

## Hastings District Council

Civic Administration Building Lyndon Road East, Hastings

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# OPEN DOCUMENT 3

## **COMMISSIONER HEARING**

Meeting Date: Friday, 17 July 2020

Time: **9.30am** 

Venue: Council Chamber

**Ground Floor** 

**Civic Administration Building** 

**Lyndon Road East** 

**Hastings** 

ITEM SUBJECT PAGE

2. NOTIFIED LAND USE CONSENT APPLICATION FROM HASTINGS DISTRICT COUNCIL FOR THE INSTALLATION AND OPERATION OF A DRINKING WATER TREATMENT PLANT, RESERVOIR, BORES AND ASSOCIATED INFRASTRUCTURE IN FRIMLEY PARK AND SURROUNDS (RMA20190545)

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RMA20190545 **Pg 35** 

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If calling ask for Philip McKay 027 495 5442
TRIM/File Ref Record Number 13818 0268

23 January 2020

Hastings District Council c/- Grey Wilson (Agent) Good Earth Matters Consulting 23 Tiniroto Road, Frasertown Wairoa 4195

grey.wilson@goodearthmatters.com

Dear Grey,

Application for Resource Consent: RMA20190545 – Water Treatment Plant and Drinking Water Reservoir – Construction and Operation - Frimley Park

An initial assessment of your application for resource consent has been completed.

Under section 92 of the Resource Management Act (RMA) 1991, the Hastings District Council requests further information to fully assess your proposed activity, its effect on the environment and the ways in which any adverse effects on the environment might be mitigated.

Council received the above resource consent application from the Hastings District Council on 10 December 2019. The application is for consent to: construct and operate a new water treatment plant and new drinking water storage reservoir; install new drinking water supply bores in a manner that does not comply with the noise limits of the District Plan; install new drinking water reticulations pipes with soil disturbance necessitating resource consent under the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NESCS); and to remove the existing park maintenance sheds and yards which may also necessitate resource consent under the NESCS, at and in the vicinity of Frimley Park, Hastings.

#### Additional information required to process this application includes:

## 1. Application of the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NESCS)

The NESCS requires consideration at time of a change in land use, subdivision or earthworks on a piece of land upon which an activity on the Hazardous Activities and Industrial List (HAIL) has/is, or is more likely than not, been undertaken. The AEE provided with the application identifies on pages 6, 28 and 36 that soil contamination may be present in the road reserves of Hapuku Street and Frimley Avenue where soil disturbance will be required to install the proposed water pipes and potentially in the vicinity of the Frimley Park maintenance sheds, which are proposed to be removed. The AEE does not however identify with any certainty the 'pieces of land' where the provisions of the NESCS would apply and to inform any necessary detailed site investigation that may be required. It is therefore requested that a 'preliminary site investigation' be provided under regulation 6(3) of the NES to establish the 'pieces of land' that the NESCS would apply to and the likely nature of the potential soil contamination and subsequent actions required to ensure the protection of human health.

The above information will assist with confirming how the NESCS applies to this proposal and help to more fully inform potential submitters and the assessment of this application under section 104 of the RMA.

#### **Other Matters:**

i. Since our phone call (of 23 January 2020) I have had confirmation from the Hawke's Bay Regional Council that they do not consider it necessary to defer the processing of this resource consent under section 91 of the RMA until the necessary variation and permit applications have been lodged. I am also in agreement that this is not necessary.

In accordance with section 92A of the Act you must within 15 working days of the date of this request, take one of the following options:

- 1. Provide the information; or
- Inform the Council in a written notice that you agree to provide the information; or specify a reasonable timeframe for providing the information for agreement of Council, or;
- 3. Inform the Council in a written notice that you refuse to provide the information.

A decision on your application has been placed on hold awaiting your response to this request, in accordance with section 88B of the Act. Where possible however, the application will continue to be processed as allowed by the information already supplied.

Please contact me if you have any questions regarding the above information request or the further processing of the application.

Yours sincerely

Philip McKay
Consultant Planner
on behalf of Hastings District Council
philip.mckay@mitchelldaysh.co.nz

Authorised by:

Caleb Sutton
Team Leader Environmental Consents /
Subdivision, Hastings District Council

#### **Grey Wilson**

From: Grey Wilson < Grey. Wilson@goodearthmatters.com>

Sent: Monday, 10 February 2020 5:44 p.m.

To: Philip McKay
Cc: Caleb Sutton

Subject: [#27527] RMA20190545 Response to request for further information

Attachments: 2020.02.10 RM20190545 PSI response to RFFI.pdf; Frimley GCA February

2020.pdf

Hi Phil

Apologies for this coming in late in the day.

Please find attached a cover letter and the PSI requested in respect of the above application.

Please do not hesitate to contact me with any queries.

Kind regards Grey



23 Tiniroto Road | RD 5 | Frasertown | Wairoa 4195 | New Zealand P 027 255 1035 grey.wilson@goodearthmatters.com goodearthmatters.com



56 Queen Street | PO Box 1268 | Palmerston North 4440 | New Zealand P 06 353 7560 | contact@goodearthmatters.com | goodearthmatters.com

Project Ref: 27527

10 February 2020

Hastings District Council BY EMAIL ONLY

Attention: Philip McKay

Dear Philip

# RMA20190545 - WATER TREATMENT PLANT AND DRINKING WATER RESERVOIR - CONSTRUCTION AND OPERATION - FRIMLEY PARK RESPONSE TO RFFI - PROVISION OF PSI

Further to our letter dated 28 January 2020 in respect of the above application, we now provide by way of enclosure to this letter, the Preliminary Site Investigation (PSI) as requested by the consent authority.

The PSI has been undertaken by Tonkin and Taylor, who have been, and continue to be, involved in the development of the proposal and resource consent application and are suitably qualified to prepare the PSI in accordance with section 6(3) of the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NESCS).

The PSI serves to confirm and expand upon the statements in section 4.1.4 of the assessment of environmental effects (AEE) for RMA20190545 regarding the presence of likely HAIL sites within the proposed drinking water pipe alignment, and at and around the existing park maintenance sheds.

It is proposed in the AEE that a Soil Management Plan (SMP) will be developed, as informed by a desktop assessment, in order to ensure that appropriate mitigation measures are in place during the undertaking of works within HAIL sites. The PSI confirms that parts of the proposed drinking water pipe alignment and the existing park maintenance sheds area are likely HAIL sites.

Based on the findings of the PSI and the recommendations set out therein, the Applicant proposes that two SMPs be prepared for the project, one which encompasses the proposed drinking water pipe installation works and one which encompasses the future proposed demolition/removal of the park maintenance sheds. The reason for this is that the pipe work is to occur immediately or very soon after any grant of consent to the application, whilst the removal of the park sheds is likely to be within 3-5 years of any such grant. Additionally, there are particular, site specific considerations that need to be taken into account with regard to the proposed removal/demolition works that are not relevant to the drinking water pipe installation works. Further, the removal / demolition works will be undertaken by a different contractor to that which is undertaking the pipeline works. It is therefore considered appropriate to prepare two separate SMPs in order to ensure site specific appropriateness, contractor methodologies and to account for the likely timeframes (ie to ensure that the SMP for the sheds demolition/removal does not become out of date/irrelevant).

The Applicant proposes that the further sampling recommended to be undertaken in the area between Nottingley Road and Frimley Road will be undertaken in the near future. Subsequently, a draft SMP will be prepared for the pipe installation works and will indicatively address the following matters and will do so in a way that appropriately reflects the findings of the further sampling:

 Where along the site it is expected to encounter contaminated soils (extent and depth), and of this material, what can be re-used on site or must be removed and disposed (to an appropriate facility)

1



- If off-site soil disposal is required, where this material can go (i.e clean-fill, managed fill, or landfill depending on contaminant levels) and requirements for transport of contaminated material
- Contaminated soil handling protocols, including PPE requirements for workers, protocols for stockpiling of soils on site, water disposal etc
- Sampling requirements for importation of fill or topsoil from off-site
- What to do if un-expected contamination is discovered.

The SMP will be finalised once the contract for works is awarded, in order that it accurately reflects the nominated contractor's proposed methodology and any other specific matters.

With regard to the proposed depot demolition/removal, the Applicant proposes that the further soil sampling at and around the depot site, as recommended in the PSI, be undertaken once indicative plans for those works are developed. A site specific SMP will then be developed accordingly.

With regard to notification of the application, the enclosed PSI confirms that likely contamination within the project area is as anticipated and described in the AEE, with some further soil sampling to occur in order to ensure that the SMPs include appropriate mitigation measures. It is considered that the information contained within the PSI and this response to the request for further information is of sufficient detail to enable the consent authority, any potentially affected parties and the general public to understand the nature and scale of the potential effects of the proposal in terms of the NESCS considerations, noting that both the pipe installation and removal/demolition activities are permitted under the Proposed District Plan and that if a separate application for resource consent under the NESCS for either or both of these activities were to be made, it would likely be able to be processed on a non-notified basis.

Please do not hesitate to contact me should you have any queries regarding the information contained herein.

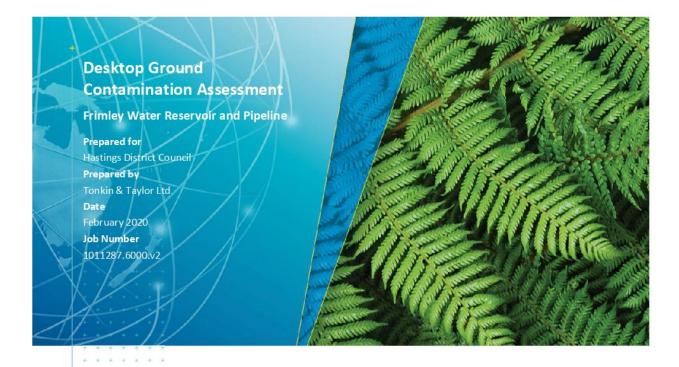
Yours faithfully

**Grey Wilson** 

Encl: Desktop Ground Contamination Assessment (PSI), Tonkin and Taylor, February 2020.

#### **REPORT**

# Tonkin+Taylor



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#### **Document Control**

			Reviewed by:	Authorised by:
1	Draft for planner review	C. Di Vitto	N. O'Rourke / C. Shanks	T. Cussins
2	Final	C. Di Vitto	N. O'Rourke / C. Shanks	T. Cussins
		·	·	2         Final         C. Di Vitto         N. O'Rourke /

### Distribution:

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#### 1 Introduction

Tonkin & Taylor Ltd (T+T) has been commissioned by Hastings District Council (HDC, Council) to undertake a ground contamination desk study investigation for the proposed Frimley Park water treatment reservoir and pipeline. The proposed location of the reservoir is in Frimley Park, near the corner of Frimley Road and Hapuku Street, Hastings. The proposed pipeline is expected to traverse Frimley Road and Hapuku Street. The combined proposal area (comprising the reservoir and pipeline) are shown on **Figure 1.1** and the estimated earthworks are is presented on **Figure 1** (**Appendix A**).

This report has been prepared in general accordance with the requirements for a PSI (Preliminary Site Investigation) referred to in the NES Soil regulations<sup>1</sup>, and as outlined in the MfE's Contaminated Land Management Guidelines<sup>2</sup>.

The persons undertaking, managing reviewing and certifying this investigation are suitably qualified and experienced practitioners (SQEP), as required by the NES Soil and defined in the NES Soil Users' Guide (April 2012).

This investigation was undertaken in accordance with our proposal of 14 November 2019.



Figure 1.1: Indicative reservoir and pipeline locations and expected earthworks extent (from Stantec 20193)

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<sup>&</sup>lt;sup>1</sup> Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011.

<sup>&</sup>lt;sup>2</sup> Ministry for the Environment, updated 2011, Contaminated land management guidelines No. 1: Reporting on Contaminated Sites in New Zealand.

<sup>&</sup>lt;sup>3</sup> Stantec 2019. Frimley Park Water Treatment Plant and Reservoir Pipelines Preliminary Design Report. Prepared for Hastings District Council by Stantec), dated December 2019.

#### 1.1 Background

It is understood HDC plan to upgrade public water supply infrastructure and as part of the upgrade plan, a new treatment plant, water supply bores and treated water storage reservoir are proposed for Frimley Park. The reservoir is proposed to be connected to the existing water supply network via three new pipelines. The indicative locations of the treatment plant, reservoir and pipeline connections are shown on **Figure 1.1**.

The proposed construction works will require some soil disturbance in order to allow for the installation of the infrastructure. In addition, the Frimley Park Depot (the Depot), located to the west of the treatment plant and reservoir, is proposed for removal. The water supply upgrade works are deemed to be a priority over the removal of the Depot with removal works expected to occur within three to five years. At present the Depot is understood to be used for general grounds maintenance activities for Frimley Park.

In the absence of soil testing data meeting sample density requirements under the NES Soil<sup>4</sup> and MfE Contaminated Land Management Guidelines No. 5<sup>5</sup>, HDC has applied for a discretionary Resource Consent under the NES<sup>4</sup> to undertake the works. A Soil Management Plan (SMP) will be prepared at a later date to identify and manage potential human health and environmental risks associated with the earthworks. In order to support the NES Consent, and as requested by HDC in a Section 92 request for information, a PSI to assess the likely nature and potential for ground contamination from past and present land use activities is required.

Limited soil testing completed at the site, the results of which are discussed further in **Section 3**, suggests the presence of some contaminants above accepted background levels. Based on the results, some parts of the site may have been impacted by previous horticultural activities. However, a formal desktop study is required to identify the potential extent of impacted soils and whether other activities with the potential to cause contamination on the site have been undertaken historically.

Potentially contaminating activities are defined by the Ministry for the Environment in the Hazardous Activities and Industries List (HAIL). If an activity or industry on the HAIL is, or has occurred on a site, the NES Soil applies to proposed soil disturbance and/or land development activities.

T+T has undertaken this investigation to identify historical HAIL activities that may have occurred on the site and to assess the likely nature and extent of impacted soils. The results of the assessment will be used to identify areas of the site that may require additional controls to protect human health and the environment during earthworks. The results will inform soil handling and disposal protocols to be set out in the SMP.

#### 1.2 Proposed works

As mentioned above, HDC proposed to construct a new reservoir, supply bores, treatment plant and supply pipeline which connects into the existing system. The proposed site-of-works boundary (site boundary ) for the pipeline and associated infrastructure is shown on **Figure 1** (**Appendix A**).

In addition to these works, HDC wish to remove the Frimley Park Depot which comprises two tractor and mower sheds, a smoko room and tool shed, and storage area for grounds maintenance supplies. These features are shown on **Figure 1.2**. The Depot is located with the proposed site boundary shown on **Figure 1** (**Appendix A**).

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<sup>&</sup>lt;sup>4</sup> Resource Management (National Environmental Standard for Assessing and Managing Contaminants to Protect Human Health) Regulations 2011.

MfE, 2004. Contaminated Land Management Guidelines No. 5 – Site Investigation and Analysis of Soils (Revised 2011). Ministry for the Environment, Wellington.

Approximate site boundary Former Barn footprint Tractor and mower sheds Smoko room and tool shed

Figure 1.2: Frimley Park Depot location and layout (Source: Google maps imagery, 2020. Viewed online)

#### 1.3 Objective and scope of work

This assessment has been undertaken to inform and support the NES Consent and SMP by:

- Identifying historical land uses within the proposed pipeline alignment and earthworks area within Frimley Park that have potentially contaminated the soil above human health protection criteria; and
- Identifying the extent of the alignment and earthworks sites that may have been affected by those activities, for which the SMP will apply.

To assess the potential for ground contamination, the following scope of work was undertaken:

- Review of "HAIL" information held by HDC;
- Review of property file information sourced from HDC;
- Review of selected historical aerial photographs;
- Preparation of this report.

This report documents our findings and comments on the potential for ground contamination at the site, in the context of the proposed development.

#### 2 Site description

#### 2.1 Site identification

The site comprises a proposed new reservoir on Frimley Park, at the corner of Frimley Road and Hapuku Street and three new pipelines. The site is located approximately 1.5 kilometres (km) from

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the centre of Hastings, in the suburb of Frimley. While no information relating to the legal description for Council-owned roadways and verges, information can be sourced, the available information for the site is summarised in **Table 2.1.** 

Table 2.1: Site identification

Street address	Frimley Park and the pipeline alignments (Frimley Road and Hapuku Street)	
Legal description	☐ N/A for pipeline as this is associated with the Council-owned road and / or easements.	
	☐ Frimley Park portion where proposed treatment plant and reservoir w be located: Part Lot 254 DP 2101.	
Site owner	Hastings District Council	
Site area	Approximately 9,000 square metres (m²)	
Zoning	Frimley Park is zoned for Open Space. Frimley Road and Hapuku Street are designated for roading purposes with the underlying zoning of Hasting General Residential.	

#### 2.2 Surrounding land use

The site is located in a predominantly suburban area of Hastings. The immediate land uses surrounding the proposes earthworks area include:

North – Open Space (Frimley Park). Further north (approximately 400 m) appears to be horticultural;
 South – Predominantly residential with commercial activities (Hawke's Bay Hospital) located at the end of Hapuku Street. To the south east is a commercial / industrial park comprising a variety of local businesses included car dealerships, storage yards, commercial retail and trade businesses;
 East – Predominantly residential with Frimley School and Hastings Girls High School located less than 100 m to the east; and
 West – Predominantly residential. An early childhood learning centre is present on Frimley Avenue and Frimley Pools and Four Square is located on Frimley Road. Frimley Equippers Church is located on Hapuku Street.

#### 2.3 Published geology

The published geological map<sup>6</sup> of the area, as shown on **Figure 2.1**, indicates the site is underlain by Quaternary alluvial deposits (Q1a) comprising interbedded gravels, sands, silts and mud which form the alluvial terraces of the Heretaunga Plains.

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<sup>&</sup>lt;sup>6</sup> Lee, J.M.; Bland, K.J.; Townsend, D.B.; Kamp, P.J.J.; (compilers) 2011. Geology of the Hawke's Bay area. Institute of Geological & Nuclear Sciences 1:250,000 map 8.1 sheet + 93p. Lower Hutt, New Zealand. GNS Science.

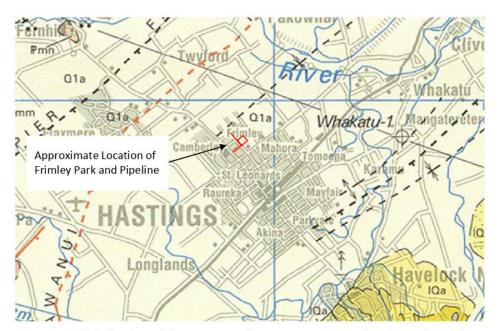


Figure 2.1: Published geology of the Hastings area (source: GNS Science Geological map of Hawke's Bay area, 1:250,000 map 8.1 sheet +93p) $^6$ .

#### 2.3.1 Site geological information

The subsurface conditions at the site, as indicated in the machine boreholes from the geotechnical investigation, comprise Holocene Alluvial soils forming part of the Heretaunga Plains. These findings are consistent with the published literature described above. A full description of the geological profile beneath the site is available in the T+T geotechnical report<sup>7</sup>.

Table 2.2 presents a summary of the soils encountered.

Table 2.2: Observed soil profile

Depth below ground level to top of layer (m)	Estimated unit thickness (m)	Geological unit and description
From surface	Up to 0.9 m	Surficial Upper Silts – 150 mm of topsoil underlain by sandy SILT, firm to stiff, dark brown.
0.5-0.9	12	Sandy Gravels - Sandy fine to coarse GRAVEL, dark grey, medium dense to dense
12.5	4.5	Lower Silts and Sands - Sandy SILT and fine to medium SAND, dark grey, stiff/loose.
17	Unproven (borehole encountered artesian groundwater flows and the drilling discontinued)	Lower Clays and Organics - Silty CLAY and decomposed organics, dark grey. Firm, highly plastic.

 $<sup>^7</sup>$  T+T 2019. Water Reservoir Pipeline Alignment Investigations – Geotechnical Factual Report. Prepared for Hastings District Council by Tonkin + Taylor Limited (T+T), dated August 2019 (Reference: 1011287.1000)

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#### 2.4 Hydrogeology and hydrology

Piezometers were installed in two of the shallow geotechnical machine boreholes (BH F2 and BH F4) and groundwater levels were monitored in the weeks following the geotechnical investigation. Based on the measured shallow groundwater levels over five monitoring events from 31 July to 29 August 2019, groundwater depths ranged 1.2 m below ground level (m bgl) at BH F2 to 2.4 m bgl at BH F5

On this basis, we consider that trenching excavations along parts of the pipeline alignment are likely to encounter shallow groundwater. However, the identification of these areas was not within the scope of this assessment.

The location of the boreholes drilled in the geotechnical investigations are shown on **Figure 1** (**Appendix A**). It was noted that artesian groundwater conditions were encountered at approximately 18 m depth during the borehole drilling.

#### 3 Desktop information review

Historical information relating to the site was collected from a variety of sources including HDC databases, past reports and publicly available online aerial mapping services such as Retrolens, Google Earth and HDC online interactive GIS maps. A summary of the findings of our review is provided in this section. A more detailed review of the available information is included in Appendix B.

Some preliminary soil testing of the upper 2.5 m of soil along the pipe alignment was undertaken in conjunction with the geotechnical investigation<sup>8</sup>. Soil testing results showed the following potential contaminants:

- Organochlorine pesticides, arsenic and lead in shallow soils (0.5 m depth) from a borehole at the intersection of Nottingley Road and Frimley Road (BH F2). This is considered to be associated with horticultural land uses discussed below; and
- Total petroleum hydrocarbons in shallow soils (0.6 m depth) from a borehole at the intersection of Omahu Road and Hapuku Street (BH F5). Trace level hydrocarbon \_\_\_\_\_tamination is expected near or beneath roadways due to motor vehicle use and road construction materials.

The concentrations detected did not exceed the NES Soil Contaminant Standards for recreational land use.

A review of HAIL information held by HBRC suggests no verified HAIL activities exist within the site extent or within a 200 m radius of the site. However, aerial imagery sourced from Retrolens indicates a portion of the site at the intersection of Nottingley and Frimley Roads was historically used for horticulture in the 1940s and 1950s and much of the areas surrounding the site was used for horticultural or pastoral purposes until residential development expanded circa 1950s. Frimley Park appears to have been used for recreational purposes during this time.

The Frimley Park Depot (the Depot), currently present on Frimley Park in the south-eastern corner, is evident in the historical aerials as early as 1947. The Depot is understood to be used as a maintenance compound and houses the mowers and other grounds maintenance resources (this may include or may have included the storage of pesticides for ground maintenance and fuels, oils or lubricants for maintenance plant (i.e.: the mower) and equipment.

A visual inspection of the Depot buildings was undertaken by Asbestos Specialists Ltd in 2018. The report states that asbestos containing materials (ACM) are "strongly presumed" to be present in the

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<sup>&</sup>lt;sup>8</sup> T+T, 2019. Water Reservoirs Pipeline Alignments Investigations – Geotechnical Factual Report. Prepared for Hastings District Council by Tonkin + Taylor Ltd (T+T), dated August 2019 (Reference: 1011287.1000).

buildings in the Depot. Confirmatory bulk sampling of the material was not undertaken as part of this assessment. A copy of the asbestos survey report for the Depot is presented in **Appendix C**. We also note here that the proposed pipeline location follows residential roadways (namely Frimley Road and Hapuku Street). On this basis, potential exists for some minor residual hydrocarbon contamination with shallow soils beneath the roadways to be present, largely associated with roading materials and vehicles. However, we do not consider this to be a HAIL activity.

#### 4 Site characterisation

This section characterises the likely and potential contamination status of the site based on the available information as presented in **Sections 3** of this report.

#### 4.1 Potential for contamination

This investigation has identified that HAIL activities were (or are likely to have been) undertaken at the site. The activities, potential contaminants and an assessment of the likelihood, potential magnitude and possible extent of contamination are presented in **Table 4.1** below. The inferred locations of these activities are presented on **Figure 1** (**Appendix A**).

Table 4.1: Potential for contamination

La	and use/activity	Potential contaminants	Likelihood, magnitude and possible extent of contamination	HAIL reference
2	Potential use of pesticides in former horticultural areas (namely Nottingley Rd). Potential storage of pesticides within the Depot	Metals (Arsenic (As), Copper (Cu), Lean (Pb)) and organochlorine pesticides (OCPs)	Low concentrations, likely in shallow soils (typically upper 500 mm depth) associated with historical use of sprays containing persistent organochlorine compounds used prior to the late 1970s. The potential for pesticides in soil associated with the Depot is likely to be low-level and localised to storage areas.	A10 – persistent pesticide bulk storage or use, including sports turfs, market gardens, orchards, glass house or spray sheds.
3	Potential storage and use of fuels, oils and lubricants in the Depot for refuelling and maintenance activities.	Hydrocarbons including total petroleum hydrocarbons (TPH), polycyclic aromatic hydrocarbons (PHA). Metals (Pb)	Localised, low concentrations possible in shallow soil (typically to 500mm depth) associated with the storage of and use of small volumes hydrocarbons for refuelling and maintenance activities on mechanical equipment.	Potentially A13 – bulk storage of petroleum or petrochemical above or below ground.
4	Potential minor flaking of paint and asbestos-containing building materials from the Depot particularly during maintenance and demolition	Metals (Pb) and asbestos	Low to moderate likelihood of low-level contamination of surface soil around the current Depot.	Potentially I: intentional or accidental release of a hazardous substance in sufficient quantities that could be a risk to human health or the environment.

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The potential impacts from historical horticultural activities are likely to be constrained with the upper soil profile within the western end of proposed earthworks on Frimley Road. Testing from one location in this area during the geotechnical investigation found concentrations to be several orders of magnitude below the NES SCS. Confirmatory sampling may be undertaken to determine on-site soil management and soil disposal requirements.

Based on our review, HAIL activities have potentially occurred at the Depot and controls will be required to manage human health risks during demolition of the buildings and any associated earthworks. Confirmatory testing in the areas associated with activities identified in **Table 4.1** is recommended to determine soil disposal implications for the construction project.

#### 4.2 Preliminary conceptual site model

A conceptual model as defined by the Ministry for the Environment in the contaminated land management guidelines<sup>9</sup>, sets out known and potential sources of contamination, potential exposure pathways, and potential receptors. For there to be an effect from the proposed activity there has to be a contamination source and a mechanism (pathway) for contamination to affect human health or the environment (receptor).

A preliminary conceptual site model has been developed for the proposed activity which takes into account the available information about the site, and our understanding of the potential effects on human health and the environment. The model is presented below.

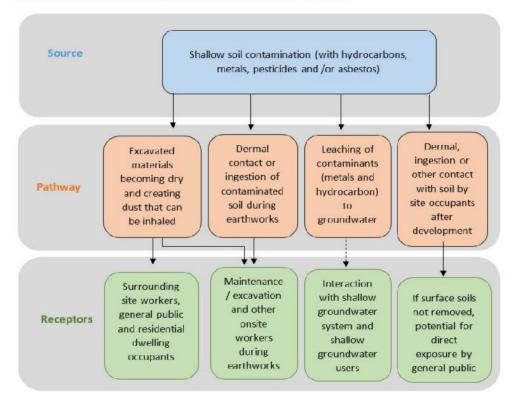


Figure 4.1: Preliminary conceptual site model for human health and environmental receptors.

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<sup>9</sup> Ministry for the Environment, updated 2011, Contaminated Land Management Guidelines No. 5 Site Investigation and Analysis of Soils

#### 5 Regulatory context and development implications

The rules and associated assessment criteria relating to the control of contaminated sites in the Hawke's Bay Regional Council region are specified in the following documents:

NES Soil;
The Hawkes Bay Regional Plan; and

☐ The Hastings District Plan.

The NES Soil and District Plan consider issues relating to land use and the protection of human health while the Regional Plan has regard to issues relating to the protection of the general environment, including ecological receptors. The need, or otherwise, for contamination related resource consents for the site development is required and, at the writing of this report, HDC has applied for a NES Resource Consent (refer **Section 1.1**) for the proposed works.

The NES consent application was triggered by the likely earthworks volumes and known horticultural land uses along the pipeline alignment. HDC have applied for a Discretionary Activity consent to manage risks associated with any potentially contaminated soil during the works. These potential risks will be managed in accordance with a Site Management Plan (SMP). It is proposed that a SMP be prepared for the water supply upgrade works (the pipeline, water treatment plant and reservoir) and that a separate SMP be prepared for the removal of the Depot and any related earthworks. As the Depot removal is not proposed to occur for three to five years the Depot SMP could be included as a consent condition.

Based on the HAIL assessment (refer Table 4.1) and the limited soil data collected, past and present activities including former horticultural land uses, potential storage and / or use of pesticides and fuels are likely to have occurred in the proposed development area (refer **Figure 1** in **Appendix A**). Further testing of soil within the pipeline alignment is recommended to inform the SMP for the pipeline, water treatment plant, and reservoir. The SMP is expected to consider the potential human health and environmental risk of the organochlorine pesticides and metals in the area of former horticultural use (corner Nottingley Road and Frimley Road, extending south-east along Frimley Road to Frimley Avenue). For off-site disposal requirements, the SMP would be expected to consider hydrocarbons, metals and asbestos associated with road reserves. Although these contaminants, if present, are only expected to be at low concentrations in the road reserves, i.e. unlikely to present a significant risk to human health or the environment, appropriate handling and disposal procedures need to be implemented.

The Depot SMP, to be required as a consent condition, is expected to consider the potential risks of OCPs, hydrocarbons, metals, PAHs and asbestos. We have assumed HDC will engage a licensed asbestos removalist to undertake confirmation testing of suspected ACM identified in the Depot and undertake demolition of these structures.

**Figure 1** in **Appendix A** presents a summary of the potential contamination effects and where these exist in the earthworks area.

Many of these likely contaminants can be managed under standard earthworks controls and hygiene. However, if asbestos is detected in soil above human health limits, as detailed in the New Zealand Asbestos in Soil Regulations<sup>10</sup>, this may require additional controls to manage and mitigate the potential human health and environmental risks associated with asbestos.

February 2020 Job No: 1011287.6000.v2

<sup>10</sup> BRANZ Ltd, 2017, New Zealand Guidelines for Assessing and Managing Asbestos in Soil

#### 6 Conclusions

This ground contamination investigation has been undertaken to establish the potential for contamination to be present at the site as a result of past and present activities and the likely implications for the proposed development of the Frimley water treatment reservoir and pipeline.

A summary of the findings of this assessment is as follows:

Kno	wn and potential HAIL activities are identified within the earthworks area, these include:		
	Former horticultural land uses at the intersection of Nottingley and Frimley Road, extending along Frimley Road to Frimley Avenue;		
	Potential storage and use of pesticides at the Depot;		
	Potential storage and use of fuels, oils and / or lubricant at the Depot;		
	Potential for asbestos and lead-based paint to have been used as building materials in the tractor / mower shed and smoko / tool shed at the Depot;		
pres deve	ted soil testing undertaken concurrently with geotechnical investigation confirms the sence of pesticides and residual hydrocarbons in shallow soils at localised points within the elopment area. Chemical concentrations from the limited testing do not exceed the NES for recreational use;		
While the use of motor vehicles on roads is not specifically consider a HAIL activity, the presence of shallow and low-level hydrocarbon contamination at one soil sampling location may suggest impacts from road runoff, or from road construction material. On this basis, minor impacts along road reserves may be present and could have implications for disposal spoil;			
hort prod rem	her sampling to determine the nature and extent of potential contamination in the former icultural area should be undertaken to inform the soil management and off-site disposal sedures in the water supply upgrade SMP. Sampling of soil in the road reserves on the ainder of Frimley Road and Hapuku Street could be undertaken at the same time to rm off-site disposal requirements;		
envi upgr sam on t cons wide	owing the additional sampling, an SMP to manage the potential human health and ronmental risks of contaminated soil should be prepared prior to the water supply rade earthworks commencing. We expect that irrespective of the results of further soil pling, a SMP is still an appropriate tool to manage the risk associated with soil disturbance he site. Based on the findings of the PSI it is expected the following contaminants will be sidered in the SMP: OCPs and metals (associated with former horticultural use) and more expread, but expected to be lower, concentrations of metals, hydrocarbons and asbestos iciated with general roading use; and		
the inclurem under processing	MP should be prepared in relation to the removal of the Depot and related earthworks. As Depot removal is not proposed to occur for three to five years the Depot SMP could be used as a consent condition. We have assumed HDC will engage a licensed asbestos ovalist to undertake confirmation testing of suspected ACM identified in the Depot and ertake demolition of these structures. Soil sampling could be undertaken to inform the redures in the Depot SMP and soil disposal requirements prior to demolition. Validation pling of residual soils may be required after the Depot has been demolished to confirm dual contamination levels (if any) left on site following completion of the works.		

Tonkin & Taylor Ltd
Desktop Ground Contamination Assessment - Frimley Water Reservoir and Pipeline
Hastings District Council

February 2020 Job No: 1011287.6000.v2

### 7 Applicability

This report has been prepared for the exclusive use of our client Hastings District Council, with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose, or by any person other than our client, without our prior written agreement.

Tonkin & Taylor Ltd

**Environmental and Engineering Consultants** 

Report prepared by:

Authorised for Tonkin & Taylor Ltd by:

Cara Di Vitto

Tony Cussins

Contaminated Land Consultant

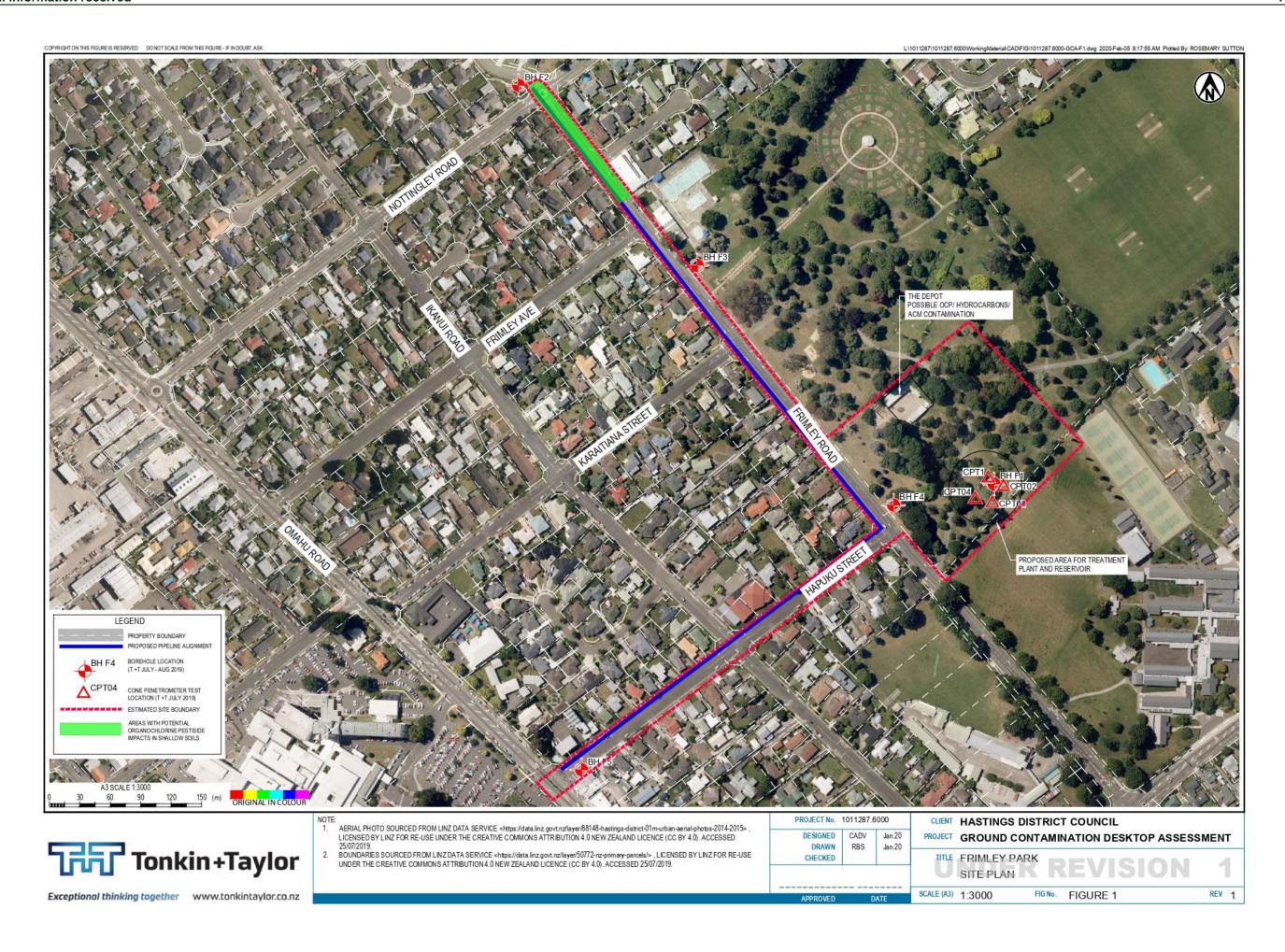
**Project Director** 

10-Feb-20

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## Appendix A: Figures

Figure 1: Site plan



Appendix B: Site history information review summary

Historical information relating to the site has been collected from a variety of sources. The information presented documents the findings of previous investigations and HAIL data obtained from Council to determine the past and present on-site activities. The exception being for the aerial photograph review where comments are also provided on readily observable surrounding land use. The information that has been reviewed is summarised in this appendix.

#### B1 Historical aerial photographs

Historical aerial photographs from a variety of publicly available sources have been reviewed as stated in **Table 1**. Relevant features of the site and surrounding land are summarised from each aerial photograph in **Table 1**.

Appendix B Table 1: Summary of aerial photograph review

Date, run number and source	Key site features	Surrounding land features
1947 (Source: HDC online GIS)	<ul> <li>□ The portion of site in Frimley Park appear mostly vacant with tree coverage.</li> <li>□ Some residential properties line Frimley Road and Hapuku Street of the alignment;</li> <li>□ The north-western end of Frimley Road (near the intersection of Nottingley Road) is used for horticultural land uses.</li> </ul>	<ul> <li>□ A residential property is present on Frimely Park.</li> <li>□ Areas to the south and east of the park are mostly residential.</li> <li>□ Some horticultural and pastoral land uses are present to the north, northwest and north-east.</li> </ul>
1950 (Source: Retrolens, Reference 541.1703.29 and HDC online GIS)	<ul> <li>Only the south-eastern corner of Frimley Park and Frimley Road are visible. All of Hapuku Street can be seen. The portion of Frimley Park appears to be occupied by trees.</li> <li>Some residential properties are present on the western end Frimley Road and on Hapuku Street.</li> </ul>	<ul> <li>The residential house on Frimley Park is no longer present, appears demolished.</li> <li>Hastings Girls High School is present to the east.</li> <li>Frimley School is present to the south-east.</li> </ul>
1964 (Source: Retrolens, Reference 1654.3852.31)	<ul> <li>Frimley Park is clearly defined and walking paths and trees are visible. The maintenance compound appears to be present and a small dwelling to the south-west of the compound appears to be present. this is inferred to be the former GirlGuides "barn" building.</li> <li>Frimley Road is dominated by residential properties.</li> <li>Hapuku Street is occupied by a mix of residential houses and vacant land.</li> </ul>	<ul> <li>Residential land uses to the north, south, west and east have intensified.</li> <li>Land to the north typically remains pastoral or of horticultural uses.</li> </ul>
1972 (Source: Retrolens, Reference 3611.C.2)	<ul> <li>The residential development has intensified along Frimley Road and Hapuku Street.</li> </ul>	<ul> <li>Residential development continues to intensify in all orientations.</li> <li>Residential properties now exist to the north.</li> </ul>

	☐ Frimley Park remains mostly unchanged, except for some further tree coverage and growth.	<ul> <li>Some soil disturbance activities are occurring off the western boundary of the Park, where the present-day Pools are located.</li> </ul>
1980 (Source: Retrolens, Reference 5752.L.15)	☐ The site remains mostly unchanged.	<ul> <li>Residential development has intensified to the north.</li> <li>The development activity off the western boundary of Frimley Park, noted in the previous aerial, cannot be determined due to poor resolution of this aerial.</li> </ul>
1994 (Source: Retrolens, Reference 9380.OH.6)	☐ The site remains mostly unchanged.	<ul> <li>Four square features appear on the northern grassed area of Frimley Park. These are thought to be cricket pitches.</li> <li>The ground disturbance noted in the 1972 aerial appears to be a public pool.</li> <li>Land to the north of Frimley Park is used for horticulture.</li> </ul>
2003 (Source: Google Earth, viewed online)	☐ The site remains mostly unchanged.	☐ The surrounding land uses remain mostly unchanged.
(Source: Google Earth, viewed online)	☐ The site remains mostly unchanged.	<ul> <li>Increased vegetation growth is evidence across the park.</li> <li>The orchard to the north has been cleared. Horticultural activities continue further north.</li> </ul>
2012 (Source: Google Earth, viewed online)	The Girl Guides "bam" has been demolished. A patch of ground disturbance is evidence at its former footprint.	☐ The surrounding land uses remain mostly unchanged.
2014 (Source: Google Earth, viewed online)	☐ The site remains mostly unchanged.	☐ The surrounding land uses remain mostly unchanged.
2019 (Source: Google Earth, viewed online)	☐ The site remains mostly unchanged.	☐ The surrounding land uses remain mostly unchanged.

#### B2 Information received from HDC

#### ☐ Verified HAIL database

A request for HAIL data held by HDC was received on 28 January 2020 which contained a comprehensive list of verified HAIL properties in the Hastings area. Based on the data received, the site has not been subject to HAIL activities which are known to HDC and no HAIL properties were identified within a 200 m radius of the site.

