

Appendix 3: Technical Reports

Three Waters Infrastructure – Koning

Three Waters Infrastructure – Rangitahi South

Transport Infrastructure – Koning

Transport Infrastructure – Rangitahi South

Memorandum

To: District Plan – Resource Management Policy Team, Waikato District Council
Date: 14 April 2021
From: Roger Seyb, Beca Ltd
Our Ref: 4214056-1680710091-12
Copy: Carolyn Wratt, WDC Consultant Planner
Subject: Technical Specialist Review, Three Waters – Koning, Raglan

Experience and Qualifications

My name is Roger Morgan Seyb.

I am a Senior Technical Director in the Water Resources and Civil Engineering fields employed by Beca Ltd.

I hold a Bachelor of Civil Engineering degree from the University of Auckland. I am a Chartered Engineer and a Chartered Member of Engineering New Zealand.

I have been working in the civil engineering field since 1990, predominately in New Zealand, and have carried out a wide range of civil engineering, water infrastructure and environmental projects during that time.

1. Introduction and purpose

The purpose of this report is to provide a view as to whether:

- a) Sufficient and appropriate information has been included in the assessment;
- b) The assumptions are sound and reasonable;
- c) The proposed solutions are technically feasible and realistic;
- d) The timeframes for upgrades or connections are realistic; and
- e) There are any potential or actual issues that the planner and Hearings Panel need to be aware of.

2. Documents considered

Document reviewed:

Koning Family Trust and Martin Koning

Extent of residential zoning at Raglan

STATEMENT OF EVIDENCE OF CONSTANTINOS FOKIANOS, 15 February 2021

Including Attachment 1: 3 Waters Infrastructure Assessment Report for Koning Family Trust Development Plan, Nov 2020.

2.1 Limitations

This review is a limited desk top review carried out by reading the above documents and providing general comment on the suitability of the information to be relied upon and recommendations made at the Proposed Waikato District Plan hearing. No site visit has been undertaken and the information referred to in the documents and calculations have not been verified. Detailed knowledge of the constraints within the network was not available - further discussion with the network operator would be required to identify and address any specific constraints within the network.

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3. Overview of technical matters

Developable Area

The submitter seeks to rezone some 92 ha but states that only 30 ha of this is developable (refer to Section 1 of the Three Waters report).

Wastewater treatment plant discharge

A consent application for the wastewater treatment discharge is currently being prepared by WDC and the plant is operating on a short term application under roll over authorisation while that consent is being considered. This means that the long term capacity within the wastewater treatment plant, the future consent requirements and the location of the discharge point from the wastewater treatment plant are uncertain. The submitter discusses the ability of conveying wastewater to the treatment plant and recommends the use of storage to buffer flows.

Connection point to the wastewater network

Watercare, on behalf of WDC have advised the submitter that they cannot connect to the existing rising main. The submitter has instead suggested a connection at the treatment plant itself.

Water supply

WDC's existing consent for water take from the spring allows an adequate supply for the existing community on an average daily basis but is exceeded at times of peak demand. The consent itself also allows takes up to 70% of the stream flow which is a very high proportion and may need to be revisited and reduced when the consent is renewed in 2034.

The submitter has suggested the development connect to the public supply and provides on site storage for water to avoid peak constraints.

Stormwater

The submitter has undertaken a hydrological analysis to identify water quality, stream detention and flow attenuation requirements.

The report proposes investigation into the reasons for inundation at the WWTP downstream and stormwater attenuation for management of potential effects arising from the 100 year rainfall event.

The proposed approach to on site stormwater management using low impact design is acceptable provided sufficient space is left within each lot for stormwater management.

4. Assessment undertaken

Developable Area

A plan showing a proposed high level development plan for the area is included with the Planning evidence. Careful definition of constraints, opportunities and developable areas is required so as not to allow development on non-suitable areas.

Wastewater treatment plant discharge

The submitter has estimated wastewater flows from the development and discusses the ability of conveying wastewater to the treatment plant and recommends the use of storage to buffer flows.

The report states that the capacity of the WWTP to receive treat and discharge the additional load from the development needs to be confirmed.

While attenuation of wastewater flows is conceptually feasible, I consider that it is preferable for any short to medium term work to facilitate development is also consistent with the eventual longer term approach. That is, development should be staged so that it advances consistent with the

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development of the long term WWTP strategy. In the absence of better information this would entail staging consistent with the projections in Waikato 2070.

