad waiting areas. The bus stops will service the 144 route
- 1.8 m footpaths, along the site frontage on the west side and near the proposed bus stop on the east side of the road
- a pedestrian refuge crossing to connect the bus stops
- minor road widening to accommodate the bus stops and the pedestrian refuge island within the available road reserve.

A concept plan of these upgrades is shown in Figure 3 and is attached to this letter.

These upgrades will ensure that pedestrians from the Proposal can safely access new bus stops. This will prevent residents from walking 550 m east to the nearest existing bus stops. The new and widened footpaths and the refuge crossing will ensure that the bus stops are accessible by residents, particularly those with mobility scooters. The improvements will provide access to the site by staff, and access for residents to important local destinations including Whenuapai Town Centre, Westgate Metropolitan Centre, as well as onward connections by bus at Westgate and by ferry at Hobsonville Point. Collectively, these upgrades will reduce reliance on vehicle trips and provide a safe alternative transport choice.

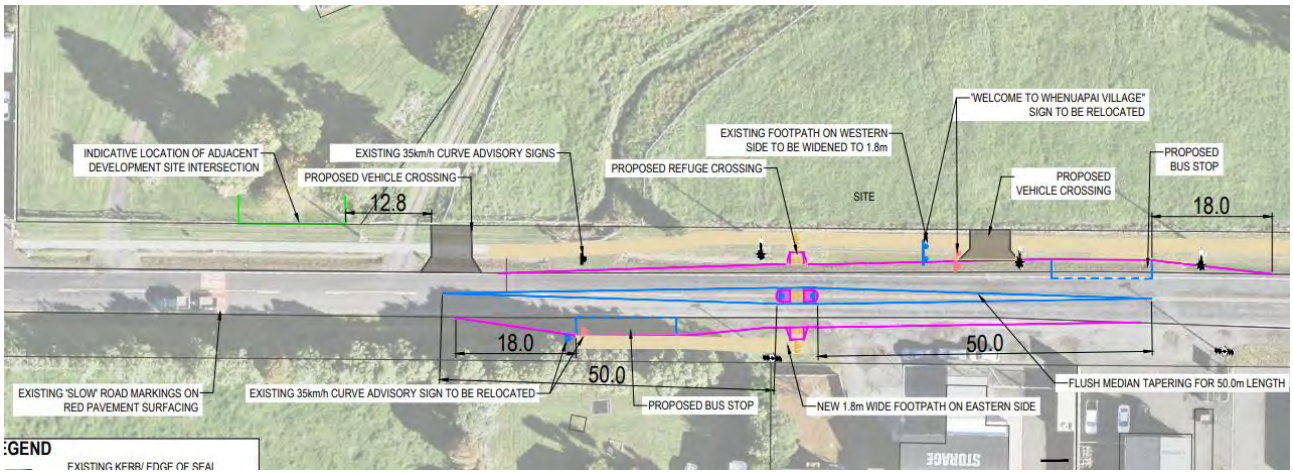
The concept design will likely be refined subject to the following matters at a later stage

- Neil Construction Ltd is constructing a 244 lot residential subdivision known as 'Totara Landing' immediately south of the site. Based on a proposed subdivision plan, a vested intersection will be provided immediately south of the site. Our proposed upgrades will need to coordinate with this proposed intersection
- An overflow flood path is located on Totara Road near the proposed upgrades. Specialist stormwater advice will need to be provided at a later design stage.

The upgrades are also consistent with the urbanisation of Totara Road, as outlined in the Whenuapai Structure Plan. While cycleways are not shown on our concept plan, these could be provided if the Totara Landing development is also providing these along Totara Road. Coordination with the Totara Landing development should be undertaken in Stage 2 of this application.

While these details may change the concept design of the upgrades, we anticipate that they can be constructed within the available road reserve without requiring third party land.

Figure 3: Proposed Totara Road upgrades



5 VEHICLE ACCESS

Three vehicle access points are proposed

- A primary access onto Totara Road on the southeast corner, which will serve the majority of the site. This access can be constructed as a two-way access
- A secondary access onto Totara Road on the northeast corner. Based on the current masterplan, this will serve 11 units directly. A two-way access may be required if more than 10 parking spaces are proposed
- A rear access at the southwest corner onto the Totara Landing road network.