However, on issue of the dataset, HDC identified that some of their verified HAIL sites did not have a known Council parcel ID and a check of the addresses for these properties did not indicate they were within the 200 m radius.

Figure 1 below shows the nominated 200 m and 100 m radius around the site which was used to determine whether verified HAIL activities have occurred on or near the site.

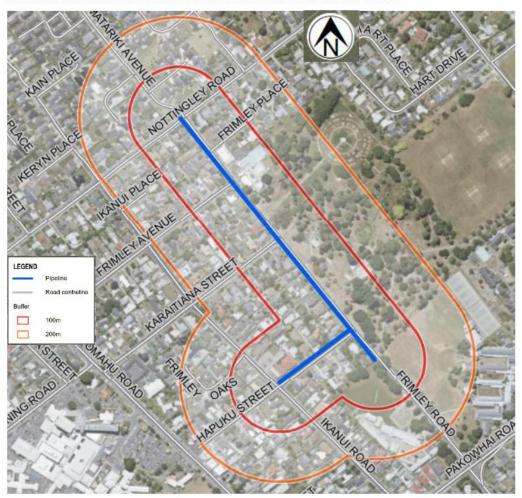


Figure Appendix B.1: Indicative 200 m and 100 m radius around the Site.

#### Property file information

The following property file documents for Frimley Park were requested from HDC and reviewed to ascertain the potential for sourced of ground contamination to be present within the proposed earthworks area:

- ☐ Letter from Guides Hawke's Bay re 'The Barn' at Frimley Park Guides leaving due to being unsafe;
- ☐ Frimley Girl Guide Hall Removal
- ☐ Re Roofing Changing Room Toilet Blocks;
- ☐ Frimley Park elms report;
- ☐ Frimley Park Hazard register for sporting events (HB Cricket and Weetbix triathlon).

The above information reviewed did not suggest the structures or events may have resulted in ground contamination. However, we note the Barn was in a state of disrepair at the time of demolition and, given the estimated construction of the Barn is circa 1925 <sup>11</sup>, lead paint may have been used as a building material. Flakes of lead paint may have been released to ground as a result of its poor condition and ultimate removal. However, the Barn is considered outside of the development area and is not though to pose a ground contamination impact for the purpose of this assessment.

The Elms report indicated some concerns with the condition of the Elm tree on site. However, we understand HDC are currently taking management steps in order to manage those trees which may be affected by the development works.

#### ☐ Maintenance Survey Records

Information received via email from HDC on 29 January 2020 included a facilities and maintenance report for the Frimley Park Changerooms and the Frimley Park Depot (maintenance compound located in the south-eastern corner of Frimley park). Both these records are building management surveys which consisted of a visual survey of the building by Asbestos Specialists Ltd to determine the potential for asbestos containing materials (ACM) to be present. Visual survey techniques rely on the ability for the assessor to identify potential ACM using prior knowledge and experience in the industry and does not include collection of bulk samples for confirmation asbestos testing. any material that is reasonably suspected to contain asbestos is documented as "presumed" or "strongly presumed". This technique is limited to visible areas of the dwelling. Areas such internal cavities (wall linings) and / or under-floor areas often cannot be assesses as they require removal of surface layers to inspect.

Based on the Management Survey data received, the Changerooms (presumed out of the study area) did not suggest the presence of ACM in this building. however, the presence of asbestos was "strongly presumed" in the following areas of the Frimley Park Depot (the Depot):

 Lunc	nroom ,	/ gar	age	bull	aing	3,

☐ Mower / tractor sheds; and

☐ Interior of mower / tractor sheds;

A copy of the Maintenance survey for the Depot is included in Appendix C.

#### B3 Previous ground investigations

A geotechnical report<sup>7</sup> was prepared for HDC by T+T in August 2019 which summarises ground and shallow groundwater conditions at the site based on five machine boreholes (BH F1 – BH F5) and four cone penetrometer tests (CPTs) (CPT1 – CPT4). Boreholes BH F2 and BH F4 at Frimley Park were installed with piezometers for groundwater observation.

In general, the subsurface soils encountered were consisted with the published geology (refer Section 2.3) and comprised Holocene Alluvial soils forming part of the Heretaunga Plains.

Groundwater observations completed in the weeks following the installation of the piezometers suggests groundwater at Frimley is ranges from 1.2 m below ground level (m bgl) at BH F2 to 2.4 m bgl at BH F4. The location of the boreholes is shown on **Figure 1 (Appendix A)**.

Further investigations were undertaken at Eastbourne Street East. Investigations at the Eastbourne Street site was to investigate the placement of another pipeline which is outside the scope of this assessment.

<sup>&</sup>lt;sup>11</sup> Newspaper article from the Hawke's Bay Today. written by Lawrence Gullery, dated 29 February 2012 (Reference: HBT121244-02). Viewed online at <a href="https://www.pressreader.com/new-zealand/hawkes-bay-today/20120229/281638187132539">https://www.pressreader.com/new-zealand/hawkes-bay-today/20120229/281638187132539</a>

As part of the geotechnical investigations, some environmental soil samples were collected from the upper 2.5 m of the recovered sonic core (machine boreholes). A total of six samples (three shallow samples and three deeper samples) were tested for the following parameters:

	Water content;
	pH;
	Sodium content;
	Chloride content;
	Heavy metals;
	Organochloride pesticides;
	Polyaromatic hydrocarbons (PAH);
	Total petroleum hydrocarbons (TPH).
he N	nmary of chemicals detected in soil is provided below. All concentrations reported were below ES Soil Contaminant Standards (SCS) for recreational land use. The following parameters were ted above background concentrations:
	Lead, copper and arsenic in BH F2 at 0.5m depth;
	4,4' DDE and 4,4' DDT at BH F 2 at 0.5 m depth; and
	C15-C16 TPH in BH F5 at 0.6 m depth.

#### Appendix B Table 2: Summary of Preliminary Soil Results

Chemical	NES SCS Recreational	Background	Maximum Result	Exceedances of Background Concentrations
Arsenic	80	9	12	BHF2 0.5m
Cadmium	400	0.7	<0.1	-
Chromium	2,700	24	15	-
Copper	>10,000	32	47	BHF2 0.5m
Lead	880	27	34	BHF2 0.5m
Nickel	1,200ª	17	13	-
Zinc	30,000ª	105	63	-
4,4' DDE	-	<ld< td=""><td>0.0117</td><td>BHF2 0.5m</td></ld<>	0.0117	BHF2 0.5m
4,4' DDT	240	<ld< td=""><td>0.025</td><td>BHF2 0.5m</td></ld<>	0.025	BHF2 0.5m
C15 - C36	NA <sup>b</sup>	<ld< td=""><td>61</td><td>BHF5 0.6m</td></ld<>	61	BHF5 0.6m

a – National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended 2013 (NEPM), Australia. Recreational land use.

b-MfE Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand 1999, revised 2011. Residential land uses, all pathways.

c – Hawke's Bay Region: Background soil concentrations for managing soil quality. RM14-03, HBRC plan no. 4611. Landcare Research, April 2014.

## Appendix C: Site history documents

☐ Maintenance Survey report for the Depot

Attachment 5



### Location & Visual Assessment of Asbestos – Management Survey

<u>Date of Assessment:</u> Thursday – 12/06/2018

**Building Address:** Frimely Park Depot, Hastings

<u>Assessors</u>: Ben Fitness-Clean Air Services ltd- 027 371 9738

Peter Julian-Asbestos Specialists ltd- 027 446 6417

Survey Type: Management Survey
Survey Restrictions: Yes- As stated below

This asbestos survey is designed to give an assessment of the above site by highlighting all materials suspected to contain asbestos within the property. This survey technique relies on the ability of the surveyor to identify asbestos containing materials through prior knowledge and experience in the industry and does not include the taking of bulk samples to determine the presence of asbestos. Any material that can reasonably be expected to contain asbestos will be "presumed" to contain asbestos and where it is highly likely that the material may contain asbestos it will be "strongly presumed". This assessment has visually located, as far as reasonably practical, all acm's however, if planned works are to be carried out, a refurbishment survey will need to be conducted to positively identify through bulk sampling any acm's likely to be disturbed during the work.

#	LOCATION	PRODUCT TYPE	CONDITION	SURFACE TREATMENT	ACCESSIBILITY	PRESUMED/STRONGLY PRESUMED	SAMPLE #	FIBRE TYPE
1	Lunchroom/ Garage building	Flat sheet cladding to front wall	Good	Painted	Good	Strongly Presumed	N/A	N/A
2	Mower/ tractor sheds	Flat sheet cladding to front wall	Good	Painted	Good	Strongly Presumed	N/A	N/A
3	Interior of mower/tractor sheds	Flat sheet linings to interior wall	Good	Factory	Good	Strongly Presumed	N/A	N/A



www.tonkintaylor.co.nz



HASTINGS DISTRICT COUNCIL 207 Lyndon Road East

Hastings 4122 Private Bag 9002

Phone 06 B71 5000 www.hastingsdc.govt.nz

TE KAUNIHERA O HERETAUNGA

#### **FORM 13**

SUBMISSION ON A PUBLICLY NOTIFIED RESOURCE CONSENT APPLICATION TO CONSTRUCT AND OPERATE A MUNICIPAL WATER SUPPLY FACILITY WITH ASSOCIATED INFRASTRUCTURE (RMA20190545)

Date Submission Received:

26 FGB 2020

Date Submissions Close:

Friday 20th March 2020

To:

Environmental Consents Team Planning and Regulatory Services Hastings District Council

Private Bag 9002 Hastings 4156

Attention: Caleb Sutton

	John Haldane Scougall  306 Frinley Road Haskings
APPLICA	ATION:
This is a	submission on an application from:
Hastings	: District Council – Capital Projects Team
DESCRIP	PTION OF PROPOSAL FOR WHICH THE APPLICATION FOR RESOURCE CONSENT IS SOUGHT
and ope water su	tings District Council (Capital Projects Team) has applied for a land use resource consent to construct trate a new water treatment plant and new drinking water storage reservoir, install new drinking apply bores and reticulation pipes, and to remove the existing park maintenance shed and yards from Park, Hastings.
Further d	letails can be found online: www.myvoicemychoice.co.nz
	The specific parts of the application that my submission relates to are: (Please continue on separate sheet(s) if necessary)



HASTINGS DISTRICT COUNCIL & 207 Lyndon Road East Hastings 4122 Private Bag 9002

Phone 06 871 5000

		RA O HERETAUNGA
2.	My submission is: (whether you <u>support</u> , <u>oppose</u> or are <u>neutral</u> regarding the application or sy the reasons for your views. (Please continue on separate sheet(s) if necessary)	pecific parts of it and
	I do not oppose the applica	tien
	but have grove concerns negards	}
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3.	I / We seek the following decision from the Hastings District Council (as consen	,
	(whether you <u>support</u> , <u>oppose</u> or are <u>neutral</u> regarding the application or specific parts of it and the views. (Please continue on separate sheet(s) if necessary)	e reasons for your
	views. (Please continue on separate sheet(s) if necessary)	
-		-
-		
		/
4.	I wish to be heard in support of my submissions, or	7
	I <u>do not</u> wish to be heard in support of my submissions	
5.	If others make a similar submission I will consider presenting	
	a joint case with them at any hearing, or	
	I <u>do not</u> wish to present a joint case	
6.	I request/do not request*, pursuant to section 100A of the Act, that you delegat powers, and duties to hear and decide the application to 1 or more hearings con are not members of the local authority.	
	*Select one	

Attachment 6



#### HASTINGS DISTRICT COUNCIL

207 Lyndon Road East Hastings 4122 Private Bag 9002

Phone 36 871 5000 www.hastingsdc.govt.nz

TE KAUNIHERA O HERETAUNGA

Signed:	of the Scongall	Date: 24-2-2020
187	V ()	

Postal address for service of sub	mitter: (If an organisation, include contact person)		
	Haldane Scougall 306 Frimley Road		_
Daytime Phone No:	306 Frimley Road Hastings N.Z. Phone 06 - 876 7798	Fax No:	

#### Notes:

- The closing date for serving submissions on the consent authority is 5:00pm on Friday 20th March 2020 the 20<sup>th</sup> working day after Notification is given under Section 95 of the Resource Management Act 1991.
- You must serve a copy of your submission on the applicant (details in attached application and cover letter) as soon as reasonably practicable after you have served your submission on the Hastings District Council.
- 3. A signature is not required if you make your submission by electronic means.
- 4. If you wish for the application to be heard by independent commissioner(s) rather than the council, this can be requested up until 5 working days after the close of submissions. (Note: requesting independent commissioner(s) is subject to costs)
- No submission can be made in regard to trade competition
- All submissions (including name and contact details) are published and made available to elected members and the public. Personal information will also be used for the administration of this resource consent.
- 7. If you make a request under section 100A of the Resource Management Act 1991, you must do so in writing no later than 5 working days after the close of submissions and you may be liable to meet or contribute to the costs of the hearings commissioner or commissioners. You may not make a request under section 100A of the Resource Management Act 1991 in relation to an application for a coastal permit to carry out an activity that a regional coastal plan describes as a restricted coastal activity.



HASTINGS DISTRICT COUNCIL 4 207 Lyndon Road East
Hastings 4122
Private Bag 9002

Phone 06 871 5000

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- 8. Please note that your submission (or part of your submission) may be struck out if the authority is satisfied that at least 1 of the following applies to the submission (or part of the submission):
  - · it is frivolous or vexatious:
  - · it discloses no reasonable or relevant case:
  - it would be an abuse of the hearing process to allow the submission (or the part) to be taken further:
  - it contains offensive language:
  - it is supported only by material that purports to be independent expert evidence, but has been
    prepared by a person who is not independent or who does not have sufficient specialised
    knowledge or skill to give expert advice on the matter.





HASTINGS DISTRICT COUNCIL

207 Lyndon Road East Hastings 4122 Private Bag 9002

Phone 06 871 5000 www.hastingsdc.govt.nz

TE KAUNIHERA O HERETAUNGA

## FORM 13

Date S	ubmissions Close:	Friday 20th March 2020
Dates	ubillissions close.	Friday 20th March 2020
To:	Environmental Cons Planning and Reguli Hastings District Co Private Bag 9002 Hastings 4156 Attention: Caleb Su	atory Services uncil
	N(S) MAKING SUBM	ISSION:
Full Na	me of Submitter(s):	CALLEDAD CALLEY
5	CHAEL	TEAN SMILEY
	y L V L T	DIN SITTLE
ADDLIC	CATION:	
	ATION: a submission on an a	polication from:
		Capital Projects Team
		L FOR WHICH THE APPLICATION FOR RESOURCE CONSENT IS SOUGHT
DESCR	IFTION OF FROPOSA	E FOR WHICH THE APPLICATION FOR RESOURCE CONSENT IS SOUGHT
		l (Capital Projects Team) has applied for a land use resource consent to construc
		treatment plant and new drinking water storage reservoir, install new drinkin culation pipes, and to remove the existing park maintenance shed and yards fror
	y Park, Hastings.	tulation pipes, and to remove the existing park maintenance sned and yards from
Further	details can be found o	nline: www.myvoicemychoice.co.nz
1.	The specific parts of	of the application that my submission relates to are:
1.		arate sheet(s) if necessary)
	ENERAL	



HASTINGS DISTRICT COUNCIL 207 Lyndon Road East Hastings 4122 Private Bag 9002

Phone 06 871 5000 www.hastingsdc.govt.nz

TE KAUNIHERA O HERETAUNGA

2.	My submission is: (whether you support, oppose or are neutral regarding the	e application or specific parts o
	the reasons for your views. (Please continue on separate sheet(s) if necessary)	_
We	e fully support the woo-acti	ve achori
	infrastructure of a treated.	ve-preofing water suppor
8		
3.	I / We seek the following decision from the Hastings District Cour	ncil (as consent authority
٠.	(whether you <u>support</u> , <u>oppose</u> or are <u>neutral</u> regarding the application or specific	
	views. (Please continue on separate sheet(s) if necessary)	
W	e fully support the Council	acting
	- All the contract	to of t
P	romply on the proposed wa	ler weatmen
,	plan	
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_		
4.	I wish to be heard in support of my submissions, or	
	I do not wish to be heard in support of my submissions	N
5.	If others make a similar submission I will consider presenting	_
	a joint case with them at any hearing, or	
	I do not wish to present a joint case	V
6	Leaguest /do not request* pursuant to costion 1004 of the Act th	at you dologate your fire
6.	I request/do not request*, pursuant to section 100A of the Act, the powers, and duties to hear and decide the application to 1 or mor	
	are not members of the local authority.	e nearings commissioners
	are not members of the local authority.	

Attachment 6



HASTINGS DISTRICT COUNCIL

207 Lyndon Road East Hastings 4122 Private Bag 7002

Phone 06 871 5000 www.hastingsdc.govt.nz

TE KAUNIHERA O HERETAUNGA

Signed: Michael Dunly of Smuley Date: 23-02-20

Postal address for service of submitter: (If an organisation, include contact person)

314 Kar	aitiana Ist,	Mastings	
Daytime Phone No:	873-5411		Fax No:
E Mail.	MEMILOUGE	xtua co no	

#### Notes:

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- 5. No submission can be made in regard to trade competition
- All submissions (including name and contact details) are published and made available to elected
  members and the public. Personal information will also be used for the administration of this
  resource consent.
- 7. If you make a request under section 100A of the Resource Management Act 1991, you must do so in writing no later than 5 working days after the close of submissions and you may be liable to meet or contribute to the costs of the hearings commissioner or commissioners. You may not make a request under section 100A of the Resource Management Act 1991 in relation to an application for a coastal permit to carry out an activity that a regional coastal plan describes as a restricted coastal activity.

PAGE 42



#### HASTINGS DISTRICT COUNCIL

207 Lyndon Road East Hastings 4122 Private Bag 9002

Phone 06 871 5000 www.hastingsdc.govt.nz

TE KAUNIHERA O HERETAUNGA

- Please note that your submission (or part of your submission) may be struck out if the authority is satisfied that at least 1 of the following applies to the submission (or part of the submission):
  - · it is frivolous or vexatious:
  - it discloses no reasonable or relevant case:
  - it would be an abuse of the hearing process to allow the submission (or the part) to be taken further:
  - it contains offensive language:
  - it is supported only by material that purports to be independent expert evidence, but has been
    prepared by a person who is not independent or who does not have sufficient specialised
    knowledge or skill to give expert advice on the matter.

ITEM 2

3/30/2020 Wufoo · Entry Detail

#### HDC - Form 13: RMA20190545



#### CREATED



PUBLIC

Mar 4th 2020, 3:53:10 pm



IP ADDRESS

219.89.193.92

#### \* Full Name of Submitter(s):

Monique Bradshaw

#### \* The specific parts of the application that my submission relates to are:

Proposal to construct and operate a water treatment plan and during water reservoir at Frimley Park Hastings.

My submission relates to the environmental impact on the park, the level of negative impact on the business's on Frimley Rd and the safety of the children being dropped off and picked up from the surrounding schools.

The visual impact on the park.

## \* My submission is: (whether you support, oppose or are neutral regarding the application or specific parts of it and the reasons for your views)

I oppose the location. Frimley Park is a beautiful park with many very old trees. I believe the impact on the trees will be significant-disturbing/damaging the root systems.

What will be the impact of the truck movements?

What is the timeline on the earthworks and what consideration will the council commit too in regards to the safety of the children and the effect on the surrounding business's.

The Council's consideration and acknowledgement of Frimley Park being a significant environmental asset to Hastings and is this the right location for the proposed New Water Treatment Plant? Surely there are other sites zoned "Open Space".

# \* I / We seek the following decision from the Hastings District Council (as consent authority): (whether you support, oppose or are neutral regarding the application or specific parts of it and the reasons for your views)

I oppose this consent application and request copies of the assessments carried out on the Environmental Effects, including specialist reports on Noise, Landscape and Visual effects.

I feel there has been a lack of transparency made to the public. The application has been in the paper but the full assessments on the impact this will have on the above should also be in the paper. Especially as there is a conflict of interest being the "Hastings District Council" applying for consent to the "Hastings District Council"

#### Attach your submission

\*

I wish to be heard in support of my submissions, or

\*

If others make a similar submission I will consider presenting a joint case with them at any hearing, or

\*

I request pursuant to section 100A of the Act, that you delegate your functions, powers, and duties to hear and decide the applicatio

\* Date

2020-03-04

https://app.wufoo.com/#/entry-manager/1170/entries/1

1/2

3/30/2020

Wufoo · Entry Detail

#### \* Postal address for service of submitter: (If an organisation, include contact person)

Maison Therese Ltd

110 Stoneycroft Street

Hastings

Camberly

4120

New Zealand

#### Contact person

Monique Bradshaw

#### \* Phone number

272303578

#### \* Email

monique@maisontherese.co.nz

3/30/2020 Wufoo · Entry Detail

#### HDC - Form 13: RMA20190545

COMPLETE

#2

#### CREATED



**PUBLIC** 

Mar 20th 2020, 8:46:14 am



IP ADDRESS

125.237.185.14

#### \* Full Name of Submitter(s):

Matilda Patricia Frances Shotter

\* The specific parts of the application that my submission relates to are:

I am submitting on the whole application.

\* My submission is: (whether you support, oppose or are neutral regarding the application or specific parts of it and the reasons for your views)

I oppose the application.

\* I / We seek the following decision from the Hastings District Council (as consent authority): (whether you support, oppose or are neutral regarding the application or specific parts of it and the reasons for your views)

I seek that the application be declined in its entirety.

#### Attach your submission

submission\_by\_frances\_shotter.pdf

\*

I wish to be heard in support of my submissions, or

\*

If others make a similar submission I will consider presenting a joint case with them at any hearing, or

\*

I do not request pursuant to section 100A of the Act, that you delegate your functions, powers, and duties to hear and decide the applicatio

#### \* Date

2020-03-20

\* Postal address for service of submitter: (If an organisation, include contact person)

Legal House

7/101 Lambton Quay

Wellington

Wellington

6145

New Zealand

https://app.wufoo.com/#/entry-manager/1170/entries/2

1/2

3/30/2020

Attachment 6

Contact person

John Maassen

\* Phone number

272712999

\* Email

john@johnmaassen.com

Wufoo · Entry Detail

#### **BEFORE THE HASTINGS DISTRICT COUNCIL**

Submission on the application for resource consent by Hastings District
Council at Frimley Park

DATED 19th March 2020

Name of Submitter: Matilda Patricia Frances Shotter

- This is a submission on an application from Hastings District Council for a resource consent dated 10 December 2019 to establish and operate water collection, storage and treatment facilities at Frimley Park.
- 2. I occupy and am an owner of 210 Frimley Road, Hastings
- I am not a trade competitor for the purposes of section 308B of the Resource Management Act 1991.
- 4. I am directly affected by an effect of the subject matter of the submission that:
  - (a) adversely affects the environment; and:
  - (b) does not relate to trade competition or the effects of trade competition.
- 5. I am submitting on the whole application.
- My submission is attached as Appendix 1 and includes any other reasons that may exist supporting the relief I request.
- 7. I seek that the application be declined in its entirety.
- 8. I wish to be heard in support of my submission.
- If others make a similar submission, I will consider presenting a joint case with them at the hearing.

\_\_\_\_\_

J W Maassen

Lawyer and agent for Frances Shotter

Direct all communications to John Maassen;

#### john@johnmaassen.com

www.johnmaassen.com 04 914 1056 027271 2994

John Maassen Barrister Level 7 Legal House 101 Lambton Quay PO Box 5577 Wellington New Zealand

#### Appendix 1

#### Terms

"Park" or "Reserve" = Frimley Park

The Council = Hastings District Council.

The activity = The Council's proposal to establish and operate water collection, storage and treatment facilities at Frimley Park as set out in the application.

#### Lawfulness of Application

- [1] The Council proposes to use the Park for a local purpose and the Park is not a local purpose reserve. The land is not able to be used under for local authority infrastructure as if it was a local purpose reserve. A generic objective in a generic management plan does not override this statutory purpose relating to the Park's reserved status.
- [2] The following statement is made in the application suggesting the Council is aware the activity is unlawful. The Council's application is therefore the cart before the horse.

Council staff met with the Williams Family Trust, as representatives of the Williams Family who gifted the Park to the Council to discuss the project and to invite the Trustees to the Open Day. While not related to the specific proposal, as part of this consultation, Council officers noted the intention of Council to vest the Park under the Reserves Act 1977 as a Local Purpose Reserve.

[3] It may well be the proposal is also contrary to the original Deed of Gift<sup>1</sup>.

#### Alternatives

[4] The alternatives are statutory and Plan considerations. In the application, using non-park land is said to be problematic in achieving land aggregation. However, designation under the RMA and Public Works procedures are available. The choice

Ітем 2

<sup>&</sup>lt;sup>1</sup> The land was gifted by the Williams Family to meet recreation needs.

was made based on fiscal and speed considerations that have led to this proposal. It is poorly conceived and detrimental to community recreation interests.

[5] The project is framed as responding to a crisis, and therefore the Council is doing something it would otherwise not contemplate doing as appropriate or lawful. The community need can be met in other ways.

#### Objectives and Policies of the Plan

- [6] The proposal does not achieve the objectives and policies of the Hastings District Plan. The fallacy of the reasoning in the application is that it relies upon the high-level and generic policies concerning Utilities and Open Space. It assesses the application against the text of Plan provisions without context. That, in turn, affects the assessment of the effects when scaling the significance of those effects. The drafters of the Plan aimed the Policies with an eye to them operating differently in different contexts. Essential contextual elements for consideration are:
- (a) Historical patterns of use and expectations including original vesting purpose<sup>2</sup>;
- (b) The Reserve's categorization and statutory purposes that override statements in lesser instruments;
- (c) Legitimate appropriation of the Parks values and amenity by neighbouring landowners because of the regulatory protections.
- The effects assessment is consequently deficient and lacks appropriate depth [7] and expertise.

Effects on community and submitter

#### Recreation Effects

[8] There is no assessment of recreation effects. Given this effect is tied to the reserves statutory purpose, the absence of an evaluation is a serious flaw.

Ітем 2

#### Visual Effects

- [9] There will be significant adverse visual effects for users and affected residential landowners. The application appropriately acknowledges the significant imposition the works will make in the Park's values
- [10] The Visual Effects assessment by Wayfinder is not robust, including because:
- (a) There are no montages for effects on identified properties such as 210 Frimley Road;
- (b) The statement below from the Visual Assessment is subjective and has no basis:

How people perceive an activity affects their response to that activity within a landscape. While physically, the project might have a somewhat industrial appearance, perceptually it aligns better with being placed in a 'green' landscape than within an industrial area. It is considered that many people will be much more forgiving of the presence of the proposal on the site than they would be if it were the same scale and form but provided for a different activity.

(c) The statement below from the Visual Assessment is the wrong lens. The lens that should have been used is the effects on users of the Reserve given its statutory function:

Considered at the local suburban scale, the extent of landform and landcover change will be negligible. A limited amount of earthworks will be required to create the foundation, but this is on a largely flat site and overall flat landscape. Up to 12 trees will need to be removed, but these will be replaced by over 20 new trees that provide a similar level of amenity (further outlined in the next section). The proposal will alter the land use of the immediate site but will not affect the overall operation of the Park.

#### Noise

- [11] There will be inappropriate operational and construction noise.
- [12] The Acoustic Effects assessment by Marshall Day is not robust, including because it is a desktop study with many (unreliable) assumptions. Specifically:

Ітем 2

(a) Noise 24-hour operation assumes using 55dBL school and 45 dBL residential zones.

- (b) Emergency generator assumed to comply with 55dBL daytime.
- (c) Noise predicted using SoundPLAN modelling software. Inputs inside WTP building or nearby (5x 160kW booster pumps, 4x cabinet built variable speed drives, 8x outdoor units (5x14kW, 3x5kW), 1x 1500kVA transformer).
- (d) Assumptions include:
- (i) No acoustical data for VSD assume to be no more than 87dBL in the electrical control building.
- (ii) No information on proposed 1500kVA transformer, no information on WTP building rooftop fans (assume 64DBA each fan) assume outdoor machinery don't produce audible whine or hum. Calculated transfer to produce a tonal noise that is low level.
- (iii) Night-time level noise limit is 45dBA predict noise level to be less than 30 dBA.
- (iv) Construction noise will exceed with borehole casing installation (affect 317, 402 to 408 Frimley Road won't comply with 70dB limit, will be 1 to 5dB over) assume construction 7:30 am to 6 pm Monday to Saturday.
- (e) Construction drilling, vibration, noise 34 and 52 weeks to complete (treatment plant and reservoir); 6 to 7 weeks for each bore (up to six to seven months); pipes 17 to 20 weeks.

#### Part 2

- [13] The Plan's policies and objectives are not specific and well-constructed to be sure guide to achieving sustainable management because the Utilities provisions are so general and of such general application as to be almost useless. The activity does not meet the Open Space objectives and policies.
- [14] A relevant and important consideration was the need for the whole of the recreation reserve as a facility for future generations in a growing district under RMA, s 5. That matter was not considered.

#### No offered conditions

[15] While conditions will not assist the approval of the application, the application is deficient in not addressing what noise standards the application will meet, nor does it propose any other conditions addressing effects. That is extraordinary.

#### Commissioners

The Council should of its own accord and as a matter of good practice appoint genuinely independent and well-qualified commissioners because the Council is the applicant. The Application does not acknowledge that. The Submitter does not accept the cost of appointing Commissioners.

Attachment 6

3/30/2020 Wufoo ⋅ Entry Detail

#### HDC - Form 13: RMA20190545

COMPLETE

#4

#### CREATED

IP ADDRESS



PUBLIC

Mar 20th 2020, 11:42:09 am



101.98.139.95

\* Full Name of Submitter(s):

Ministry of Education

\* The specific parts of the application that my submission relates to are:

Please refer to submission attached.

\* My submission is: (whether you support, oppose or are neutral regarding the application or specific parts of it and the reasons for your views)

Please refer to submission attached.

\* I / We seek the following decision from the Hastings District Council (as consent authority): (whether you support, oppose or are neutral regarding the application or specific parts of it and the reasons for your views)

Please refer to submission attached.

#### Attach your submission

 $ministry\_of\_education\_submission\_on\_frimley\_park\_upgrades\_resource\_consent\_application.pdf$ 

\*

I wish to be heard in support of my submissions, or

\*

If others make a similar submission I will consider presenting a joint case with them at any hearing, or

\*

I do not request pursuant to section 100A of the Act, that you delegate your functions, powers, and duties to hear and decide the applicatio

\* Date

2020-03-20

\* Postal address for service of submitter: (If an organisation, include contact person)

PO Box 448, Waikato Mail Centre

Hamilton

Waikato

3240

New Zealand

https://app.wufoo.com/#/entry-manager/1170/entries/4

1/2

3/30/2020

Attachment 6

Contact person

Alec Duncan

\* Phone number

79607259

\* Email

alec.duncan@beca.com

Wufoo · Entry Detail





20th March 2020

Hastings District Council Private Bag 9002 Hastings 4156

Publicly Notified Resource Consent Application RMA20190545 – Proposal to construct and operate a water treatment plant and drinking water reservoir at Frimley Park, Hastings

#### Background:

The Ministry of Education (the Ministry) is the Government's lead advisor on the New Zealand education system, shaping direction for education agencies and providers and contributing to the Government's goals for education. The Ministry has responsibility for all education property owned by the Crown. This involves managing the existing property portfolio, upgrading and improving the portfolio, purchasing and constructing new property to meet increased demand, identifying and disposing of surplus State school sector property and managing teacher and caretaker housing. The Ministry is therefore a considerable stakeholder in terms of activities that may impact on educational facilities and assets in the Hastings District.

#### The Ministry's submission on the application by Hastings District Council:

The Ministry understand that Hastings District Council (HDC) (as the Consent Authority) has received an application for resource consent from the HDC (Capital Works Team) (the Applicant) to:

- Construct and operate a new water treatment plant (WTP) and new drinking water storage reservoir;
- Install new drinking water supply bores (with drilling expected to exceed the District Plan noise limits);
- Install new drinking water reticulation pipes (with associated earthworks involving soil disturbance necessitating resource consent under the NES for Assessing and Managing Contaminants in Soil to Protect Human Health (NESCS); and
- Remove the existing park maintenance sheds and yards from Frimley Park.

Along the eastern border of the subject site is Lindisfarne College and Hastings Girls' High School. The Lindisfarne site has a 'Scheduled Activity' overlay, being S7 - Educational Facility, and the Girls' High site is designated (D97) by the Minister of Education for school purposes. Diagonally across Frimley Road from the southern corner of the park is Frimley School which is also designated (D94) by the Minister of Education for school purposes with an underlying zoning of Hastings General Residential.



Figure 1: Site location showing proximity of schools to Frimley Park (Red dots indicate approximate location of proposed bores. Red square indicates the location of the proposed reservoir and WTP utility building). Map extracted from Resource Consent Application.

It is understood that the Applicant has consulted with Hastings Girls' High School, Lindisfarne College and Frimley School representatives to inform the schools of the proposal and to identify any effects and mitigation measures where appropriate.

#### Visual Effects

The Assessment of Landscape and Visual Amenity Effects indicates that the WTP and water reservoir will be visible from the playing fields and courts at Hastings Girls' High School. Similarly, the facilities will be visible from the grounds of Frimley School. However, the applicant notes that given the screening and colouring proposed, it is considered that the structures will not be dominant in the view and would not be expected to be a focal point from this area in any case.

#### Effects of Proposed Earthworks

The Applicant has indicated that part of the area to be excavated may be a HAIL site as per the National Environmental Standard for Assessing and Managing of Contaminants in Soil to Protect Human Health (NESCS). This was identified during the course of the geotechnical investigations.

#### Construction and Operational Noise Effects

The applicant indicates that the proposed activities have the potential to create adverse noise effects during the construction phase as well as during on-going operations of the WTP.

The Ministry acknowledges that the majority of the temporary construction activities are expected to be compliant and to not have significant noise effects, although the bore construction activity is expected to result in significant adverse noise effects. The Ministry does however, accept that the bore construction

Letter 2

activity is temporary, and the Applicant is proposing to manage and reduce the associated adverse noise effects as far as practicable.

The Acoustic Assessment Report identifies that the District Plan noise limits associated with the operation of the WTP are met at all of the education facilities close to the site (Hastings Girls' High School, Lindisfarne College and Frimley School), with the exception of the closest points on the boundary of the Hastings Girls' High School playing field boundary with Frimley Park. At this location, there is a marginal exceedance of the daytime and the night-time guideline limits.

The Ministry concurs with the Applicant that the playing field of Hastings Girls' High School is not considered to be a noise sensitive location, however, the Ministry is concerned that locations within these educational facilities considered to be noise sensitive i.e., various school buildings and classroom areas may be adversely affected by the noise resulting from the operation of the WTP.

#### Construction Traffic Effects

Given the location of the subject site, there is potential that the traffic generated as a result of the construction works will create safety and/or traffic concerns for students who may be travelling by foot or car to and from the adjacent schools.

The Applicant has advised that the primary potential effect of traffic movements is on Lindisfarne College. The Applicant has advised that they have been in consultation with Lindisfarne College and will ensure that communications plans are in place and implemented during the undertaking of works to ensure that construction traffic effects are minimised to the extent possible and that neighbouring schools are aware of the occurrence and timing of construction activities.

#### Relief sought:

The Ministry requests that the HDC (as the Consent Authority) ensures the following:

- Suitable screening and colouring is proposed, to ensure that the structures will not be dominant in the view and would not be expected to be a focal point from the adjacent education facilities.
- An appropriate condition is in place for managing the disturbance of potentially contaminated soils with the requirement for a Contaminated Soils Management Plan. This is to protect the surrounding schools from the risk of exposure to contaminants during earthworks and the generation of dust during the dry summer period.
- 3. An appropriate condition is in place for managing noise associated with construction including the requirement for the development and implementation of a Construction Noise and Vibration Management Plan with suitable monitoring conditions in place to manage any potential noise and vibration effects on the adjacent education facilities. This should include pre-construction inspections of foundations of any buildings likely to be affected and monitoring throughout the construction period.
- An appropriate condition is in place to manage and monitor noise associated with the operation of the WTP on the adjacent education facilities.

The Ministry also requests that the applicant engages with the schools before and during construction to advise of construction timing, access arrangements and the ability for the schools to access the Park and sports fields during construction. This is to ensure appropriate arrangements are in place to avoid any adverse effects during the construction phase.

If the development is granted consent – the Ministry requests that the HDC engage with the Ministry and keeps them up to date with the staging and timing of this development to help understand the potential impacts on the schools. The Ministry would also like to work with HDC to look at potential travel plans to the school (during both the construction phase and operation) and how students may get to and from the school during peak hours safely.

Should you have any more queries please do not hesitate to contact the undersigned on behalf of the Ministry.

Letter 3

Hanun

Alec Duncan Planner - Beca Limited (Consultant to the Ministry of Education)

Email: alec.duncan@beca.com Ph: 07 960 7259

Letter 4

Ітем 2 PAGE 60

#### Philip McKay

From: Philip McKay < Philip.McKay@mitchelldaysh.co.nz>

Sent: Monday, 6 April 2020 9:26 a.m.

To: Monique Bradshaw

Cc: Caleb Sutton; Grey Wilson

Subject: RE: [#27527] RMA20190545 - Frimley Park Water Storage Resource Consent

Hi Monique, thank you very much for your reply to my e-mail.

On the basis of your reply I will take it that you do not wish to speak at the hearing but will still assess your submission in my report on the application given that you are still concerned that the reassurances provided by Herman need to be actioned.

Kind Regards

Phil

#### Philip McKay

Associate

DDI +64 6 834 4098 | +64 27 495 5442 | PO Box 149, Napier 4140

#### www.mitchelldaysh.co.nz

The information contained in this email message received from Mitchell Daysh Limited (and accompanying attachments) may be confidential. The information is intended solely for the recipient named in this email. If the reader is not the intended recipient, you are notified that any use, disclosure, forwarding or printing of this email or accompanying attachments is strictly prohibited. If you have received this message in error, please notify us immediately by return email.

From: Monique Bradshaw <monique@maisontherese.co.nz>

Sent: Monday, 6 April 2020 8:55 AM

To: Philip McKay <Philip.McKay@mitchelldaysh.co.nz>

Subject: RE: [#27527] RMA20190545 - Frimley Park Water Storage Resource Consent

Hi Philip,

It is only after speaking with Herman that I feel that I can withdraw my submission and not speak at a hearing.

I believe that as long as the council adhere to his instructions things will be fine.

Herman will make sure that this water storage project will have as little impact as possible on the environmental, logistical, and safety issues that will arise.

Many thanks,

#### Monique Bradshaw

Managing Director



no Stoneycroft Street, Hastings, New Zealand +64 6 878 8912 | www.maisontherese.co.nz

From: Philip McKay < Philip.McKay@mitchelldaysh.co.nz >

Sent: Friday, 3 April 2020 2:57 PM
To: monique@maisontherese.co.nz

Subject: FW: [#27527] RMA20190545 - Frimley Park Water Storage Resource Consent

#### Philip McKay

Associate

DDI +64 6 834 4098 | +64 27 495 5442 | PO Box 149, Napier 4140

#### www.mitchelldaysh.co.nz

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From: Grey Wilson < Grey. Wilson@goodearthmatters.com >

Sent: Friday, 3 April 2020 1:14 PM
To: Caleb Sutton < calebs@hdc.govt.nz>

Cc: Philip McKay < Philip.McKay@mitchelldaysh.co.nz >

**Subject:** [#27527] RMA20190545

#### Hi Monique,

I am working for the Hastings District Council in its role as consent authority for assessing the Frimley Park Water storage resource consent application and the submissions received.

Thank you for your e-mail below to Herman Wismeyer confirming that you do not now wish to speak to your submission. Can you please clarify for me whether you are also withdrawing your submission in opposition, or whether you still wish to have your submission on the table for consideration, but do not wish to speak to it at any hearing?

Any clarification that you can provide would be greatly appreciated.

Kind Regards

Phil

From: Monique Bradshaw <monique@maisontherese.co.nz >

Sent: Thursday, 2 April 2020 4:12 PM

To: Herman Wismeyer < herman@focusprojectmanagement.co.nz >

Subject: RE: Frimley Water project

Attachment 7

Hi Herman,

Thank you for the time you gave me on the phone yesterday explaining the details of the new water project in Frimley Park.

It definitely clarified the detail and I must say that my concerns have been alleviated.

I don't feel that a hearing with the commissioner will be required, I trust that the Hastings District Council will follow your instructions.

Once again, thank you for contacting me and explaining the detail.

Have a great weekend!!

#### Monique Bradshaw

Managing Director



no Stoneycroft Street, Hastings, New Zealand +64 6 878 8912 | www.maisontherese.co.nz

From: Herman Wismeyer < herman@focusprojectmanagement.co.nz >

Sent: Thursday, 2 April 2020 11:07 AM
To: monique@maisontherese.co.nz
Subject: Frimley Water project

Good morning Monique

Thank you for your time yesterday discussing the Frimley Water Project in more detail with me and focussing on the issues you have raised in your sub-mission.

The key points we discussed were the following:

- The reason for the need of having a water reservoir and why the location in Frimley Park was chosen
- Your concerns around the safety of the children whilst construction was underway
- · Impacts of the project on the businesses on Frimley Road.

I explained the process the project team went through in deciding on the most appropriate site and why we had chosen the underutilised area in Frimley Park. I also explained that it is our intention to remove the recreational services yard out of the park and return that area back to the park.

In regards to the safety of the children I explained that all construction vehicles will access the site from Lyndhurst Road so there will be no impacts on child safety on Frimley Road. I also informed you that we have had meetings with all three schools (Frimley Primary School, Hastings Girls and Lindisfarne). The schools are supportive of the project and will have input in the colour scheme and the planting we will

be undertaking.

