Lysaght Ref: 225294

LYSAGHT

29 April 2024

Classic Developments Attn: Tim Kidd

RE: MAEA FIELDS FUTURE RESIDENTIAL POLICY AREA SERVICING

Lysaght Consultants Ltd ("Lysaght") was engaged by Classic Developments Ltd ("The Applicant") to review the serviceability of two future development parcels located at 103 Banks Road, Matamata, and referenced Lots 1 & 2 DP595077 ("The site"). The site is included in Matamata-Piako District Council's ("MPDC") Banks Road to Mangawhero Road Structure Plan¹ and identified as 'Future Residential Policy Area' land ("FRPA"). The site is displayed in Figure 1 below.



Figure 1: Site Location with Banks Road to Mangawhero Road Structure Plan Extents Identified

A high-level engineering assessment of transportation, three-waters and landform/geotechnical matters has been completed to determine the suitability of the site for future development, as summarised within this memo. It is understood that this memo will be included as part of a submission for fast-track consenting. The applicant is currently undertaking development within the residentially zoned land immediately north of the site, with Lysaght engaged as the lead consultant. Therefore, both Lysaght and the applicant are familiar with the site, relevant legislation and council requirements.

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¹ <u>https://eplan.mpdc.govt.nz/districtplan/PC47/StructurePlans/BanksRoad_Operative_22_April_2020.pdf</u>

1.0 TRANSPORTATION

The structure plan identifies a number of north-south and east-west collector road corridors through the residentially zoned land, with these linking to 'future roads' within the FRPA areas. One of the future roads aligns centrally with the site and therefore an allowance for a north-south collector road will likely be required as part of future development. The concept layout for the site includes this roading link as a 22m wide 'Type 2'² roading corridor. The structure plan roading links are shown in Figure 2 below.



Figure 2: MPDC Structure Plan for Banks Road to Mangawhero Road with Site Identified

The structure plan also lists several upgrades to the existing transport network that are to be completed to enable the development of the FRPA, though it is not explicit in stating at what point those works must be completed in the process of development (i.e. prior to any development occurring, prior to the establishment of a road connection to Banks Road, or otherwise). Those potential upgrades are summarised below:

• The upgrade of Banks Road to a standard compliant with the MPDC Development Manual (now superseded by the RITS). Adjacent to the site, Banks Road is currently a 6m wide carriageway with no hard stormwater infrastructure. Further west, where Banks Road appears to have already been upgraded, it is 8m wide with standard kerb and channel and catchpits for stormwater collection.

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² Type 2 Collector road corridor as defined in the Banks Road to Mangawhero Road Structure Plan

- The upgrade of walking and cycling facilities within Burwood Road.
- The provision of connections to Kaimai Drive.

The latter two bullet points above are presumably to be tied to the portion of the FRPA that is north of the residential zone and not part of the site under consideration here.

The structure plan provides opportunity for Developers Agreements to be entered into with MPDC for the provision of servicing and infrastructure upgrades required for subdivision and development within the structure plan area.

2.0 STORMWATER

The structure plan identifies that provision will need to be made for stormwater treatment and disposal on site, or to an approved discharge point. Stormwater disposal to ground soakage is typical in Matamata with its underlying fluvial sands and gravels being supportive of this, and given the location of the site no discharge point to a waterway (or similar) is available. The structure plan displays a 'potential stormwater pond' located immediately east of the site (refer Figure 2), with this currently being constructed and used as part of the stormwater disposal methodology for the residentially zoned land.

It is anticipated the FRPA lands, including the subject site, will be serviced in a similar manner as the residentially zoned land. Runoff from within the lots is expected to be disposed of using on-lot soakage for all primary storms (10-year events). Runoff from the road corridors would be expected to be captured and conveyed via a reticulated network to a pond or subterranean soakage system for disposal. Given the location of the existing pond it would be the logical termination point for the primary runoff from the road corridors within the site, although it would need extending to ensure sufficient capacity was provided. Alternatively, an area within the site could be designated as a stormwater disposal area if the existing pond is unable to be utilised.

