

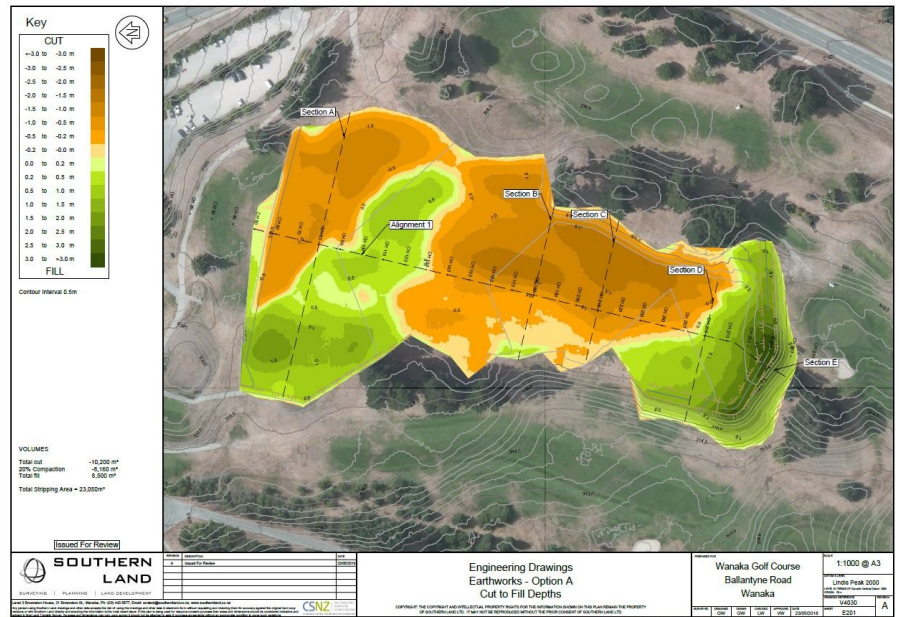
## Southern Land Ltd

Hikuwai

12d DIMENSIONS:

- Drafting

# Hikuwai Residential Subdivision



## Project Summary

A 200+ lot residential subdivision in “Wanaka – one of the most beautiful, breathtaking, towns that New Zealand’s South Island has to offer.”

(Source: Hikuwai website)

## The Challenge

The magnitude of the project was the main challenge, but the team at Southern Land was confident they could find a solution using the right tools.

## The Solution

All aspects of the subdivision process were calculated, designed and drafted in 12d Model software, starting with the scheme plan and finishing with IFC drawings.

Using 12d Model’s Multipage Plots functionality to manage drawing sets, the team determined that using 12d Model as a ‘One Stop Shop’ for all aspects of the subdivision process would be the best decision for this project:

### 1. Scheme Plan

- The Initial Boundary Data was first calculated with the Traverse spreadsheet
- Lot creation numbering and labelling was achieved

through use of the Estate Lots tools

- Xtra\_User\_drafting tools were used for dimensioning
- The Insert Table From .csv feature was used for Memorandum of easements tables
- A four-page scheme plan set was created using Multipage Plots, with Title Block information read in from a drawing register.

Throughout the process, there were four revisions required. Revision changes were lightning fast as each step of the process was recorded through 12d Model Chains.

The process of adding some additional lots into the first stage of the project consisted of adding lot polygons, numbering them, updating the drawing register, and running the labelling and plotting chain.

### 2. Engineering Design

From the Scheme Plan 12d

## For more information

To find out more about how you can create better designs faster with the 12d Model solution for civil engineering design, visit [www.12d.com](http://www.12d.com).



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Model project, the relevant models were shared out so that any lot numbering changes happening on the Scheme Plan were able to follow through to the Engineering drawing set.

A number of Design Chains were set up to record each step of the design process on the way through so that any changes made in the design could be easily updated through all aspects of both the design and surface Models, and updated in each relevant drawing.

For example, if a vertical alignment of a road was changed, the roading chain would resolve all super alignments to update any computators and re-calculate the road and earthworks design strings from the MTFs. The surfaces chain could then be run to re-calculates surfaces, and update cut-to-fill depth plans and plots to model design contours. From there, the drainage chain would regrade drainage strings and plots to model in both plan and long sections.

This process means that from the beginning of a project, the team could first set up Multipage Plots, and then add in the design elements required for Councils/ Contractors' approval/construction.

At all stages of the design process, Southern Land could quickly and simply print a drawing set (even if the design was not complete) for discussion and collaboration with clients/ engineers and contractors. Any design changes made following those discussions/collaboration with other professionals could then be easily and promptly updated and, within minutes, be shown on a plan face.

