Appendix D

Technical Memo from Bryan Hudson - Roading

Waipa DISTRICT COUNCIL

MEMO

To:	**Todd Whittaker**	**Cc:**	Quentin Budd, Tony Quickfall
From:	Bryan Hudson – Transportation Manager		
Date:	5 November 2020	**File Ref:**	Property 10248, LU 0154/20
Subject:	BBC Technologies Land Use Consent effects on the transportation network		

INTRODUCTION

This memorandum is prepared by myself, Bryan Hudson, Transportation Manager for Waipa District Council, a position I have held recently for four years. I hold a NZ Certificate in Engineering and have 38 years of engineering experience including an additional seven years as the Waipa Transportation Manager and 14 years consulting, providing road network management and traffic engineering advice to local authorities and Waka Kotahi for highways.

EXECUTIVE SUMMARY OF TRANSPORTATION EFFECTS AND MITIGATIONS

BBC Technologies propose a research and manufacturing campus at 35 Lochiel Road and the corner of SH21 Airport Road. The increase and change to traffic generated by this new facility would require improvement to the Lochiel / Airport Road intersection and to the first part of Lochiel Road if the land use was to be approved.

Waka Kotahi have examined the proposal and are not opposed provided conditions are imposed to create a right turn bay at the SH21 Airport and Lochiel Road intersection. I concur with this position. Waka Kotahi have not stated a preference for the order of construction of the upgraded intersection and building works on the BBC site but I concur with the ITA recommendation that it would be very desirable to complete the intersection and Lochiel Road upgrade first, to manage the impacts of site construction traffic.

The increase in total volume and heavy traffic in the first part of Lochiel Road to the proposed entrance to the BBC site means that the current road width and pavement strength will not be adequate and will need to be upgraded. Widening and strengthening is required. The applicant's ITA has suggested a new width of 7.0m. I concur in part but note that heavy vehicles entering and leaving the site will track off the edge of this seal width and additional widening will be required each side of the road at the entranceway. The extent of this widening should be determined by the largest vehicle tracking curves that will use the site and this would be detailed in the design of the entrance and widening. If road width is appropriately design then it may not be necessary for the entranceway to be up to 14m wide as suggested in the ITA and is very large even for this type of development. The dwelling entrance to 8 Lochiel Road opposite the site will be impacted by road widening and will need to be reconstructed at the same time.

If the land use is to be approved then I believe the intersection improvements and Lochiel Road widening and strengthening should be designed and safety audited and constructed in one package of work as they are integral to one another.

The Waikato Regional Airport and Titanium Park submitter has raised concerns about impacts on the Raynes Road and Airport Road intersection and their agreement with NZTA for a future upgrade of this intersection. I do not believe this is a matter within my jurisdiction to comment on.

NZ National Fieldays Society Inc. and Kaipaki Promotions Limited submitter has raised concerns about the cumulative effect of traffic generation which may adversely affect traffic management and safety, particularly during Fieldays events. In my view the BBC additional traffic generation is unlikely to impact the temporary traffic management arrangements put in place on event days which have historically been successful in dealing with event and local traffic.

CONSENT APPLICATION INFORMATION

The consent application (ECM10424569) identifies the following transportation impacts and proposed mitigations;

> The proposal results in an additional 840 veh/day and 170veh/hr during the peak hour at the Lochiel Road/Airport Road intersection. This increase in turning movements on Airport Road requires construction of a right turn bay at the intersection with Lochiel Road. Improvements are also required to improve sight distance at the intersection. This will require vegetation trimming/removal, relocation of fences and vesting of land as road reserve.
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> Additional traffic in Lochiel Road requires widening of the road to 7m from the Airport Road intersection to the proposed vehicle crossing. A new vehicle crossing needs to be approximately 14m wide at the property boundary to accommodate traffic entering and exiting the facility.

