

Kairakau Water Upgrade Community Meeting

16th January 2022



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Water Story**

Introductions



Project Management
Engagement
Funding Applications

Darren de Klerk
Ben Severinsen
Lucy Damen



Initial Design
Engineering supervision

Stephanie Glenn
Ryan Jones
Philip Dol



Trility

Concept and Detailed Design
Construction

Martin Warnes
Matt Baker

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Recap from March 2021 Session

NEXT STEPS:

1. Discussions with QEII / Manawarakau Charitable Trust

Initial meeting scheduled 25th March covering requirements and responsibilities to enable forming a lease.

2. Coordination with adjacent landowners

Meetings established to coordinate design intent with directly affected landowners and develop any concerns.

3. Update to Council May 2021 (from direction provided Feb 25th 2021)

We intend responding to the Council for the Council meeting to be held early May.

This will include outcomes from the MCT/QEII Lease discussions and options for treating Water Hardness.

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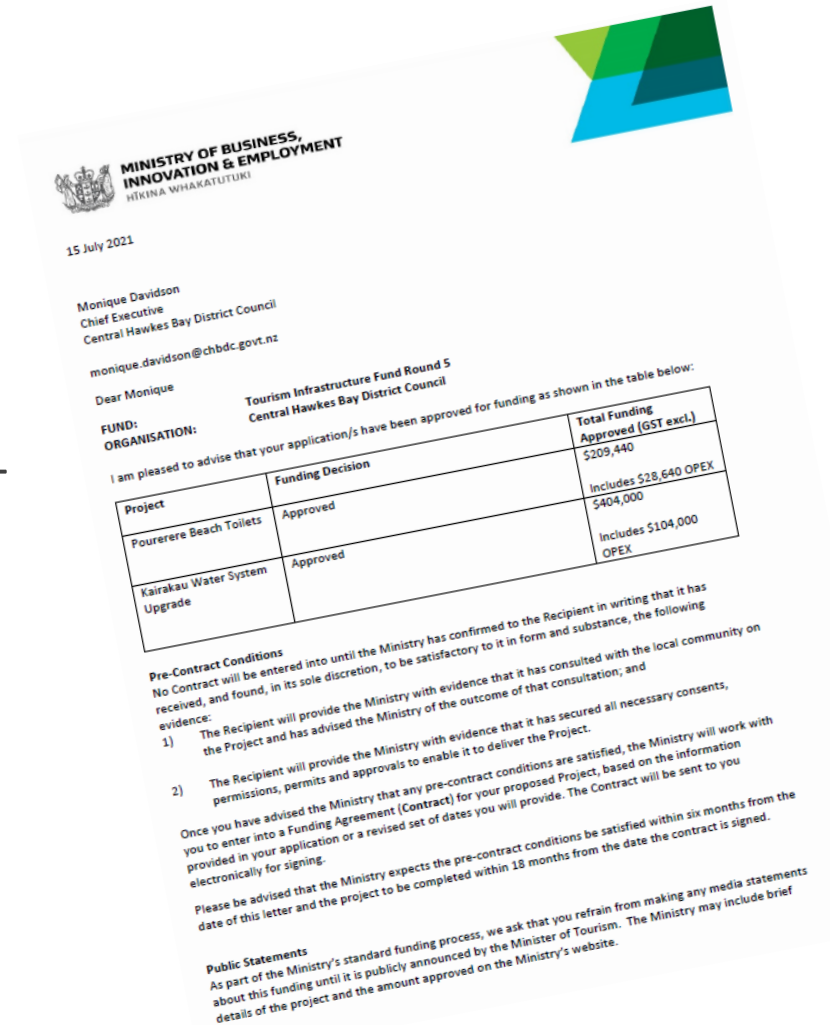
Background/ Current

