

# *Management Plan*

## Contaminated Site Management Plan- Kapuni, South Taranaki

for Hiringa Energy Limited

Rev 15 - 19/05/2021



---

# Contaminated Site Management Plan- Kapuni, South Taranaki

for Hiringa Energy Limited

## Reviewed

**Report Author**



Greg Larkin, Senior Environmental  
Scientist, MSc Env Sci

19/05/2021

Date

**Reviewed by**



Dave Bolger, Manager, Environment,  
CEnvP

19/05/2021

Date

191149  
Rev 15 - 19/05/2021

## CONTENTS

<b>1</b>	<b>INTRODUCTION .....</b>	<b>4</b>
1.1	Background .....	4
1.2	Site Identification .....	4
1.3	Purpose, Objectives and Scope .....	5
	1.3.1 SMP Objectives.....	5
	1.3.2 SMP Scope.....	6
<b>2</b>	<b>KEY CONTACTS .....</b>	<b>7</b>
2.1	Key Emergency and Safety Contacts.....	7
2.2	Contaminated Land Specialist .....	8
<b>3</b>	<b>REGULATORY FRAMEWORK.....</b>	<b>9</b>
3.1	Health and Safety at Work Act 2015 .....	9
3.2	Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NESCO) .....	9
3.3	Resource Management Act 1991 .....	9
<b>4</b>	<b>SITE CHARACTERISATION: PRELIMINARY SITE INVESTIGATION.....</b>	<b>10</b>
4.1	Site Overview and History.....	10
4.2	Geology, Soils and Topography .....	10
4.3	Council Records .....	10
4.4	Utilities.....	10
4.5	Surface Water Resources .....	11
4.6	Groundwater Water Resource .....	11
4.7	Selected Landuse Register .....	11
4.8	Current Site Condition.....	11
4.9	PSI Conclusion: Risk Assessment .....	11
<b>5</b>	<b>SOIL MANAGEMENT STRATEGY .....</b>	<b>12</b>
5.1	Soil Status .....	12
5.2	Conceptual Site Model (CSM).....	12
5.3	Identification and Management of Unexpected Soil Contamination.....	13
	5.3.1 Typical Indicators of Contamination.....	13
	5.3.2 Unexpected Discovery Process.....	13
	5.3.3 Personal Protective Equipment for Soil Disturbance .....	14
5.4	Control of Toxic Gases .....	14
5.5	Management of Excavated Material.....	14
5.6	Soil Disposal .....	14
	5.6.1 Disposal Facility .....	15
	5.6.2 Record Keeping and Chain of Custody .....	15
5.7	Imported Fill .....	15
5.8	Stormwater, Sediment and Dust Control .....	15
<b>6</b>	<b>SMP ADMINISTRATION .....</b>	<b>17</b>
6.1	Distribution and Implementation.....	17
6.2	SMP Notification Process and Revisions .....	17
6.3	Induction and Training .....	18

6.4	Site Access and Signage .....	18
<b>7</b>	<b>POST CONSTRUCTION REPORTING .....</b>	<b>19</b>
7.1	Completion of Works.....	19
<b>8</b>	<b>LIMITATIONS.....</b>	<b>20</b>
	<b>REFERENCES .....</b>	<b>21</b>
<b>APPENDIX A</b>	<b>PROPOSED SITE PLAN.....</b>	<b>22</b>
<b>APPENDIX B</b>	<b>SOIL DISTURBANCE CALCULATIONS .....</b>	<b>23</b>

## TABLES

Table 1.1:	Key Site Details.....	4
Table 2.1:	Key Contacts.....	7
Table 2.2:	Key Contact for Emergencies.....	7
Table 5.1:	Preliminary Conceptual Site Model-Summary .....	12

## FIGURES

Figure 1.1:	Site Overview Plan.....	5
Figure 6.1:	Notification and Approval Process Flowchart .....	18

## Disclaimer

At the time of printing, BTW Company Ltd (BTW) believes the information contained within this contaminated site management plan to be true and correct. This contaminated site management plan will be withdrawn or amended should BTW consider that any variation to the original information provided renders the basis of this site management plan invalid.

## Confidentiality Statement

This contaminated site management plan is a private and confidential document from BTW which is intended solely for the parties involved. This contaminated site management plan may not be circulated or published in full or part without prior consent in writing by BTW and therefore, subject to the aforementioned approval may not be reproduced. This contaminated site management plan is not intended for evidential purposes in any legal proceedings. On occasion, due to potential contamination and associated health risks BTW may have a duty of care to notify other parties.

