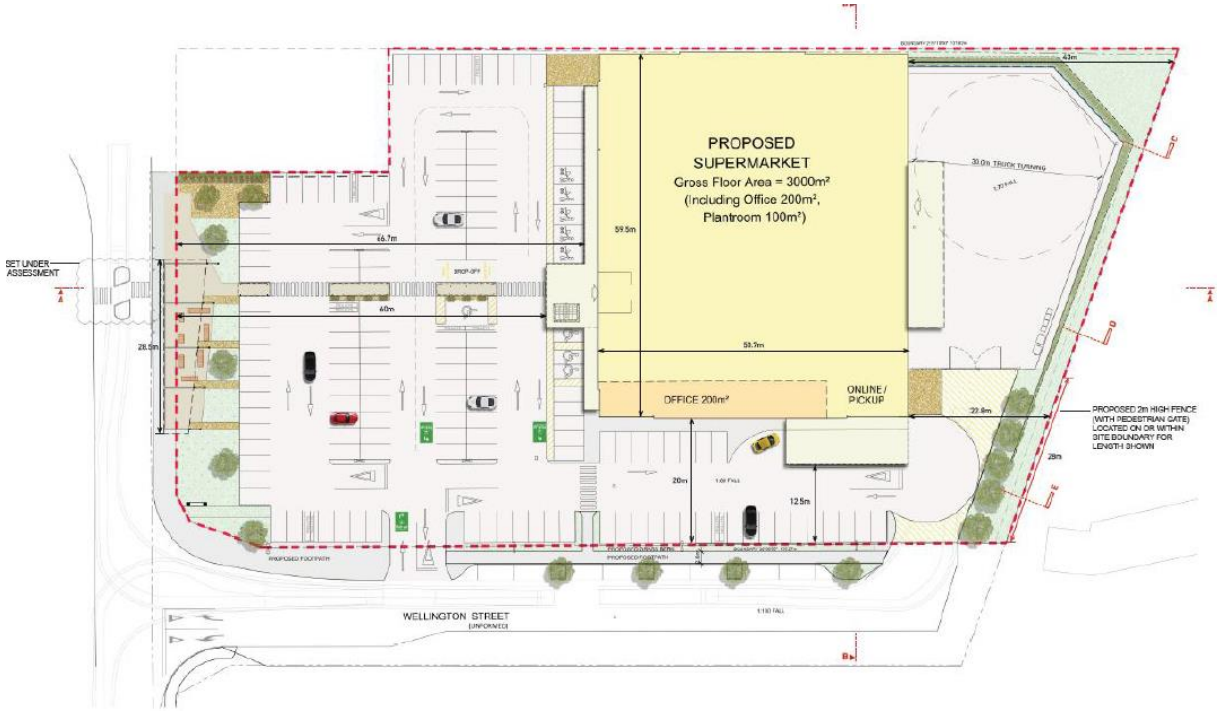
Engineering Assessment (Land Use)

Land Development Engineer	**Christopher Gatehouse**
Planner:	Michelle Carmine
Date:	14 May 2019
Application No:	LUC0408/19
Applicant:	Woolworths NZ Ltd
Property Address:	58 Great South Road POKENO
Legal Description	LOT 1 DP 14599

INTRODUCTION

- An application for the construction of a supermarket on Great South Road and Wellington Street Pokeno.

Site plan



SUPPORTING INFORMATION

The following documents that are used for engineering assessment have been submitted with or as a peer review to the land use consent application.

