



**110 Jervois Quay**  
**DRAFT CONSTRUCTION**  
**MANAGEMENT PLAN**

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- 1.0 Appendix 1 -Tonkin + Taylor Ground Contamination Assessment
- 2.0 Appendix 2 – MFCC Development Structural / Geotechnical Effects & Construction Methodology

## SECTION 1.0

# PROJECT INTRODUCTION AND CMP OBJECTIVES

### Project Introduction

This construction management plan covers the proposed construction work at a project known as MFC Carpark.

An 8-level base isolated office building, sitting on the junction between Wakefield Street and Jervois Quay. This will be built on the existing carpark, where the Royal New Zealand Ballet currently occupies in a temporary building.

The eight-storey building comprises; ground floor entry lobbies, retail and front of house office space, and office space on floors 1-7.

The structure: Bottom end, driven steel piles filled with reinforced concrete is proposed, with grout filled structural steel diagrid system and reinforced concrete slabs. A high performance external mixed façade of solid and glazed elements and warm roof to complete the external envelope. The office floors will be serviced to an A-grade standard

Externally, the intention is that the area surrounding the new build is landscaped to integrate with WCC proposed landscape solution for this important area of Wellington.

### CMP Objectives

- To outline a construction methodology for the MFC Carpark Project.
- Identify any works during the course of the construction that have the potential to impact on the local environment.
- To demonstrate management procedures to deal with the potential effects of construction activity on the local environment.
- To establish how public interface will be managed.
- To ensure the safety of public at all times during the works.
- To outline potential issues and corrective procedures in consultation between neighbouring buildings, public and contractor.

## SECTION 2.0

# SCOPE OF WORK

### **Project Scope of Works**

The main works associated with this project include the following:

#### **Stage 1 - Basement works**

1. Additional proof-drilling to determine depths for piles.
2. Site Establishment, hoardings, protective footpath gantries, and enabling.
3. Removal of contaminated spoil and bulk excavation to the sub-basement area; removal of the 'Guy Ngan' sculpture which will be stored safely and reinstated to an alternative location on site at completion of the project works.
4. Temporary retaining work to sub-basement excavation.
5. Protection and possible strengthening work as required to the existing underground emergency waste water tank and storm water culvert.
6. Driven Piling.
7. Demolition – pre-existing buildings foundations, the elevated pedestrian bridge across Wakefield Street.
8. Salvage and reinstatement of identified items: Guy Ngan Sculpture, lamp posts, nominated trees, furniture and services.
9. New incoming in-ground services.
10. Formation of ground beams, tanking, new basement slab, and perimeter walls.
11. Formation of basement pedestal columns and installation of base isolators.

#### **Stage 2 - Structure works**

1. Installation of structural steel building frame.
2. Installation of comflor reinforced concrete flooring systems.
3. Formation of lift shaft, core areas, and stair wells.

#### **Stage 3 - Façade & Envelope**

1. Installation of unitised curtain wall system.
2. Installation of warm roof membrane system.

#### **Stage 4 - Base build, and Fitout Works**

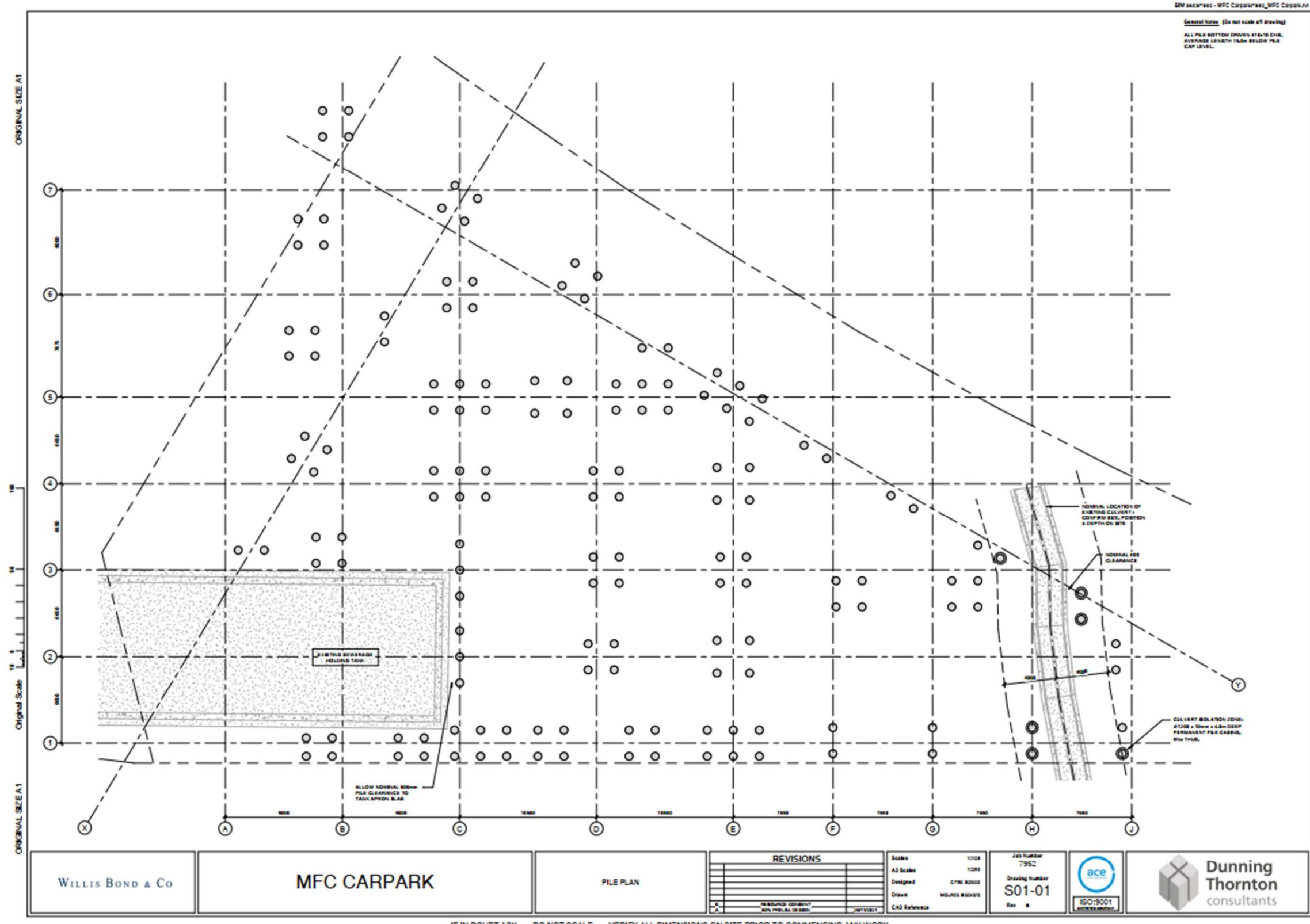
1. Building Services.
2. Building amenities.
3. Internal finishes.
4. Fit out works.
5. External landscaping

#### **Stage 5 – Completion activities**

1. Landscaping
2. Commissioning and compliance
3. Defecting
4. Handover

SECTION 3.0

LOCATIONS OF DRIVEN PILES



## SECTION 4.0

# SITE ESTABLISHMENT

### **Site Access, Loading, & Cranage**

During the initial basement phase of work material and plant will be delivered to and from site via the Wakefield Street site entry. As the project progresses this will be maintained as one of two delivery points.

As the initial basement works commence a loading bay will be formed on Wakefield Street, providing further loading points.

The loading bay on Wakefield Street will be serviced by one (1) tower crane, as shown in section 6.0, overhead protection for pedestrians will be provided in the form of temporary gantries. Refer to the site plan in section 5.0 for further information.

Supplementary mobile cranage will be utilised for the air bridge and loads unreachable for a tower crane.

### **Dust Control**

Dust will be mitigated and managed through the use of dust screens and water misting as required. Managing dust at its source will be the key focus of our detailed methodologies and work plans.

When required, all machinery / trucks and wheels will be hosed down prior to departing site to prevent any risk of dust migrating from site. Trucks entering and leaving the site will need to have loads covered where risk of dust and the like is present.

### **Contaminated Ground Conditions**

If contaminated soil is discovered procedures will be required during the excavation and transportation of soil from the site to protect site workers, the public and the environment. These procedures are set out in the Environment Management Plan, if required. Any groundwater is expected to be suitable for either discharge to storm water or to trade waste, both of which will require GWRC permits. This will be subject to further testing of groundwater.

### **Traffic Management**

LT McGuinness will develop a site-specific traffic management plan in consultation with a specialist traffic design consultancy. This is to ensure efficient safe vehicle movement with Michael Fowler Centre and Civic Square; safety for pedestrians around the site perimeter and vehicular traffic along Wakefield Street and Jervois Quay.

### **Hoardings & Site Security**

A mix of 1.8m high wire mesh and 2.4m high timber/ plywood fencing will be used to separate the public areas and the construction zone along the public boundaries. Pedestrian protection gantries will be erected along Wakefield Street for the length of the site.

Signage will be installed on the five corners of the site to educate the public of the environment. A security company will be engaged to undertake frequent patrols of the entire site. Additionally, a CCTV camera system will be installed.

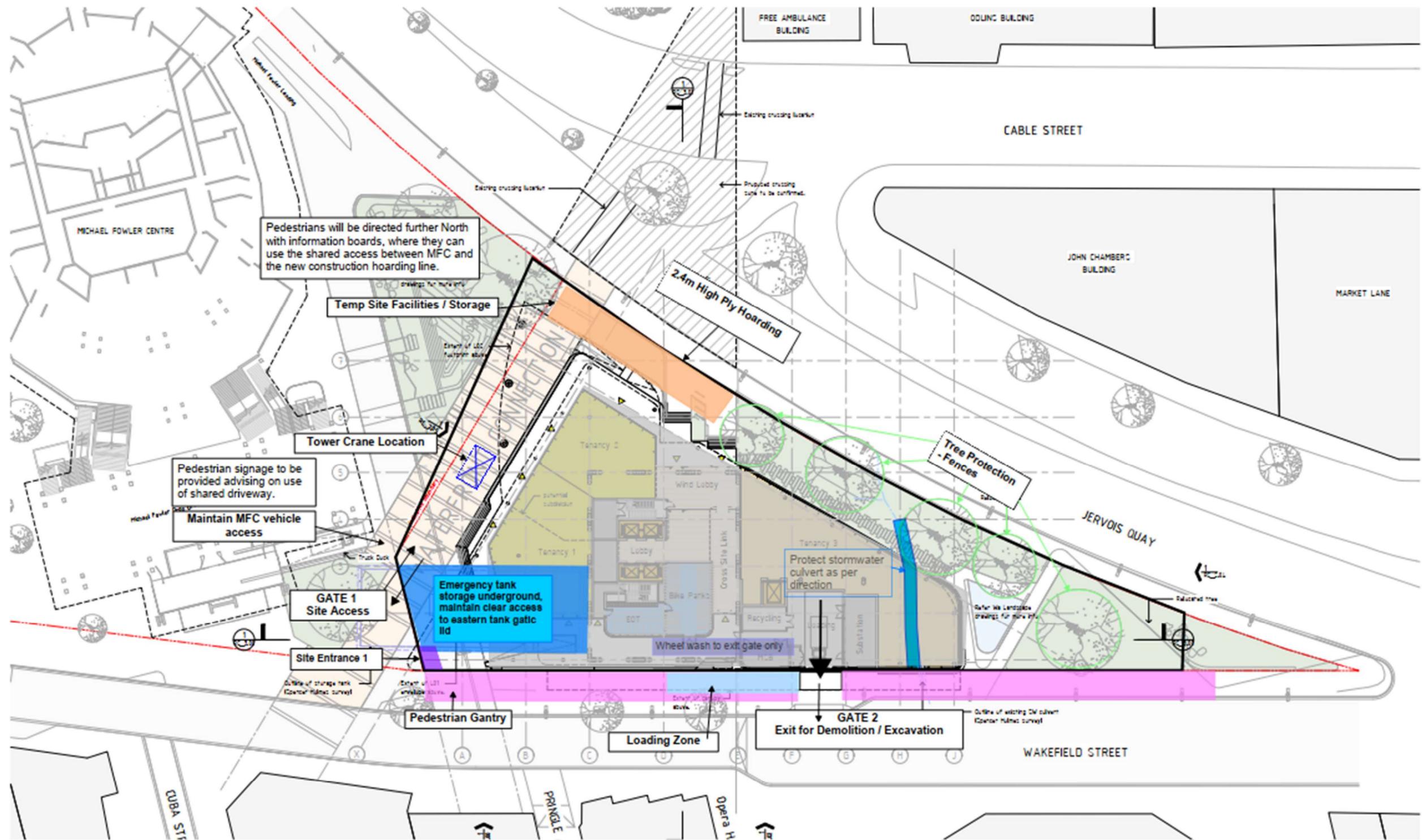
**Plant, Machinery & Deliveries**

Due to the nature of this new build, a substantial amount of plant and equipment will be required to facilitate the construction stage. Piling rigs, crawler crane, excavators and large trucks will be required initially. All vehicles entering and exiting the site will be accompanied and guided by ground staff personnel to ensure safety of all. We anticipate waiting times for trucks and deliveries to be minimised as much as possible through programmed management, however, these can be located in the waiting bay or within the site if required or be sent off site to return at a more suitable time.

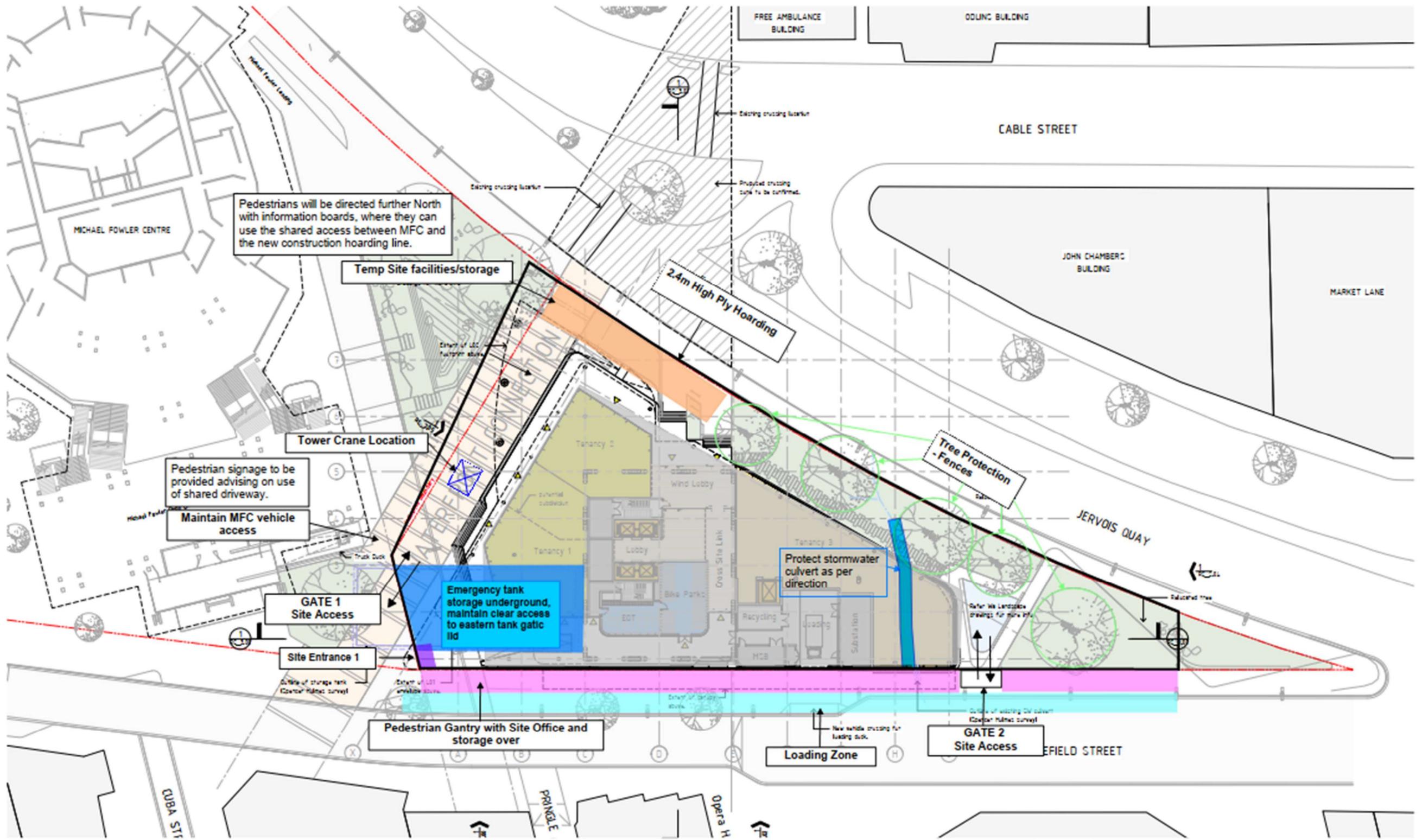
**Cranage**

LT McGuinness proposes to erect one tower crane located as per Section 6.0 Crane Plan. These proposed locations will allow full reach over the footprint of the building and the loading bays. All necessary approvals and air space compliance from affected building and land owners will be arranged by the site owner.

# PROPOSED SITE PLAN

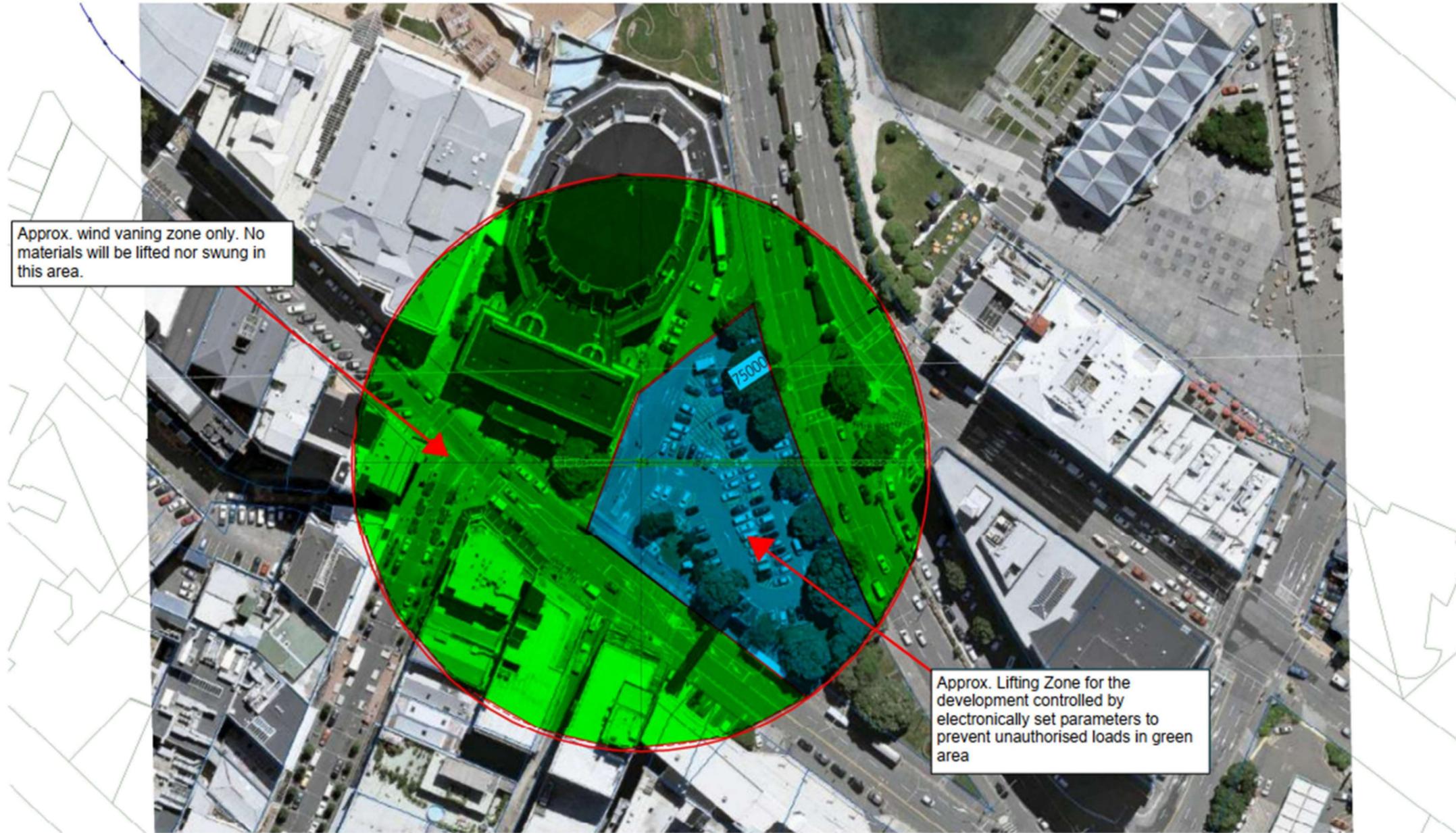


LTM DRAFT SITE DEMOLITION AND EXCAVATION PLAN



**LTM PROPOSED DRAFT SITE PLAN**

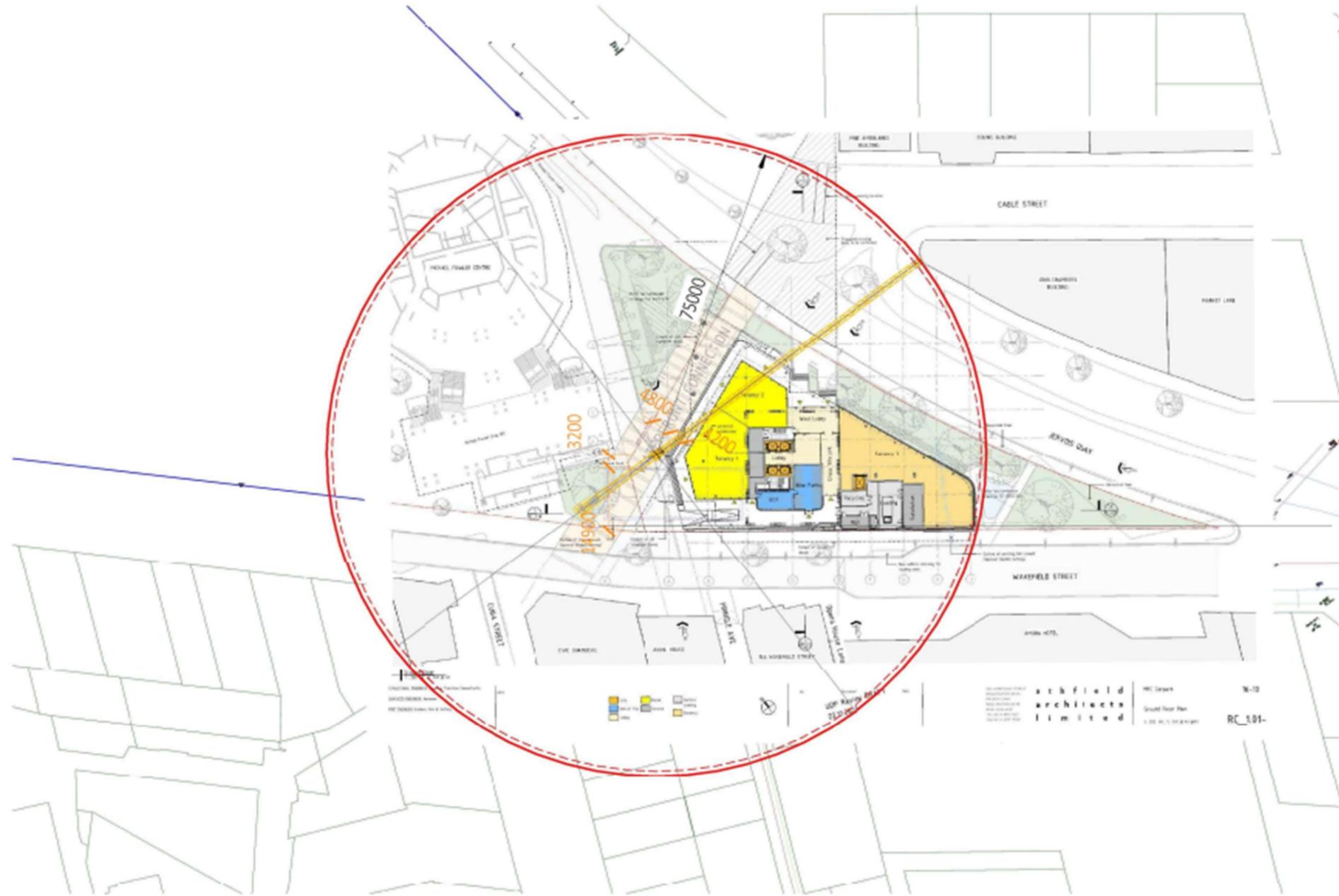
PROPOSED CRANE PLAN



REFER STRUCTURAL DOCUMENTATION FOR ALL STRUCTURAL SCOPE OF WORK

PRELIM ① CRANE A1  
1:1000

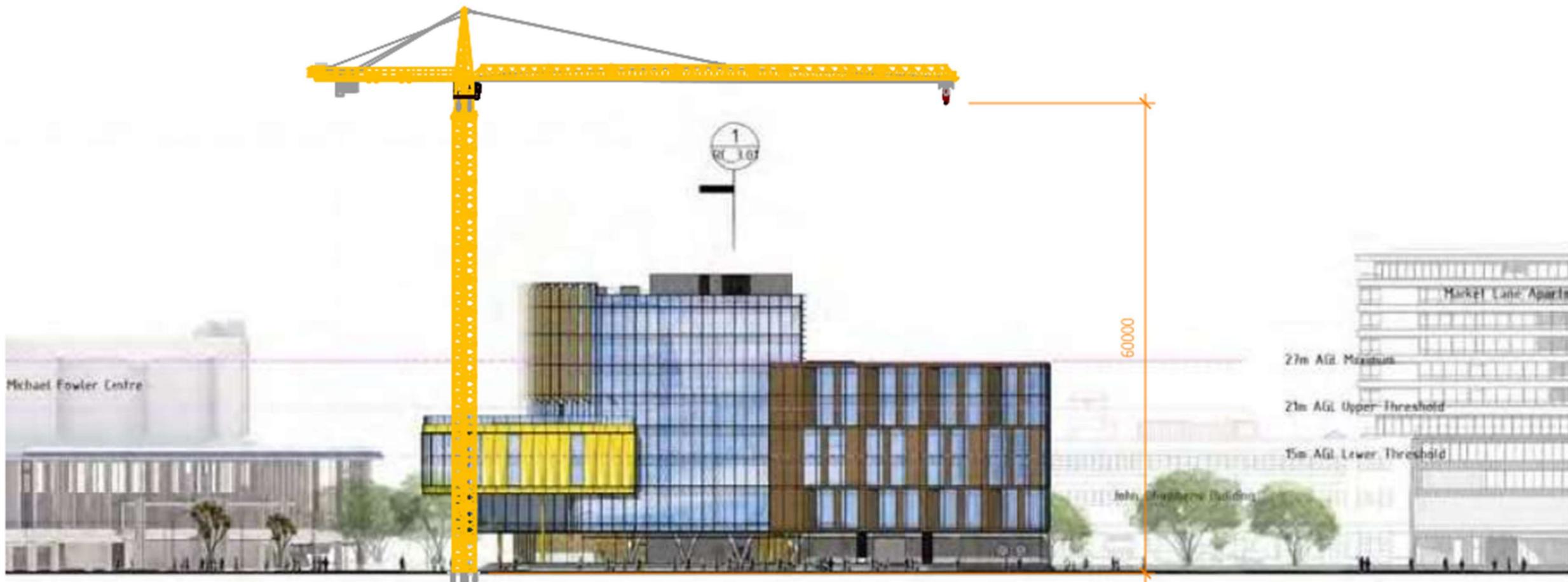
	<p>NOTES:</p> <ol style="list-style-type: none"> <li>1. ALL WORK TO BE IN ACCORDANCE WITH NZS3604, NZS 4229, NZBC.</li> <li>2. DO NOT SCALE FROM DRAWINGS. DIMENSIONS GOVERN.</li> <li>3. ALL DIMENSIONS ARE SHOWN IN MILLIMETRES UNLESS OTHERWISE NOTED.</li> <li>4. ALL DIMENSIONS SHALL BE VERIFIED ON SITE BEFORE PROCEEDING WITH THE WORK.</li> <li>5. ALTERATIONS TO THE DRAWINGS MUST BE NOTIFIED TO THE ARCHITECT IN WRITING.</li> </ol>	<p>if in doubt, ask</p>	<p><b>CRANE A1 - 75m 60H</b> scale on A3: 1 : 2000      A4: 71% scale reduction</p>	<p><b>MFC CARPARK</b> Wellington</p>	<p>MFC</p>																					
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REFER STRUCTURAL DOCUMENTATION FOR ALL STRUCTURAL SCOPE OF WORK

PRELIM 1 CRANE A2  
1 : 1000

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① CRANE A ELEVATION  
1:500

REFER STRUCTURAL DOCUMENTATION FOR ALL STRUCTURAL SCOPE OF WORK

PRELIM

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## SECTION 7.0

# PROPOSED TRAFFIC MANAGEMENT PLAN

## TMP

LT McGuinness will develop a site-specific traffic management plan in consultation with a specialist traffic design consultancy. This is to ensure efficient safe vehicle movement with Michael Fowler Centre and Civic Square; safety for pedestrians around the site perimeter and vehicular traffic along Wakefield Street and Jervois Quay.