- Supply from bore and spring 1.7l/s or 146m³ per day
- Current Storage
 - Town: 60 or 90m³
 - Campground: 30m³
- Usage;
 - Average: 600m³ per month
 - High: 1350m³ (Jan and Dec)
 - Low: 307m³ (Aug)
- Chlorine treatment only
 - Recent filtration unit installed
- Minimal operational visibility – limited to;
 - Reservoir level sensor
 - Chlorine analyser



Progress in 2021

- Completed Concept Design and Specifications to take to Tender
- Tourism Infrastructure Fund application in April 2021 -> Positive Outcome in July 2021
- Tidying up lease and existing easements with MCT
- Procured a contractor: Trility
- Ongoing engagement with mana whenua and landowners
- Archaeological assessment complete and granted
- Concept design underway
- Installed a temporary filter system to support spring take compliance



The Project Scope

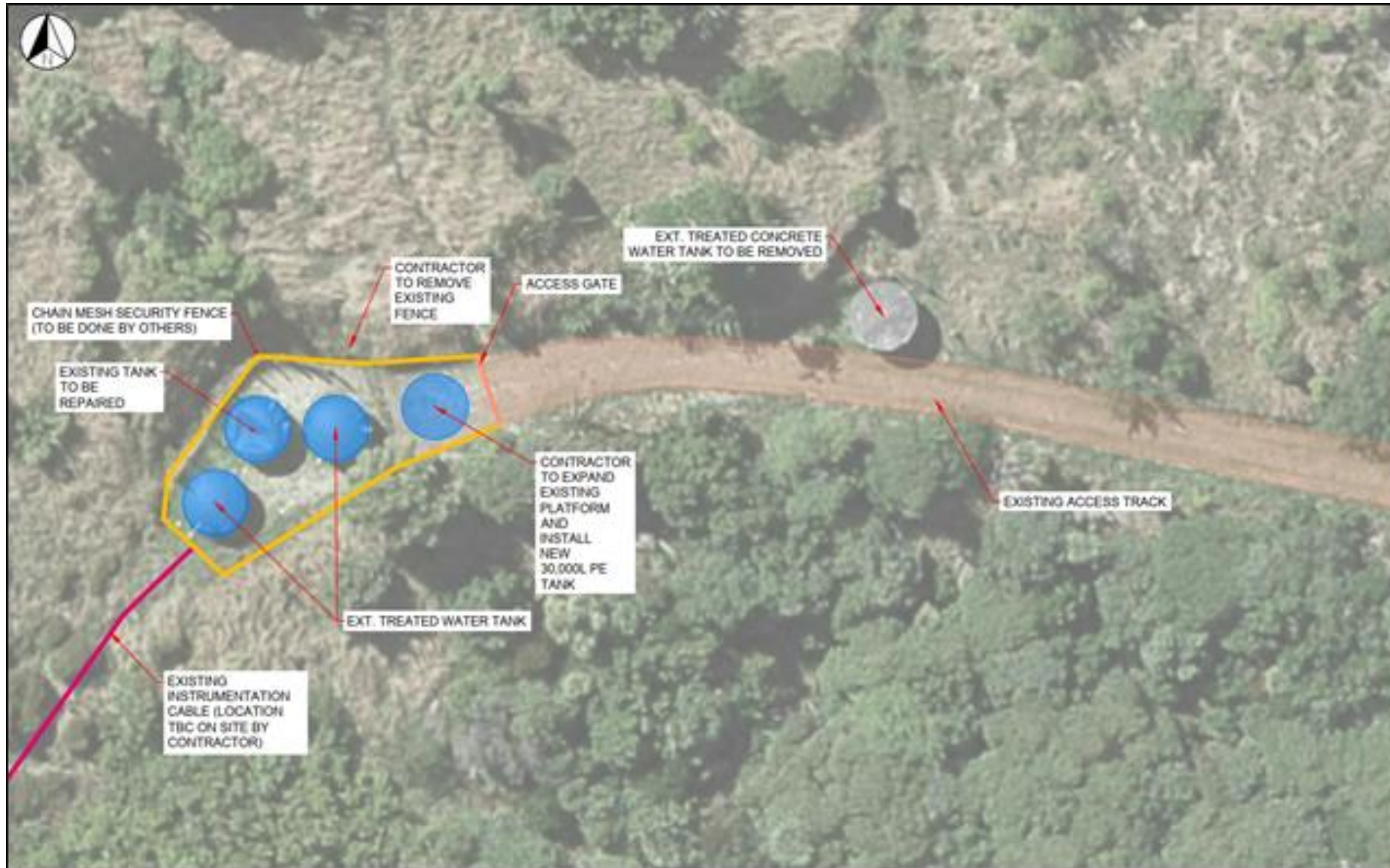
- To upgrade the current Kairakau water supply in order to comply with the current Drinking Water Standards for New Zealand by constructing a water treatment plant offsite and transporting to site
- Provide disinfection barriers to ensure quality safe drinking water
- To address the high levels of Calcium Carbonate (hardness) currently in the water by providing a water softener
- To install new tanks to receive by product of treatment
- Replace two existing treated water tank with 30,000L PE tanks
- Install new pipes between bore and treatment plant
- Install new pipes between treatment plant and treated water tanks
- To tidy up the existing leased WTP land with plantings
- To fence existing sites
- To update and refresh existing lease and easement with the MCT for water assets