- Geotechnical Investigation Report: Countdown Supermarket, Pokeno: Lander Geotechnical Consultants Ltd: 25th May 2018: Reference J00954
- Countdown Pokeno: Civil Engineering Infrastructure Report: CivilPlan Consultants: Dated 29th

April 2019: Reference R002v2

- Countdown Pokeno, Great South Road, Transportation assessment Report: Stantech consultants: Dated 2nd May 2019 Reference : Countdown Pokeno FINAL 020519. Docx
- Woolworths NZ Ltd 58 Great South Road Pokeno Stormwater Report: dated 29th April 2019 Reference: R001v3
- Proposed supermarket Pokeno-Transportation review: s92 request for further information: Gray Matter Ltd: 13th May 2019 reference 17_129

DISTRICT PLAN ASSESSMENT

An assessment of the proposal's compliance with the relevant rules of the Operative District Plan has been completed. In summary, the proposal triggers consent under the following rules: Other non-compliances may exist

15.5.2.3 (a)	Earthworks (volume)	Restricted Discretionary	16,000m³ proposed (1,000m³ permitted)
15.5.2.3 (b)	Earthworks (cut/fill height)	Restricted Discretionary	5.3m proposed (1.5m permitted)
29.5.2.1	Frontage control	Discretionary	Building set back from Street frontage
Rule 7.3.4:	Building a Flood plain	*Discretionary Activity*	*Any building shall be located outside the 1% Annual exceedance probability floodplain. In this case the Retaining wall Structures meet the definition of building and are located within 1% flood plain.*

ASSESSMENT OF EFFECTS

General (include earthworks)

- The Site northwest corner is within floodplain but this generates less than minor effect during the 100 year storm
- The Geotech investigation Report identifies the possibility of highly compressible soils especially in the lower corner which is to be retained. (Hence requirement for GCR)
- Dust control is likely to be problematic in the town centre area. Hence the strict conditions on dust control

Water

- Water reticulation exists in Great South road and no problems are expected.
- Water reuse for extended detention was considered but is judged as not being appropriate for the site.

Wastewater

- Wastewater reticulation is available in Great South Road and no problems are expected

Stormwater

- A viable but not ideal stormwater system has been proposed.
- Both parties agreed that finalisation of a slightly improved design can be left to Engineering Plan Approval.
- I am confident that this approach will not result in a consent we can't give effect to.

Roading

- Wellington street is to be formed and all vehicular access to the site will be from Wellington street
- The preliminary design shows that all vehicular activities anticipated for the site are viable and safe
- The Landscaped veranda area on frontage is likely to generate pedestrian activity as will the natural flow from one side of the road to the other for shopping. WDC roading have agreed to monitor the need for a pedestrian facility and provide it as nessecary.
- The peer review of the applicant's traffic analysis throws up a few more issues to be resolved.
- Part 2.2.1 of the applicants TAR infers that the construction of the throat of the Wellington Street intersection will be completed by Council in the near future (included in the resealing of Great South Road). This should be confirmed with Council roading staff. The accompanying plans also show the previously consented Pedestrian crossing on Great South Road as being provided by others (presumably WDC?) I have conditioned it so that the applicant is responsible for these two issues to avoid doubt and because they mitigate the effects of the development.
- There is no comment on the staging of the works. Removal of the existing angle parking before it is replaced in Wellington Street is likely to give rise to a lot of public and business complaints. That would be a more than minor effect.

PROPOSED ENGINEERING CONDITIONS

Resource Consent No: LUC0408/19

Prior to Works

1 Prior to commencing any engineering design or construction works, the Consent Holder shall appoint appropriately qualified and competent **Developer's Representative/s**, acceptable to Waikato District Council, to provide all designs, supervision, certification and final signoff, in accordance with the requirements of the Regional Infrastructure Technical Specifications (RITS).

2. The consent holder shall notify Waikato District Council's Team Leader-Monitoring, in writing, of their intention to begin works, a minimum of fourteen days prior to commencing works. Such notification shall include the following details:

   (a) Name/s and telephone number/s of the accepted **Developer's Representative/s** .

   (b) Site address to which the consent relates.

   (c) Works intended to be undertaken.

   (d) Expected duration of works.

3. Geotechnical investigations, completion and site stability/suitability reports shall be prepared and signed by a **Geo-professional**, who shall be a person as is defined in NZS4404:2010 and who carries suitable professional indemnity insurance cover for the works being investigated, supervised and certified.