## Terminology

CLS- Contaminated Land Specialist

DSI- Detailed Site Investigation

NESCS- National Environmental Standards for Assessing and Managing Contaminants in Soil to Protect Human Health Regulations 2011

PCBU- Person Conducting a Business or Undertaking

PSI- Preliminary Site Investigation

SMP- Contaminated Site Management Plan

SQEP- Suitability Qualified Experienced Practitioner

# 1 INTRODUCTION

## 1.1 Background

BTW Company Limited (BTW) was engaged by Hiringa Energy Limited (Hiringa) to prepare a Contaminated Site Management Plan (SMP) for its proposed green hydrogen project (the project). The project includes construction of an unmanned hydrogen refuelling depot with buildings to house an electrolyser, compressor and associated hydrogen storage infrastructure at the Ballance Agri-Nutrients Ammonia Urea Plant, 309 Palmer Road, Kapuni (the Ballance Plant). Construction of a subsurface pipeline connecting the compressor building to the electrolyser building will also be required, as will a substation building on Palmer Road.

The site plan is available in Appendix A and details the general construction plans. The proposed electrolyser will be located within the Ballance Plant while the rest of the proposed infrastructure will be located on paddocks that are in the ownership of Balance and currently used for irrigation of treated production effluent from the Ballance Plant (Taranaki Regional Council Discharge Permit 0597-3).

Activities currently undertaken at the Ballance Plant are captured by the Ministry for the Environment's Hazardous Activities and Industries List (HAIL) including waste disposal to land G (5). Therefore, all of the proposed locations for the green hydrogen infrastructure are part of the 'piece of land' for the purposes of assessing the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health, Regulations 2011 (NESCS).

The proposed development does not meet the permitted activity requirements set out in the NESCS. Regulation 8(3) of the NESCS outlines limits on soil disturbance volumes on and off site plus the duration of the soil disturbance which is set as no longer than 2 months. Appendix B outlines the soil disturbance calculations and indicates the development can meet the permitted soil disturbance volumes (including the permitted volumes of soil to be disposed offsite), however, the development cannot meet the two-month timeframe for soil disturbance. Therefore, the proposed activity would not be considered a permitted activity under the NESCS and a resource consent is required.

## 1.2 Site Identification

Table 1.1 outlines the key site details and Figure 1.1 details the site plan for the SMP.

Table 1.1: Key Site Details

Identifier	Detail
Location	309 Palmer Road, Kapuni
Legal Description	Part Lot 1 DP 13121
Certification of Title	TNF1/855
Current Owner	Ballance Agri-Nutrients Limited
Property Parcel Area	322562 m <sup>2</sup>
Piece of Land Area	322562 m <sup>2</sup>

Current land Use	Industrial/Commercial
Local Government Authority	South Taranaki District Council (STDC)
Regional Government Authority	Taranaki Regional Council (TRC)