SECTION 8.0

PROPOSED LTM SIGNAGE

**LT McGUINNESS HEALTH, SAFETY & ENVIRONMENTAL BOARD**

**HEALTH & SAFETY REPS**

**PPE**

**HAZARD BOARD**

**CARD SYSTEM**

**POLICIES**

**SITE CONTACTS**

Site Manager: [ ] Foreman: [ ] Site Officer: [ ] Other: [ ]

**PLEASE SIGN IN/OUT WITH TABLET. FIRST TIME TO SITE? PLEASE COMPLETE INDUCTION WITH QR CODE**

**INDUCTION**

**MORNING BRIEFING**

**SIGN IN / OUT**

**INDUCTION**

**SIGN IN / OUT**

**HEALTH UPDATE**

**CORONAVIRUS (COVID-19)**

**KEY POLICY INTRODUCTIONS TODAY - ALERT LEVEL 3 (2021)**

- All site toilets, lunch rooms, offices, door handles, light switches etc to be cleaned every 2 hours
- All people entering site need to wash/sanitise their hands, following best practice.
- Anyone who has been requested to self-isolate by Ministry of Health due to potential Covid-19 exposure or recent overseas travel must do so and contact the office for further advice.
- Everyone is to keep 2m distance from each other and no handshaking or close contact.
- Limit use of lunchrooms and smoko areas. We encourage people to separate into small groups, preferably in open air.
- Limit the use of shared objects and spaces such as pens and tools.
- External meetings to be essential meetings only, and if so limited to four persons max.
- Internal meetings to be restricted to four persons max.
- Critical external visits to site only, such as an engineer to sign off a concrete pour or a Council inspection.
- LTM to limit movement of people between sites, critical visits only.
- No domestic or international air travel.
- Discourage use of public transport and use of shared facilities such as e-scooters.
- No social events until further notice, we encourage everyone to stay away from public events.
- Break up site offices into different areas to mitigate the risk.
- Site Officer or security will be present at site entrances.
  - Officer will sign people in.
  - Officer to ensure scanning of Covid tracer QR code.
  - Officer to question peoples state of health.
  - Officer to ensure people wash their hands on entering site.
  - Officer to take courier deliveries.
  - No one enters site unless they need to be there.
- All are to maintain high vigilance of unwell people and ensure people are complying with the rules.

Please ensure all staff working on LTM sites are aware of this policy.

**Kia ora and welcome to this LT McGUINNESS SITE**

**ALL VISITORS MUST REPORT TO THE SITE OFFICE**

**MANDATORY PPE**

Hard Hat

Hi Vis

Safety Boots

**SITE CONTACTS**

**SEE IT**

WASH

AVOID

**OWN IT**

**FIX IT**

**HEALTH CHECK POINT**

**STAMP OUT THE SPREAD!**

COVID-19

**STOP**

TEMPERATURE CHECK

PPE CHECK

HAND SANITISER CHECK

MAINTAIN A SAFE DISTANCE FROM COLLEAGUES

**LT McGuinness BUILDING CONTRACTORS**

**SIGN IN ZONE BARRIER**

## SECTION 9.0

# KEY PERSONNEL

Construction Director: Kerrin Manuel

Mob: 027 471 1036

Email: [KerrinM@mcguinness.co.nz](mailto:KerrinM@mcguinness.co.nz)

Commercial Director: John Malthus

Mob: 021 423 401

Email: [JohnM@mcguinness.co.nz](mailto:JohnM@mcguinness.co.nz)

Site Project Manager: TBC

Mob:

Email:

Project Manager: TBC

Mob:

Email:

Health and Safety Manager: Daniel O'Connor

Mob: 021 596 689

Email: [danielo@mcguinness.co.nz](mailto:danielo@mcguinness.co.nz)

Head Office

9 Francis Place

H: (04) 384 8455

F: (04) 801 8455

SECTION 10.0

# PRELIMINARY PROGRAMME

TBC to be included in final CMP

SECTION 11.0

# LTM COMPLAINTS PROCEDURE

The following communication and complaints procedure will be implemented on the MFC Carpark project;

1. All complaints will be directed in the first instance to the key personnel.
2. They will have the responsibility to ensure that the complaints procedure process is enacted and communicated correctly.
3. The MFC Carpark project will prominently display alongside the works, 5 signboards with the 24-hour contact number of LT McGuinness site management.
4. LT McGuinness will maintain on site a complaint register and log of actions taken. The register will include the following;
  - A standard complaints procedure proforma
  - Date of complaint log
  - Complaint names log
  - Actions taken log
  - Report back on log
  - Close out log to be completed within 48 hours of the complain

	<h2 style="margin: 0;">COMPLAINTS FORMS</h2> <p style="margin: 0;">Environmental Incidents</p>	
Incident:		
Part A: Details of complaint/incident (to be completed by Environmental Officer)		
Date of incident:	Time of incident:	Incident Report No.
Name and phone number of complainant:		
Description of incident/concern:		
Immediate actions/control measures to rectify the incident/complaint:		
Was The Environmental Control Officer notified? Yes/No(circle) by: Phone/letter(circle)		
Was Client? Yes/No(circle) by: Phone/letter(circle)		
Other authorities notified? Who? _____ e.g., water authorities) by: Phone/letter(circle)		
Print Name: _____ Signature _____ Date: ___/___/___		
Part B Follow up details: (to be completed by Project Manager)		
Action Taken:		
Print Name: _____ Signature _____ Date: ___/___/___		
Was the complainant/ other authorities informed of the actions taken?		

## SECTION 12.0

# PROTECTION OF EXISTING STRUCTURES

### Collateral Damage Measures

Existing building damage survey to be completed prior to work on the starting on site to any key adjoining structures. Key risks are to be assessed and managed by the construction team.

Methodologies to minimise or eliminate the risk of damage to nearby structures and vehicles are to be incorporated in the Site-Specific Safety Plan during construction. Monitoring measures may include the following:

- Survey pins and markers strategically placed once permission is granted by building owners
- Photographic survey
- Engineering and consultant professional advice TBC
- Increased signage
- Removal and protection of identified at risk items if possible
- Protection of structures by means of ply coverings and signage
- Actions agreed at the monthly liaison meetings with affected neighbours and business

#### Wakefield Street

Photos of the original road condition are to be taken prior to works commencing. Protection to the existing kerb line and existing service markers/chambers etc are to be considered and protected as best possible as a significant increase of traffic will occur in this location. Any light poles on Wakefield Street that need to be removed will be stored off site for reinstatement towards the end of the project.

#### Jervois Quay

Photos of the original footpath and landscaping condition are to be taken prior to works commencing and regularly monitored to ensure no damage is occurring.

## SECTION 13.0

# DEMOLITION MANAGEMENT PLAN

### DEMOLITION SCOPE OF WORKS

The main works associated with this project include:

Demolition of pre-existing foundations and obstructions/hard landscaping across the site.

- Asbestos survey
- Removal of asbestos based products prior to demolition commencement.
- Temporary hoardings and screens as required
- Removal of kerbing and asphalt as installed on site

### ASBESTOS

An invasive asbestos survey will be undertaken to identify all possible areas of asbestos or other hazardous materials prior to commencement of the demolition works.

The ground soil throughout the site is thought to contain asbestos. This will require careful management during any demolition and excavation works.

Removal of all asbestos will comply with the NZ guidelines and performed under direct consultant instruction and direction

All asbestos material will be disposed off-site by an approved permit at the Wellington City Council Landfill.

### LOADING

Trucks and machinery coming in/out of the premises will be assisted by gateman and staff to ensure the safety of the public and staff on to Wakefield Street.

Loads leaving the site with demolition materials will need to be covered.

Signage, hoardings and site fences will also facilitate public control and risk mitigation to the public. Compliance with the Traffic Management Plan will be required.

It is anticipated that a maximum of 3 heavy truck and trailer movements will be required per hour during the times listed below for the proposed 25-week demolition and bulk excavation period.

	HOURS OF GENERAL WORK	HOURS OF NOISY WORKS
MONDAY	7am - 7pm	7.30am – 6pm
TUESDAY	7am – 7pm	7.30am – 6pm
WEDNESDAY	7am - 7pm	7.30am – 6pm
THURSDAY	7am - 7pm	7.30am – 6pm
FRIDAY	7am - 7pm	7.30am – 6pm
SATURDAY	7am - 7pm	7.30am – 6pm
SUNDAY	By Agreement with WCC	By Agreement with WCC
PUBLIC HOLIDAYS	No work	No work

#### DUST CONTROL

Dust will be mitigated and managed through:

- Scaffolding and scrim in places
- Sprinklers/misters
- Dust fighters
- Where required all machinery/trucks will be hosed down prior to departing site to prevent any risk of dust transportation out of site
- Trucks entering and leaving the site will need to have load covers where a risk of dust and the like is present.

#### DEMOLITION NOISE

There will be increased noise associated with the demolition activities carried out within this project, some examples of noises that can be expected are:

- Demolition (concrete breaking)
- Driven piles and sheet piles
- Structural steel tensioning rattle drills
- Breakers
- Compressors
- Saw cutting
- Core drilling of concrete
- Power tools operating

LT McGuinness will take a proactive approach to noise management through the following measures:

- Establish and agree a tolerance control regime
- Advising tenants/neighbours 48 hours in advance of potential noise issues
- Inform the Council Noise Control officers of any works that are likely to be noisy or have an impact on the neighbours

- Schedule out of hours work when possible, in order to minimise any impact with business and neighbours
- Establish liaison groups and lines of communication with neighbours
- Engage Marshall Day Acoustic engineering monitoring services

In some instances, and where practicable to mitigate against noise LT McGuinness may install machinery baffling or wall baffles.

Demolition activities will wherever possible adopt the best practical option at all times to ensure the emission of noise from the site does not exceed a reasonable level in accordance with Section 16 of the Resource Management Act 1991 with direction from Acoustic Consultant

SECTION 14.0

# WASTE MANAGEMENT PLAN

**WASTE MINIMISATION RECORD** (Use the REBRI Resource Routing Calculator to determine the destination of materials.)

MATERIAL	Normal % sent to landfill	Target % sent to landfill	On-site recycling method or reuse	Waste destination - contacts and information	Actual quantity recycled, reused etc	Actual % sent to landfill	Actual cost or saving
<b>Metals</b>							
Aluminium							
Steel							
Brass							
Copper							
Various metals							
TOTAL							
<b>Miscellaneous (cardboard and paper, glass, organic material, hazardous, insulation)</b>							
TOTAL							
<b>Concrete/masonry</b>							
Concrete-based							
Clay-based							
Ceramic							
TOTAL							
<b>Plasterboard</b>							
TOTAL							
<b>Plastics</b>							
Grade 1							
Grade 2							
Grade 3							
Grade 4							
Grade 5							
Grade 6							
Grade 7							
<b>Timber</b>							
Treated							
Untreated							
TOTAL							
<b>Soil</b>							
TOTAL							
<b>Building components for reuse</b>							
TOTAL							
<b>Other</b>							
TOTAL							

SECTION 15.0

# HEALTH AND SAFETY PLAN

## Health and Safety Management Plan

LT McGuinness will ensure that its Health and Safety policy is implemented throughout the MFC Carpark project duration This policy has been prepared by LT McGuinness.

The demolition zones will be hoarded off to keep the construction and public zones separate. Appropriate signs will be installed on both public and construction sides of the hoardings.

LT McGuinness is committed to the protection of its employees, sub-contractors, clients and the general public from accidental injury or damage from work carried out by and on behalf of the company and adopts health and safety and welfare as a fundamental business objective.

LTM has ISO45001 certification and is a full member of Site Safe NZ, in which all personnel working onsite must carry a Site Safe NZ Passport or a ConstructSafe card.

Daniel O’Connor is LT McGuinness’s Health and Safety Manager, with Alex Emrys as Health and Safety Advisor and an onsite Health and Safety Manager.

Our management team will develop a comprehensive Health and Safety Management Plan before commencing work on the MFC Carpark site. This would capture all hazards and potential dangers through all the stages of the project.

The Health and Safety Management Plan will cover but not be limited to the following:

Covid Safety Planning
Height Safety Permit
Confined Space Permit
Hot Works Permit
Sprinkler Fit out Permit
Task analysis
Tool Box Talk
Accident/Incident Report and
Induction Forms and Register
Health and Safety, Environmental
J20 Task Analysis
Site Safety Meeting Template
Weekly Self Inspection
Improvement Form
Method Statement Template

# ENTRY REQUIREMENTS

## Inductions

LT McGuinness site management and Contractors shall ensure that their workers undertake LTMcGuinness company and site inductions.

1. **Digital Induction:** All workers must have completed a digital induction prior to arriving onsite through Hammertech. This induction covers company expectations and site-specific requirements.
2. **Face-to-face Induction Signoff:** Once workers arrive on site, they will have a face-to-face induction with a member of LT McGuinness site management.

## Signing In & Out

All workers and visitors that enter the site are required to sign in and out of site using the systems provided (usually Hammertech). All workers and visitors must sign out at the end of the day or if they are leaving the site for an extended period. Visitors must be escorted by LTM management at all times.

## Personal Protective Equipment

All personnel shall have and maintain adequate PPE when working on any LT McGuinness project.

Minimum PPE required on LT McGuinness projects is:

- ☑ *Safety footwear* ☑ *Hi-vis apparel worn correctly and over top of any other clothing*
- ☑ *Hard hat*

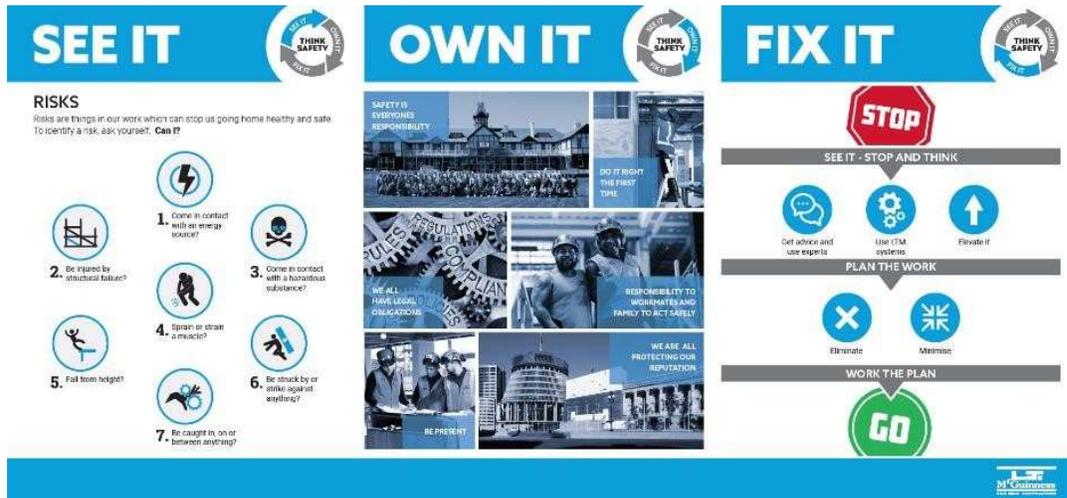
Be aware that some sites may require specific additional PPE to be worn

## Drug and Alcohol Policy

LT McGuinness may conduct pre-employment, random, post incident and/or reasonable cause testing on any LT McGuinness project. Should any personnel return non-negative results, they will be stood down from site immediately. Re-entry to projects will be at the sole discretion of LT McGuinness.

## Risk Management

LT McGuinness expect all workers on our site to see, own, and fix health and safety risks to themselves and others on site. We expect workers to take ownership of what's happening around them and act to make things safer or raise issues with management.



### Cards

LT McGuinness use a card system on our sites to promote safe behavior (green), warn against unsafe behaviour (yellow), and, in cases of critical unsafe acts, remove workers from site (red). The issuing of cards is at the discretion of LT McGuinness Site Management and is not limited to the actions listed below.

BLUE CARD	GREEN CARD	RED CARD	YELLOW CARD
Date _____ Time _____ Worker _____ Employer _____ Site _____ Feedback: _____ _____ _____ _____ _____ _____	Date _____ Time _____ Worker _____ Employer _____ Site _____ Awarded for: _____ _____ _____ _____ Signed by _____	Date _____ Time _____ Worker _____ Employer _____ Site _____ Action Requiring Attention: _____ _____ _____ _____ Signed by _____	Date _____ Time _____ Worker _____ Employer _____ Site _____ Item Requiring Attention: _____ _____ _____ _____ Signed by _____

### Safe Work Method Statements (SWMS)

Safe work method statements (SWMS) must be produced in advance for tasks which are **high risk, unusual, complex, or upon request**. The following is a non-exclusive list of tasks that will always require a risk assessment to be completed before the work can begin.



#### ARE YOU PERFORMING A HIGH RISK TASK OR ONE OF THE FOLLOWING?

Crane activities	Environmental – contamination removal, dust, exposure, etc	Scaffold
Heights above 1000mm from safe ground level	Excavations and trenching deeper than 1500mm	Temporary structural works
Risers or shafts	Electrical	Working above or beneath others
Roof works	Public areas	Confined space
Stair works	Demolition	After hours works
Mobile plant (e.g. EWP, forklift, boom lifts, cranes, piling, diggers)	Hotworks	Handling of hazardous materials (e.g. asbestos, silica, chemicals)

## Permits

Permits exist to oversee controlled works. Permits include:

Confined Space	Remove Structural Elements (with CPEng consultation)
Harness	Ladder
Roof and unprotected edge	Permit to Dig
After Hours Work	Platform Ladder
Basement Access	Remove Sprinklers
Cut or Core Concrete	Live Services
Hot Works	
Load Falsework or Propping	

Workers undertaking the works above must approach LT McGuinness site management to request permission to begin work. Permission is granted through issuing of a permit on Hammertech.

## COMMUNICATIONS

### Meetings

LTM request all staff to attend required HSE meetings to receive relevant information and to communicate latest issues, innovations, incidents and events etc. These may include the following;

Prestart Meetings, Toolbox Meetings, Site Coordination meetings

### Reporting

**All accidents** must be reported verbally to LT McGuinness Site Management within 1 hour of occurrence and in writing within 24 hours. **Serious harm** incidents must be reported as soon as possible by phone to LT McGuinness company management. Direct these to the HSE Team in the first instance. If not available, contact a Company Director.

## EQUIPMENT

### Electrical equipment

Ensure all mains powered electrical equipment has a current test & tag. Electrical equipment must be visually inspected by the operator before use to ensure that it is not damaged. Damaged equipment should be labelled as defective and taken out of service until it is able to be repaired.

Electrical equipment should always be plugged into an RCD.

### Ladders

Platform ladders are to be used only. If works require use of a non-platform (Straight or A-Frame ladder) then a Permit will need to be applied for and approved by LT McGuinness management.

The use of two or three step ladders is prohibited LT McGuinness projects.

Critical requirements of ladder use:

- ☐ Ladders must be regularly inspected and kept free of defects to ensure they are safe to use
- ☐ Users must maintain three points of contact wherever possible.
- ☐ In a workplace, a ladder must be compliant with the AS/NZ 1892 standard and rated industrial to 120-150kgs

## Hazardous substances

All personnel involved with the storage, handling or transport of hazardous substances shall have the appropriate training and or licenses for the quantities involved. Please familiarize yourself with the respective SDS and refer to these as required. You may require additional PPE or change your working environment (i.e., increased ventilation) dependent on the chemical that you are using.

## Training

We expect LT McGuinness managers and our contractors to assign appropriately trained and competent personnel for works on site. You must have specific training and competency for the following works regularly undertaken by LTM staff:

Confined space entry	Forklift
Working at height	MEWP incl. Knuckle booms
Traffic Management	Lifting Operations (cranage and dogman)
Rope access	Asbestos (awareness)
Scaffold	Powder actuated tools

**\*\*Training may be required for other specialist tasks as and when required**

**If you are not comfortable, trained or competent to complete a task please speak up and ask for help**

## HIGH RISK WORKS

While working on LTM site you may undertake High Risk Works, these include but are not limited to:

### Work around live services

Workers should assume that services are live unless told otherwise by site management or arelevant tradesman. All live services are required to be identified and tagged with the LTM live services tag



### Asbestos

Asbestos is a known cause of cancer and premature death for construction workers. To keep our staff from risks associated with asbestos we undertake surveys in all buildings and plant constructed before the year 2000 and use licensed asbestos removalist to complete the work. In the event that our staff find suspected asbestos the following steps must be followed:

1. All works in the area must be stopped
2. An asbestos assessor must inspect and test the suspected material
3. No-LTM staff are to be directly involved in the removal, modification. Relocation or work with an asbestos containing material (ACM)

## **Penetrations**

Floor penetrations carry a risk of falls and dropped objects that must be carefully managed. The following controls are required to be identified in the associated works SWMS:

1. For a penetration more than 300mm wide, edge protection is required and further measures to mitigate fall hazards
2. Exclusion zones are required for open penetration to protect against uncontrolled risks, both around the works and in the “drop zone”
3. Personnel undertaking the works must be suitably trained and experienced with appropriate competencies
4. When works are completed, the penetration, void or edge must be left safe. I.e., Secured with a fixed cover capable of withstanding foreseeable loads and with clear signage. SWMS must be completed anytime the cover is removed

## **Concrete cutting and coring**

SWMS must be completed for works involving concrete cutting and coring due to the following risks:

1. Silica dust inhalation (controlled with the use of vacuum extraction, wet down, respirator and PPE use)
2. Service strikes (controlled by surveying for live services and concrete scanning)
3. Structural damage (controlled by engineer’s approval required prior to coring or cutting through load bearing structures)

## **Working at Height**

Working at height is a critical risk, to work in a harness you must be trained and competent. All works at height must be planned appropriately and detailed in a SWMS with an associated rescue plan. The SWMS must include:

1. Who is included in the works?
2. How dropped items will be controlled
3. Exclusion zone sizes and who the spotter will be if working near an open edge
4. Are you working in fall restraint or fall arrest and why?
5. How the works will be completed and area made safe, i.e., edge protection reinstated?
6. A detailed copy of the rescue plan

## SECTION 16.0

# EXCAVATION MANAGEMENT PLAN

### ENVIRONMENTAL VISION/POLICY STATEMENT

#### Vision

LT McGuinness' Environmental Vision is to be regarded as an environmentally responsible construction company. LT McGuinness is committed to creating a sustainable future by utilising both people and resources in the care of the environment during the construction process in an effort to maintain the quality of the environment for future generations.

#### Policy

LT McGuinness is committed to undertaking its activities in an environmentally responsible manner and effectively managing any risk that may impact the environment. LT McGuinness will manage its work activities in a manner that is consistent with the principles of ecologically sustainable development and will deliver continuous improvement in environmental performance.

LT McGuinness will take all steps necessary to ensure that its activities do not compromise this commitment.

All LT McGuinness staff and subcontractors have a responsibility to actively contribute towards elimination, isolation, or minimisation of environmental impacts in their day-to-day activities. Employees and subcontractors must monitor the continued effective installation and operation of environmental controls within the scope of their day-to-day work.

LT McGuinness undertakes to consult its employees, contractors and the client on safety and environmental matters especially where any workplace change of practice may impact the environment or their obligations.

### EXCAVATION MANAGEMENT PLAN

#### Introduction

LT McGuinness Excavation Management Plan provides information and guidance on how LT McGuinness will meet all requirements of the contract and local authorities.

By implementing this management plan, LT McGuinness aims to ensure that appropriate protection measures are implemented on works undertaken within the work site.

#### PRE-CONSTRUCTION REVIEW

<b>Project</b>	<b>MFC Carpark</b>
<b>Date</b>	
Completion Date	TBC
Address	110 Jervois Quay / 121 Wakefield Street
Project Manager	TBC
Construction Director	Kerrin Manuel
Commercial Manager	TBC
Safety Manager	Daniel O'Connor
Engineer	Dunning Thornton Consultants/Tonkin + Taylor
Client Representative	Willis Bond
Toilets	Toilets will be removed as part of the removal of the RNZB building by others; temporary toilets to be in place before works begin
Safety Fences	Temporary safety fences/hoardings to be in place
Water	Temporary water supply to be in place before works
Electricity	Supplied by client as needed
Maximum excavation depth from existing ground level	≈4.0m TBC (excl. piles)
Traffic Control	TBC
Tipping Locations	WCC Happy Valley Tip

## EXCAVATION DESCRIPTION

Access to the site will be from two site entry points on Wakefield Street please refer to the Proposed Site Plan, section 5.0.

The project involves bulk excavation to form the base isolator rattle space approximately 1.2m deep generally (noting there are some isolated instances where the excavation depth may approach 2.4m).

A summary of the excavation works and structural methodology is provided by Dunning Thornton Consultants preliminary “Michael Fowler Centre Carpark Development – Structural Effects and Construction Methodology” report attached under Appendix 2

Further excavation will be required to form ground beams, services trenches along with back filling and base coursing to concrete slabs on grade, which will involve much smaller excavated volumes and well as excavation works associated with the hard and soft landscaping installation across the site.

## WORKING HOURS

Day	Hours of General Works	Hours of Night Works	Hours of Noisy Works
Monday	7am – 7pm		7.30am – 6pm
Tuesday	7am – 7pm		7.30am – 6pm
Wednesday	7am – 7pm		7.30am – 6pm
Thursday	7am – 7pm		7.30am – 6pm
Friday	7am – 7pm		7.30am – 6pm
Saturday	7am – 7pm		7:30am – 6pm
Sunday	By agreement with WCC		By agreement with WCC
Public Holidays	No work	No work	No work

## PLANNING

Earthworks approvals, licenses and permits

LT McGuinness will ensure that any approvals, licences and permits as required by the Resource Consent, Greater Wellington Regional Council, WCC Consents or bylaws, acts and Regulations and any other legislative requirements are obtained before works commence on the MFC Carpark site.