We note that the proposed secondary Totara Road access will be located close to the existing horizontal bend to the north. The proposed vehicle access will need to be located to provide a minimum of 85 m of visibility between the access and southbound traffic exiting the horizontal bend. This is based on our observed operating speed of 45 km/h around the curve, which results in a Safe Intersection Sight Distance requirement of around 85 m under Austroads.

The primary Totara Road access can achieve sufficient visibility on both directions. This access is in almost the same location as the existing access point.

For both Totara Road accesses, the anticipated operating speed is around 80 km/h to the south.

The attached visibility plans show that sufficient visibility can be provided at both Totara Road accesses.

6 TRIP GENERATION

In order to assess the potential vehicle trip generation of the proposed village, we have used a combination of trip generation rate information from the RTA guidelines[2], the ITE Parking Generation Manual and the results of trip generation surveys undertaken by Flow at similar retirement villages[3]. That data collectively suggests a trip generation rate of 0.14 trips per ILU and 0.14 trips per care bed.

Table 2: Potential vehicle trip generation for a retirement village

Dwelling type	Dwellings	Trip generation rate	Peak hour vehicle trips
Independent living units	135 ILUs	0.14	18.9
Care beds	50 beds	0.14	7.0
Total			**26 vehicle trips/hour**

We anticipate that the Proposal would result in a morning and afternoon peak hour trip generation of 26 vehicles per hour. This level of traffic is low, and unlikely to have any noticeable impact on the wider network. This is approximately 2% of the 2022 peak hour volumes on Brigham Creek Road by Airport Road.

By comparison, we estimate that the Site would generate approximately 89 vehicle trips per hour if the Site was developed for general residential purposes (as assumed by the Whenuapai Structure Plan). The following sets out our assessment of this potential

- development area: 8.96 hectares
- assumed loss for public infrastructure: 30%
- assumed future zoning: Single House zone (minimum lot sizes: 600 m^2)
- net number of lots: 89,600 x 70% / 600 m^2 = 105 lots
- trip generation rate: 0.85 trips per hour per lot
- estimated vehicle trips: 105 x 0.85 = 89 vehicle trips per hour

[2] The Road and Traffic Authority of New South Wales (RTA), *Guide to Traffic Generating Developments, Version 2.2*

[3] Surveys undertaken by Flow Transportation Specialists at Lady Allum, Milford (2008); Trevellyn, Hamilton (2008); Beechworth, Albany (2010); Meadowbank, Meadowbank (2007, 2008 and 2009); Elmwood and Eden Retirement Villages (2018)

The potential retirement village is estimated to result in less than a third of the vehicle trips than the case where the site is developed for traditional housing. This means that the potential trip generation of a residential activity would likely be higher than assumed above, as more density would be enabled.

The main capacity constraint in the local Whenuapai Road network is the Totara Road / Brigham Creek Road intersection. The majority of traffic associated with the Site will travel via this intersection. The intersection was signalised in approximately 2017 to enable Stage 1a of the Structure Plan. This upgrade has provided 3 lanes on each Brigham Creek Road approach (including 2 through lanes), and 2 lanes on both the Totara Road and Mamari Road approaches. This is the long-term configuration for the intersection, designed to enable the full urban development within Whenuapai accessed from Totara Road.

In summary, we note that

- peak hour trip generation is low at 26 vehicles per hour
- the site would generate around 89 vehicles per hour if developed as low density housing
- the peak hour trip generation is unlikely to trigger any upgrade requirements of the Totara Road / Brigham Creek Road intersection.

7 CONSTRUCTION TRAFFIC

At this stage, the following details are known about construction that would affect construction traffic movements

- Earthworks can likely be completed in a single season. Civils, establishment and commission the contract would likely take around two years
- The earthworks period is likely to generate the highest number of truck movements
- Approximately 18,000 m^3 of earthworks would need to be removed from site, equating to around 1,000 truck and trailer loads
- Over a 6-month earthworks period, there would be an average of 6 – 8 truck and trailer loads per day.