The ITA does not make reference to the ability of the Lochiel Road pavement to sustain the heavy vehicle loading and turning from construction or on going use of the site but we can expect that some form of strengthening will be required in combination with the widening otherwise the existing pavement is very likely to break up and need replacement in a short time.

The ITA Addendum (ECM10474440) responds to consultation concerns;

> Traffic modelling shows that the additional traffic generated will not create undue traffic delays or safety issues. It also notes the requirement to ensure site advertising signage is located back from the intersection to avoid blocking view lines, that public transport bus stops could be accommodated on the road frontage if required in future, that temporary traffic management can be implemented at an altered intersection during large Fieldays Events to control traffic, that the intersection improvements and widening of Lochiel Road could be completed before the main site build starts to mitigate construction traffic effects.

All supporting documentation on transportation issues can be found in the following ECM records:

ECM #	Title	Author

10474440	PROPOSED RESEARCH CAMPUS, 326 LOCHIEL ROAD - ITA ADDENDUM (ISSUE 2), 28 August 2020.	Alastair Black
10424569	NEW CAMPUS FOR BBC TECHNOLOGIES RESOURCE CONSENT APPLICATION & ASSESSMENT OF ENVIRONMENTAL EFFECTS FOR LANDUSE AND SUBDIVISION CONSENTS (WHICH INCLUDES ORIGINAL ITA AS AN APPENDIX), 30 June 2020	Mitchell Daysh

SUBMITTER CONCERNS

The following transportation concerns have been identified by submitters and my responses are shown in italics:

Submitter	Submission / Comment
Waikato Regional Airport Ltd and Titanium Park Developments Ltd, 22 Oct 2020.	BBC Technologies proposal will have an effect on the delay experienced by vehicles at the Raynes Road/SH21 intersection and they should thus be party to the, yet to be agreed, intersection improvements at Raynes Road/SH21. *This appears to be a commercial issue around sharing costs of an adjacent intersection improvement under prior agreements between WRAL, NZTA and M37 and I do not wish to make comment on commercial arrangements.*
Waka Kotahi 16 Oct 2020.	The applicant has previously engaged with Waka Kotahi and was advised that, subject to conditions, Waka Kotahi was not opposed to the proposed activity. *The conditions sought appear to be appropriate. Waka Kotahi have not required the right turn bay to be constructed before substantive construction starts on the BBC site, but have sought a Construction Management Plan for their approval prior to construction start. It would be helpful to have common agreement on the order of road improvement and site construction if the land use is to be consented.*

NZ National Fieldays Society Inc. and Kaipaki Promotions Limited, 22 Oct 2020.	The proposal will generate high levels of additional traffic. The cumulative effect of traffic generation may adversely affect traffic management and safety, particularly during Fieldays events (whether involving < 5,000 people or more). *In my view the road network in this area is designed to accommodate typical daily traffic volumes and movements. During Fieldays events the traffic volumes and movements can be significantly altered over a large part of the road network and in locations quite remote from SH21 Airport Road. Temporary traffic management arrangements have been used and proved adequate over many years to ensure the safety and efficiency of the road network during events. I do not believe the BBC site traffic generation or change to the Lochiel/Airport Road intersection could have a substantive impact on Fieldays event traffic movements or management. Users of Lochiel Road are likely to experience some additional delays during a larger event, but that will not be dissimilar to users at many of the intersections on the surrounding network. I am aware that many Waipa residents and drivers alter their travel routes or times to avoid peak flows during larger Fieldays events. It is possible that a condition might be used to minimise BBC traffic movements during peak event traffic times, but this would be difficult to monitor or enforce and will likely happen in practice anyway as drivers adapt to the changed traffic conditions.*

CONCLUSIONS

Having considered the BBC land use proposal and submitter issues I consider that the effects on the local road network are likely to be minor and the consent could be granted subject to appropriate conditions. Construction of the right turn bay and upgrade of Lochiel Road should proceed in advance of significant site construction activity to manage the effects of this additional traffic.

Bryan Hudson
TRANSPORTATION MANAGER