Stormwater treatment prior to discharge to ground soakage is expected to be required. The residentially zoned land currently includes rain gardens providing at-source treatment within the road corridors, so the same methodology could be adopted for the site. Alternative treatment options could also be interrogated, including treatment swales, wetlands, ponds or proprietary devices.

Attenuation of stormwater flows during larger storm events, up to and including the 100-year event, will be required to ensure runoff from the site during these events is less than or equal to predevelopment levels. Again, an extended pond could potentially be used to attenuate these flows during larger events, however detailed surface modelling of pre- and post-development scenarios would need to be completed to confirm the design methodology and the size on extension required. Preliminary calculations based on the difference in run-off volume between the pre- and post-developed states of the site, assuming 70% overall impervious coverage (to allow for densification should it be sought) show that an additional 2,650m³ of stormwater will run off the site during a 100-year event. Although as noted it can only be confirmed via updated stormwater modelling once the design of the site is further advanced, it is expected that approximately this volume of additional storage would be required within any pond extension. This is a minimal increase in volume given the

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overall volume of the existing pond will exceed 50,000m³ upon completion of the residentially zoned lands currently being developed.

Further analysis of the design would also identify whether any consents from Waikato Regional Council are necessary for this area of development.

3.0 WASTEWATER

The structure plan notes that wastewater reticulation for the FRPA south of the residentially zoned land (which includes the site) will be serviced via the residentially zoned land to the north. The residential development currently being completed has an existing wastewater pump station which was constructed during the first stage of the development, and is roughly centred within that development. The site is on higher ground than that of the residentially zoned land, and could theoretically be serviced by the existing pump station in terms of invert levels. The invert level of the receiving manhole is RL 57.94m and is located approximately 725m away from the furthest corner of the site. Therefore, if:

- all pipes are laid at a minimum grade.
- manholes have an average internal fall of 40mm,
- ten such manholes are allowed for on the main line from the furthest corner of the site to the pump station.
- a minimum of 900mm cover is required throughout.

Then the minimum ground level at the top end of the line servicing the site will be RL 63.38m. The preliminary earthworks model of the site prepared by Lysaght shows that levels greater than this will be achieved throughout and therefore wastewater flows should be able to drain via gravity to the existing pump station.

4.0 WATER SUPPLY

Water supply for the site will be via extension of the networks within the residentially zoned land, and via a connection to the existing main within Banks Road. A Ø250mm watermain is being constructed on one side of the east-west collector road through the residential development which would be expected to extend into the site at a suitable size. The existing main within Banks Road is a Ø100mm pipe which will provide a looped connection once constructed through the site.

The structure plan does not note any upgrades required for the development of these areas.

5.0 GEOTECHNICAL/LANDFORM

CMW Geosciences have completed multiple geotechnical investigations for the residential development north of the site, which confirm the suitability for development. The ground conditions encountered and inferred from the investigations are generally consistent with the published geology

for the area. It can therefore be surmised that the site would have a geological make-up similar to the residentially zoned land, and therefore would also be suitable for development.

Based on the concept layout for the site, a preliminary three-dimensional earthworks design has been completed to determine site levels and approximate the amount of cut and fill required for this area. The preliminary model shows that the site could generate approximately 15,000m³ of cut which would be re-placed as fill, and would require an additional approximately 15,000m³ of imported fill material (solid measure in cut, assuming a cut to fill factor of 1.3) to achieve design levels. The extension of the existing stormwater pond would provide a viable fill source for the shortfall of material.

6.0 SUMMARY

The preliminary servicing review carried out by Lysaght demonstrates that necessary transportation and three-waters servicing requirements can be met, and an appropriate and viable solution for each is available. Subject to further engineering design and review, development of the proposed site is therefore expected to be possible in accordance with the district plan, relevant legislation and regional and district council requirements.

We trust the information above provides sufficient confirmation as to the serviceability of the subject site, however should further information be required please do not hesitate to contact the undersigned.

Prepared by:

Rogan Donaldson Senior Civil Engineer NZDE (Civil) LYSAGHT CONSULTANTS

Reviewed and Approved by:

Daniel Hight Partner | Engineering Team Leader CPEng, CMEngNZ, BE (Hons) LYSAGHT CONSULTANTS