Transportation Hearing Report

To:	Gina Sweetman Consultant Planner to Nelson City Council	From:	Mark Georgeson Consultant Transport Expert to Nelson City Council
Project/File:	310204627	Date:	20 May 2022

Reference: Private Plan Change 28 Maitahi Bayview – Transportation Hearing Report

1 Introduction

My name is Mark Georgeson, and I am a Chartered Professional Engineer with 30 years' experience practicing as a traffic engineering specialist. I have presented to numerous Council and Environment Court hearings as a transport expert on behalf of Councils and private development entities throughout New Zealand, including in respect of a number of Plan Change applications.

In this instance I have been asked by Nelson City Council (**Council**) to advance a review of the traffic and transportation matters related to the request lodged by 'CCKV Maitai Dev Co LP and Bayview Nelson Limited' (the **Applicant**) for Private Plan Change 28 (**PPC28**), which seeks to rezone land to the northeast of Nelson city for predominantly residential development.

The purpose of this report is to review the traffic and transport related matters of PPC28, and in doing so assist Council's S42A report writer and the hearing panel in determining and managing the anticipated transport outcomes and effects.

2 Report Summary

Whilst not expert evidence, in preparing this report I have nevertheless read and given regard to the Code of Conduct for expert witness contained in the Environment Court's Practice Note 2014.

I have reviewed the following documents:

- 'Private Plan Change Request CCKV Maitai Dev Co LP and Bayview Nelson Limited' (**PPC Request**), prepared by Landmark Lile Ltd, amended[1] version dated 24 August 2021
- 'Transport Impact Report' prepared by Traffic Concepts Ltd, dated 25 January 2021 (**TIR**);
- 'Maitahi Bayview – Further Information (Transport)' letter prepared by Traffic Concepts, dated 30 August 2021 (**TIR Addendum**) and Traffic Concepts 'Transportation Addendum Figure 21-001', dated 18 August 2021;
- The Joint Witness Statements produced to 20 May 2022; and
- any new matters raised by submitters responding to the PPC28 application.

[1] Amended application report that responds to Council's 'Further Information Request' dated 3 August 2021

This report:

- provides a high-level overview of the PPC28 from a transport perspective;
- describes the review undertaken of the Applicant's assessment of transportation matters;
- reviews the proposed NRMP provisions to control PPC28 development;
- summarises the key matters raised by submitters in response to the PPC28 notification; and
- incorporates the matters discussed during the expert traffic conferencing sessions held on 4th and 10th May 2022, and identifies where agreement was reached, and where there are any outstanding matters amongst the traffic experts.

I then present my overall conclusions. By way of summary, I find that the transport effects of PPC28 can be adequately controlled through the further assessments required at the stage of future subdivision application, against the relevant Objectives, Policies and Rules of the Nelson Resource Management Plan (**NRMP**) and additions proposed through PPC28. The further new provisions to be incorporated into the current PPC28 'Schedule X', as discussed and agreed during the traffic conferencing, to mitigate off-site constraints on the existing transport network will further safeguard development impacts. I note that at the time of preparing this report that the applicant has yet to provide an updated Structure Plan and PPC28 provisions, as Mark Lile advised would be occurring. As such, I have not sighted any updated plan or provisions.

3 Private Plan Change 28

PPC28 proposes to rezone 287-hectares of land to the northeast of Nelson City, through the Kaka Valley to Bayview, from 'rural' to a mixture of rural-residential, residential, open space and suburban commercial. The location and extent of PPC28 area is illustrated in Figure 1 below.