A potential issue with attenuation of wastewater and discharging a larger volume over a longer duration is that the overall load to the discharge outfall would increase and any adverse effects could be exacerbated. This option would therefore require further consideration beyond just the consented plant discharge rate.

Connection point to the wastewater network

Watercare, on behalf of WDC, have advised the submitter that the existing rising main is committed to the existing area served. An alternative could be for the submitter to install a pump station at their connection point and upgrade the existing rising main. The submitter has also suggested a connection at the treatment plant itself – this appears feasible at a high level – either through the route shown by the submitter or their land abutting the treatment plant to the west.

Water supply

The report provides an initial assessment of the storage and pressure challenges that a water network within the development area would face. Conceptually this approach could work.

The typical daily consumption profiles associated with the water supply assessment indicate that there is only about 8 hours per day when consumption is below average, indicating that any on site storage would need to be filled within that period. At the same time, public reservoirs would need to be filled. There is no discussion of the pressure within the existing network or the effect of the development on that pressure.

The issue of whether there is adequate long term consented supply post 2034 has not been considered.

In short there are a number of uncertainties that the approach is feasible from a network supply perspective and more investigation is required.

Stormwater

The report summarises an initial assessment of hydrological changes arising from the development and the amount of storage required at a catchment level to maintain pre-development peak flow rates following development. An on site stormwater management approach is proposed and various stormwater management recommendations for water quality treatment, detention and flow attenuation are made.

The proposed approach using on site stormwater management and low impact design is acceptable - provided sufficient space is left within each lot for stormwater management. It is suggested 10% of each lot is set aside for this purpose. The suggested minimum size of 400 sq.m lots is relatively small and it is likely that stormwater management would be significantly squeezed to be able to fit on these lot sizes (with the suggested rain tank sizes of about 40 cu.m being large for the proposed lot). In particular if a low impact approach is to be progressed it is suggested larger minimum lot sizes (say about 1000 sq.m) or a cluster development type approach be used. In both cases lower limits on imperviousness and site coverage should be used compared to those assumed in the hydrological assessment.

The submitter proposes investigation into the reasons for inundation at the WWTP downstream and stormwater attenuation for management of potential effects arising from the 100 year rainfall event. This approach is conceptually feasible and appropriate.

5. Adequacy of assessment

The Three Waters report appended to the submission has been signed by the author but has not been signed as Checked or Approved for Issue. It should be confirmed the report has been checked and approved by BBO.

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In general, the approach used by the submitter to demonstrate that a network servicing the site itself could be developed is reasonable.

However, the implications on the existing community water supply and wastewater treatment plant are not assessed and there is longer term uncertainty whether they can service the proposed development. The lack of existing long term consents for the wastewater treatment plant and water supply take mean that Council would be taking on some risk if development proceeded. Staging of the development could be one way to address these demand and supply constraints.

From the point of view of not adversely affecting the existing supply, an alternative approach may be for the submitter to develop an on-site water source. However this would need to be worked through with WDC's requirement for the supply to be public when servicing lots less than 2,500 m².

6. Conclusions

I generally agree with the outcomes of the Attachment 1 Three Waters report and the submitter's recommendations for further investigation.

My key further recommendations would be:

- Considering staging Raglan's overall subdivision capacity in line with Waikato 2070 until there was certainty about the long term consenting and capacity of the wastewater treatment plant.
- If wastewater storage was progressed as a short term option to facilitate development, the potential for additional effects due to the increased volume of wastewater discharged should be considered.
- Checking the long term consent status of the existing water source and determining whether there is a significant risk that the take rate could be reduced.
- Adopting larger lot sizes and lower impervious area limits to allow low impact design stormwater approaches to be implemented.

Memorandum

To: District Plan – Resource Management Policy Team, Waikato District Council
Date: 16 April 2021
From: Roger Seyb, Beca Ltd
Our Ref: 4214056-1680710091-12
Copy: Carolyn Wratt, WDC Consultant Planner
Subject: Technical Specialist Review, Three Waters – Rangitahi, Raglan

Experience and Qualifications

My name is Roger Morgan Seyb.

I am a Senior Technical Director in the Water Resources and Civil Engineering fields employed by Beca Ltd.