On the effects of the local businesses I explained that we will need to put a water pipe down Frimley Road but that we will not close the road as the majority of the pipe will be in the berm between the footpath and the park boundary. There will be no adverse effects on the shops on the west end of Frimley Road.

After our conversation you indicated that your concerns had been alleviated and you were satisfied with the additional information I was able to share with you. We agreed that I was going to send you an email outlining our conversation and if you were happy with the content of the email you would reply back to me saying that you are happy for the project to progress.

Can you please let me know if you want anything changed in this email and if not can you please respond back to me stating that your concerns have been alleviated and you do not wish to be have a hearing with a commissioner.

I greatly appreciate your support and time on this matter.

Kind regards

Herman



Herman Wismeyer | PRINCE2® Practitioner Managing Director Focus Project Management Ltd. 207 St Aubyn Street West Hastings Mobile 022 649 0998

Email Herman@focusprojectmanagement.co.nz
Web www.focusprojectmanagement.co.nz

This communication, including any attachments, is confidential. If you are not the intended recipient, you should not read it - please contact me immediately, destroy it, and do not copy or use any part of this communication or disclose anything about it. Thank you. Please note that this communication does not designate an information system for the purposes of the Electronic Transactions Act 2002.

#### **Grey Wilson**

From: Grey Wilson < Grey. Wilson@goodearthmatters.com>

**Sent:** Friday, 3 April 2020 2:53 p.m.

To: Caleb Sutton
Cc: Philip McKay

Subject: [#27527] RMA20190545
Attachments: Scougall signed letter.pdf

Hi again Caleb and Phil

Please find attached written correspondence from Mr Scougall in respect of the above application, confirming that the matters raised in his submission have been addressed and that he no longer wishes to be heard.

Kind regards Grey



23 Tiniroto Road | RD 5 | Frasertown | Wairoa 4195 | New Zealand P 027 255 1035 grey wilson@goodearthmatters.com goodearthmatters.com



### PROJECT MANAGEMENT LTD

207 St Aubyn St West | HASTINGS | 022 649 0998

Date:

31st March 2020

Subject:

Submission on the Frimley Park Water reservoir Project

To:

Mr. Scougall

Dear Mr. Scougall,

Thank you very much for making the time to speak with me on Wednesday 25<sup>th</sup> March. We met to discuss your submission on the resource consent application for the Frimley Water Reservoir Project.

In your submission you stated that you did not appose the application but had grave concerns regarding the extra traffic from the construction site. You also describe the current parking situation, with the cars belonging to Staff working in the recreational facilities yard in the Park, as challenging.

During our conversation I was able to explain to you that the construction vehicles will not be using Frimley Road and will entre the park from Lyndhurst Road which is on the other side of the Park. You indicated you were happy and reassured this was the case.

Regarding the Recreational Services cars that are parked in front of your house I explained the following. As part of this project it is our intention to remove the Recreational Services Yard from the Park and re-establish them outside of the Park at a more appropriate site. The means that the cars park across the road from your house, that belong to the staff, will disappear.

You indicated that you are happy to see the Yard disappear and it can't happen soon enough as far as you are concerned.

In your submission you indicated that you want to be heard which means that an official hearing needs to be organised with a Commissioner. After our meeting and my explanation, you told me you no longer want this hearing and that you are happy with my explanation.

Can I please ask that you sign your approval of the content of this letter below? Please contact me on 022 6490998 if you have any questions or concerns.

 $herman@focusprojectmanagement.co.nz \mid www.focusprojectmanagement.co.nz$ 

J H Stongall



#### PROJECT MANAGEMENT LTD

207 St Aubyn St West | HASTINGS | 022 649 0998

Scanged ........ confirm that I no longer wish to be heard in respect of my submission in relation to RMA20190545 (Frimley Park Water Reservoir Project)

Signed: 291 Econgall
Date: 14/1220

Yours sincerely,

Herman Wismeyer MD FPM (022 6490998)

 $herman@focusproject management.co.nz \mid www.focusproject management.co.nz$ 

Attachment 8

Sensitivity: General



#### **MEMORANDUM**

#### RMA20190545

To: Hastings District Council as Consent Authority

Good Earth Matters on Behalf of Hastings District Council as Applicant From:

Date: 22 May 2020

Representatives of the Applicant and the Ministry of Education met (online) on Friday 8 May 2020 to discuss the draft proffered conditions in respect of the Frimley Park proposal. In attendance:

- On behalf of the Applicant:
  - Grey Wilson Good Earth Matters Consulting
  - Bill Wood Marshall Day Acoustics
- On behalf of the Ministry of Education as Submitter:
  - Keith Frentz Beca Consulting
  - Alec Duncan Beca Consulting

A number of matters relating to the conditions were discussed, along with several amendments, primarily:

- Ensuring the noise conditions accurately reflect the predicted operational noise levels;
- The way in which the Soil Management Plan is provided for in the conditions and the ability for the Submitter to review a draft outline of the Construction Noise and Vibration Management Plan (CNVMP) prior to any withdrawal of submission (attached to this memorandum);
- That a critical purpose of the CNVMP is to ensure that 'on the ground' engagement occurs between the Consent Holder and its contractors and School staff such that flexible decision making can occur during construction to ensure disruptions to school activities and negative effects associated with noise from construction traffic and construction activities are mitigated to the extent practicable;
- Several minor wording changes to conditions to ensure that works are undertaken in accordance with management plans and details of the noise commissioning report.

The following set of conditions reflects those and subsequent discussions between the Submitter and the Applicant. Note that there was further discussion (after the pre-hearing meeting) of the need to require pre-construction foundation checks at the schools. The Applicant considered this matter further subsequent to the pre-hearing meeting and advised the Submitter that it did not consider that the findings of the assessment of environmental effects warrants a requirement for pre-construction foundation checks in that no significant vibration effects are anticipated, particularly given the distance between the proposed works and the schools. The CNVMP provides the ability for the schools to engage directly with the Consent Holder on this matter. The Submitter then advised of its acceptance of this approach and the conditions below reflect an agreed position on all matters.

It is understood that subject to this memorandum being submitted to the Consent Authority, the Ministry of Education no longer wishes to be heard at any hearing of the application.

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#### **Draft Proffered Conditions**

#### General

- 1. The activities authorised by this Consent will be undertaken in general accordance with:
  - the Application dated 10 December 2019 and associated documentation;
  - the request for further information dated 23 January 2020 and subsequent responses dated 28 January 2020 and 10 February 2020;
  - the Desktop Ground Contamination Assessment (PSI), Tonkin and Taylor, February 2020;
  - Ground Contamination Soil Management Plan, Tonkin and Taylor, March 2020; [retain or remove depending on consent authority's preference - see note in Condition 7].

#### **Operational Noise Limits and Monitoring**

Noise associated with operation and use of the water treatment plant, bores and reservoir shall comply with
the limits below, as measured in accordance with NZS6801:2008 Acoustics - Measurement of environmental
sound and assessed in accordance with NZS 6802:2008 Acoustics - Environmental Noise:

The following noise limits shall not be exceeded at any point within any Residential Zone or within the notional boundary of any noise sensitive activity, with the exception of land described as Part Lot 254 DP 2101 Part Heretaunga Block:

Control Hours	Noise Level
0700 to 1900 hours	55 dB LAeq (15 min)
1900 to 2200 hours	50 dB LAeq (15 min)
2200 to 0700 hours the following day	45 dB LAeq (15 min)
2200 to 0700 hours the following day	75 dB LAFmax

3. The following noise limits shall not be exceeded within the notional boundary of any noise sensitive activity located within Part Lot 254 DP 2101 Part Heretaunga Block:

Control Hours	Noise Level
0700 to 1900 hours	55 dB LAeq (15 min)
1900 to 2200 hours	50 dB LAeq (15 min)
2200 to 0700 hours the following day	45 dB LAeq (15 min)
2200 to 0700 hours the following day	75 dB LAFmax

Advice note: Notional boundary means 'a line 20 metres from and parallel to any wall of a building or any wall of a building used by a noise sensitive activity or the legal boundary whichever is closer to the building'.

4. The Consent Holder shall, within 12 months of the water treatment plant becoming operational undertake noise monitoring at the adjacent school sites and selected residential sites to confirm compliance or otherwise with Conditions 2 and 3. Records of this monitoring shall be set out in a statement prepared by a Suitably Qualified and Experience Professional which makes a determination as to whether or not operational noise is found to be compliant with the noise limits set out Conditions 2 and 3. Where activities are found to be non-compliant, the Consent Holder shall inform the Consent Authority as soon as reasonably practicable as to what measures will be implemented to achieve compliance. Within six months thereafter, the Consent Holder must provide evidence by way of additional noise measurements, to the Consent Authority that compliance has been achieved. The Consent Holder shall undertake any additional noise monitoring required at the request of the consent authority in relation to a reasonable noise complaint regarding the consented activities.

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# **Construction Noise and Vibration Management Plan**

- 5. The consent holder shall prepare a Construction Noise and Vibration Management Plan (CNVMP) to demonstrate the way in which it will avoid, remedy or mitigate adverse noise effects, and shall submit the CNVMP to the Consent Authority for certification prior to the commencement of works authorised by this consent. All construction works shall be undertaken in accordance with the certified CNVMP. The CNVMP shall be in general accordance with the draft CNVMP submitted to the consent authority May 2020 but at a minimum, the CNVMP shall address the following matters:
  - a. The particular noise and vibration mitigation measures to be implemented during construction activities as well as contingency measures including, but not limited to and where relevant, limiting the hours of some activities (specifically borehole casing installation) to times as agreed with owners/occupiers of neighbouring sites; review of construction methodology; mitigation measures and consideration of the installation of mechanical ventilation for noise sensitive receivers where external windows must be closed to avoid significant adverse noise effects and no alternative ventilation system is present; and any other management strategies to ensure that the best practicable option is adopted by the Consent Holder to uphold its duty under section 16 RMA;
  - Monitoring of construction noise levels at selected representative receiver locations including in particular the adjacent school sites;
  - Noise measurements to identify any processes/methods that are unnecessarily noisy in particular measurements of bore construction noise and identification of additional mitigation methods where practicable;
  - d. The proposed approach and methods to ongoing community liaison and the way in which potentially affected neighbours, including schools, are able to articulate their concerns and by which these can be addressed by the Consent Holder including but not limited to implementation of contingency measures identified as per (a)
  - e. Details of consultation with the Ministry of Education undertaken in accordance with Condition 6 including how any concerns raised by this party have been addressed in the CNVMP;
  - f. The proposed approach and methods to undertaking staff training to ensure that all persons responsible for undertaking activities authorised by this Consent are aware of their duty under section 16 of the RMA and the conditions of this consent.

#### Consultation on CNVMP

6. The Consent Holder, prior to submission of the CNVMP to the Consent Authority for certification in accordance with Condition 5, shall consult with the Ministry of Education regarding the potential noise and vibration effects of the construction activities authorised by this Consent on the nearby schools and shall include details of this consultation within the CNVMP.

Conditions on activities authorised under the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health

# Soil Management Plans

7. The Consent Holder shall prepare a Soil Management Plan (SMP) for earthworks/ soil disturbance activities to be undertaken on or near contaminated land as identified in the Preliminary Site Investigation and subsequent sampling in association with the construction of the drinking water treatment plant and reservoirs and installation of new drinking water reticulation pipes. The purpose of the SMP is to outline the way in which the risk to human health and the environment associated with these works will be managed. It must include methods and procedures to be used by persons undertaking these works particularly for the handling and disposal of contaminated or potentially contaminated soil. The SMP shall be submitted to the Consent Authority for certification prior to the commencement of any works within or near potentially contaminated sites and all works undertaken as authorised by this Consent shall be undertaken in accordance with certified the SMP. [To

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be removed if consent authority prefers to include the SMP as part of the application (see reference in condition 1) or retained of the consent authority prefers it to remain as a condition in which case the reference in condition 1 is to be removed]

8. The Consent Holder shall prepare a separate Soil Management Plan (SMPBR) for earthworks/soil disturbance activities to be undertaken in association with the removal of the existing Park Services Building and submit this to the Consent Authority for approval prior to those works commencing. The SMP for the Building Removal shall outline the way in which the risk to human health and the environment associated with these works will be managed and set out procedures and methods to be used by persons undertaking these works particularly for the handling and disposal of contaminated or potentially contaminated soil. It shall include particular consideration of and provision for any potential effect on the nearby school sites and detail the way in which this is to be managed. The SMPBR shall include details of any soil sampling undertaken to inform the methods and procedures and any subsequent soil sampling to occur after removal is complete to confirm residual contamination levels.

Grey Wilson Good Earth Matters 22 May 2020

Attached: Draft Construction Noise and Vibration Management Plan

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# RMA20190545 DRAFT Construction Noise and Vibration Management Plan

# Contents

Introduction	. :
General	. 1
Contact Details for Contractors and Consent Holder (Project Managers)	
Mitigation Measures	
Staff Training	
Times and Dates of Work	
Community Liaison	. 2
Consultation with the Nearby Schools	. 2
Complaints	. :
Monitoring	

#### INTRODUCTION

This Construction Noise and Vibration Management Plan (CNVMP) has been prepared to satisfy condition [#add Consent reference]. Works undertaken as authorised by that consent shall be undertaken in accordance with this CNVMP.

All construction works have the potential to be 'noisy' and disruptive to neighbours. The particular activities authorised by the Consent that have the potential to be most noisy include primarily the drilling and installation of new drinking water bores. There will also be a number of construction traffic movements through Frimley Park from Lyndhurst Road.

# **GENERAL**

Works will be undertaken generally in accordance Construction Noise Standard NZS 6803:1999 Acoustics — Construction Noise and Standard DIN 4150-3:1999 Structural vibration — Effects of vibration on structures.

# CONTACT DETAILS FOR CONTRACTORS AND CONSENT HOLDER (PROJECT MANAGERS)

Consent Holder: Herman Wismeyer on Behalf of Hastings District Council 022 649 0998.

Site Manager: TBC.

# MITIGATION MEASURES

The Consent Holder and all persons undertaking working authorised by the consent will ensure that the best practicable option for avoiding unreasonable noise is implemented at all times. The particular methodologies that will be implemented are:

- vibrational bore construction
- parking trucks and other construction machinery away from sensitive activities where practicable

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DRAFT Construction Noise and Vibration Management Plan

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limiting the number of heavy vehicle movements to & from site as far as practicable where that can be achieved
without compromising overall project delivery and health and safety.

Nothing in this CNVMP restricts the ability to implement further noise and vibration mitigation measures, which may include:

- installation of screening around construction activities to reduce the travel of noise
- property specific measures such as mechanical ventilation for noise sensitive receivers on an as needed basis and as agreed with the relevant parties
- use of noise blankets around drill equipment if feasible and practicable.

#### STAFF TRAINING

TBC upon contractor nomination

Section to address the following:

The proposed approach and methods to undertaking staff training to ensure that all persons responsible for undertaking activities authorised by this Consent are aware of their duty under section 16 of the RMA and the conditions of this consent.

It is expected that this will include induction processes to ensure that all staff are aware of the CNVMP and actions required, as well as their duty under section 16 to avoid unreasonable noise and to adopt the best practicable option to managing noise emissions.

#### TIMES AND DATES OF WORK

TBC.

# **COMMUNITY LIAISON**

The consent holder and the contractor will contact schools and neighbours 7 days before construction starts via letter and phone call to the schools. Signage will be erected which will have a phone number which people can call if they have any queries or concerns.

# **Consultation with the Nearby Schools**

The Consent Holder will engage with the Principals (or someone acting on their behalf) of each of the three nearby schools (Hastings Girls High School; Lindisfarne College; and Frimley School) prior to submission of this CNVMP for submission to the consent authority for approval prior to the commencement of any authorised works in accordance with Condition 5 of the consent.

#### Contact Details for the Principals of the Schools are as follows:

Principal HGHS: Catherine Bentley 06 873 1133

Principal Lindisfarne: Ken MacLeod 06 873 1136

Principal Frimley School: Tim White 06 878 8757

The Consent Holder will record for inclusion herein the nature of any concerns raised by the Principals, including any concerns around vibrational effects at the schools, and the way in which these have been or will be addressed by the Consent Holder.

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The contractor will also be expected to actively engage with the schools to minimise any impacts noise might have during exam periods and other important activities in the School.

#### COMPLAINTS

Any complaints received in respect of the construction works will be recorded as follows:

- Date and Time:
- Complainant Personal details (name, address, phone number):
- Details of the Complaint:
- Consent Holder actions required:
- Have the actions been carried out:
- Follow up required:

## MONITORING

The Consent Holder will record herein any monitoring of construction noise levels at selective representative receiver locations including in particular the adjacent school sites.

Also recorded herein will be any noise measurements to identify any processes/methods that are unnecessarily noisy in particular measurements of bore construction noise and identification of additional mitigation methods where practicable.

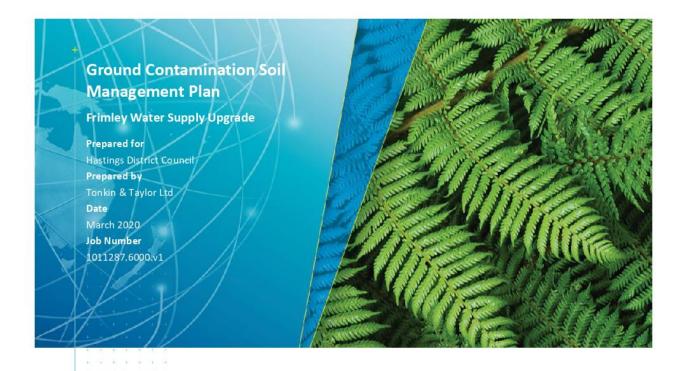
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# REPORT

# Tonkin+Taylor







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# **Document Control**

Title: Ground Contamination Soil Management Plan					
Date	Version	Description	Prepared by:	Reviewed by:	Authorised by:
02/04/2020	1	Issue to client	N. O'Rourke	S. Moore	T. Cussins

# Distribution:

Hastings District Council 1 electronic copy
Tonkin & Taylor Ltd (FILE) 1 electronic copy

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# Attachment 9

# 1 Introduction

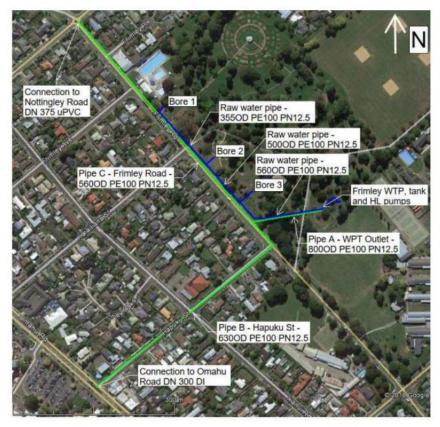
4

Tonkin and Taylor Ltd (T+T) has been engaged by Hastings District Council (HDC, Council) to prepare this Ground Contamination Soil Management Plan (GCSMP) to outline procedures for its appointed Contractor to follow during the excavation works for the proposed water supply infrastructure project at Frimley Park, located near the intersection of Frimley Road and Hapuku Street in Hastings (the site).

This report has been prepared in accordance with our proposal dated 14 November 2019.

# 1.1 Background

HDC is completing significant water supply infrastructure upgrades within Frimley Park, including construction of a new water treatment plant (WTP), water supply bores, and a treated water storage reservoir. The reservoir will be connected to the existing water supply network via three new pipelines. The pipelines are expected to traverse Frimley Road and Hapuku Street. The indicative locations of the treatment plant, reservoir, bores and pipeline connections are shown on Map 1.1 below.



Map 1.1: Indicative reservoir and pipeline locations (from Stantec 20191)

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Ground Contamination Soil Management Plan - Frimley Water Supply Upgrade
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<sup>&</sup>lt;sup>1</sup> Stantec 2019. Frimley Park Water Treatment Plant and Reservoir Pipelines Preliminary Design Report. Prepared for Hastings District Council, dated December 2019.

The proposed construction works will require earthworks and soil disturbance to establish foundations for the structures within the park (the reservoir and WTP) and trenching to install new water supply pipes. The site-of-works boundary, which covers the expected earthworks areas, is presented on Figure 1 in Appendix A. The area shown in Figure 1 includes the Frimley Park Depot (the Depot) which is proposed to be removed within the next 3-5 years. Accordingly, removal of the Depot has not been included within this GCSMP (for which an GCSMP will be prepared closer to the time of demolition).

A desktop ground contamination assessment<sup>2</sup> (GCA) was undertaken by T+T in February 2020. This identified that horticultural land use (a Hazardous Activities and Industries List (HAIL) activity) has likely impacted a section of the new pipeline alignment from the intersection of Nottingley and Frimley Road, extending along Frimley Road to Frimley Avenue.

In March 2020, additional soil sampling was conducted along the full pipeline alignment and in the area of the proposed water treatment plant and reservoir. This sampling was undertaken to inform the management controls and likely disposal requirements for contaminated soil. The results from the sampling are included in this GCSMP (see Section 3.5).

HDC has applied for a discretionary Resource Consent under the NES Soil<sup>3</sup> to undertake the soil disturbance works on the basis of the likely earthworks volumes being greater than permitted activity levels and the known former horticultural land use. This GCSMP has been prepared to outline soil management procedures for the proposed earthworks for the water supply upgrade (excluding the Depot).

#### 1.2 Objectives of the GCSMP

The objective of this GCSMP is to set out procedures for managing potentially contaminated soils that may be encountered onsite, including soil handling and disposal requirements to:

- Protect on-site workers and off-site neighbours during the excavation works.
- Mandate that contaminated soil removal shall be to an appropriately licensed facility (if disposed offsite).
- Limit discharges from the site during the excavation works.

#### 1.3 Regulatory compliance

This GCSMP has been prepared in general accordance with Ministry for the Environment (MfE) Contamination Land Management Guidelines (CLMG) No.1 "Guidelines for Consultants Reporting on Contaminated Sites in New Zealand" (revised 2011). Sampling procedures provided in the plan generally comply with the MfE CLMG No.5 "Site Investigation and Analysis of Soils" (revised 2011).

This plan considers the requirements of the Health and Safety at Work (Asbestos) Regulations (2016), the WorkSafe NZ Approved Code of Practice (ACOP): Management and Removal of Asbestos (September 2016) and the New Zealand Guidelines for Assessing and Managing Asbestos in Soil (BRANZ, November 2017).

The persons preparing and certifying this GCSMP are suitably qualified and experienced practitioners (SQEP) as required by the NES Soil and defined in the NES Soil Users' Guide.

Tonkin & Taylor Ltd Ground Contamination Soil Management Plan - Frimley Water Supply Upgrade Hastings District Council

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<sup>&</sup>lt;sup>2</sup> T+T, 2020. Desktop Ground Contamination Assessment, Frimley Water Reservoir and Pipeline. Prepared for Hastings District Council. Ref: 1011287.6000.v2. February 2020.

<sup>&</sup>lt;sup>3</sup> Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011.

#### 2 GCSMP administration and control

This GCSMP provides a framework for managing contamination hazards on site by identifying potential hazards and suggesting mitigation measures. It provides information and recommendations to augment this process but is not intended to relieve the person conducting business or undertaking (PCBU) of either their responsibility for the health and safety of their workers, Contractors and the public, or its responsibility for protection of the environment.

The provisions of this SMP are mandatory for all persons (employees, contractor and sub-contractors) involved in undertaking any of the proposed ground disturbance works (foundation excavation, trenching etc.).

# 2.1 Roles and responsibilities

Implementation of the GCSMP shall be the responsibility of the appointed Contractor. HDC shall be responsible for ensuring that the Contractor is provided with the most up to date version of the GCSMP and shall oversee the Contractor to ensure that the procedures set out in the GCSMP are followed. HDC shall appoint a suitably qualified contaminated land specialist to liaise with the Contractor during the course of the works (if necessary).

The proposed roles and responsibilities under the SMP are provided in Table 2.1.

Table 2.1: Organisational involvement

Company/Organisation	Role and responsibilities
Hastings District Council	Project owner
Main Contractor (Contractor)	Responsible for implementation of GCSMP
Subcontractor(s)	Responsible for undertaking works in accordance with requirements of the GCSMP
Contaminated Land Specialist	Provision of ground contamination advice during the works.  Soil testing and validation reporting, if required.

# 2.2 Distribution

A copy of the GCSMP shall be kept onsite at all times. It is the responsibility of HDC to distribute the plan to the Contractor appointed to carry out the work. It is the responsibility of HDC-nominated Contractor to distribute the GCSMP to any other sub-contractors or parties carrying out earthworks.

## 2.3 Review and update

Statutory requirements, operating procedures or site conditions may vary and may require that this plan be amended or updated. Any variations to the GCSMP proposed by the Contractor must be approved by the Contaminated Land Specialist prior to works commencing, or the variation being implemented if works have already commenced. If the changes are substantive they may need to be approved by Council prior to implementation.

It is the responsibility of the appointed Contractor to distribute any changes to the plan to the relevant parties involved in the construction works and update the site copy.

# 2.4 Implementation

Responsibility for the implementation of the GCSMP lies with the appointed Contractor and its sub-contractors. In the case of unexpected contamination the Contractor shall notify HDC (or its

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designated project manager) immediately. Further information regarding first response is provided in Section 5.

HDC shall engage a Contaminated Land Specialist to carry out inspections and provide advice as required during the works (refer Sections 4 to 7). The Contaminated Land Specialist shall be sufficiently experienced to comply with the "suitably experienced practitioner" as described in and required by the NES Soil Users' Guide.

#### 3 Site characterisation

# 3.1 Site location and description

A detailed description of the site setting is provided in the desktop GCA report. This section provides a summary of the information.

The site is located approximately 1.5 kilometres (km) from the centre of Hastings, in the suburb of Frimley. The site comprises a public park, roads and road reserves. The available site identification information is summarised in **Table 3.1.** Surrounding land uses in the vicinity of the earthworks area include open space, residential, commercial and schools.

Table 3.1: Site identification

Street address	Frimley Park and the pipeline alignments (Frimley Road and Hapuku Street)	
Legal description	<ul> <li>N/A for pipeline as this is associated with the Council-owned road and / or easements.</li> </ul>	
	<ul> <li>Frimley Park portion where proposed treatment plant and reservoir will be located: Part Lot 254 DP 2101.</li> </ul>	
Site owner	Hastings District Council	
Site area	Approximately 9,000 square metres (m²)	
Zoning	Frimley Park is zoned for Open Space.	
	Frimley Road and Hapuku Street are designated for roading purposes with the underlying zoning of Hasting General Residential.	

# 3.2 Geology

The published geological map<sup>4</sup> of the area, indicates the site is underlain by Quaternary alluvial deposits comprising interbedded gravels, sands, silts and mud which form the alluvial terraces of the Heretaunga Plains.

Borehole advanced as part of the geotechnical investigations<sup>5</sup> of the site identified the upper soil profile to comprise a thin layer of topsoil underlain by sandy silt to 0.9 m, which was then underlain by a sandy gravel layer up to 12 m thick. Hand auger boreholes undertaken to inform the GCSMP identified the upper 1 m of soil to comprise topsoil, silts, sand and gravel.

# 3.3 Hydrology and hydrogeology

Stormwater over the unsealed road reserves and Frimley Park will predominantly infiltrate to ground. Stormwater from sealed surfaces on Frimley Road and Hapuku Street will enter the local drainage network which discharges to an open drain near Lyndhurst Road approximately 600 m east of the site.

Piezometers were installed in two of the shallow geotechnical machine boreholes (BH F2 and BH F4) and groundwater levels were monitored in the weeks following the geotechnical investigation. Shallow groundwater levels were measured to range from 1.2 m below ground level (m bgl) at BH F2 to 2.4 m bgl at BH F5 over five monitoring events from 31 July to 29 August 2019. On this basis, we

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<sup>&</sup>lt;sup>4</sup> Lee, J.M.; Bland, K.J.; Townsend, D.B.; Kamp, P.J.J.; (compilers) 2011. Geology of the Hawke's Bay area. Institute of Geological & Nuclear Sciences 1:250,000 map 8.1 sheet + 93p. Lower Hutt, New Zealand. GNS Science.

<sup>&</sup>lt;sup>5</sup> T+T 2019. Water Reservoir Pipeline Alignment Investigations – Geotechnical Factual Report. Prepared for Hastings District Council by Tonkin + Taylor Limited (T+T), dated August 2019 (Reference: 1011287.1000)

consider that trenching excavations along parts of the pipeline alignment are likely to encounter shallow groundwater.

The location of the geotechnical investigation boreholes are shown on Figure 1.

#### 3.4 Potential contamination sources

Based on the desktop GCA, known and potential HAIL activities identified within the site-of-works boundary include:

- Former horticultural land uses at the intersection of Nottingley and Frimley Road, extending along Frimley Road to Frimley Avenue;
- Potential storage and use of pesticides at the Depot;
- · Potential storage and use of fuels, oils and / or lubricant at the Depot; and
- Potential for asbestos and lead-based paint to have been used as building materials in the tractor / mower shed and smoko / tool shed at the Depot.

In addition, while not considered to be HAIL activities, there is potential for low level hydrocarbon contamination of shallow soil in road reserves from use of motor vehicles or from road construction material.

As described previously, it is proposed that a separate SMP will be prepared for the Depot when works in that area proceed, expected to be in three to five years.

# 3.5 Contamination condition

Preliminary testing of soil samples collected from four boreholes (BH F2 to BH F5) was conducted as part of the geotechnical investigation in August 2019. In March 2020, samples were collected and analysed from a further 16 locations (CS Fr1 to CS Fr16). The sample locations are shown in Figure 1. Overall, the locations comprise:

- Six locations in road reserves within former horticultural portion of the pipeline alignment;
- 12 locations in road reserves within the remainder of the alignment; and
- Two locations within the proposed treatment plant and reservoir area.

The following sample analysis was undertaken:

- 12 soil samples from within the former horticultural portion of the alignment were analysed for metals, organochlorine pesticides (OCP), polycyclic aromatic hydrocarbons (PAH) and total petroleum hydrocarbons (TPH).
- 21 soil samples from the remainder of the pipeline alignment were analysed for metals, PAH
  and TPH. Four of the samples were also analysed for OCP.
- 3 soil samples from proposed treatment plant and reservoir area were analysed for metals, PAH and TPH. Two of the samples were also analysed for OCP.

AT HDC's instruction, testing for asbestos was not undertaken. There is considered to be low potential for significant asbestos contamination of soils across the project. However, if present, asbestos concentrations in soil are expected to be at ambient levels (i.e. consistent with the wider site surrounds) resulting from fibres released from cladding/roofing, brake pads etc. The exception is where asbestos cement services may be present in the road reserve (such as pipes or ducts). However, if encountered, asbestos containing materials (ACM) and any associated soil contamination is proposed to be managed in accordance with the Asbestos Regulations (refer to Section 6.1).

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Attachment 9

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The tabulated results are provided in Appendix B. Please refer to Appendix C for a description of the March 2020 sampling rationale, methodology and laboratory reports.

Key findings are discussed below:

- The results indicate that there are no exceedances of the NES Soil criteria for commercial/industrial or recreational land uses.
- Low concentrations of OCP (namely DDD, DDE and DDT) were reported for five of the six locations within the former horticultural portion of the alignment. Concentrations were higher in the topsoil samples; however, detections were also noted in the underlying silt at 0.5 m depth in three locations.
- Arsenic concentrations in topsoil samples from the former horticultural area exceed published background levels. Lead concentrations in topsoil samples within the road reserves exceed background levels. The 95% upper confidence limits (UCLs) for arsenic and lead in the underlying samples, at 0.5 m depth, were within background ranges.
- Zinc concentrations in four samples of topsoil within the road reserves exceed published background levels, however, the 95% UCL is within the background range.
- Low concentrations of PAH were detected in topsoil in all but one sampling location. PAH
  were also detected in five of the underlying samples. While PAH can be naturally occurring,
  the PAH concentrations detected are likely to be related to motor vehicle emissions, road
  runoff and other urban activities such as coal and wood burning. It is noted that the reported
  concentrations fall within the range of ambient concentrations reported for Wellington and
  Christchurch<sup>6</sup>
- Low levels of C<sub>15</sub>-C<sub>36</sub> TPH were detected in five topsoil samples and one deeper (0.5 m deep) sample. The TPH detections are likely to be related to naturally occurring background organic compounds.
- The results of the testing indicate that contaminant concentrations are not at levels that
  would pose an unacceptable human health risk to construction workers and the general
  public. However, the presence of low level OCP, PAH and metals contamination in shallow soil
  has implications for the work (principally control of discharges to the environment and
  disposal of spoil). The control measures to address these implications are set out in this
  document.
- With regards to soil disposal if soil is not able to be reused onsite, the results of the sampling undertaken indicate that:
  - Topsoil within the pipeline alignment and from the WTP area is likely to require disposal to a 'managed fill' facility;
  - Underlying shallow soil (to approximately 1 m) within the former horticultural area is likely to require disposal to a 'managed fill' facility;
  - Underlying shallow soil material over the remainder of the alignment and WTP area could potentially be accepted at a 'cleanfill' facility depending on the facility's acceptance criteria; and
  - Soil beneath 1 m depth is expected to be able to be accepted at a 'cleanfill' facility. It is anticipated that the appointed Contractor for the excavation works will nominate the proposed disposal locations. Ultimately, the disposal category (whether managed fill or cleanfill) of soil removed from the site will be determined by the receiving facility in accordance with their resource consent.

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<sup>&</sup>lt;sup>6</sup> Landcare Research, 2015. Background soil concentrations of selected trace elements and organic contaminants in New Zealand. Envirolink Tools Grant: C09X1402.

# 4 Site management procedures

The following controls and procedures must be implemented to manage potential contamination during <u>all ground disturbance activities, including but not limited to:</u>

- Removal of any site surfacing/capping material (paving materials, asphalt, concrete etc.);
- All excavation, ground disturbance or intrusive works;
- Temporary stockpiling of excavated materials;
- Loading and disposing of excavated materials and transportation of these materials offsite (soil and/or groundwater); and

In addition, the Contractor is expected to comply with any relevant consent conditions for the project and with best practice guidance for the Hawke's Bay Region, including HBRC (2009) *Hawke's Bay Waterway Guidelines Erosion and Sediment Control*.

Reference should also be made to the following sections:

- Health and safety procedures relating to contaminated soils are outlined in Section 5. The
  extent of the health and safety procedures may vary based on the work being undertaken.
- Contingency procedures are outlined in Section 6. These should be followed in the event of unexpected contamination.
- Validation procedures are outlined in Section 7.

All procedures employed by the Contractor shall comply with the relevant Council bylaws and conditions of any the resource/building consent(s).

Table 4.1: General earthworks/ground disturbance procedures

Earthworks practice	Contamination-specific management		
Site establishment	<ul> <li>Council must be notified in writing prior to works commencing.</li> <li>The site hazard board shall include notification processes for unexpected contamination.</li> </ul>		
	<ul> <li>All staff undertaking disturbance work shall be inducted so they are aware of contamination risks.</li> </ul>		
	<ul> <li>Fencing or barriers shall be placed to exclude entry by persons who have not been inducted.</li> </ul>		
	<ul> <li>Appropriate personnel wash facilities (relevant to the work being undertaken) shall be established.</li> </ul>		
	Personal protective equipment shall be available on site.		
	<ul> <li>Prior to off-site disposal of soil, approval must be granted from the receiving site(s). Further sampling and analysis may be required to meet the recipient's requirements.</li> </ul>		

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Earthworks practice	Contamination-specific management
Dust control	Any dust generated from the site has the potential to contain contaminants. If not suppressed during windy conditions, discharge of contaminated airborne particulate matter may occur. Therefore, to avoid dust generation, should dry conditions prevail, the following control and monitoring systems shall be put in place:
	<ul> <li>Maintain damp conditions using a water truck and/or water sprays in trafficked areas and within the excavation, sorting, filling and loading areas;</li> </ul>
	Dust controls shall comply with the applicable Council guidelines, regulations and other applicable legislation; and
	Dust should be monitored on a continuous basis and controls upgraded if necessary.
Sediment discharges	No debris or spoil generated by the works shall be discharged to the stormwater system. Erosion and sediment control shall be managed in accordance with the Council's guidelines and other applicable legislation, including where necessary the use of silt fences and runoff diversion bunds (as appropriate).
Excavation and transport	Trucks shall be loaded directly from the excavation, with stockpiling avoided where possible.
	Where stockpiling of fill is necessary, stockpiles shall be kept damp during works and covered with polythene or similar overnight and during weekends.
	<ul> <li>Fill stockpiles shall be placed on paved surfaces or polythene to prevent contamination of underlying soils. Alternatively, the stockpile areas need to be validated following removal, to confirm the residual contamination does not remain.</li> </ul>
	<ul> <li>Trucks shall be covered when transporting soil off the site.</li> <li>Soil disposal records (summaries) shall be kept by the Contractor for</li> </ul>
	later validation reporting, if necessary.
Soil disposal	<ul> <li>All spoil surplus to requirements must be disposed to a facility consented to receive the level of contamination. The contamination condition of the site is discussed in Section 3.5.</li> </ul>
	<ul> <li>The disposal site operator must provide prior approval of its acceptance of the material before it is carted offsite.</li> </ul>
Water discharges	Where possible clean water shall be diverted away from excavation areas by use of bunds, socks etc.
	All stormwater which has come into contact with exposed soil during earthworks, and does not soak away, will be contained for either:
	<ul> <li>Confirmatory testing prior to discharge to stormwater (if its condition is acceptable); or</li> </ul>
	<ul> <li>Collection (for example by sucker trucks) for off-site disposal to an appropriately licensed facility, or</li> </ul>
	<ul> <li>Discharge to sewer, subject to securing any necessary temporary trade waste permits from HDC, or</li> </ul>
	Diverted elsewhere on site for soakage (the location of any water disposal on site shall be approved by the Engineer)
	<ul> <li>Ground water encountered during excavations shall be managed in accordance with the above procedures.</li> </ul>

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Earthworks practice	Contamination-specific management
Imported material	<ul> <li>All backfill imported to site must be either hardfill sourced directly from a quarry (no recycled hardfill or crushed concrete sourced from offsite is permitted) or the following:</li> </ul>
	<ul> <li>Be derived from a source, which is previously verified in accordance with the methods described in the NES Soil Regulations, as being a piece of land to which the NES Soil Regulations do not apply; or</li> <li>Have been adequately investigated in accordance with MfE Contamination Land Management Guidelines No.5 – Site Investigation and Analysis of Soils (Revised 2011) by a SQEP to meet the 'cleanfill' definition and comply with the published background concentrations for Hawke's Bay soils. Testing will depend on the potential contamination sources and may include metals, PAH, organochlorine pesticides (OCPs) and asbestos content.</li> </ul>
	<ul> <li>It is preferable that the material is tested at its source prior to its importation. However, if this is not possible, then the Contractor shall stockpile the material in a clean area of the site until test results are available.</li> </ul>
Decontamination	<ul> <li>All equipment, including heavy earthmoving equipment, shall be cleaned before it leaves the site. This shall consist of removal of all soil and dust from parts that have come into contact with contaminated soil or water.</li> </ul>
	<ul> <li>Solid and liquid wastes shall be handled in accordance with the procedures set out above.</li> </ul>
	All personnel shall undergo personal hygiene requirements, as set out in Section 5.
Monitoring	<ul> <li>The servants or agents of the Council shall be permitted access to the relevant parts of the site, records, monitoring and test results at all reasonable times.</li> </ul>
	<ul> <li>Daily monitoring shall be undertaken to note weather conditions, progress of the work, use of personal protective equipment and presence of unexpected contamination. Action shall be taken as required to notify the relevant parties and rectify any controls if monitoring identifies that it is needed.</li> </ul>
	<ul> <li>Erosion and sediment controls should be monitored on a regular basis, including after periods of heavy rain.</li> </ul>
	Visual monitoring for dusts shall be carried out on a continuous basis.

# 5 Health and safety procedures

The Contractor shall prepare and implement a risk assessment in compliance with the Health and Safety at Work Act, 2015 and other applicable legislation, regulations, codes and guidelines. This is likely to comprise a Job Safety Analysis (JSA) or similar document. The contractor's assessment shall also cover measures related to the low-level soil contamination indicated to be present within parts of the site, and discovery of unexpected contamination.

As described in Section 3.5 the available information does not show contaminant levels above the relevant NES Soil criteria. Whilst the risk is considered to be low, there is the potential for unexpected contamination to be encountered during shallow excavations especially around services. The following procedures are therefore proposed on a precautionary basis and reflect good practice for reducing exposure risks to the extent practicable.

Table 5.1: Summary of PPE and decontamination requirements for personnel involved in ground disturbance

Soil Contact Scenario	PPE Requirements	Personal Decontamination Requirements
Direct Contact with Soils <1 m deep	Full length clothing     Disposable gloves (Nitrile)     P2 Dust mask (only if working in dusty conditions)	Removal of disposable PPE and placement into a rubbish bin (i.e. not reused)      Washing of boots and other PPE equipment      Washing of hands before leaving the site and before eating or drinking
Direct Contact with soil >1 m deep	Full length clothing	Washing of hands before leaving the site and before eating or drinking
Direct Contact with groundwater	Full length clothing	Washing of hands before leaving the site and before eating or drinking
Direct Contact with Unexpected contamination	To be confirmed by the Contaminated land Specialist, but may include:  Disposable overalls  Dusk mask  Disposable gloves (Nitrile)  Safety glasses	To be confirmed by the Contaminated Land Specialist, but may include:  Decontamination of all equipment, boots and PPE before leaving the work area and before eating or drinking  Washing of hands and face with soap before leaving the works area and before eating or drinking  Decontamination shower

PPE and hygiene requirements are discussed in detail in Sections 5.2 and 5.3 below.