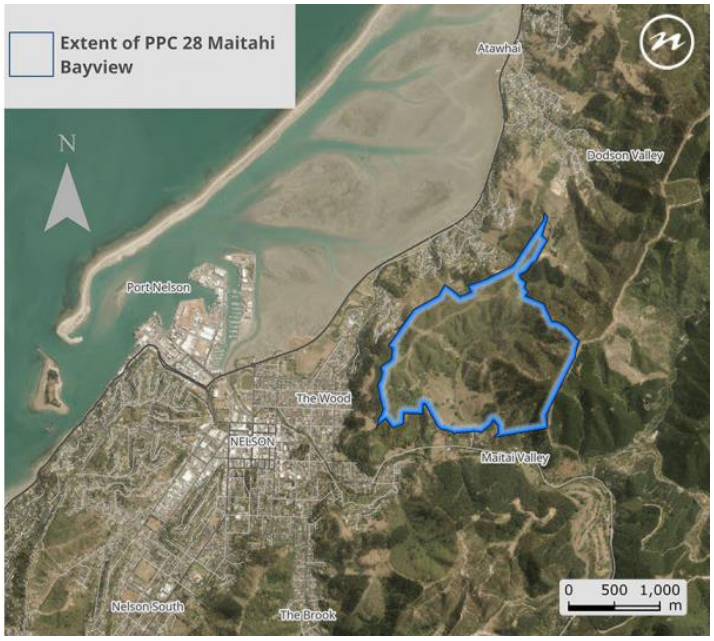


Figure 1: PPC28 Location and Extent

The Applicant has prepared a Structure Plan for the site which is reproduced below, and provides for the following:

- 750 new dwellings;
- some suburban commercial centre development;
- an internal road link between Bay View Road (to the north) and Ralphine Way (to the south); and
- supporting internal walking and cycling trails.

I have undertaken my review against these high-level expectations of development of the site.

