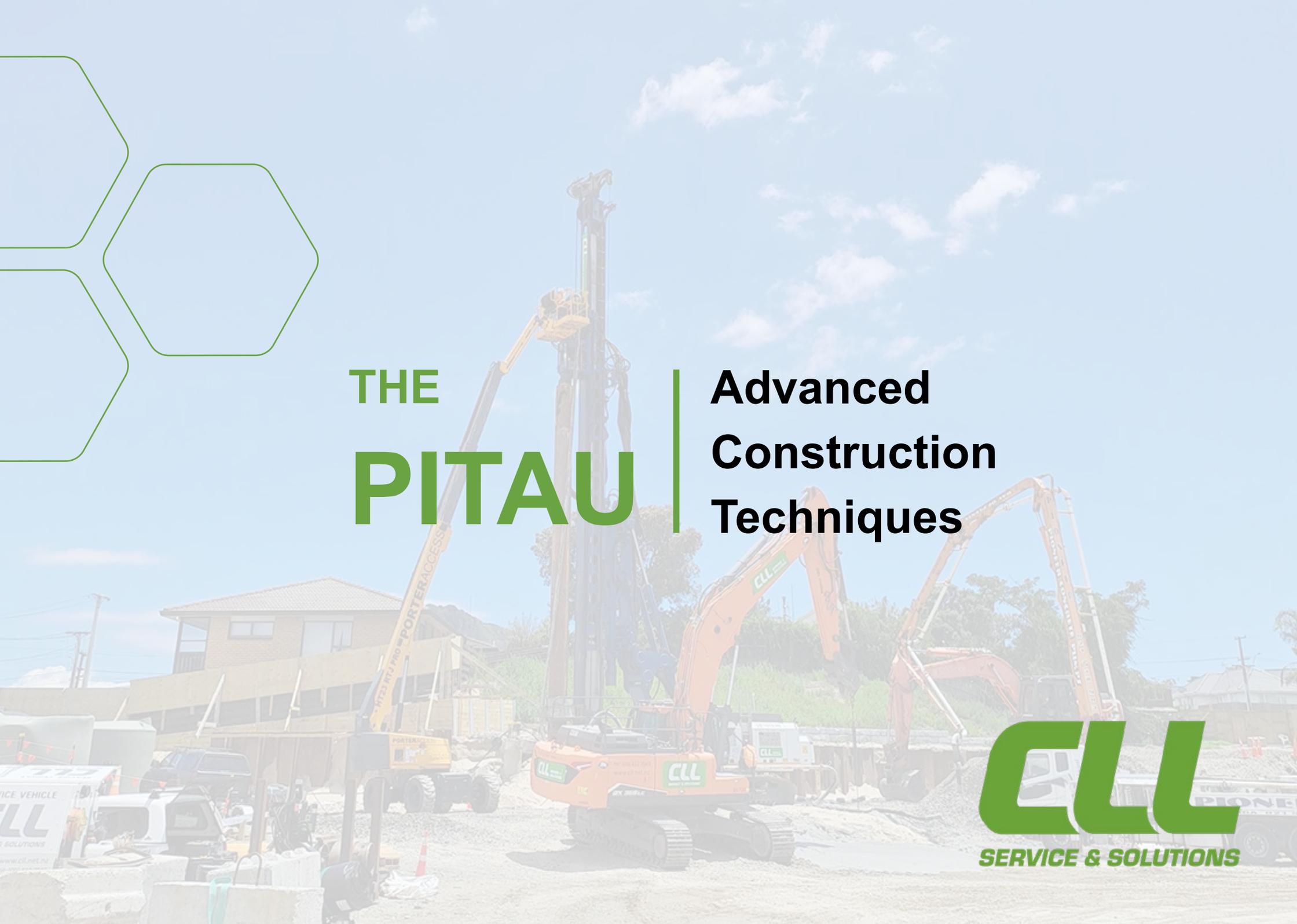




# THE PITAU

Advanced  
Construction  
Techniques



**CLL**  
SERVICE & SOLUTIONS

## THE PITAU PROJECT

CLL's work at The Pitau project in Mount Maunganui exemplifies our commitment to delivering innovative, high-quality construction solutions. We employ advanced construction techniques, which could add significant benefit to your projects in the Bay of Plenty, Waikato and beyond.

## TECHNIQUES EMPLOYED AT THE PITAU PILING

### Streamlined CFA Piling

- **Description:** We used Continuous Flight Auger (CFA) piling with an excavator, achieving pile diameters of 450–600mm and depths up to 9m.
- **Benefits:** Compared to traditional CFA with fixed mast rigs, this method reduces mobilization costs and minimizes piling platform requirements, making it ideal for sites with limited access or budget constraints.
- **Impact at Pitau:** Enabled efficient foundation work, optimizing project timelines and costs.



### Double Rotary CFA (DR-CFA)

- **Description:** Employed Double Rotary CFA for 600mm and 900mm diameter piles up to 20m deep, using two counter-rotating drives for the auger and casing.
- **Benefits:** Offers superior accuracy for secant and basement walls, reduces concrete over-consumption, and eliminates flying issues, ensuring stable boreholes.
- **Impact at Pitau:** Used with guide beams for all basement wall piles, achieving exceptional precision that streamlined subsequent trades.



