RUAPEHU DISTRICT COUNCIL

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Conversion of a shipping container to a habitable space

Guidance May 2021

Council receives a number of enquiries every year regarding the conversion of used shipping containers into a habitable dwelling or space.

While the concept can sound attractive and appear to be financially viable, there are a number of issues that must be considered.

> Essentially, a habitable space must meet the requirements of the NZ Building Code to ensure that it is water-tight, safe and healthy for the occupants. In this regard, a container house or habitable space will be treated, by Council, as no different from a conventionally built dwelling.

The pertinent clauses of the NZ Building Code are (but not necessarily limited to):

B1 – Structure

The container must be on permanent, earthquake resistant foundations. Normally for a container this will be between six and eight piles in 900mm deep concrete filled holes and will be securely fastened to the base. This would usually require plates welded to the frame of the container and bolted to the piles.

B2 – Durability

All components are required to meet durability standards. The container would need to be painted to protect it from corrosion.

C – Fire

Type 1 domestic smoke alarms must be installed.

D1 – Access

Reasonable steps and entry decks must be constructed

E1 – Surface Water

Rainwater must be collected and discharged to an approved place so it does not cause problems for the owner or any neighbours.

E2 – External Moisture

Rainwater must not enter the building. This means that any windows or doors cut into the building must be adequately flashed.

> Many second-hand containers have reached their useful life as far as shipping is concerned and may not be weathertight.

F2 – Hazardous Building Materials

Under NZS4223 "part 3: Human impact safety requirements", safety glass is required for glass doors, windows into wet areas and shower doors.

G1 – Personal Hygiene

Every dwelling must contain adequate ablution facilities consisting of a shower or bath, hand wash basin and a toilet pan.

G3 – Food Preparation

Every dwelling (excepting sleepouts) must have facilities for the preparation and storage of food.

The Ruapehu District … where adventure begins !

G4 & G7 – Ventilation and Natural Light

Each space (room) within the container must have windows of no less than 10% of the floor area of the room for natural light and no less than 5% of the floor area of the room in opening windows for ventilation.

G12 – Water Supplies

Adequate potable water must be provided for cooking and cleaning. Pipework for this must meet the standards for carrying potable water.

i.e. garden hoses are NOT acceptable

G13 – Foul Water

All waste pipes must discharge to an approved outfall such as the Council reticulated system or to a septic tank.

H1 – Energy Efficiency

This applies mostly to insulation. In Ruapehu, all habitable spaces must have the following miniumum levels of insulation:

* Underfloor R1.3
* Walls R2.0
* Roof/Ceiling R3.3

Generally, this can only be achieved in a container situation using high-density polystyrene insulation products.

You will be required to apply for a building consent

In addition to the application form, you must provide a site plan, floor plan, elevations and details of construction to show how you will meet code compliance as set out in the code clauses. Council recommends you engage the services of a suitably qualified designer to complete working drawings and specifications.

Container openings, i.e. windows and doors, need to be designed by a structural engineer or registered architect.

If a septic tank is involved, either new or connecting to an existing tank, you must demonstrate that the system can comply with the Horizons Regional Council's One Plan. This may require an assessment of your site by a registered drainlayer or a registered drainage engineer.

Ruapehu District Council building officers can advise you further if you require.