On top of this, when the time came for construction, Southern Land could guarantee that the design information shown on the approved set of plans was exactly what they had out in the field with them to set out, not something drawn in a drafting package elsewhere.

## The Result

Southern Land's Grant Wandel said, *"Multipage Plots were a real game changer for me in the way I am able to plot large sets of .pdfs straight from 12d Model with small file sizes."*

He was similarly impressed with the way in which revision changes could be made with lightning-quick turnarounds.

Other benefits of using 12d Model on this project included:

- Drawing Titles and Revision being controlled in one place (drawing register)
- Dynamic CAD drafting functions - when changing the shape of a lot, the area and dimensions change with it
- Typical Drawings and Notes and legends written in/out to the 12da Library for future use in other drawing sets
- 12d Synergy attributes fed straight to the plan face
- 12d Model's Multipage Plots functionality offered the ability to design a subdivision from concept to completion in an efficient and dynamic manner.

This resulted in an accurate, complex, robust, attractive, and timely design that easily surpassed the increasingly demanding expectations from clients and local governments.

- Being able to work wholly within one software package, with no external products required.





## Roads and Highways

12d Model's design option is the smarter solution for the design, modification and maintenance of Road and Highway projects.

Enjoy advanced 3D tools to design local and major roads, intersections, roundabouts, highways, interchanges and much more.



## Ports and Dredging

12d Model is the solution for port infrastructure and dredging, easily managing the very large datasets and complex volume calculations often required by these projects.

A complete range of flexible and customisable volume calculation tools allow teams to extract and present the information quickly and easily.



## Land Development

12d Model is the most versatile solution for the creation of sustainable land development projects, including residential, commercial and industrial developments, recreational areas, landfills, and agriculture projects.

Easily manage all aspects of your land development project from earthwork quantities, road design utilities and drainage design.



## Airport Infrastructure

12d Model provides a solution for the design, construction and analysis of new airports, as well as the upgrade and maintenance of existing runways and airport infrastructure.

Easily manage large airport infrastructure projects and share data across multi-disciplinary teams.



## Rail

12d Track has been specifically designed for the survey, design and construction of light, heavy and high speed rail projects.

Extensive railway tools in 12d Track allow the rail designer to quickly and easily design their projects. These options are built on the existing 3D modelling and design tools available in 12d Model.



## Mining Infrastructure

12d Model's powerful set of exploration, site investigation, survey and analysis tools are crucial for the initial design, construction and ongoing operation of mining projects.

Comprehensive tools for the survey, design and construction of access roads, railways, earthworks and services allow for the coordinated design and management of mining infrastructure from within 12d Model.



## Drainage, Sewer and Utilities

12d Model provides comprehensive tools for the design, analysis and optimisation of stormwater and sewer projects using rational, dynamic (hydrograph) and 2d drainage methods.

Powerful clash detection management allows for efficient 3D modelling of service networks such as gas, electricity, telecommunications and water prior to construction.



## Surveying

12d Model is a complete surveying package providing the tools to manage all facets of surveyed data including LIDAR, topographical, as-built, conformance, traversing, geodetics, data mapping, labelling and much more.

The 12d Field option runs on a ruggedized tablet and gives the user access to full 12d Model functionality, allowing you to take the entire project into the field with the most comprehensive pick-up and set-out tools.



## Oil and Gas

12d Model assists with the design, construction and mapping of oil and gas pipelines, original site exploration and the wide range of infrastructure required for oil and gas projects.

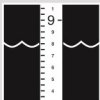
Accurate 3D modelling and the ability to share data between users allow teams to quickly and easily coordinate designs.



## Construction

12d Model is the ultimate software for construction with powerful set-out options, direct interfaces to machine control and detailed conformance reporting and auditing.

Manage 3D data and control volumes, quantities and progress claims with 12d Model. Set-out your project and undertake conformance and as-built surveys live on-site using 12d Field.



## Rivers, Dams and Hydrology

12d Model handles very large datasets and interfaces with a wide range of analysis packages, making it perfect for flood studies and the management of rivers and dams.

12d has partnered with industry leading analysis software, allowing users to apply 2D drainage analysis from within 12d Model.



## Environmental

12d Model's ability to handle very large datasets combined with flexible and comprehensive 3D analysis and modeling tools make it perfect for a wide variety of environmental projects.

Existing workflows can adopt 12d Model easily as it allows users to directly interface with GIS systems and most software packages and file formats.

## Why Choose 12d?

- Powerful data processing & intelligent functionality.
- Modular, easy to update & completely customisable.
- Seamless integration with major industry software and hardware.
- Used in over 55 countries worldwide.
- Friendly support & training from industry experts.

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**12d Model**