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#### 5.1 Induction

All personnel involved in undertaking ground disturbance activities on the site shall be required to undergo a site safety induction before commencing work on a new project. Specific training must be given on risks associated with potentially contaminated materials, minimum requirements for PPE and its use, and on good hygiene practices to minimise risks. The purpose of the safety induction is to make the worker aware of the hazards, safe working procedures, safety equipment and requirements and the action plan in case of an emergency.

It is recommended that all personnel undertaking ground disturbance activities confirm that they understand and agree to abide by the provisions of this GCSMP.

# 5.2 Protective equipment

The wearing of full length clothing will be mandatory for all personnel involved in ground disturbance activities where the potential for direct contact (including accidental contact) with soil materials exists. If working with soil materials from the upper 1 m of the soil profile, the following additional PPE is required:

- Impermeable gloves, for example nitrile or polyvinyl alcohol; and
- Dust masks when visible windblown dusts are present

Generally these requirements are expected to be limited to personnel undertaking manual handling/excavation activities which may place them in direct contact with potentially contaminated materials. Personnel who are operating machinery, such as excavators and trucks, and are therefore unlikely to come into direct contact with contaminated materials are exempt from these requirements while they are operating the equipment.

Additional requirements such as safety glasses, dust masks, disposable coveralls etc. may be required if unexpected contamination is discovered. The conditions under which the need for additional requirements will be triggered shall be identified in the project health and safety plan, or as directed by the Contaminated Land Specialist.

**Note:** Workers on contaminated sites can be subject to unusual stresses, for example, manual work while wearing dust masks or respirators, or exposure to elevated concentrations of contaminants. It would be prudent to check that personnel working under the requirements of this GCSMP do not have any pre-existing condition which might place them at risk as a result of such stresses.

# 5.3 Personal hygiene

All workers shall be briefed at the induction on the requirements for personal hygiene. The following shall be observed for all workers and visitors to the site:

- Eating, drinking or smoking shall only be permitted in specified areas of the site
- If contact has been made with soil or groundwater, hands shall be washed before eating or drinking, or before leaving the site
- Hand to mouth and hand to face contact shall be avoided onsite.

All personnel shall undergo personal decontamination comprising the following when leaving the work area:

- Rinsing and / or scrubbing of boots, gloves and other PPE to remove dirt and dust residues;
- Removal of all PPE with disposable items such as gloves and dust mask (if worn) placed in a
  plastic bag or drum for waste collection, and
- Thorough washing of hands with soap and water.

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All personnel need to complete the personal decontamination procedures whenever they stop work, i.e. for meal breaks, toilet breaks etc.

#### 5.4 Identification of new hazards

The Contractor is responsible for reviewing any new work element and assessing whether there are any new associated hazards, and whether these can be eliminated, isolated or minimised. The Contractor shall seek review by the HDC, or its project manager, who will seek Contaminated Land Specialist input if necessary. The Contractor shall then instruct all staff on the health and safety procedures associated with the new hazard.

# 5.5 Emergency procedures

Emergency procedures appropriate to the proposed works shall be established prior to the start of works. The only additional emergency requirement relating to working on a contaminated site is that provision should be made to notify any responding emergency personnel of the presence of contamination. A copy of this GCSMP should be available at the work site so it can be referred to by emergency personnel, if necessary.

# 6 Contingency procedures

The following actions are proposed in the event that unexpected conditions are encountered, discharges occur and/or complaints are received in relation to the works. Mitigation measures should be applied in accordance with the hierarchy of control described in the Health and Safety at Work Act 2015 – eliminate or minimise.

As described in Section 2, the Contractor shall be responsible for implementation of all aspects of this GCSMP, including contingency procedures. The Contractor's site supervisor shall be authorised to enact contingency and emergency measures without delay.

# 6.1 Unexpected contamination conditions

The onus is on the Contractor to note where visual and olfactory indicators of contamination exist and liaise with the Contaminated Land Specialist to ensure the controls in place remain appropriate to the type and level of contamination encountered. Typical visual and olfactory indicators of contamination could include the following:

- Odour (petroleum hydrocarbons, oil);
- Black staining coupled with an odour may indicate heavy oil/hydrocarbon contamination;
- · Green/yellow discoloured soil may indicate high levels of copper and chromium;
- Suspected or confirmed asbestos containing material (ACM) including asbestos cement pipework;
- Black gravel/sand may be boiler ash materials that could be high in metals and PAHs;
- Refuse or waste materials in soil; and
- Underground structures containing contaminants such as tanks or pipework.

Table 6.1 (over page) provides a "first response" checklist for the Contractor to follow should visual or olfactory evidence of contamination be encountered during the works onsite. Management of unexpected asbestos finds are outlined in Section 6.1 and Appendix D.

The presence of other contaminants in high levels may dictate further controls be implemented and additional or different containment/disposal be required. The Contractor is to notify the HDC (or designated project manager), who will notify the Contaminated Land Specialist

The first response procedures are to ensure contamination is appropriately contained while decisions about its management are being undertaken.

#### 6.1.1 Unexpected asbestos management procedures

As described in the preceding sections it is possible that fibres or fragments may have been released to ground around existing infrastructure constructed from asbestos cement products. The procedures set out in Appendix D are required to be implemented, in addition to those set out in the remainder of this GCSMP, during ground disturbance works in any area(s) of the site where ACM is identified (e.g. below ground infrastructure) or suspected (e.g. based on observation of demolition debris) to be present in ground.

# 6.2 Emergency response procedures

Should an incident occur on site which may result in any unauthorised discharges (vapour, odour, water, soil, separate phase hydrocarbon etc.), the Contractor will take control of the situation and coordinate the efforts of all on site to minimise the impact.

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In the event that sustained and uncontrollable discharges occur from the site, emergency response and evacuation procedures, including provisions for notifying and managing neighbouring site users, shall be implemented. The emergency response and evacuation procedures shall be specified in the Contractors (JSA).

# Table 6.1: First response checklist

First Response Checklist:	
Stop work in the immediate vicinity of the contamination discovery and isolate the area by taping, coning or fencing off.	
Advise HDC (or the designated project manager).	
Update the site Hazard Board and prevent access to the area by unnecessary personnel.	
Ensure appropriate personal protective equipment is available to all staff entering the isolated area.	
If odours are present cover the material over with non-odorous soil or hay/straw and lime to prevent nuisance odour.	
HDC must advise the Contaminated Land Specialist to inspect and advise of specific controls if appropriate. No materials shall be removed from the affected area until approval has been provided by the Contaminated Land Specialist.	

## 6.3 Contact with contaminated materials

The personnel hygiene procedures described in Section 5.3 shall be implemented immediately in the event of any body parts coming in direct contact with any soil and / or groundwater at any time during the works.

Records shall be kept of any uncontrolled contact with potentially contaminated materials, including name(s) and contact details of all persons exposed; the nature of the contact (time, duration etc.); decontamination undertaken; and any other treatment given etc.

Medical advice shall be sought immediately if any adverse health effects develop at the time of or following exposure.

# 6.4 Complaints procedure

A written record of all complaints received will be maintained. The Contractor will initiate an investigation as soon as practicable on receipt of a complaint. The Contractor will provide appropriate feedback to the complainant, such as the response made and any corrective actions taken in response to the complaint.

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# 7 Validation and completion reporting

#### 7.1 Validation

Given the low concentrations of contamination anticipated to be present at this site, it is proposed that soil validation samples will not be required to be collected except where unexpected contamination conditions are encountered and remediated (refer to Section 6.1). In that instance the appointed Contaminated Land Specialist shall inspect the material and provide additional advice on the collection of any validation samples.

If undertaken, validation sampling shall be undertaken by a suitably qualified Contaminated Land Specialist.

# 7.2 Information required from the contractor

The following information is required from the Contractor:

- Copies of weigh bridge summaries for the disposal destination for all contaminated materials;
- Documentation confirming the source, and where necessary testing (refer to Section 4), of any fill or soils imported during works;
- Records of visits by Council representatives;
- Details of any complaints;
- Details of any health and safety incident related to the contamination and how they were resolved; and
- Details of unexpected encounters/events and the action taken.

The Contractor shall provide the required information to HDC (or designated project manager) within one month of completion of the works to which the information relates.

# 7.3 Reporting

Completion reporting will not be required except where unexpected contamination conditions are encountered and remediated (refer to Section 6.1). In that instance on completion of the soil disturbing works, a works completion letter shall be provided to HDC (regulatory) incorporating the following:

- A description of the unexpected contamination conditions and management or remedial works undertaken;
- Copies of laboratory report for and location of any soil contamination testing undertaken during the works; and
- Confirmation of the disposal destination(s) of all spoil disposed of from the area of unexpected contamination and the verification test results undertaken (where required) for disposal permitting.

The completion report shall comply with the Ministry for the Environment Contaminated Land Management Guideline No. 1: Guidelines for Reporting on Contaminated Sites in New Zealand.

# 7.4 Ongoing monitoring and management

If unexpected contamination conditions are encountered during the works the requirement for ongoing for monitoring or management with respect to ground contamination will be assessed on completion of the earthworks.

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If the asbestos management procedures set out in Appendix D are required to be implemented during the works additional clearance reporting to WorkSafe maybe necessary to comply with the Asbestos Regulations. Clearance reporting requirements shall be determined by the Contaminated Land Specialist.

# 8 Applicability

The provisions of this SMP are mandatory for all persons (employees, contractor and subcontractors) who will be involved in undertaking ground disturbance works on the site.

This SMP provides a framework for managing contamination hazards on site (defined in Section 3.4) by identifying potential hazards and suggesting mitigation measures relevant to site conditions and works proposed at the time of writing. This SMP provides information and recommendations to augment this process but is not intended to relieve the person conducting a business or undertaking (PCBU, previously referred to as the controller of the place of work) of either their responsibility for the health and safety of their workers, contractors and the public, or their responsibility for protection of the environment.

Any persons undertaking ground disturbance works on the site should develop a site-specific risk assessment (such as a job safety analysis (JSA), or similar) to complement this SMP and to address other health and safety requirements that may be applicable to their particular works. The site-specific risk assessment should also be modified to address any specific health, safety or environmental issues that may arise during the works.

From time to time, statutory requirements, site ownership or occupation, operating procedures or site conditions may vary requiring that this plan be amended or updated.

The plan has been prepared on the basis of information available at the date of preparation (refer to Section 3). The nature and continuity of subsoil away from sample locations are inferred and it must be appreciated that actual conditions could vary from the assumed model.

This report has been prepared for the exclusive use of our client Hastings District Council, with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose, or by any person other than our client, without our prior written agreement.

We understand and agree that this report will be used by Hastings District Council in undertaking its regulatory functions in connection with the processing and monitoring of resource consents.

Tonkin & Taylor Ltd

Report prepared by:

Authorised for Tonkin & Taylor Ltd by:

Natalie O'Rourke

Contaminated Land Consultant

N. L. Phlu

Tony Cussins

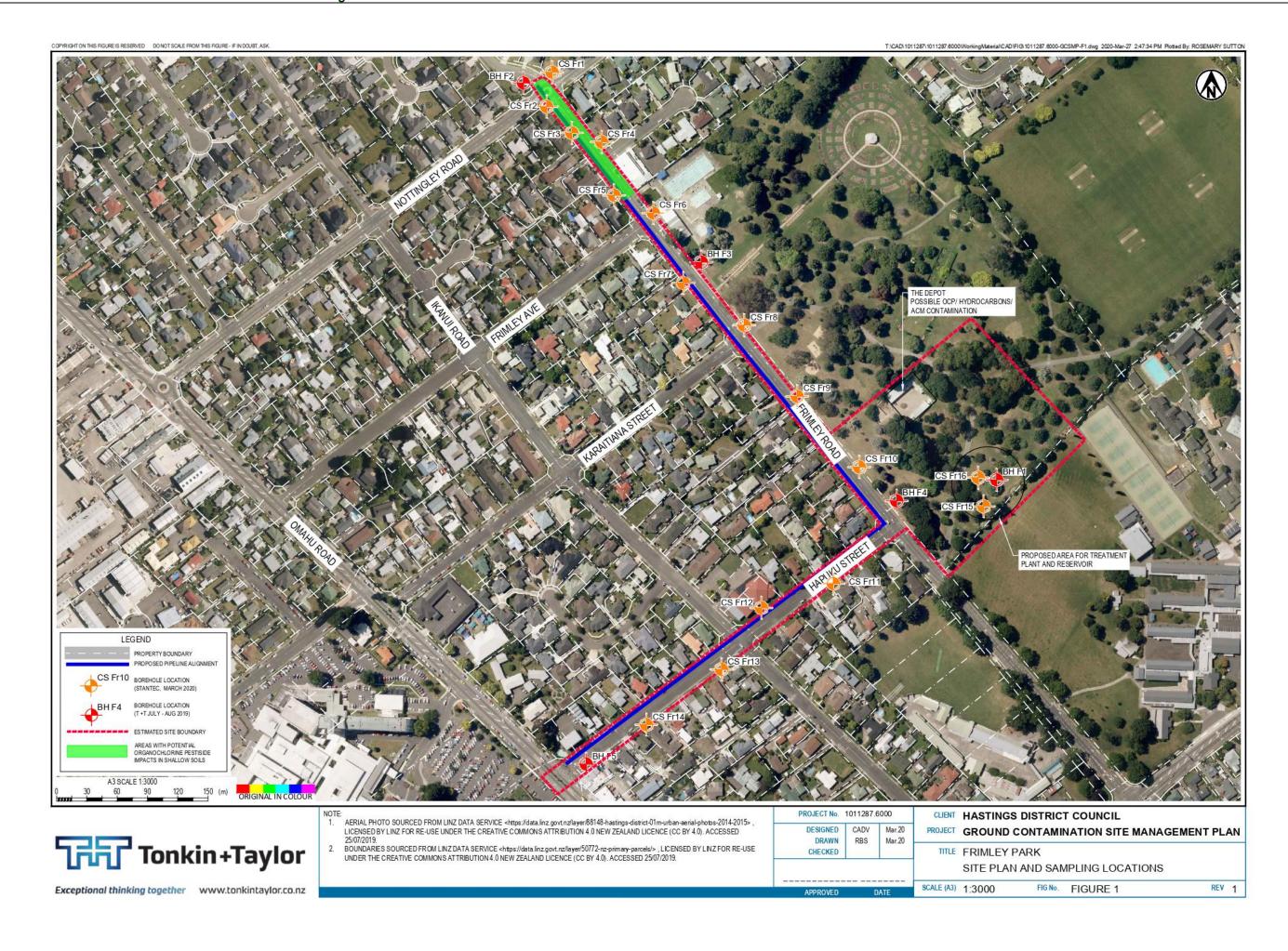
Project Director

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# Appendix A: Figures

Figure 1: Site plan and sample locations



Appendix B: Soil results table

Frimley	Water	Supply	Upgrade:	Soil	results table

				Road reserve in former horticultural land											
Sample ID				BHF2 - S1	BH F2 - S3	CS Fr 1	CS Fr 1	CS Fr 2	CS Fr 2	CS Fr 3	CS Fr 3	CS Fr 4	CS Fr 4	CS Fr 5	CS Fr 5
Laboratory ID	NES Soil - Commercial	NES Soil -	Hawkes Bay	2218873.1	2218873.3	2337239.3	2337241.4	2337239.5	2337241.5	2337239.8	2337239.2	2337239.2	2337239.21	2337239.4	2337239.22
Date sampled	. 1	,	Background soil	31-Jul-19	31-Jul-19	3-Mar-20	5-Mar-20	3-Mar-20	5-Mar-20	3-Mar-20	5-Mar-20	5-Mar-20	5-Mar-20	3-Mar-20	5-Mar-20
Depth (m)	/ Industrial *	Recreational*	Concentrations <sup>2</sup>	0.5	2.0	0.1	0.5	0.1	0.5	0.1	0.45	0.1	0.5	0.1	0.5
Stratum				SILT	SAND	Topsoil	Silty SAN D	Topsoil	Silty SAND	Topsoil	Silty SAND	Topsoil	Silty SAN D	Topsoil	Silty SAND
Heavy Metals, Screen Level															
Total Recoverable Arsenic	70	80	9	12	< 2	26	6	17	7	16	16	7	4	36	3
Total Recoverable Cadmium	1,300	400	0.7	< 0.10	< 0.10	0.13	< 0.10	< 0.10	< 0.10	0.16	< 0.10	0.15	< 0.10	0.18	< 0.10
Total Recoverable Chromium	6,300	2,700	24	15	11	15	14	14	13	16	14	17	12	15	12
Total Recoverable Copper	>10,000	>10,000	32	47	5	86	14	28	10	42	27	23	7	19	8
Total Recoverable Lead	3,300	880	27	34	7.8	81	23	51	15	67	36	113	11.1	87	11.1
Total Recoverable Nickel	4000 <sup>3</sup>	800 <sup>3</sup>	17	13	8	11	11	10	12	12	11	12	10	11	10
Total Recoverable Zinc	400000 <sup>3</sup>	30000 <sup>3</sup>	105	63	39	87	58	71	54	103	70	121	44	139	46
Organ ochlorine Pesticides Screening in Soil															
Aldrin			<lor< td=""><td>&lt; 0.012</td><td>&lt; 0.014</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td></lor<>	< 0.012	< 0.014	< 0.011	< 0.012	< 0.011	< 0.012	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011	< 0.011
a lpha-B HC	-		<lor< td=""><td>&lt; 0.012</td><td>&lt; 0.014</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td></lor<>	< 0.012	< 0.014	< 0.011	< 0.012	< 0.011	< 0.012	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011	< 0.011
beta-BHC	-	-	<lor< td=""><td>&lt; 0.012</td><td>&lt; 0.014</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td></lor<>	< 0.012	< 0.014	< 0.011	< 0.012	< 0.011	< 0.012	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011	< 0.011
delta-BHC	-	-	<lor< td=""><td>&lt; 0.012</td><td>&lt; 0.014</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td></lor<>	< 0.012	< 0.014	< 0.011	< 0.012	< 0.011	< 0.012	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011	< 0.011
gamma-BHC (Lindane)	-	-	<lor< td=""><td>&lt; 0.012</td><td>&lt; 0.014</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td></lor<>	< 0.012	< 0.014	< 0.011	< 0.012	< 0.011	< 0.012	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011	< 0.011
cis-Chlordane	-	-	<lor< td=""><td>&lt; 0.012</td><td>&lt; 0.014</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td></lor<>	< 0.012	< 0.014	< 0.011	< 0.012	< 0.011	< 0.012	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011	< 0.011
trans-Chlordane	-		<lor< td=""><td>&lt; 0.012</td><td>&lt; 0.04</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td></lor<>	< 0.012	< 0.04	< 0.011	< 0.012	< 0.011	< 0.012	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011	< 0.011
2,4'-DDD	-		<lor< td=""><td>&lt; 0.012</td><td>&lt; 0.014</td><td>0.012</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td></lor<>	< 0.012	< 0.014	0.012	< 0.012	< 0.011	< 0.012	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011	< 0.011
4,4'-DDD	-		<lor< td=""><td>&lt; 0.012</td><td>&lt; 0.014</td><td>0.022</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td></lor<>	< 0.012	< 0.014	0.022	< 0.012	< 0.011	< 0.012	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011	< 0.011
2,4'-DDE	-	-	<lor< td=""><td>&lt; 0.012</td><td>&lt; 0.014</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td></lor<>	< 0.012	< 0.014	< 0.011	< 0.012	< 0.011	< 0.012	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011	< 0.011
4,4'-DDE	-	-	<lor< td=""><td>0.117</td><td>&lt; 0.014</td><td>0.41</td><td>0.016</td><td>0.183</td><td>&lt; 0.012</td><td>0.021</td><td>0.013</td><td>0.61</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td></lor<>	0.117	< 0.014	0.41	0.016	0.183	< 0.012	0.021	0.013	0.61	< 0.012	< 0.011	< 0.011
2,4'-DDT	-	•	<lor< td=""><td>&lt; 0.012</td><td>&lt; 0.014</td><td>0.015</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>0.012</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td></lor<>	< 0.012	< 0.014	0.015	< 0.012	< 0.011	< 0.012	< 0.011	< 0.011	0.012	< 0.012	< 0.011	< 0.011
4,4'-DDT	-		<lor< td=""><td>0.025</td><td>&lt; 0.014</td><td>0.173</td><td>0.021</td><td>0.057</td><td>&lt; 0.012</td><td>0.011</td><td>&lt; 0.011</td><td>0.22</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td></lor<>	0.025	< 0.014	0.173	0.021	0.057	< 0.012	0.011	< 0.011	0.22	< 0.012	< 0.011	< 0.011
Total DDT Isomers	1,000	400	<lor< td=""><td>0.14</td><td>&lt; 0.08</td><td>0.63</td><td>&lt; 0.08</td><td>0.24</td><td>&lt; 0.08</td><td>&lt; 0.07</td><td>&lt; 0.07</td><td>0.84</td><td>&lt; 0.07</td><td>&lt; 0.07</td><td>&lt; 0.07</td></lor<>	0.14	< 0.08	0.63	< 0.08	0.24	< 0.08	< 0.07	< 0.07	0.84	< 0.07	< 0.07	< 0.07
Dieldrin	160	70	<lor< td=""><td>&lt; 0.012</td><td>&lt; 0.014</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td></lor<>	< 0.012	< 0.014	< 0.011	< 0.012	< 0.011	< 0.012	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011	< 0.011
Endosulfan I	-	•	<lor< td=""><td>&lt; 0.012</td><td>&lt; 0.014</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td></lor<>	< 0.012	< 0.014	< 0.011	< 0.012	< 0.011	< 0.012	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011	< 0.011
Endosulfan II	-		<lor< td=""><td>&lt; 0.012</td><td>&lt; 0.014</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td></lor<>	< 0.012	< 0.014	< 0.011	< 0.012	< 0.011	< 0.012	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011	< 0.011
Endosulfan sulphate	-	•	<lor< td=""><td>&lt; 0.012</td><td>&lt; 0.014</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td></lor<>	< 0.012	< 0.014	< 0.011	< 0.012	< 0.011	< 0.012	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011	< 0.011
Endrin	-		<lor <lor< td=""><td>&lt; 0.012 &lt; 0.012</td><td>&lt; 0.014 &lt; 0.014</td><td>&lt; 0.011 &lt; 0.011</td><td>&lt; 0.012 &lt; 0.012</td><td>&lt; 0.011 &lt; 0.011</td><td>&lt; 0.012 &lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011 &lt; 0.011</td><td>&lt; 0.011 &lt; 0.011</td><td>&lt; 0.012 &lt; 0.012</td><td>&lt; 0.011 &lt; 0.011</td><td>&lt; 0.011 &lt; 0.011</td></lor<></lor 	< 0.012 < 0.012	< 0.014 < 0.014	< 0.011 < 0.011	< 0.012 < 0.012	< 0.011 < 0.011	< 0.012 < 0.012	< 0.011	< 0.011 < 0.011	< 0.011 < 0.011	< 0.012 < 0.012	< 0.011 < 0.011	< 0.011 < 0.011
Endrin aldehyde Endrin ketone	-		<lor< td=""><td>&lt; 0.012</td><td>&lt; 0.014</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td></lor<>	< 0.012	< 0.014	< 0.011	< 0.012	< 0.011	< 0.012	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011	< 0.011
Heptachlor	-		<lor< td=""><td>&lt; 0.012</td><td>&lt; 0.014</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td></lor<>	< 0.012	< 0.014	< 0.011	< 0.012	< 0.011	< 0.012	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011	< 0.011
Heptachlor epoxide			<lor< td=""><td>&lt; 0.012</td><td>&lt; 0.014</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td></lor<>	< 0.012	< 0.014	< 0.011	< 0.012	< 0.011	< 0.012	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011	< 0.011
Hexachlorobenzene			<lor< td=""><td>&lt; 0.012</td><td>&lt; 0.014</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td></lor<>	< 0.012	< 0.014	< 0.011	< 0.012	< 0.011	< 0.012	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011	< 0.011
Methoxychlor			<lor< td=""><td>&lt; 0.012</td><td>&lt; 0.014</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td></lor<>	< 0.012	< 0.014	< 0.011	< 0.012	< 0.011	< 0.012	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011	< 0.011
Polycyclic Aromatic Hydrocarbons Screening in Soil			-2011	10.022	10.021	10.022	10.022	10.011		- 0.022	10.011		1 0.012		10.022
	150 <sup>4</sup>		<lor< td=""><td>&lt; 0.012</td><td>&lt; 0.014</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td></lor<>	< 0.012	< 0.014	< 0.011	< 0.012	< 0.011	< 0.012	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011	< 0.011
1-Methylnaphthalene		•						< 0.011							
2-Methylnaphthalene	240 4	•	<lor< td=""><td>&lt; 0.012</td><td>&lt; 0.014</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td></lor<>	< 0.012	< 0.014	< 0.011	< 0.012	< 0.011	< 0.012	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011	< 0.011
Acenaphthylene	3600 <sup>4</sup>		<lor< td=""><td>&lt; 0.012</td><td>&lt; 0.014</td><td>0.013</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td></lor<>	< 0.012	< 0.014	0.013	< 0.012	< 0.011	< 0.012	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011	< 0.011
Acenaphthene		-	<lor< td=""><td>&lt; 0.012</td><td>&lt; 0.014</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td></lor<>	< 0.012	< 0.014	< 0.011	< 0.012	< 0.011	< 0.012	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011	< 0.011
Anthracene	refer BAPeq	-	<lor< td=""><td>&lt; 0.012</td><td>&lt; 0.014</td><td>0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td></lor<>	< 0.012	< 0.014	0.011	< 0.012	< 0.011	< 0.012	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011	< 0.011
Benzo[a]anthracene	refer BAPeq		<lor< td=""><td>&lt; 0.012</td><td>&lt; 0.014</td><td>0.041</td><td>0.014</td><td>0.024</td><td>&lt; 0.012</td><td>0.042</td><td>&lt; 0.011</td><td>0.016</td><td>&lt; 0.012</td><td>0.027</td><td>&lt; 0.011</td></lor<>	< 0.012	< 0.014	0.041	0.014	0.024	< 0.012	0.042	< 0.011	0.016	< 0.012	0.027	< 0.011
Benzo[a]pyrene (BAP)	refer BAPeq refer BAPeq	•	<lor <lor< td=""><td>&lt; 0.012 &lt; 0.012</td><td>&lt; 0.014 &lt; 0.014</td><td>0.068</td><td>0.035 0.042</td><td>0.049</td><td>&lt; 0.012 &lt; 0.012</td><td>0.056</td><td>0.017 0.016</td><td>0.027 0.031</td><td>&lt; 0.012</td><td>0.035</td><td>&lt; 0.011</td></lor<></lor 	< 0.012 < 0.012	< 0.014 < 0.014	0.068	0.035 0.042	0.049	< 0.012 < 0.012	0.056	0.017 0.016	0.027 0.031	< 0.012	0.035	< 0.011
Benzo[b]fluoranthene + Benzo[j]fluoranthene	reter BAreq		<lor <lor< td=""><td>&lt; 0.012</td><td>&lt; 0.014</td><td>0.066</td><td>0.042</td><td>0.03</td><td>&lt; 0.012</td><td>0.053</td><td>&lt; 0.016</td><td>0.031</td><td>&lt; 0.012 &lt; 0.012</td><td>0.039</td><td>&lt; 0.011 &lt; 0.011</td></lor<></lor 	< 0.012	< 0.014	0.066	0.042	0.03	< 0.012	0.053	< 0.016	0.031	< 0.012 < 0.012	0.039	< 0.011 < 0.011
Benzo[e]pyrene Benzo[g,h,i]perylene			<lor <lor< td=""><td>&lt; 0.012</td><td>&lt; 0.014</td><td>0.037</td><td>0.021</td><td>0.03</td><td>&lt; 0.012</td><td>0.027</td><td>0.011</td><td>0.013</td><td>&lt; 0.012</td><td>0.018</td><td>&lt; 0.011</td></lor<></lor 	< 0.012	< 0.014	0.037	0.021	0.03	< 0.012	0.027	0.011	0.013	< 0.012	0.018	< 0.011
Benzo[k]fluoranthene	refer BAPeq		<lor< td=""><td>&lt; 0.012</td><td>&lt; 0.014</td><td>0.027</td><td>0.014</td><td>0.041</td><td>&lt; 0.012</td><td>0.032</td><td>&lt; 0.011</td><td>0.017</td><td>&lt; 0.012</td><td>0.023</td><td>&lt; 0.011</td></lor<>	< 0.012	< 0.014	0.027	0.014	0.041	< 0.012	0.032	< 0.011	0.017	< 0.012	0.023	< 0.011
Chrysene	refer BAPeq		<lor< td=""><td>&lt; 0.012</td><td>&lt; 0.014</td><td>0.027</td><td>0.014</td><td>0.027</td><td>&lt; 0.012</td><td>0.046</td><td>&lt; 0.011</td><td>0.011</td><td>&lt; 0.012</td><td>0.013</td><td>&lt; 0.011</td></lor<>	< 0.012	< 0.014	0.027	0.014	0.027	< 0.012	0.046	< 0.011	0.011	< 0.012	0.013	< 0.011
Dibenzo[a,h]anthracene	refer BAPeq		<lor< td=""><td>&lt; 0.012</td><td>&lt; 0.014</td><td>0.012</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td></lor<>	< 0.012	< 0.014	0.012	< 0.012	< 0.011	< 0.012	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011	< 0.011
Fluoranthene	refer BAPeq		<lor< td=""><td>&lt; 0.012</td><td>&lt; 0.014</td><td>0.077</td><td>0.021</td><td>0.039</td><td>&lt; 0.012</td><td>0.072</td><td>0.02</td><td>0.036</td><td>&lt; 0.012</td><td>0.042</td><td>&lt; 0.011</td></lor<>	< 0.012	< 0.014	0.077	0.021	0.039	< 0.012	0.072	0.02	0.036	< 0.012	0.042	< 0.011
Fluorene	-		<lor< td=""><td>&lt; 0.012</td><td>&lt; 0.014</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td></lor<>	< 0.012	< 0.014	< 0.011	< 0.012	< 0.011	< 0.012	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011	< 0.011
Indeno(1,2,3-c,d)pyrene	refer BAPeq		<lor< td=""><td>&lt; 0.012</td><td>&lt; 0.014</td><td>0.052</td><td>0.03</td><td>0.043</td><td>&lt; 0.012</td><td>0.034</td><td>0.011</td><td>0.02</td><td>&lt; 0.012</td><td>0.023</td><td>&lt; 0.011</td></lor<>	< 0.012	< 0.014	0.052	0.03	0.043	< 0.012	0.034	0.011	0.02	< 0.012	0.023	< 0.011
Naphthalene	210		<lor< td=""><td>&lt; 0.06</td><td>&lt; 0.07</td><td>&lt; 0.06</td><td>&lt; 0.06</td><td>&lt; 0.06</td><td>&lt; 0.06</td><td>&lt; 0.06</td><td>&lt; 0.06</td><td>&lt; 0.06</td><td>&lt; 0.06</td><td>&lt; 0.06</td><td>&lt; 0.06</td></lor<>	< 0.06	< 0.07	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Perylene			<lor< td=""><td>&lt; 0.012</td><td>0.121</td><td>0.014</td><td>&lt; 0.012</td><td>0.012</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td></lor<>	< 0.012	0.121	0.014	< 0.012	0.012	< 0.012	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011	< 0.011
Phenanthrene			<lor< td=""><td>&lt; 0.012</td><td>&lt; 0.014</td><td>0.031</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>0.013</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.011</td></lor<>	< 0.012	< 0.014	0.031	< 0.012	< 0.011	< 0.012	0.013	< 0.011	< 0.011	< 0.012	< 0.011	< 0.011
Pyrene	N/A		<lor< td=""><td>&lt; 0.012</td><td>&lt; 0.014</td><td>0.079</td><td>0.023</td><td>0.04</td><td>&lt; 0.012</td><td>0.075</td><td>0.018</td><td>0.03</td><td>&lt; 0.012</td><td>0.042</td><td>&lt; 0.011</td></lor<>	< 0.012	< 0.014	0.079	0.023	0.04	< 0.012	0.075	0.018	0.03	< 0.012	0.042	< 0.011
Benzo[a]pyrene Potency Equivalency Factor (PEF)	35	40	<lor< td=""><td>&lt; 0.03</td><td>&lt; 0.04</td><td>0.1</td><td>0.05</td><td>0.07</td><td>&lt; 0.03</td><td>0.08</td><td>&lt; 0.03</td><td>0.04</td><td>&lt; 0.03</td><td>0.05</td><td>&lt; 0.03</td></lor<>	< 0.03	< 0.04	0.1	0.05	0.07	< 0.03	0.08	< 0.03	0.04	< 0.03	0.05	< 0.03
Total Petroleum Hydrocarbons in Soil															
C7 - C9	500 <sup>5</sup>		<lor< td=""><td>&lt; 8</td><td>&lt; 8</td></lor<>	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8
C10 - C14	1700 <sup>5</sup>		<lor< td=""><td>&lt; 20</td><td>&lt; 20</td></lor<>	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
C15 - C36	N/A 5		<lor< td=""><td>&lt; 40</td><td>&lt; 40</td></lor<>	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Total hydrocarbons (C7 - C36)	N/A		<lor <lor< td=""><td>&lt; 70</td><td>&lt; 70</td></lor<></lor 	< 70	< 70	< 70	< 70	< 70	< 70	< 70	< 70	< 70	< 70	< 70	< 70
		•	\LOK	` /0	` '/0	\ \ /U	\ /0	` /0	\ \ /U	` /0	. 70	\ \ /U	\/0	- 70	\ /U
Notes:															

All values in mg/kg unless otherwise indicated (i.e. asbestos).

→ indicates not analysed or no relevant acceptance criteria

<LOR = less than laboratory limit of reporting

NL = Not limiting (i.e. >10,000 mg/kg) Green outlined values indicate results exceed NES recreational criteria

<u>Underlined values indicates that results exceed NES Commercial/Industrial Criteria</u>

Bold values indicate that results exceed the published background concentrations for Hawks Bay Background Soil Concentrations

1 - MfE, June 2011. Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health

2 - Hawkes Bay Region: Background Soil Concentrations for Managing Soil Quality. Report no. RM 14-03, HBRC plan no. 4611

3 - Assessment of Site Contamination National Environment Protection Measures (ASC NEPM) Toolbox - http://www.nepc.gov.au/nepms/assessment-site-contamination/toolbox.
4- USEPA Regional Screening Levels - http://www.epa.gov/risk/risk-based-screening-table-generic-tables. Standard residential use used to assess conservatively assess both high density residential and recreational uses. Criteria adjusted for 1 in 100,000 risk and hazard quotient of 1 where required

5 - MfE 1999. Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand, Revised 2011. Tier 1 Soil acceptance criteria (all pathways), commercia (industrial, sandy silt