What's out of scope?

- Any increase in the amount of water taken from the bore or spring
- Any increase in land footprint
- No new bores proposed
- Any amendments to the on-property water tanks
- Long term solution for by-product removal still undecided



Treated Water Tank Upgrade – Site Layout



Bore Upgrade – Site Layout



Timeframes

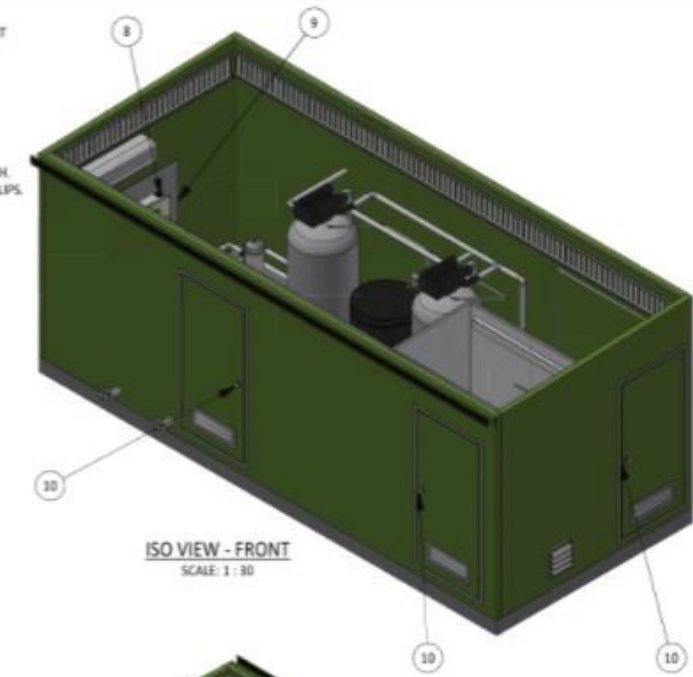
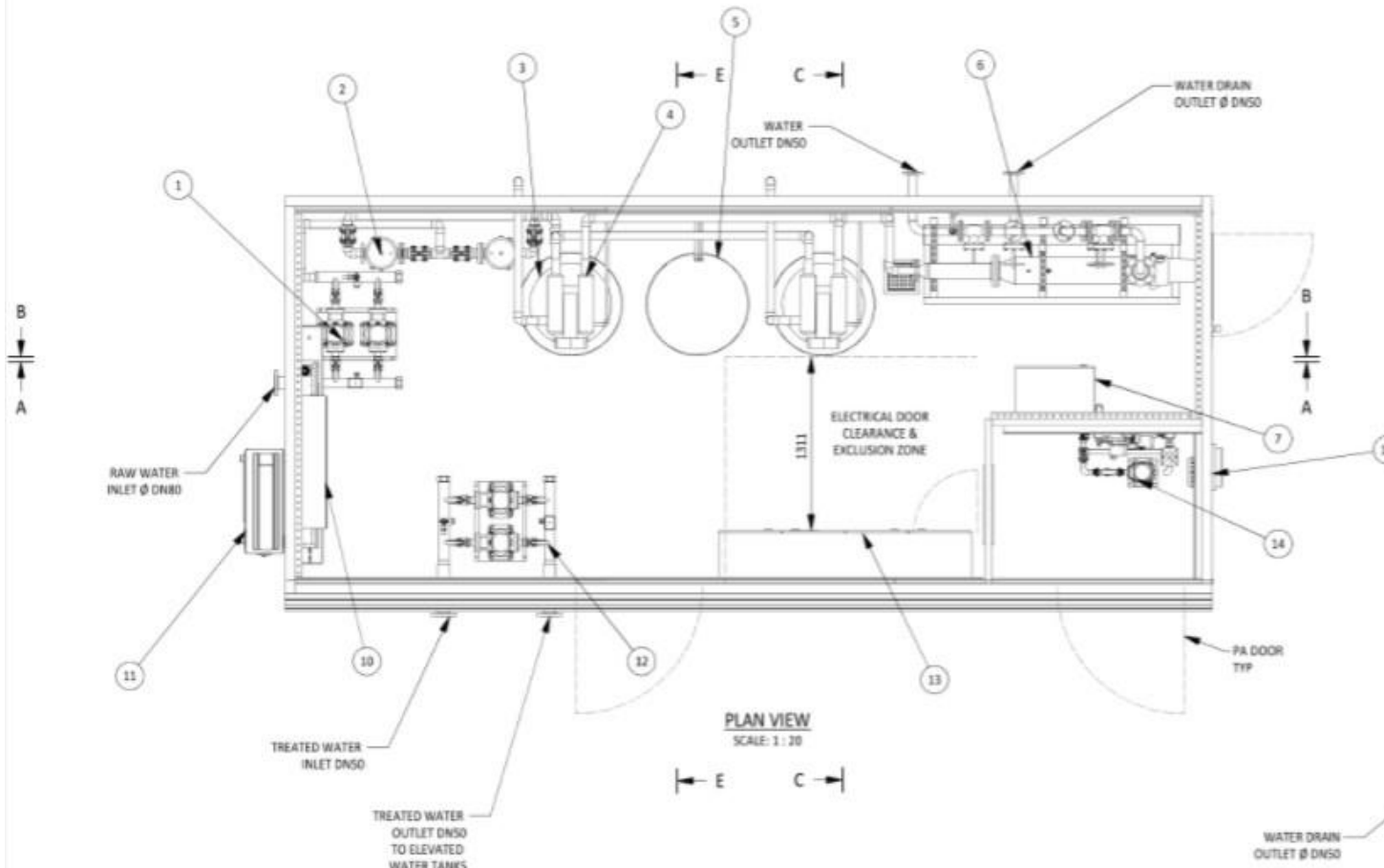
- Detailed design to be completed end of March 2022
- Plant fabrication offsite from April to be completed mid June 2022
- Water Treatment plant transported to site end of June 2022
- Pipework and installation of new PE tanks to be completed end of July 2022
- Commissioning of plant to be completed mid August 2022 followed by a 3 month system proving period
- One short communicated, water shutdown will be required to connect the reworked supply system to the town reticulation.