We anticipate that this volume of construction traffic can be safely managed and any effects on the surrounding road network kept to a minimum. A detailed draft Construction Traffic Management Plan (CTMP) will be provided with the resource consent application, with a condition proposed requiring it to be finalised prior to construction commencing.

In regard to the CTMP, we anticipate the following standard and best practice mitigation measures will be proposed. This is consistent with other similar developments that have been approved for construction in the area, and elsewhere in Auckland.

- Heavy vehicle movements limited to 9 am to 4 pm weekdays only (i.e. outside of peak traffic hours) to minimise disruption to traffic flow on the surrounding streets
- Temporary traffic management on Totara Road to ensure the safety of other vehicles and cyclists on the road, and pedestrians on the footpath

- The provision of on-site contractor parking
- Requirements that all construction loading occurs within the Site, minimising any disruption to the operation of the Totara Road.

8 CONCLUSIONS

To conclude, we consider that the Proposal

- is aligned with the Whenuapai Structure Plan, with regards to providing urbanised pedestrian and public transport infrastructure on Totara Road, despite being developed ahead of schedule
- can provide safe vehicle access onto the existing transport network and provide for safe access to the strategic transport network
- can provide safe access to the existing public transport network, provided upgrades to the pedestrian and public transport infrastructure are provided on the site's frontage. These upgrades can be provided within the existing road corridor, without impacting neighbouring properties
- will generate around 26 vehicles per hour during peak periods, which is unlikely to have a noticeable impact on the road network. The traffic generation is much less compared to if it was developed as low density residential housing, as anticipated by the Whenuapai Structure Plan.

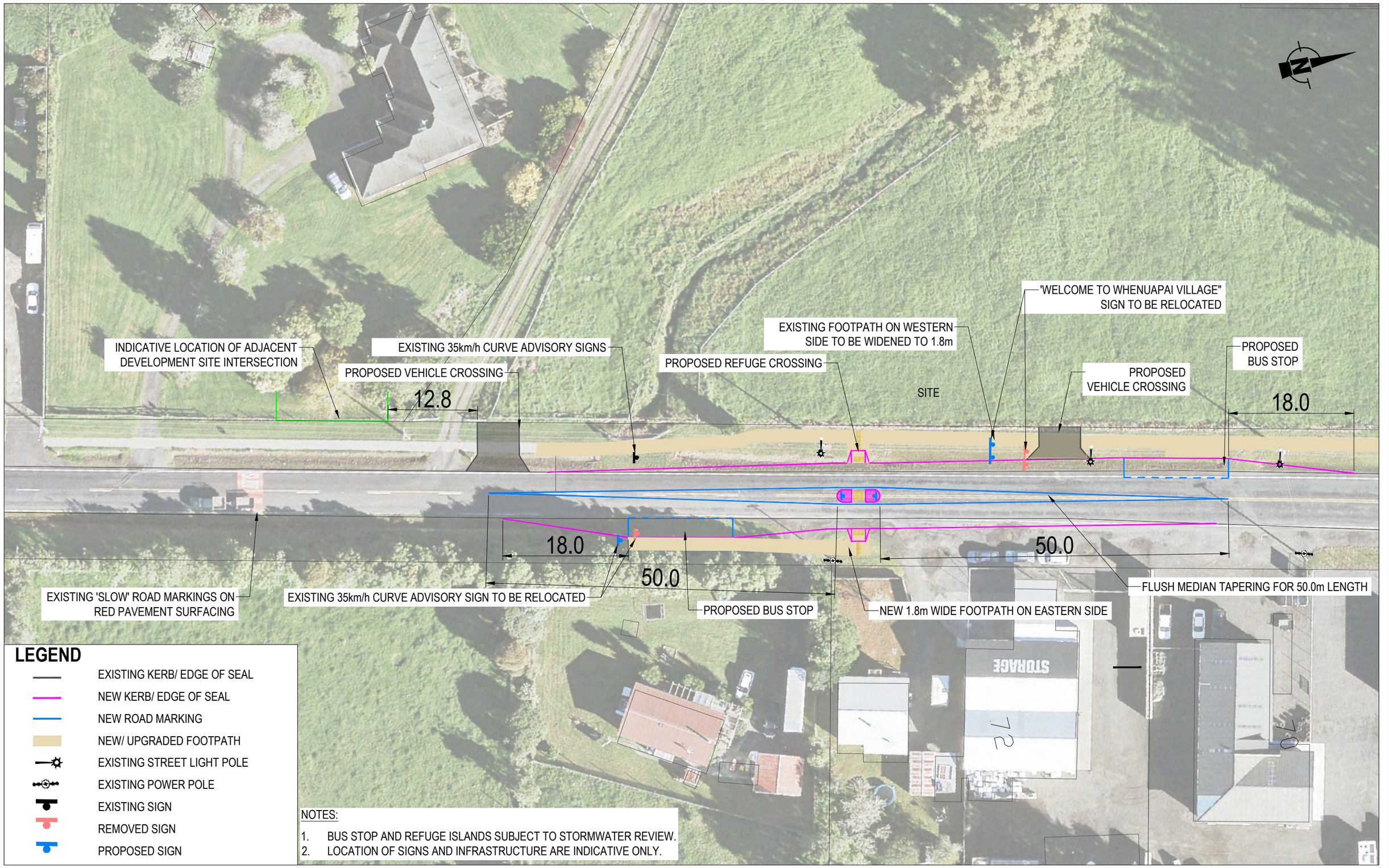
We are of the view that the existing transport network, with the proposed Totara Road upgrades, will provide safe access and connectivity to the surrounding network. The proposed upgrades can be accommodated within the existing road reserve without third party land is required. We do not consider there to be any transport matters that cannot be overcome to support the safe operation of the Proposal from a transport perspective.