Attachment 9

Item 2

Frimley Water Supply Upgrade: Soil results table																	
				Road reserve													
Sample ID				BHF3 - S2	BHF4 - S1	BH F5 - S1	BHF5 - S2	CS Fr 6	CS Fr 7	CS Fr 7	CS Fr 8	CS Fr 8	CS Fr 9	CS Fr 9	CS Fr 10	CS Fr 10	CS Fr 11
Laboratory ID	NES Soil - Commercial	NES Soil -	Hawkes Bay	2218873.5	2218873.6	2218873.8	2218873.9	2337239.6	2337241.1	2337239.7	2337241.12	2337239.9	2337239.17	2337241.14	2337239.16	2337241.18	2337239.13
Date sampled	/ Industrial <sup>1</sup>	Recreational <sup>1</sup>	Background soil	31-Jul-19	31-Jul-19	1-Aug-19	1-Aug-19	3-Mar-20	5-Mar-20	3-Mar-20	5-Mar-20	3-Mar-20	3-Mar-20	5-Mar-20	3-Mar-20	5-Mar-20	3-Mar-20
Depth (m)	- i		Concentrations <sup>2</sup>	1.4 Sandy GRAVEL	0.5	0.6	1.4	0.1	0.5	0.1	0.45	0.1	0.1	0.45	0.1	0.47	0.1 To psoil
Stratum				Sandy GRAVEL	Silty SAN D	GRAVEL	Sandy SILT	Topsoil	Silty SAND	Topsoil	Silty SAN D	Topsoil	Topsoil	Silty SAN D	Topsoil	Silty SAND	10 psoil
Heavy Metals, Screen Level Total Recoverable Arsenic	70	00					_		-			40			_		<del></del>
	70 1,300	80 400	9 0.7	4 < 0.10	< 0.10	3 < 0.10	9 < 0.10	4 < 0.10	5 < 0.10	7 < 0.10	4 < 0.10	10 < 0.10	6 < 0.10	6 < 0.10	5 < 0.10	4 < 0.10	16 0.17
Total Recoverable Cadmium  Total Recoverable Chromium	6,300	2,700	24	13	11	12	10	11	13	14	12	15	14	14	12	12	21
Total Recoverable Copper	>10,000	>10,000	32	8	6	7	7	15	8	13	7	20	12	13	10	6	24
Total Recoverable Copper	3,300	880	27	11.7	9.4	10.5	8.5	11.5	13	54	12.1	33	27	35	49	10.7	71
Total Recoverable Nickel	4000 <sup>3</sup>	800 <sup>3</sup>	17	8	9	10	8	8	10	9	8	10	10	10	8	9	11
Total Recoverable Zinc	400000 <sup>3</sup>	30000 <sup>3</sup>	105	45	41	47	38	44	46	71	47	62	61	57	67	42	138
Organochlorine Pesticides Screening in Soil	100000	30000	105	43	41	4/	30	44	40	/1	47	62	91	3/	0/	72	130
Aldrin	-		<lor< td=""><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.014</td><td>&lt; 0.014</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></lor<>	< 0.011	< 0.011	< 0.014	< 0.014	-	-	-	-	-	-	-	-	-	-
alpha-BHC		-	<lor< td=""><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.014</td><td>&lt; 0.014</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td></td></lor<>	< 0.011	< 0.011	< 0.014	< 0.014	-	-	-	-	-	-	-	-	-	
beta-BHC		-	<lor< td=""><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.014</td><td>&lt; 0.014</td><td>-</td><td>-</td><td></td><td>-</td><td>-</td><td>-</td><td><del>-</del></td><td>-</td><td>-</td><td></td></lor<>	< 0.011	< 0.011	< 0.014	< 0.014	-	-		-	-	-	<del>-</del>	-	-	
delta-BHC			<lor< td=""><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.014</td><td>&lt; 0.014</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></lor<>	< 0.011	< 0.011	< 0.014	< 0.014	-	-	-	-	-	-	-	-	-	-
gamma-BHC (Lindane)		-	<lor< td=""><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.014</td><td>&lt; 0.014</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td><del></del></td></lor<>	< 0.011	< 0.011	< 0.014	< 0.014	-	-	-	-	-	-	-	-	-	<del></del>
cis-Chlordane		_	<lor< td=""><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.014</td><td>&lt; 0.014</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></lor<>	< 0.011	< 0.011	< 0.014	< 0.014	-	-	-	-	-	-	-	-	-	-
trans-Chlordane		-	<lor< td=""><td>&lt; 0.04</td><td>&lt; 0.04</td><td>&lt; 0.04</td><td>&lt; 0.04</td><td>-</td><td></td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td></td><td></td><td>-</td></lor<>	< 0.04	< 0.04	< 0.04	< 0.04	-		-	-	-	-	-			-
2,4'-DDD	-	-	<lor< td=""><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.014</td><td>&lt; 0.014</td><td>-</td><td></td><td></td><td>-</td><td>-</td><td></td><td>-</td><td></td><td></td><td>-</td></lor<>	< 0.011	< 0.011	< 0.014	< 0.014	-			-	-		-			-
4,4'-DDD	-	-	<lor< td=""><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.014</td><td>&lt; 0.014</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></lor<>	< 0.011	< 0.011	< 0.014	< 0.014	-	-	-	-	-	-	-	-	-	-
2,4'-DDE	-	-	<lor< td=""><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.014</td><td>&lt; 0.014</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></lor<>	< 0.011	< 0.011	< 0.014	< 0.014	-	-	-	-	-	-	-	-	-	-
4,4'-DDE	-	-	<lor< td=""><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.014</td><td>&lt; 0.014</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></lor<>	< 0.011	< 0.011	< 0.014	< 0.014	-	-	-	-	-	-	-	-	-	-
2,4'-DDT	-	-	<lor< td=""><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.014</td><td>&lt; 0.014</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></lor<>	< 0.011	< 0.011	< 0.014	< 0.014	-	-	-	-	-	-	-	-	-	-
4,4'-DDT	-	-	<lor< td=""><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.014</td><td>&lt; 0.014</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></lor<>	< 0.011	< 0.011	< 0.014	< 0.014	-	-	-	-	-	-	-	-	-	-
Total DDT Isomers	1,000	400	<lor< td=""><td>&lt; 0.07</td><td>&lt; 0.07</td><td>&lt; 0.08</td><td>&lt; 0.09</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></lor<>	< 0.07	< 0.07	< 0.08	< 0.09	-	-	-	-	-	-	-	-	-	-
Dieldrin	160	70	<lor< td=""><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.014</td><td>&lt; 0.014</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></lor<>	< 0.011	< 0.011	< 0.014	< 0.014	-	-	-	-	-	-	-	-	-	-
Endosulfan I	-	-	<lor< td=""><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.014</td><td>&lt; 0.014</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></lor<>	< 0.011	< 0.011	< 0.014	< 0.014	-	-	-	-	-	-	-	-	-	-
Endosulfan II	-	-	<lor< td=""><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.014</td><td>&lt; 0.014</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></lor<>	< 0.011	< 0.011	< 0.014	< 0.014	-	-	-	-	-	-	-	-	-	-
Endosulfan sulphate		-	<lor< td=""><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.014</td><td>&lt; 0.014</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></lor<>	< 0.011	< 0.011	< 0.014	< 0.014	-	-	-	-	-	-	-	-	-	-
Endrin		-	<lor< td=""><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.014</td><td>&lt; 0.014</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td></td></lor<>	< 0.011	< 0.011	< 0.014	< 0.014	-	-	-	-	-	-	-	-	-	
Endrin aldehyde		-	<lor< td=""><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.014</td><td>&lt; 0.014</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td></td></lor<>	< 0.011	< 0.011	< 0.014	< 0.014	-	-	-	-	-	-	-	-	-	
Endrin ketone	-	-	<lor< td=""><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.014</td><td>&lt; 0.014</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td></td></lor<>	< 0.011	< 0.011	< 0.014	< 0.014	-	-	-	-	-	-	-	-	-	
Heptachlor		-	<lor <lor< td=""><td>&lt; 0.011 &lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.014 &lt; 0.014</td><td>&lt; 0.014 &lt; 0.014</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td></td></lor<></lor 	< 0.011 < 0.011	< 0.011	< 0.014 < 0.014	< 0.014 < 0.014	-	-	-	-	-	-	-	-	-	
Heptachlor epoxide Hexachlorobenzene	-	-	<lor< td=""><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.014</td><td>&lt; 0.014</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></lor<>	< 0.011	< 0.011	< 0.014	< 0.014	-	-	-	-	-	-	-	-	-	-
Methoxychlor			<lor< td=""><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.014</td><td>&lt; 0.014</td><td>-</td><td>-</td><td>- :</td><td>-</td><td></td><td>-</td><td><del></del></td><td>-</td><td><del>- : -</del></td><td>-</td></lor<>	< 0.011	< 0.011	< 0.014	< 0.014	-	-	- :	-		-	<del></del>	-	<del>- : -</del>	-
Polycyclic Aromatic Hydrocarbons Screening in Soil			-2011	10.022	- 0.022	10.021	10.021										$\overline{}$
	150 <sup>4</sup>		<lor< td=""><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.014</td><td>&lt; 0.014</td><td>&lt; 0.010</td><td>&lt; 0.010</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.010</td><td>&lt; 0.011</td></lor<>	< 0.011	< 0.011	< 0.014	< 0.014	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011	< 0.010	< 0.011
1-Methylnaphthalene		-															
2-Methylnaphthalene	240 4	-	<lor< td=""><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.014</td><td>&lt; 0.014</td><td>&lt; 0.010</td><td>&lt; 0.010</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.010</td><td>&lt; 0.011</td></lor<>	< 0.011	< 0.011	< 0.014	< 0.014	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011	< 0.010	< 0.011
Acenaphthylene	3600 <sup>4</sup>	-	<lor< td=""><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.014</td><td>&lt; 0.014</td><td>&lt; 0.010</td><td>&lt; 0.010</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.010</td><td>0.016</td></lor<>	< 0.011	< 0.011	< 0.014	< 0.014	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011	< 0.010	0.016
Acenaphthene		-	<lor< td=""><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.014</td><td>&lt; 0.014</td><td>&lt; 0.010</td><td>&lt; 0.010</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.010</td><td>&lt; 0.011</td></lor<>	< 0.011	< 0.011	< 0.014	< 0.014	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011	< 0.010	< 0.011
Anthracene	refer BAPeq	-	<lor< td=""><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.014</td><td>&lt; 0.014</td><td>&lt; 0.010</td><td>&lt; 0.010</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.010</td><td>0.017</td></lor<>	< 0.011	< 0.011	< 0.014	< 0.014	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011	< 0.010	0.017
Benzo[a]anthracene Benzo[a]pyrene (BAP)	refer B APeq refer B APeq		<lor <lor< td=""><td>&lt; 0.011 &lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.014 &lt; 0.014</td><td>&lt; 0.014 &lt; 0.014</td><td>&lt; 0.010 &lt; 0.010</td><td>&lt; 0.010 &lt; 0.010</td><td>0.016 0.025</td><td>&lt; 0.011</td><td>0.025</td><td>0.013</td><td>0.02</td><td>0.022</td><td>&lt; 0.010 &lt; 0.010</td><td>0.082 0.123</td></lor<></lor 	< 0.011 < 0.011	< 0.011	< 0.014 < 0.014	< 0.014 < 0.014	< 0.010 < 0.010	< 0.010 < 0.010	0.016 0.025	< 0.011	0.025	0.013	0.02	0.022	< 0.010 < 0.010	0.082 0.123
Benzo[b]fluoranthene + Benzo[j]fluoranthene	refer BAPeq	-	<lor< td=""><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.014</td><td>&lt; 0.014</td><td>&lt; 0.010</td><td>&lt; 0.010</td><td>0.025</td><td>&lt; 0.011</td><td>0.035</td><td>0.019</td><td>0.031</td><td>0.034</td><td>&lt; 0.010</td><td>0.123</td></lor<>	< 0.011	< 0.011	< 0.014	< 0.014	< 0.010	< 0.010	0.025	< 0.011	0.035	0.019	0.031	0.034	< 0.010	0.123
Benzo[e]pyrene	Telel barey	-	<lor< td=""><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.014</td><td>&lt; 0.014</td><td>&lt; 0.010</td><td>&lt; 0.010</td><td>0.012</td><td>&lt; 0.011</td><td>0.018</td><td>&lt; 0.011</td><td>0.016</td><td>0.017</td><td>&lt; 0.010</td><td>0.065</td></lor<>	< 0.011	< 0.011	< 0.014	< 0.014	< 0.010	< 0.010	0.012	< 0.011	0.018	< 0.011	0.016	0.017	< 0.010	0.065
Benzo[g,h,i]perylene		-	<lor< td=""><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.014</td><td>&lt; 0.014</td><td>&lt; 0.010</td><td>&lt; 0.010</td><td>0.012</td><td>&lt; 0.011</td><td>0.025</td><td>0.012</td><td>0.02</td><td>0.023</td><td>&lt; 0.010</td><td>0.083</td></lor<>	< 0.011	< 0.011	< 0.014	< 0.014	< 0.010	< 0.010	0.012	< 0.011	0.025	0.012	0.02	0.023	< 0.010	0.083
Benzo[k]fluoranthene	refer BAPeq	_	<lor< td=""><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.014</td><td>&lt; 0.014</td><td>&lt; 0.010</td><td>&lt; 0.010</td><td>0.012</td><td>&lt; 0.011</td><td>0.014</td><td>&lt; 0.011</td><td>0.012</td><td>0.013</td><td>&lt; 0.010</td><td>0.047</td></lor<>	< 0.011	< 0.011	< 0.014	< 0.014	< 0.010	< 0.010	0.012	< 0.011	0.014	< 0.011	0.012	0.013	< 0.010	0.047
Chrysene	refer BAPeg	-	<lor< td=""><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.014</td><td>&lt; 0.014</td><td>&lt; 0.010</td><td>&lt; 0.010</td><td>0.016</td><td>&lt; 0.011</td><td>0.023</td><td>0.012</td><td>0.022</td><td>0.025</td><td>&lt; 0.010</td><td>0.088</td></lor<>	< 0.011	< 0.011	< 0.014	< 0.014	< 0.010	< 0.010	0.016	< 0.011	0.023	0.012	0.022	0.025	< 0.010	0.088
Dibenzo[a,h]anthracene	refer BAPeq	-	<lor< td=""><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.014</td><td>&lt; 0.014</td><td>&lt; 0.010</td><td>&lt; 0.010</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.010</td><td>0.016</td></lor<>	< 0.011	< 0.011	< 0.014	< 0.014	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011	< 0.010	0.016
Fluoranthene	refer BAPeq	-	<lor< td=""><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.014</td><td>&lt; 0.014</td><td>&lt; 0.010</td><td>&lt; 0.010</td><td>0.028</td><td>&lt; 0.011</td><td>0.046</td><td>0.023</td><td>0.033</td><td>0.046</td><td>&lt; 0.010</td><td>0.165</td></lor<>	< 0.011	< 0.011	< 0.014	< 0.014	< 0.010	< 0.010	0.028	< 0.011	0.046	0.023	0.033	0.046	< 0.010	0.165
Fluorene	-	-	<lor< td=""><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.014</td><td>&lt; 0.014</td><td>&lt; 0.010</td><td>&lt; 0.010</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.010</td><td>&lt; 0.011</td></lor<>	< 0.011	< 0.011	< 0.014	< 0.014	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011	< 0.010	< 0.011
Indeno(1,2,3-c,d)pyrene	refer BAPeq	-	<lor< td=""><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.014</td><td>&lt; 0.014</td><td>&lt; 0.010</td><td>&lt; 0.010</td><td>0.02</td><td>&lt; 0.011</td><td>0.026</td><td>0.013</td><td>0.018</td><td>0.024</td><td>&lt; 0.010</td><td>0.089</td></lor<>	< 0.011	< 0.011	< 0.014	< 0.014	< 0.010	< 0.010	0.02	< 0.011	0.026	0.013	0.018	0.024	< 0.010	0.089
Naphthalene	210	-	<lor< td=""><td>&lt; 0.06</td><td>&lt; 0.06</td><td>&lt; 0.07</td><td>&lt; 0.07</td><td>&lt; 0.05</td><td>&lt; 0.05</td><td>&lt; 0.06</td><td>&lt; 0.06</td><td>&lt; 0.06</td><td>&lt; 0.06</td><td>&lt; 0.06</td><td>&lt; 0.06</td><td>&lt; 0.05</td><td>&lt; 0.06</td></lor<>	< 0.06	< 0.06	< 0.07	< 0.07	< 0.05	< 0.05	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.05	< 0.06
Perylene			<lor< td=""><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.014</td><td>&lt; 0.014</td><td>&lt; 0.010</td><td>&lt; 0.010</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.012</td><td>&lt; 0.011</td><td>&lt; 0.010</td><td>0.023</td></lor<>	< 0.011	< 0.011	< 0.014	< 0.014	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011	< 0.010	0.023
Phenanthrene			<lor< td=""><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.014</td><td>&lt; 0.014</td><td>&lt; 0.010</td><td>&lt; 0.010</td><td>&lt; 0.011</td><td>&lt; 0.011</td><td>0.013</td><td>&lt; 0.011</td><td>0.012</td><td>0.016</td><td>&lt; 0.010</td><td>0.07</td></lor<>	< 0.011	< 0.011	< 0.014	< 0.014	< 0.010	< 0.010	< 0.011	< 0.011	0.013	< 0.011	0.012	0.016	< 0.010	0.07
Pyrene	N/A	-	<lor< td=""><td>&lt; 0.011</td><td>&lt; 0.011</td><td>&lt; 0.014</td><td>&lt; 0.014</td><td>&lt; 0.010</td><td>&lt; 0.010</td><td>0.026</td><td>&lt; 0.011</td><td>0.047</td><td>0.022</td><td>0.036</td><td>0.047</td><td>&lt; 0.010</td><td>0.174</td></lor<>	< 0.011	< 0.011	< 0.014	< 0.014	< 0.010	< 0.010	0.026	< 0.011	0.047	0.022	0.036	0.047	< 0.010	0.174
Benzo[a]pyrene Potency Equivalency Factor (PEF)	35	40	<lor< td=""><td>&lt; 0.03</td><td>&lt; 0.03</td><td>&lt; 0.04</td><td>&lt; 0.04</td><td>&lt; 0.03</td><td>&lt; 0.03</td><td>0.04</td><td>&lt; 0.03</td><td>0.05</td><td>&lt; 0.03</td><td>0.04</td><td>0.05</td><td>&lt; 0.03</td><td>0.18</td></lor<>	< 0.03	< 0.03	< 0.04	< 0.04	< 0.03	< 0.03	0.04	< 0.03	0.05	< 0.03	0.04	0.05	< 0.03	0.18
Total Petroleum Hydrocarbons in Soil																	
C7 - C9	500 <sup>5</sup>	-	<lor< td=""><td>&lt; 8</td><td>&lt; 8</td><td>&lt; 8</td><td>&lt; 9</td><td>&lt; 8</td><td>&lt; 8</td><td>&lt; 8</td><td>&lt; 8</td><td>&lt; 8</td><td>&lt; 8</td><td>&lt; 8</td><td>&lt; 8</td><td>&lt; 8</td><td>&lt; 8</td></lor<>	< 8	< 8	< 8	< 9	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8
C10 - C14	1700 <sup>5</sup>	-	<lor< td=""><td>&lt; 20</td><td>&lt; 20</td></lor<>	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
C15 - C36	N/A <sup>5</sup>	-	<lor< td=""><td>&lt; 40</td><td>&lt; 40</td><td>61</td><td>&lt; 40</td><td>&lt; 40</td><td>&lt; 40</td><td>46</td><td>&lt; 40</td><td>&lt; 40</td><td>42</td><td>&lt; 40</td><td>&lt; 40</td><td>&lt; 40</td><td>48</td></lor<>	< 40	< 40	61	< 40	< 40	< 40	46	< 40	< 40	42	< 40	< 40	< 40	48
Total hydrocarbons (C7 - C36)	-	-	<lor< td=""><td>&lt; 70</td><td>&lt; 70</td></lor<>	< 70	< 70	< 70	< 70	< 70	< 70	< 70	< 70	< 70	< 70	< 70	< 70	< 70	< 70
Notes:																	

'-' indicates not analysed or no relevant acceptance criteria

<LOR = less than laboratory limit of reporting

NL = Not limiting (i.e. > 10,000 mg/kg)

Green outlined values indicate results exceed NES recreational criteria

Underlined values indicates that results exceed NES Commercial/Industrial Criteria

Bold values indicate that results exceed the published background concentrations for Hawks Bay Background Soil Concentrations

1 - MfE, June 2011. Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health

2 - Hawkes Bay Region: Background Soil Concentrations for Managing Soil Quality. Report no. RM 14-03, HBR C plan no. 4611

3 - Assessment of Site Contamination National Environment Protection Measures (ASC NEPM) Too Ibox - http://www.nepc.gov.au/nepms/assessment-site-contaminat

4- USEPA Regional Screening Levels - http://www.epa.gov/risk/risk-based-screening-table-generic-tables. Standard residential use used to assess conservatively assess 5 - MfE 1999. Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand, Revised 2011. Tier 1 Soil acceptance criteria (all pat

Item 2

Item 2

#### Frimley Water Supply Upgrade: Soil results table

Laboratory ID Date sampled NES Soil - Commercial / Industrial 1 / Industrial 2 NES Soil - Recreational 3 NES Soil - Recreational 2 Some 2 Some 2 New 2 Some 2 New 2 Some 2 New 2												Tre	atment Plant / Rese	rvoir
Secretary   Control   Co	Sample ID				CS Fr 11	CS Fr 12	CS Fr 12	CS Fr 13	CS Fr 13	CS Fr 14	CS Fr 14	CS Fr 15	CS Fr 16	CS Fr 16
Controlled   Property   Propert	Laboratory ID	NES Soil - Commercial	NES Soil -	Hawkes Bay	2337241.2	2337239.1	2337241.16	2337239.11	2337241.11	2337239.12	2337241.6	2337239.14	2337239.15	2337241.17
Common	Date sampled	,	1	Background soil	5-Mar-20	3-Mar-20	5-Mar-20	3-Mar-20	5-Mar-20	3-Mar-20	5-Mar-20	3-Mar-20	3-Mar-20	5-Mar-20
Company   Comp	Depth (m)	/ Industrial	Kecreational	Concentrations <sup>2</sup>	0.5	0.1	0.5	0.1	0.5	0.1	0.5	0.1	0.1	0.5
Such Internative Anomaly  100  400  400  400  400  400  400  40	Stratum				Silty SAND	Topsoil	Silty SAN D	Topsoil	Silty SAND	Topsoil	Silty SAND	Topsoil	To psoil	Silty SAND
Substitution	Heavy Metals, Screen Level													
The Internative Common  \$1,000	Total Recoverable Arsenic	70	80	9	17	7	7	6	6	5	4	4	4	5
Type	Total Recoverable Cadmium	1,300	400	0.7	< 0.10	0.15	< 0.10	0.12	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
The freewest field	Total Recoverable Chromium	6,300	2,700	24	18	16	17	17	17	16	14	12	13	12
The New Note New Note	Total Recoverable Copper	>10,000	>10,000	32	28	21	12	14	11	14	9	8	15	7
Secondary   Company   Co	To tal Recoverable Lead	3,300	880	27	26	31	18.3	33	17	46	12.9	20	15.7	10.4
Commonwealth   Comm	To tal Recoverable Nickel	4000 <sup>3</sup>	800 <sup>3</sup>	17	13	15	16	12	15	12	13	9	9	11
Department Notation	Total Recoverable Zinc	400000 <sup>3</sup>	30000 <sup>3</sup>									58	51	
Description				100										
Separation   1				<i or<="" td=""><td></td><td></td><td></td><td><del> </del></td><td></td><td><del></del></td><td></td><td>&lt; 0.011</td><td>&lt; 0.011</td><td></td></i>				<del> </del>		<del></del>		< 0.011	< 0.011	
See Birc														
Seminate														
geme APC [Distand]														
Control of the cont														
Transportation														
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1.000   .   .   .   .   .   .   .   .   .														
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5.00E														
1.000   1.00	-													
Second   1,000   400   408   -   -   -   -   -   -   -   -   -	· ·													
Total Diff Some														
Deletin   140   70   1408   .   .   .   .   .   .   .   .   .	*													
Edeburks														
Edouble			- 70											
Endown from injunities		-												
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Edmin latebroge			-											
Edmin Retone														
Haptschier	· · · · · · · · · · · · · · · · · · ·													
Haptschlore peoide														
Hasselhorbentenee														
Methocyclar														
Polycycle Aromatic Hydrocarbons Screening in Soil    Methylinaphthalane														
Methylinaphthalene				-2011			<u> </u>			<del> </del>			- 0.022	
240		150 4		4.5							.0.043			.0.044
Acesaphthylene			•											
Acade	2-Methylnaphthalene		-											
Enthraceme   refer BAPeq   -	Acenaphthylene	3600 *	-		< 0.012					< 0.012				< 0.011
Ennco p mmracene   Perce   P	Acenaphthene	-	-											
Benco  jyrene (BAP    refer BAPeq   -   <10	Anthracene	refer BAPeq	-											
Renzo[p]fluoranthene   Fefer BAPeq   -	Benzo[a]anthracene		-		0.038	0.052								
Benzo[g pyrene   -   -   -   -   -   -   -   -   -			-											
Pensolg.h.j.perylane		refer BAPeq	-											
Benzo[k]fluoranthene   refer BAPeq   -			-											
Chrysene														
Dibenzo[a,h]anthracene   refer BAPeq   -			-											
Fluoranthene   refer BAPeq   -   <   <   <   <   <   <   <   <   <	-													
Fluorene   <lor 0.011="" 0.012="" 0.013="" <="" td=""  =""  <=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></lor>														
Indeno(1,2,3-c,d)pyrene		refer BAPeq	-											
Naphthalene   210		-	-											
Perylene	Indeno(1,2,3-c,d)pyrene	refer BAPeq	-											
Phenanthrene	-	210	-											
Pyrene   N/A   -   <   Color														
Benzo[a]pyrene Potency Equivalency Factor (PEF)   35   40   < LoR   0.08   0.11   < 0.03   0.6   < 0.04   0.08   < 0.03   < 0.03   < 0.03   0.1   < 0.03														
Total Petroleum Hydrocarbons in Soil  C7-C9  500 - <														
C7 - C9		35	40	<lor< td=""><td>0.08</td><td>0.11</td><td>&lt; 0.03</td><td>0.6</td><td>&lt; 0.04</td><td>0.08</td><td>&lt; 0.03</td><td>&lt; 0.03</td><td>0.1</td><td>&lt; 0.03</td></lor<>	0.08	0.11	< 0.03	0.6	< 0.04	0.08	< 0.03	< 0.03	0.1	< 0.03
C10 - C14														
C15 - C36	C7 - C9	500 <sup>5</sup>	-	<lor< td=""><td>&lt; 8</td><td>&lt; 8</td><td>&lt; 8</td><td>&lt; 8</td><td>&lt; 8</td><td>&lt; 8</td><td>&lt; 8</td><td>&lt; 8</td><td>&lt; 8</td><td>&lt; 8</td></lor<>	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8
C15 - C36	C10 - C14	1700 <sup>5</sup>	-	<lor< td=""><td>&lt; 20</td><td>&lt; 20</td><td>&lt; 20</td><td>&lt; 20</td><td>&lt; 20</td><td>&lt; 20</td><td>&lt; 20</td><td>&lt; 20</td><td>&lt; 20</td><td>&lt; 20</td></lor<>	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Total hydrocarbons (C7 - C36) < LoR < 70 < 70 < 70 < 70 < 70 < 70 < 70 < 7		N/A 5	_		< 40	< 40	< 40	77	< 40	< 40	< 40	46	< 40	< 40
			-											

'-' indicates not analysed or no relevant acceptance criteria <LOR = less than laboratory limit of reporting

NL = N at limiting (i.e. > 10,000 mg/kg)

Green outlined values indicate results exceed NES recreational criteria

<u>Underlined</u> values indicates that results exceed NES Commercial/Industrial Criteria

Bold values indicate that results exceed the published background concentrations for Hawks Bay Background Soil Concentrations

1 - MfE, June 2011. Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health

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4- USEPA Regional Screening Levels - http://www.epa.gov/risk/risk-based-screening-table-generic-tables. Standard residential use used to assess conservatively assess

5 - MfE 1999. Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand, Revised 2011. Tier 1 Soil acceptance criteria (all pat

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# Appendix C: March 2020 investigation

- C1 Methodology
- C2 Soil logs
- C3 Laboratory reports

#### C1 Methodology

The intrusive soil investigation was conducted by Stantec New Zealand (Stantec) under instruction from T+T. The objective of the sampling was to collect soil samples to assess the nature and extent of potential contamination along the pipeline alignment and in the proposed treatment plant and reservoir area.

The investigation involved hand augering of 16 locations to 1 m bgl (or refusal) and collection of soil samples. Underground service clearance was undertaken prior to hand drilling. The sampling was conducted on 3 and 5 March 2020 with samples submitted to Hill Laboratories in Hamilton under chain of custody procedures. The soil logs prepared by Stantec are attached.

The sample locations were spaced at approximately 30 m intervals within the former horticultural area and at approximately 80 m intervals over the remainder of the alignment. Two sample locations were positioned in the area of the proposed treatment plant and reservoir. The sampling density is considered appropriate to assess the ground contamination conditions for the proposed works (excluding the Depot) given the anticipated potential sources of contamination.

Soil sampling and analysis was conducted in general accordance with the MfE Contaminated Land Management Guidelines<sup>7</sup>.

<sup>&</sup>lt;sup>7</sup> Ministry for the Environment, updated 2011, Contaminated land management guidelines No. 5: Site Investigation and analysis of soils

C2 Soil logs

Ітем 2

()	) S1	tan	tec First Floor, 100 Warren Street South Hastings, New Zealand, 4156	НА	NE	) <i>A</i>	۷U	GE	RL	.0	G			C	nd Au	r1	)
Proje	ect Na	ame:	Frimley Pipelines	Project No. 310103134		Coo	rds:		1928515 5607229		(N	ZTM)	t		neet 1 otal De 1.05	pth:	
Loca	ition:	F	Frimley, Hastings, New Zealand	0.0.0000		Elev	ation:		(Not ava	ilable)				L	ogged		
Clier	nt:		Hastings District Council			Date	e:		05-03-202 Start	20		3-2020 End		C	hecke	d By:	
Elevation (m)	Depth (m)	Geologic Unit	Material Description  (Logging carried out in accordance with Guidelines for the Field Class Rock for Engineering Purposes, New Zealand Geotechnical S	sification of Soil and ociety, 2005)	Legend	Consistency/ Relative Density	Moisture Condition	Shear Vane Reading (kPa)	Samples	Groundwater/ Seepages				Penetra s/100n		3 18	20
	- 0.5		Brown silt TOPSOIL.  SILT, iron stained.	1	X X X X X X X X X X X X X X X X X X X				Bulk 0.10m Bulk 0.50m								
1	-1.0		SAND, iron stained.  Hand Auger terminated at 1.05m BGL due to ta	(1.05)					Bulk 1.00m				+		+	+	$\perp$
2	- 1.5																
- 3	- 3.0 - 3.0 																
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Rem	arks:																<u></u>

J	) St	tan	tec First Floor, 100 Warren Street South Hastings, New Zealand, 4156	НА	NE	) <i>A</i>	۷U	GE	RL	.0	G			С	d Aug	r2
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Loca	ation:	F	Frimley, Hastings, New Zealand	310103134		Elev	ation:		(Not avai	ilable)				Lo	ogged I	
Clie	nt:		Hastings District Council			Date	e:		05-03-202 Start	20		3-2020 End		Ch	ecked VB	By:
Elevation (m)	Depth (m)	Geologic Unit	Material Description  (Logging carried out in accordance with Guidelines for the Field Class Rock for Engineering Purposes, New Zealand Geotechnical Sc	ification of Soil and sciety, 2005)	Legend	Consistency/ Relative Density	Moisture Condition	Shear Vane Reading (kPa)	Samples	Groundwater/ Seepages	2			enetrai s/100mi		18 20
	- 0.5		TOPSOIL, brown silt  Sandy SILT.  SAND, iron stained.	0.42	* X X X X X X X X X X X X X X X X X X X				Bulk 0.10m Bulk 0.50m							
1	- 1.5		SAND, moist,  Hand Auger terminated at 1.05m BGL due to ta	(1.65 inget depth.					Bulk 1.00m							
2	-2.0 - - - 2.5															
- 3	-3.0															
- 4	- 3.5 - - - - 4.0															
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J	) St	tan	tec First Floor, 100 Warren Street South Hastings, New Zealand, 4156	НА	NE	) /	۷U	GE	RL	.0	G			and A	Fr3	3
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Clie	nt:		Hastings District Council			Date	e:		05-03-20 Start	20	05-03-			Check	ed By	:
Elevation (m)	Depth (m)	Geologic Unit	Material Description  (Logging carried out in accordance with Guidelines for the Field Classes, New Zealand Geotechnical St	ification of Soil and sciety, 2005)	Legend	Consistency/ Relative Density	Moisture Condition	Shear Vane Reading (kPa)	Samples	Groundwater/ Seepages	2 4	Sca	ila Pene lows/10		18 1	8 20
	- 0.5		TOPSOIL - Brown silt.  Sandy silty GRAVEL.  Sandy, silty GRAVEL, mottled, iron staining.	,0.15 ,0.60	3/16, 3/16,		4	0, m	Bulk 0.10m Bulk 0.45m		2 4		10 1	2 14	16 1	8 20
<del>1</del>	<del>- 1.0</del> -		Hand Auger terminated at 1.00m BGL due to ta	rget depth (1.00	<u> </u>				Bulk 0.90m		$\dagger \dagger$					
	- - 1.5 -															
2	2.0 															
	- 2.5															
3	-3.0 -															
	- 3.5															
- 4	-4.0 -															
-	- 4.5															
Rem	narks	:														

(	<b>)</b> S1	tan	First Floor, 100 Warren Street South Hastings, New Zealand, 4156	НА	NE	) <i>A</i>	۷U	GE	R L	.0	G				cs	Auge Fr t1 of	4
roje	ect Na	ame:	Frimley Pipelines	Project No. 310103134		Coo	rds:		1928579 5607164		(N	ZTM;	,		Total	Depti 05m	
oca	ation:	F	Frimley, Hastings, New Zealand	310103134		Elev	ation:		(Not avai				$\dashv$		Logg	jed By LA	yr.
lier	nt:		Hastings District Council			Date	9:		05-03-202	20		3-20	20		Chec	ked B VB	y:
Lievation (III)	Depth (m)	Geologic Unit	Material Description  (Logging carried out in accordance with Guidelines for the Field Class Rock for Engineering Purposes, New Zealand Geotechnical Sc	ification of Soil and sciety, 2005)	Legend	Consistency/ Relative Density	Moisture Condition	Shear Vane Reading (kPa)	Samples	Groundwater/ Seepages	2	End 4 F		ws/10	tration	ı	18 2
1	- 0.5		TOPSOIL, brown silt.  Silty SAND.  Silty SAND with mottled iron staining.  Dark orange/brown SAND.  Hand Auger terminated at 1.05m BGL due to ta	(0.60) (0.50) (1.05)					Bulk 0.10m Bulk 0.50m Bulk 1.00m								
	- 1.5 																
	- 2.5																
	-3.0 -																
	- 3.5																
	-4.0 -																
	- 4.5 -																
em	narks																

J	) St	tan	tec First Floor, 100 Warren Street South Hastings, New Zealand, 4156	НА	NE	) <i>A</i>	۷U	GE	R L	.0	G			C	nd Au	r5	D
Proje	ect Na	ame:	Frimley Pipelines	Project No. 310103134		Coo	rds:		1928577 5607110		(N	ZTM)			otal De	epth:	
Loca	ation:	F	Frimley, Hastings, New Zealand			Elev	ation:		(Not ava	ilable)				L	ogged.	By:	
Clier	nt:		Hastings District Council			Date	):		05-03-20	20		3-2020 End		С	hecke VB	d By:	
Elevation (m)	Depth (m)	Geologic Unit	Material Description  (Logging carried out in accordance with Guidelines for the Field Class Rock for Engineering Purposes, New Zealand Geotodricial Sc	ification of Soil and sciety, 2005)	Legend	Consistency/ Relative Density	Moisture Condition	Shear Vane Reading (kPa)	Samples	Groundwater/ Seepages	2	4 6	(Blow	Penetra s/100n		6 18	20
	- 0.5		TOPSOIL, brown silt.  Light brown-brown, fine sandy SILT.  Light brown-brown, iron stained, fine sandy SILT.  Light brown-brown, mottled white, fine sandy SILT.  Light brown-brown, fine sandy SILT.	(0.25 (0.40 (0.50					Bulk 0.10m								
	- -1.0		Hand Auger terminated at 1.00m BGL due to ta	(1.00	×××				Bulk 0.95m				+	$\parallel$	$\perp$	$\perp$	$\perp$
2	- 1.5																
- 3	- 2.5																
	- 3.5																
- 4	- 4.0 																
Rem	narks:		1														

J	) St	tan	tec First Floor, 100 Warren Street South Hastings, New Zealand, 4156	НА	NE	) /	۷U	GE	RL	.0	G				CS	Auge Fr	6
Proje	ect Na	ame:	Frimley Pipelines	Project No. 310103134		Coo	rds:		1928612 5607100		(N	ZTM)	1		Tota	I Dept	
Loca	ition:	F	Frimley, Hastings, New Zealand	0.0.00.00		Elev	ation:		(Not ava	ilable)					Log	ged B LA	y.
Clier	nt:		Hastings District Council			Date	e:		05-03-20	20		3-202 End	20		Chec	ked E	Ву:
Elevation (m)	Depth (m)	Geologic Unit	Material Description  (Logging carried out in accordance with Guidelines for the Field Class Rock for Engineering Purposes, New Zealand Geotodvical S	sification of Soil and bolety, 2005)	Legend	Consistency/ Relative Density	Moisture Condition	Shear Vane Reading (kPa)	Samples	Groundwater/ Seepages	2	4 6		ws/10	etration 0mm)		18 20
			Brown, silty, sandy TOPSOIL. Potential peametal in						Bulk 0.10m			Ĭ	Ĭ			Ĭ	
	- - 0.5 -		Hand Auger terminated at 0.25m BGL due to	0.25 o refusal.													
-1	-1.0 - -																
	- 1.5																
-2	-2.0																
	- 2.5																
-3	-3.0 -																
	- 3.5 - -																
4	-4.0 -																
	- - 4.5																
Rem	arks:	Refu	usal on hard, dry silt.														

J	) St	tan	tec First Floor, 100 Warren Street South Hastings, New Zealand, 4156	НА	NE	) <i>A</i>	۷U	GE	RL	.0	G				cs	Auge Fr	7
Proj	ect Na	ame:	Frimley Pipelines	Project No. 310103134		Coo	rds:		1928645 5607022		(N	ZTM)	$\top$		Total	Dept 65m	
Loca	ation:	F	Frimley, Hastings, New Zealand			Elev	ation:		(Not ava	ilable)			T		Logg	ged B	y.
Clie	nt:		Hastings District Council			Date	):		05-03-20	20		3-202 End	20		Chec	ked B	y:
Elevation (m)	Depth (m)	Geologic Unit	Material Description  (Logging carried out in accordance with Guidelines for the Field Class Rock for Engineering Purposes, New Zealand Geotechnical Sc	ilfication of Soil and sciety, 2005)	Legend	Consistency/ Relative Density	Moisture Condition	Shear Vane Reading (kPa)	Samples	Groundwater/ Seepages	2	4 6		ws/10	etratior 0mm)		18 20
	- 0.5		TOPSOIL, brown silt.  Light brown SILT.						Bulk 0.10m								
1	- - -1.0		Hand Auger terminated at 0.65m BGL due to														
	- - 1.5																
2	-2.0																
	- 2.5 -																
3	-3.0 -																
	- 3.5 -																
- 4	-4.0 -																
	- 4.5 -																
Rem	narks:	: Refu	ısal on hard, dry silt.														

J	) St	tan	First Floor, 100 Warren Street South Hastings, New Zealand, 4156	НА	NE	) /	٧U	GE	RL	.0	G		F		Fr	В
Proje	ect Na	ame:	Frimley Pipelines	Project No. 310103134		Coo	rds:		1928708 5606978		(NZT	M)		Total	t 1 of Depth 55m	
Loca	ition:	1	Frimley, Hastings, New Zealand	310103134		Elev	ration:		(Not ava					Logg	ed By LA	r.
Clie	nt:		Hastings District Council			Date	e:		05-03-20	20	05-03-			Chec	ked B	y:
Elevation (m)	Depth (m)	Geologic Unit	Material Description  (Logging carried out in accordance with Guidelines for the Field Class Flock for Engineering Purposes, New Zealand Geotechnical S	sification of Soil and ociety, 2005)	Legend	Consistency/ Relative Density	Moisture Condition	Shear Vane Reading (kPa)	Samples	Groundwater/ Seepages	2 4	Sci	ala Pendilows/10			18 20
	- 0.5		TOPSOIL , brown silt with gravel increasing from 0  Brown sandy SILT.  Light brown, silty SAND with gravel. Gravel up to 2  Hand Auger terminated at 0.55m BGL due to re	(0.20) 5mm. (0.55	* X X X X X X X X X X X X X X X X X X X				Bulk 0.10m sample at 0 Bulk 0.45m							
1	- - -1.0 -															
•	- - 1.5 -															
2	- -2.0 -															
	- 2.5 - -															
- 3	-3.0 -															
•	- 3.5 - -															
- 4	- 4.0 															
Rem	arks:	: Refu	usal on gravel.													

Q	St	tan	First Floor, 100 Warren Street South Hastings, New Zealand, 4156	НА	NE	) <i>A</i>	۷U	GE	RL	.0	G			С	Auge S Fi	9
Proj	ect Na	ame:	Frimley Pipelines	Project No.		Coo	rds:		1928762		(NZ	ZTM)	+	Tot	eet 1 o al Dep	
	ation:		Frimley, Hastings, New Zealand	310103134		Elev	ation:		5606912 (Not avai						0.50m gged B	y.
Clie			Hastings District Council			Date			05-03-20			3-2020	+	Che	LA ecked E	Ву:
			Material Description				tion		Start				cala Pe			
Elevation (m)	Depth (m)	Geologic Unit	(Logging carried out in accordance with Guidelines for the Reld Class Rock for Engineering Purposes, New Zesland Geotechnical S	iffication of Soil and solety, 2005)	Legend	Consistency/ Relative Density	Moisture Condition	Shear Vane Reading (kPa)	Samples	Groundwater/ Seepages	2	4 8	(Blows/		1)	18 20
			TOPSOIL, brown silt.			0 11	_	0, 12	Bulk 0.10m	0 0,				12	14 16	18 20
			Brown sandy SILT with gravel. Gravel up to 30mm.	(0.32)	X X X				Bulk 0.45m							
	<del>- 0.5</del> - -		Hand Auger terminated at 0.50m BGL due to	refusal.	× × ×									T		
1	- - -1.0															
	- - -															
	- 1.5 -															
2	- -2.0															
-	- - 2.5 -															
- 3	- -3.0															
- -	- - 3.5 -															
- 4	- - -4.0															
-	- - - 4.5															
Ren	narks	: Refu	usal on gravel.											-		' '

Project Name: Frimley Pipelines Project No. 310103134 Coords: 1928820E 5606841N (NZTM) Total D 0.60  Location: Frimley, Hastings, New Zealand Elevation: (Not available) Logged LA  Client: Hastings District Council Date: 05-03-2020 05-03-2020 Checke VB  Material Description (South Penetration (Blows/100mm))  Material Description (Logging carried out in accordance with Guidelines for the Field Classification of Soil and Flock for Engineering Purposes. New Zealand Geolochysical Society, 2005)	(	) St	tan	tec First Floor, 100 Warren Street South Hastings, New Zealand, 4156	НА	NE	) <i>A</i>	۷U	GE	RL	.0	G				cs	Auge Fr	10
Location: Firmley, Hastings, New Zealand  Client: Hastings District Council  Date: 05-03-2020 05-03-2020 OF-excite  The State of Council Date: 05-03-2020 05-03-2020 OF-excite  State Pertendance  Client: Topping granted at a nonotinear with Classification of Survivors (Clienter Volume)  Topping granted at a nonotinear with Classification of Survivors (Clienter Volume)  Topping granted at a nonotinear with Classification of Survivors (Clienter Volume)  Topping granted at a nonotinear with Classification of Survivors (Clienter Volume)  Topping granted at a nonotinear with Classification of Survivors (Clienter Volume)  Topping granted at a nonotinear with Classification of Survivors (Clienter Volume)  Topping granted at a nonotinear with Classification of Survivors (Clienter Volume)  Topping granted at a nonotinear with Classification of Survivors (Clienter Volume)  Topping granted at a nonotinear with Classification of Survivors (Clienter Volume)  Topping granted at a nonotinear with Classification of Survivors (Clienter Volume)  Topping granted at a nonotinear with Classification of Survivors (Clienter Volume)  Topping granted at a nonotinear with Classification of Survivors (Clienter Volume)  Topping granted at a nonotinear with Classification of Survivors (Clienter Volume)  Topping granted at a nonotinear with Classification of Survivors (Clienter Volume)  Topping granted at a nonotinear with Classification of Survivors (Clienter Volume)  Topping granted at a nonotinear with Classification of Survivors (Clienter Volume)  Topping granted at a nonotinear with Classification of Survivors (Clienter Volume)  Topping granted at a nonotinear with Classification of Survivors (Clienter Volume)  Topping granted at a nonotinear with Classification of Survivors (Clienter Volume)  Topping granted at a nonotinear with Classification of Survivors (Clienter Volume)  Topping granted at a nonotinear with Classification of Survivors (Clienter Volume)  Topping granted at a nonotinear with Classification of Survivors (Clienter Volu	Proje	ect Na	ame:	Frimley Pipelines			Coo	rds:				(N	IZTM)	1		Tota	I Dep	
Client: Hastings District Council    Date	Loca	ation:	F	Frimley, Hastings, New Zealand	310103134		Elev	ation:		(Not avai	ilable)			$\dashv$			ged E	ly:
Material Description  (Bows/100mm)  (Bows/10	Clie	nt:		Hastings District Council			Date	):			20			20			cked l	Ву:
TOPSOIL brown sit.  Light brown/oream SILT with occssional gravel, dry.  Light brown/oream SILT with occssional gravel, dry.  A A A A A A A A A A A A A A A A A A A				Material Description			4	ition		Start			End			tratio	n	
TOPSOIL brown sit:    Light brown/oneam SILT with occasional gravel, dry.	Elevation (m)	Depth (m)	Geologic Unit	(Logging carried out in accordance with Guidelines for the Field Classes Rock for Engineering Purposes, New Zealand Geotechnical Sc	ification of Soil and sciety, 2005)	Legend	Consistency/ Relative Densi	Moisture Cond	Shear Vane Reading (kPa)	Samples	Groundwater/ Seepages	2	4 6					18 20
Light brown/cream SiLT with occasional gravel. dry.  - 0.5  Hand Auger terminated at 0.00m BGL due to refusal.  - 1.5  - 1.5  - 2.5  - 3.7  - 3.5  - 3.5		-		TOPSOIL, brown silt.						Bulk 0.10m				Ĭ				
Hand Auger terminated at 0.00m BGL due to refusal.  -1 -10  -15  -2 -20  -3 -30		- 0.5		Light brown/cream SILT with occasional gravel, dry.		X				Bulk 0.47m								
-2 -20 -25 -3 -30 -3 -35 -3 -3 -35 -3 -3 -35 -3 -3 -35 -3 -3 -3 -3 -3 -3 -3 -3 -3 -3 -3 -3 -3		-		Hand Auger terminated at 0.60m BGL due to	refusal.	××××				Bulk V.47m		+	Н	+	+		+	+
- 2 - 20 25 3 - 30 3 - 35 35 35	-1	-1.0																
- 25		- 1.5 -																
- 3 - 3.0	-2	- -2.0 -																
- 3.5		- 2.5																
	-3	-3.0 -																
- 4 -40		- 3.5 - -																
	4	4.0 																
4.5 		- - 4.5 -																
Remarks: Refusal on hard dry silt.	Ren	arks	Refu	usal on hard dry silt.											-			

J	) St	tan	tec First Floor, 100 Warren Street South Hastings, New Zealand, 4156	НА	NE	) <i>A</i>	۷U	GE	RL	.0	G			C	d Aug S Fi	r <b>11</b>
Proj	ect Na	ame:	Frimley Pipelines	Project No. 310103134		Coo	rds:		1928789 5606724		(NZ	ZTM)	Ť		tal De	pth:
Loca	ation:	F	Frimley, Hastings, New Zealand	0.0.00.00.		Elev	ation:		(Not ava	ilable)			T	Lo	ogged LA	
Clie	nt:		Hastings District Council			Date	e:		05-03-20	20		3-2020	T	Ch	ecked VB	Ву:
Elevation (m)	Depth (m)	Geologic Unit	Material Description  (Logging carried out in accordance with Guidelines for the Field Class Rock for Engineering Purposes, New Zealand Geotechnical Sc	ification of Soil and sciety, 2005)	Legend	Consistency/ Relative Density	Moisture Condition	Shear Vane Reading (kPa)	Samples	Groundwater/ Seepages	2	Ş		enetra s/100mi		18 20
-	- 0.5		TOPSOIL, brown silt with some gravel.  Gravelly SILT with some cobbles.  Sandy SILT.  Mottled light orange sandy SILT.	(0.15 (0.40 (0.60	(				Bulk 0.10m							
1	- 1.0		Hand Auger terminated at 1.05m BGL due to ta	(1.05	x x x				Bulk 1.00m		$\perp$		Ш	$\perp$		
- 2	- 1.5 2.0 2.5															
- 3	-3.0 - - - -3.5															
- 4	-4.0 - - - - - 4.5															
Rem	narks	:	1						I .							

