Contamination Site Management Plan – Frank Kitts Park Redevelopment

Document Control

Date	Version	Description	Prepared	Reviewed	Authorised
19/04/2024	1	CSMP for resource consent	R. Edwards	C. Hillman	E. Chin

1 Introduction and Background

This Contamination Site Management Plan (CSMP) has been prepared to provide appropriate controls for mitigating effects of potential soil contamination during earthworks, and to particularly provide procedures for unexpected contamination should it be encountered during the redevelopment of Frank Kitts Park, located on the Wellington Harbour (Figure 1).

Figure 1: Site plan (approx. extent of site shown with red line and the existing carpark building to be demolished (dashed line)).

This plan has been prepared in general accordance with the requirements for a Site Management Plan referred to in the NESCS[1], and as outlined in the Ministry for the Environment (MfE) Contaminated Land Management Guidelines[2]. The persons preparing and reviewing this plan are suitably qualified and experienced practitioners (SQEP), as required by the NESCS and defined in the NESCS Users' Guide (April 2012).

This plan has been prepared in accordance with our Letter of Engagement dated 15 September 2023 (T+T Ref: 1018875.4000).

2 Detailed Site Investigation[3]

Investigations have shown that outside the carpark building area (see Figure 1) the site is underlain by reclamation fill with generally low levels of contamination (below the applicable soil contaminant standards for commercial/industrial outdoor workers and recreational land use), however with the potential for unidentified pockets of hazardous materials (e.g. refuse or asbestos). The reclamation fill is underlain by marine deposits; however, the marine deposits are not proposed to be disturbed by the proposed earthworks.

The existing carpark building was inaccessible during investigations, due to the building's construction and earthquake prone status. However, samples of surface soils (to 0.3 m depth) over the carpark showed low levels of contamination (below the applicable soil contaminant standards for commercial/industrial outdoor workers and recreational land use).

Further characterisation of the soils over the car park (deeper than 0.3 m depth) will require characterisation to assess re-use/disposal options. Additionally, once the carpark building has been demolished, a site walkover and further testing (including groundwater) should be undertaken to confirm residual ground conditions in this area.

Groundwater outside the carpark area was sampled once during the investigation and results met the marine water quality guidelines for 80 % species protection (this being representative of the adjacent harbour).

3 Proposed Earthworks

Shallow (landscaping) earthworks are proposed across much of the site as part of the park's redevelopment (depths and extent not known at present). This will require demolition of the underground carpark and amphitheatre and building up of the new Harbour Lawn and Malae.

As outlined in the Preliminary Civil Engineering Report[4] prepared by T+T, it is the intention that as much of the cut material as possible be reused for fill onsite. It is estimated that there is approximately 1,000 m^3 of material on top of the existing carpark roof. For further information on proposed earthworks refer to the Engineering Report[4].

4 Roles and Responsibilities

- **Site Owner (Wellington City Council)** Responsible for distributing this CSMP.
- **Site Controller (TBC):** Responsible for ensuring that the controls in this CSMP are complied with.
- **Health and Safety Officer (HSO):** Appointed by the Site Controller to ensure that contamination-related health and safety procedures are adhered to, and that all relevant personnel are familiar the CSMP procedures before commencement of site work.
- **Contaminated Land Specialist (CLS) (TBC):** Responsible for carrying out pre-works testing, inspections and providing advice, as required, during the works (including updating extent of works areas as required). The CLS must be a SQEP as defined in the NESCS Users' Guide.

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. A copy of amended/updated plans should be provided to the above personnel before implementation.

5 Health and Safety / Hygiene

This CSMP provides information and options to manage Health & Safety and environmental protection but is not intended to relieve the controller of the place of work of either their responsibility for their workers, contractors and the public, or their responsibility for protection of the environment. The provisions of this CSMP are mandatory for all persons (employees, contractor, and sub-contractors) who will be involved in undertaking any of the proposed redevelopment works.

The following health and safety measures shall be implemented:

- All workers should be familiar with this CSMP before site work begins.
- Workers should avoid hand-to-mouth contact when working with soils.
- A wash point should be set up for workers that come into contact with soil to wash hands with soap and water before eating, drinking and/or smoking. Eating, drinking and/or smoking will only be allowed within designated areas.
- A first aid point should be available.