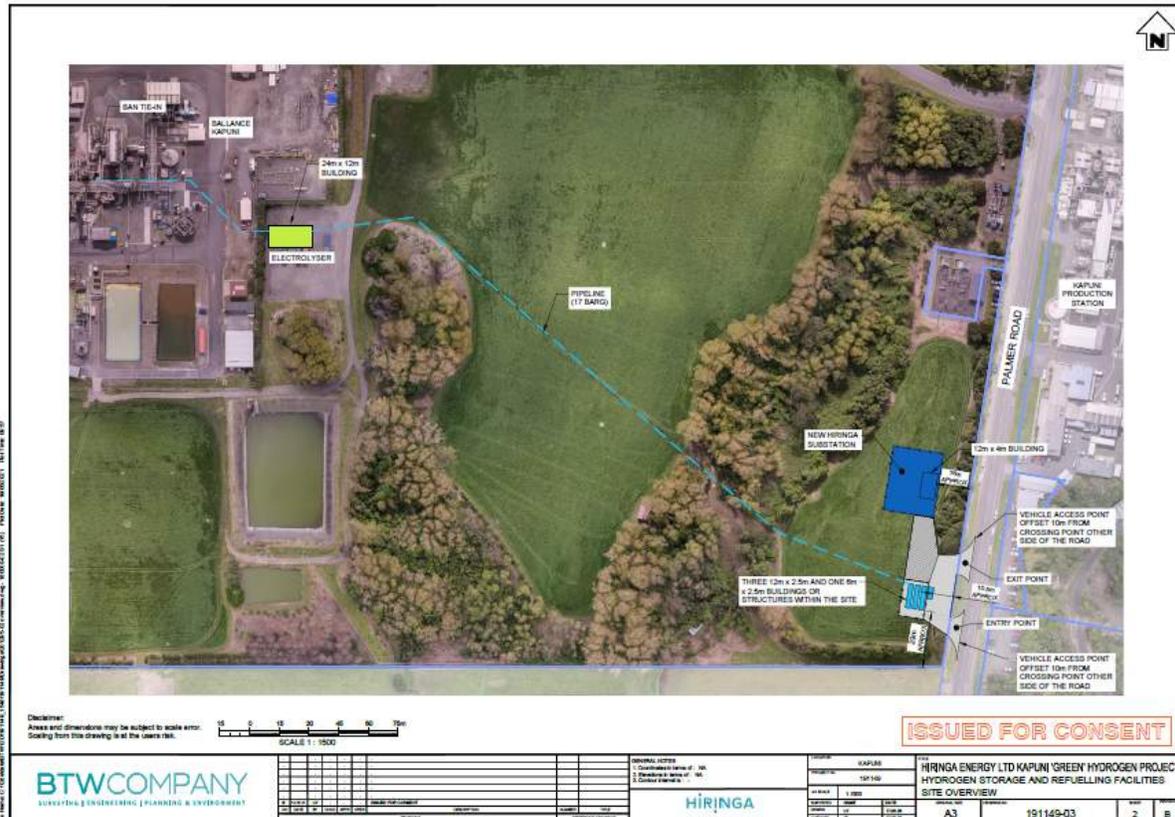


Figure 1.1: Site Overview Plan

### 1.3 Purpose, Objectives and Scope

The purpose of this SMP is to manage the risk of potential soil contamination for construction workers and other people associated with the development of the site. A further purpose of this SMP is to provide guidance for all parties to identify and manage the unexpected discovery of soil contamination during site development.

#### 1.3.1 SMP Objectives

The objectives of the SMP are to:

- To provide details on the management practices to control potential health and safety and environmental issues relating to soil disturbance and potential discovery of previously unidentified contaminated soil.
- Provide details on the appropriate management of contaminated soil on-site and any additional soil testing related to offsite soil disposal at an appropriately authorised facility.

- Ensure regulatory requirements have been considered and communicated to all parties involved in the project.
- To provide clear guidance on the roles and responsibilities of all persons involved with the management of potential contaminated soils and construction activities.

The preparation of this SMP has been carried out in general accordance with the Ministry for the Environment's (MfE) Contaminated Land Management Guidelines No.1 – Reporting on Contaminated Sites in New Zealand.

### **1.3.2 SMP Scope**

This SMP applies.

- For the duration of the earthworks for the construction of the structures, subsurface electrical cabling and pipelines and buildings.
- To all persons who enter the site while earthworks/construction is taking place.
- Only to the areas identified in Appendix A.

As intrusive soil sampling has not been undertaken to determine if soil contamination exists a conservative approach has been undertaken. This has involved an initial Preliminary Site Investigation (PSI) for the piece of land that the project is located on.

The PSI scope includes.

- Review piece of land site history, available Council reports and aerial imagery.
- Define site geology, soil and adjacent surface and groundwater resources.
- Outline a site preliminary Conceptual Site Model (CSM).
- Provide assessment of likely risk to human health from soil contamination and the potential contaminants of concern.

## 2 KEY CONTACTS

Table 2.1 outlines the key contacts for providing environmental advice, site management and their roles and responsibilities.

Table 2.1: Key Contacts

Company	Roles and Responsibilities	Person	Details
Current Owner	<b>Person Conducting a Business or Undertaking (PCBU)</b> Responsible for the site and all operation on the site in its entirety	Ballance Agri-Nutrients (TBC) and Hiringa	TBC
BTW Company	<b>Contaminated Land Specialist (CLS)</b> Provide soil contamination advice during site works Preliminary environmental incident assessment, soil sampling and validation reporting Reporting environmental incidents and SMP updates to Council	Dave Bolger	027 558 2691
BTW Company	<b>Planning Lead</b> All planning matters, including guidance and compliance of consent conditions	Darelle Martin	027 205 0301
To be confirmed	<b>Project Manager/Lead Earthworks and Construction Contractor</b> Be responsible for undertaking earthworks in accordance with requirements of the SMP Reporting contamination discoveries, environmental releases and general incidents/accidents to PCBU and CLS Reporting notifiable health and safety incidents (including asbestos release) to WorkSafe as required Ensuring personal protective equipment is available and properly worn on site Ensuring that equipment and personnel have been properly decontaminated before leaving the site	To be confirmed	To be confirmed
Taranaki Regional Council	<b>Scientific Officer (Contaminated Land)- Regulator</b>	Callum Mackenzie	06 765 7127
South Taranaki District Council	<b>Planning Lead</b> Resource consent authority Regulatory site and compliance monitoring Responsible for regulatory site and compliance monitoring	Jess Sorensen	0800 111 323

### 2.1 Key Emergency and Safety Contacts

Table 2.2: Key Contact for Emergencies

Emergency Contact	Contact Phone Number
Ballance Agri-Nutrients	TBC
Emergency Services	111
Dave Bolger, Environmental Project Manager, BTW Company	0275 582 691

---

Emergency Contact	Contact Phone Number
National Poisons and Hazardous Chemicals Information Hotline	0800 764 766
WorkSafe New Zealand	0800 030 040

## 2.2 Contaminated Land Specialist

The CLS is defined as a suitably qualified and experienced practitioner (SQEP) under the NESCS. Their role is to manage and assess soil contamination during site activities. The CLS role includes:

- To assess and manage any accidental discovery of soil contamination.
- Provide expert advice on soil contamination to the PCBU and Contractors.
- Undertake soil sampling as required to assess the risk of soil contamination.
- Ensure disposal of contaminated soil onsite is appropriately managed and/or if required disposed offsite at an authorised facility.