Environmental protection requirements

LT McGuinness undertakes its own project-level risk assessment. A site risk assessment is carried out by the working team before works commence; findings from the risk assessment are then incorporated into the Construction Management Plan and site staff and subcontractors are inducted pre-commencement of works as reasonably practicable.

Site earthworks rules and protocol

All employees and subcontractors working on site will be inducted on the site rules. Furthermore, the rules will be displayed on notice boards or at other suitable locations on the work site.

## COMMUNICATION AND COMPLAINTS PROCEDURE

### Communication

The Site Manager is the contact point to deal with all earthworks issues and emergencies on site. He or she is responsible for ensuring all such issues are resolved. Staff members must notify the Site Manager firstly of any earthworks issues on site.

The Construction Manager and Site Manager have been nominated to be available to relevant external authorities on a 24-hour basis. They have the authority to take any action on site as directed by an authorised officer of any relevant external authority.

All relevant authorities, affected property owners and others in the vicinity or affected by specific works will be informed of the project, activity and timeframes if required.

Emerging earthworks issues on site are discussed and consulted through regular Toolbox meetings. These records are retained as project records and reviewed on a regular basis by the Site Manager who will address any concerns and incorporate if necessary into the weekly check list.

### Complaints Management

Any complaints which concern any aspect of the project are recorded and investigated on LT McGuinness' Complaint form as part of our complaint's procedure. A Complaints Report register will be maintained. The Complaint Report shows the details and nature of the complaint, the complainant, the date and actions taken as a result of the investigation.

If an earthworks complaint (such as a complaint regarding noise or pollution) is received, LT McGuinness will write a report to be presented to the clients' representative within 3 days of a working day. This report includes details of the complaint, action taken to correct the problem and proposed measures to prevent the occurrence of a similar incident. If an incident is of a serious nature notice must be given to the relevant Council(s) and the Client's representative within 24hrs or immediately depending.

## EMERGENCY PREPAREDNESS AND RESPONSE

All earthworks incidents are dealt with promptly to minimise any potential impacts. Unexpected or accidental earthworks incidents will be managed in accordance with the sites' incident response and reporting procedures. All earthworks incidents/complaints are reported using Complaints form (refer to section 10.0)

Likely emergencies and incidents may involve:

- Fuel or chemical spills
- Evidence of spoil being tracked offsite
- Unlicensed discharge of pollutants to environment (air, water, noise, soil)

The Site Manager on site is responsible for undertaking the incident response according to this procedure.

Any incidents on site, which are likely to cause material harm to the environment, will be immediately reported to the Client's Representative.

The Wellington City Council (Client's representative to be copied in) will be notified of pollution incidents on or around the site which have occurred in the course of the works.

Emergency contact numbers are displayed at the site entry and in this management plan.

Procedure in case of any incident

- First check that you are not in danger yourself.
- Notify your works Supervisor or most Senior Management person on site immediately.
- The works Supervisor or most Senior Management person handles the emergency according to procedures below:

#### Procedure in case of fire

- Warn & rescue any person in immediate danger - only if safe to do so!
- Call the fire brigade 111.
- Extinguish the fire using the right fire extinguisher if safe to do so.
- Evacuate to the emergency assembly area if directed or in danger.
- Remain at assembly area & ensure everybody is accounted for.

#### Procedure in case of chemical spills

Spills on the worksite are most likely to be hydraulic oil or engine oil/fuel spilled from plant items. If a spillage occurs the following procedure is to be followed:

- Immediately identify the spilled material and notify the works supervisor. Subcontractors are to notify LT McGuinness site personnel
- Contain the spill as soon as possible so it doesn't spread. Refer to MSDS for personal protective clothing needed
- If containment is required, contain using earth mound and/or absorbent socks/spill kit. If you can't do this let your supervisor know.
- Use the relevant clean up procedure as instructed by the MSDS
- Once the spill has been contained, your supervisor will arrange removal and disposal as soon as possible. Dispose of material using a licensed contractor and keep records of disposal on site.
- Complete an Incident Report Form and forward it to the Project Manager for reporting to Client representative and Wellington Regional Council if necessary.

## MANAGING SUBCONTRACTORS ON SITE

The Site Manager applies a level and type of control to subcontractors appropriate to the risks associated with the subcontracted works.

LT McGuinness provides site induction to subcontractors on site by:

- Informing the subcontractors of their responsibilities
- Identifying those LT McGuinness' staff (Project Manager, Site Managers and Environmental Officer) who have authority to direct subcontractors to stop work if their activities breach safety or earthworks and consent requirements

LT McGuinness provides instruction on any systems or documentation that the subcontractor is expected to work under or use.

LT McGuinness monitors all subcontractors' work for compliance with earthworks and consent requirements. This is done through regular inspections.

## METHODOLOGY

Please refer to the attached MFCC Development – Structural Effects and Construction Methodology contained in Appendix 2.

Following on from the demolition of existing structures on site the bulk excavation works will be undertaken progressively to the benched RL's for the new buildings across the site, starting at the northern end and working south.

Following the bulk excavation works the piles will be driven, then the detailed excavation works to the building's foundation will be undertaken, which will then be followed by preparation of the on-grade basement slab excavation trade works.

		<b>LT McGuinness Ltd</b>			
		<b>Earthworks Protection Measures</b>			
Project:	MFC Carpark	Issue No.		Issue date	
<b>Earthworks Protection Measures</b>				<b>Sign Off</b>	
<p>Note: 'Sign Off' for simple, once-only actions the sign off column may be initialed and dated; Sign off on reoccurring actions will be evidenced in the Earthworks inspection checklist.</p> <p>Applies to all of the following Areas of Construction Activity:</p> <ol style="list-style-type: none"> <li>1. During Work Phase all areas below will be monitored as work is been conducted</li> <li>2. Complaints, Non-Conformances, Corrective actions will be recorded as events occur</li> <li>3. Site Manager has the right to stop any construction activity which fails to meet any subcontractor's method statements earthworks considerations and consent conditions which are not being adhered to.</li> </ol>					
<b>a) Demolition</b>					
Demolition works necessary to allow for Piling, Lift Shafts, Foundation Beams and the like.					
Pre-works phase					
All construction barricades, acoustic barriers positioned according to worksbeen undertaken.					
Works Method Statements, Environmental protection plan received from demolition contractors and reviewed by LT McGuinness. (refer Environmental Method Statements folder).					
Asbestos pre-work assessment conducted and Method statement received.					
Works Phase					
Earthworks protection measures to be checked by LTM/Contractor pre-works starting.					

<b>b) Construction Noise</b>		
Areas identified to cause significant noise during construction are Pile driving and concrete works. These construction activities will be monitored under Table 2 of NZS 6803: 1999 and under the conditions of the Resource Consent.		
General Construction activities during normal working hours will comply with Table 2. (Refer Construction Management Plan).		
Pre-works phase - enabling		
Investigations for services relocations and abandonment.		

Notify all affected neighbours and businesses 2 days prior to potential nighttime concrete works.	
Method statements to be received by Piling contractor on how earthwork noise, vibration will be mitigated.	
Noise reducing fencing, baffles, acoustic measures to be in place pre-works.	
Works Phase	
Construction noise to be confined to hours as per the Construction Management Plan and the Resource Consent.	
Noise mitigation methods installed pre-works and maintained.	
c) Dust	
<p>Wind break mesh/hoardings will be erected along the length of the construction boundary. The screens will reduce the effects of dust produced with the demolition work. Due to the proximity of the surrounding buildings the site will require damping down of the construction dust and will be carried out with hand held hoses, sprinklers and misters.</p> <p>Activities which generate dust will be monitored closely along with weather conditions so any foreseeable issues will be minimized. Housekeeping will be maintained vigilantly with routine sweep ups to minimize dust clouds during construction phase and constant dampening as required.</p> <p>Hydrocarbons (such as hydraulic oils) shall not be used as a method of controlling dust.</p>	
Pre-works phase	
Method Statements from Subcontractors conducting dry concrete cutting, demolition removal, soil excavation to show how airborne dust will be mitigated to reduce environmental contamination this is to be reviewed by LTM.	
Erect all dust screens as required.	
Works Phase	
Maintain dust protection measures.	

d) Vibration	
The effects of vibration from piling and demolition works will be monitored in existing structures during the construction of the building. The demolition and piling vibration will be discernible in adjacent areas and buildings, but will not cause structural damage. This will be monitored.	
Pre-works phase	
Method statements from demolition, earthworks and piling subcontractors to show mitigation methods to reduce vibration. LTM to review plans.	
Works Phase	
Checks to be made to surrounding buildings/areas.	
e) Wind	

<p>The exposed nature of the site will require constant monitoring as the wind poses significant issues which need to be addressed:</p> <ol style="list-style-type: none"> <li>1. Dust from demolition/excavation.</li> <li>2. General construction debris.</li> <li>3. Scaffolding and wind mesh.</li> </ol>	
Pre-works phase	
Method statements from demolition and earthworks contractors to show systems in place to deal with strong gusts, material removal, protection systems to safe guard environment.	
Spill kits and site fencing in place.	
Works Phase	
Ensure all above are operating correctly.	
f) Piling	
<p>The piling required for the new structures will be bored and driven piles. The scope of work is as follows:</p> <ol style="list-style-type: none"> <li>1. Removal of obstructions</li> <li>2. Bored and driven piles</li> <li>3. Crane piles</li> </ol>	
Pre-works phase	
<p>Method Statement from Piling/demolition contractor to cover</p> <ol style="list-style-type: none"> <li>1. Acoustic considerations</li> <li>2. Effects of vibration on the environment</li> <li>3. Disposal of excavated material</li> <li>4. Prevention of spillage into the storm water systems, fuel, grout and slurry</li> <li>5. Concrete placement</li> </ol> <p>All construction barricades, acoustic barriers positioned according to works being undertaken.</p>	
Works Phase	
<p>Piling is restricted to the following days and hours: Monday to Friday 7am - 7pm, Saturday 7am - 7pm.</p>	

g) Construction Traffic	
<p>Construction traffic will use only the Wakefield Street entries. Bulk of the deliveries will be between 7:30am and 6pm Monday to Friday and Saturday 7:30am to 7pm.</p> <p>A construction traffic management plan will be prepared for the project for each phase in accordance with the Wellington City Council Code of Practice for Temporary Traffic Management Control as required. Included will be details of construction traffic management, including procedures and practices for manning the gatehouse and supervising the arrival and departure of vehicles; details of on-site parking arrangements; detail of any provisions required to facilitate pedestrian and vehicle movement in the vicinity of any temporary structures.</p>	
Pre-works phase	
Where possible, all works shall be programmed and undertaken in a manner least disruptive to local businesses and access ways shall not be blocked at time.	
The works site shall be appropriately fenced to prevent unauthorised access.	
Obtain any necessary permits.	
Works Phase	
Care should be taken to ensure access is not affected. If work is near roads warning signs should be erected.	
Warning signs need to be erected to alert road users of the change in conditions. Any council conditions will be followed.	
Warning signs need to be erected to alert road users of the change in conditions. For major road closures signs should be erected a few days before the works commence. Any council or Roads Authority conditions will be followed.	

# Site Earthworks Rules

Project/Location: 110 Jervois Quay / 121 Wakefield Street

General Site Management	
1.	All vehicles to remain on clean all weather surface within the site
2.	Install appropriate silt fences and other sediment control structures
3.	Ensure sediment control measures are in place before starting clearing and excavation activities
4.	Install a fence at the site boundary to limit site access from footpath
5.	Fence off no-go areas to minimise disturbance
6.	Stockpile materials only in designated areas behind sediment fences and cover
7.	Order only the required quantities of materials
8.	Minimise chemicals stored on site – store in dangerous goods shed
9.	Make staff aware of emergency phone numbers (such as the Fire Brigade) to use in the case of a large spill
10.	Keep Material Safety Data Sheets (MSDS's) on site at all times
11.	If a spill occurs, stop the source, contain it, clean up in accordance with MSDS's and notify relevant authorities
12.	Damp down dusty areas as required
13.	Identify site access with minimal impacts on residents and instruct trucks to use this access
14.	Avoid parking site vehicles where they will unduly impact local use of the street
15.	Do not place waste containers, skip bins or building materials on road or footpath -store all materials within the work site
16.	Limit hours of operations to suit council requirements listed in consent conditions
17.	Take appropriate care when using construction equipment adjacent to any buildings
18.	Identify and protect heritage items present on site if required
19.	All trucks entering at exiting site are to be assisted by designated gatemen and spotters for public safety, and to ensure wheels are cleaned by the provided wheelwash areas prior to leaving site.

Demolition/Excavation	
20.	Stockpile materials only in designated areas behind sediment fences
21.	Cover stockpiled materials with weighted plastic/ bidum cloth to prevent erosion by wind and
22.	Install a fence around the site with a cloth barrier to act as a wind break if dust is a problem
23.	Damp down surfaces such as stockpiles as required to reduce windblown dust
24.	Implement the site Demolition Waste Management Plan
25.	Do not mix hazardous materials with other demolition materials
26.	Fuel refilling is to be in designated areas located a minimum distance of 5m away from bunded storm water systems.
Concreting	
27.	Wash out trucks at supplier's depot when possible
28.	Wash out in an area where water cannot enter storm water drains, footpaths or roads up slope from a sediment control device –wheel wash areas refer CMP
Building services	
29.	Fill in service trenches as soon as work is completed to minimise erosion

## PERIMETER BUNDING

Any areas end up higher than Wakefield Street or Jervois Quay or at risk of run off a “channel” will be dug lower than the adjacent foot path to the affected areas of the site, as the first operation.

At the two site entry points wheel washers and bunding will be installed to mitigate any water or silt run of from the site.

All adjacent and perimeter roadway sumps to Wakefield Street or Jervois Quay will be sand bagged and/or geotextile cloth installed and maintained regularly to prevent contaminates entering the storm water system.

Fuel refilling is to be in designated areas located a minimum distance of 5m away from the storm watersystems.

Note: A spill should be reported to the Pollution Hotline (phone 0800 496 734) if:

The actual or potential harm to the health or safety of human beings or ecosystem is not trivial.

## WHEEL WASH STATION

A cattle grid wheel wash station will be erected at the site exit points. This wheel wash may need to be progressively relocated as the excavation works progress to ensure that all vehicles are diligently washeddown with high pressure hoses/water blasters to prevent any soil being tracked off site.

## DEWATERING (if required)

If excavation works are to be carried out below the water table, then pumps will be used to control this locally on site. Water will be pumped to settling tanks where the water will be distilled before pumping it offsite. This will only be after GWRC/WCC consents are achieved.

During the below ground level construction, rainwater may need to be pumped from the internal layout. This will

be done by using smaller pumps to again pump into the settling tanks.

Sediment from the settlement tank will be regularly pumped/cleaned out with the waste being discharged at an appropriate disposal facility.



#### Asbestos Contaminated Soil

Further testing is required to establish whether asbestos is present in the surface soils of 110 Jervois Quay / 121 Wakefield Street.

A limited contamination survey has been conducted which has indicated the presence of contamination and not representative of the whole site as once RNZB building is removed a full survey will be undertaken.

Under the 2016 Work Safe Approved code of Practice for the Management and Removal of Asbestos the excavation works to the asbestos contaminated area can be undertaken as “Related Asbestos Work”.

#### ASBESTOS RELATED WORKS CONTROL PLAN – TRACE ASBESTOS IN SOIL

This is a template of an asbestos related work plan for traces asbestos in soil. It is designed to incorporate the elements of the Asbestos Regulations.

**Note** If during the course of the works the concentrations of asbestos become more than “trace” then works should stop immediately and the area cleared as works will need to be undertaken as asbestos removal works which requires a site-specific asbestos work plan and alternative methodologies which are not covered in this document.

This Control Plan has two parts -

Complete part A when planning for the asbestos related excavation works  
Complete part B after the asbestos related excavation works are complete.

Part A To be completed before asbestos related excavation works starts

Prepared by

Date

For Asbestos Contaminated excavation works and removal at 110 Jervis Quay / 121 Wakefield Street on behalf of the site owner Wellington City Council

#### Identification

Have asbestos Records been reviewed:  
Location of trace asbestos in soil

Yes (by Tonkin + Taylor)  
Please refer Tonkin + Taylor report which identifies further testing to be carried out.

The following shall be notified prior to asbestos related works commencing:

Client Representative Willis Bond	Project Manager -TBC
LT McGuinness Project Director	Kerrin Manuel – KerrinM@mcguinness.co.nz
LT McGuinness Project Manager	TBC
LT McGuinness Site Health and Safety Officer	Daniel O'Connor - DanielO@mcguinness.co.nz
Excavation Sub Contractor Health and Safety Officer	TBC
Supervisors under taking the works	TBC, TBC

List the workers who will be working at the asbestos contaminated soil section of the site:

Name	Supervisor
------	------------

Timing of removal work

Planned start date

Emergency and service contact details are listed in the excavation section of this Construction Management Plan.

Personal Protective Equipment (PPE)

The following PPE must be worn within the Asbestos contaminated ground area whilst removal works are being undertaken.

- Fitted asbestos respirator Disposable
- Overalls Gloves
- Gumboots

Demarcation and Isolation of Asbestos Zone

The asbestos area of the contamination on the site is to be clearly marked using a stakes, signage and Asbestos Hazard Tape. This will be put in place before and during the excavation works. The stakes and Asbestos Hazard tape are to be erected a minimum 5m beyond the area of contamination to provide a safety buffer zone.

The health and safety site map will show the boundary of the isolated work area where trace level contamination is present. Persons entering this area will be advised of the trace level asbestos contamination in the marked and isolated area during the site-specific health and safety induction process, this will include all persons that enter the site including Engineers, Architects etc.

Reassurance Air monitoring will be undertaken downwind of the contaminated area during the excavation works.

The air monitoring to be undertaken a competent and qualified company to undertake this works.

Number of air monitors	One (set at the downwind boundary of the asbestos related works)
------------------------	--

Frequency of samples/testing	Air monitoring and testing is to be undertaken on each of the first two days of the asbestos related excavation work Then at a minimum of every 5 working days thereafter, or as specifically advised by the licenced asbestos assessor.
------------------------------	--

Decontamination facilities

- Decontamination Room

A decontamination room will be provided at the entry to the decontamination zone. The

decontamination room will have an area for removal of overalls, changing of clothes, supply of fresh disposable overalls and other PPE plus suitable asbestos waste bins. All solid waste will be treated as contaminated waste and will be removed from site in 200 micron thick Asbestos Waste bags and disposed of at an appropriate land fill, documentation will be provided.

Temporary water will be provided to the exterior of this room for the washing of gumboots prior to entry.

- Truck entry to the contaminated soil zone

A temporary truck wheel wash will be required at the entry to the contaminated zone.

All trucks, diggers and equipment used for the excavation and removal works will be required to use this wash down facility before leaving the contamination zone.

#### Management and Disposal of Asbestos Contaminated Soil

Water Misting of the asbestos contaminated zone is required during the excavation phase, up until a suitable geotextile cloth cover is installed to capture any dust and asbestos fibres.

The excavated contaminated asbestos will be removed immediately from site where practicable.

Any stock piled asbestos contaminated spoil will need to be covered with polythene and kept damp before being removed at the earliest practicable time.

The trucks trays transporting the asbestos contaminated spoil will need to be fully lined with 2 layers of heavy weight polythene, which will be required to be wrapped and sealed entirely around the contaminated soil load. Further to this a full cover or cargo net is required to protect the sealed polythene from unravelling.

The asbestos contaminated soil can only then be transported to and disposed at WCC land fill for asbestos waste

#### Encapsulation at Completion of Excavation

All exposed faces of the excavation works are to be covered in a geotextile matt, with steel pins at 2m centres each way and along edges, with a minimum overlap of 500mm between joins.

At completion of this stage of the works the clients contaminated land specialist, Tonkin + Taylor is to sign off on the Geotextile installation, including a photographic survey.

Following approval of the geotextile installation the asbestos controls and decontamination facilities can be appropriately cleaned and removed and the enclosure markings removed.

#### Declaration and sign-off

I declare that the information contained in part A is accurate to the best of my knowledge

Signed by

Date



## SECTION 17.0

# ENVIRONMENTAL MANAGEMENT PLAN

### Vision

LT McGuinness Limited's environmental objective is to be regarded as an environmentally responsible construction company.

LT McGuinness Limited is committed to creating a sustainable future by utilising both people and resources in the care of the environment during the construction process in an effort to maintain the quality of the environment for future generations.

### Policy

To support our environmental vision, LT McGuinness Limited will:

- Implement and maintain environmental systems, including measurable objectives and targets.
- Ensure employees, subcontractors and suppliers are made aware of environmental issues through ongoing training, communication and reporting.
- Comply with environmental legislation, RMA requirements and relevant regulations.
- Ensure that all construction works, where applicable, are carried out in accordance with the Heritage Management Plan.
- Ensure staff are accountable and provided with adequate resources to deliver good environmental outcomes.
- Ensure any archaeological finds will be dealt with in accordance with the Accidental Discovery Protocol.
- Where possible we will reduce, reuse or recycle materials to minimise waste in line with REBRI guidelines.
  - Regularly review this environmental policy.

### Roles and Responsibilities

On the MFC Carpark Project there are four groups with responsibility for the environmental management of the contract;

- The Client;
- LT McGuinness Limited together with its subcontractors;
- Greater Wellington Regional Council and Wellington City Council
- The client's consultants who audit the works and monitor compliance with resource consent conditions and the environmental management plan.

The Consultants are as follows:

☐	Architect:	Athfield Architects Limited
☐	Structural Engineer:	Dunning Thornton Consultants
☐	Building Services Engineer	Aurecon
☐	Geotechnical Engineer:	Tonkin + Taylor

LT McGuinness Limited shall appoint an Environmental Officer responsible for the environmental performance and compliance where they apply to the works in the contract.

The Environmental Officer will liaise directly with the Site Project Manager.

#### **Environmental Considerations as a result of construction activity**

- Dirt and Droppings
- Damage and Nuisance
- Construction Noise
- Dust Mitigation
- Waste Management
- Wind
- Construction Traffic
- Cement, Grout and Concrete waste
- Fire Prevention
- Contaminated Spoil

#### **Dirt and Droppings**

Dirt and droppings deposited on public or private thoroughfares from vehicles servicing the site are to be removed by the contractor to the satisfaction of the appropriate authorities. In the event roads or footpaths are spoiled by dirt and droppings, we will ensure roads and footpaths are returned to their original state by means of road sweepers, yard brooms and collection equipment, road wash and wet vacuuming as necessary. We will have a permanent gateman that will monitor the operations both into and from site. Wheel wash stations and truck covers are the prevention measures.

#### **Damage and Nuisance**

LT McGuinness Limited will take all reasonable precautions to prevent damage and nuisance from water, fire, smoke, dust, rubbish and all other hazards resulting from the construction works.

A photographic Building Damage Record will be undertaken of the adjoining neighbouring buildings prior to commencement of any construction.

#### **Construction Noise**

The increased noise associated with the construction activities will be as a result of the construction works, these include:

- Excavation Pneumatic breaking; Sawcutting
- Concrete pumping and placing; Construction plant.

Significant construction activities will take place during daytime 7:00 am to 7 pm hours weekdays and Saturdays as far as is reasonably practical, and noise will be managed in accordance with the requirements of the Construction Noise and Management Plan and applicable resource consent conditions.

#### **Dust Mitigation**

Hoardings/ fences with scrim will be erected around the construction site. The screens will reduce the

effects of dust produced by the demolition work. Activities which generate dust will be monitored closely along with weather conditions so any foreseeable issues will be minimised. As per the EDSC plan, housekeeping will be maintained vigilantly with routine sweep ups to minimise dust clouds during construction phase. Water misters and task isolating measures will be implemented. The use of stockpiles and handling of excavated materials will be limited.

### **Waste Management**

A waste management plan for the project will be completed and reviewed on an ongoing basis in line with REBRI guidelines.

This will incorporate the following:

- A waste management system and process for separating of waste.
- As much as possible waste materials recycled and/or reused.
- Tracking and monitoring of waste.

### **Wind**

The exposed nature of the site will require constant monitoring as the wind poses significant issues which need to be addressed:

- Dust from demolition;
- Concrete slurry from skip and pump;
- General construction debris.

All of the above will require constant monitoring during windy weather. To mitigate the effects by keeping exposed areas free from built up piles of construction debris, dampening down where necessary, proper containment and removal of concrete slurry. All temporary structural elements will be designed by a certified engineer

### **Construction Traffic**

Before construction activities begin construction, temporary construction signage will be installed where deemed necessary by all parties involved. The signs will inform the public of the project and provide restrictions of access where necessary. Signs should contain main contact numbers, a brief construction description and approximate time frame of the development.

A Construction Traffic Management Plan will be prepared for the MFC Carpark project in accordance with the Wellington City Council Code of Practice for Temporary Traffic Management Control as required. The Construction Traffic Management Plan will include the following;

- Brief description of works
- Staging
- Traffic and pedestrian control during the construction
- Temporary Traffic Control to close the footpath during loading out times to be installed. This work will be carried out outside of normal working hours.
- Truck and vehicle movements to and from site
- Applicable signage

- Parking and turning areas
- Public safety
- STMS and TC details

### **Cement, Grout, and Concrete Waste**

Concrete has the potential to impact upon water quality through the release of fine particles through a localised increase in pH. This is most likely to occur during the washing down of cement truck sluices prior to departing the site.

No waste concrete or grout materials are to be discharged down (or where they can run into) storm water grates or into the marine environment.

Concrete trucks after placing are to wash down in the designated wash bay into collection buckets and containers or return to their depot for cleaning. Pump trucks are to blow back into the concrete truck for disposal back at the quarry.

Waste concrete will be stored in appropriate skips for later removal.

All vehicles requiring cleaning will be washed over the site wheel wash system which consists of either a 4-sided asphalt bund containing no smaller than 70AP ballast aggregate and lined with filter cloth to ensure no waste product is discharged into the local storm water systems or a purpose made cattle stop type tray system with discharge points filtered. The wheel wash will be maintained regularly as part of our daily inspection regime, the resulting waste products are then removed and placed in suitable collection bins for removal from site.

### **Contaminated Ground**

If there is ground contamination present, it may have the following implications:

- Additional health and safety requirements during the works.
- Landfill disposal of surplus soil that has to be disposed off-site (i.e., not clean fill).
- Pre-treatment would be required if highly contaminated material is present.
- Odour management during works and to prevent odour entering buildings.
- Contaminated Site Management Plan before works begin and a Site Validation Report on completion of works.
- A Long-Term Site Management Plan if contamination remains onsite (e.g., beneath building or paving).

All of the above will be confirmed on final testing and design and an updated and agreed Construction Management Plan will be established prior to any construction activities commencing on site. This CMP will incorporate a detailed Contaminated Site Management Plan, and all ground works will be carried out in accordance with the CSMP, which will be reviewed and updated regularly



**Michael Fowler Centre  
Carpark Site**  
Ground Contamination Assessment

Prepared for  
Willis Bond & Co  
Prepared by  
Tonkin & Taylor Ltd

**Date**  
November 2016  
**Job Number**  
1001014



Draft

Distribution:

Willis Bond & Co

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# 1 Introduction

Tonkin & Taylor Ltd (T+T) has been commissioned by Willis Bond & Co to undertake a ground contamination investigation in support of pre-purchase for the Michael Fowler Centre (MFC) Carpark, 111 Wakefield Street, Wellington ("the site"). The location of the site is presented below. This investigation was undertaken in accordance with our proposal of 1 November 2016.