Yours sincerely

Harry Shepherd
SENIOR TRANSPORTATION ENGINEER

Michael Jongeneel
ASSOCIATE

Reference: P:\metl\033 Metlifecare Whenuapai\4.0 Reporting\L1B230209 Transport Memo for fast track consent.docx - Harry.Shepherd@flownz.com



LEGEND

- EXISTING KERB/ EDGE OF SEAL
- NEW KERB/ EDGE OF SEAL
- NEW ROAD MARKING
- NEW/ UPGRADED FOOTPATH
- EXISTING STREET LIGHT POLE
- EXISTING POWER POLE
- EXISTING SIGN
- REMOVED SIGN
- PROPOSED SIGN

NOTES:

1. BUS STOP AND REFUGE ISLANDS SUBJECT TO STORMWATER REVIEW.
2. LOCATION OF SIGNS AND INFRASTRUCTURE ARE INDICATIVE ONLY.

0 20m

1 of 5 sheets

scale:	1:500 @A3	design:	EH
ref:	METL033-D-01.	drawn:	EH
revision:	1	checked:	MJ

rev	status	issued
0	First Issue	25/01/23
1	Amended	2/02/23

METLIFECARE WHENUAPAI CONCEPT DESIGN

flow
TRANSPORTATION SPECIALISTS
Level 1, 11 Blake Street, Ponsonby, Auckland | PO Box 47497 Ponsonby
p 09 970 3820 | f 09 970 3890 | www.flownz.com

EXISTING FOOTPATH ON WESTERN SIDE TO BE WIDENED TO 1.8m

SITE

PROPOSED VEHICLE CROSSING

NEW 1.8m WIDE FOOTPATH ON EASTERN SIDE

1.2
3.5
15.0
2.0
4.3
2.8
2.6
15.0
0.7
3.5
1.7
15.0
2.5
2.8
15.0
2.4
3.5
3.8
1.8
2.0

LEGEND

- EXISTING KERB/ EDGE OF SEAL
- NEW KERB/ EDGE OF SEAL
- NEW ROAD MARKING
- NEW/ UPGRADED FOOTPATH
- EXISTING STREET LIGHT POLE
- EXISTING POWER POLE
- EXISTING SIGN
- REMOVED SIGN
- PROPOSED SIGN

NOTES:

1. BUS STOP AND REFUGE ISLANDS SUBJECT TO STORMWATER REVIEW.
2. LOCATION OF SIGNS AND INFRASTRUCTURE ARE INDICATIVE ONLY.