6 Unexpected Contamination Discovery Protocols

The nature and continuity of subsoil away from sample locations within the DSI are inferred and it must be appreciated that actual conditions could vary from the assumed model. Therefore, if previously unidentified potential contamination is discovered during the redevelopment works, or an uncontrolled discharge of potentially contaminated soil or water to the environment has been identified, the first response procedures below will be followed. Indications of contamination can include the following:

- Odour (e.g., oil/petroleum hydrocarbons, solvents, sewage).
- Discolouration of soil (e.g., black, blue, grey, or green staining).
- Asbestos-containing materials (for example asbestos cement pipe, plasterboard, lagging, or cement board).
- Sheen or oily liquids in soil or on water.
- Industrial by-products / combusted materials e.g., ash or slag.
- Drums, sumps, or storage tanks.

First Response Checklist	
Immediately Stop all works within 10 metres of any part of the discovery, including shutting down all earth disturbing machinery, stopping earth moving activities, and switching off any heat/ignition sources.	☐
Contain or absorb any contaminant discharge.	☐
Isolate the area by taping, coning, or fencing off. Update the site Hazard Board and prevent unnecessary access to the area by personnel.	☐
Advise the Site Controller.	☐
If unexpected ACM is observed, provide P2 dust masks to all staff entering the isolated area.	☐
The Site Controller is to notify the Site Owner and contact the CLS to inspect, sample and advise on specific controls.	☐
The Site Controller is to send notification to GWRC and WCC, summarising response measures undertaken.	☐
Contain and manage surface water/sediment runoff and dust as per this CSMP.	☐

7 Post Demolition Testing

Once the carpark building has been demolished, a site walkover and further testing should be undertaken by the CLS. Prior to testing, the management protocols outlined in this CSMP should be adhered to.

Soil samples shall be collected in general accordance with the MfE's CLMG[2] and Asbestos in Soil Guidelines[5] and tested at an IANZ accredited laboratory. Analysis will be determined by the CLS but is expected to include heavy metals (arsenic, cadmium, chromium, copper, lead, nickel, and zinc), PAH and semi quantitative asbestos, where relevant. Results will be assessed against relevant guidelines by the project CLS and reported to Council prior to works beneath the car park area commencing.

[1] *Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011*. (updated 2021)
[2] MfE, updated 2011. *Contaminated land management guidelines No. 1: Reporting on Contaminated Sites in New Zealand*. Ministry for the Environment
[3] T+T, April 2024. *Detailed Site Investigation. Frank Kitts Park Redevelopment*. Prepared for Wellington City Council. T+T Ref: 1018875.4000 v1.
[4] T+T, April 2024. *Preliminary Civil Engineering Report. Frank Kitts Park Redevelopment.* Prepared for Wellington City Council. T+T Ref: 1018875.4000 v1.
[5] BRANZ, 2017. *Guidelines for assessing and managing contaminants in soil to protect human health.*

8 PPE

No special PPE is required for the proposed works outside the Carpark Building Area. PPE within the Carpark Building Area will be determined by the demolition contractor during removal of the structure and then by the CLS following completion of demolition.

9 Dust Control

There is the potential for contamination to be present within the reclamation fill, dust control should be in place, particularly in places within proximity to public walkways.

Dust/fibre suppression including frequent spraying of water to ensure that working surfaces remain damp (but not wet).

10 Erosion and Sediment Controls

Erosion and sediment controls outlined in the Erosion and Sediment Control Plan (ESCP)[6] prepared for the redevelopment of Frank Kitts Park should be adhered to.

11 Stockpiling

If stockpiling is required, the following controls should be in place:

- Stockpile(s) will be bunded and located in established areas where there are earthwork controls.
- Located away from watercourses, stormwater drains and steep terrain where practicable.
- When not covered, dampened with water, or covered with a non-permeable material in dry, windy conditions to prevent erosion and dust.

12 Transportation / Loading

- Minimise spillage of material outside of works area during truck loading.
- Where practicable, soil will be placed directly onto trucks.
- Trucks will be loaded where earthwork controls are in place so that runoff and possible spills during loading can be controlled and contained.

13 Soil Re-use

Site soil from the areas north of the carpark can be re-used onsite subject to geotechnical suitability.

To determine whether material below the existing carpark is suitable for re-use onsite further testing is required (outlined in Section 7).