This report has been prepared and reviewed by a suitably qualified and experienced practitioner as required by the NES Soil<sup>1</sup> and as described in the NES Soil Users' Guide<sup>2</sup>. This report meets the general requirements of a preliminary site investigation (PSI) and detailed site investigation (DSI) as outlined in the NES Soil User's Guide.

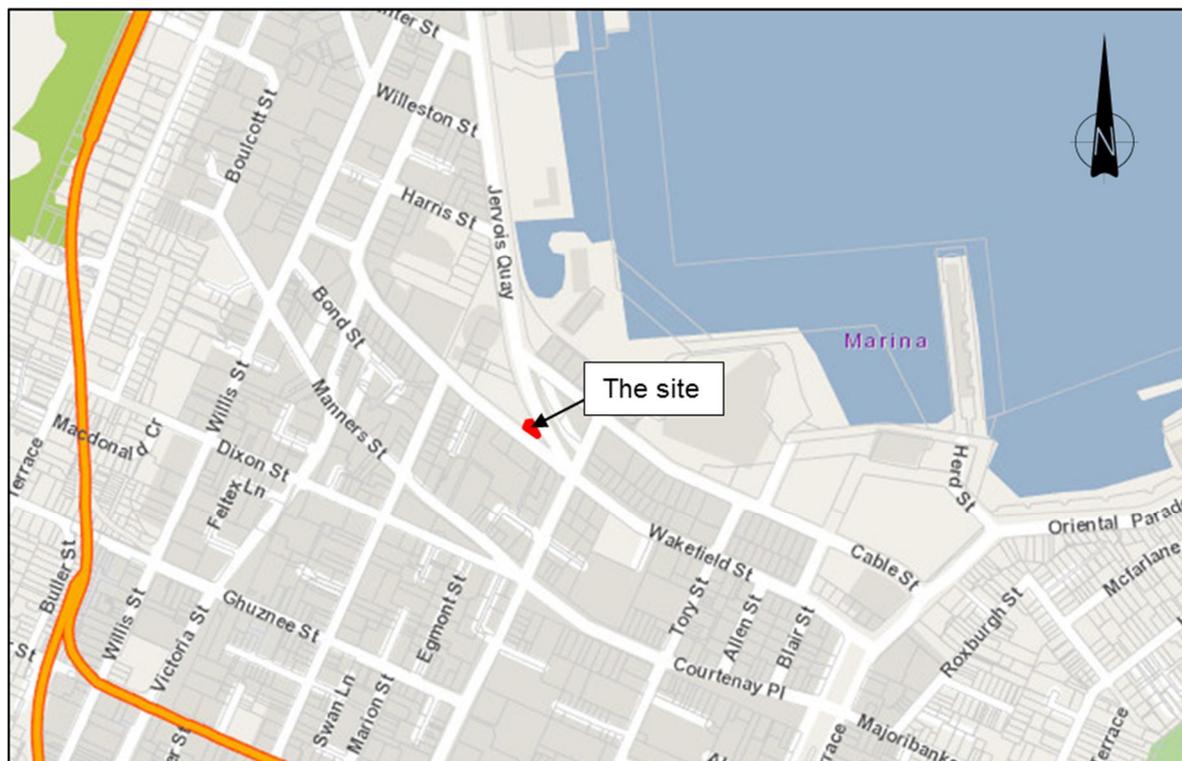


Figure 1.1 Site location plan. Selected map content sourced from LINZ datasets. Crown Copyright Reserved.

## 1.1 Background and objectives

We understand that the Willis Bond & Co proposes to purchase the site from Wellington City Council (WCC) and construct two apartment blocks: one 4-storey and one 8-storey. At this stage, a single level basement may possibly be constructed.

The Greater Wellington Regional Council Selected Land Use Register (the SLUR) shows no potentially contaminating industries or activities on the site. However, from our experience of adjacent sites, approximately 4 to 5m of reclamation fill could be present (placed in 1886/1889), with the boundary between phases of reclamation potentially passing through the site. Additionally, information provided by yourselves indicates that a tramway power house was historically present (demolished circa 1930). Subsequently an air raid bunker was constructed on the site.

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

<sup>2</sup> Ministry for the Environment (2012) Users' Guide National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health.

Given the former industrial use of the site and the potential for the site to be founded on reclaimed land, there is a possibility that the soil has been contaminated.

Willis Bond & Co has engaged T+T to undertake an assessment of potential ground contamination issues at the site, and to identify what implications ground contamination may have for the proposed development, including, but not limited to the need for contamination remediation or management and soil disposal requirements.

## 1.2 Scope of work

- A desk-based assessment to identify potential sources of contamination at the site comprising our review of:
  - Selected property files from the WCC archive.
  - WCC Thomas Ward maps archive.
  - Historical aerial photographs provided by WCC.
  - Historical certificates of title (CoT) provided by Land Information New Zealand (LINZ).
  - Alexander Turnbull Library collection photographic archive.
- Site investigation comprising:
  - A site walkover to identify any visible areas of surficial contamination.
  - The collection of soil/fill samples from borehole investigations undertaken across the site at eight locations to a maximum depth of 5 m below ground level (bgl).
  - The analysis of soil samples for key contaminants to assess contaminant concentrations in soil/fill to be disturbed and removed during the site's redevelopment.
  - Comparison of detected contaminant concentrations against relevant risk-based landuse and worker health and safety criteria, and disposal facilities acceptance criteria.
- Preparation of this report.

## 2 Site Description

### 2.1 Site identification

The site is located in the Wellington Central Business District and is bounded by Jervois Quay to the east and Wakefield Street to the west. The legal description of the site including its current planning zoning is provided in Table 2.1 below.

Table 2.1: Site identification

Street address	111 Wakefield Street, Wellington
Legal description	Part Lot 1 DP 10802
Site Owner	Wellington City Council
Site area	2,180 m <sup>2</sup>
Zoning	Open space A

### 2.2 Site condition

A contaminated land specialist completed a walkover visual survey on 09 November 2016. Relevant observations made at the time of the inspection are summarised below with key areas of interest shown on Figure 2, Appendix A and Photographs 1-4.

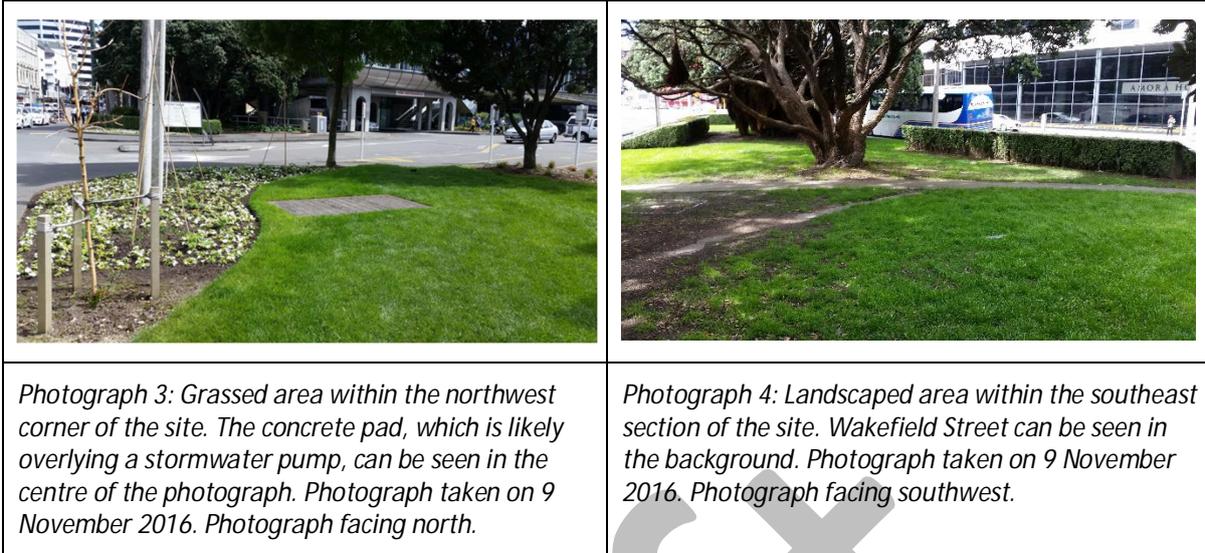
- The site is generally flat with no major topographical features within the site.
- The site generally comprises an asphalt carpark for the Michael Fowler Centre (Photograph 1). A number of cut/ patch areas were observed on the carpark, which appear to be associated with repairs to underground services (Photograph 2).
- Within the northwest of the site, there is a small grassed area (approximately 160 m<sup>2</sup>), which contains a concrete pad (Photograph 3). It is likely that underlying the concrete pad is a pump for a stormwater overflow tank, which extends into the northwest corner of the site.
- Within the southeast section of the site, there is a landscaped area vegetated with grass and trees. No evidence of vegetated stress, which may indicate potential ground contamination, was observed (Photograph 4).
- The land surrounding the site comprises commercial, residential, and retail.



*Photograph 1: The site comprises a carpark to the Michael Fowler Centre. Photograph taken on 9 November 2016. Photograph facing southeast.*



*Photograph 2: Cut/patch areas within the carpark. Photograph taken on 9 November 2016.*



## 2.3 Geology, hydrology and hydrogeology

### 2.3.1 Published geology

Published geological information indicates that the site is underlain by reclaimed land with fill consisting of domestic waste, sand, boulders, and rock (Q1n)<sup>3</sup>.

Semmens (2010)<sup>4</sup> indicates that the site and surrounds were reclaimed in two stages: 1886 (western section of the site) and 1889 (eastern section of the site). The appropriate boundary between the two reclamation fill areas is shown in Figure 3, Appendix A. Reclamation fill comprised "locally quarried, end dumped, weather greywacke sandstone, mudstone and spoil, domestic waste (brick, glass, wood etc.), sand, boulders and engineering fill poorly compacted to compact"<sup>4</sup>.

### 2.3.2 Site geological information

The soil profile onsite was inferred from a T+T geotechnical investigation<sup>5</sup> conducted in 2016. The inferred soil profile is in Table 2.2.

Table 2.2. Inferred soil profile

Depth to top of layer (m)	Thickness (m)	Description
0	3.6 – 4.4	Reclamation fill: mixed loose silty/ sandy GRAVEL and gravelly SILT.
3.6 – 4.4	0.5 – 1.9	Beach sand: Upper layers comprise loose SAND, grading to medium dense gravelly SAND. Contains shells.
4.1 – 6.3	Unknown. Approximately 50 - 60	Alluvium: Comprises interbedded SAND and GRAVEL with SILT lenses
>55	-	Greywacke rock

<sup>3</sup> Begg, J. G., Johnston, M. R. (compilers) 2000. Geology of the Wellington area. Institute of Geological and Nuclear Sciences 1:250 000 geological map 10. 1 sheet + 64 p. Lower Hutt, New Zealand: Institute of Geological and Nuclear Sciences Limited.

<sup>4</sup> Semmens S. (2010). An Engineering Geological Investigation of the Central Wellington Area.

<sup>5</sup> T+T (2016). Michael Fowler Centre Carpark Development, Wellington: Geotechnical Feasibility Report. Report prepared for Wellington City Council. T+T ref: 86042.000.

### 2.3.3 Hydrogeology and hydrology

The depth to groundwater has been inferred from the T+T geotechnical investigation.

Groundwater was encountered in the boreholes conducted for this investigation between 1.9 m and 2.2 m bgl, as discussed Section 4.3. Groundwater levels are expected to fluctuate with tidal cycles.

Groundwater is expected to discharge to Wellington Harbour located approximately 160 m northeast of the site.

Water supply is reticulated in Wellington. Groundwater bores are present in the vicinity but none of these have been identified for extractive use<sup>6</sup>. Groundwater quality in the near vicinity of the site will be low given the extent of the reclamation. Site history and potential for contamination

## 2.4 Site history

Historical information relating to activities undertaken on the site was collected from the information described in Appendix B, a summary of which is provided in this section.

The site is situated on land reclaimed in 1886 and 1889; the fill materials used for the land reclamation included building demolition materials such as bricks, glass, and wood. Following land reclamation, the earliest known use of the site was for a tramway powerhouse. The former tramway powerhouse comprised a brick chimney stack (likely coal-fired) in the southeast section of the site, an electric substation in the north eastern section of the site, and a boiler house in the north western section of the site. It is reported that that the powerhouse tramway was decommissioned in the late 1920's and the former brick chimney stack was demolished in circa 1930. We understand that the balance of the former powerhouse buildings were not demolished when the powerhouse was decommissioned.

Following the decommissioning of the tramway powerhouse, a portion of the site (possibly in the northwest section of the site) was used as a skating rink. The remainder of the former powerhouse building(s) was proposed to be redeveloped as a sport centre; however, it is reported that the proposed redevelopment of the site did not occur.

During World War II, the former powerhouse buildings were used for storage of foodstuffs until 1943. Photographs of Wakefield Street indicate that an air raid shelter may have been constructed on the site; however, the location of the air raid shelter is unknown.

It is documented in a letter dated 1964, that Departmental Buildings on Wakefield Street were demolished; it is unclear from the letter whether the Departmental Buildings refer to the Tramway Powerhouse. The earliest historical aerial photograph indicates that the site has been used as a carpark and landscaped area since at least 1969. The layout of the site remained relatively similar since the 1969 aerials, with the exception that the carpark was extended further south in the 1980's.

The site is not listed on the Greater Wellington Regional Council (GWRC) selected land use register (SLUR) of potential contaminated sites.

## 2.5 Potential for Ground Contamination

This investigation has identified that HAIL<sup>7</sup> 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 3.1.

---

<sup>6</sup> Greater Wellington Regional Council GIS viewer accessed 29<sup>th</sup> November 2016.

<sup>7</sup> Ministry for the Environment (October 2011) Hazardous Activities and Industries List (HAIL).

Table 2.1: Potentially contaminating activities

Land use/activity	HAIL reference	Potential contaminants	Magnitude, possible extent and likelihood of contamination
Land reclamation (1886 / 1889)	G3 - landfilling	Unknown but a broad range of contaminants likely depending on the materials used during the reclamation. Potential contaminants include polycyclic aromatic hydrocarbons (PAH) and metals.	Possible contamination of soils across the site to a depth of approximately 4 m if contaminated materials were used during land reclamation.
Tramway powerhouse	B4 – power stations, substations or switchyards	Hydrocarbons	A tramway power station was operating on the site until circa 1930. It is likely that oils and greases for machinery were used within the powerhouse. Use of polychlorinated biphenyls (PCBs) is not considered likely as PCBs were not manufactured until 1930. There is a low potential for hydrocarbon contamination underlying the former powerhouse. However, it is likely that these soils have been disturbed and distributed during any subsequent redevelopment of the site.
Coal-fired boiler room	E5 – coal or coke yards	Metals and PAH	There was a coal-fired boiler room located within the northern section of the site until circa 1930. It is likely that coal would have been stored within or near the boiler room, and therefore, possibly within the site boundary. There is a potential for coal-related contamination in the surface soils beneath or adjacent to the coal yard areas. Details of historical coal-ash waste disposal are unknown. There is a possibility that coal-ash was disposed onsite. However, there was no visual indications during the field investigation that this has occurred.
Building demolition	E1 – Asbestos products manufacture or disposal	Asbestos, lead based paints	Possible contamination of shallow soils due to demolition of buildings (i.e. Powerhouse) altered during the period in which asbestos materials were commonly used in New Zealand (1950s -1980s).
Historical filling	G5 – waste disposal to land	Metals, PAH, asbestos	There is a possibility that former air raid shelters may have been located onsite, and subsequently infilled after World War II. Possible localised contamination of soils from historical filling with contaminated materials.

## 3 Field investigation

### 3.1 Field programme and rationale

The T+T field investigation was conducted on 9 - 10 November 2016. Eight boreholes, BH1 – BH 8, were drilled using a window sampler at the locations shown on Figure 2, Appendix A. In general, the boreholes were located approximately 20 m apart to establish the nature of the underlying fill materials. BH1 and BH5 were located on the 1886 reclamation area; the balance of the sampling locations were located on the 1889 reclamation area.

The boreholes were drilled to a maximum depth of 5 m; in most sample locations the target drill depth was unable to be reached due to refusal, as detailed in Table 4.1.

A large portion of the site was unable to be sampled due to the following constraints: operational road, private carparks, overflow tank, and underground services.

The materials encountered were logged in general accordance with the NZ Geotechnical Society guidelines<sup>8</sup>.

Table 4.1. Target sampling depths and actual depths reached.

Sample location	Reclamation date	Target depth (m)	Drilled depth (m)	Comment
BH1	1886	3	3	-
BH2	1889	5	0.75	Three attempts to drill to 5 m depth within a 0.5 m radius of BH2 were undertaken. Refusal was encountered between 0.4 – 0.75 m due to concrete.
BH3	1889	3	1.4	Two attempts to drill to 3 m depth within a 0.5 m radius of BH3 were undertaken. Refusal was encountered at 1.4 m due to suspected concrete.
BH4	1889	3	2	Two attempts to drill to 3 m depth within a 0.5 m radius of BH4 were undertaken. Refusal was encountered at 2 m due to concrete. Poor sample recovery was encountered in the second drilled borehole.
BH5	1886	5	5	-
BH6	1889	5	1.4	One attempt to drill to 5 m was undertaken. Refusal encountered at 1.4 m due to concrete.
BH7	1889	5	0.5	One attempt to drill to 5 m was undertaken. Refusal encountered at 0.5 m due to concrete.
BH8	1889	5	0.9	One attempt to drill to 5 m was undertaken. Refusal encountered at 0.9 m due to concrete.

<sup>8</sup> NZ Geotechnical Society Inc (2005). Field description of soil and rock: guidelines for the field classification and description of soil and rock for engineering purposes.

### 3.2 Soil/fill sampling procedures

Soil/ fill sampling was undertaken as follows:

- Samples of soil were collected from key lithology units.
- Freshly gloved hands were used to collect the samples from the recovered core. Samples were subdivided for chemical and asbestos analysis and the subsamples were placed immediately into the appropriate laboratory supplied sample containers.
- Sampling equipment (hand trowel, core casings) was decontaminated between sample locations using clean water and Decon 90 (a phosphate-free detergent) rinses.
- Soil samples were shipped, under chain of custody documentation, to Hill Laboratories (in chilled containers) for chemical contaminants and asbestos analysis.
- Three samples which contained the highest contaminant concentrations were tested using the toxicity characteristic leaching potential (TCLP) procedure by the analysing laboratory.

### 3.3 Stratigraphy

The following generalised stratigraphy was observed during the field investigation:

- 1886 reclamation fill (fill type 1) was encountered underlying topsoil from 0.4 to 5 m bgl (BH1 and BH5). This reclaimed fill comprised a mixture of sandy gravels, silty gravels, and sandy silts (Photograph 5).
- Fill materials (fill type 2) were encountered at BH2-4 and BH6-8 from 0.05 m to 2.0 m bgl. This fill generally comprised sandy gravels with trace to some brick and concrete fragments (Photograph 6). It was not clear from observing the strata whether the materials encountered were representative of 1889 reclaimed fill, demolition wastes from the powerhouse or imported fill materials during the carpark development.

Borehole logs are provided in Appendix C.

Hydrocarbon odours (possibly petrol or oil) and black gravels/slag were observed in shallow fill materials at sample BH5 from 0.3 m to 0.5 m bgl.

Groundwater was encountered in the boreholes between 1.9 m and 2.2 m bgl.



Photograph 5: Recovered core from BH5. Black gravels/slag can be observed at 0.3 m. Photo taken on 9 November 2016. Photo sourced from Geotechnics Limited.



Photograph 6: Recovered core from BH4. Photo taken on 9 November 2016. Photo sourced from Geotechnics Limited.

### 3.4 Soil analysis results

#### 3.4.1 Data quality

A quality assurance and quality control (QA/QC) program was implemented as part of field procedures, which included:

- Sampling equipment decontamination between sampling locations.
- Preservation of samples with ice during transport from the field to the laboratory.
- Transportation of samples with accompanying Chain of Custody documentation.
- Compliance with laboratory sample holding times.

The laboratory testing was undertaken by Hill Laboratories Ltd, which is accredited and audited annually by International Accreditation New Zealand (IANZ). The laboratory's quality control measures include testing of blanks with all batches of samples and frequent replicates and spikes, along with peer review of worksheets.

Standard laboratory QA/QC reports were not reviewed for this project, but are available from the laboratory upon request.

Laboratory testing was restricted due to limited sample recovery and on this basis no duplicate sampling was undertaken. Similarly, only presence/absence testing was undertaken.

### 3.4.2 Results evaluation and assessment criteria

A summary of the laboratory test results for soil/fill materials are provided in Table 4.2 and a summary of the leachate potential of fill material are provided in Table 4.3. Full laboratory transcripts attached in Appendix D.

The results in Table 4.2 and Table 4.3 have been evaluated against guidance documents (where appropriate) and standards that have been selected in accordance with the MfE CLMG No. 2<sup>9</sup> and are as follows:

- URS (2003) Determination of Common Pollutant Background Soil Concentrations for the Wellington Region (maximum concentrations recorded for Wellington Region) with respect to disposal as cleanfill.
- MfE (2004) Module 2 – Hazardous waste guidelines: landfill waste acceptance criteria and landfill classification with respect to disposal as Class A landfill.
- NES Soil contaminant standards (SCS) for an outdoor worker (unpaved) land use with respect to the protection of workers during soil disturbance.
- NES Soil SCS for a high-density residential land use with respect to the proposed future use of the site for residential purposes.
- Where the NES Soil standards are not available, applicable standards include:
  - NEPC (2013) national environment protection (assessment of site contamination) measures for commercial/industrial and high-density residential land use (NEPM).
  - MfE (August 1999) Guidelines for assessing and managing petroleum hydrocarbon contaminated sites in New Zealand (SAND, residential and commercial/industrial, all pathways, surface).
  - MfE (August 1999) Guidelines for assessing and managing contaminated gasworks sites in New Zealand (high-density residential and commercial/industrial, adopted).

Evaluation of the available laboratory results against the assessment criteria show:

- In general, the topsoil and fill (type 1 and 2) samples tested contained at least one metal or PAH contaminant above the published background concentrations.
- At least one sample of the topsoil and fill (type 1 and 2) tested contained metals above the Class A landfill screening assessment. However, further testing of selected samples using the TCLP indicates that metal concentrations in leachate are below the Class A acceptance criteria.
- Two samples of fill type 2 contained arsenic (BH4 at 0.5 - 0.7) and BaP equivalent (BH3 at 0.8 – 1.1) concentrations nearly double the SCS for a high-density residential land use and SCS for an outdoor worker.
- The fill sample that had detectable odours of hydrocarbons did not contain volatile organic compounds (VOCs) above the analytical detection limit.
- One out of four samples of fill type 1 tested positive for the presence of asbestos; three out of six samples of fill type 2 tested positive for the presence of asbestos.

Asbestos was detected in various lithology units between 0 m to 1 m bgl, and therefore, as the presence of asbestos was not confined to a particular fill type. Due to the site-constraints on borehole locations, there is insufficient data to laterally distinguish materials that may contain asbestos from materials that may not. However, it is likely (but not certain) that asbestos contamination is confined to a particular depth, i.e. the maximum depth that fill materials that were disturbed during the demolition of the former tramway powerhouse. Therefore, as a precautionary

<sup>9</sup> Ministry for the Environment (revised 2011) Contaminated Land Management Guideline No.2 - Hierarchy and Application in New Zealand of Environmental Guideline Values.

measure, all fill materials between 0 m to 1.5 m bgl should be assumed to contain asbestos. Soils below 1.5 m may also contain asbestos, however, additional site investigation works would be required to confirm this.

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Table 4.2. Soils results – Michael Fowler Centre Carpark (mg/kg)

Strata		Topsoil	Fill type 1 (from 1886)					Fill type 2 (either 1889 fill, demolition fill or imported fill)							Background <sup>1</sup>	Class A <sup>2</sup>	Residential	Commercial
Sample Location		BH5	BH5	BH5	BH5	BH5	BH1	BH2	BH3	BH3	BH4	BH4	BH4	BH6				
Sample Depth (m)		0.0 - 0.3	0.3 - 0.5	0.6 - 0.8	1.5 - 1.7	3.6 - 3.8	0.5 - 0.7	0.5 - 0.7	0.4 - 0.6	0.8 - 1.1	0.5 - 0.7	1.0 - 1.65	1.9 - 2.0	0.8 - 0.9				
Metals	Arsenic	6	11	4	-	5	4	7	8 <sup>8</sup>	43	100	-	9	6	7	100	45 <sup>3</sup>	70 <sup>3</sup>
	Cadmium	0.4	0.2	< 0.10	-	0.11	< 0.10	< 0.10	0.2	< 0.10	0.67	-	0.89	< 0.10	0.2	20	230 <sup>3</sup>	1300 <sup>3</sup>
	Chromium	18	18	16	-	15	15	20	16	12	16	-	16	15	21	100	1500 <sup>3</sup>	6300 <sup>3</sup>
	Copper	62	60	11	-	19	9	20	79 <sup>8</sup>	40	94	-	27	29	25	100	NL <sup>3</sup>	NL <sup>3</sup>
	Lead	310	199	25	-	320	28	39	250	71	182	-	61	59	180	100	500 <sup>3</sup>	3300 <sup>3</sup>
	Mercury	0.33	0.17	< 0.10	-	0.55	< 0.10	0.1	0.54 <sup>8</sup>	0.13	4.4	-	0.17	0.34	2.6	4	1000 <sup>3</sup>	4200 <sup>3</sup>
	Nickel	10	17	8	-	10	9	17	14	10	28	-	15	13	21	200	1200 <sup>4</sup>	6000 <sup>4</sup>
	Zinc	181	199	40	-	350	48	100	194	74	410	-	820	77	201	200	60000 <sup>4</sup>	400000 <sup>4</sup>
Asbestos		-	Present	ND	ND	-	ND	ND	Present	ND	Present	ND	-	Present	ND	Present	<0.001 w/w <sup>5</sup>	<0.001 w/w <sup>5</sup>
PAH	Acenaphthene	-	1.58	0.07	-	0.08	< 0.03	< 0.03	0.11	1.78	< 0.03	-	< 0.03	0.38	-	-	NA <sup>6</sup>	NA <sup>6</sup>
	Acenaphthylene	-	10	0.54	-	0.13	< 0.03	< 0.03	0.60	2.50	0.12	-	0.04	3.30	-	-	NA <sup>6</sup>	NA <sup>6</sup>
	Anthracene	-	10.10	0.48	-	0.32	< 0.03	< 0.03	1.13	10.10	0.17	-	< 0.03	4.30	0.05	-	NA <sup>6</sup>	NA <sup>6</sup>
	Benzo[a]anthracene	-	12.80	0.55	-	0.99	< 0.03	0.04	5.60	38	0.76	-	0.08	14.40	-	-	-	-
	Benzo[a]pyrene (BAP)	-	15.10	0.62	-	1.17	< 0.03	0.08	5.90	36	0.86	-	0.15	16.50	0.33	300	-	-
	Benzo[b]fluoranthene + Benzo[j]fluoranthene	-	16.30	0.67	-	1.30	< 0.03	0.09	7.10	39	1.22	-	0.19	18.20	-	-	-	-
	Benzo[g,h,i]perylene	-	12.80	0.48	-	0.78	< 0.03	0.09	3.90	19.40	0.73	-	0.12	9.30	-	-	-	-
	Benzo[k]fluoranthene	-	6.70	0.26	-	0.49	< 0.03	0.03	2.70	17.40	0.45	-	0.07	7.30	-	-	-	-
	Chrysene	-	12.30	0.48	-	0.90	< 0.03	0.04	4.60	31	0.81	-	0.08	12.60	-	-	-	-
	Dibenzo[a,h]anthracene	-	1.90	0.07	-	0.16	< 0.03	< 0.03	0.79	4.90	0.16	-	0.03	2.10	-	-	-	-
	Fluoranthene	-	42	2	-	2.30	< 0.03	0.08	11.30	69	1.57	-	0.05	32	0.57	-	-	-
	Fluorene	-	5.50	0.30	-	0.11	< 0.03	< 0.03	0.12	1.53	0.03	-	< 0.03	0.91	-	-	NA <sup>6</sup>	NA <sup>6</sup>
	Indeno(1,2,3-c,d)pyrene	-	10.90	0.45	-	0.80	< 0.03	0.09	4.10	20	0.71	-	0.13	9.60	-	-	-	-
	Naphthalene	-	10.30	0.63	-	< 0.16	< 0.13	< 0.13	< 0.13	0.59	0.30	-	< 0.13	0.29	0.02	20	58 <sup>7</sup>	190 <sup>7</sup>
	Phenanthrene	-	50	2.50	-	1.24	< 0.03	0.05	4.70	25	1.03	-	0.04	12.50	0.35	-	NA <sup>6</sup>	NA <sup>6</sup>
Pyrene	-	44	1.98	-	2.30	< 0.03	0.10	11	66	1.51	-	0.06	30	0.60	-	1600 <sup>7</sup>	NA <sup>7</sup>	
BaP equivalent	-	22.21	0.91	-	1.72	<0.03	0.46	8.80	53.34	1.36	-	0.23	24	-	300	24 <sup>3</sup>	35 <sup>3</sup>	
BTEX	Benzene	-	< 0.4	-	-	-	-	-	-	-	-	-	-	-	10	1.1 <sup>7</sup>	3 <sup>7</sup>	
	Toluene	-	< 0.7	-	-	-	-	-	-	-	-	-	-	-	2000	68 <sup>7</sup>	94 <sup>7</sup>	
	Ethylbenzene	-	< 0.4	-	-	-	-	-	-	-	-	-	-	-	1000	53 <sup>7</sup>	180 <sup>7</sup>	
	m&p-Xylene	-	< 0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	o-Xylene	-	< 0.4	-	-	-	-	-	-	-	-	-	-	-	2000	48 <sup>7</sup>	150 <sup>7</sup>	

"ND" = not detected, "NA" = contaminant not limiting as estimated health-based criterion is significantly higher than that likely to be encountered onsite, "NL" = no limit, "-" = not available.