### **3 REGULATORY FRAMEWORK**

#### **3.1 Health and Safety at Work Act 2015**

The *Health and Safety at Work Act 2015* (HSWA 2015) provides a framework for the management of health and safety in the workplace and outlines rights and responsibilities for a PCBU, officers (Directors/CEO's) and workers (e.g. Contractors/Sub-contractors/Employees).

The Health and Safety at Work (Major Hazard Facilities) Regulations 2016 are also relevant as the Ballance Plant is classified as an Upper Tier Major Hazard Facility and is managed under a Worksafe approved Safety Case. The Safety Case will be updated to incorporate the proposed Green Hydrogen facilities to be established at the Ballance Plant.

#### **3.2 Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NESCS)**

The NESCS provides a framework for managing the risks to human health arising from development and consented activities including soil disturbance, soil sampling, subdividing land, change of land use and/or replacing fuel storage systems. The NESCS applies to all workers on the site, members of the public, residents of the area and any other potential receptors.

#### **3.3 Resource Management Act 1991**

The Resource Management Act 1991 (RMA) is the key piece of environmental legislation in New Zealand with the purpose of promoting the sustainable management of natural and physical resources. It is everyone's responsibility under the RMA to ensure all actual or potential adverse effects on the environment are avoided, remedied or mitigated.

## 4 SITE CHARACTERISATION: PRELIMINARY SITE INVESTIGATION

### 4.1 Site Overview and History

The 'piece of land' forms the whole of the parcel of land that the Ballance Plant lies on. However, this SMP refers to the proposed development site on the southern and eastern boundary of the Ballance Plant adjacent Palmer Road (Appendix A).

A review of historical aerial imagery (Retro-lens and Google) was undertaken within the development site and piece of land prior to the 1982 construction of the Ammonia-Urea Plant. Land use prior to construction of Ammonia-Urea Plant was Agriculture.

Based on 1982 aerial imagery the development site appears to be a network of tracks and structures presumably for the irrigation of waste effluent from the Ammonia-Urea Plant. From 1982 to the present, the development site has been continually used for waste irrigation with numerous travelling irrigator circles evident.

There is a single structure located on the south of the site in 1982, which is still located within the replanted riparian vegetation, however, its construction materials cannot be determined by aerial imagery. Therefore, it cannot be determined whether the structure has a risk of containing Asbestos Containing Material (ACM).

The western part of the development site has been part of the Ammonia-Urea plant since construction, whereas the area adjacent the proposed Electrolyser building is outside the site boundary fence and has been a mixture of open bare ground, grassed and then cleared and metalled between 2007 and 2013 (Google Earth Images). This area is currently used for storage of equipment, such as shipping containers.

### 4.2 Geology, Soils and Topography

Regional geology is classified as from the Ngaere formation of the Egmont Volcanic Centre with local geological features comprised of Laharic breccia of andesite cobbles and boulders in a muddy matrix. Site soils are classed as Egmont Brown Loams.

The site is generally flat or gently sloping toward the South Taranaki coastline at an elevation of 170 metres above sea level.

### 4.3 Council Records

The TRC has one record for the site that contains the proposed substation and pipeline trench. The 2010 record relates to a self-notification of a leak from the wastewater line to the paddock which discharged into the eastern unnamed tributary of the Kapuni Stream. No investigation into potential environmental effects was undertaken at the time.

### 4.4 Utilities

Based on BTW's internal GIS viewer the only utilities that traverse the area are subsurface gas supply pipelines from the Todd Energy Kapuni Production Station site on the eastern side of Palmer Road and the 33kv Overhead High Voltage Powerline to the PowerCo substation on the western side of Palmer Road.

## 4.5 Surface Water Resources

The site is bisected by two unnamed tributaries of the Kapuni Stream which have been modified by channelling and culverting. Both water courses have been revegetated with riparian planting adjacent the effluent spreading areas. The two unnamed tributaries join the Kapuni Stream 2.2 kilometres downstream.

## 4.6 Groundwater Water Resource

The wider Ballance Plant site has an extensive groundwater monitoring network with over 40 groundwater monitoring bores. The shallow unconfined volcanics aquifer immediately beneath the Ballance Plant and ground gradient locations to the south have recorded elevated concentrations of various Nitrogen contaminants, including very elevated concentrations of Ammonia and Nitrate (TRC, 2019).

## 4.7 Selected Landuse Register

The property parcel is listed on the TRC's Selected Landuse Register as '*Chemical Processing/Manufacturing, Fertiliser Storage or Distribution with the status listed at 1(b)- Haz Subs Present at- Risk acceptable for land use*'.

## 4.8 Current Site Condition

At present the piece of land is a mixture of open pasture that is used for effluent irrigation adjacent Palmer Road and two riparian corridors of replanted indigenous vegetation in the eastern side of the site. The western side of the site is located on the Ballance Plant, with the area adjacent the proposed electrolyser building a flat metallised area used for equipment storage.

## 4.9 PSI Conclusion: Risk Assessment

Based on the overlying heavy industrial land use of the Ballance Plant there is an extensive list of priority contaminants which could pose a risk to human and environmental health during the proposed development.

Potential Soil Contaminants include.