3	) S1	tan	tec First Floor, 100 Warren Street South Hastings, New Zealand, 4156	НА	NE	) <i>A</i>	۷U	GE	R L	.0	G		1	cs	Auger Fr1	2
Proje	ect Na	ame:	Frimley Pipelines	Project No. 310103134		Coo	rds:		1928723 5606698		(NZ	ГМ)		Total	Depth 00m	
Loca	ation:	F	Frimley, Hastings, New Zealand			Elev	ation:		(Not ava	ilable)				Logg	ed By	:
Clier	nt:		Hastings District Council			Date	):		05-03-20	20	05-03-			Chec	ked By	<i>/</i> :
Elevation (m)	Depth (m)	Geologic Unit	Material Description  (Logging carried out in accordance with Guidelines for the Field Class Rock for Engineering Purposes, New Zealand Geoladvical St	ification of Soil and sciety, 2005)	Legend	Consistency/ Relative Density	Moisture Condition	Shear Vane Reading (kPa)	Samples	Groundwater/ Seepages	2 4	So	ala Pen Blows/10			8 20
	- 0.5		TOPSOIL, brown silt.  Light brown clayey SILT  Light brown clayey SILT. Clay increasing at depth, i						Bulk 0.10m Bulk 0.50m							
-4-	<del>- 1.0</del>		Hand Auger terminated at 1.00m BGL due to ta	rget depth.	<u> </u>				Bulk 0.95m		+	+		Н	+	
2	- 1.5 															
	- 2.5															
- 3	-3.0 - - - -3.5															
4	- - -4.0 -															
	- 4.5 -															
Rem	narks	:	ı						I							

J	) St	tan	tec First Floor, 100 Warren Street South Hastings, New Zealand, 4156	НА	NE	) <i>A</i>	۷U	GE	RL	.0	G			C	d Aug	13
Proje	ect Na	ame:	Frimley Pipelines	Project No. 310103134		Coo	rds:		1928683 5606643		(N	ZTM)	$^{\dagger}$		tal De	pth:
Loca	ation:	F	Frimley, Hastings, New Zealand	310103134		Elev	ation:		(Not ava				$^{\dagger}$	Lo	ogged LA	
Clie	nt:		Hastings District Council			Date	):		05-03-20	20		3-2020	+	Ch	ecked	Ву:
			Material Description			>	tion		Start				Scala F		tion	
Elevation (m)	Depth (m)	Geologic Unit	(Logging carried out in accordance with Guidelines for the Reld Classes Rock for Engineering Purposes, New Zealand Geotechnical St	sification of Soil and occlety, 2005)	puaßaŋ	Consistency/ Relative Density	Moisture Condition	Shear Vane Reading (kPa)	Samples	Groundwater/ Seepages	2	4 6	(Blows		m) 14 16	18 20
			TOPSOIL, brown silt with some gravel at 0.15m.						Bulk 0.10m							
•	- 0.5 -		Light brown, clayey SILT. Light brown, clayey SILT, iron staining.	(0.45) (0.45)	X X X X X X X X X X X X X X X X X X X				Bulk 0.50m							
-1-	- -1.0		Silty SAND Hand Auger terminated at 1.00m BGL due to ts		××× ×××				Bulk 0.95m				Ш			
-2	- 1.5															
- 3	-3.5															
- 4	- 4.0 															
Rem	arks:	<u> </u>														

3	) St	tan	tec First Floor, 100 Warren Street South Hastings, New Zealand, 4156	НА	NE	) <i>A</i>	۷U	GE	RL	.0	G	C	nd Auger II	
Proje	ect Na	ame:	Frimley Pipelines	Project No.		Coo	rds:		1928602 5606583		(NZTM)	_	otal Depth:	
Loca	ation:	F	Frimley, Hastings, New Zealand	310103134		Elev	ation:		(Not ava			L	1.00m .ogged By:	
Clie	nt:		Hastings District Council			Date	e:		05-03-20	20	05-03-2020	С	LA hecked By: VB	
			Material Description			Ajıs	dition		Start			ala Penetr Blows/100r	ation	
Elevation (m)	Depth (m)	Geologic Unit	(Logging carried out in accordance with Guidelines for the Field Class Rock for Engineering Purposes, New Zealand Geotechnical S	sification of Soil and occiety, 2005)	Legend	Consistency/ Relative Density	Moisture Condition	Shear Vane Reading (kPa)	Samples	Groundwater/ Seepages	2 4 6 8	10 12	14 16 18	20
	- 0.5		TOPSOIL, brown silt.  Light brown SILT with some clay.  Brown SILT with some iron staining.	© 35 © 55	X X X X X X X X X X X X X X X X X X X				Bulk 0.10m					
	- - -1.0			(1.00	x x x x x x x x x				Bulk 0.95m					
	- 1.5		Hand Auger terminated at 1.00m BGL due to to	nger depui.										
- 3	- 2.5 - - - 3.0 - - - 3.5													
- 4	- -4.0 - - - - -4.5													
Rem	narks		,			<u> </u>				•				

()	) St	tan	tec First Floor, 100 Warren Street South Hastings, New Zealand, 4156	HA	NE	) <i>A</i>	۷U	GE	R L	.0	G				CS	Fr	
Proje	ect Na	ame:	Frimley Pipelines	Project No. 310103134		Coo	rds:		1928949 5606810		1)	IZTM	)		Tota	al Dep 0.25m	oth:
Loca	ition:	F	Frimley, Hastings, New Zealand	310103134		Elev	ation:		(Not ava	ilable)						gged I LA	
Clier	nt:		Hastings District Council			Date	):		05-03-20	20	05-	03-20 End	20		Che	cked	By:
Elevation (m)	Depth (m)	Geologic Unit	Material Description  (Logging carried out in accordance with Guidelines for the Field Class Rock for Engineering Purposes, New Zealand Goolodvircal S	sification of Soil and ociety, 2005)	pu	Consistency/ Relative Density	Moisture Condition	Shear Vane Reading (kPa)	Samples	Groundwater/ Seepages		End		la Pen lows/10		on	
Elev	Dept	Geo	TOPSOIL, brown silt.		Legend	Con	Mois	Shea	Sam	Grou	2	4	8 8 	10	12 1	4 16	18 20
			Brown, gravelly SILT. Gravel up to 35mm.  Hand Auger terminated at 0.25m BGL due to		<u>/////////////////////////////////////</u>				Bulk 0.10m						H		
	- 0.5 - -																
1	- -1.0 -																
	- - - 1.5 -																
2	- - -2.0																
	- - - 2.5																
3	- - -3.0																
	- - 3.5 -																
- 4	- 4.0 -																
	- - 4.5 -																
Rem	arks:	Refu	isal on gravel.														

(3	) S1	tan	tec First Floor, 100 Warren Street South Hastings, New Zealand, 4156	НА	NE	) <i>A</i>	٧U	GE	RL	.0	G			С	nd Au	r16	6
Droi	o at Nie		Frienday Disalin ca	Project No.		000	rdo:		1928943		/NF	7TM)	+		heet 1 otal D		
_	ect Na		Frimley Pipelines	310103134		Coo			5606829	N		ZTM)	+	ı	0.80		
Loca	ation:	-	Frimley, Hastings, New Zealand			Elev	ation:		(Not avai	ilable)			_		LA		
Clie	nt:	_	Hastings District Council			Date	e:		05-03-20 Start	20		3-2020 End			hecke VE		
Elevation (m)	Depth (m)	Geologic Unit	Material Description  (Logging carried out in accordance with Guidelines for the Rield Class Rock for Engineering Purposes, New Zealand Geotechnical S	sification of Soil and ociety, 2005)	pua	Consistency/ Relative Density	Moisture Condition	Shear Vane Reading (kPa)	Samples	Groundwater/ Seepages			Scala F (Blow				
Elev	Dep	ge	TOPSOIL, brown silt.		Legend	R Co	Mois	She	San	Grou	2	4 6 	8 10	) 12	14 1	6 18	20
	-		Light brown/cream SILT.	(0.25					Bulk 0.10m								
-	- - 0.5 -		Light brown SILT with iron staining.	(0.40)	X X X X X X X X X X X X X X X			QC	Bulk 0.50m 2 sample at	0.50m							
			Light brown SILT with some gravel.	(0.80)	XXX XXX				Bulk 0.75m				Ш	_			$\perp$
1 -	- 1.0 -		Hand Auger terminated at 0.80m BGL due to	orensal.													
	- - 1.5																
	-																
2	-2.0 - -																
	- 2.5 -																
- 3	-3.0 -																
-	- - 3.5 -																
- 4	- - 4.0																
	- - - 4.5																
Rem	narks	: Refu	l usal on gravel.		<u> </u>				l								

Attachment 9

C3 Laboratory reports



Private Bag 3205 Hamilton 3240 New Zealand

T 0508 HILL LAB (44 555 22) T +64 7 858 2000 E mail@hill-labs.co.nz W www.hill-laboratories.com

## **Certificate of Analysis**

Page 1 of 9

SPv1

Tonkin & Taylor Client: Contact: Natalie O'Rourke C/- Tonkin & Taylor PO Box 5271 Auckland 1141

Lab No: 2337239 Date Received: 07-Mar-2020 Date Reported: 16-Mar-2020 80842 Quote No: Order No: 1011287.6000

**Client Reference:** 

Natalie O'Rourke Submitted By:

				onnitied by.	I vatalic C I tou	
Sample Type: Soil						
	Sample Name:	QC1	CS Fr4 0.1 03-Mar-2020 1:50 pm	CS Fr1 0.1 03-Mar-2020 2:15 pm	CS Fr5 0.1 03-Mar-2020 1:30 pm	CS Fr2 0.1 03-Mar-2020 2:05 pm
	Lab Number:	2337239.1	2337239.2	2337239.3	2337239.4	2337239.5
Individual Tests	•					
Dry Matter	g/100g as rcvd	96	91	92	90	93
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	11	7	26	36	17
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	0.15	0.13	0.18	< 0.10
Total Recoverable Chromium	mg/kg dry wt	15	17	15	15	14
Total Recoverable Copper	mg/kg dry wt	21	23	86	19	28
Total Recoverable Lead	mg/kg dry wt	37	113	81	87	51
Total Recoverable Nickel	mg/kg dry wt	10	12	11	11	10
Total Recoverable Zinc	mg/kg dry wt	62	121	87	139	71
Organochlorine Pesticides So	creening in Soil					
Aldrin	mg/kg dry wt	-	< 0.011	< 0.011	< 0.011	< 0.011
alpha-BHC	mg/kg dry wt	-	< 0.011	< 0.011	< 0.011	< 0.011
beta-BHC	mg/kg dry wt	-	< 0.011	< 0.011	< 0.011	< 0.011
delta-BHC	mg/kg dry wt	-	< 0.011	< 0.011	< 0.011	< 0.011
gamma-BHC (Lindane)	mg/kg dry wt	-	< 0.011	< 0.011	< 0.011	< 0.011
cis-Chlordane	mg/kg dry wt	-	< 0.011	< 0.011	< 0.011	< 0.011
trans-Chlordane	mg/kg dry wt	-	< 0.011	< 0.011	< 0.011	< 0.011
Total Chlordane [(cis+trans)* 100/42]	mg/kg dry wt	-	< 0.04	< 0.04	< 0.04	< 0.04
2,4'-DDD	mg/kg dry wt	-	< 0.011	0.012	< 0.011	< 0.011
4,4'-DDD	mg/kg dry wt	-	< 0.011	0.022	< 0.011	< 0.011
2,4'-DDE	mg/kg dry wt	-	< 0.011	< 0.011	< 0.011	< 0.011
4,4'-DDE	mg/kg dry wt	-	0.61	0.41	< 0.011	0.183
2,4'-DDT	mg/kg dry wt	-	0.012	0.015	< 0.011	< 0.011
4,4'-DDT	mg/kg dry wt	-	0.22	0.173	< 0.011	0.057
Total DDT Isomers	mg/kg dry wt	-	0.84	0.63	< 0.07	0.24
Dieldrin	mg/kg dry wt	-	< 0.011	< 0.011	< 0.011	< 0.011
Endosulfan I	mg/kg dry wt	-	< 0.011	< 0.011	< 0.011	< 0.011
Endosulfan II	mg/kg dry wt	-	< 0.011	< 0.011	< 0.011	< 0.011
Endosulfan sulphate	mg/kg dry wt	-	< 0.011	< 0.011	< 0.011	< 0.011
Endrin	mg/kg dry wt	-	< 0.011	< 0.011	< 0.011	< 0.011
Endrin aldehyde	mg/kg dry wt	-	< 0.011	< 0.011	< 0.011	< 0.011
Endrin ketone	mg/kg dry wt	-	< 0.011	< 0.011	< 0.011	< 0.011
Heptachlor	mg/kg dry wt	-	< 0.011	< 0.011	< 0.011	< 0.011
Heptachlor epoxide	mg/kg dry wt	-	< 0.011	< 0.011	< 0.011	< 0.011
Hexachlorobenzene	mg/kg dry wt	-	< 0.011	< 0.011	< 0.011	< 0.011
Methoxychlor	mg/kg dry wt	-	< 0.011	< 0.011	< 0.011	< 0.011



This Laboratory is accredited by International Accreditation New Zealand (IANZ), which represents New Zealand in the International Laboratory Accreditation Cooperation (ILAC). Through the ILAC Mutual Recognition Arrangement (ILAC-MRA) this accreditation is internationally recognised.

The tests reported herein have been performed in accordance with the terms of accreditation, with the exception of tests marked \*, which are not accredited.

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Sa	mple Name:	QC1	CS Fr4 0.1	CS Fr1 0.1	CS Fr5 0.1	CS Fr2 0.1
	•			03-Mar-2020 2:15		
	.ab Number:	2337239.1	pm 2337239.2	pm 2337239.3	pm 2337239.4	pm 2337239.5
Polycyclic Aromatic Hydrocarbon			2331239.2	2331233.3	2337233.4	2337239.3
Total of Reported PAHs in Soil	ma/ka dry wt	0.4	< 0.3	0.6	0.3	0.4
1-Methylnaphthalene	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011
2-Methylnaphthalene	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011
· ·		< 0.011	< 0.011	0.013	< 0.011	< 0.011
Acenaphthylene Acenaphthene	mg/kg dry wt mg/kg dry wt	< 0.011	< 0.011	< 0.013	< 0.011	< 0.011
Anthracene		< 0.011	< 0.011	0.011	< 0.011	< 0.011
Benzo[a]anthracene	mg/kg dry wt mg/kg dry wt	0.023	0.016	0.011	0.027	0.024
Benzo[a]pyrene (BAP)	mg/kg dry wt	0.023	0.016	0.068	0.027	0.024
Benzo[a]pyrene (BAF)	mg/kg dry wt	0.040	0.027	0.10	0.05	0.049
Equivalency Factor (PEF) NES		0.06	0.04	0.10	0.05	0.07
Benzo[a]pyrene Toxic Equivalence (TEF)	mg/kg dry wt					
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	0.038	0.031	0.066	0.039	0.050
Benzo[e]pyrene	mg/kg dry wt	0.020	0.013	0.037	0.018	0.030
Benzo[g,h,i]perylene	mg/kg dry wt	0.026	0.017	0.047	0.023	0.041
Benzo[k]fluoranthene	mg/kg dry wt	0.014	0.011	0.027	0.013	0.017
Chrysene	mg/kg dry wt	0.026	0.018	0.045	0.026	0.027
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.011	< 0.011	0.012	< 0.011	< 0.011
Fluoranthene	mg/kg dry wt	0.050	0.036	0.077	0.042	0.039
Fluorene	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	0.027	0.020	0.052	0.023	0.043
Naphthalene	mg/kg dry wt	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Perylene	mg/kg dry wt	< 0.011	< 0.011	0.014	< 0.011	0.012
Phenanthrene	mg/kg dry wt	0.014	< 0.011	0.031	< 0.011	< 0.011
Pyrene	mg/kg dry wt	0.051	0.030	0.079	0.042	0.040
Total Petroleum Hydrocarbons in						
C7 - C9	mg/kg dry wt	< 8	< 8	< 8	< 8	< 8
C10 - C14	mg/kg dry wt	< 20	< 20	< 20	< 20	< 20
C15 - C36	mg/kg dry wt	< 40	< 40	< 40	< 40	< 40
Total hydrocarbons (C7 - C36)	mg/kg dry wt	< 70	< 70	< 70	< 70	< 70
Sa	mple Name:	1	CS Fr7 0.1 03-Mar-2020 1:15			CS Fr12 0.1 03-Mar-2020
	.ab Number:	pm 2337239.6	pm 2337239.7	pm 2337239.8	pm 2337239.9	12:15 pm 2337239.10
Individual Tests	ab Number.	2337233.0	2001209.1	2337233.0	2337233.3	2337233.10
	g/100g as rcvd	98	95	90	97	89
Heavy Metals, Screen Level	g, 100g ab 101a			00	0.1	- 00
Total Recoverable Arsenic	mg/kg dry wt	4	7	16	10	7
Total Recoverable Cadmium	mg/kg dry wt		< 0.10	0.16	< 0.10	0.15
Total Recoverable Chromium	mg/kg dry wt		14	16	15	16
Total Recoverable Copper	mg/kg dry wt	15	13	42	20	21
Total Recoverable Lead	mg/kg dry wt	11.5	54	67	33	31
Total Recoverable Nickel	mg/kg dry wt		9	12	10	15
Total Recoverable Zinc	mg/kg dry wt		71	103	62	117
Organochlorine Pesticides Scree					_	
Aldrin	mg/kg dry wt	-	_	< 0.011	-	-
alpha-BHC	mg/kg dry wt		_	< 0.011	-	_
beta-BHC	mg/kg dry wt		_	< 0.011	-	-
delta-BHC	mg/kg dry wt	-	_	< 0.011	-	-
gamma-BHC (Lindane)	mg/kg dry wt		-	< 0.011	-	-
cis-Chlordane	mg/kg dry wt		-	< 0.011	-	-
trans-Chlordane	mg/kg dry wt		-	< 0.011	-	-
Total Chlordane [(cis+trans)*	mg/kg dry wt		-	< 0.04	-	-
Total Cilioldanc (Cistilans)						

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Sample Type: Soil						
Sai	mple Name:	CS Fr6 0.1 03-Mar-2020 2:30 pm	CS Fr7 0.1 03-Mar-2020 1:15 pm	CS Fr3 0.1 03-Mar-2020 1:45 pm	CS Fr8 0.1 03-Mar-2020 1:00 pm	CS Fr12 0.1 03-Mar-2020 12:15 pm
L	ab Number:	2337239.6	2337239.7	2337239.8	2337239.9	2337239.10
Organochlorine Pesticides Screen	ning in Soil					
2,4'-DDD	mg/kg dry wt	-	-	< 0.011	-	-
4,4'-DDD	mg/kg dry wt	-	-	< 0.011	-	-
2,4'-DDE	mg/kg dry wt	-	-	< 0.011	-	-
4,4'-DDE	mg/kg dry wt	-	-	0.021	-	-
2,4'-DDT	mg/kg dry wt	-	-	< 0.011	-	-
4,4'-DDT	mg/kg dry wt	-	-	0.011	-	-
Total DDT Isomers	mg/kg dry wt	-	-	< 0.07	-	-
Dieldrin	mg/kg dry wt	-	-	< 0.011	-	-
Endosulfan I	mg/kg dry wt	-	-	< 0.011	-	-
Endosulfan II	mg/kg dry wt	-	-	< 0.011	-	-
Endosulfan sulphate	mg/kg dry wt	-	-	< 0.011	-	-
Endrin	mg/kg dry wt	-	-	< 0.011	-	-
Endrin aldehyde	mg/kg dry wt	-	-	< 0.011	-	-
Endrin ketone	mg/kg dry wt	-	-	< 0.011	-	-
Heptachlor	mg/kg dry wt	-	-	< 0.011	-	-
Heptachlor epoxide	mg/kg dry wt	-	-	< 0.011	-	-
Hexachlorobenzene	mg/kg dry wt	-	-	< 0.011	-	-
Methoxychlor	mg/kg dry wt	-	-	< 0.011	-	-
Polycyclic Aromatic Hydrocarbons	Screening in S	Soil				
Total of Reported PAHs in Soil	mg/kg dry wt	< 0.3	< 0.3	0.5	0.3	0.7
1-Methylnaphthalene	mg/kg dry wt	< 0.010	< 0.011	< 0.011	< 0.011	< 0.012
2-Methylnaphthalene	mg/kg dry wt	< 0.010	< 0.011	< 0.011	< 0.011	< 0.012
Acenaphthylene	mg/kg dry wt	< 0.010	< 0.011	< 0.011	< 0.011	< 0.012
Acenaphthene	mg/kg dry wt	< 0.010	< 0.011	< 0.011	< 0.011	< 0.012
Anthracene	mg/kg dry wt	< 0.010	< 0.011	< 0.011	< 0.011	< 0.012
Benzo[a]anthracene	mg/kg dry wt	< 0.010	0.016	0.042	0.025	0.052
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.010	0.025	0.056	0.036	0.073
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES	mg/kg dry wt	< 0.03	0.04	0.08	0.05	0.11
Benzo[a]pyrene Toxic Equivalence (TEF)	mg/kg dry wt	< 0.03	0.04	0.08	0.05	0.11
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	< 0.010	0.027	0.053	0.035	0.082
Benzo[e]pyrene	mg/kg dry wt	< 0.010	0.012	0.027	0.018	0.040
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.010	0.019	0.032	0.025	0.046
Benzo[k]fluoranthene	mg/kg dry wt	< 0.010	0.012	0.020	0.014	0.030
Chrysene	mg/kg dry wt	< 0.010	0.016	0.046	0.023	0.057
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.010	< 0.011	< 0.011	< 0.011	< 0.012
Fluoranthene	mg/kg dry wt	< 0.010	0.028	0.072	0.046	0.105
Fluorene	mg/kg dry wt	< 0.010	< 0.011	< 0.011	< 0.011	< 0.012
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.010	0.020	0.034	0.026	0.052
Naphthalene	mg/kg dry wt	< 0.05	< 0.06	< 0.06	< 0.06	< 0.06
Perylene	mg/kg dry wt	< 0.010	< 0.011	< 0.011	< 0.011	0.015
Phenanthrene	mg/kg dry wt	< 0.010	< 0.011	0.013	0.013	0.019
Pyrene	mg/kg dry wt	< 0.010	0.026	0.075	0.047	0.102
Total Petroleum Hydrocarbons in	Soil					
C7 - C9	mg/kg dry wt	< 8	< 8	< 8	< 8	< 8
C10 - C14	mg/kg dry wt	< 20	< 20	< 20	< 20	< 20
C15 - C36	mg/kg dry wt	< 40	46	< 40	< 40	< 40
Total hydrocarbons (C7 - C36)	mg/kg dry wt	< 70	< 70	< 70	< 70	< 70
Sai	mple Name:	CS Fr13 0.1 03-Mar-2020 12:25 pm	CS Fr14 0.1 03-Mar-2020 12:00 pm	CS Fr11 0.1 03-Mar-2020 11:45 am	CS Fr15 0.1 03-Mar-2020 9:30 am	CS Fr16 0.1 03-Mar-2020 9:40 am

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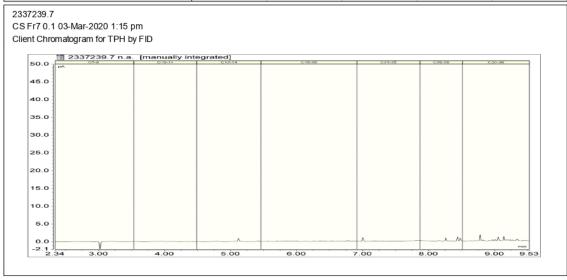
Sample Type: Soil						
S	ample Name:	CS Fr13 0.1 03-Mar-2020 12:25 pm	CS Fr14 0.1 03-Mar-2020 12:00 pm	CS Fr11 0.1 03-Mar-2020 11:45 am	CS Fr15 0.1 03-Mar-2020 9:30 am	CS Fr16 0.1 03-Mar-2020 9:40 am
	Lab Number:	2337239.11	2337239.12	2337239.13	2337239.14	2337239.15
Individual Tests						
Dry Matter	g/100g as rcvd	91	88	91	94	91
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	6	5	16	4	4
Total Recoverable Cadmium	mg/kg dry wt	0.12	< 0.10	0.17	< 0.10	< 0.10
Total Recoverable Chromium	mg/kg dry wt	17	16	21	12	13
Total Recoverable Copper	mg/kg dry wt	14	14	24	8	15
Total Recoverable Lead	mg/kg dry wt	33	46	71	20	15.7
Total Recoverable Nickel	mg/kg dry wt	12	12	11	9	9
Total Recoverable Zinc	mg/kg dry wt	86	86	138	58	51
Organochlorine Pesticides Scre	ening in Soil					
Aldrin	mg/kg dry wt	-	-	-	< 0.011	< 0.011
alpha-BHC	mg/kg dry wt	-	-	-	< 0.011	< 0.011
beta-BHC	mg/kg dry wt	-	-	-	< 0.011	< 0.011
delta-BHC	mg/kg dry wt	-	-	-	< 0.011	< 0.011
gamma-BHC (Lindane)	mg/kg dry wt	-	-	-	< 0.011	< 0.011
cis-Chlordane	mg/kg dry wt	-	-	-	< 0.011	< 0.011
trans-Chlordane	mg/kg dry wt	-	-	-	< 0.011	< 0.011
Total Chlordane [(cis+trans)* 100/42]	mg/kg dry wt	-	-	-	< 0.04	< 0.04
2,4'-DDD	mg/kg dry wt	-	-	-	< 0.011	< 0.011
4,4'-DDD	mg/kg dry wt	-	-	-	< 0.011	< 0.011
2,4'-DDE	mg/kg dry wt	-	-	-	< 0.011	< 0.011
4,4'-DDE	mg/kg dry wt	-	-	-	< 0.011	< 0.011
2,4'-DDT	mg/kg dry wt	-	-	-	< 0.011	< 0.011
4,4'-DDT	mg/kg dry wt	-	-	-	< 0.011	< 0.011
Total DDT Isomers	mg/kg dry wt	-	-	-	< 0.07	< 0.07
Dieldrin	mg/kg dry wt	-	-	-	< 0.011	< 0.011
Endosulfan I	mg/kg dry wt	-	-	-	< 0.011	< 0.011
Endosulfan II	mg/kg dry wt	-	-	-	< 0.011	< 0.011
Endosulfan sulphate	mg/kg dry wt	-	-	-	< 0.011	< 0.011
Endrin	mg/kg dry wt	-	-	-	< 0.011	< 0.011
Endrin aldehyde	mg/kg dry wt	-	-	-	< 0.011	< 0.011
Endrin ketone	mg/kg dry wt	-	-	-	< 0.011	< 0.011
Heptachlor	mg/kg dry wt	-	-	-	< 0.011	< 0.011
Heptachlor epoxide	mg/kg dry wt	-	-	-	< 0.011	< 0.011
Hexachlorobenzene	mg/kg dry wt	-	-	-	< 0.011	< 0.011
Methoxychlor	mg/kg dry wt	-	-	-	< 0.011	< 0.011
Polycyclic Aromatic Hydrocarbo						
Total of Reported PAHs in Soil	mg/kg dry wt	4.1	0.5	1.2	< 0.3	0.6
1-Methylnaphthalene	mg/kg dry wt	< 0.011	< 0.012	< 0.011	< 0.011	< 0.011
2-Methylnaphthalene	mg/kg dry wt	< 0.011	< 0.012	< 0.011	< 0.011	< 0.011
Acenaphthylene	mg/kg dry wt	0.011	< 0.012	0.016	< 0.011	0.013
Acenaphthene	mg/kg dry wt	< 0.011	< 0.012	< 0.011	< 0.011	< 0.011
Anthracene	mg/kg dry wt	0.031	< 0.012	0.017	< 0.011	< 0.011
Benzo[a]anthracene	mg/kg dry wt	0.30	0.039	0.082	0.013	0.040
Benzo[a]pyrene (BAP)	mg/kg dry wt	0.40	0.056	0.123	0.019	0.068
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES	mg/kg dry wt	0.60	0.08	0.18	< 0.03	0.10
Benzo[a]pyrene Toxic Equivalence (TEF)	mg/kg dry wt	0.59	0.08	0.17	< 0.03	0.10
Benzo[b]fluoranthene + Benzo[j] fluoranthene	0 0 7	0.49	0.061	0.119	0.017	0.067
Benzo[e]pyrene	mg/kg dry wt	0.24	0.029	0.065	< 0.011	0.036
Benzo[g,h,i]perylene	mg/kg dry wt	0.31	0.035	0.083	0.012	0.049
Benzo[k]fluoranthene	mg/kg dry wt	0.170	0.022	0.047	< 0.011	0.025

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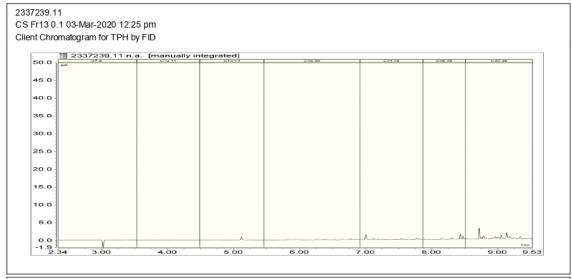
Sample Type: Soil	Samuela Mana	CQ Er42 0.4	CS Er14 0 4	CQ Er11.0.1	CQ Er45 0.4	CS Fr16 0.1
	Sample Name:	CS Fr13 0.1 03-Mar-2020 12:25 pm	CS Fr14 0.1 03-Mar-2020 12:00 pm	CS Fr11 0.1 03-Mar-2020 11:45 am	CS Fr15 0.1 03-Mar-2020 9:30 am	
	Lab Number:	2337239.11	2337239.12	2337239.13	2337239.14	2337239.15
Polycyclic Aromatic Hydrocarb		oil	ı			
Chrysene	mg/kg dry wt	0.33	0.044	0.088	0.011	0.043
Dibenzo[a,h]anthracene	mg/kg dry wt	0.056	< 0.012	0.016	< 0.011	0.011
Fluoranthene	mg/kg dry wt	0.62	0.080	0.165	0.028	0.081
Fluorene	mg/kg dry wt	< 0.011	< 0.012	< 0.011	< 0.011	< 0.011
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	0.32	0.039	0.089	0.013	0.053
Naphthalene	mg/kg dry wt	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Perylene	mg/kg dry wt	0.090	< 0.012	0.023	< 0.011	0.012
Phenanthrene	mg/kg dry wt	0.135	0.012	0.023	0.012	0.024
Pyrene	mg/kg dry wt	0.60	0.075	0.076	0.028	0.086
,		0.60	0.073	0.174	0.028	0.000
Total Petroleum Hydrocarbons						
C7 - C9	mg/kg dry wt	< 8	< 8	< 8	< 8	< 8
C10 - C14	mg/kg dry wt	< 20	< 20	< 20	< 20	< 20
C15 - C36	mg/kg dry wt	77	< 40	48	46	< 40
Total hydrocarbons (C7 - C36)	mg/kg dry wt	78	< 70	< 70	< 70	< 70
\$	Sample Name:	CS Fr10 0.1 03-Mar-2020 11:25 am	CS Fr9 0.1 03-Mar-2020 11:10 am	CS Fr3 0.45 05-Mar-2020 2:55 pm	CS Fr4 0.5 05-Mar-2020 4:10 pm	CS Fr5 0.5 05-Mar-2020 1:45 pm
	Lab Number:	2337239.16	2337239.17	2337239.20	2337239.21	2337239.22
Individual Tests						
Dry Matter	g/100g as rcvd	95	93	90	87	89
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	5	6	16	4	3
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Recoverable Chromium	mg/kg dry wt	12	14	14	12	12
Total Recoverable Copper	mg/kg dry wt	10	12	27	7	8
Total Recoverable Lead	mg/kg dry wt	49	27	36	11.1	11.1
Total Recoverable Nickel	mg/kg dry wt	8	10	11	10	10
Total Recoverable Zinc	mg/kg dry wt	67	61	70	44	46
Organochlorine Pesticides Scr		01	01	70	44	40
				. 0.044	- 0.010	. 0.044
Aldrin	mg/kg dry wt	-	-	< 0.011	< 0.012	< 0.011
alpha-BHC	mg/kg dry wt	-	-	< 0.011	< 0.012	< 0.011
beta-BHC	mg/kg dry wt	-	-	< 0.011	< 0.012	< 0.011
delta-BHC	mg/kg dry wt	-	-	< 0.011	< 0.012	< 0.011
gamma-BHC (Lindane)	mg/kg dry wt	-	-	< 0.011	< 0.012	< 0.011
cis-Chlordane	mg/kg dry wt	-	-	< 0.011	< 0.012	< 0.011
trans-Chlordane	mg/kg dry wt	-	-	< 0.011	< 0.012	< 0.011
Total Chlordane [(cis+trans)* 100/42]	mg/kg dry wt	-	-	< 0.04	< 0.04	< 0.04
2,4'-DDD	mg/kg dry wt	-	-	< 0.011	< 0.012	< 0.011
4,4'-DDD	mg/kg dry wt	-	-	< 0.011	< 0.012	< 0.011
2,4'-DDE	mg/kg dry wt	-	-	< 0.011	< 0.012	< 0.011
4,4'-DDE	mg/kg dry wt	-	-	0.013	< 0.012	< 0.011
2,4'-DDT	mg/kg dry wt	-	-	< 0.011	< 0.012	< 0.011
4,4'-DDT	mg/kg dry wt	-	-	< 0.011	< 0.012	< 0.011
Total DDT Isomers	mg/kg dry wt	-	-	< 0.07	< 0.07	< 0.07
Dieldrin	mg/kg dry wt	-	-	< 0.011	< 0.012	< 0.011
Endosulfan I	mg/kg dry wt	-	-	< 0.011	< 0.012	< 0.011
Endosulfan II	mg/kg dry wt	-	-	< 0.011	< 0.012	< 0.011
Endosulfan sulphate	mg/kg dry wt	-	-	< 0.011	< 0.012	< 0.011
Endrin	mg/kg dry wt	-	-	< 0.011	< 0.012	< 0.011
Endrin aldehyde	mg/kg dry wt	-	-	< 0.011	< 0.012	< 0.011
Endrin ketone	mg/kg dry wt	-	-	< 0.011	< 0.012	< 0.011
Heptachlor	mg/kg dry wt	-	-	< 0.011	< 0.012	< 0.011

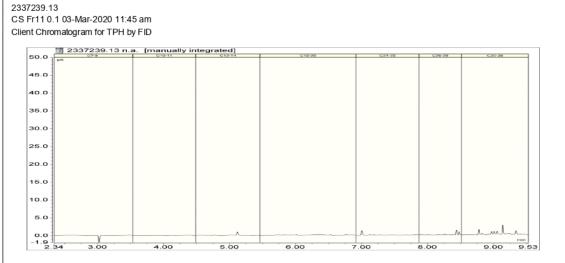
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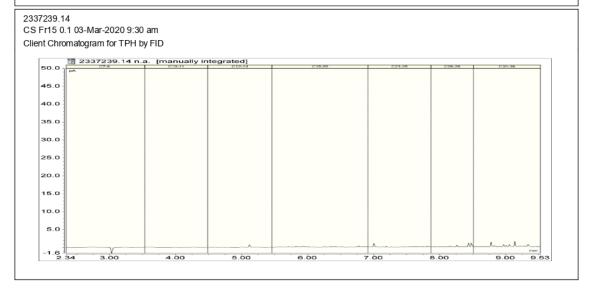
Sample Type: Soil						
S	sample Name:	CS Fr10 0.1 03-Mar-2020 11:25 am	CS Fr9 0.1 03-Mar-2020 11:10 am	CS Fr3 0.45 05-Mar-2020 2:55 pm	CS Fr4 0.5 05-Mar-2020 4:10 pm	CS Fr5 0.5 05-Mar-2020 1:45 pm
	Lab Number:	2337239.16	2337239.17	2337239.20	2337239.21	2337239.22
Organochlorine Pesticides Scre	eening in Soil					
Hexachlorobenzene	mg/kg dry wt	-	-	< 0.011	< 0.012	< 0.011
Methoxychlor	mg/kg dry wt	-	-	< 0.011	< 0.012	< 0.011
Polycyclic Aromatic Hydrocarbo	ons Screening in S	oil				
Total of Reported PAHs in Soil	mg/kg dry wt	0.3	< 0.3	< 0.3	< 0.3	< 0.3
1-Methylnaphthalene	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011
2-Methylnaphthalene	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011
Acenaphthylene	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011
Acenaphthene	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011
Anthracene	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011
Benzo[a]anthracene	mg/kg dry wt	0.022	0.013	< 0.011	< 0.012	< 0.011
Benzo[a]pyrene (BAP)	mg/kg dry wt	0.035	0.019	0.017	< 0.012	< 0.011
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES	mg/kg dry wt	0.05	< 0.03	< 0.03	< 0.03	< 0.03
Benzo[a]pyrene Toxic Equivalence (TEF)	mg/kg dry wt	0.05	< 0.03	< 0.03	< 0.03	< 0.03
Benzo[b]fluoranthene + Benzo[j fluoranthene	] mg/kg dry wt	0.034	0.018	0.016	< 0.012	< 0.011
Benzo[e]pyrene	mg/kg dry wt	0.017	< 0.011	< 0.011	< 0.012	< 0.011
Benzo[g,h,i]perylene	mg/kg dry wt	0.023	0.012	0.011	< 0.012	< 0.011
Benzo[k]fluoranthene	mg/kg dry wt	0.013	< 0.011	< 0.011	< 0.012	< 0.011
Chrysene	mg/kg dry wt	0.025	0.012	< 0.011	< 0.012	< 0.011
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011
Fluoranthene	mg/kg dry wt	0.046	0.023	0.020	< 0.012	< 0.011
Fluorene	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	0.024	0.013	0.011	< 0.012	< 0.011
Naphthalene	mg/kg dry wt	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Perylene	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011
Phenanthrene	mg/kg dry wt	0.016	< 0.011	< 0.011	< 0.012	< 0.011
Pyrene	mg/kg dry wt	0.047	0.022	0.018	< 0.012	< 0.011
Total Petroleum Hydrocarbons	in Soil					
C7 - C9	mg/kg dry wt	< 8	< 8	< 8	< 8	< 8
C10 - C14	mg/kg dry wt	< 20	< 20	< 20	< 20	< 20
C15 - C36	mg/kg dry wt	< 40	42	< 40	< 40	< 40
Total hydrocarbons (C7 - C36)	mg/kg dry wt	< 70	< 70	< 70	< 70	< 70



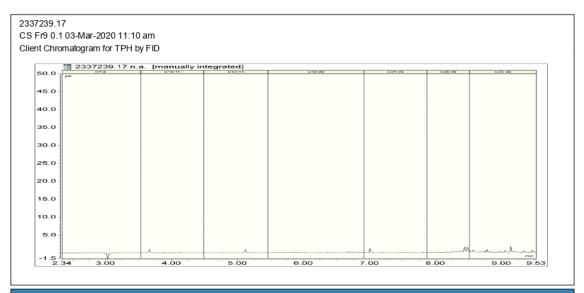
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### **Summary of Methods**

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively simple matrix.

Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. A detection limit range indicates the lowest and highest detection limits in the associated suite of analytes. A full listing of compounds and detection limits are available from the laboratory upon request.