### Sheet Piling

- **Description:** Installed sheet piles using a fixed mast rig to meet specific ground conditions and construction project requirements.
- **Benefits:** Provides robust retaining structures with high precision, suitable for challenging soils.
- **Impact at Pitau:** Ensured structural stability and tight project deadlines were achieved.

# GROUND IMPROVEMENT TECHNIQUES

## Rammed Aggregate Piers (RAPs)

- **Description:** Constructed piers using imported aggregate to enhance ground conditions and stability.
- **Benefits:** Effectively mitigates liquefaction risks and improves foundation strength and stability.
- **Impact at Pitau:** Addressed site-specific liquefaction concerns, ensuring long-term stability.



## X1 Technique

- **Description:** Utilized on-site sand to improve ground conditions.
- **Benefits:** Cost-effective and sustainable, leveraging local materials to combat liquefaction and ensure stability.
- **Impact at Pitau:** Enhanced ground resilience alongside the RAPs and tailored to site conditions.



## Shotcrete Walls

- **Description:** Delivered a complete in-house shotcrete package for basement walls, including drilling and epoxying starter bars, waterproofing, placing steel reinforcement, spraying shotcrete, and finishing with cutting.
- **Benefits:** Provides durable, high-quality walls with aesthetic appeal, all managed internally for seamless execution.
- **Impact at Pitau:** Created robust, visually appealing basement walls, showcasing CLL's new shotcrete capability with the acquisition of Pioneer Concrete Pumps B.O.P. in February 2025.



## BENEFITS FOR CONSULTANTS

These techniques demonstrate CLL's ability to tackle complex geotechnical and structural challenges, offering:

- **Cost-efficiency:** Streamlined CFA and ground improvement methods reduce material and mobilization costs.
- **Precision:** DR-CFA and sheet piling ensure high accuracy, critical for intricate designs like secant walls.
- **Reliability:** Shotcrete and ground improvement enhance durability and mitigate risks like liquefaction.
- **Local Expertise:** Our deep understanding of Bay of Plenty and Waikato's geology ensures tailored solutions.

The success at The Pitau reflects CLL's proven Design and Build approach, which previously saved \$9M at McLaughlins Road and \$4M at 80 Mt Wellington Highway by using similar innovative methods.



## SUMMARY OF PITAU TECHNIQUES & BENEFITS

TECHNIQUE	KEY FEATURES	BENEFITS
<b>Streamlined CFA Piling</b>	Excavator-based, 450–600mm piles, up to 9m deep.	Lower mobilization costs, minimal platform needs, ideal for confined sites.
<b>Double Rotary CFA</b>	600–900mm piles, up to 20m deep, counter-rotating drives.	High accuracy for secant walls, reduced concrete use, no flighting issues.
<b>Sheet Piling</b>	Fixed mast rig installation.	Precise, robust retaining structures for challenging soils.
<b>RAPs</b>	Imported aggregate piers.	Mitigates liquefaction, enhances ground stability.
<b>X1 Technique</b>	On-site sand for ground improvement.	Cost-effective, sustainable liquefaction mitigation.
<b>Shotcrete Walls</b>	In-house package: starter bars, waterproofing, steel, spraying, cutting.	Durable, high-quality walls, seamless execution.

## CONCLUSION

The Pitau project showcases CLL's ability to deliver innovative, efficient, and precise construction solutions, aligning with consultants' needs for reliable, cost-effective designs. Whether you're planning a commercial, residential, or infrastructure project, our techniques can enhance the feasibility and execution.

Let's connect to explore how CLL can support your next project.

**Contact Jan Slovacek today!**

**Phone: 027 540 9715**

**Email: [jan@cll.net.nz](mailto:jan@cll.net.nz)**



# NON-NEGOTIABLES



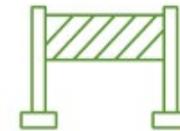
**NO LIFT IS TO BE DONE  
WITHOUT A  
LIFT PLAN IN PLACE**



**GEOTECH APPROVED  
PILING PLATFORMS  
MUST BE IN PLACE**



**NO MACHINE OR  
VEHICLE MOVEMENT  
WITHOUT A SPOTTER**



**ISOLATE PILING ZONE  
USING SIGNAGE AND  
BARRIERS**



**NEVER LEAVE OPEN  
HOLES UNCOVERED**



**DO NOT BREAK GROUND  
UNTIL PERMIT TO DIG  
HAS BEEN ISSUED**



**NO CELL PHONE  
USE WHILE DRIVING  
OR OPERATING**

# CORE VALUES



## Integrity

We are straight forward and ethical.  
We are astute and considerate.



## Courage

We take personal responsibility.  
We are confident in our ideals.



## Selflessness

We put service and people first.  
We respect and share  
knowledge with each other.  
We give others confidence  
and promote growth.



## Innovation

We are strive to think, feel and act -  
rather than react.

We are innovative and  
receptive to new ideas.



## Respect

We have respect for ourselves,  
each other, our clients,  
the environment, and our  
plant & equipment.

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