4. Prior to undertaking any soil disturbing activities, the Consent Holder shall install erosion and sediment control measures in accordance with the Waikato Regional Council's Erosion and Sediment Control Guidelines for Soil Disturbing Activities: January 2009. Once the earthworks are complete, the Consent Holder shall ensure that, as soon as possible, and within a maximum of 1 month, the areas where soil disturbing activities were undertaken are revegetated (or by other approved means) to achieve a minimum 80% coverage.

   Erosion and sediment controls shall be maintained and remain in place until (at least) the minimum required cover is achieved, and may only be removed once the Waikato District Council's Team Leader-Monitoring is satisfied that the risk from erosion and instability has been reduced to a less than minor risk and has provided approval in writing.

5. The Consent Holder shall submit a Construction Management Plan (CMP) to the Waikato District Council Team Leader Monitoring a minimum of 15 working days prior to the commencement of Earthworks. The CMP shall include, but not be limited to, the following:

   a) The staging of works planned and the description of works including site plans;

b) An erosion & sediment control plan in general accordance with the Civil Engineering Infrastructure Report by Civil Plan Consultants dated 29 April 2019.
c) Detailed management procedures for fill placement, treatment and/or stockpiling;
d) Dust Management Plan that gives effect to the performance standards set out in the conditions below
e) Machinery to be used on site;
f) Communications Plan
g) Clarification of number of persons to be engaged in site works
h) Health and Safety Plan

6. All earthworks activities carried out on site shall be conducted and managed in accordance with the approved Dust Management Plan and the approved Construction Management Plan.

7. Engineering Plan Approval

Prior to the undertaking any works on site, the following engineering designs/plans shall be submitted to, and approved by, the Waikato District Council's Senior Land Development Engineer. Engineering designs for the overall project shall be undertaken in accordance with the following documents:

a) The Waikato District Plan (Franklin Section);
b) The Pokeno Structure Plan;
c) Hamilton Infrastructure Technical Specifications (RITS),
d) The Approved Plans (attached); and
e) Any proposed departures from the RITS shall be noted in a design Statement accompanying the engineering approval plans, for approval by Waikato District Council's Senior Land Development Engineer.

These designs/plans shall be accompanied by a completed Producer Statement Design (PS1). A copy of the form is attached with this consent.

8. Roading

EC1 Engineering Design Plans for roads (including geometric standards, signage, road markings and street lighting) and accesses that are part of the works shall be designed in general accordance with the plans provided with the application except where changed by conditions of consent. The Engineering Design Plans shall be submitted to the Waikato District Council's Senior Land Development Engineer for approval. These designs shall be in accordance with the RITS/ and shall include:

- Geometric standards for these new public roads
- Road pavements
- Road markings and signage
- The full detailed design for the Wellington Street upgrade, to be constructed by the applicant, including design of the intersection between Wellington street and Great South Road

- Independent Road Safety Audit
  The applicant shall, at the time of submitting plans for Engineering approval, provide an independent Road safety Audit of the detailed design in accordance with NZTA guidelines for Independent Road Safety Audits The Audit shall give specific consideration to:

  - Pedestrian access and safety,
  - large vehicles turning at the Wellington Street intersection with Great South Road
  - Interaction of traffic at the truck stop entrance and egress

The Road Safety Audit shall separate out the decision tracking between designer, client – developer, WDC safety engineer and WDC as road controlling authority client role (final decision).

The design shall be amended until all significant and serious concerns identified in the safety audit have been addressed to the satisfaction of WDC as road controlling authority. The completed RSA shall be submitted with the detailed design Engineering drawings accompanied by a statement explaining why any remaining safety concerns have not been addressed

Street Lighting:

- Provide Design certificates for the lighting
- The design is to include lighting for the veranda/seating area to the frontage of the site and for the section of Wellington Street to be constructed up to and including the intersection with Great South Road

Advice Note

Waikato District Council will be responsible for the lighting of Great South Road.