0 10m

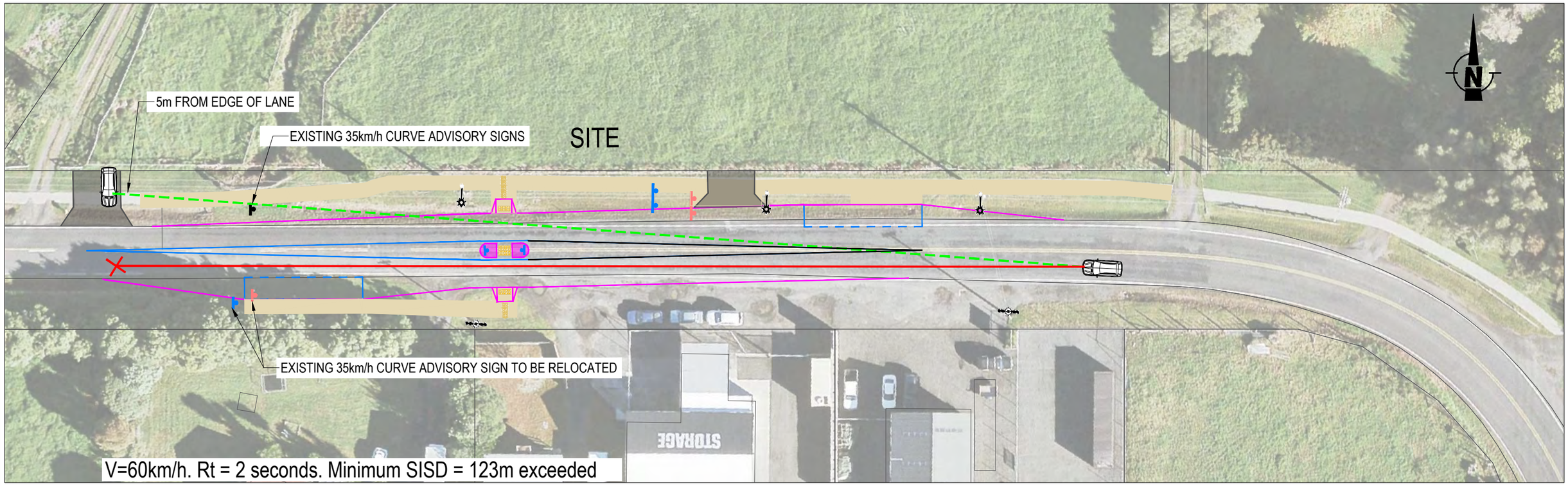
2 of 5 sheets

scale:	1:250 @A3	design:	EH
ref:	METL033-D-01.	drawn:	EH
revision:	1	checked:	MJ

rev	status	issued
0	First Issue	25/01/23
1	Amendment	2/02/23

METLIFECARE WHENUAPAI CONCEPT DESIGN

flow
TRANSPORTATION SPECIALISTS
Level 1, 11 Blake Street, Ponsonby, Auckland | PO Box 47497 Ponsonby
p 09 970 3820 | f 09 970 3890 | www.flownz.com