Unless otherwise indicated, analyses were performed at Hill Laboratories, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Soil						
Test	Method Description	Default Detection Limit	Sample No			
Environmental Solids Sample Drying*	Air dried at 35°C Used for sample preparation. May contain a residual moisture content of 2-5%.	-	1-17, 20-22			
Total of Reported PAHs in Soil	Sonication extraction, SPE cleanup, GC-MS SIM analysis.	0.3 mg/kg dry wt	1-17, 20-22			
TPH Oil Industry Profile + PAHscreen	Sonication in DCM extraction, SPE cleanup, GC-FID & GC-MS analysis. Tested on as received sample. US EPA 8015B/MfE Petroleum Industry Guidelines [KBIs:5786,2805,10734;2695].	0.002 - 60 mg/kg dry wt	1-17, 20-22			
Heavy Metals, Screen Level	Dried sample, < 2mm fraction. Nitric/Hydrochloric acid digestion US EPA 200.2. Complies with NES Regulations. ICP-MS screen level, interference removal by Kinetic Energy Discrimination if required.	0.10 - 4 mg/kg dry wt	1-17, 20-22			
Organochlorine Pesticides Screening in Soil	Sonication extraction, SPE cleanup, dual column GC-ECD analysis (modified US EPA 8082). Tested on as recieved sample.	0.010 - 0.06 mg/kg dry wt	2-5, 8, 14-15, 20-22			
Dry Matter (Env)	Dried at 103°C for 4-22hr (removes 3-5% more water than air dry), gravimetry. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed). US EPA 3550.	0.10 g/100g as rcvd	1-17, 20-22			
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES	BaP Potency Equivalence calculated from; Benzo(a)anthracene x 0.1 + Benzo(b)fluoranthene x 0.1 + Benzo(j)fluoranthene x 0.1 + Benzo(k)fluoranthene x 0.1 + Benzo(a)pyrene x 1.0 + Chrysene x 0.01 + Dibenzo(a,h)anthracene x 1.0 + Fluoranthene x 0.01 + Indeno(1,2,3-c,d)pyrene x 0.1. Ministry for the Environment. 2011. Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health. Wellington: Ministry for the Environment.	0.002 mg/kg dry wt	1-17, 20-22			
Benzo[a]pyrene Toxic Equivalence (TEF)	Benzo[a]pyrene Toxic Equivalence (TEF) calculated from; Benzo[a]pyrene x 1.0 + Benzo(a)anthracene x 0.1 + Benzo(b) fluoranthene x 0.1 + Benzo(k)fluoranthene x 0.1 + Chrysene x 0.01 + Dibenzo(a,h)anthracene x 1.0 + Indeno(1,2,3-c,d)pyrene x 0.1. Guidelines for assessing and managing contaminated gasworks sites in New Zealand (GMG) (MfE, 1997).	0.002 mg/kg dry wt	1-17, 20-22			

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These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Dates of testing are available on request. Please contact the laboratory for more information.

Samples are held at the laboratory after reporting for a length of time based on the stability of the samples and analytes being tested (considering any preservation used), and the storage space available. Once the storage period is completed, the samples are discarded unless otherwise agreed with the customer. Extended storage times may incur additional charges.

This certificate of analysis must not be reproduced, except in full, without the written consent of the signatory.

Graham Corban MSc Tech (Hons) Client Services Manager - Environmental

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 Hill Laboratories
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Private Bag 3205 Hamilton 3240 New Zealand

T 0508 HILL LAB (44 555 22) T +64 7 858 2000 E mail@hill-labs.co.nz W www.hill-laboratories.com

## **Certificate of Analysis**

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SPv1

Tonkin & Taylor Client: Contact: Natalie O'Rourke C/- Tonkin & Taylor PO Box 5271 Auckland 1141

Lab No: 2337241 07-Mar-2020 Date Received: Date Reported: 13-Mar-2020 80842 Quote No: Order No: 1011287.6000

**Client Reference:** Submitted By:

Natalie O'Rourke

			- Jul	omitted by.	rvatane o rto	anco
Sample Type: Soil						
	Sample Name:	CS Fr11 0.5m 05-Mar-2020 4:40 pm	CS Fr 1 0.5 05-Mar-2020 3:50 pm	CS Fr 2 0.5 05-Mar-2020 3:20 pm	CS Fr 14 0.5 05-Mar-2020 12:25 pm	CS Fr 7 0.5m 05-Mar-2020 2:30 pm
	Lab Number:	2337241.2	2337241.4	2337241.5	2337241.6	2337241.10
Individual Tests						
Dry Matter	g/100g as rcvd	84	84	84	78	96
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	17	6	7	4	5
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Recoverable Chromium		18	14	13	14	13
Total Recoverable Copper	mg/kg dry wt	28	14	10	9	8
Total Recoverable Lead	mg/kg dry wt	26	23	15.0	12.9	13.0
Total Recoverable Nickel	mg/kg dry wt	13	11	12	13	10
Total Recoverable Zinc	mg/kg dry wt	76	58	54	51	46
Organochlorine Pesticides S		10		04		40
Aldrin		_	< 0.012	< 0.012		
	mg/kg dry wt				-	-
alpha-BHC beta-BHC	mg/kg dry wt	-	< 0.012	< 0.012		-
	mg/kg dry wt	-	< 0.012	< 0.012	-	-
delta-BHC	mg/kg dry wt		< 0.012	< 0.012		
gamma-BHC (Lindane)	mg/kg dry wt	-	< 0.012	< 0.012	-	-
cis-Chlordane	mg/kg dry wt	-	< 0.012	< 0.012	-	-
trans-Chlordane	mg/kg dry wt	-	< 0.012	< 0.012	-	-
Total Chlordane [(cis+trans)* 100/42]	mg/kg dry wt	-	< 0.04	< 0.04	-	-
2,4'-DDD	mg/kg dry wt	-	< 0.012	< 0.012	-	-
4,4'-DDD	mg/kg dry wt	-	< 0.012	< 0.012	-	-
2,4'-DDE	mg/kg dry wt	-	< 0.012	< 0.012	-	-
4,4'-DDE	mg/kg dry wt	-	0.016	< 0.012	-	-
2,4'-DDT	mg/kg dry wt	-	< 0.012	< 0.012	-	-
4,4'-DDT	mg/kg dry wt	-	0.021	< 0.012	-	-
Total DDT Isomers	mg/kg dry wt	-	< 0.08	< 0.08	-	-
Dieldrin	mg/kg dry wt	-	< 0.012	< 0.012	-	-
Endosulfan I	mg/kg dry wt	-	< 0.012	< 0.012	-	-
Endosulfan II	mg/kg dry wt	-	< 0.012	< 0.012	-	-
Endosulfan sulphate	mg/kg dry wt	-	< 0.012	< 0.012	-	-
Endrin	mg/kg dry wt	-	< 0.012	< 0.012	-	-
Endrin aldehyde	mg/kg dry wt	-	< 0.012	< 0.012	-	-
Endrin ketone	mg/kg dry wt	-	< 0.012	< 0.012	-	-
Heptachlor	mg/kg dry wt	-	< 0.012	< 0.012	-	-
Heptachlor epoxide	mg/kg dry wt	-	< 0.012	< 0.012	-	-
Hexachlorobenzene	mg/kg dry wt	-	< 0.012	< 0.012	-	-
Methoxychlor	mg/kg dry wt	-	< 0.012	< 0.012	-	-



This Laboratory is accredited by International Accreditation New Zealand (IANZ), which represents New Zealand in the International Laboratory Accreditation Cooperation (ILAC). Through the ILAC Mutual Recognition Arrangement (ILAC-MRA) this accreditation is internationally recognised.

The tests reported herein have been performed in accordance with the terms of accreditation, with the exception of tests marked \*, which are not accredited.

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Sample Type: Soil							
Sa	mple Name:	CS Fr11 0.5m 05-Mar-2020 4:40 pm	CS Fr 1 0.5 05-Mar-2020 3:50 pm	CS Fr 2 0.5 05-Mar-2020 3:20 pm	CS Fr 14 0.5 05-Mar-2020 12:25 pm	CS Fr 7 0.5m 05-Mar-2020 2:30 pm	
L	.ab Number:	2337241.2	2337241.4	2337241.5	2337241.6	2337241.10	
Polycyclic Aromatic Hydrocarbon	s Screening in S	Soil					
Total of Reported PAHs in Soil	mg/kg dry wt	0.5	< 0.3	< 0.3	< 0.3	< 0.3	
1-Methylnaphthalene	mg/kg dry wt	< 0.012	< 0.012	< 0.012	< 0.013	< 0.010	
2-Methylnaphthalene	mg/kg dry wt	< 0.012	< 0.012	< 0.012	< 0.013	< 0.010	
Acenaphthylene	mg/kg dry wt	< 0.012	< 0.012	< 0.012	< 0.013	< 0.010	
Acenaphthene	mg/kg dry wt	< 0.012	< 0.012	< 0.012	< 0.013	< 0.010	
Anthracene	mg/kg dry wt	< 0.012	< 0.012	< 0.012	< 0.013	< 0.010	
Benzo[a]anthracene	mg/kg dry wt	0.038	0.014	< 0.012	< 0.013	< 0.010	
Benzo[a]pyrene (BAP)	mg/kg dry wt	0.053	0.035	< 0.012	< 0.013	< 0.010	
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES	mg/kg dry wt	0.08	0.05	< 0.03	< 0.03	< 0.03	
Benzo[a]pyrene Toxic Equivalence (TEF)	mg/kg dry wt	80.0	0.05	< 0.03	< 0.03	< 0.03	
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	0.066	0.042	< 0.012	< 0.013	< 0.010	
Benzo[e]pyrene	mg/kg dry wt	0.029	0.021	< 0.012	< 0.013	< 0.010	
Benzo[g,h,i]perylene	mg/kg dry wt	0.036	0.030	< 0.012	< 0.013	< 0.010	
Benzo[k]fluoranthene	mg/kg dry wt	0.025	0.014	< 0.012	< 0.013	< 0.010	
Chrysene	mg/kg dry wt	0.043	0.014	< 0.012	< 0.013	< 0.010	
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.012	< 0.012	< 0.012	< 0.013	< 0.010	
Fluoranthene	mg/kg dry wt	0.076	0.021	< 0.012	< 0.013	< 0.010	
Fluorene	mg/kg dry wt	< 0.012	< 0.012	< 0.012	< 0.013	< 0.010	
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	0.038	0.030	< 0.012	< 0.013	< 0.010	
Naphthalene	mg/kg dry wt	< 0.06	< 0.06	< 0.06	< 0.07	< 0.05	
Perylene	mg/kg dry wt	0.017	< 0.012	< 0.012	< 0.013	< 0.010	
Phenanthrene	mg/kg dry wt	0.020	< 0.012	< 0.012	< 0.013	< 0.010	
Pyrene	mg/kg dry wt	0.068	0.023	< 0.012	< 0.013	< 0.010	
Total Petroleum Hydrocarbons in	Soil						
C7 - C9	mg/kg dry wt	< 8	< 8	< 8	< 8	< 8	
C10 - C14	mg/kg dry wt	< 20	< 20	< 20	< 20	< 20	
C15 - C36	mg/kg dry wt	< 40	< 40	< 40	< 40	< 40	
Total hydrocarbons (C7 - C36)	mg/kg dry wt	< 70	< 70	< 70	< 70	< 70	
Sa	mple Name:	CS Fr 13 0.5m 05-Mar-2020 12:00 pm	CS Fr 8 0.45m 05-Mar-2020 9:05 am	CS Fr9 0.45 05-Mar-2020 9:30 am	CS Fr12 0.5 05-Mar-2020 11:25 am	CS Fr16 0.5 05-Mar-2020 10:35 am	
L	ab Number:	2337241.11	2337241.12	2337241.14	2337241.16	2337241.17	
Individual Tests							
Dry Matter	g/100g as rcvd	78	93	87	80	96	
Heavy Metals, Screen Level			1			-	
Total Recoverable Arsenic	mg/kg dry wt	6	4	6	7	5	
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Total Recoverable Chromium	mg/kg dry wt	17	12	14	17	12	
Total Recoverable Copper	mg/kg dry wt	11	7	13	12	7	
Total Recoverable Lead	mg/kg dry wt	17.0	12.1	35	18.3	10.4	
Total Recoverable Nickel	mg/kg dry wt	15	8	10	16	11	
Total Recoverable Zinc	mg/kg dry wt	65	47	57	65	45	
Polycyclic Aromatic Hydrocarbons Screening in Soil							
Total of Reported PAHs in Soil	mg/kg dry wt	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	
1-Methylnaphthalene	mg/kg dry wt	< 0.013	< 0.011	< 0.012	< 0.013	< 0.011	
2-Methylnaphthalene	mg/kg dry wt	< 0.013	< 0.011	< 0.012	< 0.013	< 0.011	
Acenaphthylene	mg/kg dry wt	< 0.013	< 0.011	< 0.012	< 0.013	< 0.011	
Acenaphthene	mg/kg dry wt	< 0.013	< 0.011	< 0.012	< 0.013	< 0.011	
Anthracene	mg/kg dry wt	< 0.013	< 0.011	< 0.012	< 0.013	< 0.011	
Benzo[a]anthracene	mg/kg dry wt	< 0.013	< 0.011	0.020	< 0.013	< 0.011	
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.013	< 0.011	0.030	< 0.013	< 0.011	
	J J ,						

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Sample Type: Soil							
	mple Name:	CS Fr 13 0.5m 05-Mar-2020 12:00 pm	CS Fr 8 0.45m 05-Mar-2020 9:05 am	CS Fr9 0.45 05-Mar-2020 9:30 am	CS Fr12 0.5 05-Mar-2020 11:25 am	CS Fr16 0.5 05-Mar-2020 10:35 am	
	ab Number:	2337241.11	2337241.12	2337241.14	2337241.16	2337241.17	
Polycyclic Aromatic Hydrocarbons Screening in Soil							
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES	mg/kg dry wt	< 0.04	< 0.03	0.04	< 0.03	< 0.03	
Benzo[a]pyrene Toxic Equivalence (TEF)	mg/kg dry wt	< 0.03	< 0.03	0.04	< 0.03	< 0.03	
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	< 0.013	< 0.011	0.031	< 0.013	< 0.011	
Benzo[e]pyrene	mg/kg dry wt	< 0.013	< 0.011	0.016	< 0.013	< 0.011	
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.013	< 0.011	0.020	< 0.013	< 0.011	
Benzo[k]fluoranthene	mg/kg dry wt	< 0.013	< 0.011	0.012	< 0.013	< 0.011	
Chrysene	mg/kg dry wt	< 0.013	< 0.011	0.022	< 0.013	< 0.011	
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.013	< 0.011	< 0.012	< 0.013	< 0.011	
Fluoranthene	mg/kg dry wt	< 0.013	< 0.011	0.033	< 0.013	< 0.011	
Fluorene	mg/kg dry wt	< 0.013	< 0.011	< 0.012	< 0.013	< 0.011	
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.013	< 0.011	0.018	< 0.013	< 0.011	
Naphthalene	mg/kg dry wt	< 0.07	< 0.06	< 0.06	< 0.07	< 0.06	
Perylene	mg/kg dry wt	< 0.013	< 0.011	< 0.012	< 0.013	< 0.011	
Phenanthrene	mg/kg dry wt	< 0.013	< 0.011	0.012	< 0.013	< 0.011	
Pyrene	mg/kg dry wt	< 0.013	< 0.011	0.036	< 0.013	< 0.011	
Total Petroleum Hydrocarbons in							
C7 - C9	mg/kg dry wt	< 8	< 8	< 8	< 8	< 8	
C10 - C14	mg/kg dry wt	< 20	< 20	< 20	< 20	< 20	
C15 - C36	mg/kg dry wt	< 40	< 40	< 40	< 40	< 40	
Total hydrocarbons (C7 - C36)	mg/kg dry wt	< 70	< 70	< 70	< 70	< 70	
Sar	mple Name:	CS Fr10 0.47 05-Mar-2020 10:00 am	QC2 05-Mar-2020				
L	ab Number:	2337241.18	2337241.20				
Individual Tests							
Dry Matter	g/100g as rcvd	97	96	-	-	-	
Heavy Metals, Screen Level							
Total Recoverable Arsenic	mg/kg dry wt	4	5	-	-	-	
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	< 0.10	-	-	-	
Total Recoverable Chromium	mg/kg dry wt	12	13	-	-	-	
Total Recoverable Copper	mg/kg dry wt	6	8	-	-	-	
Total Recoverable Lead	mg/kg dry wt	10.7	10.8				
Total Recoverable Nickel			10.0	-	-	-	
Total Recoverable Zinc	mg/kg dry wt	9	11	-	-	-	
I olai Recoverable ZITIC	mg/kg dry wt mg/kg dry wt				-		
Polycyclic Aromatic Hydrocarbons	mg/kg dry wt	9 42	11	-	-	-	
	mg/kg dry wt	9 42	11	-	-	-	
Polycyclic Aromatic Hydrocarbons	mg/kg dry wt s Screening in S	9 42 oil	11 47	-	-	-	
Polycyclic Aromatic Hydrocarbons Total of Reported PAHs in Soil	mg/kg dry wt s Screening in S mg/kg dry wt	9 42 oil < 0.3	11 47 < 0.3	-	-	-	
Polycyclic Aromatic Hydrocarbons Total of Reported PAHs in Soil 1-Methylnaphthalene	mg/kg dry wt s Screening in S mg/kg dry wt mg/kg dry wt mg/kg dry wt mg/kg dry wt	9 42 oil < 0.3 < 0.010	11 47 < 0.3 < 0.011		- - -	-	
Polycyclic Aromatic Hydrocarbons Total of Reported PAHs in Soil 1-Methylnaphthalene 2-Methylnaphthalene Acenaphthylene Acenaphthene	mg/kg dry wt s Screening in S mg/kg dry wt mg/kg dry wt mg/kg dry wt	9 42 oil < 0.3 < 0.010 < 0.010	11 47 < 0.3 < 0.011			-	
Polycyclic Aromatic Hydrocarbons Total of Reported PAHs in Soil 1-Methylnaphthalene 2-Methylnaphthalene Acenaphthylene Acenaphthene Anthracene	mg/kg dry wt s Screening in S mg/kg dry wt mg/kg dry wt mg/kg dry wt mg/kg dry wt mg/kg dry wt mg/kg dry wt mg/kg dry wt	9 42 oil < 0.3 < 0.010 < 0.010 < 0.010 < 0.010 < 0.010 < 0.010	11 47 47 < 0.3 < 0.011 < 0.011 < 0.011 < 0.011 < 0.011 < 0.011	- - - - -	- - - - -		
Polycyclic Aromatic Hydrocarbons Total of Reported PAHs in Soil 1-Methylnaphthalene 2-Methylnaphthalene Acenaphthylene Acenaphthene Anthracene Benzo[a]anthracene	mg/kg dry wt s Screening in S mg/kg dry wt	9 42 oil < 0.3 < 0.010 < 0.010 < 0.010 < 0.010 < 0.010 < 0.010 < 0.010 < 0.010	11 47 < 0.3 < 0.011 < 0.011 < 0.011 < 0.011 < 0.011	- - - - -	- - - - -	- - - - - -	
Polycyclic Aromatic Hydrocarbons Total of Reported PAHs in Soil 1-Methylnaphthalene 2-Methylnaphthalene Acenaphthylene Acenaphthylene Anthracene Benzo[a]anthracene Benzo[a]pyrene (BAP)	mg/kg dry wt s Screening in S mg/kg dry wt	9 42 oil < 0.3 < 0.010 < 0.010 < 0.010 < 0.010 < 0.010 < 0.010 < 0.010 < 0.010 < 0.010	11 47 47 47 47 47 47 47 47 47 47 47 47 47	- - - - - -	- - - - - - -	- - - - - -	
Polycyclic Aromatic Hydrocarbons Total of Reported PAHs in Soil 1-Methylnaphthalene 2-Methylnaphthalene Acenaphthylene Acenaphthene Anthracene Benzo[a]anthracene	mg/kg dry wt s Screening in S mg/kg dry wt	9 42 oil < 0.3 < 0.010 < 0.010 < 0.010 < 0.010 < 0.010 < 0.010 < 0.010 < 0.010	11 47 < 0.3 < 0.011 < 0.011 < 0.011 < 0.011 < 0.011	- - - - - - -	- - - - - - -	- - - - - - - -	
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Sample Type: Soil						
	Sample Name:	CS Fr10 0.47 05-Mar-2020 10:00 am	QC2 05-Mar-2020			
	Lab Number:	2337241.18	2337241.20			
Polycyclic Aromatic Hydrocart	oons Screening in S	ioil				
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.010	< 0.011	-	-	-
Fluoranthene	mg/kg dry wt	< 0.010	< 0.011	-	-	-
Fluorene	mg/kg dry wt	< 0.010	< 0.011	-	-	-
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.010	< 0.011	-	-	-
Naphthalene	mg/kg dry wt	< 0.05	< 0.06	-	-	-
Perylene	mg/kg dry wt	< 0.010	< 0.011	-	-	-
Phenanthrene	mg/kg dry wt	< 0.010	< 0.011	-	-	-
Pyrene	mg/kg dry wt	< 0.010	< 0.011	-	-	-
Total Petroleum Hydrocarbons in Soil						
C7 - C9	mg/kg dry wt	< 8	< 8	-	-	-
C10 - C14	mg/kg dry wt	< 20	< 20	-	-	-
C15 - C36	mg/kg dry wt	< 40	< 40	-	-	-
Total hydrocarbons (C7 - C36	) mg/kg dry wt	< 70	< 70	-	-	-

### **Summary of Methods**

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively simple matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. A detection limit range indicates the lowest and highest detection limits in the associated suite of analytes. A full listing of compounds and detection limits are available from the laboratory upon request. Unless otherwise indicated, analyses were performed at Hill Laboratories, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Soil						
Test	Method Description	Default Detection Limit	Sample No			
Environmental Solids Sample Drying*	Air dried at 35°C Used for sample preparation. May contain a residual moisture content of 2-5%.	-	2, 4-6, 10-12, 14, 16-18, 20			
Total of Reported PAHs in Soil	Sonication extraction, SPE cleanup, GC-MS SIM analysis.	0.3 mg/kg dry wt	2, 4-6, 10-12, 14, 16-18, 20			
TPH Oil Industry Profile + PAHscreen	Sonication in DCM extraction, SPE cleanup, GC-FID & GC-MS analysis. Tested on as received sample. US EPA 8015B/MfE Petroleum Industry Guidelines [KBIs:5786,2805,10734;2695].	0.002 - 60 mg/kg dry wt	2, 4-6, 10-12, 14, 16-18, 20			
Heavy Metals, Screen Level	Dried sample, < 2mm fraction. Nitric/Hydrochloric acid digestion US EPA 200.2. Complies with NES Regulations. ICP-MS screen level, interference removal by Kinetic Energy Discrimination if required.	0.10 - 4 mg/kg dry wt	2, 4-6, 10-12, 14, 16-18, 20			
Organochlorine Pesticides Screening in Soil	Sonication extraction, SPE cleanup, dual column GC-ECD analysis (modified US EPA 8082). Tested on as recieved sample.	0.010 - 0.06 mg/kg dry wt	4-5			
Dry Matter (Env)	Dried at 103°C for 4-22hr (removes 3-5% more water than air dry), gravimetry. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed). US EPA 3550.	0.10 g/100g as rcvd	2, 4-6, 10-12, 14, 16-18, 20			
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES	BaP Potency Equivalence calculated from; Benzo(a)anthracene x 0.1 + Benzo(b)fluoranthene x 0.1 + Benzo(b)fluoranthene x 0.1 + Benzo(k)fluoranthene x 0.1 + Benzo(a)pyrene x 1.0 + Chrysene x 0.01 + Dibenzo(a,h)anthracene x 1.0 + Fluoranthene x 0.01 + Indeno(1,2,3-c,d)pyrene x 0.1. Ministry for the Environment. 2011. Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health. Wellington: Ministry for the Environment.	0.002 mg/kg dry wt	2, 4-6, 10-12, 14, 16-18, 20			
Benzo[a]pyrene Toxic Equivalence (TEF)	Benzo[a]pyrene Toxic Equivalence (TEF) calculated from; Benzo[a]pyrene x 1.0 + Benzo(a)anthracene x 0.1 + Benzo(b) fluoranthene x 0.1 + Benzo(k)fluoranthene x 0.1 + Chrysene x 0.01 + Dibenzo(a,h)anthracene x 1.0 + Indeno(1,2,3-c,d)pyrene x 0.1. Guidelines for assessing and managing contaminated gasworks sites in New Zealand (GMG) (MfE, 1997).	0.002 mg/kg dry wt	2, 4-6, 10-12, 14, 16-18, 20			

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These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Dates of testing are available on request. Please contact the laboratory for more information.

Samples are held at the laboratory after reporting for a length of time based on the stability of the samples and analytes being tested (considering any preservation used), and the storage space available. Once the storage period is completed, the samples are discarded unless otherwise agreed with the customer. Extended storage times may incur additional charges.

This certificate of analysis must not be reproduced, except in full, without the written consent of the signatory.

Graham Corban MSc Tech (Hons) Client Services Manager - Environmental

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Appendix D: Asbestos management procedures

#### D1 Introduction

The procedures set out in Appendix D are required to be implemented, in addition to those set out in the remainder of this SMP, during ground disturbance works in any area(s) of the site where ACM is identified (e.g. below ground infrastructure) or suspected (e.g. based on observation of demolition debris) to be present in ground.

In addition, in accordance with Regulations 13 and 32 of the Health and Safety at Work (Asbestos) Regulations 2016 (Asbestos Regulations), an Asbestos Management Plan and/or Asbestos Removal Control Plan may be required to be prepared in addition to this SMP.

In the event of a discovery of unexpected asbestos, works in the vicinity of the contamination hotspot shall cease immediately until appropriate contingency measures, as set out in this SMP and informed by consultation with the Contaminated Land Specialist, are implemented.

## D2 Determination of level of control required

In order to help achieve compliance with the Asbestos Regulations, WorkSafe New Zealand has prepared an Approved Code of Practice: Management and Removal of Asbestos, dated September 2016 (ACoP). The key requirements of the regulations and ACoP are that works involving asbestos contaminated soils must be undertaken with appropriate asbestos controls in place and that contaminated soil removed from site must be taken to an approved disposal site. The ACoP refers readers to the Asbestos in Soils Guidelines, which were published in November 2017 by BRANZ Ltd, for further guidance.

The Asbestos in Soils Guidelines apply increasing level of oversight and controls as the concentration of asbestos in soil increases. As the concentration of asbestos in soil (if any) will not be known, in the event of unexpected encounters, the following is proposed:

- The Contaminated Land Specialist shall inspect the work area and review the proposed works against the observed asbestos conditions, including any available soil testing data and asbestos condition surveys of any nearby structures, to assess the potential effects of asbestos in soils:
- If the above assessment indicates that it is possible that asbestos in soil will be encountered at concentrations exceeding the relevant standards for commercial/industrial use defined in the Asbestos in Soils Guidelines soil sampling shall be undertaken;
- If the soil sampling results indicate (based on comparison to the requirements of the Asbestos in Soils Guidelines) that the works need to be undertaken as Class A or Class B works (generally only where high concentrations of fibres or fragments are present) the Contractor shall engage the services of a Licensed Asbestos Removalist; and
- 4 The Licensed Asbestos Removalist shall determine what notification and additional asbestos management controls may be required to supplement the procedures set out in this SMP, including the requirement for an asbestos removal control plan.

The following procedures provide guidance on anticipated asbestos controls, however, for Class A or Class B works the appropriateness of these procedures are to be confirmed by the Licensed Asbestos Removalist in consultation with the Contaminated Land Specialist.

#### D3 Air monitoring

If the soil sampling results indicate (based on comparison to the requirements of the Asbestos in Soils Guidelines) that the works need to be undertaken as any works category above 'asbestos-related work' (i.e. as 'Class B' or 'Class A' work) then air monitoring shall be implemented.

Monitoring requirements shall be determined by the Contaminated Land Specialist<sup>8</sup> or an independent licensed asbestos assessor, in accordance with the requirements of the regulations and ACoP.

#### D4 Establishment of asbestos work area

In addition to the general site establishment requirements set out in this SMP (refer to Section 4) the following shall be established prior to commencement of any asbestos works:

- Establishment of the 'asbestos work area' by fencing and appropriate signage, including dust barriers/scrim where necessary. The controls should be sufficient to prevent accidental access to or trafficking across this area;
- Establishment of an access way to the 'asbestos work area';
- Establishment of a truck loading area and decontamination area adjacent to 'asbestos work area', to prevent machinery and trucks from trafficking asbestos contaminated soils outside the 'asbestos work area' and contaminating otherwise asbestos free materials. These controls are additional to those set out in Section 4;
- Permits for disposal of asbestos-contaminated soil shall be obtained from the selected disposal site(s), if required;
- Provision of PPE including P2 dust masks (as a minimum), disposable overalls, and disposable gloves;
- Health and safety inductions are to be completed prior to allowing workers to operate within the 'asbestos work area', including works required as part of the site establishment; and
- Where required, notification to WorkSafe of the intent to commence works.

#### D5 Personal protective equipment

Personal protective equipment shall comply with the requirements set out in the Asbestos in Soils Guidelines (refer to Table 6 of the document). However, as a minimum, workers undertaking disturbance of soil shall:

- Wear respiratory protection during excavation works. The minimum respiratory protection requirement is a P2 dust mask;
- · Wear Tyvek overalls to prevent asbestos fibres collecting within the folds of clothing; and
- Boot covers shall be used to prevent asbestos fibres being tracked outside the works area on the soles of workers/visitors boots, or alternatively a boot wash shall be established at the entrance to the works area.

These requirements shall be confirmed by soil sampling.

### D6 Segregation

Any spoil removed from the 'asbestos work area' must be kept separate from all other excavated soils to prevent cross contamination. It is preferable that the soil be excavated directly onto trucks for removal however if stockpiling is required the following apply:

 Soils containing asbestos contaminated soils must be placed in a fenced area and warning signs erected;

<sup>&</sup>lt;sup>8</sup> Where person/entity is fulfils the requirements for an independent licensed asbestos assessor as specified by the Asbestos Regulations.

- Contaminated soil stockpiles shall be placed on sheeting or similar to prevent contamination of underlying clean material; and
- The stockpiled shall be covered with geotextile or a polythene cover to prevent rainfall induced erosion and dust.

#### D7 Decontamination

Decontamination of personnel and portable equipment must be carried out to reduce safety, health and environmental risks and limit the migration of contaminants (from waste material, soil, water, equipment and PPE) around, and outside, the site. All personnel and equipment involved in ground breaking activities within the asbestos work area must be thoroughly decontaminated before leaving the area.

Decontamination procedures shall comply with the requirements set out in the Asbestos in Soils Guidelines (refer to Table 6 and 7 of the document). As a minimum the decontamination procedures described in Section 5.3 shall be implemented. In addition, works involving asbestos may require:

- A personnel decontamination unit(s) to be available; and
- In accordance with the Asbestos in Soils Guidelines all equipment must be visually inspected by the Independent Competent Person before it leaves site.

### D8 Spoil management

If the asbestos contaminated soil is to remain on site it shall either be encapsulated beneath hard pavement (concrete or asphalt) or the following to prevent direct contact:

- Installation of a physical barrier comprising Bidim A19 or similar (non-woven geotextile). The bidim shall extend at least 1 m over adjacent ground and shall be anchored with steel pins every 2 m spacing. Where joints are required, a minimum of 500 mm overlap is proposed;
- Installation of geogrid (Fortrac type 55 or similar) across the same area, to prevent the bidim from being cut into in future. This needs to be pinned in place as well; and
- Cover with a minimum 200 mm thickness of cleanfill.

In all cases the location of the encapsulation area shall be recorded by survey and incorporated into this SMP and/or any Asbestos Management Plan implemented for the area.

If the spoil is to be removed, it must be disposed to a facility licensed to receive the appropriate level of asbestos contaminated waste.

#### D9 Validation

Validation requirements (if any) shall be determined by the Contaminated Land Specialist in consideration of the relevant MfE Contaminated Land Guidelines and Asbestos in Soils Guidelines (as appropriate). Further detail with respect to validation and reporting requirements is provided in Section 7.

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#### **MEMORANDUM**

File Ref Record Number

HASTINGS DISTRICT COUNCIL

207 Lyndon Road East Hastings 4122 Private Bag 9002 Hastings 4156

Phone 06 871 5000 Fax 06 871 5100 www.hastingsdc.govt.nz

TE KAUNIHERA O HERETAUNGA

To: Philip McKay
From: Alina Enovan

Copy to:

Date: 4 February 2020

Subject: RMA20190545- 411 Frimley Road Hastings (PID#13818)

Construction and operation of water treatment plant and drinking water reservoir and

associated activities

#### Comments

This application is for the implementation phase of drinking water improvement programme. For this application hasn't been provided details of the infrastructure proposed. The activities proposed on this application include the construction and operation of a new water treatment plant of approx. 480m2 and drinking water storage reservoir approx. 8000m3 located at Frimley Park.

The information provided at this stage are limited. A few existing bores will be capped off and new bores will be installed.

Detail design and calculation for the proposed infrastructure will be part of the engineering plan approval application. Zone of influence to public drains for the proposed structure will be required to be address at engineering plan approval.

Water tanks, geotechnical, stormwater, wastewater, zone of influence to public systems and boundary details will be requiring to be provided at BC applications.

Approval for new bores from Hawkes Bay Regional Council is required.

The earthwork volume for the creation of tank foundation and installation of infrastructure might exceed the permitted activity threshold. At this stage is the earthwork is expected to be approx. 3500m3.

The recommended conditions are based on the limited information provided at this stage.

#### Access and vehicle crossing

The access and disturbance of traffic during the earthwork and construction will require traffic and construction management plan.

The access to and from the site existing vehicle crossing will be via existing entrances and via schools. No new vehicle crossing has been proposed. The traffic management plan shall include the traffic and mitigation on public and private land.

Condition has been recommended

#### Recommended conditions

 Prior to the commencement of the construction and/or earthworks activity, the consent holder shall provide engineering drawing for approval.

The engineering plans submitted for approval shall detail all works associated with, and be in accordance with Hastings District Council- Engineering Code of Practice (2011), including but not limited to:

- a) Stormwater Reticulation
- b) Water Reticulation

- c) Wastewater reticulation
- d) Earthworks and Erosion Sediment Control Plan
- e) Construction management plan
- f) Construction methodology
- g) Corridor Access Request (CAR) complete with Traffic Management Plan (TMP)
- As part of the application for Engineering Plan Approval, a Chartered Professional Engineer shall:
  - i) Certify that the proposed public systems and devices has been designed in accordance with HDC- Engineering Code of Practice and XXXXX.
  - ii) Provide a statement that the proposed infrastructure has been designed with consideration of the long term operation and maintenance of the asset.
  - iii) Confirm that all practical measures are included in the design to facilitate safe working conditions in and around the asset.
- All works on existing public stormwater, wastewater and watermains shall be carried out by approved contractors.
- 4) All approved construction work, shall be supervised by an engineering representative. (Refer to Hastings District Council- Engineering Code of Practice -2011).
- 5) An Engineering Completion Certificate certifying that all public pipes/ connections have been constructed in accordance with the approved Engineering Plan.
- 6) As-built documentation for all assets to be vested in the Council required by the above conditions shall be in accordance with Hastings District Council-Engineering Code of Practice (2011).
  - Video inspections of all public lines which will be vested shall be supplied with documentation. A valuation schedule for all asset to be vested in the Council are to be included as part of the as-built documentation.
- 7) The consent holder shall provide to the Development Engineer and Parks as built plans for landscape works (hard and soft) within the area related with the development in CAD and pdf form including the following details;
  - a. Asset names.
  - b. All finished hard and soft landscape asset locations and type, and any planted areas must be shown to scale with the square metres of planting, species and number of plants.
  - c. All underground services, irrigation and drainage.
  - d. All paint colours, graffiti coatings, pavers and concrete types with names of products to be included on the assets schedule.
- 8) That the applicant shall submit to Council a final design, detailing the earthworks to be carried out, overland flow paths and proposed finished ground levels within the development for approval by the Environmental Consents Manager, Planning and Regulatory Services Hastings District Council (or nominee), prior to construction. The earthworks plan shall not include any changes in the existing ground level of the external boundaries of the site.
- That as part of the earthworks no filling shall take place that will obstruct overland flow from higher ground/upstream.
- 10) The applicant shall submit a sediment control plan by an appropriately qualified person to Council, for approval by the Development Engineer, Planning and Regulatory Services Hastings

District Council (or nominee), prior to the commencement of any work on the site. The plan shall detail how sediment and erosion controls will be carried out at the site in accordance with current engineering best practice. A statement shall be included with the plan stating the author's qualifications and experience in this area.

- 11) That on completion of works all areas of earthworks shall be either permanently sealed or regrassed, to the satisfaction of the Environmental Consents Manager, Planning and Regulatory Services Hastings District Council (or nominee).
  - Please ensure that those managing works have due consideration of this condition and manage works so that there is sufficient time to allow grass to grow. This will include having regard to any seasonal limitations and water requirements.
- 12) Within 10 working days following the completion or abandonment of earthworks on the subject site all areas of bare earth shall be permanently stabilised against erosion to the satisfaction of Environmental Consents Manager, Planning and Regulatory Services Hastings District Council (or nominee).
- 13) That there shall be no off-site deposit of sediment or detritus from the area of the works and no deposit of sediment or detritus into any road, watercourse or storm water drain. In the event that a discharge occurs, works shall cease immediately, and the discharge shall be mitigated and/or rectified to the satisfaction of the RC Monitoring and Compliance.
- 14) That the applicant shall install sediment and erosion controls in accordance with the approved plan prior to the commencement of the earthworks/construction and that these controls shall be maintained throughout the period of the works, to the satisfaction of the Environmental Consents Manager, Planning and Regulatory Services Hastings District Council (or nominee).
- 15) Notice shall be provided to the RC Monitoring and Compliance at least two (2) working days prior to the removal of any erosion and sediment control works specifically required as a condition of resource consent or by the Erosion and Sediment Control Plan.
- 16) That a registered and professionally qualified engineer shall certify that the sedimentation works have been designed and constructed in accordance with the approved design.
- 17) All imported fill used shall:
- comply with the definition for 'cleanfill' in the Ministry for the Environment publication 'A Guide to the Management of Cleanfills' (2002)
- be solid material of a stable, inert nature and
- not contain hazardous substances or contaminants above recorded natural background levels
  of the receiving site.
- 18) That the applicant's contractor shall confirm in writing that only 'clean fill' shall be imported onsite (i.e. no rubbish, no stumps, no concrete, bricks any no other substance containing; combustible, putrescible, degradable or leachable components, hazardous substances, products or materials derived from hazardous waste treatment, hazardous waste stabilisation or hazardous waste disposal practices, medical and veterinary waste, asbestos or radioactive substances or liquid waste).
  - Please note that imported 'clean fill' will also need to comply with the relevant standards in the NES for Assessing and Managing Contaminants in Soils to Protect Human Health.
- 19) That the location and dimensions and depth of any area of fill shall be identified on an As Built plan and provided to the Environmental Consents Manager, Planning and Regulatory Services Hastings District Council (or nominee). The final earthworks plan shall confirm the new overland flow paths, and shall confirm that there are no changes to ground levels on neighbouring boundaries which can obstruct overland flow from higher ground/upstream.

- 20) Certification from a suitably qualified engineering professional responsible for supervising the works shall be provided to the Environmental Consents Manager, Planning and Regulatory Services Hastings District Council (or nominee), confirming that the works have been completed in accordance with the above condition, within ten (10) working days following completion. Written certification shall be in the form of a geotechnical completion report, or any other form acceptable to Council.
- 21) The proposed earthworks shall be undertaken in a manner which ensures that the land within the site, and on adjoining properties, remain stable at all times. In this regard;
- (a) The consent holder shall employ a CPEng qualified Engineer or other suitably qualified person acceptable to Council to investigate, direct and supervise all earthworks/construction works, particularly in close proximity to neighbouring properties to ensure that an appropriate design and construction methodology is carried out to maintain the short and long term stability of the site and surrounds.
- (b) Any required retaining walls and/or temporary stabilising works shall be constructed in a timely manner under engineering design and supervision. The consent holder shall ensure that all necessary approvals for retaining walls and/or stabilizing works are obtained and that sufficient resources are available to construct the required retaining walls and/or stabilizing works, as directed by the geotechnical engineer, prior to commencement of any significant excavation works.
- © All earthworks shall be managed to ensure that they do not lead to any uncontrolled instability or collapse either affecting the site or adversely affecting any neighboring properties. In the event that such collapse or instability does occur, it shall immediately be rectified.
- d) The construction of permanent earth bunds, retaining walls/or temporary stabilising works, building platform and the placement and compaction of fill material shall be supervised by a suitably qualified engineering professional. In supervising the works, the suitably qualified engineering professional shall ensure that they are constructed and otherwise completed in accordance with the approved plans.
- 22) Certification from a suitably qualified engineering professional responsible for supervising the works shall be provided to the Environmental Consents Manager, Planning and Regulatory Services Hastings District Council (or nominee), confirming that the works have been completed in accordance with conditions above, within ten (10) working days following completion. Written certification shall be in the form of as built, geotechnical completion report and a statement of suitability of completion of work and producer statement acceptable to Council.
- 23) A Geotechnical Completion Report by a suitably qualified Geotechnical and Registered Engineer shall be provided in accordance with the Hastings District Council-Engineering Code of Practice (2011) and a Form 6 "Statement of Professional Opinion as to Suitability of Land for Building Development" (Appendix 62 of the Proposed Hastings District Plan) to the Environmental Consents Manager, Planning and Regulatory Services (or nominee), Hastings District Council, within 10 (ten) working days following completion of the engineering works.
- 24) The geotechnical completion report shall confirm the stability and suitability of the land for the development, including any special conditions/requirements to be met for any future development on the site and recommended location for the onsite (bores) water system. The Geotechnical Completion Report shall also include all associated as-built plans for earthworks and subsoil drains.

25) That the location, dimensions and depth of any area of fill which include clear notation certified engineered fill / non certified fill, shall be identified on an As Built plan of the development and provided to the Environmental Consents Manager, Planning and Regulatory Services Hastings District Council (or nominee). The final earthworks plan shall confirm the new overland flow paths, and shall confirm that there are no changes to ground levels on neighbouring boundaries

#### Advice Note:

The findings of this Geotechnical Completion Report may necessitate the requirement for a covenant on the lot and register on HDRM in respect to future development of structures. Any boundary retaining walls or stabilisation work require design, calculation, PS1 and PS4 to be provided at building consent stage.