- Ammonia in soil and production of toxic gases.
- Priority Hydrocarbons (Total Hydrocarbons, BTEX, Polycyclic Aromatic Hydrocarbons).
- Heavy Metals.
- ACM, such as fibre material for pipe insulation/lagging.

As yet none of these potential soil contaminants have been quantified by intrusive sampling, and therefore, risk to human health from soil contamination cannot be ruled out by the PSI. As the permitted activity requirements of the NESCS cannot be met due to the development timeline being over two months duration, a resource consent is required under the NESCS to manage potential soil contamination and the risk to human health.

## 5 SOIL MANAGEMENT STRATEGY

The following controls and procedures are designed to assist in managing potential environmental and human health risks associated with soil disturbance activities during site development.

### 5.1 Soil Status

At present, the soil status is based on a presumption that there may be a number of soil contaminants that exist across the piece of land, however, the controls outlined in this soil management strategy are only limited to the current development. This includes the potential for Asbestos soil contamination in the western part of the site adjacent the pipeline tie-ins (Appendix A). The levels of soil contamination across the one piece of land have yet to be quantified by analytical soil sampling. Therefore, it is advised that all soil excavated for the development shall be presumed as contaminated unless proven otherwise via analytical soil testing.

The CLS will be consulted about this matter on an ongoing basis during earthworks. Soil sampling would be required to aid ongoing decisions regarding offsite management of soil (if required).

### 5.2 Conceptual Site Model (CSM)

A CSM was developed for the site, however, it recognised that accurate assessment of the linkages between potential contaminant source(s), pathway and human health receptors is not possible as intrusive soil sampling has not been undertaken on the site. However, a CSM is important for highlighting the importance of managing any unexpected or presumed soil contamination during development, and as a way to minimise the risk of completing the contaminant exposure pathway.

Table 5.1 summarises the CSM.

Potential soil contaminants include a range of gases, hydrocarbons, solvents, heavy metals and toxic chemical elements. Asbestos is also a potential contaminant associated with the site for the structures and pipework that may either contain ACM or Asbestos insulation.

Likely human health receptors for all contaminants of concern include current site workers and future workers involved in the development, especially those undertaking subsurface excavation where potential soil contaminants are at a higher probability of being accidentally discovered.

Table 5.1: Preliminary Conceptual Site Model-Summary

Potential Contaminant	Source(s)	Pathway	Receptors
Ammonia Gas	Numerous Sources in Ammonia-Urea Process, including leaks and effluent application to pasture	Inhalation of toxic gases	Site workers and maintenance staff
Hydrocarbons (TPH, BTEX, PAH's)	Numerous sources in Ammonia-Urea Process	Ingestion, inhalation and dermal absorption	Site workers and maintenance staff
Heavy Metals	Numerous sources in Ammonia-Urea Process	Ingestion, inhalation and dermal absorption	Site workers and maintenance staff
Asbestos	ACM structures and insulation and lagging	Inhalation during earthwork	Site workers and maintenance staff

	products in adjacent pipeline tie-ins		
--	---------------------------------------	--	--

## 5.3 Identification and Management of Unexpected Soil Contamination

### 5.3.1 Typical Indicators of Contamination

Typical indicators of soil contamination include:

- Odour (smells similar to rubbish, rotten eggs, petrol, oil, or acetone are most common).
- Discoloured soil (black, green or orange staining is most common).
- Stressed vegetation.
- Underground Storage Tanks (UST's) or remnant indicators of UST's.
- Fibrous materials and other suspected ACM (old concrete roof tiles, fibre cement or pipe lagging are common).

### 5.3.2 Unexpected Discovery Process

If any indicators of soil contamination are identified during soil disturbance activities the follow actions shall be undertaken.

- **Stop** all earthworks immediately in the surrounding 15 metres from the suspected contaminated soil.
- **Notify** the Works Supervisor of the unexpected discovery.
  - The Works Supervisor will initiate the notification process described in Section 6.2.
- **Isolate** and **Identify** the hazard by erecting fencing and signage with relevant information.
- The CLS or qualified representative will visually assess the subject soils and take samples for analysis as required.
- Work shall only commence within the isolated area after advice to proceed from the CLS.
- If the CLS considers it appropriate, the suspected contaminated material may be excavated into a covered bin or similar to allow works to continue with minimum delay.
- If contaminants are confirmed as being present at concentrations that constitute a risk to human or environmental health using applicable standards or guidelines, the following will occur.
  - The CLS will provide advice regarding safe handling and disposal of the material as well as any additional worker health and safety requirements. This may require consultation with WorkSafe New Zealand and/or local Councils. A Remedial Action Plan (RAP), approved by the territorial authority, may also be required.
  - The above information will be incorporated in a revised edition of this SMP.
  - A Site Validation Report, including soil sampling will be undertaken by the CLS at the completion of earthworks, to confirm the elimination of the soil contaminant pathways.

### 5.3.3 *Personal Protective Equipment for Soil Disturbance*

In the event that soil contamination is discovered, the contractor shall ensure that the following minimum level of personal protective equipment (PPE) items are available onsite prior to works commencing.

