

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of Proposed Private Plan Change 2 to
the Hamilton City Operative District
Plan: Te Awa Lakes Private Plan
Change

STATEMENT OF EVIDENCE OF RAY MAYOR FOR THE APPLICANT

(CONTAMINATED LAND)

29 OCTOBER 2019

1. EXECUTIVE SUMMARY

- 1.1 The environmental site investigation undertaken provided a sufficient assessment of potential and observed contamination at the Te Awa Lakes site to support the private plan change request for rezoning of the site. Following rehabilitation, reinstatement and implementation of the recommendations presented in the environmental site investigation report, the site will be suitable for the proposed residential, commercial and recreational end land use.
- 1.2 Based on the findings of the environmental site investigation, the potential for contamination of soil and waterways associated with the identified sources of contamination is considered low. A change in land use is highly unlikely to pose a risk to human health or the environment.
- 1.3 From a contamination perspective, the site would be suitable for rezoning, with any consent granted for earthworks on the site conditional on a rehabilitation and reinstatement plan and remedial action plan (or similar) being prepared prior to the grant of earthworks consents.

2. QUALIFICATIONS AND EXPERIENCE

- 2.1 My full name is Raymond David Mayor (Ray).
- 2.2 I hold a Bachelor of Engineering (Environmental) from Unitec (2010) and a Diploma in Environmental Technology from Unitec (2007). I am an environmental engineer with more than 10 years' experience on contaminated sites. My project experience includes conducting environmental risk assessments and managing remediation across numerous sites including residential, industrial and commercial developments as well as New Zealand Defence Force sites. Much of this experience has occurred while undertaking the multi-faceted aspects of field work required to complete these assessments.
- 2.3 I am a Project Environmental Engineer at Coffey Services (NZ) Ltd (Coffey). I have been employed by Coffey since 2008. I previously worked for Foundation Engineering in 2007 prior to Coffey taking over the company in 2008.
- 2.4 I am experienced in assessing and managing risks relating to asbestos (including asbestos surveys and management plans), metals, hydrocarbons, pesticides and herbicides and other hazardous materials, as well as emerging contaminants including per- and polyfluoroalkyl substances (PFAS). I have additional experience in air quality monitoring. I possess considerable experience in collecting, interpreting and reporting on soil and fresh water quality using a variety of established techniques. My experience has largely been within the Auckland and Waikato regions.
- 2.5 I have previous experience in providing a preliminary site investigation and evidence to support a proposed plan change (Private Plan Change 21 to the Waikato District Plan) from rural to residentially zoned land for a site located at Pokeno.

Involvement in project

- 2.6 Coffey was commissioned by Perry Group Limited (PGL) on 31 January 2017 to conduct a combined Preliminary Site Investigation (PSI) and Detailed Site Investigation (DSI), hereafter referred to as an environmental site investigation (ESI) to support the rezoning process through Private Plan Change 2 to the Hamilton City District Plan (PPC2) and proposed future development activities at the subject site. I was the project manager for and the author of the ESI.

- 2.7 The objectives of the ESI were to:
- a) Verify the Hazardous Activities and Industries List (HAIL) status of the site.
 - b) Characterise potential soil and sediment contamination at the site (if any).
 - c) Determine appropriate contaminated land management and consent requirements (if any).
- 2.8 I undertook a site walkover between 7 and 9 February 2017. I last visited the site (at the request of Ken Read from Opus) to undertake a site walkover on 25 May 2017 with Mr Read who was undertaking an independent peer review of Coffey's environmental site investigation report dated 12 July 2017 for Hamilton City Council. I provided comment to any queries or questions Mr Read had concerning the environmental site investigation. The site walkover concentrated on areas of interest noted within the report.
- 2.9 I also undertook interviews with site staff to understand the history of the site.
- 2.10 I produced an initial ESI on 28 February 2017, which was updated in my final ESI dated 12 July 2017.¹
- 2.11 Coffey had previously conducted a combined PSI & DSI in 2013 for Horotiu Farms Ltd over a portion of the subject site now occupied by a service centre and a number of other smaller commercial activities.² I was not involved in the PSI and DSI at the time, but have annexed it to my ESI at Appendix 2.
- 2.12 I confirm that I have read the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2014 and to the extent that I am giving expert evidence, have complied with it in preparing this evidence. I confirm that the issues addressed in this evidence are within my area of expertise and I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed in my evidence.

