

## **Sand Replenishment Project Plan**

**CON19005 – Matapouri Beach Sand Replenishment**

**14 May 2021**

## Excavation and Deposition Methodology

Submit *Sand Replenishment Project Plan* for approval with NRC

Circulate notice to residents of the bay and local area

Install signage at beach access points advising of closed, restricted and alternative access points,

On approval of Sand Replenishment Plan:

Setout TMP onsite

Drone fly Matapouri Bay and estuary at full low tide no more than 1 week before physical works begins

Install Survey marker datum posts as setout in specification with plaques attached

Install marker posts at boundaries of extraction areas.

Advise NRC of installation of survey markers to site min. of 3 days before beginning works

Have all plant and equipment entering the coastal marine areas checked to ensure they are free of unwanted or risk marine species. Written certification will be issued to NRC.

### Construction Begins

Deliver excavator to estuary site to begin extraction from Zone A then B

Depending on the tides of the day, extraction will begin as the tide lowers to allow access to the extraction zone

Remove exotic vegetation as necessary from beach frontages to dumpsite

Uproot under direction, native plantings that may be salvageable

Road trucks to cart sand to reserve at end of Te Wairoa Street and form sand access ramp – the site will be assessed as to the suitability for road trucks to work on the beach

Excavator to accept sand at Te Wairoa Reserve and reload onto a dump truck capable of navigating soft sand

Truck to drive along Matapouri Beach and tip sand along foreshore as directed by suitably qualified person experience in beach nourishment work

Excavator/bulldozer to spread and track-roll sand as delivered to profile agreed onsite

As work progresses filling sand, planting may begin directly behind

On completion of the sand extraction and demobilisation of the machinery, the Traffic Management signs will be removed

Remove access ramp if anything other than sand at Te Wairoa access point

On completion of extracting sand, drone fly the bay and extraction areas so a quantity can be made.

As work progresses down the beach, the teams will mobilise to install the boardwalk accessways

On completion of the boardwalks, all signage will be removed in the timeframes setout as per the WDC spec and Resource Consent

## Sand Excavation and Deposition Locations and Volumes

Extraction Area A – 9200 m<sup>3</sup>

Extraction Area B – 4000 m<sup>3</sup>

Extraction Area C – 1800 m<sup>3</sup>

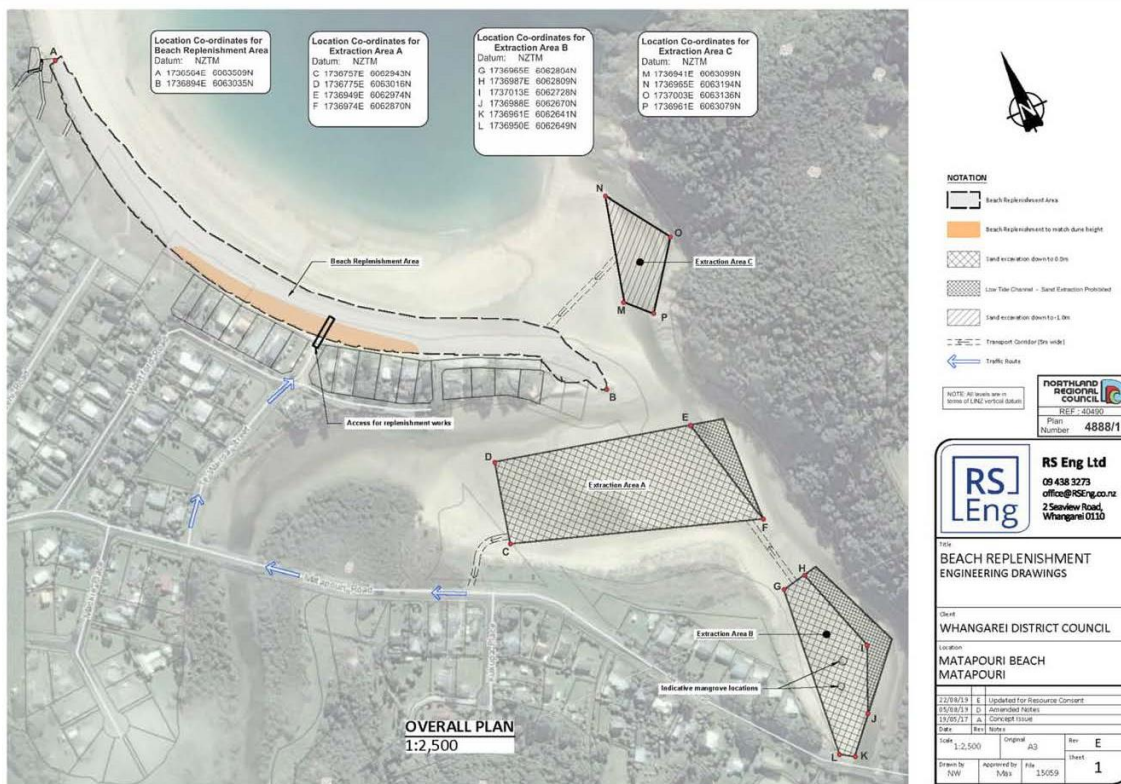
The daily volumes will be calculated using truck measures and the final measure will be calculated using a pre and post drone survey.