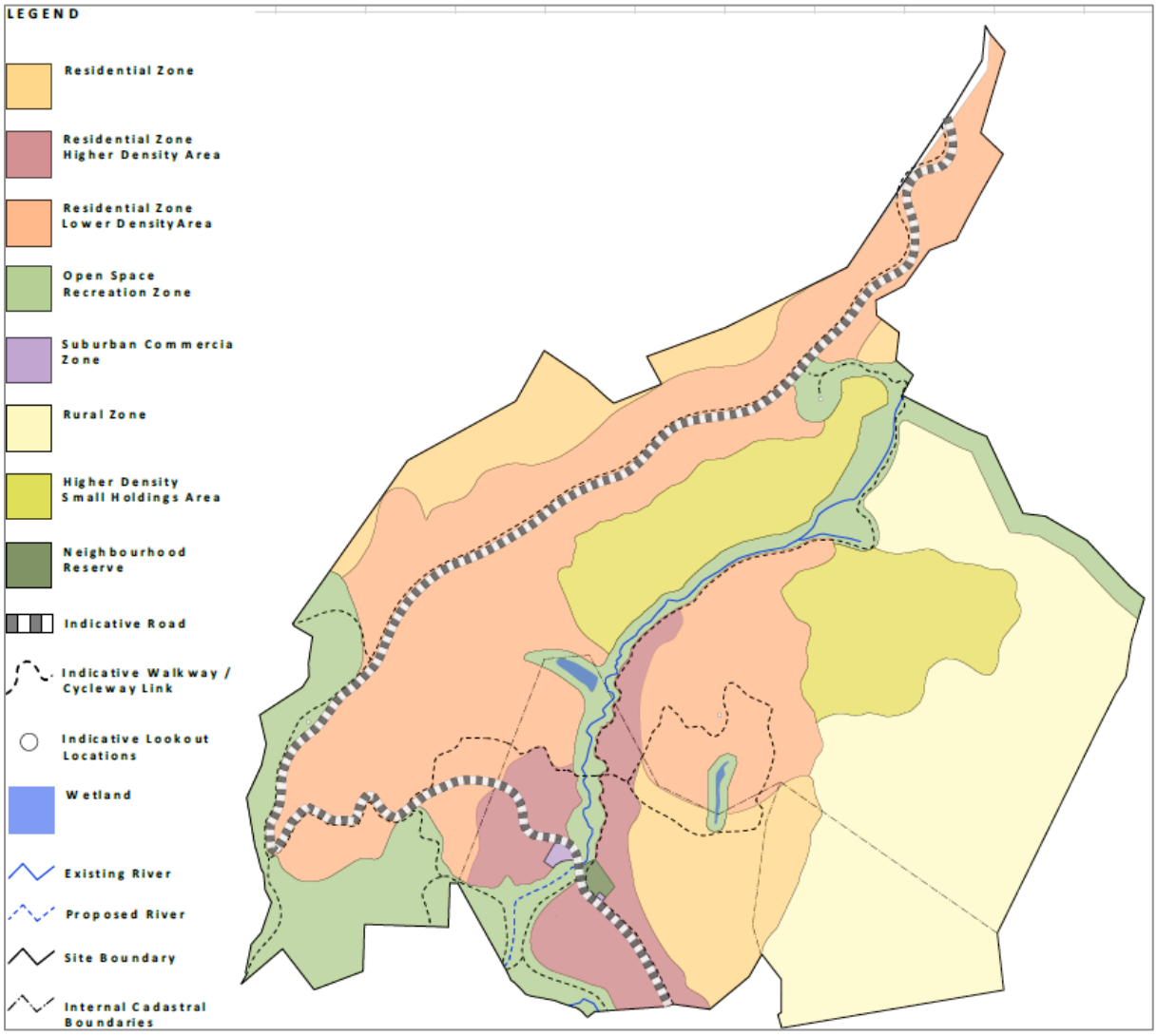


Figure 2: PPC28 Proposed Structure Plan

4 Applicant's Transport Assessment

My review of the Applicant's Transport Assessment has considered the following:

- development forecast traffic generation and distribution;
- effects on the wider transport network and associated mitigation required to address this;
- provision for active modes and micro-mobility; and
- consistency of the internal movement network with the Council's Land Development Standards.

4.1 Development Forecast Traffic Generation and Distribution

The TIR Addendum provides traffic generation rates of 7vpd / dwelling, and notes that without the Walters Bluff connection the PPC28 traffic distributions[2] are likely to involve approximately 1,575vpd on Bay View Road and 3,675vpd on Maitai Valley Road.

Whilst the trip generation rate adopted within the PPC28 transport assessment is lower than those included in industry standards such as the 'Research Report 453: Trips and Parking Related to Land Use, 2011' (**RR453**), I note emerging patterns of household travel behaviour indicate 'per dwelling' trip generation rates have declined somewhat from those historically surveyed and reported in the likes of RR453.

Notwithstanding this, I consider that trip generation rates adopted for individual subdivision consents will need to demonstrate they are representative of the typology of development proposed (i.e. lower density versus more comprehensive residential development), at the time of subdivision consent. In addition, adequate assessment of trip distribution to the wider network based on the site connections established at the time will be required to appropriately quantify the eternal network effects and the associated mitigation required, as I describe in more detail at Sections 4.2 and 4.3 below.

During traffic conferencing[3], the experts agreed the adopted trip generation and trip distribution assumptions were appropriate for the level of assessment required for the Plan Change, with the exception of Mr James who considered more or 'all' traffic could potentially route to/from the south via Maitai Valley Road. The NRMP and PPC28 provisions provide a mechanism for the rates and distributions to be reviewed and assessed for each subsequent subdivision consent application, such that these matters can continue to be validated and appropriate infrastructure responses confirmed.

Additionally, in reviewing the predicted volumes on Bay View Road assessed as part of the PPC28, the TIR Addendum[4] appears to omit traffic associated with the already consented 163-lot subdivision development that would access off the top of Bay View Road. I note that any consented development forming part of the receiving environment in the vicinity will need to be allowed for when assessing the impacts of PPC28 traffic at the subdivision consent stage.

[2] TIR Addendum Pg.7, para 4
[3] Joint Witness Statement (1) – 4 May 2022; Paras 3.5 & 3.6
[4] TIR Addendum Pg.15 Bullets under Para 3

4.2 Effects on the Wider Transport Network and Required Mitigation

There are a number of existing transport network operational issues and constraints in accommodating future traffic growth associated with PPC28 (and already consented development), as summarised below:

- Bay View Road – there are existing safety concerns arising from the winding alignment, constrained width, and on-street parking narrowing the carriageway.

  In my view localised management of existing road space would address the current safety concerns to accommodate future growth along this route.

- Bay View Road / SH6 Intersection - The Waka Kotahi Transport Agency is currently investigating potential options to address safety and capacity issues at this intersection, including in respect of the current sub-standard shared path crossing of Bay View Road.

  During the traffic conferencing, Waka Kotahi confirmed the relief sought from the Applicant in response to PPC28 did not extend to upgrading this intersection, since PPC28 would not be wholly responsible for impacts on its current operation. Waka Kotahi is progressing investigations and responses needed irrespective of PPC28.