I hold a Bachelor of Civil Engineering degree from the University of Auckland. I am a Chartered Engineer and a Chartered Member of Engineering New Zealand.

I have been working in the civil engineering field since 1990, predominately in New Zealand, and have carried out a wide range of civil engineering, water infrastructure and environmental projects during that time.

1. Introduction and purpose

The purpose of this report is to provide a view as to whether:

- a) Sufficient and appropriate information has been included in the assessment;
- b) The assumptions are sound and reasonable;
- c) The proposed solutions are technically feasible and realistic;
- d) The timeframes for upgrades or connections are realistic; and
- e) There are any potential or actual issues that the planner and Hearings Panel need to be aware of.

2. Documents considered

Document reviewed:

Rangitahi Ltd

Statement of Evidence Raymond Brian O'Callaghan, 17 February 2021

2.1 Limitations

This review is a limited desk top review relating to water supply and wastewater carried out by reading the above document and providing general comment on the suitability of the information to be relied upon and recommendations made at the Proposed Waikato District Plan hearing. No site visit has been undertaken and the information referred to in the documents and calculations have not been verified. Detailed knowledge of the constraints within the network was not available - further discussion with the network operator would be required to identify and address any specific constraints within the network.

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3. Overview of technical matters

Mr O'Callaghan, on behalf of Rangitahi Ltd, considers that the land is generally suitable for development and in terms of the Three Waters services, there will be engineering issues to any network or WWTP constraints.

I generally would agree that there are likely to be solutions to the engineering issues, but that there is currently uncertainty around the long term consenting of the WWTP (and possibly the water treatment plant) and that it would be best to upgrade the networks and treatment plants with the long term WWTP option decided and consenting issues resolved.

4. Assessment undertaken

Wastewater treatment plant discharge

A consent application for the wastewater treatment discharge in the long term is currently being prepared and the plant is operating on a short term application under roll over authorisation while that is prepared and considered. A number of treatment and discharge options (in line with growth in Waikato 2070) are being considered but a preferred option is yet to be identified. This means that the long term capacity within the wastewater treatment plant, the future consent requirements and the location of the discharge are uncertain.

The submitter discusses the ability of conveying wastewater to the treatment plant and recommends the use of storage to buffer flows to remain with consenting limits. While this is conceptually feasible, I consider that it is preferable for any short to medium term work to facilitate development is also consistent with the eventual longer term approach. That is, development should be staged so that it advances consistent with the development of the long term WWTP strategy. In the absence of better information this would entail staging consistent with the projections in Waikato 2070.

A potential issue with attenuation of wastewater and discharging a larger volume over a longer duration is that the overall load to the discharge outfall would increase and any adverse effects could be exacerbated. This option would therefore require further consideration beyond just the consented plant discharge rate.

Water supply

Mr O'Callaghan notes that water supply issues are unlikely to be a notable constraint on future provided WDC maintained sufficient capacity in the system. In general I would agree that it is likely that the capacity of the system can be upgraded in terms of the necessary pipes, treatment and reservoirs, subject to appropriate funding arrangements being made.

WDC's existing consent for water take from the spring allows an adequate supply for the existing community on an average daily basis but is exceeded at times of peak demand. The consent itself also allows takes up to 70% of the spring flow which is a very high proportion and may need to be revisited and reduced when the consent is renewed in 2034 as current regional plan requirements would often limit a take to no more than 30% of a surface water flow.

An alternative bore water supply was developed which could provide about 500 m³/day but I understand it is not currently in use and may require additional treatment to use it.

As the current water take has been granted to 2034, I consider that development in line with staging set out in Waikato 2070 is reasonable. However, in the longer term there is some uncertainty over the water supply source capacity and it may be necessary to consider alternative supplies.

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Stormwater

Mr O'Callaghan has stated that flooding is not a notable issue for Raglan given its proximity to the coast.

I consider that there could be flood hazard issues associated with building close to coastal inundation areas or stream flood plains. These issues, the capacity of downstream infrastructure, stormwater quality and stream health issues will need to be considered when planning the stormwater management approach for the growth cells. Having said this, the western growth cells are generally on higher ground away from the coast and provided appropriate floor levels and set backs are identified, I expect that flood hazard issues are able to be managed.