Extraction will be within the prescribed boundaries marked on NRC Plan Number 4888/1 with extra care taken to maintain minimum distances (min 4m.) around ecological features such as Mangroves and sea grass as identified in Extraction Area A & B.

Works around the newly erected fence adjacent extraction area A will have markers/pegs installed 1m from the edge of any vegetation that has grown through the new fencing into the extraction zone. 1:5 batter slopes will be provided from these markers.

## Transport Corridors and Traffic Routes

The transport corridors and traffic routes are those indicated on NRC Plan 4888/1 and the Traffic Management Plan – as approved on 6/4/21. This is between the extraction zones and the temporary access ramp at Te Wairoa Street.



## **Machinery, Personnel and Supervision**

The Project will be under the direct supervision of the following suitably qualified persons:

### ***Engpro Ltd***

Contact: Max Hagg 021 225 0000

United Civil Personnel Will include the following:

Project Manager – James Walsh

Project Engineer/Onsite Supervisor – Cameron Wood

Our machine operators will be sourced from within United Civil and Progressive Earthmoving depending on the machinery used at the time, but these operators will have had extensive experience and training, and will hold current competencies for the machines they are operating

Machinery will include 23T and 14T Excavators, 6 Wheel Road Legal Trucks with sealed bins, Bulldozer and Moxy Tucks

## **Public Safety**

A letter drop will be undertaken to all residents of the bay with signs erected at each end of the main road. Traffic management signs will be in place during the construction works to highlight the increased frequency of trucks working within the internal roading network.

Signage will be erected at the Extraction Zones, particularly the access through, warning of the operation and the major hazards, being large heavy machinery operating and to keep clear of the area. Signage will also be installed at each beach access point, and the walkway fenced off during the week, but returned to full access over the weekends as long as no hazards exist.

Orange Safety netting/bunting will be erected above high tide adjacent to the extraction zones and truck routes. Spotters may be used to ensure public safety when working on the beach frontage if properties are occupied when construction starts. Spotters may be employed from within the local area.

## **Controls and Performance measures**

A Pre-construction and post-construction drone survey will be completed with full high resolution photographs for quantifying volumes and showing where the sand has been taken from and deposited to.

Timber posts will be installed at the coordinated boundary corners to allow easy identification of the extents of excavation (yellow tape attached), and both machine control on the excavating machinery and visual confirmation may be employed to ensure conformance with boundaries and depths of cut.

Cut depths can be checked periodically using GPS equipment and optical measuring devices throughout each day of extraction compared to established benchmarks.

## **Unsuitable Materials Dumpsite**

Dumpsite for vegetation materials would be to Resort in Whangarei

Dumpsite for Unsuitable sand materials found onsite would be to Clements Quarry, Tutukaka/Ngunguru

Dumpsite for contaminated material – such as those where a diesel or oil spill occurs will be to Puwera Landfill south of Whangarei