- Maitai Valley Road – the existing one-lane 'Gibbs Bridge' and associated delays arising from increasing traffic volumes at this point.

  The change in volume presents new risks including some vehicles experiencing longer delays and queuing, and in respect of active mode trips at the bridge which will also increase. There is a need for a safe outcome to be provided for these non-vehicle demands.

- Maitai Road / Nile Street intersection – mitigation is needed to address the current safety issues arising from poor sightlines for traffic turning right onto Nile Street (visibility obstructed by one-lane bridge).

  In my view such mitigation would ideally take the form of traffic signals to safely manage movements at the intersection and controlled movement on the one lane bridge.

- Walters Bluff – Council has undertaken investigations into realising a new road link via Walters Bluff. The inclusion (or not) of this link will have an effect on the PPC28 traffic distributions.

  The Walters Bluff connection will increase permeability to and through the PPC28 site, enhancing amenity, avoiding longer circulation routes, and reducing demands on other parts of the network including Bay View Road.

  I note that whilst Council does not currently have funding allocated for the property acquisition required to enable such a link to be achieved, it was discussed and subsequently agreed by all experts during the traffic conferencing[5] that this link was desirable and should be included on the Structure Plan.

[5] Joint Witness Statement (1) – 4 May 2022; Para 3.9

- Safe active mode and micro-mobility connections – including at Gibbs Bridge and Nile Street.

  Safe provision for active modes at the current Gibbs Bridge would most effectively be achieved through provision of a separate shared path to accommodate these users clear of the vehicle carriageway. On Nile Street, the current off-road shared path terminates at Tory Street, with cyclists to the west of this having to share the carriageway. In my opinion the ideal outcome from a cycle safety perspective would be to develop a dedicated cycle path. The Council's Long-Term Plan includes provision for cycle lane improvements on Nile Street, with budget allocated in the 2024-2027 period.

Summary

In each case, adequate mitigation of these constraints will need to be demonstrated in order to accommodate the transport demands generated by PPC28, with these changes most effectively controlled through the relevant provisions of the NRMP.

During traffic conferencing[6] the experts agreed that a number of these existing network issues should be added to the proposed PPC28 'Schedule X' provisions, to be addressed pre-development. I provide further comment at Section 5.

4.3 Provision for Active Modes and Micro-mobility

Whilst PPC28 properly identifies that development of the site aligns well with supporting active modes given the site's proximity to the Nelson city centre, established viable and safe connections to the CBD are not (yet) readily available. The TIR and Addendum acknowledge there are existing constraints to increasing cycle and pedestrian demands on the surrounding network, including Maitai Valley Road and Nile Street, with the latter having existing safety issues and a history of crashes involving cyclists.

I consider the type of improvements will need to be appropriately identified and delivered in a timely manner through the respective subdivision consent process, in line with the relevant NRMP provisions, as well as those new 'Schedule X' additions agreed during the traffic conferencing[7].

4.4 Consistency with the Land Development Standards

The TIR Addendum[8] provides an assessment of the proposed internal roads against the Nelson Tasman Land Development Manual' (**NTLDM**), and notes that due to the topography of the site, some roads will not be able to meet the standards of width and grade. Assuming that exceptions are generally limited to lower order roads, minor non-compliances with the NTLDM can be further assessed on a case-by-case basis at the time of subdivision consent.

As such, I consider the extent of any non-compliance of both the roading and walking/cycling infrastructure should be assessed and validated at the time of resource consent, noting that any new roads and pathways/tracks within PPC28 will be subject to Council engineering approval.

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[6] Joint Witness Statement (2) – 10 May 2022; Para 3.1
[7] Joint Witness Statement (2) – 10 May 2022; Para 3.1
[8] TIR Addendum Pg. 3-4

During the conferencing[9], a discussion was held around the feasibility of constructing a sub-collector road through the site from Ralphine Way to the northern end of the site, to a standard consistent with the NTLDM. All experts agreed that a maximum 1 in 8 grade was feasible. Notwithstanding, deviation from the standards will be needed to demonstrate practicality of accommodating buses and bus stops, at the time of resource consent, to ensure that a future bus service through PPC28 is not precluded. This relates particularly to grade, where the NTLDM requires a minimum grade of 1 in 15 for bus routes, but noting the possible future bus connections via Bay View Road or Walters Bluff have existing grades at or steeper than 1 in 8.