5. Adequacy of assessment

I generally agree with Mr O'Callaghan that there are likely to be engineering solutions to network issues and demand and supply WWTP and WTP constraints. However, there is uncertainty about what the preferred option for the wastewater treatment plant will be. I consider it would be preferable that any shorter term solutions (to facilitate development) are consistent with the longer term approach. The lack of existing long term consents for the wastewater treatment plant and water supply take mean that Council would be taking on some risk if development proceeded in the shorter term. Staging of the development could be one way to address these demand and supply constraints and get the most cost effective long term solution.

6. Conclusions

My key recommendations would be:

- Considering staging Raglan's overall subdivision capacity in line with Waikato 2070 until there was certainty about the long term consenting and capacity of the wastewater treatment plant.
- If wastewater storage was progressed as a short term option to facilitate development, the potential for additional effects due to the increased volume of wastewater discharged should be considered.
- Checking the long term consent status of the existing water source and determining whether there is a significant risk that the take rate could be reduced.

Memorandum

To: District Plan – Resource Management Policy Team, Waikato District Council
Date: 12 April 2021
From: Skip Fourie, Beca Ltd
Our Ref: 4214056-1680710091-12
Copy: Carolyn Wratt, WDC Consultant
Subject: Technical Specialist Review, Transport – Koning, Raglan

Experience and Qualifications

My full name is Gideon Jacobus Scheepers (Skip) Fourie.

I am an Associate Transportation Planner employed by Beca Ltd (Beca), a multi-disciplinary professional services consultancy firm based in New Zealand.

I hold a Bachelor (Honours) of Town and Regional Planning (2007) and a Masters degree specialising in Transportation Planning (2014) from the University of Pretoria in South Africa.

I have a total of 12 years' experience in the field of transportation planning and traffic engineering gained through 6 years of employment in South Africa, 2 years of employment in Dubai, United Arab Emirates and 4 years in New Zealand.

I have wide-ranging experience in traffic and transportation engineering fields, ranging from transport assessments, traffic modelling, safety audits, parking strategies, feasibility studies and business case writing.

1. Introduction and Purpose

Beca has been engaged by Waikato District Council (WDC) to review statements of evidence filed with the Council accompanying submissions seeking a change in zoning under the District Plan. This review provides high level commentary on the suitability of the information and recommendations to be relied upon at the Proposed Waikato District Plan hearing.

The purpose of this assessment is to consider the following aspects of the application:

- a. Has sufficient and appropriate information has been included in the assessment
- b. Are the assumptions sound and reasonable
- c. Are the proposed solutions technically feasible and realistic
- d. Are the timeframes for upgrades or connections realistic; and
- e. Are there any potential or actual issues that the planner and Hearings Panel need to be aware of.

2. Documents Considered

- Statement of Evidence of Rhulani Matshepo Baloyi, Dated: 17 February 2021, Waikato District Plan Review Submission
- Integrated Transport Assessment (ITA), 146 Te Hutewai Road, Raglan (Raglan Rezoning), February 2017, BBO.

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Limitations

As per the agreed scope, this desktop review has been carried out by reading the above documents and providing comment on the suitability of the information and recommendations to be relied upon at the Proposed Waikato District Plan hearing.

No site visits have been undertaken and the information referred to in the documents and calculations has not been verified in detail.

This is not a peer review of the ITA, modelling and recommendations. Further assessment may be required.

3. Overview of Technical Matters

Proposal Overview

The Submitters seek to rezone only part (approximately 63 hectares) of their 91 hectare property from the current Rural and Coastal zoning (under the Operative District Plan and the notified version of the Proposed District Plan) to Residential zoning.

If approved, the rezoning submission will enable the staged development of approximately 25-30 ha of residential development over a 20-year period. It is anticipated that the rezoning of the subject site will result in a yield of some 300 – 400 residential allotments of varying sizes.

Integrated Transport Assessment

The applicant has submitted an ITA that provides assessment on the following traffic and transport topics:

- Introduction and Site Location
- Existing Transport Environment
- Road Safety Environment
- Proposed Rezoning & Structure Plan
- Predicted Trip Generation
- Assessment of Effects
- Construction Traffic management
- Travel Demand Management
- Strategy and Policy Assessment
- Conclusions and Recommendations.

Scope of evidence

The applicant has provided specific commentary in their statement of evidence on the transport and traffic effects of the proposed rezoning. In general, the evidence covers:

- Internal Roding Network
- Site Access Proposals
- Predicted Trip Generation and Distribution
- Alternative Transport Modes
- Construction Traffic Effects.