¹ The final ESI removed reference to areas north of the State Highway that are not part of the project area, and amended the client and project names.

² While the PSI related to the entire subject site, the DSI only related to that part of the site which has been developed into the existing service station development.

3. SCOPE OF EVIDENCE

Purpose and scope of evidence

3.1 I have been asked by PGL to provide evidence on behalf of PGL in relation to any soil contamination issues that arise from the proposed rezoning of the subject site through Private Plan Change 2 to the Hamilton City District Plan.

3.2 Specifically, my evidence will:

- a) Describe the potential sources of soil contamination related to the subject site for the proposed Te Awa Lakes development.
- b) Present the key findings of the environmental site investigation.
- c) Provide a brief conclusion.

3.3 My evidence relies on:

- a) Available information from the Waikato District Council's HAIL report.
- b) Available information from the New Zealand Fire Service.
- c) Available aerial photographs for the site and surrounds.
- d) Available previous environmental reports.
- e) Observations made during the site walkover.
- f) Information obtained and or provided during onsite interviews.
- g) Laboratory analysis and results.

4. RELEVANT FACTS AND CONTEXT

4.1 In this statement of evidence, I do not repeat the description of the plan change and refer to the summary of the application in the evidence of John Olliver for the Applicant.

5. SUMMARY OF TECHNICAL REPORT

5.1 Investigation works were undertaken in general accordance with the Ministry for Environment (MfE) Contaminated Land Management Guidelines No. 5: Site Investigation and Analysis of Soils (revised 2011) and MfE Contaminated Land Management Guideline No.1: Reporting on Contaminated Sites in New Zealand (revised 2011). Both the above documents are incorporated by reference into the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NES).

5.2 The following formed the scope of works for the ESI:

- a) A review of the existing PSI and DSI completed for the service station development.
- b) A desktop study review of the Waikato District Council HAIL report provided by Waikato District Council dated 24 February 2017 which covered activities on the site prior to 2011, when the site was brought within Hamilton City district boundaries.
- c) The site walkover referred to above.
- d) Collection of soil and sediment samples from various depths across the site to assess potential contamination. I note that sampling was not able to take place to 10 ha of the site comprising stormwater retention ponds.
- e) Comparison of soil analytical results against the relevant acceptance criteria for the protection of human health.
- f) Preparation of the final ESI report, which was incorporated within the PPC material at Appendix 11.

Historic land use

5.3 Historically, the site has been used for pastoral grazing, orcharding, and more recently as a sand quarry.

5.4 As a result of PPC2, if approved, the use of the site will change from extractive / industrial activities to residential, commercial, and recreational land uses. In light of this change of use, it is necessary to determine whether there are any potential soil contamination issues arising out of the historical use of the site.

Potential sources of contamination

5.5 Information obtained through the property information, previous environmental assessments, a site walkover and onsite interviews with available personnel identified the following potential sources of contamination:

- a) Central mining / material loading area.
- b) Dry plant.
- c) Unused equipment storage.
- d) Stormwater pond pump.
- e) Historic filling.

5.6 The Waikato District Council HAIL Report verified that HAIL activities *Item A10 - persistent pesticide bulk storage or use* and *Item A17 - storage tanks or drums for fuel chemicals or liquid waste* had been recorded on the site.

5.7 The PSI conducted for the service station development confirmed that the site had been previously utilised for importation and placement of fill material, and therefore the HAIL activity *Item G3 – landfill sites* is likely to have also taken place on the subject site. Interviews with site staff confirmed that historic filling occurred across the sand quarry, associated with reinstatement following quarrying activity. Fill material comprised cleanfill only, and documentation stating the nature and origin of the fill material was required by PGL prior to disposal. As only cleanfill was imported to the site, historic filling was not considered to be a significant source of contamination.

