

# APPENDIX I

## SITE SELECTION PROCESS

# **Project Paewira: Site Selection Process**

**20 October 2021**

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# 1 Background

Global Contracting Solutions (GCS) is proposing to build and operate a plant that will generate power from thermal processing of Refuse-Derived Fuel (RDF). RDF is produced by shredding, sorting, and dehydrating solid waste, typically consisting of combustible components of Municipal Solid Waste (MSW) and other waste. The proposed plant is expected to generate economic benefits within the local and regional economy, as well as potential changes in greenhouse gas (GHG) levels associated with the management of MSW.

GCS through its principals and associates have spent an extensive period researching the best technology to apply in a New Zealand situation. GCS and related parties also have a very well-developed understanding of the waste supply in NZ from a long history of participation in the waste and recycling market. This knowledge has determined the appropriate scale and style of waste handling and the generation facility.

The next phase of the development was identifying a suitable location to site the facility. The site selection process was commenced in January 2020.

## 2 Site Selection Process

### 2.1 Territorial Authority Engagement

It is widely acknowledged that access to land for industrial developments has become scarce as demand has increased considerably. The development being considered is significant in scale and complexity. Access to the appropriate parcel of land was going to be critical to the viability of the project. As most territorial authorities employ a business development support arm for economic growth in their regions, it was recognised that early engagement with territorial authorities would aid in the identification of potential sites.

Council officers are well placed to understand the zoning implications and provide early advice on possible hazards and impediments related to district planning requirements. These could be translated into knowledge of landowners' intentions or proposed developments to provide candidate sites to consider.

Early engagement took place with Waipa District Council (WDC) (Deputy Mayor and council planning team) and Thames Coromandel District Council (TCDC) (Mayor, CEO, and council planning team). Through other business activities we were investigating, we had a broad understanding of the development plans, opportunities, and challenges of this type of industrial project with Hamilton City Council.

### 2.2 Criteria for Site Selection

The proposed development of a waste-to-energy plant is, in effect, a power station. In NZ terms, the difference being that the fuel is refuse derived. The fuel is to be accessed from a variety of disparate sources throughout the North Island of NZ. The nature of this fuel source and type of power plant dictated some important criteria for the site search.

#### 2.2.1 Connection with Iwi

The principals of the applicant company are of Ngati Apakura descent. There is a strong desire to be connected with Iwi to enable community support and engagement to contribute to and flow from the success of the facility. The developers had planned a wananga for early 2021 to develop the cultural connections. The wananga included two nights' accommodation at Purekireki Marae.

It was identified very early in the site selection process, a connection with Ngati Apakura would be a very positive success factor for the project.

#### 2.2.2 Environmental/zoning

Recent international waste to energy plant installations concentrate on minimisation of environmental impacts. They are focused on making a positive contribution to climate change by aiding in the control of ever-increasing amounts of waste, closure, or more efficient use of landfills as methods of waste disposal and improved greenhouse gas balances from methane reduction. They are designed to fit with their local environments on an improvement basis. The site consideration for this facility included these factors.

The developers identified that a location with an existing industrial land use zoning would be most suitable for this type of operation. Any property requiring a change of land use zoning would introduce additional uncertainties, cost, and delays to the project. Attempting to consent and construct such a facility in an inappropriately zoned location would not meet the community considerations of the developer. Neither would it likely meet with support or approval of the local authority or surrounding community.

#### 2.2.3 Territorial engagement

This is the first project of its nature in New Zealand. The developers identified pro-active support from territorial authorities as a success criterion. The principals' interactions with TCDC and WDC indicated a promising level of engagement and understanding of the project.

#### 2.2.4 Vendor engagement

This project expects a medium to long lead period through resource consent, building consent, construction and commissioning. This requires the vendor of the target property to allow for the project lead time in the transaction.

#### 2.2.5 Property attributes

A land area not less than 5ha would be required. The proposal is a substantial industrial facility and to have design and layout flexibility. There are impacts to consider in terms of design, constructability, ground conditions and earthworks, and linkage with the framework for consenting.

#### 2.2.6 Access to Transport Links

With fuel coming from wide-ranging sources, including other facilities of the principals, transportation access is a key determinant. The other facilities are in Auckland, Hamilton and New Plymouth which makes proximity to the State Highway network joining these cities to facilitate heavy truck movements important. This means close connections with SH3 and SH1 are important. Proximity to the NIMT railway could also be advantageous.

Further, the principals' recycling business has strong relationships with fuel suppliers in Tauranga. A location with high volume roading proximity to the Auckland, Hamilton, Tauranga triangle would be advantageous.

#### 2.2.7 Proximity to Power Network/Grid

The development is a power generation facility with a proposed capacity of 15MW peak output. This is a considerable amount of power, enough for 17,000 average households. A connection to the national grid is the likely mode of transmitting this amount of energy. A connection point to Transpower's national grid or a sizeable distribution network substation close by would be required.

