

Case Study

Summerset at Pohutukawa Place, Taranaki

Summerset Group Holdings Limited



Overview

Summerset's new \$150 million retirement village in Bell Block, Taranaki will offer nearly 300 homes, including villas, serviced apartments and award-winning memory care suites. Only a ten-minute drive from New Plymouth CBD with amazing views of Mount Taranaki and the Tasman Sea, the village is an ideal place to

retire with a relaxed and semi-rural coastal community.

Calibre supported Riley Consultants Limited with the Civil Infrastructure Feasibility Assessment, followed by the Concept Design. This enabled the lodgement of the Resource Consent to

New Plymouth District Council. Based on the success of the Resource Consent Design for the village, Summerset engaged Calibre to deliver Earthworks and Civil Infrastructure Detailed Design, Building Consent, Procurement and Construction Monitoring services.

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Calibre's role

Our role during the Developed and Detailed Design stages encompassed:

- Geometric road design for all roadways, intersections, main entrance way, rights-of-way and parking areas.
- Design of levels around the site boundaries, including determination of required walls or battering.
- Villa and main building platform levels design, in conjunction with the road kerb levels and freeboard above secondary flow paths.
- Design of erosion and sediment control measures for earthworks, including allowance for staging.
- Bulk earthworks design, including liaison with Riley to obtain earthwork design details and technical input.
- Stormwater design based on the resource consent design incorporating on-site soakage design (for 1% AEP neutrality), pipe reticulation hydraulic design and associated details. The design looked to reduce the soakage structures in favour of utilising the 1,500 – 3,000 m³ sand area within the site.
- Wastewater design – reticulation design including a single pump station and associated rising main. The design incorporated a reduction of the number of originally anticipated pump stations from two to one, which effectively reduced the impact to the downstream public sewer main.

- Water design – fire and potable reticulation design, backflow preventer details and sprinkler main.
- Services design – we obtained power, fibre, lighting and gas services designs from the client's service specialists and incorporated these within the common services trench design.
- Roading design including kerbs, dish channels, asphalt and paving details, pavement depths and pathways.

Calibre obtained building consent for the civil infrastructure and prepared the Civil Construction Contract on behalf of Summerset. This involved the preparation of tender documentation, responding to tender queries, and tender evaluation and contract documents for bulk earthworks and civil infrastructure.

Calibre is currently providing Engineer to the Contract (ETC) services for this development. Our ETC rep conducts weekly inspections and has been tasked with attending fortnightly construction meetings over the construction period. This ensures that the work carried out is consistent with the design.

Our solution

This project showcases Calibre's teamwork between our central and regional offices. Our Wellington-based land development and water design team is highly experienced in all civil engineering aspects for this type of development and carried out the civil infrastructure design

for the Resource Consent. Our local New Plymouth office has also carried out the service investigation and as-built work on Pohutukawa Place to facilitate the Resource Consent design.

Some delays were experienced at the start of the project with regards to acceptance of the stormwater design, where the overland flow path affected the neighbouring Parininihi ki Waitotara (PKW - Iwi farmed land) property. Our design team overcame this by addressing all the concerns raised. Additionally, in line with Summerset's spirit of 'One Team', Calibre worked collaboratively with Riley Consultants and the contractor Taranaki Civil Construction Limited (TCCL) to agree necessary changes to the earthworks specification and corresponding tender rate increase. As a result, the project was delivered on schedule and as per Summerset's timing expectations.

Calibre has successfully delivered the civil engineering, services design and procurement services for the Pohutukawa Place retirement village project. We are now working with TCCL to deliver the construction of the water reticulation; stormwater and sanitary sewer networks; power and communications; roading network; and earthworks. Despite high rainfall periods experienced causing in excess of 40 days lost, the time lost due to the Covid-19 Pandemic, approximately \$2,000,000 of variations added and the initial delays experienced as noted above, TCCL has progressed well ahead of the villa build programme.

Value delivered

Throughout the design process, Calibre has collaborated proactively with the client's other design parties (internal and external) to avoid any major clashes and discrepancies between the various design disciplines. Calibre undertook bulk earthworks and associated stormwater management design for the PKW land adjacent to Summerset's western boundary. This required practical and sensitive coordination with PKW and their advisory engineer.

With Summerset having a full-time project manager on site, a joint approach to managing the project was adopted whereby technical queries were addressed by Calibre while taking the client's concerns and requests into consideration.

The very inconsistent weather patterns in New Plymouth/Taranaki have resulted in a high number of lost days. While not completely alleviating lost time, the prioritising of certain tasks and the allocation of additional resources has allowed steady progress with little effect on the overall construction programme.

A combination of contractor input and 100% design review by Calibre has led to approximately \$150,000 in savings through the removal of syphons from stormwater sumps; the removal of endpoint manholes being replaced with maintenance structures; the removal of roading subsoil drains; the removal of the need for the trunk wastewater main replacement; and the removal of stormwater manholes and size reductions in stormwater manholes.

A reduction from two to one wastewater pump stations by clever rerouting of the gravity systems in the front half of the site provides cost effectiveness during both construction and over the life of the retirement village.

The elimination of a large western retaining wall along the Summerset / Parininihi ki Waitotara boundary in favour of bulk filling across the boundary also resulted in a large financial saving, and in turn provided benefits to PKW for the future development of their site.

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