9. Wastewater

Engineering Design Plans for a reticulated sewer system, which is part of the works, shall be designed in general accordance with the plans provided with the application except where changed by conditions of consent. The Engineering Design Plans shall be submitted to the Waikato District Council's Senior Land Development Engineer for approval.

Engineering Design Plans shall be accompanied by a design phase PS1 certificate, signed by a chartered professional engineer with experience in design and construction of similar works

The Engineering Design Plans shall be in accordance with RITS and approved in writing by the Waikato District Council.

10. Stormwater

Engineering Design Plans for a reticulated stormwater system that is part of the Wellington Street upgrade, building roof and stormwater from impervious surfaces within the site shall be designed in collaboration with WDC at the time of

Engineering Approval, in general accordance with the concepts of low impact design , the applicants proposal to reuse stormwater, and the minimisation of the cost of future maintenance in mind. The Engineering Design Plans shall be submitted to Waikato District Council's Senior Land Development Engineer for approval.

The Engineering Design Plans shall be in accordance with RITS and shall include:

(a) The primary system shall be designed to cater for all runoff from each proposed catchment, for a 50%AEP, 10 minute storm event (with a 16.8% allowance for climate change). It is also to be demonstrated that the receiving reticulated network can accept the discharge without surcharge.

(b) All flows in excess of the 50%AEP storm event and up to and including the 1%AEP storm event (with a 16.8% allowance for climate change) are to be contained within defined overland flowpaths.

(c) All defined overland flowpaths crossing private property will require an easement in gross to Waikato District Council. The easement shall fully cover the extent of the 1% AEP storm (with a 16.8% allowance for climate change).

(d) The location of stormwater lines and manholes and associated easements in gross in favour of Waikato District Council, shall be generally within 1.5m of any boundary or as agreed to by Waikato District Council's Land Development Engineer,

(e) All road catch pits shall be of the back entry type, typically as shown in the Hamilton City Development Manual Drawings TS348, 349,351, or as otherwise approved by Waikato District Council's Land Development Engineer.

(f) Grate bars shall be perpendicular to the kerb face, to allow for cyclists. Galvanised, heavy duty "Web Grates" will be considered as an alternative to cast iron grates.

(g) **Either;** All catch pits shall be fitted with a "floatables baffle", typically as shown in the Hamilton City Development Manual Drawing T351 or an alternative design approved by Waikato District Council's Land Development Engineer, to prevent floatable debris from entering the stormwater wetland.

(h) Catch pits shall not be located in property entrances or access lot entrances. Vertical curve channel sag points shall be adjusted to suit, so that this condition is met.

Water

16 Engineering Design Plans for a reticulated water supply system that is part of the works shall be designed in general accordance with the plans provided with the application except where changed by conditions of consent. The Engineering Design Plans shall be submitted to the Waikato District Council's Waikato District Council's Senior Land Development Engineer for approval.

The Engineering Design Plans shall be in accordance with RITS and shall include:

(a) The Consent Holder shall design a reticulated water supply system which provides for a water connection, and is capable of providing complying firefighting water supply in accordance with SNZ PAS 4509:2008

(b) Installation of water meters outside the property boundary in accordance with Waikato District Council drawing WDC-11 and to the satisfaction of Waikato District Council's Senior Land Development Engineer.

(c) This reticulation within Wellington Street shall be vested in Waikato District Council prior to any private use of the system.

Landscaping of Road reserve and Stormwater reserve

Landscaping - Road Reserve

18 Prior to starting works the consent holder shall submit a detailed Landscaping Plan to Council for certification of the landscaping within the proposed Wellington Street road reserve and the unformed road reserve (drybasin), in accordance with the following requirements:

(a) The landscaping plan for Wellington Street shall be developed in general accordance with the following Plans: "Landscape Plan 01" Drawing LP01 Rev D, by ASC Architects, Site Plan project 18828 03 dated 23 April 2019 by ASC Architects and the "Proposed Roading Overall Layout Plan by Civil Plan Consultants Drawing 2050-01-300 Rev C1 .