Transportation Effects Assessment and Proposed Mitigation Measures

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Transport Effects Summary

The applicant states that the overall transportation effects of the rezoning proposal on the adjoining and wider road networks are expected to be more than minor, but are able to be managed and mitigated to an acceptable level if the following recommendations are implemented:

Wainui Road One-way Bridge

- i. Traffic signals installed on the bridge approaches if the planned upgrading (by Council) of the one-lane one-way bridge to a two-lane bridge is not concluded by 2024
- ii. Advanced warning signs and road markings alerting drivers to the presence of the new traffic signals (and any hidden queues resulting from signalling the bridge) be provided on both bridge approaches.

SH 23/ SH39 Staggered T-intersections

- i. As a minimum, the intersection will be upgraded within the next 10 years (i.e., by 2031) to a single-lane roundabout configuration in line with the findings from the technical assessment that was undertaken by Waka Kotahi.
- ii. Consideration should be given for a dual-lane roundabout if the Waikato Expressway (anticipated to be completed in 2021) does not result in a material reduction in traffic on SH39, as currently expected. The preferred roundabout configuration should be identified and implemented in collaboration with Waka Kotahi and Waikato District Council

Bow Street / Norrie Avenue and SH23 / Te Pahu Road intersections.

- i. An ITA is to be conducted once the first 300 dwellings are completed (i.e., at development Year 15 or 2039, whichever comes first) to assess the impact of the proposed development traffic on both intersections as the trip generation and distribution assumptions become realised over time
- ii. The Bow Street and Norrie Avenue intersection is upgraded to traffic signal control or to a single-lane roundabout configuration.
- iii. The SH23 and Te Pahu Road intersections is upgraded to a single-lane roundabout configuration.

Recommendations and Mitigation Proposed in Evidence

The following recommendations and mitigations are proposed by the applicant:

- Road safety improvements
- Site access configuration
- Active mode infrastructure provision
- Intersection capacity upgrades
- Construction traffic management measures to be included in CTMPs
- Travel demand management measures
- Public transport promotion.

Conclusion

The applicant considers that the overall transportation effects of the rezoning proposal on the adjoining road network are likely to be minor to moderate in scale, but are able to be managed and mitigated to

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an acceptable level provided the recommended mitigation measures are implemented as part of future development resource consents.

In the opinion of the submitter, the transport infrastructure and further assessments recommended in this statement of evidence relating to safety, connectivity and accessibility for all anticipated vehicle and active travel modes ensure a safe and efficient transport network for pedestrians, cyclists, motorists and public transport commuters.

4. Assessment undertaken

The submitter has undertaken an ITA of the proposal for the Raglan Rezoning and Structure Plan.

The statement of evidence provides a good general summary of the traffic and transport considerations pertinent to the proposal.

The ITA includes detailed traffic modelling for a number of intersections including the one lane Wainui Road bridge.

5. Adequacy of assessment

The approach taken by the submitter is appropriate, within the standard approach used throughout the industry and within the prescribed guidelines of a transport assessment. This includes (but not limited to) the following key areas relating to traffic and transportation assessment:

- Existing Transport Environment
- Road Safety Environment
- Proposed Rezoning and Structure Plan
- Predicted Trip Generation
- Assessment of Effects
 - Site Access Assessment
 - Capacity Assessment
- Construction Traffic management
- Strategy and Policy Assessment
- Conclusions and Recommendations
- Proposed Mitigations.

Generally, the submitter has provided the relevant and required information in order to form a robust assessment of traffic and transportation effects.

There is some ambiguity in regard to the indicative structure plan (Figure 2), comprehensive draft structure plan (Figure 3) and potential connections to the wider network (Figure 4), as these show different road alignments and access locations. In particular, it should be confirmed with the applicant where wider connections are made (the difference between Figure 2 and Figure 4), so that the subdivision integrates with the wider area in line with policy such as Waikato 2070.

Whilst we have not completed a detailed review of the traffic modelling undertaken by the applicant, we note the assessment concludes that with traffic signal control at the Wainui Road one lane bridge “*the bridge is expected to operate at acceptable levels of service for the 2024 and 2044 Baseline assessment scenarios*” and “*The bridge is expected to continue operating at acceptable levels of service with the addition of the rezoning proposal traffic added to the 2044 Baseline*” (Page 47 of the ITA).