#### 2.2.8 Fuel scale/makeup

The scale of the operation has been strategically developed to establish community engagement. The priority is to firstly maximise recycling opportunities and then reuse non-recyclable waste which is traditionally destined for landfill. This is a deliberate strategy to develop an operation which will consume waste collected by the principals, supplemented by community and industrial waste.

#### 2.2.9 Water Accessibility

Generation of power is based upon the production of steam. This requires a good quantity of fresh water and an ability to manage wastewater.

#### 2.2.10 Proximity to steam and water off-take

By-products from the electricity generation process are steam and sterilised water. Association with businesses which can use the by-products in their own manufacturing process was considered a significant factor.

#### 2.2.11 Economic Viability

The size of potential locations must at least match the development proposal. Similarly, the value to be paid must fit an economic envelope for the project to be viable. These are not secondary considerations but contribute to the overall viability when aligned with the other factors outlined above.

### 2.3 Locations Considered

A broad sweep of possible areas was considered. This was directed across the upper Central North Island defined by the locations of the principals' existing operations. That is, an area bounded New Plymouth and Auckland and

East generally as far as the Coromandel peninsula. Following engagement with local authorities a list of potential specific locations was developed. As the process of evaluation progressed, some were discarded and others added, for reasons discussed later in this paper.

Below is the full list of locations or specific sites that were considered.

Region	Location	Authority
Auckland	Drury South	Auckland Council
Waikato	Kopu industrial area	Thames-Coromandel DC
Waikato	Hautapu Industrial Zone	Waipa DC
Waikato	Paterangi Rd, Te Awamutu	Waipa DC
Waikato	Racecourse Rd, Te Awamutu	Waipa DC
Waikato	Hopuhopu	Waikato DC
Waikato	Wickham Street extension	Waipa DC/Hamilton CC
Waikato	Latham Court	Waipa DC/Hamilton CC

Following a visual inspection, the Hopuhopu, Wickham Street and Latham Court locations were determined as being unsuitable. Relative to the other sites, these properties faced challenges with inappropriate zoning, anticipated territorial authority opposition and vendor engagement factors. No further investigations were undertaken on these sites.

### 3 Evaluation

The following table provides a brief overview of the criteria evaluation for each of the possible locations. It is not an exhaustive description of all factors however it does pinpoint the critical positive or negative attributes of each.

Criteria factor	Drury	Kopu	Hautapu	Paterangi Rd	Racecourse Rd
Iwi connection	No – Ngati Apakura Yes – Ngati Tamaoho	No	Moderate	Strong	Strong
Environmental, zoning	Industrial zone, consent specifics to be satisfied	Industrial zone, existing use	Industrial zone, consent specifics to be satisfied	Industrial zone, environmental specifics to manage, e.g., landfill, contamination	Industrial zone, environmental specifics to manage, e.g., adjacent stream, traffic access
Territorial engagement	Moderate	High	High	High	High
Vendor engagement	Low	High	Low	Moderate	High
Property	Highest cost	Favourable	Unavailable	Favourable, unsuccessful attempt to acquire	Favourable
Transportation	Northern end of highway network between operations	State highway adjacent, furthest from other operations and main highway links	Expressway close by, additional travel to Southern operations	Centrally located on highway network between operations	Centrally located on highway network between operations
Power grid	Major substation in area, technical challenges	Substation further removed, technical challenges	Substation available, further removed, upgrade plans underway	Grid substation available	Grid substation in closest proximity
Fuel	Competitive	Suitable	Suitable	Suitable	Suitable
Water	Restricted	Available, close	n/a	Available, slightly removed	Available and close
Steam/water off-take	Future possibility	Yes	High probability	Yes	Yes
Economic	Most expensive	Good value	Expensive	Moderate	Best value



## 4 Summary

A broad sweep of the countryside provided a diverse field of possible locations, each presented different attributes both for and against. While a strict multi-variate style approach to site selection was not applied, there was a series of criteria considered that determined the most suitable location available.

The connection with Iwi is a major influencing factor. Having the option to consider two sites that enable strong Iwi connection was a positive position for the developer.

The support of local authorities was valuable in this process, especially the Thames-Coromandel and Waipa District Councils. Their strategic foresight and business development support enabled facilitation of likely available sites and landowner engagement.

Adding the other factors, particularly the positive position from production-type factors of transportation, water and network proximity, strengthened the consideration of the two Te Awamutu locales. The environmental factors for these sites were manageable. In fact, the construction of the facility on these sites was seen as an opportunity for improvement of the surroundings as much as the zoning and compliance rules were not detrimental to the project.

Ultimately, the final choice of property is often decided by having a “willing buyer-willing seller” relationship, and that is the case here. The vendor of the original chosen site, Paterangi Road, Te Awamutu, decided for their own reasons that they had a preferred option other than the waste to energy plant proposed.

The option to utilise the Paterangi Rd site expired, and with the support of Waipa DC, an approach to the Racecourse Rd vendor was made. This was received positively and, once further evaluation was completed and proven to have additional advantages, this site was confirmed to proceed with.