(b) The plan shall be designed to reduce potential adverse effects on the roading and underground service network in respect to:

(i) maintenance issues created by roots under the carriageways, vehicle entrances and footpaths;

(ii) obscured visibility for road users in respect to sightlines for intersections and vehicle entrances;

(iii) interference with underground services;

(c) provides, and continues a legible landscaping theme along the local road;

(d) Is in accordance with the Regional Infrastructure Technical Specifications or as deemed acceptable by the Waikato District Council Senior Land Development Engineer or nominee;

(e) (

(f) Includes a maintenance schedule and regime which ensures that all public landscaped areas are maintained by the consent holder for a period of **two years** from the issue of the certificate of practical completion.

During Works

19 All earthworks activities carried out on site shall be conducted and managed in such a manner as to ensure that all dust and particulate emissions are kept to a practical minimum to the extent that there are no dust discharges beyond the boundary of the site that cause an objectionable effect.

20 The consent holder shall ensure that an adequate supply of water for dust control (sufficient to apply a minimum of 5 mm/day to all exposed areas of the site during the winter period, and a minimum of 10 mm/day to all exposed areas of the site during the summer period), and an effective means for applying that quantity of water, is available at all times during construction, and until such time as the site is fully stabilised.

21 The consent holder shall ensure that, at all times, the soil moisture of exposed areas is maintained at sufficient levels, under prevailing wind conditions, to prevent dust generated by normal earthmoving operations from remaining airborne beyond the boundary of the work site.

22 The consent holder shall ensure that, outside of normal working hours, staff are available on-call at all times to operate the water application system for dust suppression.

23 If so required by the Waikato District Council, the consent holder carry out immediate sealing of any problematic dust generating surfaces within the site using hydro-seed/hydro-mulch (or similar paper maché based product), polymer soil stabilisers or a similar dust control product to provide instant remediation of dust effects to the satisfaction of the Waikato District Council.

24 Management of the Earthworks shall be in general accordance with the Construction Management Plan and the approved Dust Management Plan, unless otherwise agreed, in writing with Waikato District Council's Team Leader-Monitoring.

25 The consent holder shall take all practical measures to ensure that any debris tracking/ spillage onto any public roads as a result of the exercise of this consent hall be removed as soon as practical, and within a maximum of 24 hours after the occurrence, or as otherwise directed by the Waikato District Council's Roading Area Engineer, to the satisfaction of the Waikato District Council's Team Leader-Monitoring.

The consent holder, upon becoming aware of the need to clean up the roadway, shall advise Waikato District Council's Roading Area Engineer of the need for the road to be cleaned up, and what actions are being taken to do so.

The cost of the clean-up of the roadway and associated drainage facilities, together with all temporary traffic control, shall be the responsibility of the consent holder.

27 Any works undertaken within the Great South Road road reserve area shall be managed to ensure that the surface of the Great South Road (including any temporary road diversions) is maintained in a suitable, trafficable condition to minimise any adverse effects upon local road users and to the satisfaction of the Waikato District Council's Senior Development Engineer

28 Any fill areas shall be undertaken in accordance with NZS4431:1989 (Code of Practice for Earthfill for Residential Development) unless otherwise approved by the Waikato District Council's Senior Development Engineer. Any fill areas shall be certified by a Geo-professional as meeting the approved standard prior to any further development in those areas.

29 Any underfill drainage systems shall be designed by, and their installation supervised by, a suitably qualified and experienced Chartered Professional Engineer (CPEng) and their position recorded by a Registered Surveyor.

31 The site shall be stabilised against erosion as soon as practicable and in a progressive manner as earthworks are finished over various areas of the site. Appropriate methods of site stabilisation may include re-spreading of topsoil and grassing, hay mulching or placement of aggregate surfaces (roads/building platforms). The consent holder shall monitor and maintain the site until stabilisation is achieved to such an extent that it prevents erosion and prevents sediment from entering any watercourse.