5 PPC28 Proposed NRMP Development Controls

A number of mechanisms are included within the NRMP provisions that capture assessment of the transport impacts of PPC28 development, including the 'Resource consents' Information requirements, the Services Overlay (which extends across the entire PPC28 site), PPC28 'Schedule X' provisions, and the District Wide Objectives and Policies. I provide a summary of these relevant provisions below.

Resource Consent Requirements

The NRMP AD8.4 'Assessment of Effects' AD8.4.ii requires resource consent applications to provide assessment of effects on a) *adjacent activities in terms of such effects as noise, traffic generation…* and b) *existing and proposed infrastructure including road networks…* Without explicitly requiring an Integrated Transport Assessment, these assessments would be reported in an Integrated Transport Assessment to be submitted with future resource consent applications.

Services Overlay

Under the 'Services Overlay' any subdivision at the site would, at a minimum, be considered a 'Restricted Discretionary Activity' under REr.108.3, with the relevant matters of discretion set out at REr.108.4 (see below).

Assessment Criteria
REr.108.4
a) whether the disposal of storm water or wastewater from the site, or supply of water, can be done effectively without risk to human health or the environment, natural hazards or adjoining properties.
b) the mandatory matters and good practice guidance in the Nelson Tasman Land Development Manual 2019.
c) the assessment matters in Rule REr.107 (Subdivision: General).
d) the timing of the development in relation to the availability of roading and servicing connections.
e) the extent to which the development is provided with services of adequate capacity to serve the future development level of the site and surrounding sites.
f) the financial costs to the Council (including operation and maintenance costs) of providing water and wastewater services to the development.
g) the assessment matters in REr.107.4. Subdivision (General).

[9] Joint Witness Statement (1) – 4 May 2022; Para 3.2

Specifically, REr.108.4 (d) and (e) require consideration of the timing of development in relation to the roading connections and the extent to which the plan change site is provided with '*services of adequate capacity to serve the future development*'.

PPC28 Schedule X

Provisions X.2 and X.3 which provide for development and Subdivision include matters of discretion relating to '*The design and layout of roads, access, cycleways, walkways, reserves and biodiversity corridors'* along with '*the staging of development and associate roading and reserves'*.

District Wide Objectives and Policies

Future PPC28 subdivision consent applications will require assessment against the specific 'Land Transport System' provisions set out in the 'District Wide Objectives and Policies' at DO10.1[10]. These include Policies that manage **expansion of the road network** (DO10.1.3), the **traffic effects of activities** on the network (DO10.1.4), and provision of adequate infrastructure to accommodate **pedestrian and bicycle traffic** (DO10.1.7), that would be captured in an Integrated Transport Assessment to be submitted with future resource consent applications.

Summary

As currently proposed in the PPC28 provisions, analysis of road network capacity and potential mitigation options (including for safety reasons) is required by the Services Overlay, the proposed PPC28 'Schedule X' provisions, and the District Wide Objectives and Polices under the Transport section, to determine what future controls and infrastructure improvements are needed at key locations and when these are required.

I consider that traffic modelling and detailed intersection capacity analysis would be the most appropriate means of proving and validating the acceptable performance of the wider transport network, to inform the staging of any external mitigation works in a timely manner. This could be progressed as an advancement of the strategic traffic modelling undertaken to inform the Nelson Futures Access Project.

During the traffic conferencing[11], some experts considered a number of existing infrastructure constraints required mitigation in advance of any development on the PPC28 site, including some of those matters listed earlier under Section 4.2. These are to be specified in the PPC28 NRMP provisions. Beyond these existing issues requiring attention, it would be difficult to provide an exhaustive list of the potential network constraints. Rather, the assessment framework provided for by the proposed PPC28 provisions and the subsequent assessment of traffic effects at the subdivision consent stage, represent an appropriate control.

6 Submissions

A number of transport matters were raised in the submissions received in response to the PPC28. I have grouped together what I consider to be the key transportation related issues, and address each in turn below.