0 20m

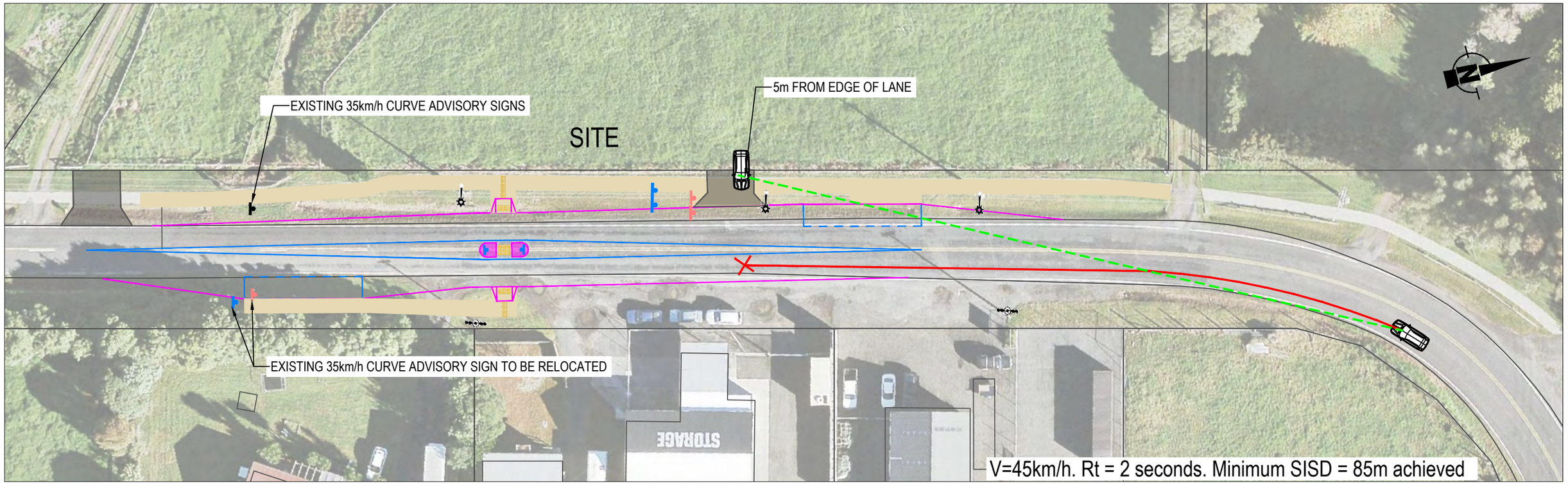
3 of 5 sheets

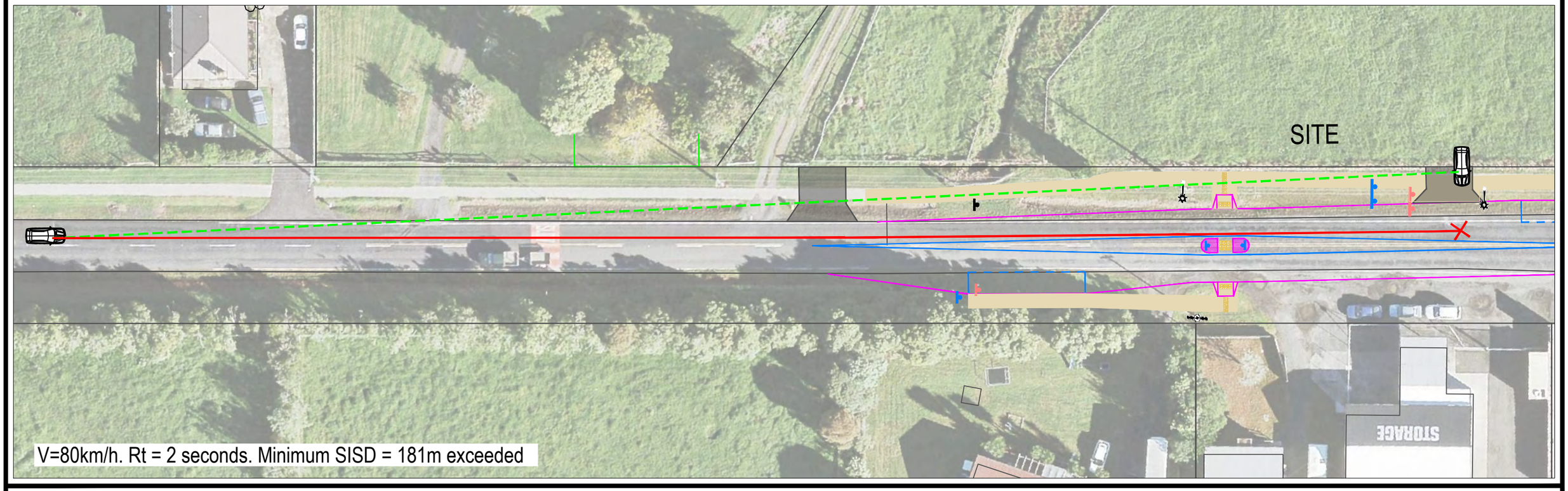
scale:	1:500 @A3	design:	EH
ref:	METL033-D-01.	drawn:	EH
revision:	1	checked:	MJ

rev	status	issued
0	First Issue	25/01/23
1	Amendment	2/02/23

METLIFECARE WHENUAPAI
Safe Intersection Sight Distance - main access

flow TRANSPORTATION SPECIALISTS
Level 1, 11 Blake Street, Ponsonby, Auckland | PO Box 47497 Ponsonby
p 09 970 3820 | f 09 970 3890 | www.flownz.com