Water Treatment Plant Layout

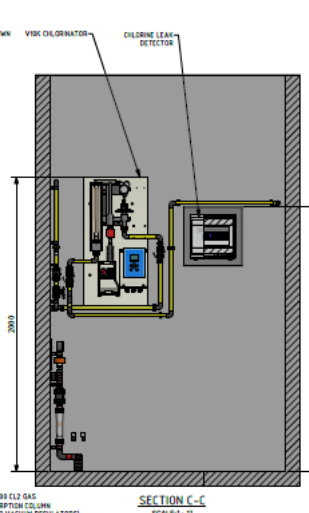
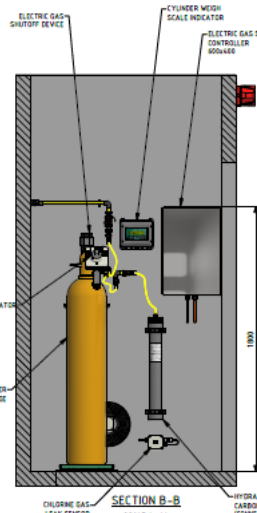
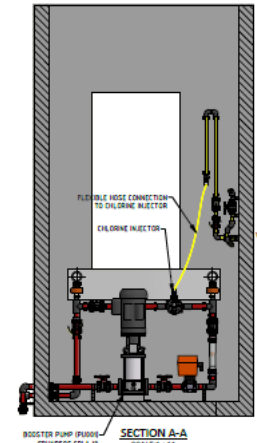
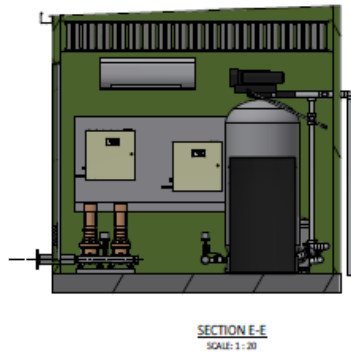
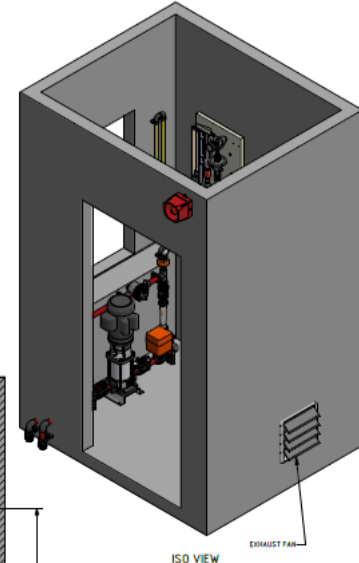
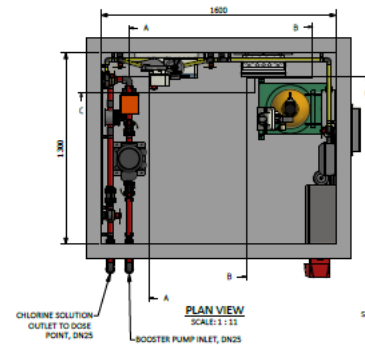
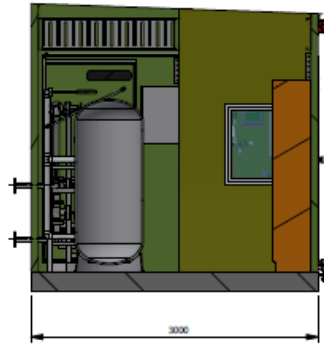
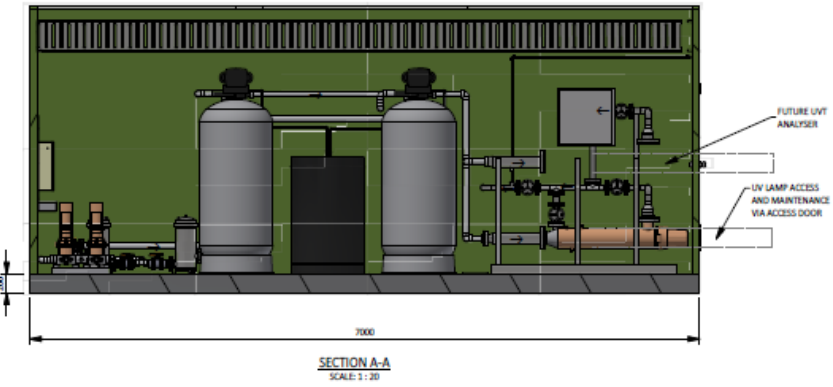
ITEM	QTY	PARTS LIST	TITLE
1	1	RAW WATER PUMPS	
2	2	CARTRIDGE FILTER	
3	2	SOFTENER - AUTOMATIC CONTROL VALVE	
4	2	SOFTENER - TANK ALTERNATING SYSTEM	
5	1	BRINE TANK	
6	1	UV DISINFECTION UNIT	
7	2	UV UNIT CONTROL PANEL	
8	1	UV ANALYSER PANEL WITH DRIP TRAY	
9	1	ANALYSER PANEL WITH DRIP TRAY	
10	1	PERSONNEL ACCESS DOOR	
11	1	AIR CONDITIONER	
12	1	TREATED WATER HIGH LIFT PUMPS	
13	1	MCC AND SWITCHBOARD	
14	1	GAS CHLORINATION SYSTEM ROOM	
15	1	EXHAUST FAN	