Green indicates that the published background has been exceeded, Blue indicates that the relevant standards for a high density residential land use and outdoor worker, Orange indicates that the Class A landfill screening criteria has been exceeded.

1 URS (2003) Determination of Common Pollutant Background Soil Concentrations for the Wellington Region (maximum concentration in Wellington Region).

2 MfE (2004) Module 2 – Hazardous waste guidelines: landfill waste acceptance criteria.

3 NES Soil (2012) soil contaminant standards (SCS).

4 NEPC (2013) national environment protection (assessment of site contamination) measures (NEPM).

5 Western Australian Department of Health (May 2009) Guidelines for the assessment, remediation and management of asbestos contaminated sites in Western Australia.

6 MfE (August 1999) Guidelines for assessing and managing contaminated gasworks sites in New Zealand.

7 MfE (August 1999) Guidelines for assessing and managing petroleum hydrocarbon contaminated sites in New Zealand.

8 Replicate analyses performed by the laboratory showed greater variation than would normally be expected due to the heterogeneity of the sample.

Table 4.3: Leachable (TCLP) concentrations - Michael Fowler Centre Carpark (mg/l).

Sample location	BH4	BH4	BH5	Class A <sup>1</sup>
Sample depth (m)	0.5 – 0.7	1.9 – 2.0	3.6 – 3.8	
Arsenic	0.12	<0.021	<0.021	5
Cadmium	0.0037	0.0064	<0.0011	1
Chromium	<0.011	<0.011	<0.011	5
Copper	0.015	<0.011	<0.011	5
Lead	0.0065	0.005	0.133	5
Mercury	<0.0021	<0.0021	<0.0021	0.2
Nickel	<0.011	<0.011	0.023	10
Zinc	0.68	1.86	1.83	10

<sup>1</sup> MfE (2004) Module 2 – Hazardous waste guidelines: landfill waste acceptance criteria (concentrations in leachate).

### 3.5 Conceptual site model

A conceptual model as defined by the MfE in the CLMG No.5, 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 conceptual site specific 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. This model is presented below as Table 4.4.

Table 4.4: Conceptual site model

Source	Pathway	Current receptors	Future receptors (during/ post ground disturbance works)
Contaminated fill materials, including asbestos, PAH, and metal contamination	Inhalation of dust or asbestos fibres if the soils are disturbed, dermal contact, and incidental ingestion.	Carpark users - not applicable because site is paved.	Construction and excavation workers during possible site development. Wider environment with respect to disposal of materials. Ingestion and or dermal exposure for future site residents – not applicable because onsite encapsulation or disposal of contaminated materials is likely. Inhalation exposure for future residents - low potential given past land uses unlikely to include volatile chemical use.
	Groundwater flows to the Wellington Harbour.	Flora and fauna of the Wellington Harbour.	

## 4 Development implications

### 4.1 Metals and hydrocarbon contamination

Analytical results for chemical contaminants indicate that topsoil and fill type 1 (from 1886) are below the NES SCS high-density residential land use criteria. Contaminant levels in fill type 2 (from 1889) are generally below the NES SCS high-density residential criteria, although two results exceed these criteria.

Given the heterogeneous nature of the materials at the site and limited ability for sample recovery, we do not consider that differing management of the two types of fill identified is warranted. Further, we note that it is unlikely that localised remediation or management will be possible to target where contaminants have been identified above criteria.

However, the fill should be able to be retained onsite as long as it remains under sealed areas or under a sub-surface barrier layer, subject to geotechnical and building support considerations.

The investigations conducted to date have been hampered by access limitations and refusal during drilling. More characterisation is required to better define the nature of the contamination to inform development of the site including potential for groundwater impacts. Soils excavation at the site would be best undertaken using an excavator to dig test pits or a sonic drill rig and monitoring wells would be required for a groundwater assessment. Contamination sources identified to date do not indicate the need to design and install measures to protect the building from volatile contaminants but the assessment has been limited and the possibility of the need for building protection measures, although unlikely, cannot be ruled out.

### 4.2 Soil disposal

Based on the TCLP testing, fill materials meet criteria for disposal at Class A landfills (e.g. Silverstream Landfill) subject to approval by the landfill operator.

Disposal of Class A landfill materials will likely cost approximately \$153/ tonne excluding haulage fees. A basement across the footprint of the entire site could generate some 6,000m<sup>3</sup> of cut<sup>10</sup> and at 2 tonnes/m<sup>3</sup>, the disposal fee (i.e. gate fee at the landfill) would in the vicinity of \$2M. Landfill rates can vary with time and disposal operator, and so it would be prudent to confirm the landfill gate fee at each stage of the development planning.

### 4.3 Management of contamination during the works

A range of controls will be necessary to manage contamination during redevelopment. Management of contaminated groundwater may also be required, depending on the basement excavations. Further, a long-term solution for groundwater will be required for a basement, with solution being dependent upon contaminant levels, which are currently unknown.

A Site Management Plan (SMP) will be needed to fulfil the requirements for supporting applications for resource consents (see Section 5.5 below), detailing the nature of the management controls. The SMP will need to provide procedures for managing, safe handling and disposing of contaminated materials along with health and safety procedures for workers and measures for validating the site (i.e. documenting the site condition) on completion of the development works. Environmental risks are expected to be less than minor, if the work is completed according to the procedures which will be stipulated in a robust SMP.

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<sup>10</sup> Assuming that the majority of the footprint of the site includes a basement (2000 m<sup>2</sup>) to a depth of 3m bgl.

#### 4.4 Asbestos controls

The presence of asbestos fines means the Health and Safety at Work (Asbestos) Regulations (2016) and the Worksafe NZ Code of Practice (CoP) - Management and Removal of Asbestos (May 2016) need to be considered. The management of asbestos-in-soils under the Regulations is currently under development. However, the key requirements of the CoP are that works must be undertaken with appropriate asbestos controls in place and that contaminated soil removed must be disposed of as asbestos waste to an approved disposal site.

Testing to date consists of identifying presence/absence only. Soil or fill which contains <0.001% w/w would be deemed 'asbestos-related works'; soil or fill which contains >0.001% would be deemed 'Class A asbestos removal works'. Worksafe has not provided clear direction regarding the controls required for 'asbestos-related works' where asbestos is present in soil, but our interpretation is that Class A controls (including dust controls, air monitoring, decontamination units and PPE) would apply but without the requirement for notification and supervision.

An indicative cost for asbestos removal works (i.e. for the controls stated above) could be in the order of \$1000 - \$2000/day. However, costs can decrease over time, if air monitoring during the ground breaking works suggests that the risk of asbestos fibres being released to the atmosphere is minimal. The presence of asbestos can also add costs to disposal.

Further testing of soils samples will be required to ascertain the levels of asbestos. Test pits would provide better access to gather the samples volumes required. Further, test pits would provide access to inspecting the nature of demolition materials present and for testing potential ACMs. However, we understand that test pitting may not be possible if continuous operation of the carpark is required. If test pitting cannot be conducted, drilling (e.g. with a sonic drill rig) may be used instead. However, it should be noted that the quality of data (i.e. from observing the strata and demolition materials) may not be as good from drilling as with test pitting.

#### 4.5 Regulatory implications

The review of historical information has identified HAIL activities have been undertaken at the site in the past which means that that it will be regulated under the NES Soil. Redevelopment will require consents under the NES Soil and potentially under the regional plan for discharges. A review of regulatory requirements will be required to determine consenting requirements.

## 5 Conclusion

T+T has been commissioned by Willis Bond & Co to undertake a ground contamination investigation for the MFC Carpark, 111 Wakefield Street, Wellington.

The investigations were undertaken to identify current and historical activities at the site and the potential for these activities to have resulted in ground contamination. The scope included limited soil sampling and testing. The results found that:

- The site and area beyond comprises reclaimed land which was filled in 1886 and 1889. PAH and metal contamination was encountered in the soils investigations indicating contaminated fill has been used for such land reclamation.
- The earliest known use of the site was as a tramway powerhouse. The powerhouse was decommissioned in circa 1930. The former powerhouse buildings were likely demolished in the early 1960's.
- Asbestos contamination of fill is present and this may have occurred during the demolition of the powerhouse buildings. Testing indicates the presence of asbestos in four of the ten soil samples tested.
- During World War II, the site may have been used as an air raid shelter; however, we were unable to confirm this.
- The site has been used as a carpark from at least the late 1960's to present day.

Based on an assessment of the current information which is available to us, the implications for the proposed redevelopment works are expected to be as follows:

- During earthworks, standard worker health and safety provisions will apply (i.e. maintaining good hygiene standards and not working in dusty conditions).
- Test data indicates materials require disposal to a Class A licensed landfill facility. Excavations, for a single-storey basement, could result in disposal fees (i.e. landfill gate fees) in the vicinity of \$2M (excluding excavation and transport).
- An indicative cost for asbestos removal works (i.e. for the controls stated above) could be in the order of \$1000 - \$2000/day. However, costs can decrease over time, if air monitoring during the ground breaking works suggests that the risk of asbestos fibres being released to the atmosphere is minimal.
- Due to site constraints, investigation to only 1.5 m over a significant proportion of the site could be achieved. Therefore, further testing is required to fully assess the implications for the site development.
- A SMP will be required to support the application for resource consents under the NES Soil and potentially regional plans. An SMP must provide procedures for managing, handling and disposing of contaminated materials during the proposed construction along with procedure to manage dust during earthworks activities, health and safety procedures for workers, and measures for validating the site.

Based on the results of the investigation, the following ground contamination related risks have been identified for the development:

- Pre-treatment of fill materials from below 1.5 m depth for disposal as Class A landfill.
- Concrete obstructions in the ground, e.g. relic foundations.
- Indicative landfill and asbestos removal costs can vary over time.

- Groundwater contamination could be present, this may add additionally cost for dewatering during the site development. Additionally, in the worst case scenario, groundwater clean-up may be required.

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## 6 Applicability

This report has been prepared for the exclusive use of our client Willis Bond & Co, 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.

All recommendations and opinions which are contained in this report are based on data from discrete soil samples. The nature and continuity of subsoil away from the investigation points are inferred but it must be appreciated that actual conditions could vary from the assumed model.

Tonkin & Taylor Ltd

Environmental and Engineering Consultants

Report prepared by:

Authorised for Tonkin & Taylor Ltd by:

.....

Louise Murphy

Environmental Scientist

.....

Stuart Palmer

Project Director

Report certified by a suitably qualified and experienced practitioner as prescribed under the NES Soil Users Guide (April 2012):

.....

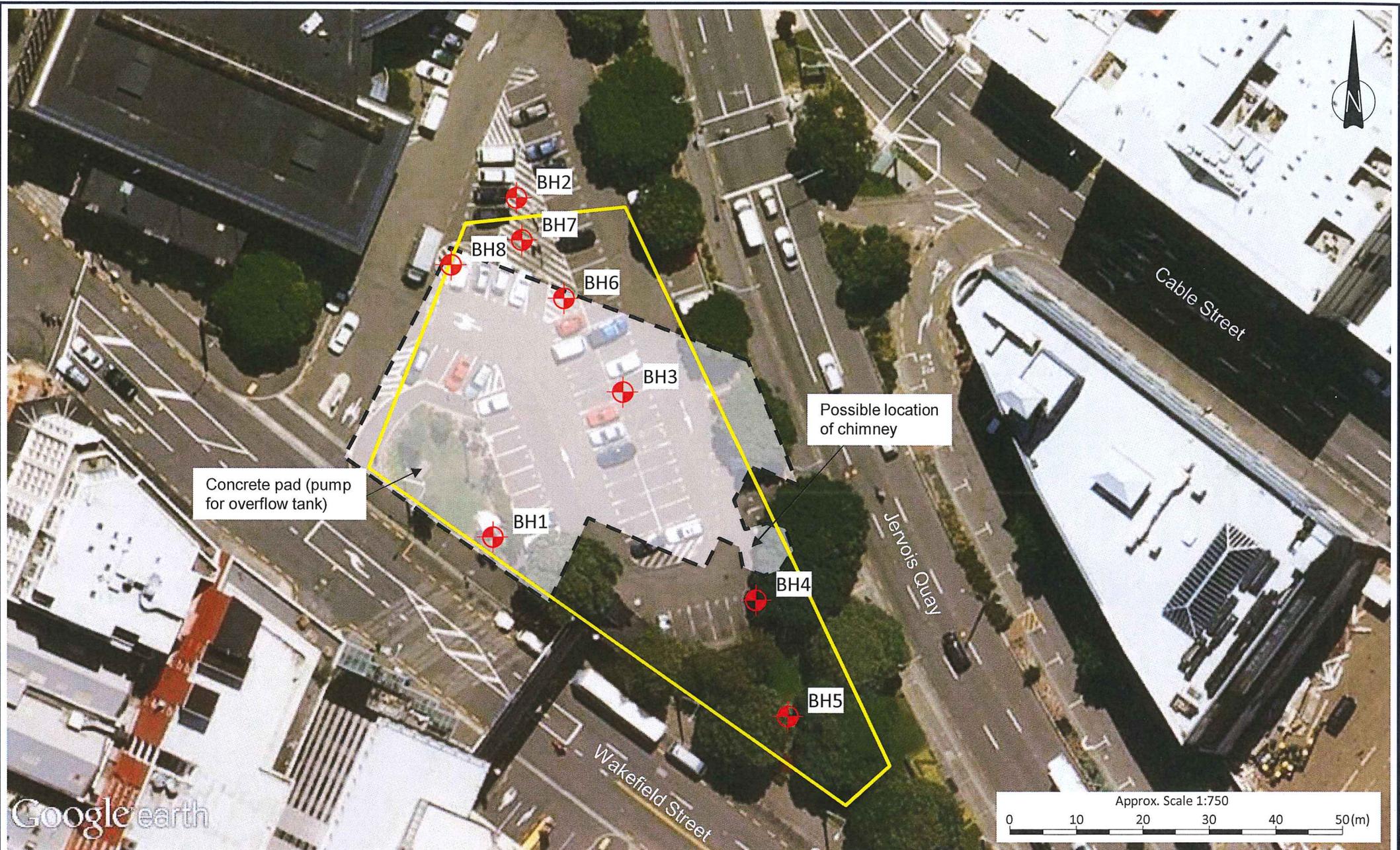
Chris Bailey

Environmental Consultant

30-Nov-16

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Notes:  
 1. Aerial image sourced from Google Earth Pro. Copyright 2016 Google. Image date 03/02/2009.

**LEGEND**

BH1 Sample location

Indicative location of former powerhouse

Site extent

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**WILLIS BOND & CO**  
 GROUND CONTAMINATION ASSESSMENT  
 MICHAEL FOWLER CENTRE CARPARK  
 Sample Location Plan and Key Site Features

FIG. No. **Figure 2**

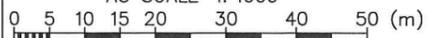
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**LEGEND**

- Site extent
- Town Hall building extent
- Michael Fowler Centre
- Reclamation fill extent

A3 SCALE 1: 1000



 ORIGINAL IN COLOUR

**NOTES:**

1. Aerial photo sourced from Terralink International (Copyright 2002–2005 Terralink International Limited and its licensors).
2. Reclamation boundaries are approximate only. Based on Semmens (2010) – An Engineering Geological Investigation of the Central Wellington Area.



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GROUND CONTAMINATION ASSESSMENT  
MICHAEL FOWLER CENTRE CARPARK  
Land Reclamation Areas

FIG. No. **Figure 3**

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## B Site history

Historical information relating to the site has been collected from a variety of sources. The information presented documents onsite activities, except 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.

### B 1 Certificates of title (CoT)

A summary of the CoT provided by LINZ is provided below.

Table B1: Summary of CoT information

CT reference	Date issued	Summary
WN3/224	1870	A CoT was issued for land reclaimed from the sea, known as Reserve K, which included the site. The CoT indicates that the site and surrounds were divided into Lots and subsequently sold to various parties
WN269/81	1920	The CoT indicates that the site was transferred to the Major Councillors and Citizens of the City of Wellington in 1920 for public utility purposes
WN125/1	Possibly 1930	This CoT is illegible
WNC1/1333	1964	The CoT for a portion of the site was issued to the Major Councillors and Citizens of the City of Wellington in 1964. The CoT indicates departmental dealings to add a purpose of Electric Tramway Purposes in July 2016.

Copies of the certificates of title are provided in Appendix E.

### B 2 Aerial photograph review

Historical aerial photographs from the T+T and WCC library have been reviewed and are summarised below in in Table B2. Selected aerials have been provided in Appendix E.

Table B2: Summary of aerial photograph review

Date and source	Key site features	Surrounding land features
1969 (T+T library)	<ul style="list-style-type: none"><li>The central and northern section of the site is used as a carpark. The balance of site comprise a landscaped area, which includes a 'v'-shaped walkway</li></ul>	<ul style="list-style-type: none"><li>The site is located within a commercially developed area</li><li>A building is located to the immediate northeast of the site</li><li>Wellington harbour is visible to the east of the site</li></ul>
1970 (WCC library)	<ul style="list-style-type: none"><li>Similar to previous</li></ul>	<ul style="list-style-type: none"><li>Similar to previous</li></ul>
1977 (WCC library)	<ul style="list-style-type: none"><li>Similar to previous</li></ul>	<ul style="list-style-type: none"><li>Similar to previous</li></ul>
1980 (WCC library)	<ul style="list-style-type: none"><li>Similar to previous</li><li>A builder's yard appears to extend into the western boundary the site</li></ul>	<ul style="list-style-type: none"><li>The MFC is being constructed to the immediate north of the site</li></ul>
1986 (WCC library)	<ul style="list-style-type: none"><li>The site remains a carpark; however, the layout of the carpark has slightly changed</li><li>The 'v'-shaped walkway has been replaced with carparks</li></ul>	<ul style="list-style-type: none"><li>The MFC construction is complete</li><li>The building to the immediate northeast of the site has been demolished</li></ul>

	<ul style="list-style-type: none"> <li>• A landscaped area is located within the northwest section of the site. A small structure is situated on the landscaped area</li> </ul>	<ul style="list-style-type: none"> <li>• Alternations to the buildings located to the immediate southwest of the site are apparent</li> </ul>
1996 (WCC webmap)	<ul style="list-style-type: none"> <li>• Similar to previous</li> </ul>	<ul style="list-style-type: none"> <li>• Similar to previous. Alterations to the southwest buildings are complete</li> </ul>
2013 (WCC webmap)	<ul style="list-style-type: none"> <li>• Similar to previous</li> </ul>	<ul style="list-style-type: none"> <li>• Similar to previous</li> </ul>

### B 3 Client provided information

The client conducted an internal review of historical information relating to the site. The information obtained from the historical review was provided to T+T; the key information is summarised below and is included in Appendix E.

- A tramway powerhouse was located within the southern section of site prior to being demolished in circa 1930. The area was subsequently beautified with a concrete edged lawn. To the north of former tramway powerhouse (northern section of the site), buildings associated with the decommissioned powerhouse remained on the site till at least the 1940's.
- An undated photograph shows that an engine room was located in the tramway powerhouse; however, it is unclear if the engine room was located within the site.
- An air raid shelter was constructed within the site (exact location unknown) during World War Two (1942).
- A locality plan of Wellington City (undated) indicates that a watercourse (Polhill Gully) ran through the centre of the site.

### B 4 Council property file review

The following relevant information was identified by T+T during its review of the WCC property files on 8 November 2016.

- In 1929, a tender to demolish the former Brick Chimney Stack at the old Tramway Powerhouse was accepted.
- An undated plan (likely in 1933) of a portion of the site indicates that an electric substation (old boiler house) was located on Lot 6, situated within the northeast section of the site. The plan indicates that a skating rink was located within the northwest section of the site (Lot 10).
- A plan of a portion of the site (altered in 1937), details a slightly different site layout to the aforementioned plan. The plan indicates that a bus barn was located on Lot 10. An old boiler house and engine room are situated in the northern section of the site.
- The old boiler house was leased to the Blundel Brothers in 1933.
- A letter dated 1964 documents that buildings on Wakefield Street should be demolished (it is unknown if the buildings refer to the former powerhouse).

Key information is provided in Appendix E.

### B 5 Alexander Turnbull Library

Information in the Alexander Turnbull Library relevant to the site was reviewed by T+T on 15 November 2016. Only information not detailed in Section B3 is discussed below.

- A news article dated 1943 indicates that the old tramway powerhouse building and the Glide Rink (skating rink) was used to store bulk foodstuff during World War II. The article indicates

that the proposed redevelopment of the old tramway powerhouse building to a sports centres did not occur (provided in Appendix E).

#### B 6 Thomas Ward Map

The Thomas Ward Map of Wellington City was reviewed by T+T on 7 November 2016. The map indicates that the site is situated on reclaimed land. No other information pertinent to ground contamination was observed.

#### B 7 Council contamination enquiry

A contamination enquiry was placed by T+T with the Greater Wellington Regional Council (GWRC) on 7 November 2016. The site is not listed on the Selected Land Use Register (SLUR) as a potentially contaminated site and no resource consents for holding dangerous good were found for the site.

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# BOREHOLE LOG

BOREHOLE No: BH2

Hole Location: Refer to test location plan

SHEET 1 OF 1

PROJECT: GWN MFC CARPARK-WS-TT      LOCATION: Michael Fowler Centre Carpark      JOB No: 1001014.0010

CO-ORDINATES:      DRILL TYPE: Window Sampler      HOLE STARTED: 10/11/16

R.L.:      DRILL METHOD: Percussion      HOLE FINISHED: 10/11/16

DATUM:      DRILL FLUID: N/A      DRILLED BY: Geotechnics Ltd

GEOLOGICAL      ENGINEERING DESCRIPTION

GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MINERAL COMPOSITION.	FLUID LOSS	WATER	CORE RECOVERY (%)	METHOD	CASING	TESTS	SAMPLES	R.L. (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MOISTURE CONDITION	WEATHERING	STRENGTH/DENSITY CLASSIFICATION	SHEAR STRENGTH (kPa)	COMPRESSIVE STRENGTH (MPa)	DEFECT SPACING (mm)	SOIL DESCRIPTION Soil type, minor components, plasticity or particle size, colour.	ROCK DESCRIPTION Substance: Rock type, particle size, colour, minor components. Defects: Type, inclination, thickness, roughness, filling.