[10] These include Polices which seek to manage expansion of the road network (Policy DO.10.1.3), the traffic effects of activities (Policy DO.10.1.4)
[11] Joint Witness Statement (2) – 10 May 2022; Para 3.1

6.1 The Transport Assessment does not provide sufficient detail on future network performance

As summarised above in section 4, I consider there are some assumptions within the assessment of traffic effects that would need further analysis to confirm appropriate performance can be achieved at existing network constraint points (with PPC28 development demands added), including in relation to allowing for other traffic growth associated with already consented activity. In my view this can be appropriately addressed at future resource consent stages.

6.2 The use of PPC28 internal roading connection as an alternative route to SH6

Consultation between Waka Kotahi and the Applicant included discussions around the internal PPC28 road network providing a resilience route, should SH6 be temporary blocked. This *wo*uld be able to be managed accordingly as a temporary response.

I note the road design for the through-site link illustrated on the Structure Plan will need engineering approval from Council at the time of resource consent, which provides an opportunity to consider its use as a SH6 temporary alternative route.

6.3 Reliance on private vehicle given topography doesn't lend itself to walking and cycling.

Whilst topography will influence some people's decision in choosing active modes over private vehicle use, I consider that ensuring good design and amenity of the PPC28 walking and cycling links will be a key determinant in the uptake of these modes. I note the PPC28 Structure Plan includes indicative walking and cycling trails which I consider provide a logical network of connections to and through the site in addition to active mode provision as part of the roading infrastructure. Further details of this infrastructure, including in respect of such characteristics as grades, speeds, and speed differential on shared paths, to safely and adequately serve the site's active mode and micro-mobility demands, can be demonstrated at the subdivision consent stage. In addition, I note the advance infrastructure to be provided pre-development as part of the new 'Schedule X' provisions agreed during traffic conferencing[12], include requirements for active mode connections between the site and the city centre.

6.4 No provision for Public Transport

The proposed north-south link road indicated on the Structure Plan will need to be developed to an appropriate standard to enable it to accommodate buses, as discussed earlier at Section 4.4, with this needing to be confirmed at an early stage and bus stop locations identified at the time of subdivision. Improvements to Bay View Road to accommodate buses tracking around the tighter bends will need to be validated. I consider such detail can again be determined at the future subdivision consent stage.

6.5 Provision for Cyclists on Nile Street, including loss of street trees and parking, safety impacts on school children.

In my view managing the roading environment to ensure a safe speed outcome and suitable pedestrian amenity (including formalised crossing points) can be progressed in a timely manner and in collaboration between the Applicant and Road Controlling Authorities (i.e. Council and Waka Kotahi). This may include parking and street changes to accommodate improved safety for existing and future PPC28 cyclists, which will need to be investigated and assessed at the time of subdivision consent.

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[12] Joint Witness Statement (2) – 10 May 2022; Para 3.1

6.6 Traffic safety concerns at intersections (including Nile Street / Maitai Road).

As referred to within the Applicant's traffic assessments, mitigation measures will be required to support the uplift in PPC28 traffic on the adjacent network to avoid adverse safety impacts at key intersections. Whilst the TIR and Addendum do not include detailed analysis or provide mitigation designs, in my view there are options for appropriate responses that can be introduced to address these concerns at the time of subdivision consent, including in respect of the Nile Street / Maitai Road intersection, as I have identified earlier in Section 4.2.

7 Conclusion

I have reviewed the PPC28 application from a transport perspective, and have considered the relevant effects as well as the development control mechanisms of the NRMP.

I find the proposed Structure Plan to be generally logical, noting the agreed addition of a future connection at Walters Bluff. I also recommend the design of the sub-collector route through the site be developed to a standard capable of functioning as a future bus route.

Overall, I consider that the transport effects of PPC28 can be appropriately managed through the further assessments that will be required during the subdivision consent stage. The additional provisions to be added into the PPC28 'Schedule X' that were agreed to at the traffic conferencing[13], and which set out specific off-site mitigation required prior to development at the site, will further ensure adverse effects and infrastructure requirements can be appropriately addressed in a timely manner, including in respect of active modes.

[13] Joint Witness Statement (2) – 10 May 2022; Para 3.1