It is understood that material from above the existing carpark building will be cut to waste and Section 14 soil disposal below should be referred.

As outlined in the Preliminary Civil Engineering Report[4], it is assumed that all recovered concrete from demolition of the underground carpark will be removed from site. However, there may be opportunities to reuse this material as bulk fill, subject to its suitability and options for onsite crushing. Recovered concrete should be inspected for the presence of asbestos before use or crushing.

14 Soil Disposal

It is understood that the majority of the material will be re-used on site, except for the material above the existing carpark building which is proposed to be cut to waste at the time of writing this CSMP. During the DSI, samples from the top of the carpark were collected from surface down to 0.3 m bgl where the hand auger met refusal. The material analysed down to 0.3 m bgl may be suitable for cleanfill or re-use onsite. However, material below 0.3 m bgl will need further testing to determine disposal options. If required, material can be stockpiled onsite during excavations, and samples collected and analysed as outlined in Section 7.

Test results for soil sampled from the north of the carpark meet the acceptance criteria for Silverstream and Southern landfill.

However, at the time of writing, Silverstream landfill is rejecting the vast majority of material. Material may be suitable for cleanfill; however, this will need to be further investigated with cleanfill facilities to determine whether they are open accepting cleanfill at this time and whether material from the site meet their acceptance criteria.

The Site Owner/Contractor will liaise with cleanfill/landfills prior to soil disposal, undertake any additional sampling required, and obtain the necessary documentation and permission to dispose.

To determine suitable disposal options for the material below the existing carpark building, further testing should be undertaken as outlined in Section 7 following demolition.

15 Imported Material

Excavations shall be backfilled with clean material (unless excavated material is re-used). Hardfill or aggregate sourced directly from a quarry or river do not require testing for contaminant concentrations.

If soil needs to be imported from outside the site, then any imported soil shall either:

- Be derived from a source, which is previously verified in accordance with the methods described in the NESCS regulations, as being a piece of land to which the NESCS regulations do not apply; or
- Have been adequately investigated (i.e. in accordance with MfE Guideline No 5) by a SQEP to meet the 'cleanfill' definition. It is preferable that the material is tested at its source prior to importation. However, if this is not possible, then the contractor shall stockpile the material on site until test results are available.
- It is critical that any imported crushed concrete be inspected by the CLS for the presence of asbestos before use within the development (preferably before bringing to site).

If material is to be stockpiled on-site, it must be in accordance with procedures in this CSMP.

16 Dewatering

One round of testing on groundwater north of the carpark gave results meeting the marine water quality guidelines for 80 % species protection (this being representative of the adjacent harbour), Greater Wellington Regional Council (GWRC) may accept disposal of groundwater to stormwater without treatment other than sediment removal within this area. However, a consent may be needed, depending on volumes and programme.

To determine dewatering requirements below the carpark building, further sampling is required once the carpark is demolished. Further sampling would address the potential risk of hotspot contamination beneath this area impacting groundwater.

Groundwater samples collected should be analysed for the following:

- Total Suspended Solids (TSS)
- Dissolved Heavy Metals
- PAHs
- pH
- Chlorides
- Sulphate and Sulphide
- Anion/Cations
- Magnesium

Results from the sampling under the carpark following demolition will determine dewatering requirements within this area.

17 Applicability

The Draft CSMP has been prepared for Wellington City 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.

The CSMP has been prepared on the basis of information available at the date of preparation. The nature and continuity of subsoil away from preliminary sample locations are inferred and it must be appreciated that actual conditions could vary from the assumed model.

We understand and agree that our client will submit this report as part of an application for resource consent and that Wellington City Council and Greater Wellington Regional Council as the consenting authority will use this report for the purpose of assessing that application.

We acknowledge that the Fale Malae Trust will also submit this report as part of an application for resource consent in accordance with the Reliance Statement[7], and that Wellington City Council and Greater Wellington Regional Council as the consenting authority will use this report for the purpose of assessing that application.

[6] Aurecon. May 2016. *Earthworks and Erosion & Sediment Control Measures*. Prepared for Wellington City Council (City Shaper).

[7] Tonkin & Taylor Ltd (April 2024), Letter to Fale Malae Trust titled "Reliance Statement – Frank Kitts Park Redevelopment". T+T Ref. 1018875.4.