	NONE ENCOUNTERED		100	WS-60mmØ	N/A	*0.5-0.7m Asb+Chem	●				GW	M	NR					ASPHALT. Sandy fine to coarse GRAVEL, dark grey. Moist, well graded. Gravel is angular. Sand is fine to coarse. Fine to coarse GRAVEL with some sand, brown. Moist, well graded. Gravel is angular, unweathered sandstone. Trace concrete fragments.
--	------------------	--	-----	----------	-----	-----------------------	---	--	--	--	----	---	----	--	--	--	--	--

									1									End of borehole at 0.75mbgl (refusal)
									2									
									3									
									4									
									5									
									6									



# BOREHOLE LOG

BOREHOLE No: BH3

Hole Location: Refer to test location plan

SHEET 1 OF 1

PROJECT: GWN MFC CARPARK-WS-TT      LOCATION: Michael Fowler Centre Carpark      JOB No: 1001014.0010

CO-ORDINATES:      DRILL TYPE: Window Sampler      HOLE STARTED: 9/11/16

R.L.:      DRILL METHOD: Percussion      HOLE FINISHED: 9/11/16

DATUM:      DRILL FLUID: N/A      DRILLED BY: Geotechnics Ltd

LOGGED BY: EJWL      CHECKED: *AB*

GEOLOGICAL										ENGINEERING DESCRIPTION														
GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MINERAL COMPOSITION.	FLUID LOSS	WATER	CORE RECOVERY (%)	METHOD	CASING	TESTS	SAMPLES	R.L. (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MOISTURE CONDITION	WEATHERING	STRENGTH/DENSITY CLASSIFICATION	SHEAR STRENGTH (kPa)			COMPRESSIVE STRENGTH (MPa)			DEFECT SPACING (mm)			SOIL DESCRIPTION Soil type, minor components, plasticity or particle size, colour.  ROCK DESCRIPTION Substance: Rock type, particle size, colour, minor components. Defects: Type, inclination, thickness, roughness, filling.
															0	50	100	200	0	5	10	20	50	
	NONE ENCOUNTERED		100	WS-60mmØ	N/A	*0.4-0.6m Asb+Chem  *0.8-1.1m Asb+Chem	●  ●		1		GW	M	NR										ASPHALT.  Sandy fine to coarse GRAVEL, brown. Moist, well graded. Gravel is angular. Sand is fine to coarse. 0.4m- trace red brick fragments. 0.5m- trace silt. 0.6 to 0.7m- black flecks.  Fine to coarse SAND with trace gravel, dark grey with white flecks. Moist, well graded. Gravel is fine to coarse, rounded. 1.1m- red brick fragments.	
									2														End of borehole at 1.4mbgl (refusal)	
									3															
									4															
									5															
									6															

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# BOREHOLE LOG

BOREHOLE No: BH4

Hole Location: Refer to test location plan

SHEET 1 OF 1

PROJECT: GWN MFC CARPARK-WS-TT      LOCATION: Michael Fowler Centre Carpark      JOB No: 1001014.0010

CO-ORDINATES:      DRILL TYPE: Window Sampler      HOLE STARTED: 9/11/16

R.L.:      DRILL METHOD: Percussion      HOLE FINISHED: 9/11/16

DATUM:      DRILL FLUID: N/A      DRILLED BY: Geotechnics Ltd

LOGGED BY: EJWL      CHECKED: *AB*

GEOLOGICAL							ENGINEERING DESCRIPTION											
GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MINERAL COMPOSITION.	FLUID LOSS	WATER	CORE RECOVERY (%)	METHOD	CASING	TESTS	SAMPLES	R.L. (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MOISTURE CONDITION	WEATHERING	STRENGTH/DENSITY CLASSIFICATION	SHEAR STRENGTH (kPa)	COMPRESSIVE STRENGTH (MPa)	DEFECT SPACING (mm)	SOIL DESCRIPTION Soil type, minor components, plasticity or particle size, colour.  ROCK DESCRIPTION Substance: Rock type, particle size, colour, minor components. Defects: Type, inclination, thickness, roughness, filling.
		NONE ENCOUNTERED	100	WS-60mmØ		*0.5-0.7m Asb+Chem	●				GW	M	NR				ASPHALT. Sandy fine to coarse GRAVEL, grey. Moist, well graded. Gravel is angular. Sand is fine to coarse.	
					N/A	*1.0-1.65m Asb+Chem	●		1		SW	M	NR				Fine to coarse SAND, black with white flecks. Moist, well graded. Some red brick fragments, coarse gravel size.	
			35	WS-60mmØ		*1.9-2.0m Asb+Chem	●		2		GW	M	NR				Sandy fine to coarse GRAVEL, orange brown with red flecks. Moist, well graded. Sand is fine to coarse. Trace red brick fragments. 1.0 to 1.65m- no recovery.	
																		Sandy fine to coarse GRAVEL, grey. Moist, well graded. Gravel is angular. Sand is fine to coarse. 1.9m- some silt, wet.
																		End if borehole at 2.0mbgl (refusal)



# BOREHOLE LOG

BOREHOLE No: BH5

Hole Location: Refer to test location plan

SHEET 1 OF 1

PROJECT: GWN MFC CARPARK-WS-TT      LOCATION: Michael Fowler Centre Carpark      JOB No: 1001014.0010

CO-ORDINATES:      DRILL TYPE: Window Sampler      HOLE STARTED: 9/11/16

R.L.:      DRILL METHOD: Percussion      HOLE FINISHED: 9/11/16

DATUM:      DRILL FLUID: N/A      LOGGED BY: EJWL      CHECKED:

**GEOLOGICAL**      **ENGINEERING DESCRIPTION**

GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MINERAL COMPOSITION.	FLUID LOSS	WATER	CORE RECOVERY (%)	METHOD	CASING	TESTS	SAMPLES	R.L. (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MOISTURE CONDITION	WEATHERING	STRENGTH/DENSITY CLASSIFICATION	STRENGTH			DEFECT SPACING (mm)	SOIL DESCRIPTION Soil type, minor components, plasticity or particle size, colour.  ROCK DESCRIPTION Substance: Rock type, particle size, colour, minor components. Defects: Type, inclination, thickness, roughness, filling.
															SHEAR STRENGTH (kPa)	UNCONSOLIDATED	CONSOLIDATED		
			100	WS-80mmØ		*0.0-0.3m Chem	●			X	ML	M	NR						SILT, brown. Moist, low plasticity. Trace rootlets.
			100	WS-80mmØ		*0.3-0.5m Asb+Chem	●			X	ML	M	NR						Black gravel/slag, strong hydrocarbon odour.
			100	WS-80mmØ		*0.6-0.8m Asb+Chem	●			X	GM	M	NR						SILT, brown. Moist, low plasticity. Trace rootlets. Strong hydrocarbon odour.
			70	WS-80mmØ		*1.5-1.7m Asb+Chem	●		1	X	GM	M	NR						Silty fine to coarse GRAVEL with trace sand, orange brown. Moist, well graded. Gravel is angular. Sand is fine to coarse.
			70	WS-60mmØ	N/A	*2.6-2.8m Asb+Chem	●		2	X	GM	S	NR						1.0 to 1.3m- no recovery.
			100	WS-60mmØ		*3.6-3.8m Asb+Chem	●		3	X	ML	S	NR						Silty, sandy fine to coarse GRAVEL, orange brown. Saturated, well graded. Gravel is angular. Sand is fine to coarse.
			50	WS-35mmØ		*4.5-4.8m Chem	●		4	X	GW	S	NR						2.0 to 2.3m- no recovery.
			50	WS-35mmØ		*4.8-5.0m Chem	●		4	X	GW	W	NR						3.5m- bluish grey.
									5	X									Sandy SILT, bluish grey. Saturated, low plasticity. Sand is fine to coarse. Trace fibrous organics. Organic odour.
									5	X									4.0 to 4.5m- no recovery.
									5	X									Sandy fine to coarse GRAVEL, bluish grey. Saturated, well graded. Gravel is angular to subrounded. Sand is fine to coarse. Trace shell fragments.
									5	X									Sandy fine to coarse GRAVEL, orange
									5	X									brown. Wet, well graded. Gravel is angular. Sand is fine to coarse.
									5	X									<b>End of borehole at 5.0mbgl (target depth)</b>

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# BOREHOLE LOG

BOREHOLE No: BH6

Hole Location: Refer to test location plan

SHEET 1 OF 1

PROJECT: GWN MFC CARPARK-WS-TT      LOCATION: Michael Fowler Centre Carpark      JOB No: 1001014.0010

CO-ORDINATES:      DRILL TYPE: Window Sampler      HOLE STARTED: 10/11/16

R.L.:      DRILL METHOD: Percussion      HOLE FINISHED: 10/11/16

DATUM:      DRILL FLUID: N/A      DRILLED BY: Geotechnics Ltd

LOGGED BY: EJWL      CHECKED: *AB*

GEOLOGICAL										ENGINEERING DESCRIPTION									
GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MINERAL COMPOSITION.	FLUID LOSS	WATER	CORE RECOVERY (%)	METHOD	CASING	TESTS	SAMPLES	R.L. (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MOISTURE CONDITION	WEATHERING	STRENGTH/DENSITY CLASSIFICATION	SHEAR STRENGTH (kPa)	COMPRESSIVE STRENGTH (MPa)	DEFECT SPACING (mm)	SOIL DESCRIPTION	
																		ROCK DESCRIPTION	
	NONE ENCOUNTERED		100	WS-60mmØ	N/A	*0.8-0.9m Asb+Chem ●			1		GW	M	NR					ASPHALT.	
			60mmØ								GM	M	NR					Sandy fine to coarse GRAVEL, grey. Moist, well graded. Gravel is angular. Sand is fine to coarse.	
									2									Silty, sandy fine to coarse GRAVEL, grey with red flecks. Moist, well graded. Gravel is angular. Sand is fine to coarse. Some concrete and brick fragments.	
									3									End of borehole at 1.4mbgl (refusal)	
									4										
									5										
									6										

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# BOREHOLE LOG

BOREHOLE No: BH7

Hole Location: Refer to test location plan

SHEET 1 OF 1

PROJECT: GWN MFC CARPARK-WS-TT      LOCATION: Michael Fowler Centre Carpark      JOB No: 1001014.0010

CO-ORDINATES:      DRILL TYPE: Window Sampler      HOLE STARTED: 10/11/16

R.L.:      DRILL METHOD: Percussion      HOLE FINISHED: 10/11/16

DATUM:      DRILL FLUID: N/A      DRILLED BY: Geotechnics Ltd

GEOLOGICAL      ENGINEERING DESCRIPTION

GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MINERAL COMPOSITION.	FLUID LOSS WATER	CORE RECOVERY (%)	METHOD	CASING	TESTS	SAMPLES	R.L. (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MOISTURE CONDITION	WEATHERING	STRENGTH/DENSITY CLASSIFICATION	SHEAR STRENGTH (kPa)			COMPRESSIVE STRENGTH (MPa)			DEFECT SPACING (mm)	SOIL DESCRIPTION Soil type, minor components, plasticity or particle size, colour.
														0-25	25-50	50-100	0-5	5-10	10-20		

	NONE ENCOUNTERED	100	60mmØ	N/A						GW	M	NR								Sandy fine to coarse GRAVEL, grey. Moist, well graded. Gravel is angular. Sand is fine to coarse.
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	NONE ENCOUNTERED							1												End of borehole at 0.5mbgl (refusal)
								2												
								3												
								4												
								5												
								6												



# BOREHOLE LOG

BOREHOLE No: BH8

Hole Location: Refer to test location plan

SHEET 1 OF 1

PROJECT: GWN MFC CARPARK-WS-TT      LOCATION: Michael Fowler Centre Carpark      JOB No: 1001014.0010

CO-ORDINATES:      DRILL TYPE: Window Sampler      HOLE STARTED: 10/11/16

R.L.:      DRILL METHOD: Percussion      HOLE FINISHED: 10/11/16

DATUM:      DRILL FLUID: N/A      DRILLED BY: Geotechnics Ltd

GEOLOGICAL      ENGINEERING DESCRIPTION

GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MINERAL COMPOSITION.	FLUID LOSS WATER	CORE RECOVERY (%)	METHOD	CASING	TESTS	SAMPLES	R.L. (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MOISTURE CONDITION	WEATHERING	STRENGTH/DENSITY CLASSIFICATION	SHEAR STRENGTH (kPa)			COMPRESSIVE STRENGTH (MPa)			DEFECT SPACING (mm)	SOIL DESCRIPTION Soil type, minor components, plasticity or particle size, colour.  ROCK DESCRIPTION Substance: Rock type, particle size, colour, minor components. Defects: Type, inclination, thickness, roughness, filling.
														0-20	20-50	50-100	0-5	5-10	10-20		

	NONE ENCOUNTERED	100	WS-60mmØ	N/A						GW	M	NR									Sandy fine to coarse GRAVEL, grey. Moist, well graded. Gravel is angular. Sand is fine to coarse.
--	------------------	-----	----------	-----	--	--	--	--	--	----	---	----	--	--	--	--	--	--	--	--	---

							1														End of borehole at 0.9mbgl (refusal)
							2														
							3														
							4														
							5														
							6														

Appendix D: Laboratory transcripts

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Draft



## ANALYSIS REPORT

<b>Client:</b>	Tonkin & Taylor	<b>Lab No:</b>	1678698	SPv3
<b>Contact:</b>	Louise Murphy C/- Tonkin & Taylor PO Box 13055 Christchurch 8141	<b>Date Received:</b>	11-Nov-2016	
		<b>Date Reported:</b>	28-Nov-2016	
		<b>Quote No:</b>	80842	
		<b>Order No:</b>	1001014	
		<b>Client Reference:</b>	1001014	
		<b>Submitted By:</b>	Louise Murphy	

### Sample Type: Soil

Sample Name:	BH3 0.4-0.6 09-Nov-2016	BH3 0.8-1.1 09-Nov-2016	BH1 0.5-0.7 09-Nov-2016	BH4 0.5-0.7 09-Nov-2016	BH4 1.0-1.65 09-Nov-2016
Lab Number:	1678698.1	1678698.2	1678698.4	1678698.6	1678698.7

#### Individual Tests

Dry Matter	g/100g as rcvd	86	94	84	89	-
TCLP Weight of Sample Taken	g	-	-	-	100	-
TCLP Initial Sample pH	pH Units	-	-	-	9.3	-
TCLP Acid Adjusted Sample pH	pH Units	-	-	-	3.0	-
TCLP Extractant Type*		-	-	-	NaOH/Acetic acid at pH 4.93 +/- 0.05	-
TCLP Extraction Fluid pH	pH Units	-	-	-	5.0	-
TCLP Post Extraction Sample pH	pH Units	-	-	-	6.4	-
Total Recoverable Arsenic	mg/kg dry wt	8 #1	-	-	-	-
Total Recoverable Copper	mg/kg dry wt	79 #2	-	-	-	-
Total Recoverable Mercury	mg/kg dry wt	0.54 #3	-	-	-	-

#### Heavy Metals with Mercury, Screen Level

Total Recoverable Arsenic	mg/kg dry wt	-	43	4	100	-
Total Recoverable Cadmium	mg/kg dry wt	0.20	< 0.10	< 0.10	0.67	-
Total Recoverable Chromium	mg/kg dry wt	16	12	15	16	-
Total Recoverable Copper	mg/kg dry wt	-	40	9	94	-
Total Recoverable Lead	mg/kg dry wt	250	71	28	182	-
Total Recoverable Mercury	mg/kg dry wt	-	0.13	< 0.10	4.4	-
Total Recoverable Nickel	mg/kg dry wt	14	10	9	28	-
Total Recoverable Zinc	mg/kg dry wt	194	74	48	410	-

#### Asbestos in Soil

As Received Weight	g	-	-	-	-	227.7
Dry Weight	g	-	-	-	-	217.4
Asbestos Presence / Absence		-	-	-	-	Asbestos NOT detected.
Description of Asbestos Form		-	-	-	-	-

#### Polycyclic Aromatic Hydrocarbons Screening in Soil

Acenaphthene	mg/kg dry wt	0.11	1.78	< 0.03	< 0.03	-
Acenaphthylene	mg/kg dry wt	0.60	2.5	< 0.03	0.12	-
Anthracene	mg/kg dry wt	1.13	10.1	< 0.03	0.17	-
Benzo[a]anthracene	mg/kg dry wt	5.6	38	< 0.03	0.76	-
Benzo[a]pyrene (BAP)	mg/kg dry wt	5.9	36	< 0.03	0.86	-
Benzo[b]fluoranthene + Benzo[j]fluoranthene	mg/kg dry wt	7.1	39	< 0.03	1.22	-
Benzo[g,h,i]perylene	mg/kg dry wt	3.9	19.4	< 0.03	0.73	-
Benzo[k]fluoranthene	mg/kg dry wt	2.7	17.4	< 0.03	0.45	-
Chrysene	mg/kg dry wt	4.6	31	< 0.03	0.81	-
Dibenzo[a,h]anthracene	mg/kg dry wt	0.79	4.9	< 0.03	0.16	-



Sample Type: Soil						
<b>Sample Name:</b>		BH3 0.4-0.6 09-Nov-2016	BH3 0.8-1.1 09-Nov-2016	BH1 0.5-0.7 09-Nov-2016	BH4 0.5-0.7 09-Nov-2016	BH4 1.0-1.65 09-Nov-2016
<b>Lab Number:</b>		1678698.1	1678698.2	1678698.4	1678698.6	1678698.7
Polycyclic Aromatic Hydrocarbons Screening in Soil						
Fluoranthene	mg/kg dry wt	11.3	69	< 0.03	1.57	-
Fluorene	mg/kg dry wt	0.12	1.53	< 0.03	0.03	-
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	4.1	20	< 0.03	0.71	-
Naphthalene	mg/kg dry wt	< 0.13	0.59	< 0.13	0.30	-
Phenanthrene	mg/kg dry wt	4.7	25	< 0.03	1.03	-
Pyrene	mg/kg dry wt	11.0	66	< 0.03	1.51	-
<b>Sample Name:</b>		BH4 1.9-2.0 09-Nov-2016	BH5 0-0.3 10-Nov-2016	BH5 0.3-0.5 10-Nov-2016	BH5 0.6-0.8 10-Nov-2016	BH5 3.6-3.8 10-Nov-2016
<b>Lab Number:</b>		1678698.8	1678698.9	1678698.10	1678698.11	1678698.14
Individual Tests						
Dry Matter	g/100g as rcvd	88	-	87	85	73
TCLP Weight of Sample Taken	g	97	-	-	-	100
TCLP Initial Sample pH	pH Units	9.5	-	-	-	9.0
TCLP Acid Adjusted Sample pH	pH Units	1.6	-	-	-	1.6
TCLP Extractant Type*		NaOH/Acetic acid at pH 4.93 +/- 0.05	-	-	-	NaOH/Acetic acid at pH 4.93 +/- 0.05
TCLP Extraction Fluid pH	pH Units	5.0	-	-	-	5.0
TCLP Post Extraction Sample pH	pH Units	5.0	-	-	-	5.0
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	9	6	11	4	5
Total Recoverable Cadmium	mg/kg dry wt	0.89	0.40	0.20	< 0.10	0.11
Total Recoverable Chromium	mg/kg dry wt	16	18	18	16	15
Total Recoverable Copper	mg/kg dry wt	27	62	60	11	19
Total Recoverable Lead	mg/kg dry wt	61	310	199	25	320
Total Recoverable Mercury	mg/kg dry wt	0.17	0.33	0.17	< 0.10	0.55
Total Recoverable Nickel	mg/kg dry wt	15	10	17	8	10
Total Recoverable Zinc	mg/kg dry wt	820	181	199	40	350
Polycyclic Aromatic Hydrocarbons Screening in Soil						
Acenaphthene	mg/kg dry wt	< 0.03	-	1.58	0.07	0.08
Acenaphthylene	mg/kg dry wt	0.04	-	10.0	0.54	0.13
Anthracene	mg/kg dry wt	< 0.03	-	10.1	0.48	0.32
Benzo[a]anthracene	mg/kg dry wt	0.08	-	12.8	0.55	0.99
Benzo[a]pyrene (BAP)	mg/kg dry wt	0.15	-	15.1	0.62	1.17
Benzo[b]fluoranthene + Benzo[j]fluoranthene	mg/kg dry wt	0.19	-	16.3	0.67	1.30
Benzo[g,h,i]perylene	mg/kg dry wt	0.12	-	12.8	0.48	0.78
Benzo[k]fluoranthene	mg/kg dry wt	0.07	-	6.7	0.26	0.49
Chrysene	mg/kg dry wt	0.08	-	12.3	0.48	0.90
Dibenzo[a,h]anthracene	mg/kg dry wt	0.03	-	1.9	0.07	0.16
Fluoranthene	mg/kg dry wt	0.05	-	42	2.0	2.3
Fluorene	mg/kg dry wt	< 0.03	-	5.5	0.30	0.11
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	0.13	-	10.9	0.45	0.80
Naphthalene	mg/kg dry wt	< 0.13	-	10.3	0.63	< 0.16
Phenanthrene	mg/kg dry wt	0.04	-	50	2.5	1.24
Pyrene	mg/kg dry wt	0.06	-	44	1.98	2.3
BTEX in VOC Soils by Purge&Trap GC-MS						
Benzene	mg/kg dry wt	-	-	< 0.4	-	-
Toluene	mg/kg dry wt	-	-	< 0.7	-	-
Ethylbenzene	mg/kg dry wt	-	-	< 0.4	-	-
m&p-Xylene	mg/kg dry wt	-	-	< 0.4	-	-
o-Xylene	mg/kg dry wt	-	-	< 0.4	-	-
Halogenated Aliphatics in VOC Soils by Purge&Trap GC-MS						
Bromomethane (Methyl Bromide)	mg/kg dry wt	-	-	< 3	-	-
Carbon tetrachloride	mg/kg dry wt	-	-	< 0.4	-	-
Chloroethane	mg/kg dry wt	-	-	< 1.0	-	-

Sample Type: Soil						
Sample Name:	BH4 1.9-2.0 09-Nov-2016	BH5 0-0.3 10-Nov-2016	BH5 0.3-0.5 10-Nov-2016	BH5 0.6-0.8 10-Nov-2016	BH5 3.6-3.8 10-Nov-2016	
Lab Number:	1678698.8	1678698.9	1678698.10	1678698.11	1678698.14	
Halogenated Aliphatics in VOC Soils by Purge&Trap GC-MS						
Chloromethane	mg/kg dry wt	-	-	< 1.0	-	-
1,2-Dibromo-3-chloropropane	mg/kg dry wt	-	-	< 1.0	-	-
1,2-Dibromoethane (ethylene dibromide, EDB)	mg/kg dry wt	-	-	< 1.0	-	-
Dibromomethane	mg/kg dry wt	-	-	< 1.0	-	-
Dichlorodifluoromethane	mg/kg dry wt	-	-	< 1.0	-	-
1,1-Dichloroethane	mg/kg dry wt	-	-	< 0.4	-	-
1,2-Dichloroethane	mg/kg dry wt	-	-	< 1.0	-	-
1,1-Dichloroethene	mg/kg dry wt	-	-	< 0.4	-	-
cis-1,2-Dichloroethene	mg/kg dry wt	-	-	< 0.4	-	-
trans-1,2-Dichloroethene	mg/kg dry wt	-	-	< 0.4	-	-
Dichloromethane (methylene chloride)	mg/kg dry wt	-	-	< 10	-	-
1,2-Dichloropropane	mg/kg dry wt	-	-	< 1.0	-	-
1,3-Dichloropropane	mg/kg dry wt	-	-	< 1.0	-	-
1,1-Dichloropropene	mg/kg dry wt	-	-	< 0.4	-	-
cis-1,3-Dichloropropene	mg/kg dry wt	-	-	< 1.0	-	-
trans-1,3-Dichloropropene	mg/kg dry wt	-	-	< 1.0	-	-
Hexachlorobutadiene	mg/kg dry wt	-	-	< 0.4	-	-
1,1,1,2-Tetrachloroethane	mg/kg dry wt	-	-	< 0.4	-	-
1,1,1,2,2-Tetrachloroethane	mg/kg dry wt	-	-	< 1.0	-	-
Tetrachloroethene (tetrachloroethylene)	mg/kg dry wt	-	-	< 1.0	-	-
1,1,1-Trichloroethane	mg/kg dry wt	-	-	< 0.4	-	-
1,1,2-Trichloroethane	mg/kg dry wt	-	-	< 1.0	-	-
Trichloroethene (trichloroethylene)	mg/kg dry wt	-	-	< 0.4	-	-
Trichlorofluoromethane	mg/kg dry wt	-	-	< 0.4	-	-
1,2,3-Trichloropropane	mg/kg dry wt	-	-	< 1.0	-	-
1,1,2-Trichlorotrifluoroethane (Freon 113)	mg/kg dry wt	-	-	< 4	-	-
Vinyl chloride	mg/kg dry wt	-	-	< 1.0	-	-
Haloaromatics in VOC Soils by Purge&Trap GC-MS						
Bromobenzene	mg/kg dry wt	-	-	< 0.4	-	-
Chlorobenzene (monochlorobenzene)	mg/kg dry wt	-	-	< 0.4	-	-
2-Chlorotoluene	mg/kg dry wt	-	-	< 0.4	-	-
4-Chlorotoluene	mg/kg dry wt	-	-	< 0.4	-	-
1,2-Dichlorobenzene	mg/kg dry wt	-	-	< 0.4	-	-
1,3-Dichlorobenzene	mg/kg dry wt	-	-	< 0.4	-	-
1,4-Dichlorobenzene	mg/kg dry wt	-	-	< 0.4	-	-
1,2,3-Trichlorobenzene	mg/kg dry wt	-	-	< 0.4	-	-
1,2,4-Trichlorobenzene	mg/kg dry wt	-	-	< 0.4	-	-
1,3,5-Trichlorobenzene	mg/kg dry wt	-	-	< 0.4	-	-
Monoaromatic Hydrocarbons in VOC Soils by Purge&Trap GC-MS						
n-Butylbenzene	mg/kg dry wt	-	-	< 0.4	-	-
tert-Butylbenzene	mg/kg dry wt	-	-	< 0.4	-	-
Isopropylbenzene (Cumene)	mg/kg dry wt	-	-	< 0.4	-	-
4-Isopropyltoluene (p-Cymene)	mg/kg dry wt	-	-	< 0.4	-	-
n-Propylbenzene	mg/kg dry wt	-	-	< 0.4	-	-
sec-Butylbenzene	mg/kg dry wt	-	-	< 0.4	-	-
Styrene	mg/kg dry wt	-	-	< 0.4	-	-
1,2,4-Trimethylbenzene	mg/kg dry wt	-	-	< 0.4	-	-
1,3,5-Trimethylbenzene	mg/kg dry wt	-	-	< 0.4	-	-
Ketones in VOC Soils by Purge&Trap GC-MS						
Acetone	mg/kg dry wt	-	-	< 32	-	-

Sample Type: Soil						
<b>Sample Name:</b>	BH4 1.9-2.0 09-Nov-2016	BH5 0-0.3 10-Nov-2016	BH5 0.3-0.5 10-Nov-2016	BH5 0.6-0.8 10-Nov-2016	BH5 3.6-3.8 10-Nov-2016	
<b>Lab Number:</b>	1678698.8	1678698.9	1678698.10	1678698.11	1678698.14	
Ketones in VOC Soils by Purge&Trap GC-MS						
2-Butanone (MEK)	mg/kg dry wt	-	-	< 6	-	-
Methyl tert-butylether (MTBE)	mg/kg dry wt	-	-	< 4	-	-
4-Methylpentan-2-one (MIBK)	mg/kg dry wt	-	-	< 10	-	-
Trihalomethanes in VOC Soils by Purge&Trap GC-MS						
Bromodichloromethane	mg/kg dry wt	-	-	< 0.4	-	-
Bromoform (tribromomethane)	mg/kg dry wt	-	-	< 1.0	-	-
Chloroform (Trichloromethane)	mg/kg dry wt	-	-	< 0.4	-	-
Dibromochloromethane	mg/kg dry wt	-	-	< 0.4	-	-
Other VOC in Soils by Purge&Trap GC-MS						
Carbon disulphide	mg/kg dry wt	-	-	< 6	-	-
Naphthalene	mg/kg dry wt	-	-	9.1	-	-
System monitoring Compounds for VOC - % Recovery						
4-Bromofluorobenzene	%	-	-	92	-	-
Toluene-d8	%	-	-	99	-	-
<b>Sample Name:</b>	BH2 0.5-0.7 10-Nov-2016	BH6 0.8-0.9 10-Nov-2016				
<b>Lab Number:</b>	1678698.16	1678698.17				
Individual Tests						
Dry Matter	g/100g as rcvd	88	90	-	-	-
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	7	6	-	-	-
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	< 0.10	-	-	-
Total Recoverable Chromium	mg/kg dry wt	20	15	-	-	-
Total Recoverable Copper	mg/kg dry wt	20	29	-	-	-
Total Recoverable Lead	mg/kg dry wt	39	59	-	-	-
Total Recoverable Mercury	mg/kg dry wt	0.10	0.34	-	-	-
Total Recoverable Nickel	mg/kg dry wt	17	13	-	-	-
Total Recoverable Zinc	mg/kg dry wt	100	77	-	-	-
Polycyclic Aromatic Hydrocarbons Screening in Soil						
Acenaphthene	mg/kg dry wt	< 0.03	0.38	-	-	-
Acenaphthylene	mg/kg dry wt	< 0.03	3.3	-	-	-
Anthracene	mg/kg dry wt	< 0.03	4.3	-	-	-
Benzo[a]anthracene	mg/kg dry wt	0.04	14.4	-	-	-
Benzo[a]pyrene (BAP)	mg/kg dry wt	0.08	16.5	-	-	-
Benzo[b]fluoranthene + Benzo[j]fluoranthene	mg/kg dry wt	0.09	18.2	-	-	-
Benzo[g,h,i]perylene	mg/kg dry wt	0.09	9.3	-	-	-
Benzo[k]fluoranthene	mg/kg dry wt	0.03	7.3	-	-	-
Chrysene	mg/kg dry wt	0.04	12.6	-	-	-
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.03	2.1	-	-	-
Fluoranthene	mg/kg dry wt	0.08	32	-	-	-
Fluorene	mg/kg dry wt	< 0.03	0.91	-	-	-
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	0.09	9.6	-	-	-
Naphthalene	mg/kg dry wt	< 0.13	0.29	-	-	-
Phenanthrene	mg/kg dry wt	0.05	12.5	-	-	-
Pyrene	mg/kg dry wt	0.10	30	-	-	-
Sample Type: Aqueous						
<b>Sample Name:</b>	BH4 0.5-0.7 [TCLP extract]	BH4 1.9-2.0 [TCLP extract]	BH5 3.6-3.8 [TCLP extract]			
<b>Lab Number:</b>	1678698.19	1678698.20	1678698.21			
Individual Tests						
Total Mercury	g/m <sup>3</sup>	< 0.0021	< 0.0021	< 0.0021	-	-
Heavy metals, totals, screen As,Cd,Cr,Cu,Ni,Pb,Zn						
Total Arsenic	g/m <sup>3</sup>	0.120	< 0.021	< 0.021	-	-

Sample Type: Aqueous						
<b>Sample Name:</b>	BH4 0.5-0.7 [TCLP extract]	BH4 1.9-2.0 [TCLP extract]	BH5 3.6-3.8 [TCLP extract]			
<b>Lab Number:</b>	1678698.19	1678698.20	1678698.21			
Heavy metals, totals, screen As,Cd,Cr,Cu,Ni,Pb,Zn						
Total Cadmium	g/m <sup>3</sup>	0.0037	0.0064	< 0.0011	-	-
Total Chromium	g/m <sup>3</sup>	< 0.011	< 0.011	< 0.011	-	-
Total Copper	g/m <sup>3</sup>	0.015	< 0.011	< 0.011	-	-
Total Lead	g/m <sup>3</sup>	0.0065	0.0050	0.133	-	-
Total Nickel	g/m <sup>3</sup>	< 0.011	< 0.011	0.023	-	-
Total Zinc	g/m <sup>3</sup>	0.68	1.86	1.83	-	-

Analyst's Comments	
#1	It should be noted that the replicate analyses performed on this sample as part of our in-house Quality Assurance procedures showed greater variation than would normally be expected. This may reflect the heterogeneity of the sample. Replicate 1: 8 mg/kg, Replicate 2: 26 mg/kg, Replicate 3: 7 mg/kg.
#2	It should be noted that the replicate analyses performed on this sample as part of our in-house Quality Assurance procedures showed greater variation than would normally be expected. This may reflect the heterogeneity of the sample. Replicate 1: 79 mg/kg, Replicate 2: 7200 mg/kg, Replicate 3: 74 mg/kg.
#3	It should be noted that the replicate analyses performed on this sample as part of our in-house Quality Assurance procedures showed greater variation than would normally be expected. This may reflect the heterogeneity of the sample. Replicate 1: 0.54 mg/kg, Replicate 2: 0.27 mg/kg, Replicate 3: 0.21 mg/kg.