- A water source and distribution system e.g. water connection, hose and sprinkler system or a hose equipped water cart
- A roll of polyethylene sheeting (at least 200  $\mu\text{m}$ ) for covering stockpiles or areas of contamination.
- Disposable coveralls (Type 5 rating) in sizes that will fit onsite workers.
- Disposable nitrile gloves (Type 3 rating) in sizes that will fit onsite workers.
- Full face fitted mask with vapour filters.
- Sealed mask should ammonia contaminated soil be encountered.
- Handwashing facilities.

## 5.4 Control of Toxic Gases

Ammonia was identified as a potential soil contaminant, which has the possibility to release ammonia gas from the soil during site development. Given Ammonia is heavier than air, gas clearance protocols are required for any excavation work and should be outlined and controlled by the applicable Permit to Work (PTW) documentation. The use of personal gas detectors shall be worn at all times during soil disturbance and the full-face pressurised masks and Breathing Apparatus (BA) shall be available at the site for emergency situations.

## 5.5 Management of Excavated Material

All subsurface infrastructure that requires soil to be stockpiled prior to reuse will be managed as follows.

- Any potentially contaminated soil stockpiled is to be placed on a minimum 200  $\mu\text{m}$  thickness polythene sheeting, or similar.
- Stockpiled materials will be completely covered with impermeable material such as a tarpaulin or polyethylene sheet with sufficient aggregate weighting to ensure that the material does not become uncovered unexpectedly.
- Silt socks, a silt fence or earth bunds will be placed around stockpiles to divert clean stormwater water and to collect sediment run off.
- Stockpiles will not be placed near the unnamed tributaries of the Kapuni Stream or in any areas of natural water flow.
- Stockpiles will be managed in accordance with Section 5.8 during dusty conditions and monitored at least daily to ensure that they remain completely covered, to prevent erosion and dust generation.
- Should stockpiles become uncovered, the material will be moistened and/or recovered immediately to prevent dust generation and dispersal.

## 5.6 Soil Disposal

At present soil is proposed to be removed from the site for the proposed development. All soil to be removed off-site will require characterisation prior to offsite disposal, including Toxicity Characteristics Leachate Potential (TCLP) testing of contaminants of concern. Consultation with

landfill operators and the STDC will be required and all soil analysis would be at the discretion of the CLS.

### **5.6.1 Disposal Facility**

Contaminated soils are to be disposed at a suitable disposal facility, licenced to accept the waste. The facility's applicable screening criteria is to be assessed prior to disposal, to ensure that concentrations of contaminants within the soil do not exceed the respective criteria for disposal. Further, the facility's disposal procedures are to be adhered to, including any specific notice periods or loading and transport procedures. Written consent from the disposal facility is also required, prior to disposal.

### **5.6.2 Record Keeping and Chain of Custody**

For soils taken offsite, appropriate tracking documentation will be provided to Hiringa and/or the leading earthworks contractor for reporting purposes and be made available to STDC upon request. Transport documents and records shall include.

- Address of origin.
- Driver and Company name.
- Description of material.
- Quantity of material (or approximation).
- Time of departure.
- Vehicle registration.
- Intended place of disposal.
- Register of loads.
- Transport documents.
- Weighbridge receipts from disposal facility.

## **5.7 Imported Fill**

Any imported cleanfill material (e.g. to backfill the pipeline trench) should be sourced from a local licensed quarry or landscape supplier and therefore will unlikely require testing for contaminants. However, the testing of any imported fill will be at the discretion of the CLS. If cleanfill is stockpiled onsite prior to use it is recommended the material is managed as per Section 5.5 .

## **5.8 Stormwater, Sediment and Dust Control**

Erosion and sediment controls shall be put into place prior to all bulk earthworks to ensure no soil or debris is unintentionally transported from the development to other parts of the site. Additional control measures will be utilised during the works, such as bunding, perimeter drains and containment points. Erosion and sediment control shall be managed in accordance with resource consents and the overarching Erosion and Sediment Control Plan (ESCP) for the project.

The following controls shall be put in place during excavation to minimise sediment and soil discharges to the stormwater system and/or beyond the site boundary.

- As determined by the ESCP ensure all roads are kept clean and tidy, and that a stabilised site entrance and exit is constructed. Road and access cleanliness must be monitored frequently to ensure off-site sediment dispersal is not occurring.

- Adjacent sites are not to be used for any purpose relating to the excavation, storage, loading or transportation of any excavated soils from site under any circumstances.
- If soil is tracked off the site, it will be removed from the roadway using a street sweeper or similar.

Should dry and/or windy conditions prevail, controls outlined in the ESCP for the project shall be implemented to avoid or minimise dust generation and off-site dust discharges.

## 6 SMP ADMINISTRATION

### 6.1 Distribution and Implementation

In accordance with the *Health and Safety at Work Act 2015* (HSWA 2015), it is the responsibility of the PCBU to communicate to any persons undertaking work on the site the likelihood of unidentified soil contamination and the extent of any actual identified soil contamination. It is also the responsibility of the PCBU to communicate to any persons undertaking site works all identified hazards and any recommendations for managing the associated risks.