0 20m

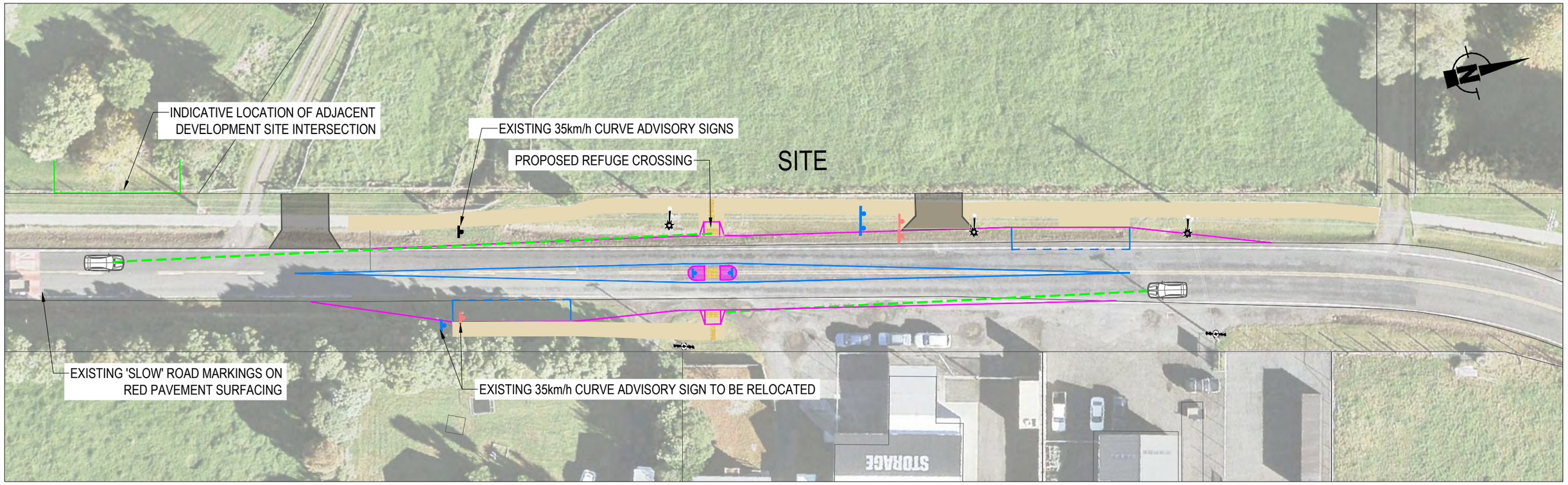
4 of 5 sheets

scale:	1:500 @A3	design:	EH
ref:	METL033-D-01.	drawn:	EH
revision:	1	checked:	MJ

rev	status	issued
0	First Issue	25/01/23
1	Amendment	2/02/23

METLIFECARE WHENUAPAI
Safe Intersection Sight Distance - access 2

flow
TRANSPORTATION SPECIALISTS
Level 1, 11 Blake Street, Ponsonby, Auckland | PO Box 47497 Ponsonby
p 09 970 3820 | f 09 970 3890 | www.flownz.com



V = 80km/h from southern approach. Crossing distance = 4m.
Walking speed = 1.2m/s. Minimum CSD = 76m exceeded to south.

V = 60km/h from northern approach. Crossing distance = 4m.
Walking speed = 1.2m/s. Minimum CSD = 57m exceeded to north.

0 20m

5 of 5 sheets

scale: 1:500 @A3 design: EH
ref: METL033-D-01. drawn: EH
revision: 1 checked: MJ

rev	status	issued
0	First Issue	25/01/23
1	Amendment	2/02/23

METLIFECARE WHENUAPAI
Crossing Sight Distance

flow
TRANSPORTATION SPECIALISTS
Level 1, 11 Blake Street, Ponsonby, Auckland | PO Box 47497 Ponsonby
p 09 970 3820 | f 09 970 3890 | www.flownz.com