## 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 clean 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.

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
Individual Tests			
Dry Matter (Env)	Dried at 103°C for 4-22hr (removes 3-5% more water than air dry) , gravimetry. US EPA 3550. (Free water removed before analysis).	0.10 g/100g as rcvd	1-2, 4, 6, 8, 10-11, 14, 16-17
Total Recoverable Arsenic	Dried sample, sieved as specified (if required). Nitric/Hydrochloric acid digestion, Interference removal by Kinetic Energy Discrimination, ICP-MS, screen level. US EPA 200.2.	2 mg/kg dry wt	1
Total Recoverable Copper	Dried sample, sieved as specified (if required). Nitric/Hydrochloric acid digestion, Interference removal by Kinetic Energy Discrimination, ICP-MS, screen level. US EPA 200.2.	2 mg/kg dry wt	1
Total Recoverable Mercury	Dried sample, sieved as specified (if required). Nitric/Hydrochloric acid digestion, Interference removal by Kinetic Energy Discrimination, ICP-MS, screen level. US EPA 200.2.	0.10 mg/kg dry wt	1
Heavy Metals with Mercury, 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	1-2, 4, 6, 8-11, 14, 16-17
Polycyclic Aromatic Hydrocarbons Screening in Soil	Sonication extraction, Dilution or SPE cleanup (if required), GC-MS SIM analysis (modified US EPA 8270). Tested on as received sample. [KBIs:5786,2805,2695]	0.010 - 0.05 mg/kg dry wt	1-2, 4, 6, 8, 10-11, 14, 16-17
Volatile Organic Compounds Screening in Soil by Purge&Trap	Sonication extraction, Purge & Trap, GC-MS FS analysis. Tested on as received sample [KBIs:31662,28233,2694]	0.10 - 22 mg/kg dry wt	10
TCLP Profile*	Extraction at 30 +/- 2 rpm for 18 +/- 2 hours, (Ratio 1g sample : 20g extraction fluid). US EPA 1311	-	6, 8, 14
Asbestos in Soil			
As Received Weight	Measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch.	0.1 g	7
Dry Weight	Sample dried at 100 to 105°C, measurement on balance. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch.	0.1 g	7
<b>Asbestos Presence / Absence</b>	Examination using Low Powered Stereomicroscopy followed by 'Polarised Light Microscopy' including 'Dispersion Staining Techniques'. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch. AS 4964 (2004) - Method for the Qualitative Identification of Asbestos in Bulk Samples.	-	7

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
Description of Asbestos Form	Description of asbestos form and/or shape if present.	-	7
TCLP Profile			
TCLP Weight of Sample Taken	Gravimetric. US EPA 1311.	0.1 g	6, 8, 14
TCLP Initial Sample pH	pH meter. US EPA 1311.	0.1 pH Units	6, 8, 14
TCLP Acid Adjusted Sample pH	pH meter. US EPA 1311.	0.1 pH Units	6, 8, 14
TCLP Extractant Type*	US EPA 1311.	-	6, 8, 14
TCLP Extraction Fluid pH	pH meter. US EPA 1311.	0.1 pH Units	6, 8, 14
TCLP Post Extraction Sample pH	pH meter. US EPA 1311.	0.1 pH Units	6, 8, 14

Sample Type: Aqueous			
Test	Method Description	Default Detection Limit	Sample No
Individual Tests			
Total Digestion with HCl	Nitric/hydrochloric acid digestion. APHA 3030 E 22 <sup>nd</sup> ed. 2012 (modified).	-	19-21
Total Digestion of Extracted Samples*	Nitric acid digestion. APHA 3030 E 22 <sup>nd</sup> ed. 2012 (modified).	-	19-21
Total Mercury	Acid digestion, ICP-MS, screen level. APHA 3125 B 22 <sup>nd</sup> ed. 2012.	0.0021 g/m <sup>3</sup>	19-21
Heavy metals, totals, screen As,Cd,Cr,Cu,Ni,Pb,Zn	Nitric acid digestion, ICP-MS, screen level. APHA 3125 B 22 <sup>nd</sup> ed. 2012.	0.0011 - 0.021 g/m <sup>3</sup>	19-21

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

Samples are held at the laboratory after reporting for a length of time depending on the preservation used and the stability of the analytes being tested. Once the storage period is completed the samples are discarded unless otherwise advised by the client.

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



## ANALYSIS REPORT

<b>Client:</b> Tonkin & Taylor	<b>Lab No:</b> 1679341	A2Pv1
<b>Contact:</b> Louise Murphy	<b>Date Received:</b> 12-Nov-2016	
C/- Tonkin & Taylor	<b>Date Reported:</b> 18-Nov-2016	
PO Box 13055	<b>Quote No:</b> 80842	
Christchurch 8141	<b>Order No:</b> 1001014	
	<b>Client Reference:</b> 1001014	
	<b>Submitted By:</b> Louise Murphy	

### Sample Type: Soil

Sample Name	Lab Number	As Received Weight	Dry Weight	<2mm Subsample Weight	Asbestos Presence / Absence	Description of Asbestos Form
BH3 0.4-0.6	1679341.1	198.1	180.4	60.0	Chrysotile (White Asbestos) detected.	Loose Fibres
BH3 0.8-1.1	1679341.2	248.6	234.8	61.1	Asbestos NOT detected.	-
BH1 0.5-0.7m	1679341.3	155.2	142.7	26.8	Asbestos NOT detected.	-
BH4 0.5-0.7m	1679341.4	88.4	78.8	32.8	Chrysotile (White Asbestos) detected.	ACM Debris and Loose Fibres
BH5 0.3-0.5	1679341.7	128.1	111.8	43.6	Chrysotile (White Asbestos) detected.	Loose Fibres
BH5 0.6-0.8	1679341.8	148.1	131.2	43.5	Asbestos NOT detected.	-
BH5 1.5-1.7	1679341.9	159.4	145.4	55.5	Asbestos NOT detected.	-
BH2 0.5-0.7m	1679341.12	165.9	156.8	24.5	Asbestos NOT detected.	-
BH6 0.8-0.9	1679341.13	126.2	113.3	32.3	Chrysotile (White Asbestos) detected.	Loose Fibres

## 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 clean 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.

### Sample Type: Soil

Test	Method Description	Default Detection Limit	Sample No
Asbestos in Soil			
As Received Weight	Measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch.	0.1 g	1-4, 7-9, 12-13
Dry Weight	Sample dried at 100 to 105°C, measurement on balance. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch.	0.1 g	1-4, 7-9, 12-13
<2mm Subsample Weight	Sample ashed at 400°C, weight of <2mm sample fraction taken for asbestos identification. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch.	0.1 g ashed wt	1-4, 7-9, 12-13
<b>Asbestos Presence / Absence</b>	Examination using Low Powered Stereomicroscopy followed by 'Polarised Light Microscopy' including 'Dispersion Staining Techniques'. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch. AS 4964 (2004) - Method for the Qualitative Identification of Asbestos in Bulk Samples.	-	1-4, 7-9, 12-13
Description of Asbestos Form	Description of asbestos form and/or shape if present.	-	1-4, 7-9, 12-13



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

Samples are held at the laboratory after reporting for a length of time depending on the preservation used and the stability of the analytes being tested. Once the storage period is completed the samples are discarded unless otherwise advised by the client.

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Rhodri Williams BSc (Hons)  
Asbestos Section Manager



## Appendix E: Historical Review Information

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- Certificates of title
- Historic aerial photographs
- Client provided information
- Property files
- Alexander Turnbell library

Draft



**COMPUTER FREEHOLD REGISTER  
UNDER LAND TRANSFER ACT 1952**



**Historical Search Copy**

  
R. W. Muir  
Registrar-General  
of Land

**Identifier** WN3/224  
**Land Registration District** Wellington  
**Date Issued** 01 January 1870

**Cancelled**

---

**Interests**

Refer to paper image for prior memorials.

9281348.1 Certificate under Section 43(1)(d) Government Roading Powers Act 1989 certifying that Section 1 SO 457659 has been laid out and constructed as road - 4.1.2013 at 7:00 am

CANCELLED

Victoria, by the Grace of God, of the United Kingdom of Great Britain and Ireland Queen

It all to whom these presents shall come Greeting

Know Ye that for good considerations in thereunto moving We for us our heirs and successors do hereby grant unto The Mayor Councillors and Citizens of the City of Wellington That parcel of land in the province of Wellington in our Colony of New Zealand containing by admeasurement seventy (70) acres more or less situate in the Harbor of Port Victoria and being the Reserve marked K on the plan of the City of Wellington bounded towards the North-east by land included in a Com. Grant to His Honor the Superintendent of Wellington dated June twentieth one thousand eight hundred and six by two one hundred and sixty (160) links and by other parts of the said harbor of Port Victoria one thousand two hundred and two (1202) links one thousand two hundred and two (1212) links and one thousand two hundred and two (1202) links towards the East by other part of said harbor nine hundred and seven (907) links towards the South-east by Clyde Quay nine hundred and forty one (941) links and by sections Nos 222, 223, 224 and 225 eight hundred and sixteen (816) links towards the South-west by sections Nos 218, 219, 220 and 221 eight hundred (800) links by sections Nos 212, 213, 214, 215, 216 and 217 and by Reserve No 4 one thousand four hundred and thirty five (1435) links by sections Nos 208, 209, 210 and 211 eight hundred and fifty four (854) links and by sections Nos 205, 206 and 207 five hundred and fifty (550) links and towards the North-west by land reclaimed by Sir George Grey six hundred and thirty six (636) links by said land granted to His Honor the Superintendent of Wellington one thousand eight hundred and seventy three (1873) links and by other part of the said harbor five hundred and thirty two (532) links for the same as delineated on the plan drawn in the margin hereof with all the rights and appurtenances thereto belonging To hold unto the said Mayor Councillors and Citizens of the City of Wellington In Trust for occupation and purposes of public utility In testimony whereof we have caused this our Grant to be sealed with the seal of our Colony of New Zealand.

Witness our trusty and Well-beloved Sir James Ferguson Baronet a member of His most Honorable Privy Council Governor and Commander in Chief of the Colony of New Zealand at Wellington this 14th day of June in the 18th year of our reign our Lord one thousand eight hundred and seventy four

No 3344  
Reg. 14/19

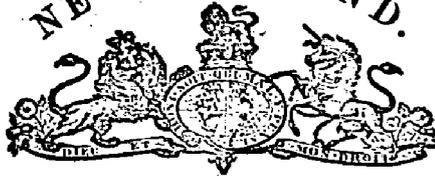
James Ferguson

CONTINUED

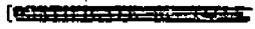
on pages 2 To 18

3/224 (13) 3/224

NEW ZEALAND.



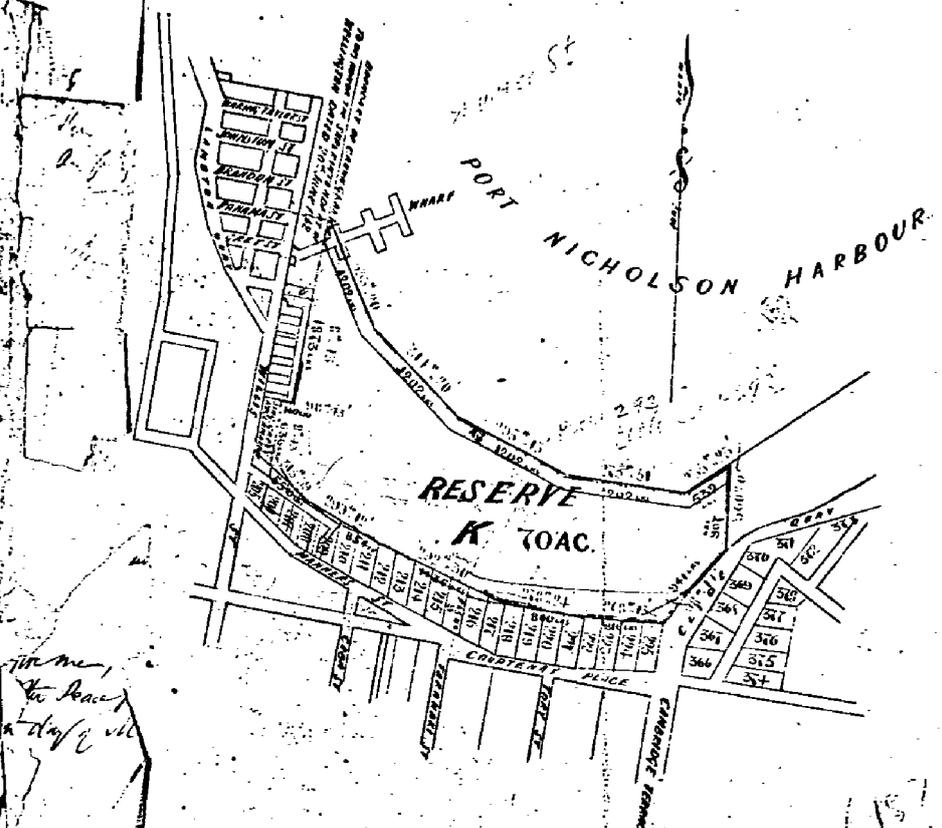
(C)



Register-Book,

Book      Page

Grant No. 3866.  
Under The Public Reserves Act 1854.



*Handwritten note:* The map to be placed in the office of the Registrar-General.

Scale, 10 Chains to One Inch

Surveyed by G. B. Bruce  
Henry Weston  
Chief Surveyor

CONTINUED on page 4518

3/66

224.

3/224 (Pv)

Dated 24 June 1874.

70 A. O. R. O. P.

Registration District of Wellington.

### Grant

The Mayor, Councillors  
and Citizens of Wellington

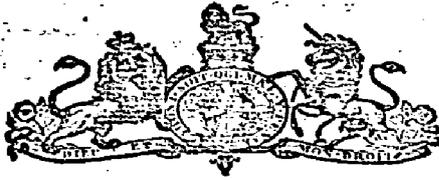
Enacted in Reg. No. 2. Vol. 182.

*J. G. H. H. H.*  
Commissioner of Crown Lands

**CONTINUED**

on page 3 To B





Case 1421 produced 7<sup>th</sup> June 1890 at 10.30 am The within named Corporation to John Ross and Robert Glandinning of lot 1 plan 172. Term 21 years from 18<sup>th</sup> February 1890.

Transfer 16527 produced 1<sup>st</sup> July 1890 at 12.30 pm The within named Corporation to James Hanson of part lot 36 plan 594.

Transfer 16735 produced 20<sup>th</sup> June 1890 at 12.30 pm The within named Corporation to Thomas...

Transfer 16842 Produced 4<sup>th</sup> September 1890 at 11 am The within named Corporation Alexander Sample of part of lot 20 plan 592.

Transfer 17018 Produced 23<sup>rd</sup> May 1891 at 11.15 am The within named Corporation...

Transfer 18114 Produced 4<sup>th</sup> July 1891 at 11.10. a.m. Mayor Coker, Aldermen and Citizens of the City of Wellington...

Mortgage 12786 Produced 24<sup>th</sup> July 1891 at 11.45 a.m. Manukau and...

Case 1732 Produced 16 October 1891 at 2 P.M. The within named Corporation to Robert Glandinning Lot 9 Plan 505. Term 21 years from 15<sup>th</sup> December 1890.

Case 1796 produced 25<sup>th</sup> March 1892 at 2.25 pm The within Corporation to John Ross and Robert Glandinning of lot 7 Block II plan 540. Term 21 years from 18<sup>th</sup> May 1891.

Case 1818 produced 2<sup>nd</sup> May 1892 at 3 pm The within Corporation to John Guthrie Wood, William Allan, Callie Arthur Holy, Sidney George Martin Thomas, William Henry and James Keith of lot 9 Block 5 plan 42 years from 1<sup>st</sup> January 1892.

Transfer 19624 produced 10<sup>th</sup> May 1892 at 3 pm The within Corporation to William Spicer of lot 4 and 44 plan 394.

Case 1776 The within Corporation to The Trustees of the Wellington Working Men's Club and Literary Institute of lot 5 plan 47.

Mortgage 14811 Produced 2<sup>nd</sup> October 1892 at 11.30 am The Trustees of the Wellington Working Men's Club and Literary Institute of lot 5 plan 47.

Mortgage 14869 Produced 12<sup>th</sup> January 1893 at 3 pm The Trustees of the Wellington Working Men's Club and Literary Institute of lot 5 plan 47.

Case 2049 Produced 15<sup>th</sup> March 1893 at 11.30 am The within Corporation to Starland and Company Limited of lot 9 plan 500. Term 21 years from 23<sup>rd</sup> February 1893.

Discharge of Mortgage 14869 Produced 28<sup>th</sup> March 1893 at 3 pm

Case 2047 Produced 14<sup>th</sup> March 1893 at 2.30 pm The within Corporation to The Wellington Harbor Board of part of public lands. Term 21 years from 8<sup>th</sup> October 1892.

Mortgage 15795 Produced 11<sup>th</sup> April 1893 at 1 pm The Trustees of the Wellington Working Men's Club and Literary Institute of lot 5 plan 47.

Mortgage 15714 Produced 23<sup>rd</sup> May 1893 at 2.30 pm Starland and Company Limited of the Colonial Mutual Life Assurance Society Limited of lot 9 plan 500.

Case 2159 Produced 2<sup>nd</sup> August 1893 at 11.20 am The within Corporation to William Arthur Bruce George Bruce and Alexander MacNeil of lot 5, 6 and 8 plan 510. Term 21 years from 15<sup>th</sup> May 1893.

Discharge of Mortgage 12786 Produced 17<sup>th</sup> August 1893 at 12.4 pm

Transfer of Lot 1041 Produced 17<sup>th</sup> August 1893 at 10 pm David Ross Lewis to John Manntan name named.

Mortgage 15836 Produced 17<sup>th</sup> August 1893 at 10 pm Manntan to David Ross Lewis.

CONTINUED

DISCHARGED

DISCHARGED

DISCHARGED

DISCHARGED

DISCHARGED

224.  
Case 2191 Produced 10<sup>th</sup> of October 1894 at 11.50 pm  
the above Corporation to Frederick Townsend  
and James Paul of lot 1 Block II plan 572  
and lot 6 Block III plan 572. Term 21 years  
from 1<sup>st</sup> August 1873. Right of renewal.

1/224 (P6)

Case 2192 Produced 10<sup>th</sup> of October 1894 at 11.50 pm  
the above Corporation to Frederick Townsend  
and James Paul of lot 1 Block II plan 572  
and lot 6 Block III plan 572. Term 21 years  
from 1<sup>st</sup> August 1873. Right of renewal.

Case 2193 Produced 10<sup>th</sup> of October 1894 at 11.50 pm  
the above Corporation to Frederick Townsend  
and James Paul of lot 1 Block II plan 572  
and lot 6 Block III plan 572. Term 21 years  
from 1<sup>st</sup> August 1873. Right of renewal.

DISCHARGED

Case 2194 Produced 10<sup>th</sup> of October 1894 at 11.50 pm  
the above Corporation to Frederick Townsend  
and James Paul of lot 1 Block II plan 572  
and lot 6 Block III plan 572. Term 21 years  
from 1<sup>st</sup> August 1873. Right of renewal.

DISCHARGED

Case 2195 Produced 10<sup>th</sup> of October 1894 at 11.50 pm  
the above Corporation to Frederick Townsend  
and James Paul of lot 1 Block II plan 572  
and lot 6 Block III plan 572. Term 21 years  
from 1<sup>st</sup> August 1873. Right of renewal.

Case 2196 Produced 10<sup>th</sup> of October 1894 at 11.50 pm  
the above Corporation to Frederick Townsend  
and James Paul of lot 1 Block II plan 572  
and lot 6 Block III plan 572. Term 21 years  
from 1<sup>st</sup> August 1873. Right of renewal.

Case 2197 Produced 10<sup>th</sup> of October 1894 at 11.50 pm  
the above Corporation to Frederick Townsend  
and James Paul of lot 1 Block II plan 572  
and lot 6 Block III plan 572. Term 21 years  
from 1<sup>st</sup> August 1873. Right of renewal.

DISCHARGED

Case 2198 Produced 10<sup>th</sup> of October 1894 at 11.50 pm  
the above Corporation to Frederick Townsend  
and James Paul of lot 1 Block II plan 572  
and lot 6 Block III plan 572. Term 21 years  
from 1<sup>st</sup> August 1873. Right of renewal.

DISCHARGED

Case 2199 Produced 10<sup>th</sup> of October 1894 at 11.50 pm  
the above Corporation to Frederick Townsend  
and James Paul of lot 1 Block II plan 572  
and lot 6 Block III plan 572. Term 21 years  
from 1<sup>st</sup> August 1873. Right of renewal.

DISCHARGED

DISCHARGED

Case 2200 Produced 10<sup>th</sup> of October 1894 at 11.50 pm  
the above Corporation to Frederick Townsend  
and James Paul of lot 1 Block II plan 572  
and lot 6 Block III plan 572. Term 21 years  
from 1<sup>st</sup> August 1873. Right of renewal.

Case 2201 Produced 10<sup>th</sup> of October 1894 at 11.50 pm  
the above Corporation to Frederick Townsend  
and James Paul of lot 1 Block II plan 572  
and lot 6 Block III plan 572. Term 21 years  
from 1<sup>st</sup> August 1873. Right of renewal.

DISCHARGED

DISCHARGED

Case 2202 Produced 10<sup>th</sup> of October 1894 at 11.50 pm  
the above Corporation to Frederick Townsend  
and James Paul of lot 1 Block II plan 572  
and lot 6 Block III plan 572. Term 21 years  
from 1<sup>st</sup> August 1873. Right of renewal.

Case 2203 Produced 10<sup>th</sup> of October 1894 at 11.50 pm  
the above Corporation to Frederick Townsend  
and James Paul of lot 1 Block II plan 572  
and lot 6 Block III plan 572. Term 21 years  
from 1<sup>st</sup> August 1873. Right of renewal.

Case 2204 Produced 10<sup>th</sup> of October 1894 at 11.50 pm  
the above Corporation to Frederick Townsend  
and James Paul of lot 1 Block II plan 572  
and lot 6 Block III plan 572. Term 21 years  
from 1<sup>st</sup> August 1873. Right of renewal.

CONTINUED

DISCHARGED

DISCHARGED

NEW ZEALAND.

3/224(5)



(CERTIFICATE OF TITLE.)

Register Book,

Vol. 3 Folio 224

DISCHARGED

Lease 2761 produced 23<sup>rd</sup> January 1896 at 11.00 am the within Corporation to George Winder of part Lot 16 and 5 plan 585 21/10/95 from 11/10/95 Wm. Bullman

Lease 2782 produced 11<sup>th</sup> February 1896 at 11.00 am the within Corporation to the Wellington Manufacturing Company Limited of Lot 15 Block III plan 578 Wm. Bullman

Mortgage 21247 produced 29<sup>th</sup> May 1896 at 11.55 am George Winder to the Wellington Trust Loan and Investment Company Limited of Lease 2764 21/10/95 Wm. Bullman D.L.R.

Lease 2875 produced 27<sup>th</sup> May 1896 at 11.55 am the within Corporation to Joseph Byers, John Byers, John Byers and Philip Byers of Lot 53 and parts 3 and 4 of plan 585 21/10/95 from 1-6 Wm. Bullman

Transfer of Lease 1732 produced 6<sup>th</sup> June 1896 at 11.55 am Bendis Hallenstein to Kempthorne Prosser and Company's New Zealand Drug Company Limited Wm. Bullman D.L.R.