- 26) Any future building/structure constructed on site (legal description Lot X DPXX) shall have foundations (including any ancillary structures) specifically designed by a Chartered Professional Engineer in accordance with the recommendation contained in the Geotechnical Completion Report and any amendment /or any peer review provided at the completion of earthworks/ engineering works.
- 27) That the applicant shall submit from a professionally qualified Geotechnical Engineer:
  - (a)A report that addresses the bearing capacity of the soils, and in particular any foundation design requirements necessary to address liquefaction vulnerability and lateral spread for building structure; and
  - (b)A Form 6 "Statement of Professional Opinion as to Suitability of Land for Building Development" (Appendix 62 of the Proposed Hastings District Plan):
  - to the Environmental Consents Manager, Planning and Regulatory Services, Hastings District Council, on the completion of the engineering works.
- 28) Prior to the commencement of earthworks/construction activity on the subject site, an Approved Corridor Access Request (CAR), complete with Traffic Management Plan (TMP) shall prepared in accordance with COPTM requirements and shall address the control of the movement of earthmoving/construction vehicles to and from the site on public and private (school) properties.

## Advice Note:

The Traffic Management Plan should contain sufficient detail to address the following matters:

- measures to ensure the safe and efficient movement of the travelling public (pedestrians, vehicle occupants, local residents etc.
- restrict hours of vehicle movements to protect amenity of surrounding environment during earthworks and construction phase etc.

It is the responsibility of the applicant to seek approval for the Traffic Management Plan from HDC- Transport Department and review <a href="www.beforeudig.co.nz">www.beforeudig.co.nz</a> before you begin works

- The CAR complete with TMP shall be submitted to HDC Transport Engineer (or nominee) for approval.
- 30) Prior to the commencement of the earthworks activity:

- a. access to the site by vehicles shall be limited to access point via XXX through the erection
  of on-site signage and/or fencing
- b. signage warning the public of vehicle movements shall be erected at access point[s]

These measures shall remain in place for the duration of the earthworks and construction activity.

- 31) No earthworks on the subject site shall commence until confirmation/approval is provided from the Council Transportation Engineer that the TMP satisfactorily meets the requirements of COPTM and any required measures referred to in that plan have been put in place prior to commencement of works have been completed and CAR are approved.
- 32) The RC Monitoring and Compliance, shall be notified at least five (5) working days prior to earthwork/construction activities commencing on the subject site.

  At the time with notification the following information shall be provided:
  - Timeframes for key stages of the works authorised under this consent
  - Resource consent conditions
  - Approved plans.
  - Approved Erosion and Sediment Control Plan
  - Approved Construction methodology and management plan
  - Weather stabilization plan
  - Dust mitigation
  - Approved CAR and Traffic Management Plan (TMP)
  - Contact details of the site contractor and supervising engineer.

#### **Advice Note**

For compliance required by condition above please contact the Monitoring Inspector on phone (06) 871 5000 or email <a href="mailto:rcmonitoring@hdc.govt.nz">rcmonitoring@hdc.govt.nz</a>. All information required by the council and listed in that condition should be provided prior starting of any work on site.

- 33) Noise condition.
- 34) Noise levels condition.
- 35) That earthworks/construction hours.
- 36) Vibration condition.
- 37) There shall be no airborne or deposited dust beyond the subject site as a result of the earthworks/construction activities that in the opinion of the RC Monitoring and Compliance, is noxious, offensive or objectionable.
- 38) That while the earthworks are being undertaken, areas of exposed earth shall be regularly dampened with water to ensure that no wind born dust is deposited outside the property boundaries
- 39) That all earthworks associated with the development be in accordance with:
  - Hastings District Council- Engineering Code of Practice (2011) and Code of Practice for Earth Fill for Residential Development NZS4431.
  - the requirements of New Zealand Building Code.
  - Geotechnical report and any amendment/addendum
  - Geotechnical report peer review

- 40) There shall be no obstruction of access to public footpaths/berms, private properties, public services/utilities, or public reserves resulting from the construction and/or earthworks activity. All materials and equipment shall be stored within the subject site's boundaries.
- 41) All machinery associated with the earthworks and construction activity shall be operated in a way, which ensures that spillages of hazardous substances such as fuel, oil, grout, concrete products and any other contaminants are prevented.
- 42) Any damaged of roading, berm, kerb as a result of the earthwork/construction work shall be repaired, reinstated or reconstructed in accordance with the Hastings District Council-Engineering Code of Practice (2011) to the satisfaction of the Transportation Engineer.
- The existing water bores no XXX, located XX shall be capped and sealed permanently by a registered well-driller as part of the consent.

Certification shall be produced to the satisfaction of the Environmental Consents Manager Planning and Regulatory Services (or nominee) as evidence of completion of this condition.

#### Moto

Certification shall be provided to Hawkes Bay Regional Council including the location of the sealed bores.

#### REGIONAL COUNCIL REQUIREMENTS

Please contact the Hawkes Bay Regional Council in regard to the requirements for water bores.

#### Advice Note:

- a) The Consent Holder is responsible for obtaining all other necessary consents, permits, and licenses, including those under the Building Act 2004, Hawkes Bay Regional Council and the Heritage New Zealand Act 2014. This consent does not remove the need to comply with all other applicable Acts (including the Property Law Act 2007 and the Health and Safety in Employment Act 1992), regulations, relevant Bylaws, and rules of law. This consent does not constitute building consent approval. Please check whether a building consent is required under the Building Act 2004.
- b) A Building Consent is required for (structures, retaining walls, private drainage, demolitions etc.) unless exempted under Schedule 1 of the Building Act 2004.
- c) A copy of this consent and the associated approved drawings should accompany your application for a Project Information Memorandum and Building Consent. If not supplied unnecessary delay may occur in the processing of your application.

#### Alina Enovan

Development Engineer Consents alinae@hdc.govt.nz

If calling ask for Philip McKay 027 495 5442 TRIMFile Ref 13818#



10 June 2020

Hastings District Council c/- Grey Wilson (Agent) Good Earth Matters Consulting 23 Tiniroto Road, Frasertown Wairoa 4195

grey.wilson@goodearthmatters.com

Dear Grey,

Application for Resource Consent: <u>RMA20190545 – Water Treatment Plant and Drinking</u> Water Reservoir – Construction and Operation - Frimley Park

As you are aware the processing of this application is well advanced, and a hearing date has been scheduled. To assist with the preparation of a section 42A report for the hearing however an additional item of information is required as set out below.

Under section 92 of the Resource Management Act (RMA) 1991, the Hastings District Council requests further information to fully assess your proposed activity, its effect on the environment and the ways in which any adverse effects on the environment might be mitigated.

Additional information required to process this application is:

# 1. The Deed of Gift and / or information relating to the then Hastings City Council obtaining the land for Frimley Park

The submission of Frances Shotter makes the following statement about resource consent application RMA20190544:

It may well be the proposal is also contrary to the original Deed of Gift.

In having regard to this submission under section 104(1) of the RMA a copy of the 'original Deed of Gift' from the Williams family is requested, if indeed such a document exists. Alternatively, any information available relating to the original sale or gifting of the land is sought so as to enable the merits of this submission point to be assessed.

The standard requirements of section 92A of the RMA are set out below, however in this instance work will continue to complete the s42A report in accordance with the scheduled hearing timetable which requires that report to be completed for Council's Committee Secretary to process and distribute by 24 June 2020. Therefore, this information is requested as quickly as possible to enable this reporting deadline to be met.

In accordance with section 92A of the Act you must within 15 working days of the date of this request, take one of the following options:

- 1. Provide the information; or
- 2. Inform the Council in a written notice that you agree to provide the information; or specify a reasonable timeframe for providing the information for agreement of Council, or;
- 3. Inform the Council in a written notice that you refuse to provide the information.

Where possible the application will continue to be processed as allowed by the information already supplied.

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Please contact me if you have any questions regarding the above information request or the further processing of the application.

Yours sincerely

Philip McKay Consultant Planner

on behalf of Hastings District Council philip.mckay@mitchelldaysh.co.nz

# MATTHEW CASEY

# QUEEN'S COUNSEL

12 June 2020

Hastings District Council Private Bag 9002 **Hastings 4156** 

Attention: Philip McKay, Consulting Planner

Dear Phil,

# RMA20190545 - Frimley Park Water Treatment Plant and Drinking Water Reservoir – Response to Request for Information

 I act for Hastings District Council in its capacity as applicant for the above resource consent (Applicant) and have been asked to respond to your request for information dated 10 June 2020. The request relates to the submission by Frances Shotter which alleges that the application for consent "may well be...contrary to the original Deed of Gift" for Frimley Park. The request for information is for:

...a copy of the 'original Deed of Gift' from the Williams family...if indeed such a document exists. Alternatively, any information available relating to the original sale or gifting of the land is sought so as to enable the merits of the submission point to be assessed.

- 2. Hastings District Council's archivist has undertaken extensive searches of documents held by Council in relation to the transfer of Frimley Park to the Council. The land was transferred to the Council by the following series of transactions, the documents for which are **enclosed**:
  - (a) A 'Declaration of Trust' dated 9 March 1951, in which Elsie Williams states that she is desirous that certain land then owned by her "shall be forever vested in the Corporation as and for a public park and recreation ground to be known as 'Frimley Park'", and declares that she holds that land 'upon trust' for the Council (referred to as the Corporation). She covenants and agrees with the Corporation to transfer the land to it at its request, once a transfer becomes capable of registration. The document records that part of the land was subject to a mortgage, and would be transferred subject to the mortgage.
  - (b) A deed of gift dated 13 March 1951, whereby Heathcote Williams, the mortgagee of Miss Williams' land, effectively forgives the principal sum (£5,000) owing under the mortgage, as his contribution towards the establishment of the Park. The deed is in favour of the Corporation, and records that the mortgagor (Elsie Williams) has formally declared that she holds the land on trust for the Corporation "for the purposes of a Public Park for the benefit of the Public". The mechanism by which this is done is by transferring to the Corporation the right to repayment of the principal sum, by way of gift to hold on trust to repay the mortgage "for the purposes of the public utility being the acquisition for public purposes of ... Frimley Park". The Corporation covenants that it will apply the principal sum and hold the mortgage for the purposes of Frimley Park, and will release the mortgage without payment;

Ph: (09) 337 0400 | Fax: (09) 337 0800 | Mob: 021 375 113 | Email: matt@casey.co.nz P O Box 317, Shortland Street, Auckland 1140, New Zealand Level 3, Walker Wayland Centre, 68 Shortland Street, Auckland www.casey.co.nz

MATTHEW CASEY QC Page | 2

(c) A memorandum of transfer (Transfer) dated 18 February 1952, by which the land referred to in the deed of trust, and an additional area, was transferred to the Corporation by Miss Williams in accordance with the deed of trust.

- Also enclosed for your information are two newspaper articles from 1951 in relation to the 'gifting' of the Park.
- 4. The Applicant understands that Mrs Shotter did not have these documents at the time the submission was prepared, but they have since been provided to her lawyer. The Applicant's position is that there is nothing about the documents by which the Park was transferred to the Council that prevents or restricts the current application.
- 5. For the consent authority's information, the submitter has since raised with the Applicant an issue as to whether the Park is a 'reserve' under the Reserves Act 1974. The Applicant's position is that the Park is not a reserve; and even if it was, any additional authorisations or steps required under the Reserves Act are entirely separate from those required under the Resource Management Act 1991.¹ We have not included the detailed reasons for that position, as it is beyond the scope of the request for information, however we are happy to provide a more detailed explanation if it would assist.
- Please feel free to contact me to discuss, or if there are any further matters with which the Applicant can assist.

Yours faithfully

Asher Davidson
DDI: (09) 337 0700
Email: asher@casey.co.nz

Bateman v North Shore City Council (A121/2003); Sustainable Matatā v Bay of Plenty Regional Council (2015) 18 ELRNZ 620; Friends of Turitea Reserve Society Inc v Palmerston North City Council [2008] 2 NZLR 661.



THIS DEED is made this /3 day of March, One thousand nine hundred and fifty one BETWEEN HEATHCOTE BEETHAM WILLIAM OF Three part of the contract of the contrac

nine hundred am fifty one <u>BETWEEN HEATHCOTE BEETHAM WILLIAMS</u>
of Turehaua near Gisborne Sheepfarmer (hereinafter called "the
Donor") of the one part and <u>THE MAYOR COUNCILLORS AND
BURGESSES</u> of the Borough of Hastings incorporated under the
provisions of The Municipal Corporations Act 1933 as the
Borough of Hastings (hereinafter called "the Donee") of the
other part <u>WHEREAS</u> the Donor is the Mortgagee under and by

Arswa.

Momerondum under and by virtue of a certain Memorandum of Mortgage (Registered Number the 8th day of March 1951, and made and given by one ELSIE JANE BEETHAM WILLIAMS of Hastings Spinster (hereinafter called "the mortgagor") and securing a principal sum of FIVE THOUSAND POUNDS (£5000) repayable without interest on or at the option of the Mortgagor before the 8th day of March 1952 and affecting all that piece or parcel of land containing by admeasurements 73 acres 1 rood 02.8 perches be the same a little more or less. being Lot 3 on Deposited Plan 2764, Lot 2 on Deposited Plan 3197 and parts of Lot 254 on Deposited Plan 2101 which said parcels of land comprise part of the Heretaunga Block and park of the land in Certificate of Title Hawkes Bay Volume 125 Felio 144 AND WHEREAS the mortgagor has by declaration of trust bearing date the 9th day of March 1951 formally declared that she holds and hereafter will hold portions of the said lands comprising by estimation forty eight acres be the same a little more or less UPON TRUST for the Dones for the purposes of Public Park for the benegit of the Public to be called or know as "Frimley Park" but subject always to the aforesaid Memorandum of Mortgage in favour of the Donor AND WHEREAS the Donor is desirous of contributing towards the establishmen of the said Frimley Park to perpetuate the memory of his late father James Nelson Williams and to that end of providing that

the said lands now held by the mortgagor upon the trusts aforesaid shall be freed and discharged from liability under the aforesaid Memorandum of Mortgage and with the intent that the lands subject to the said Mortgage other than the lands comprising the said Frimley Park shall be freed and discharged from any liability in respect of the said principal sum secured by the said Memorandum of Mortgage AND WHEREAS by Memorandum of Transfer bearing even date herewith the Donor has transferred to the Donee by way of gift all his estate and interest as Mortgagee in and to the said lands and all his right title and interest in to and under the aforesaid Memorandum of Mortgage for public purposes beneficial to the Community being the acquisition of the aforesaid Frimley Park AND WHEREAS it is desirable that the principal sum secured by the aforesaid Memorandum of Mortgage should also be assigned to the Donee NOW THEREFORE THIS DEED WITNESSETH that and the Donor DOTH HEREBY ASSIGN TRANSFER AND SET OVER unto the Dones all that the principal sum of FIVE THOUSAND POUNDS (£5000) repayment whereof is secured to him by the aforesaid Memorandum of Mortgage and together with all other moneys (if any) secured by the aforesaid Memorandum of Mortgage and all his estate right title and interest thereto BY WAY OF GIFT to hold the same upon trust to apply the same in repayment of the moneys secured by the said Memorandum of Mortgage for the purposes of the public utility being the acquisition for public purposes of the public park called or known or to be called or known as Frimley Park and so that the lands constituting the said Park shall eventually be freed and discharged from all liability in respect of the said Memorandum of Mortgage as well also as all other lands included in the said Memorandum of Mortgage and in respect of such other lands without any payment or contribution by the Mortgagor or by the registered proprietor or proprietors for the time being of such other lands and so that the said principal sum of five thousand pounds shall be and shall at all times have been deemed to be secured solely against the

SAN.

lands intended to be included in Frimley Park the mortgagor having in pursuance of her right under the said mortgage to have the lands referred to therein as sold to Florence Edna Curran and to His Majesty the King released therefrom without payment of any portion of the principal sum but the due execution of such partial releases being dependant upon the completion of survey preparation of the formal partial releases is delayed until completion thereof AND THE DONEE doth hereby covenant with the Donor that it will apply the said principal sum of £5000 to the purposes aforesaid and will hold the said Memorandum of Mortgage and the moneys thereby secured upon trust for the purposes of the said Frimley Park accordingly and will whenever called upon by the Mortgagor so to do execute the said partial releases in terms of the said Memorandum of Mortgage without requiring payment of any portion of the moneys secured by the said Memorandum of Mortgage.

IN WITNESS WHEREOF these presents have been executed this day of mack, 1951.

SIGNED by the said Heathcote Beetham Williams in the

resence of:-

THE COMMON SEAL of the Mayor Councillors and Burgesses of The Borough of Heatings was hereunto affixed this 16 day of March, 1951

R A. Brown

Journ Clerk

X. Beliliams

ELSIE JANE BEETHAM WILLIAMS OF Hastings Spinster (hereinafter referred to as "the Settlor") of the one part and THE MAYOR COUNCILLORS AND BURGESSES OF THE BOROUGH OF HASTINGS (hereinafter called "the Corporation") of the other part WHEREAS the Settlor is registered as the proprietor of an estate in fee simple in all those pieces or parcels of land more particularly ... described in the First and Second Schedules hereto SUBJECT HOWEVER as to the lands described in the said First Schedule (with certain other lands of the Settlor) to the mortgage in the said Schedule mentioned securing to HEATHOOTE BEETHAM WILLIAMS of Turihaua Gisborne Sheapfarmer the principal sum of Five thousand pounds (£5000) WHEREAS the Settler is desirous that the lands more particularly described in the said First and Second Schedules shall be forever vested in the Corporation as and for a public park and recreation ground to be called or known as "Frimley Park" SUBJECT HOWEVER as to the lands described in the said First Schedule to the said mortgage NOW THIS DEED WITNESSETH that in pursuance of that her desire and for divers other good causes and considerations the Settlor HEREBY DECLARES that she does now and shall henceforth stand possessed of ... the lands described in the said First and Second Schedules UPON TRUST for the Corporation SUBJECT HOWEVER as to the lands described in the said First Schedule to the said mortgage AND she hereby covenants ... and agrees with the Corporation that she will at the request of the Corporation transfer the said lands to the Corporation so soon as a transfer of the said lands shall be capable of registration.

IN WITNESS whereof these presents have been executed the day and year first hereinbefore written.

### THE FIRST SCHEDULE HEREINBEFORE REFERRED TO:

All that piece or parcel of land situated in the Provincial Bistriction of Hawkets Bay containing Portyseven (47) acres Two (2) roods Two and eight-tenths (2/10) perches more or less being part of the Heretaungs. Block and being Lot 2 on Deposited Plan 3197 and part of Lot 254 on ... Deposited Plan 2101 as the said piece of land is more particularly shown on the plan endorsed hereon and in outline coloured red and .... being part of the land comprised and described in Certificate of Title H.B. Volume 125 folio 144 SUBJECT TO Memorandum of Mortgage bearing date the Eighth day of March One thousand nine hundred and fiftyone securing to Heathcote Beetham Williams of Turihaus Gisberge. Sheepfarmer the sum of Five thousand pounds (25000).

in the same to the same of the

# THE SECOND SCHEDULE HERE INBEFORE REFERRED TO:

All that piece or parcel of land situated in the Provincial District.

of Hawke's Bay containing One (f) rood Seven (7) perches more of less.

being part of the Heretaungs Block and being Let 6 on Deposited Fram.

3374 and part of the land comprised and described in Certificate of ...

Title H.B. Volume 125 folio 144.

SIGNED by the said ELSIE JANE BERTHAM WILLIAMS in the presence of:-

In pstollians

THE COMMON SEAL OF THE MAYOR COUNCILLORS
AND BURGESSES OF THE BORGUGH OF HASTINGS...
was hereunto affixed in the presence of:-

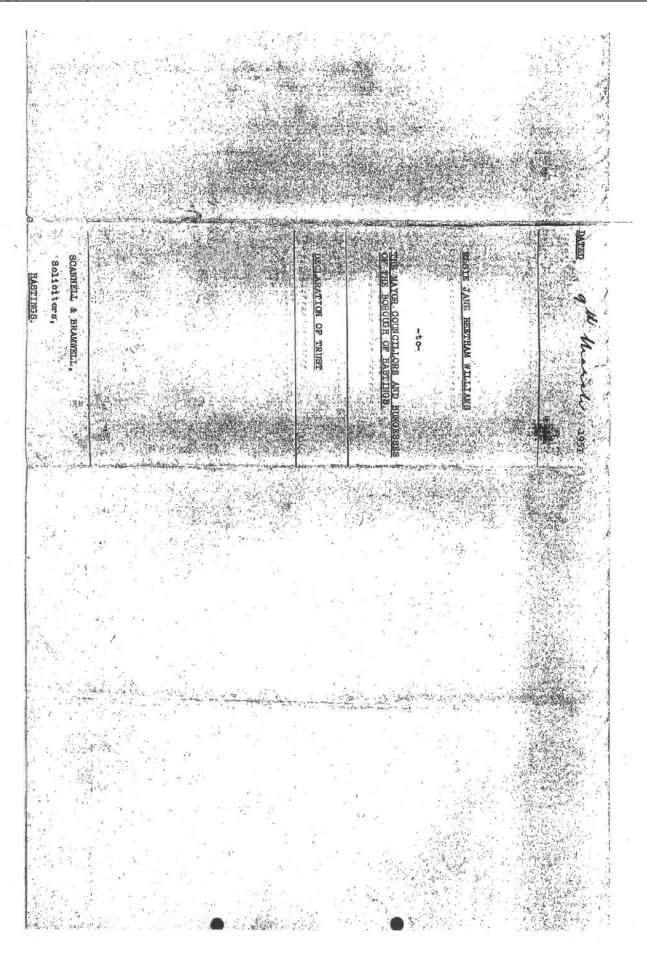
A A Som Mayor

Town Clark

Lynbhurst Road.

2:16:5.
17: 2:16:5.
D. P. 3191

25. 3. 26:3.
29. markey Road.



(Approved by the District Land Registrar, Napler, H.B., No. 147.)

(C)

MEMORANDUM OF TRANSF

- (a) The areas of Nineteen (19) agree twentythree (23) perches and ...

  One (1) rood twentyseven and three-tenths (27/10) perches ...

  (coloured blue) shown on Survey Office Plan 2563 (red), and
- (b) So much of the said parts of the said Lot 254 as is contained in which said parcels of land comprise part of the Heretaunga Block and part. of the land in Certificate of Title H. B. Volume 125 folio 144 SUBJECT TO. Memorandum of Mortgage bearing date the 8th day of March One thopsand ... nine hundred and fiftyone and registered as Number /\$2/37 securing to The . Mayor Councillors and Eurgesses of the Borough of Hastings the principal . sum of Five thousand pounds (£5000) SECONDLY One (1) rood seven (7) ... perches more or less being Lot 6 on Deposited Plan 3374 which said parcel. of land is part of the Heretaunga Blook and is part of the land pomprised. and described in the said Certificate of Title H.B. Volume 125 folio 144 . and THIRDLY Eighteen and five-tenths (18/10) perches more or less being. that part of a closed road coloured green on the said Survey, Office Plan 2563 (red) adjoining the said Lot 6 Deposited Plan 3374, AND WHEREAN by Declaration of Trust (hercinafter referred to as "the Trust Deed") hearing date the 9th day of March One thousand nine hundred and fiftyone made between the Transferor of the one part and THE MAYOR COUNCILLORS AND BURGESSES OF THE BOROUGH OF HASTINGS (therein and hereinafter galled "the Corporation") of the other part the Transferor in pursuance of her desire. that the lands more particularly described in the First and Second Schedules to the Trust Deed should be forever vested in the Corporation as and for a public park and recreation ground to be called or known as

"Frimley Park" and for divers other good causes and considerations declared that she did then and should thenceforth stand possessed of the . lands more particularly described in the said First and Second Schedules . thereto <u>UPON TRUST</u> for the Corporation <u>SUBJECT</u> as to the lands more.

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LAND INFORMATION NZ

particularly described in the said First Schedule to the mortgage hereinbefore mentioned in favour of the Corporation AND WHEREAS by the Trust . Deed the Transferor covenanted and agreed with the Corporation that she .. would at the request of the Corporation transfer the lands more particular-"ly described in the said First and Second Schedules to the Corporation so. soon as a transfer of the said lands should be capable of registration .. AND WHEREAS the area of the land described in the said First Schedule .. (being now the land firstly hereinbefore described) was therein stated to . be Fortyseven (47) scree two (2) roods two and eight-tenths (2/10) perches but this was an estimated ares only and it has since been ascertained that the correct area is Fortyseven (47) sores one (1) rood twenty and threetenths (20/10) perches AND WHEREAS since the execution of the Trust Deed part of the public road adjoining the land more particularly described in. the Second Schedule thereto (being the land now secondly hereinbefore ... described) has been closed and vested in the Transferor for an estate in . fee simple and is now the land thirdly hereinbefore described AND WHEREAS the Corporation has requested the Transferor to transfer to the Corporation the lands firstly and secondly hereinbefore described pursuant to the provision in that behalf contained in the Trust Deed AND WHEREAS . the .. Transferor is desirous of also transferring to the Corporation the land ... thirdly hereinbefore described as and for an addition to Frimley Park .. NOW THIS MEMORANDUM OF TRANSFER WITNESSETH that the Transferor IN ... PURBUANCE of the Trust Deed AND IN CONSIDERATION of the premises and .. for divers other good causes and considerations her thereunto moving DOTH HERBEY TRANSFER to the Corporation all her estate and interest in the .. pieces of land firstly secondly and thirdly hereinbefore described.

IN WITHESS whereof these presents have been executed thin 19 day. February one thousand nine hundred and fiftytwo.

SIGNED by the said BLATE JANE SEPTHAM I lave force Decidan kullivan WILLIAMS by her attorney JEAN DISHER. CRAIG in the presence of:-

JEAN DISHER CRAIG of Kastings Accountant do sciennly and sincerely .

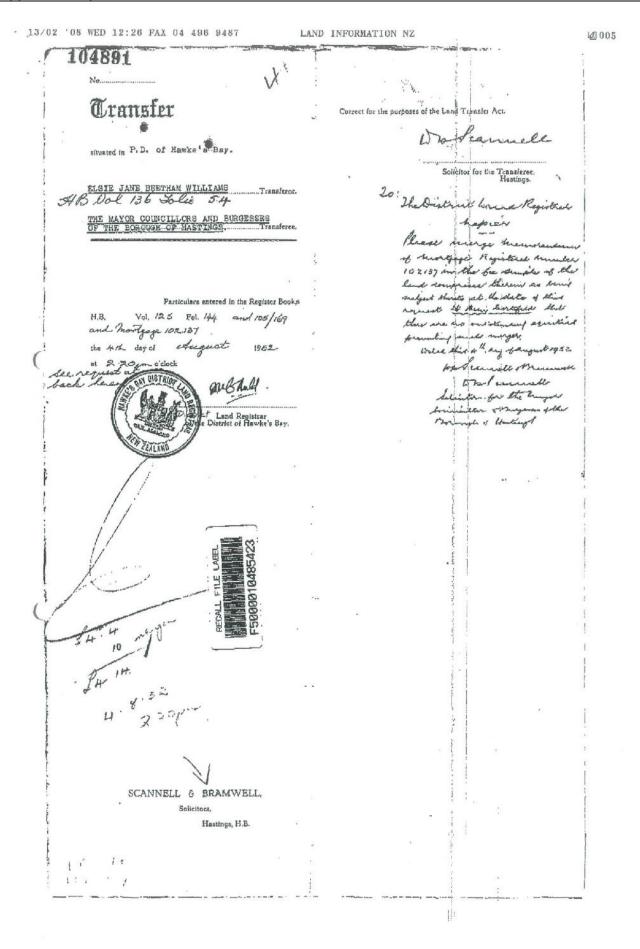
I am the attorney of the within-named KLSIE JANE EXETHAM WILLIAMS .. under and by virtue of a certain deed poli or Power of Attorney bearing . date the 4th day of April One thousand nine hundred and firty one under the hand and seal of the said Elsie Jane Beetham Williams a pertified copy of. which is deposited in the Land Transfer Office at Number as Number 100650.

2. I have executed the foregoing transfer under the powers conferred by the said Power of Attorney.

3. I have not received any notice or information of the revocation of ..

@ UU4 LAND INFURMATION NZ - -13/02 '08 WED 12:25 FAX 04 496 9487 the asia Power of Attorney by the death of the said Elsie Jane Beetham Williams or otherwise howsoever. AND I make this colemn declaration conscientionally believing the ... same to be true and by virtue of "The Justices of the Feace Act 1927". DECLARED at Heatings this }

18 A day of February. 1952 BEFORE ME: -A Solicitor of the Supreme Court of New Zealand.



# Council Impressed With Magnificence Of Frimley Gift

Inspection was made by the Hastings Borough Council yesterday of the town's new park, "Frimley Park," which has been presented by Miss Elsie Williams and Mr. H. B. Williams, on behalf of the family of the late Mr. and Mrs. J. N. Williams. Approximately 50 acres in extent. Frimley Park is likely to prove a fine asset to the town and district.

is likely to prove a fine asset to the town and district.

Councillors spent the greater part of an hour and a-half inspecting the grounds yesterday afternoon, and all were impressed by the potentialities of Frimley Park for becoming a "show place" for Hastings.

They were conducted by the super-intendent of reserves, Mr. J. G. C. Mackenzie, who said he "could spend hours prowling round and discovering all manner of interesting things." Attention was drawn to some of the rare specimens of trees growing in the spacious parklands, which were typically English its layout and development, and other attractions.

There are no conditions attached to the gift, except for an assurance that every endeavour would be made to protect the trees, some of which were planted by Miss Williams' father as early as the 'eightles, and that provision would be made for a suitable memorial to be erected, at the expense of the donors, recording the fact that the land was a gift to the borough in memory of the late James and Mary Margaret Williams.

The donors, however, are anxious that the transaction be completed as speedily as possible and the memorial erected promptly. It was decided by the council on the spot yesterday that no more fitting site for the memorial could be found than on the site of the historic homestead that was destroyed by fire barely a year ago.

historic homestead that was destroyed

historic homestead that was destroyed by fire barely a year ago.

It was stated that when the late Mr. Williams settled on Frimley it was nearly all swamp land, and the highest spot was where he pitched his tent and subsequently built the homestead.

The superintendent and the engineer, Mr. R. P. Fish, were instructed to submit to the council at an early date suggested ideas of the form the memorial should take. The council would then make its recommendations to the donors.

Though the council already virtually has taken possession of Frimley Park, it is not yet open to the public. Arrangements have yet to be made for necessary control and supervision, and Miss Williams still has some of her possesions stored in several of the many buildings which go with the park.

# Williams Family Gives Frimley To Hastings As Park

About 49 acres of land at Frimley have been donated to the Hastings Borough Council for ultimate development as a public park and recreational area. This generous gift to the municipality has been made by Miss Elsie Williams and Mr. H. B. Williams on behalf of the children of the late Mr. J. N. Williams. It consists of land on which stood the lovely old Frimley home in which Miss Williams lived, and which was destroyed by fire truely proceed. destroyed by fire twelve months

Announcement of the gift by the mayor, Mr. R. D. Brown, at the opening of a meeting of the Hastings Borough Council last night, came as a surprise to councillors but himself and the deputy-mayor, Cr. A. Kirkpatrick. It was described by the mayor as "one of the most wonderful and magnificent gifts ever made by citizens". ever made by citizens.'

ever made by citizens."

Misz Williams and her brother desired the citizens of Hastings to accept their remaining holding of Primley as a gift to the town. Max Brown said. "You will probably be aware that the Education Board has purchased some 19 acres fronting on to Pakowhai Road," he said. Another six acres had been sold to an individual. It was the remaining area from Frimley Road behind the school grounds and behind Mr. E. J. Herrick's property through to Lyndhurst Road, and running back to Nottingly Road, which had now been gifted to the borough.

The land at the time of its gift was subject to a mortgage of £5000 from Miss Williams to Mr. H. B. Williams. A deed of trust had been executed by Miss Williams placing the land in trust with herself as sole trustee subject to the mortgage. Mr. Williams had made a transfer of this mortgage by way of gift. There were certain buildings on the property which pass into the council's ownership on which there is an insurance cover of £1400.

The mayor said there were practically no conditions attached to the gift except a request to have it called Frimley Park, and that there should also be placed somewhere in the park, to be approved by Miss Williams and the borough council, a suitable memorial, possibly gates, a fountain, or a sundial, recording the fact that the land v as gifted to the borough in memory of the late James Williams and Mary Margaret Williams by their children.

children.

"We will, of course, be very pleased to do that," Mr. Brown said. "This has struck me as being a magnificent gesture emanating from public-spirited citizens. It is not the first time that Hastings has had reason to be grateful to the Williams family."

It was recalled by Mr. Brown that the lete Mr. J. N. Williams was founder or the famous Frimley Estate and of the beautiful old Frimley homestead of which only the foundations remained after the disastrous fire of March of last year. He was, too, a ploneer of the meat-freezing and fruit-canning industries in Hawke's Bay. When 30 years of age he was one of the "Twelve Apostles" who courageously took up about 13,000 acres of land—all flat—which today was some of the most fertile land in New Zenland.

Cornwall Park was a gift to the borough by Miss A. L. Williams and Mr. J. N. Williams actually handed the park over to the borough in 1901—just 50 years ago.

to the borough in 1901—just 50 years ago.

The land now gifted to the borough was being farmed, and Mr. H. B. Williams desired to continue farming it until February next for the right of which he was prepared to pay a fair rent, Mr. Brown said. That arrangement would be entirely suitable to the borough council as it was proper that the land should be farmed until its development as a park was proceeded with. It would do the land good.

One request made by Miss Williams that the Girl Guides to whom she had made available a building or, the property should not be unduly disturbed in their occupancy, and the council, would be glad to meet her wishes in that respect as long as it could.

Seconding a resolution moved by the

wishes in that respect as long as it could.

Seconding a resolution moved by the mayor to the effect that the council, on behalf of the people of Hastings, gratefully accept the gift, and that the documents be executed by the council, Cr. Kirkpatrick said that Miss Elsie Williams and Mr. H. B. Williams had been emphatic in their discussions that the gift should not be from them alone but from the children of the late Mr. J. N. Williams. The gift would make possible the development of a new park in what would in a few years' time be a popular and thickly-populated residential area, It was the duty of the council to use the land in the way envisaged by the donors.

Other councillors also spoke in appreciative terms of the generosity of the donors.

Ітем 2

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Ref: 538541-15

17 June 2020

Hastings District Council Private Bag 9002 **HASTINGS 4156** 

ATTENTION: CALEB SUTTON

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#### WATER FACILITIES AT FRIMLEY PARK - SHOTTER SUBMISSION

#### Introduction

- Hastings District Council (Consent Authority) is processing an application for resource consent by Hastings District Council (Applicant) to establish a new water reservoir and associated works at Frimley Park in Hastings (Application).
- Frimley Park is owned by the Council as freehold land,<sup>1</sup> which was gifted to its predecessor
  by the Williams family in the 1950s pursuant to a series of transactions.<sup>2</sup> It is neither vested
  nor classified under the Reserves Act 1977, but has been categorised by the Council as a
  "District Reserve" under the Hastings District Wide Reserves Management Plan
  (HDWRMP).
- The Application was publicly notified and will be heard by independent commissioner Bill Wasley. One of the submissions, by lawyer John Maassen on behalf of Frances Shotter (Submission), raises certain legal issues which the Consent Authority seeks our advice on.
- 4. The primary legal issue raised in the Submission is whether the legal ability of the Applicant to use Frimley Park for a water reservoir, as a matter of land ownership or interest, or statutory authority, is relevant to consideration and determination of the Application by the Consent Authority.
- 5. If it is, then the Consent Authority would need to resolve the following legal issues in order to determine the Application:
  - (a) Whether the legal documentation vesting Frimley Park in the Council allows Frimley Park to be used for the works proposed in the Application; and / or
  - (b) Whether some other legislation such as the Reserves Act enables or precludes use of Frimley Park for the intended works.

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<sup>&</sup>lt;sup>1</sup> RT HB136/54. Legally described as Lot 2 DP 3197, Part Lot 254 DP 2101, Part Lot 254 DP 2101, Lot 6 DP 3374 and Section 38 Block XV Heretaunga Survey District.

<sup>&</sup>lt;sup>2</sup> These transactions are summarised in the letter from Asher Davidson for the Applicant to Philip McKay for the Consent Authority dated 12 June 2020. We have reviewed the documentation referred to in that letter and consider that the summary presented in the letter is accurate.

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#### Advice

6. It is well settled that an applicant for land use consent does not need to establish a legal right to use the subject land. Any person may apply for a resource consent under s88(1) of the Resource Management Act whether or not they own or have an interest in the land. It follows that the Consent Authority has no jurisdiction to determine issues relating to the legal right to use the land.<sup>3</sup>

- 7. To use an often cited judicial phrase, "the Resource Management Act floats, rather like oil on water, across the top of ownership rights without affecting the underlying substance."
- 8. For that reason, in our view it is unnecessary to grant consent subject to some form of "condition precedent" requiring the Applicant to obtain any necessary permissions or approvals prior to undertaking the works. Although conditions of this nature are lawful if worded correctly,<sup>5</sup> they are unnecessary in this situation. It is incumbent on a consent holder to ensure it has obtained all necessary approvals before undertaking works, including any necessary legal interest in the subject site. Failing to do so would amount to a breach of the law and, in the case of a local authority, it would be publically held to account.
- Although Frimley Park is not vested or classified under the Reserves Act, to the extent it
  might be argued that the Park is otherwise governed by that Act, it is also clear that the
  Consent Authority lacks jurisdiction to address issues arising under that (or indeed any
  other) Act.<sup>6</sup>
- 10. The legal position is no different where the applicant is a public authority and the legal issue relates to the interpretation of a deed of trust gifting private land for public use. That was the very situation at issue in the Wellington City Council case cited as authority for the above propositions.
- 11. Given the clear legal position that the legal entitlement of the Applicant to use Frimley Park for a new water reservoir is not a matter within the Consent Authority's jurisdiction, it is unnecessary to form a view as to whether the proposed use of Frimley Park falls within the terms of the relevant documentation vesting Frimley Park in the Council.
- 12. However, because the Submission suggests that "It may well be the proposal is also contrary to the original Deed of Gift" (para [3])), we have briefly addressed this issue for completeness. None of the three legal documents relating to the transfer of Frimley Park to the Council's predecessor preclude use of the Park for a public purpose other than a recreational one. Indeed, the Memorandum of Transfer records that the land "should be forever vested in the Borough of Hastings as and for a public park and recreation ground to be called or known as "Frimley Park" and for divers other good causes and considerations ..." [our emphasis]. It therefore contemplates purposes other than recreation. The provision of potable water supply would appear to be a "good cause."
- 13. The Deed of Gift<sup>9</sup> refers more generally to "the purposes of the public utility being the acquisition for public purposes of the public park called ... Frimley Park" and the Deed of Trust <sup>10</sup> contemplates the land being "forever vested as and for a public park and recreation ground."

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Wellington Badminton Association Inc. v Wellington City Council [2011] NZEnvC 343 paras [43.7] – [43.9].

<sup>&</sup>lt;sup>4</sup> Coleman v Kingston High Court Auckland, AP103-SW00, 3 April 2001, cited in Wellington CC, ibid at [43.8].

<sup>&</sup>lt;sup>5</sup> Transit NZ v Southland DC [2008] NZRMA 379 (EnvC).

<sup>&</sup>lt;sup>6</sup> Schmuck v Far North DC & Ors [2014] NZEnvC 101 at [7].

Memorandum of Transfer between Elsie Williams and the Borough of Hastings dated 18 February 1952.

<sup>&</sup>lt;sup>8</sup> "Divers" means of varying types.

Deed of Gift between Heathcote Williams and the Borough of Hastings dated 13 March 1951.

<sup>&</sup>lt;sup>10</sup> Deed of Trust between Elsie Williams and the Borough of Hastings dated 9 March 1951.

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- 14. It is clear from the information provided with the Application that the proposed works will not preclude use of Frimley Park as a public park and recreation ground. While members of the community might prefer it was used entirely for recreational purposes, issues relating to how a local authority provides core services including recreational facilities and community amenities, and whether the level of service is adequate, fall under the Local Government Act 2002 and are not matters the Consent Authority can inquire into.
- 15. As a fully discretionary activity the Consent Authority can and should assess the extent to which the Application is consistent with the relevant provisions of the Regional Policy Statement and the District Plan relating to the recreational needs of the District under s104(1)(b).
- 16. It can also consider relevant effects on the environment under s104(1)(a). The Submission suggests that "Recreation Effects" were not assessed. The absence of this evaluation is criticised on the basis that "the effect is tied to the reserves [sic] statutory purpose" (at [8]).
- 17. Care must be taken when the Consent Authority is undertaking the effects assessment under s104(1)(a) to ensure that only effects on the environment are considered, rather than effects on core service delivery discussed above. The latter is not a resource management consideration.
- 18. The relevant environmental effects relating to the proposed use of Frimley Park are matters relating to visual amenity and landscape, and effects on the character of the reserve. The fact that the proposal may take up space for a utilitarian purpose which might otherwise be used for recreation is not an adverse effect on the environment except to the extent it gives rise to effects on landscape, or character and amenity.
- 19. There is a question as to whether the legal documentation relating to vesting of Frimley Park, and the District Reserve Management Plan and Reserves Management Strategy, should be considered as relevant and reasonably necessary "other" matters under s104(1)(c). While these documents help inform the factual and legal context to the vesting of the Park and its legal status, they do not appear to be reasonably necessary to determine the Application given the legal position that the Applicant's right to use the land is not relevant to determining the Application.
- 20. To the extent those documents address resource management issues, those issues would need to be addressed in the provisions of the District Plan in order for them to be taken into account in the consideration of the Application. Seeking to rely on policy documents not created under the Resource Management Act runs a risk of applying a "de-facto" policy outside of, or inconsistent with, the RMA policy documents.

We trust that our advice assists the Consent Authority. We are happy to provide further assistance on any other issues arising as required.

Yours sincerely

MARY HILL Partner

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