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On this same matter, in the evidence of Ian Clark for Rangitahi Limited with regard to future urban growth in Raglan West, Mr Clark also assesses the operation of the one lane bridge with traffic signal control and concludes “*While signal control would improve safety, it is predicted to perform worse from an operational and efficiency point of view*”. It is possible that different methods of assessment (VISSIM v SIDRA) influences the difference between the two assessments, but we query why the two assessments and conclusions are so significantly different. Especially as the applicant concludes that up to 300 dwellings can be achieved with traffic signal control at the bridge.

Without going into a detailed evaluation/peer review of the ITA, it is considered that (assuming the above-mentioned queries can be adequately responded to) the assessment of the traffic and transport related matters has been adequately completed.

6. Conclusions

I generally agree with the findings of the ITA and statement of evidence and the submitter’s recommendations.

The following points should be addressed / clarified:

- The difference between Figure 2 and Figure 3 against Figure 4 in the ITA and the Waikato 2070 structure plan. The different intersection locations and the road connection to the south (in Figure 4) is not shown (in Figures 2 and 3). This is important to show how the structure plan will integrate with the wider area and possible future development and to confirm the access intersections are in appropriate locations.
- Comment on the robustness of the VISSIM modelling to assess the operation of the one lane bridge, and the validation of the modelling against current conditions would be useful.
- Internal road gradients across the site will comply with engineering standards, including at internal intersections, and access intersections are in appropriate locations.
- An assessment of the proposed road network revisions against Local District Plan Standards should be considered once the designs are finalised.

From a traffic and transportation perspective, beyond the matters identified above, I have not identified any additional potential or actual issues that the planner and Hearings Panel need to be aware of in considering the application for live zoning.

Memorandum

To: District Plan – Resource Management Policy Team, Waikato District Council
From: Skip Fourie, Beca Ltd
Copy: Carolyn Wratt, WDC Consultant
Subject: Technical Specialist Review, Transport – 343 Rangitahi, Raglan
Date: 12 April 2021
Our Ref: 4214056-1680710091-12

Experience and Qualifications

My full name is Gideon Jacobus Scheepers (Skip) Fourie.

I am an Associate Transportation Planner employed by Beca Ltd (Beca), a multi-disciplinary professional services consultancy firm based in New Zealand.

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I have a total of 12 years' experience in the field of transportation planning and traffic engineering gained through 6 years of employment in South Africa, 2 years of employment in Dubai, United Arab Emirates and 4 years in New Zealand.

I have wide-ranging experience in traffic and transportation engineering fields, ranging from transport assessments, traffic modelling, safety audits, parking strategies, feasibility studies and business case writing.

1. Introduction and purpose

Beca has been engaged by Waikato District Council (WDC) to review statements of evidence filed with the Council accompanying submissions seeking a change in zoning under the District Plan. This review provides high level commentary on the suitability of the information and recommendations to be relied upon at the Proposed Waikato District Plan hearing.

The purpose of this assessment is to consider the following aspects of the application:

- a. Has sufficient and appropriate information has been included in the assessment
- b. Are the assumptions sound and reasonable
- c. Are the proposed solutions technically feasible and realistic
- d. Are the timeframes for upgrades or connections realistic; and
- e. Are there any potential or actual issues that the planner and Hearings Panel need to be aware of.

2. Documents Considered

- Statement of Evidence of Ian David Clark (Flow Transportation Specialists Limited), Dated: 17 February 2021, Waikato District Plan Review Submission.

Limitations

As per the agreed scope, this desktop review has been carried out by reading the above documents and providing comment on the suitability of the information and recommendations to be relied upon at the Proposed Waikato District Plan (PWDC) hearing.

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No site visits have been undertaken and the information referred to in the documents and calculations has not been verified in detail.

This is not a peer review of the Integrated Transport Assessment (ITA), modelling and recommendations.. Further assessment may be required, especially on the following specific documents:

- Integrated Transport Assessment by Traffic Engineering & Management Ltd (TEAM) dated July 2013 for the Private Plan Change 12
 - The ITA report was not made available as evidence, and this review cannot comment on the adequacy of the assessment
- Traffic modelling report by Opus which forms Appendix 1 of the TEAM ITA (Opus report) dated 28 July 2013
 - The Opus report made available as evidence, and this review cannot comment on the adequacy of the assessment
- The WDC s.42A Framework Report.
 - The WDC S42A Framework report made available as evidence, and this review cannot comment on the adequacy of the assessment

3. Overview of Technical Matters

Proposal Overview

The main consented development within Raglan is that at the Rangitahi Peninsula, undertaken as a result of Plan Change 12. That Plan Change currently envisages up to 550 households to be accommodated in this area, although submissions by Rangitahi Ltd. to the PWDP are seeking additional development.