32 In the event of any archaeological artefacts being discovered the works shall, in the vicinity of the discovery, cease immediately and the Waikato District Council, New Zealand Historic Place Trust and representatives of local iwi (where artefacts are of maori origin) shall be notified within 24 hours. Works may recommence on the written approval of the Waikato District Council after considering:

a) Tangata Whenua interests and values;

b) Protocols agreed upon by Tangata Whenua and the consent holder;

c) The consent holders interests;

d) Any Historical Places Trust authorisations; and

e) Any archaeological or scientific evidence.

Complaints

32 If any complaints are received by the consent holder regarding the activities authorised by this consent, the consent holder shall notify the Waikato District Council's Team Leader-Monitoring of those complaints as soon as practicable and no longer than one working day. When/if complaints are received; the consent holder shall record the following details in a Complaints Log:

i. Time and type of complaint, including details of the incident, e.g. duration, any effects noted;
ii. Name, address and contact phone number of the complainant (if provided);
iii. Location from which the complaint arose;
iv. The weather conditions and wind direction at the time of any dust or noise complaint;
v. The likely cause of the complaint;
vi. The response made by the consent holder including any corrective action undertaken by the consent holder in response to the complaint; and
vii. Future actions proposed as a result of the complaint.

The register shall be available to the Waikato District Council at all reasonable times. Complaints received by the consent holder that may indicate non-compliance with the conditions of this resource consent shall be forwarded to the Waikato District Council's Team Leader-Monitoring in writing within 24 hours of the complaint being received.

Post Works

33 After completion of the earthworks, and prior to undertaking any building works, the consent holder is to provide a "Statement of Professional Opinion as to Suitability of Completed Earthworks" completed and signed by a Geo-professional (who carries appropriate professional indemnity insurance for the works being supervised/certified) to certify that the site is suitable for:

(a) Erection of commercial buildings, and;

(b) Provide details of any specific foundation design considerations/limitations necessary for the construction of commercial buildings.

The format for the "Statement of Professional Opinion as to Suitability of Completed Earthworks" shall be as per Volume 4, Part 2 checklist 2.2 of the Hamilton City Council Development Manual.

The Statement is to be accompanied by the following:

(a) A schedule with dates/results etc of all supervision and testing undertaken to certify the areas of cut/fill, and

(b) An as-built plan of the earthworks, clearly showing the areas/depths of cut and fill, and defining areas of fill which have been engineered, and those areas of fill which have not been engineered.

The above is to be submitted to, and gain the approval of, the Waikato District Council's Team Leader-Monitoring prior to undertaking any building works on site.

34 As Built information for all works covered in the approved Engineering Design Plans shall be provided to Council for acceptance. As Built information shall be in accordance with Section 1.7.3 of the requirements of the RITS and shall also include all details of street lighting installed, in a format suitable for entering into Council's RAMM database.

35 The Consent Holder shall:

(a) Appoint a suitably qualified and competent person, to the satisfaction of Waikato District Council's Roading Compliance Officer who shall be responsible for gathering all information necessary for RAMM data collection

for the construction of Wellington Street.

(a)

(b) This representative shall gather and submit RAMM data, which shall conform to Waikato District Council's ROAD ASSET DATA STANDARD SPECIFICATION, to the Waikato District Council's Roading Compliance Officer for assessment and technical certification. All RAMM data shall be provided on the prescribed forms.

36. A "***Producer Statement – Construction"*** shall be provided for each separate works undertaken by each individual Contractor.

(An acceptable format for "Producer Statement – Construction" can be found in the Hamilton Infrastructure Technical Specifications. A copy of the form is attached with this consent.).

37 A "***Certificate of Completion of Development Works"*** prepared and signed by a Chartered Professional Engineer, shall be provided to confirm that all works in terms of the design plans submitted and approved by Council have been carried out in accordance with the approved plans, appropriate standards and all relevant reports.

Advisory Notes

AN1 The consent holder's attention is drawn to the requirement to obtain any necessary consent from the Waikato Regional Council.

Signed By

Christopher Gatehouse

Senior Land Development Engineer
Date: 30th July 2019