NOTES:

- THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE SPECIFICATION, P&ID'S, VALVE AND EQUIPMENT SCHEDULES AND OTHER REFERENCED DOCUMENTS.
- PIPEWORK, VALVES AND EQUIPMENT TO BE INSTALLED TO ENSURE GOOD ACCESS BY OPERATORS.
- ELECTRICAL CABLE TRAYS AND DUCTING ARE INDICATIVE ONLY.
- MOUNTINGS AND FIXINGS TO BE RATED FOR EARTHQUAKE ZONING AS PER AS/NZS 1170.
- BUILDING STYLE:
 - CONCRETE BASE
 - WALL - 75mm XFLAM INSULATED PANEL W/ COLOURBOND SKIN.
 - CEILING / ROOF - 75mm XFLAM INSULATED PANEL W/ COLOURBOND LONG RUN IRON OR SIMILAR, 2" PITCH.
 - DOORS - SELF CLOSING W/ LOUVRES FITTED WITH INTERNAL VERMIN PROOF MESH AND WEATHERPROOF LIPS.
 - EXTERNAL COLOUR - COLOURBOND PALE EUCALYPT.
 - INTERNAL COLOUR - WHITE (N14 AS2700).



Water Treatment Plant Layout



3D Scan of Treatment Plant



What you can expect?

- Compliance with the NZ drinking water standards
 - Overall better tasting water
- Reduced hardness of water (reduced lime scale build up)
- Improved and better visibility on site by our operations team
- Plant with the ability to treat receive 1.7litres per second (l/s) and treat 2l/s or 172m³ per day
- Safe, reliable and robust water system for the future of Kairakau
 - Which has the ability to easily expand if ever required
- 120,000l (120m³) of raw water across 4 tanks
- 120,000l (120m³) of treated water across 4 tanks
- One short, communicated shutdown water when connections to the new system take place
- By product stored onsite (60m³) and tankered off site – expected monthly

Next Steps

- Now to March 2022 – Complete the design
- March to June 2022 – Offsite Plant fabrication
- June 2022 – Plant arrives onsite
- April to July 2022 – Onsite Pipework and installation of new PE tanks
- August 2022 - Commissioning of plant and system
- September to November 2022 – Embedding and proving period

- **Communication**

If you are not getting our newsletters and would like to stay updated please give us your email – also feel free to visit the project webpage – [Linked here](#).

I am also available by email: Darren.deklerk@chbdc.govt.nz OR mobile **021 309892** to discuss any matters or answer questions



Thanks for your time!

Questions?



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