Scope of Evidence

The applicant has provided specific commentary in their statement of evidence on the transport and traffic effects of the proposed rezoning. In general, the evidence covers:

- Existing transport environment
- Future transport environment
- Transport Assessment of Wainui Road Bridge

Conclusions

On the basis of the assessments carried out, the applicant considers that:

- Rangitahi has made significant investment in the transport network serving the development of the Rangitahi Peninsula. The external works required are already in place, acknowledging that the spine road within the site is still being constructed.
- The single transport project currently been identified for Raglan in the Council's Long-Term Plan relates to the replacement Wainui Road bridge. This is already programmed for improvement, with the primary driver for its replacement being the structural condition of the bridge, with traffic capacity at peak times being a secondary driver.
- The operation of the current single lane bridge indicates that an increase in capacity will be required soon after 2030 (although this clearly depends on the rate of development).
- Further residential development in Raglan West is proposed, and the Waikato 2070 document puts forward a number of potential new transport links.

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- The existing road access through the Rangitahi Peninsula is suitable for access to the proposed FUZ in Rangitahi South and would assist rather than preclude opportunities for the future road links to the west and east that are identified conceptually in Waikato 2070.
- The submission is supported by the statement of evidence, in order to increase the number of dwellings in the Rangitahi Structure Plan area, from a transport perspective, as this would make use of the roading investment already made, without causing additional/new bottlenecks. It is also noted this would support the policy in the PWDP that seeks to focus urban growth in existing urban communities that have capacity for expansion, including Raglan.

4. Assessment undertaken

The submitter has undertaken an ITA (undertaken by TEAM, dated July 2013) for the Raglan Rezoning and Structure Plan. However, details of the ITA were unavailable for assessment as part of this review.

5. Adequacy of assessment

The statement of evidence provides a good general summary of the traffic modelling (only) considerations pertinent to the proposal but does not include a good summary of the wider assessment of affects.

As per the statement of evidence (which includes a SIDRA traffic modelling update) with regard to future urban growth in Raglan West, Mr Clark also assesses the operation of the one lane bridge with traffic signal control and concludes “While signal control would improve safety, it is predicted to perform worse from an operational and efficiency point of view”.

An ITA and statement of evidence submitted by Mrs. Rhulani Baloyi regarding the Koning proposal, includes detailed traffic modelling (VISSIM) for a number of intersections including the one lane Wainui Road bridge. Whilst we have not undertaken a detailed review of the traffic modelling, we note that the assessment concludes that with traffic signal control at the bridge “the bridge is expected to operate at acceptable levels of service for the 2024 and 2044 Baseline assessment scenarios” and “The bridge is expected to continue operating at acceptable levels of service with the addition of the rezoning proposal traffic added to the 2044 Baseline” (Page 47 of the ITA).

On this matter, it is possible that different methods of assessment (VISSIM v SIDRA) influences the findings of the two assessment, but we query why the two assessments and conclusions are significantly different.

Without going into a detailed evaluation of the ITA, it is considered that assuming the above-mentioned queries can be adequately responded to, then the assessment of the traffic modelling (capacity) matters has been adequately assessed.

- Without a review of the ITA, the adequacy of the traffic and transport related matters cannot be assessed.
- The evidence statement seems reasonable, but without the supporting evidence the approach taken by the submitter cannot be commented on.

The conclusions in the statement of evidence appear to be appropriate, but final observations on the adequacy of the assessment is reserved until the ITA can be reviewed.

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6. Conclusions

I generally agree with the traffic modelling findings (only) and statement of evidence.

I consider the following points should be addressed / clarified:

- Provide clarity on the wide-ranging traffic and transportation considerations, including a summary of the ITA findings
- Provide comment on the robustness of the SIDRA modelling to assess the operation of the one lane bridge, including a comment on the validation of the modelling against current conditions would be useful.