A copy of this SMP shall be kept onsite at all times and be distributed by Hiringa to the Project Manager and all appropriate contractors undertaking site works. In doing so, Hiringa is meeting the obligations set out in the HSWA 2015 by communicating the specific risks associated with potential soil contamination contained in this SMP.

It is ultimately the responsibility of Hiringa to implement this SMP, however, the administration of the SMP can be assigned to another party if the responsibility is accepted, such as the principal earth works contractor.

### 6.2 SMP Notification Process and Revisions

In the event of an environmental incident, work is to be stopped immediately until such a time as the CLS approves work to recommence. All environmental incidents must be immediately reported to the CLS by Hiringa and/or the site manager.

Regulatory notifications are required as follows.

- South Taranaki District Council (STDC) must be notified if any variation to this SMP is proposed before or during the works. Any variations or more than minor corrections to this SMP would require notification and approval from STDC before work commences and/or recommences.
- STDC must be notified of accidental releases of contaminated soil or unexpected discoveries of contamination.
- WorkSafe must be notified if a “notifiable incident<sup>1</sup> occurs, including an asbestos release.

An SMP is a living document; revisions may periodically be required to accommodate regulations, and an evolving understanding of soil contamination at the site, in relation to human health and potential environmental impacts.

Hiringa is responsible for notifying STDC of all SMP amendments, unexpected discoveries of soil contamination and contaminated soil releases. Hiringa is also responsible for following up with the CLS and STDC to verify all incidents has been properly remedied, documented and closed out.

---

<sup>1</sup> <https://worksafe.govt.nz/notifications/notifiable-event/what-is-a-notifiable-event/>

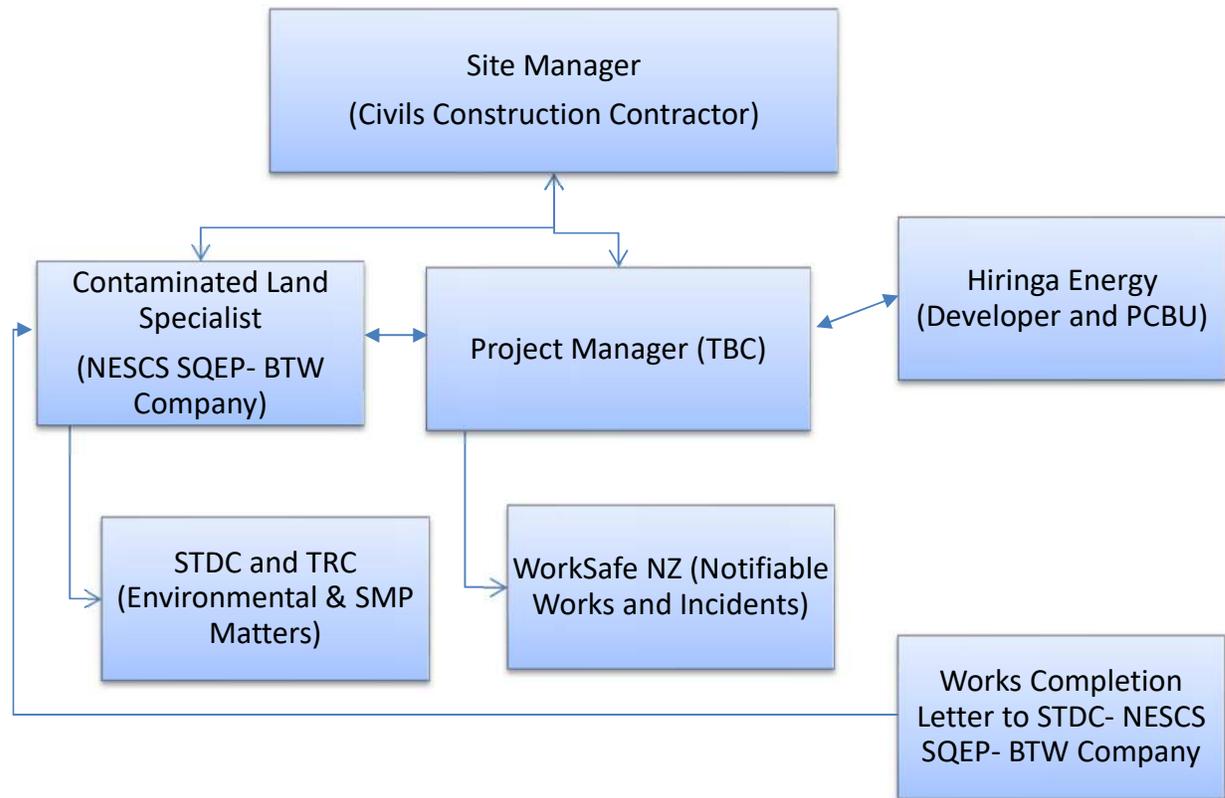


Figure 6.1: Notification and Approval Process Flowchart

### 6.3 Induction and Training

All workers shall attend a safety induction/toolbox session prior to carrying out site works. The induction shall include training relating to indicators of potential soil contamination, protocols for expected and unexpected discovery of soil contamination, and PPE requirements. All inductions and training must be documented and available if requested by either STDC or WorkSafe.