Methodology for investigation works

5.8 The investigation works for the ESI comprised collection of:

- a) 17 composite surface soil samples site-wide to assess for contamination associated with past orcharding / pastoral grazing on site.
- b) 30 individual soil samples between the surface and 2.4 meters below ground level (mbgl) to characterise soils from areas of concern identified during the site walkover.
- c) 36 sediment samples from current and historic stormwater ponds and drainage channels on site.

5.9 The number of samples collected as part of the environmental site investigation was considered sufficient to characterise contamination at the site, as both targeted and composite samples were collected site-wide to characterise potential and known sources of contamination. Additionally, approximately 10 ha of the site is occupied by historic or current stormwater ponds. Samples were collected at inflow and outflow points to characterise the areas downstream of contamination sources.

5.10 The investigation works followed a best practice methodology for the detection of potential contaminants. They were also subject to a number of quality assurance and quality control procedures.

5.11 The ESI adopted background concentration levels from the latest Waikato Regional Council guidance, and Soil Contaminant Standards (SCS) from the Ministry for the Environment's latest guidance (2012) for the relevant land use criteria (residential, commercial / industrial, and recreational). Other applicable human health standards and criteria were drawn from according to best practice.

Summary of key findings of the ESI

5.12 In addition to the find above regarding historic filling, the key findings of the ESI can be summarised as follows:

- a) Organochloropesticides (OCPs) were detected above adopted background levels in one soil sample in the eastern portion of the site, but no others.
- b) Heavy metals chemical concentrations were detected in excess of adopted background levels in shallow soil samples across the site.

- c) PAHs were detected in excess of adopted background levels in soil samples from the central and eastern
- d) Petroleum hydrocarbons were detected in excess of human health criteria for residential land use in one soil sample in the north-eastern portion of the site. Petroleum hydrocarbons were detected in excess of adopted background levels in four of the five samples analysed.
- e) Arsenic concentrations in excess of human health guidelines for residential land use were detected in three sediment samples from outflow / inflow areas of ponds in the southern and central portions of the site. Heavy metals were detected in sediment samples in ponds across the entire site.
- f) No results exceeded human health guidelines for commercial/industrial or recreational land use.

Recommendations

- 5.13 The ESI made a number of recommendations for the rehabilitation strategy to be undertaken in accordance with the final plan framework to be put in place following PPC2, including removal of petroleum hydrocarbon impacted soils, arsenic impacted sediment, and TPH impacted soils; disposal of surplus cut to off-site disposal facilities; and preparation of a Remedial Action Plan as part of any consent application under the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NESCS).
- 5.14 Deeper soil sampling, additional sediment testing, and a water quality assessment were recommended by Opus as part of its peer review. In my opinion, any such work would be conducted (if required) as part of the wider rehabilitation programme and/or as part of any consent under the NESCS for the redevelopment phase of the project.

Conclusion of the ESI

- 5.15 The ESI confirmed that following rehabilitation, reinstatement, and implementation of the recommendations in paragraph 5.13 above, Coffey considered the site to be suitable for the proposed residential, commercial, and recreational land use under PPC2.

6. EXPERT CAUCUSING

6.1 Given the lack of any dispute as to soil contamination issues, no expert caucusing was required or convened.

7. COMMENTS ON THE SECTION 42A REPORT

7.1 I have read paragraphs 3.24 to 3.27 of the Section 42A report, where it deals with contamination effects, and I agree with the report writer's summary of those effects. I am not aware of any other comments raised in the Section 42A report that relate to soil contamination issues that would require additional input or comment by me.

8. COMMENTS ON SUBMISSIONS

8.1 I am not aware of any submissions that relate to soil contamination issues.

9. CONCLUSION

9.1 Based on the findings, the potential for contamination of soil and waterways associated with the identified sources of contamination is considered low. A change in land use is highly unlikely to pose a risk to human health or the environment.

9.2 From a contamination perspective, the site would be suitable for rezoning, with any consent granted for the site conditional on a rehabilitation and reinstatement plan and remedial action plan (or similar) being prepared prior to the grant of earthworks consent

9.3 In addition, I am not aware of any issues raised by submitters, the Council or any other party that would affect the conclusions in the ESI. Nothing to my knowledge has changed since the ESI was prepared which alters these conclusions.

Raymond David Mayor

29 October 2019