### 6.4 Site Access and Signage

Fencing/Barricades and signage will be put in place prior to works commencing on the proposed development to prevent unauthorised access to the site. All access is via Palmer Road and only authorised personnel who have completed the necessary induction and training may enter the site. All persons entering the site are required to sign in and out of the personnel register and understand the potential for soil contamination and the PPE requirements.

## 7 POST CONSTRUCTION REPORTING

### 7.1 Completion of Works

On completion of soil disturbance works, a Works Completion Letter containing any soil sampling analysis will be provided to STDC confirming all earthworks are finished and have been undertaken as per this SMP. Any revisions to the SMP are to be detailed.

The letter shall be accompanied by disposal evidence (Section 5.6) if soil disposal has occurred. It will also detail any complaints, health and safety or environmental incidents and unexpected encounters that occurred during site earthworks with regards to soil contamination and how these events were resolved. The information will be provided by the contractors to Hiringa within one month of completion of the earthworks.

## 8 LIMITATIONS

- No groundwater investigation has been completed as part of any site investigations. The soil and groundwater resources beneath the Ballance Plant have been documented to be impacted by ammonia/nitrogen contamination. The extent to which this recorded contamination exists across the site and the likely risk to human and environmental health receptors has not been assessed.
- Recommendations and management strategies in this SMP are based on environmental conditions at the time of writing. BTW Company accepts no responsibility for damages or injury based on information contained within this report, or for actions recommended.
- Asbestos has been identified as a potential contaminant of concern, so should the Ballance Plant Asbestos Management Plan indicate ACM in the area of soil disturbance, asbestos sampling will be required to be undertaken.
- No sampling was undertaken as part of this investigation. The desktop PSI has only provided qualitative data on the most likely contaminants of concern.

## REFERENCES

BRANZ. (2017). *New Zealand Guidelines for Assessing and Managing Asbestos in Soil*. Wellington: BRANZ.

Ministry for the Environment. (2001). *Contaminated Land Management Guidelines No 1: Reporting on Contaminated Sites (Revised 2016)*. Wellington: MfE.

Ministry for the Environment. (2003). *Contaminated Land Management Guidelines No 2: Hierarchy and Application in New Zealand of Environmental Guideline Values (Revised 2011)*. Wellington: MfE.

Ministry for the Environment. (2011). *Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011*. Wellington: MfE

Taranaki Regional Council (2020) *Balance Agri-Nutrient (Kapuni) Ltd Monitoring Programme Annual Report 2019-2020. Technical Report 2020-81*

## APPENDIX A      PROPOSED SITE PLAN



Disclaimer:  
Areas and dimensions may be subject to scale error.  
Scaling from this drawing is at the users risk.



ISSUED FOR CONSENT

**BTWCOMPANY**  
SURVEYING | ENGINEERING | PLANNING & ENVIRONMENT

NO	DATE	BY	CHKD	APPR	OPER	DESCRIPTION	NUMBER	TITLE
B	13.05.21	LV				ISSUED FOR CONSENT		
REVISIONS						DESCRIPTION	NUMBER	TITLE
REFERENCE DRAWINGS								

GENERAL NOTES  
1. Coordinates in terms of : NA  
2. Elevations in terms of : NA  
3. Contour interval is : -

**HIRINGA**

LOCATION	KAPUNI	
PROJECT No	191149	
A3 SCALE	1:1500	
SURVEYED	NAME	DATE
DRAWN	LV	17.09.20
CHECKED	IS	17.09.20

TITLE		HIRINGA ENERGY LTD KAPUNI 'GREEN' HYDROGEN PROJECT	
		HYDROGEN STORAGE AND REFUELLING FACILITIES	
		SITE OVERVIEW	
ORIGINAL SIZE	DRAWING No	SHEET	REVISION
A3	191149-03	2	B

## APPENDIX B SOIL DISTURBANCE CALCULATIONS

Development Phase	Volume (m <sup>3</sup> )
Electrolyser Building	120
Pipeline	231
Palmer Road Buildings and Structures	1275
<b>Total Soil Disturbance Volume</b>	<b>1626</b>

Piece of Land Area (m<sup>2</sup>) = 322,562.00 m<sup>2</sup>

- Volume of soil disturbance onsite (no more than 25 m<sup>3</sup> (in-situ volume) per 500 m<sup>2</sup> of land)  
∴ 322,562.00/500\*25=16,128.10 m<sup>3</sup>. 1626 m<sup>3</sup> proposed so permitted.
- Volume of soil to be removed offsite (no more than 5 m<sup>3</sup> (in-situ volume) per 500 m<sup>2</sup> of land)  
∴ 322,562.00/500\*5=3225.62 m<sup>3</sup>. 1626 m<sup>3</sup> proposed so permitted.