Grant of Easement produced 8<sup>th</sup> June 1896 at 3 pm Bendis Hallenstein to Kempthorne Prosser and Company's New Zealand Drug Company Limited over part land in Lease 2588 and Kempthorne Prosser and Company's New Zealand Drug Company Limited to Bendis Hallenstein over part land in Lease 1732 2/2/96 Wm. Bullman

Lease 2961 produced 18<sup>th</sup> August 1896 at 11.55 am the within Corporation to George Winder of part Lot 4 plan 585 21/10/95 from Wm. Bullman

Mortgage 22061 produced 12<sup>th</sup> September 1896 at 11.55 am George Winder to the Wellington Trust Loan and Investment Company Limited of Leases 2764, 2761, 2762, 2763, 2764, 2765, 2766, 2767, 2768, 2769, 2770, 2771, 2772, 2773, 2774, 2775, 2776, 2777, 2778, 2779, 2780, 2781, 2782, 2783, 2784, 2785, 2786, 2787, 2788, 2789, 2790, 2791, 2792, 2793, 2794, 2795, 2796, 2797, 2798, 2799, 2800, 2801, 2802, 2803, 2804, 2805, 2806, 2807, 2808, 2809, 2810, 2811, 2812, 2813, 2814, 2815, 2816, 2817, 2818, 2819, 2820, 2821, 2822, 2823, 2824, 2825, 2826, 2827, 2828, 2829, 2830, 2831, 2832, 2833, 2834, 2835, 2836, 2837, 2838, 2839, 2840, 2841, 2842, 2843, 2844, 2845, 2846, 2847, 2848, 2849, 2850, 2851, 2852, 2853, 2854, 2855, 2856, 2857, 2858, 2859, 2860, 2861, 2862, 2863, 2864, 2865, 2866, 2867, 2868, 2869, 2870, 2871, 2872, 2873, 2874, 2875, 2876, 2877, 2878, 2879, 2880, 2881, 2882, 2883, 2884, 2885, 2886, 2887, 2888, 2889, 2890, 2891, 2892, 2893, 2894, 2895, 2896, 2897, 2898, 2899, 2900, 2901, 2902, 2903, 2904, 2905, 2906, 2907, 2908, 2909, 2910, 2911, 2912, 2913, 2914, 2915, 2916, 2917, 2918, 2919, 2920, 2921, 2922, 2923, 2924, 2925, 2926, 2927, 2928, 2929, 2930, 2931, 2932, 2933, 2934, 2935, 2936, 2937, 2938, 2939, 2940, 2941, 2942, 2943, 2944, 2945, 2946, 2947, 2948, 2949, 2950, 2951, 2952, 2953, 2954, 2955, 2956, 2957, 2958, 2959, 2960, 2961, 2962, 2963, 2964, 2965, 2966, 2967, 2968, 2969, 2970, 2971, 2972, 2973, 2974, 2975, 2976, 2977, 2978, 2979, 2980, 2981, 2982, 2983, 2984, 2985, 2986, 2987, 2988, 2989, 2990, 2991, 2992, 2993, 2994, 2995, 2996, 2997, 2998, 2999, 3000, 3001, 3002, 3003, 3004, 3005, 3006, 3007, 3008, 3009, 3010, 3011, 3012, 3013, 3014, 3015, 3016, 3017, 3018, 3019, 3020, 3021, 3022, 3023, 3024, 3025, 3026, 3027, 3028, 3029, 3030, 3031, 3032, 3033, 3034, 3035, 3036, 3037, 3038, 3039, 3040, 3041, 3042, 3043, 3044, 3045, 3046, 3047, 3048, 3049, 3050, 3051, 3052, 3053, 3054, 3055, 3056, 3057, 3058, 3059, 3060, 3061, 3062, 3063, 3064, 3065, 3066, 3067, 3068, 3069, 3070, 3071, 3072, 3073, 3074, 3075, 3076, 3077, 3078, 3079, 3080, 3081, 3082, 3083, 3084, 3085, 3086, 3087, 3088, 3089, 3090, 3091, 3092, 3093, 3094, 3095, 3096, 3097, 3098, 3099, 3100, 3101, 3102, 3103, 3104, 3105, 3106, 3107, 3108, 3109, 3110, 3111, 3112, 3113, 3114, 3115, 3116, 3117, 3118, 3119, 3120, 3121, 3122, 3123, 3124, 3125, 3126, 3127, 3128, 3129, 3130, 3131, 3132, 3133, 3134, 3135, 3136, 3137, 3138, 3139, 3140, 3141, 3142, 3143, 3144, 3145, 3146, 3147, 3148, 3149, 3150, 3151, 3152, 3153, 3154, 3155, 3156, 3157, 3158, 3159, 3160, 3161, 3162, 3163, 3164, 3165, 3166, 3167, 3168, 3169, 3170, 3171, 3172, 3173, 3174, 3175, 3176, 3177, 3178, 3179, 3180, 3181, 3182, 3183, 3184, 3185, 3186, 3187, 3188, 3189, 3190, 3191, 3192, 3193, 3194, 3195, 3196, 3197, 3198, 3199, 3200, 3201, 3202, 3203, 3204, 3205, 3206, 3207, 3208, 3209, 3210, 3211, 3212, 3213, 3214, 3215, 3216, 3217, 3218, 3219, 3220, 3221, 3222, 3223, 3224, 3225, 3226, 3227, 3228, 3229, 3230, 3231, 3232, 3233, 3234, 3235, 3236, 3237, 3238, 3239, 3240, 3241, 3242, 3243, 3244, 3245, 3246, 3247, 3248, 3249, 3250, 3251, 3252, 3253, 3254, 3255, 3256, 3257, 3258, 3259, 3260, 3261, 3262, 3263, 3264, 3265, 3266, 3267, 3268, 3269, 3270, 3271, 3272, 3273, 3274, 3275, 3276, 3277, 3278, 3279, 3280, 3281, 3282, 3283, 3284, 3285, 3286, 3287, 3288, 3289, 3290, 3291, 3292, 3293, 3294, 3295, 3296, 3297, 3298, 3299, 3300, 3301, 3302, 3303, 3304, 3305, 3306, 3307, 3308, 3309, 3310, 3311, 3312, 3313, 3314, 3315, 3316, 3317, 3318, 3319, 3320, 3321, 3322, 3323, 3324, 3325, 3326, 3327, 3328, 3329, 3330, 3331, 3332, 3333, 3334, 3335, 3336, 3337, 3338, 3339, 3340, 3341, 3342, 3343, 3344, 3345, 3346, 3347, 3348, 3349, 3350, 3351, 3352, 3353, 3354, 3355, 3356, 3357, 3358, 3359, 3360, 3361, 3362, 3363, 3364, 3365, 3366, 3367, 3368, 3369, 3370, 3371, 3372, 3373, 3374, 3375, 3376, 3377, 3378, 3379, 3380, 3381, 3382, 3383, 3384, 3385, 3386, 3387, 3388, 3389, 3390, 3391, 3392, 3393, 3394, 3395, 3396, 3397, 3398, 3399, 3400, 3401, 3402, 3403, 3404, 3405, 3406, 3407, 3408, 3409, 3410, 3411, 3412, 3413, 3414, 3415, 3416, 3417, 3418, 3419, 3420, 3421, 3422, 3423, 3424, 3425, 3426, 3427, 3428, 3429, 3430, 3431, 3432, 3433, 3434, 3435, 3436, 3437, 3438, 3439, 3440, 3441, 3442, 3443, 3444, 3445, 3446, 3447, 3448, 3449, 3450, 3451, 3452, 3453, 3454, 3455, 3456, 3457, 3458, 3459, 3460, 3461, 3462, 3463, 3464, 3465, 3466, 3467, 3468, 3469, 3470, 3471, 3472, 3473, 3474, 3475, 3476, 3477, 3478, 3479, 3480, 3481, 3482, 3483, 3484, 3485, 3486, 3487, 3488, 3489, 3490, 3491, 3492, 3493, 3494, 3495, 3496, 3497, 3498, 3499, 3500, 3501, 3502, 3503, 3504, 3505, 3506, 3507, 3508, 3509, 3510, 3511, 3512, 3513, 3514, 3515, 3516, 3517, 3518, 3519, 3520, 3521, 3522, 3523, 3524, 3525, 3526, 3527, 3528, 3529, 3530, 3531, 3532, 3533, 3534, 3535, 3536, 3537, 3538, 3539, 3540, 3541, 3542, 3543, 3544, 3545, 3546, 3547, 3548, 3549, 3550, 3551, 3552, 3553, 3554, 3555, 3556, 3557, 3558, 3559, 3560, 3561, 3562, 3563, 3564, 3565, 3566, 3567, 3568, 3569, 3570, 3571, 3572, 3573, 3574, 3575, 3576, 3577, 3578, 3579, 3580, 3581, 3582, 3583, 3584, 3585, 3586, 3587, 3588, 3589, 3590, 3591, 3592, 3593, 3594, 3595, 3596, 3597, 3598, 3599, 3600, 3601, 3602, 3603, 3604, 3605, 3606, 3607, 3608, 3609, 3610, 3611, 3612, 3613, 3614, 3615, 3616, 3617, 3618, 3619, 3620, 3621, 3622, 3623, 3624, 3625, 3626, 3627, 3628, 3629, 3630, 3631, 3632, 3633, 3634, 3635, 3636, 3637, 3638, 3639, 3640, 3641, 3642, 3643, 3644, 3645, 3646, 3647, 3648, 3649, 3650, 3651, 3652, 3653, 3654, 3655, 3656, 3657, 3658, 3659, 3660, 3661, 3662, 3663, 3664, 3665, 3666, 3667, 3668, 3669, 3670, 3671, 3672, 3673, 3674, 3675, 3676, 3677, 3678, 3679, 3680, 3681, 3682, 3683, 3684, 3685, 3686, 3687, 3688, 3689, 3690, 3691, 3692, 3693, 3694, 3695, 3696, 3697, 3698, 3699, 3700, 3701, 3702, 3703, 3704, 3705, 3706, 3707, 3708, 3709, 3710, 3711, 3712, 3713, 3714, 3715, 3716, 3717, 3718, 3719, 3720, 3721, 3722, 3723, 3724, 3725, 3726, 3727, 3728, 3729, 3730, 3731, 3732, 3733, 3734, 3735, 3736, 3737, 3738, 3739, 3740, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3748, 3749, 3750, 3751, 3752, 3753, 3754, 3755, 3756, 3757, 3758, 3759, 3760, 3761, 3762, 3763, 3764, 3765, 3766, 3767, 3768, 3769, 3770, 3771, 3772, 3773, 3774, 3775, 3776, 3777, 3778, 3779, 3780, 3781, 3782, 3783, 3784, 3785, 3786, 3787, 3788, 3789, 3790, 3791, 3792, 3793, 3794, 3795, 3796, 3797, 3798, 3799, 3800, 3801, 3802, 3803, 3804, 3805, 3806, 3807, 3808, 3809, 3810, 3811, 3812, 3813, 3814, 3815, 3816, 3817, 3818, 3819, 3820, 3821, 3822, 3823, 3824, 3825, 3826, 3827, 3828, 3829, 3830, 3831, 3832, 3833, 3834, 3835, 3836, 3837, 3838, 3839, 3840, 3841, 3842, 3843, 3844, 3845, 3846, 3847, 3848, 3849, 3850, 3851, 3852, 3853, 3854, 3855, 3856, 3857, 3858, 3859, 3860, 3861, 3862, 3863, 3864, 3865, 3866, 3867, 3868, 3869, 3870, 3871, 3872, 3873, 3874, 3875, 3876, 3877, 3878, 3879, 3880, 3881, 3882, 3883, 3884, 3885, 3886, 3887, 3888, 3889, 3890, 3891, 3892, 3893, 3894, 3895, 3896, 3897, 3898, 3899, 3900, 3901, 3902, 3903, 3904, 3905, 3906, 3907, 3908, 3909, 3910, 3911, 3912, 3913, 3914, 3915, 3916, 3917, 3918, 3919, 3920, 3921, 3922, 3923, 3924, 3925, 3926, 3927, 3928, 3929, 3930, 3931, 3932, 3933, 3934, 3935, 3936, 3937, 3938, 3939, 3940, 3941, 3942, 3943, 3944, 3945, 3946, 3947, 3948, 3949, 3950, 3951, 3952, 3953, 3954, 3955, 3956, 3957, 3958, 3959, 3960, 3961, 3962, 3963, 3964, 3965, 3966, 3967, 3968, 3969, 3970, 3971, 3972, 3973, 3974, 3975, 3976, 3977, 3978, 3979, 3980, 3981, 3982, 3983, 3984, 3985, 3986, 3987, 3988, 3989, 3990, 3991, 3992, 3993, 3994, 3995, 3996, 3997, 3998, 3999, 4000, 4001, 4002, 4003, 4004, 4005, 4006, 4007, 4008, 4009, 4010, 4011, 4012, 4013, 4014, 4015, 4016, 4017, 4018, 4019, 4020, 4021, 4022, 4023, 4024, 4025, 4026, 4027, 4028, 4029, 4030, 4031, 4032, 4033, 4034, 4035, 4036, 4037, 4038, 4039, 4040, 4041, 4042, 4043, 4044, 4045, 4046, 4047, 4048, 4049, 4050, 4051, 4052, 4053, 4054, 4055, 4056, 4057, 4058, 4059, 4060, 4061, 4062, 4063, 4064, 4065, 4066, 4067, 4068, 4069, 4070, 4071, 4072, 4073, 4074, 4075, 4076, 4077, 4078, 4079, 4080, 4081, 4082, 4083, 4084, 4085, 4086, 4087, 4088, 4089, 4090, 4091, 4092, 4093, 4094, 4095, 4096, 4097, 4098, 4099, 4100, 4101, 4102, 4103, 4104, 4105, 4106, 4107, 4108, 4109, 4110, 4111, 4112, 4113, 4114, 4115, 4116, 4117, 4118, 4119, 4120, 4121, 4122, 4123, 4124, 4125, 4126, 4127, 4128, 4129, 4130, 4131, 4132, 4133, 4134, 4135, 4136, 4137, 4138, 4139, 4140, 4141, 4142, 4143, 4144, 4145, 4146, 4147, 4148, 4149, 4150, 4151, 4152, 4153, 4154, 4155, 4156, 4157, 4158, 4159, 4160, 4161, 4162, 4163, 4164, 4165, 4166, 4167, 4168, 4169, 4170, 4171, 4172, 4173, 4174, 4175, 4176, 4177, 4178, 4179, 4180, 4181, 4182, 4183, 4184, 4185, 4186, 4187, 4188, 4189, 4190, 4191, 4192, 4193, 4194, 4195, 4196, 4197, 4198, 4199, 4200, 4201, 4202, 4203, 4204, 4205, 4206, 4207, 4208, 4209, 4210, 4211, 4212, 4213, 4214, 4215, 4216, 4217, 4218, 4219, 4220, 4221, 4222, 4223, 4224, 4225, 4226, 4227, 4228, 4229, 4230, 4231, 4232, 4233, 4234, 4235, 4236, 4237, 4238, 4239, 4240, 4241, 4242, 4243, 4244, 4245, 4246, 4247, 4248, 4249, 4250, 4251, 4252, 4253, 4254, 4255, 4256, 4257, 4258, 4259, 4260, 4261, 4262, 4263, 4264, 4265, 4266, 4267, 4268, 4269, 4270, 4271, 4272, 4273, 4274, 4275, 4276, 4277, 4278, 4279, 4280, 4281, 4282, 4283, 4284, 4285, 4286, 4287, 4288, 4289, 4290, 4291, 4292, 4293, 4294, 4295, 4296, 4297, 4298, 4299, 4300, 4301, 4302, 4303, 4304, 4305, 4306, 4307, 4308, 4309, 4310, 4311, 4312, 4313, 4314, 4315, 4316, 4317, 4318, 4319, 4320, 4321, 4322, 4323, 4324, 4325, 4326, 4327, 4328, 4329, 4330, 4331, 4332, 4333, 4334, 4335, 4336, 4337, 4338, 4339, 4340, 4341, 4342, 4343, 4344, 4345, 4346, 4347, 4348, 4349, 4350, 4351, 4352, 4353, 4354, 4355, 4356, 4357, 4358, 4359, 4360, 4361, 4362, 4363, 4364, 4365, 4366, 4367, 4368, 4369, 4370, 4371, 4372, 4373, 4374, 4375, 4376, 4377, 4378, 4379, 4380, 4381, 4382, 4383, 4384, 4385, 4386, 4387, 4388, 4389, 4390, 4391, 4392, 4393, 4394, 4395, 4396, 4397, 4398, 4399, 4400, 4401, 4402, 4403, 4404, 4405, 4406, 4407, 4408, 4409, 4410, 4411, 4412, 4413, 4414, 4415, 4416, 4417, 4418, 4419, 4420, 4421, 4422, 4423, 4424, 4425, 4426, 4427, 4428, 4429, 4430, 4431, 4432, 4433, 4434, 4435, 4436, 4437, 4438, 4439, 4440, 4441, 4442, 4443, 4444, 4445, 4446, 4447, 4448, 4449, 4450, 4451, 4452, 4453, 4454, 4455, 4456, 4457, 4458, 4459, 4460, 4461, 4462, 4463, 4464, 4465, 4466, 4467, 4468, 4469, 4470, 4471, 4472, 4473, 4474, 4475, 4476, 4477, 4478, 4479, 4480, 4481, 4482, 4483, 4484, 4485, 4486, 4487, 4488, 4489, 4490, 4491, 4492, 4493, 4494, 4495, 4496, 4497, 4498, 4499, 4500, 4501, 4502, 4503, 4504, 4505, 4506, 4507, 4508, 4509, 4510, 4511, 4512, 4513, 4514, 4515, 4516, 4517, 4518, 4519, 4520, 4521, 4522, 4523, 4524, 4525, 4526, 4527, 4528, 4529, 4530, 4531, 4532, 4533, 4534, 4535, 4536, 4537, 4538, 4539, 4540, 4541, 4542, 4543, 4544, 4545, 4546, 4547, 4548, 4549, 4550, 4551, 4552, 4553, 4554, 4555, 4556, 4557, 4558, 4559, 4560, 4561, 4562, 4563, 4564, 4565, 4566, 4567, 4568, 4569, 4570, 4571, 4572, 4573, 4574, 4575, 4576, 4577, 4578, 4579, 4580, 4581, 4582, 4583, 4584, 4585, 4586, 4587, 4588, 4589, 4590, 4591, 4592, 4593, 4594, 4595, 4596, 4597, 4598, 4599, 4600, 4601, 4602, 4603, 4604, 4605, 4606, 4607, 4608, 4609, 4610, 4611, 4612, 4613, 4614, 4615, 4616, 4617, 4618, 4619, 4620, 4621, 4622, 4623, 4624, 4625, 4626, 4627, 4628, 4629, 4630, 4631, 4632, 4633, 4634, 4635, 4636, 4637, 4638, 4639

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3/24 (B5)

Transfer 29549 (Grant of Right of Way over part land in Lease 3214) produced 14<sup>th</sup> October 1897 at 11.15 am Charles Cather & The Wellington Building and Investment Company Limited as appointors to the H. Stewart & Co.

Lease 3672 (Grant of Right of Way over Lease 3604) produced 20<sup>th</sup> September 1898 at 2.52 pm Renter Hollenstein to The Wellington Woolen Manufacturing Company Limited for the lines created by Lease 3604 H. Stewart & Co.

Transfer 29550 (Grant of Right of Way over part land in Lease 3296) produced 14<sup>th</sup> October 1897 at 11.15 am The Wellington Building and Investment Company Limited & Charles Cather (as appointors to the same in Lease 3296) H. Stewart & Co.  
Mortgage 24587 produced 4<sup>th</sup> November 1897 at 2.30 pm George Winder to The National Bank of New Zealand Limited of Leases 2764 and 2961 H. Stewart & Co.

Mortgage 27038 produced 25<sup>th</sup> November 1898 at 11.37 am the within Corporation to William Dutchman & John Campbell of part 540 45. 116 plan 594-4-11. Right of way (conditional) over the part 540 45. H. Stewart & Co. of 21 years from 1895.

Mortgage 27038 produced 25<sup>th</sup> November 1898 at 11.37 am the within Corporation to William Dutchman & John Campbell of part 540 45. H. Stewart & Co. of 21 years from 1895. DISCHARGED

Lease 3401 produced 16<sup>th</sup> November 1897 at 3 pm the within Corporation to Robert Ferguson Smith of 8 1/2 Block 2 plan 540 H. Stewart & Co. 21 years from 1897.

X Cavel 1371 to Wellington Building and Investment Company Limited produced 23<sup>rd</sup> December 1895 at 11.15 am H. Stewart & Co. 2555. WITHDRAWN

Mortgage 25628 produced 12<sup>th</sup> May 1895 at 12.15 pm H. Stewart & Co. to The Metropolitan Permanent Building and Investment Society of Lease 3214 and 3215 H. Stewart & Co.

Lease 3784 produced 31<sup>st</sup> January 1899 at 11.30 am the within Corporation to James McQueen Turnbull William Hobbins and William Lee Palmer to The Metropolitan Permanent Building and Investment Society of Lease 3784. H. Stewart & Co.

Mortgage 25525 produced 11<sup>th</sup> June 1898 at 11.45 am Robert Ferguson Smith to James McQueen of Lease 3401 H. Stewart & Co.

Mortgage 27367 produced 31<sup>st</sup> January 1899 at 11.30 am James McQueen Turnbull William Hobbins and William Lee Palmer to The Metropolitan Permanent Building and Investment Society of Lease 3784. H. Stewart & Co. DISCHARGED

Mortgage 25941 produced 22<sup>nd</sup> June 1898 at 11 am the within Corporation to The Metropolitan Permanent Building and Investment Society of Lease 3214 and transfer 29550 H. Stewart & Co.

Lease 7008 under the Contractors and Workmen Lien Act 1892 produced 6<sup>th</sup> February 1899 at 11.30 am affects lot 5 plan Block V plan 540 H. Stewart & Co. DISCHARGED

Lease 3613 produced 25<sup>th</sup> July 1898 at 11.45 am the within Corporation to Bendix Hollenstein of Lot 11. 16 plan 540. H. Stewart & Co. 21 years from 1898. SURRENDERED

Lease 3798 produced 21<sup>st</sup> February 1899 at 11.30 am the within Corporation to Cary and company limited of Lot 15. 19 Block II plan 540. H. Stewart & Co.

Lease 3664 produced 25<sup>th</sup> July 1898 at 11.45 am the within Corporation to Bendix Hollenstein of Lot 13. 16 plan 540. H. Stewart & Co. 21 years from 1898. SURRENDERED

Lease 3803 produced 25<sup>th</sup> February 1899 at 11.30 am the within Corporation to Bendix Hollenstein of Lot 6 Block V plan 907. 21 years from 1898. H. Stewart & Co.

Lease 3665 produced 25<sup>th</sup> July 1898 at 11.45 am the within Corporation to Bendix Hollenstein of Lot 16. 16 plan 540. H. Stewart & Co. 21 years from 1898.

Mortgage 27601 produced 10<sup>th</sup> March 1899 at 3 pm Robert Charles to James McQueen of Lease 3803 H. Stewart & Co. DISCHARGED

Lease 3443 produced 27<sup>th</sup> August 1895 at 11 am the within Corporation to Andrew Green of Lot 26 Block 2 plan 540 term 21 years from 1<sup>st</sup> April 1895. H. Stewart & Co.

Lease 3511 produced 13<sup>th</sup> March 1899 at 2.52 pm the within Corporation to Thomas Grant Ritchie of Lot 5 Block 5. Plan 951 term 21 years from 1<sup>st</sup> October 1895. H. Stewart & Co.

Lease 3444 produced 27<sup>th</sup> August 1895 at 11 am the within Corporation to James Allan Rolfe Flour and oatmeal Milling Company limited of Lot 17 Block 2 plan 540 term 21 years from 1<sup>st</sup> October 1895. H. Stewart & Co.

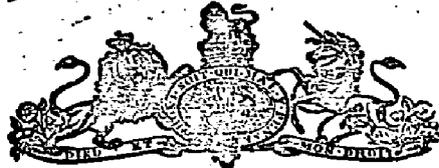
Mortgage 27602 produced 14<sup>th</sup> March 1899 at 2.52 pm Thomas Grant Ritchie to James McQueen of Lease 3511 H. Stewart & Co.

Lease 3445 produced 27<sup>th</sup> August 1895 at 11 am the within Corporation to James Allan Rolfe Flour and oatmeal Milling Company limited of Lot 17 Block 2 plan 540 term 21 years from 1<sup>st</sup> October 1895. H. Stewart & Co.

Mortgage 27664 produced 21<sup>st</sup> March 1899 at 11.5 am Thomas Grant Ritchie to John Peterson and James Henry Ritchie of Lease 3811 H. Stewart & Co.

CONTINUED on page 29

# NEW ZEALAND 3/224 (P)



[CERTIFICATE OF TITLE]

Register Book,  
Vol. 3 Folio 224

DISCHARGED

Proclamation No. 153 proclaimed 15<sup>th</sup> April 1899  
the taking part a lease for the diversion  
of Streets and Railways in the City of  
Wellington and the Wellington Harbor  
Board and Corporation Empowering Act 1895  
18/10/122

Mortgage 28470 produced 7<sup>th</sup> July 1899 at 11  
am Thomas Grant Mitchell (with consent  
of Catherine) to Thomas Stanley Bradford of  
Lease 2450 W. Stewart S.R.

Lease 3954 produced 17<sup>th</sup> July 1899 at 3 pm  
the within Corporation a lease for the within  
limits of part of Block 11 and part of Block 12  
for 21 years from 1<sup>st</sup> January 1899  
W. Stewart S.R.

Lease 3955 produced 17<sup>th</sup> July 1899 at 3 pm  
the within Corporation a lease for the within  
limits of part of Block 11 and part of Block 12  
for 21 years from 1<sup>st</sup> January 1899  
W. Stewart S.R.

(N<sup>o</sup> 33770A)  
Transfer of Lease 3645 (Grant of Easement over part land  
Heron) produced 5<sup>th</sup> August 1899 at 11:45 am Wood  
Brothers Limited to Bendix Hallenstein  
W. Stewart S.R.

(N<sup>o</sup> 33770A)  
Transfer of Lease 365 (Grant of Easement over part  
land Heron) produced 5<sup>th</sup> August 1899 at 11:5 am Bendix  
Hallenstein to Wood Brothers Limited  
W. Stewart S.R.

(N<sup>o</sup> 33847A)  
Transfer of Lease 3645 (Grant of Easement over part land  
Heron) produced 12<sup>th</sup> August 1899 at 11:15 am Wood Brothers  
Limited to Barry and Company Limited  
W. Stewart S.R.

(N<sup>o</sup> 33847A)  
Transfer of Lease 3795 (Grant of Easement over part land  
Heron) produced 12<sup>th</sup> August 1899 at 11:5 am Barry  
and Company Limited to Wood Brothers Limited  
W. Stewart S.R.

Transfer of Leases 363, 364 produced 11<sup>th</sup> August  
1899 at 2:53 pm Bendix Hallenstein to David  
Edward Thomson W. Stewart S.R.

Transfer (33850) of Lease 2740 produced 14<sup>th</sup> August  
1899 at 11:6 am Alfred Gibson came to William Knight  
of one equal undivided share in land  
W. Stewart S.R.

Transfer (33903) of Lease 363 (Grant of Easement over  
part land Heron) produced 22<sup>nd</sup> August 1899 at 11:45 am  
David Edward Thomson to Bendix Hallenstein  
W. Stewart S.R.

Transfer (33903) of Lease 365 (Grant of Easement over part  
land Heron) produced 22<sup>nd</sup> August 1899 at 11:45 am Bendix  
Hallenstein to David Edward Thomson W. Stewart S.R.

Lease 3996 produced 25<sup>th</sup> August 1899 at 11 am  
Thomas Grant Mitchell to John Baxter and William  
Henry MacLellan Thomas as the lessor and John  
land in lease 3511 Term 3 years from 1<sup>st</sup> August 1899  
W. Stewart S.R.

Transfer 34090 of Lease 366 (Grant of Easement over  
part land Heron) produced 6<sup>th</sup> September 1899 at 2:45  
pm Bendix Hallenstein to Barry and Company  
Limited W. Stewart S.R.

Transfer 34091 of Lease 3795 (Grant of Easement over  
part land Heron) produced 6<sup>th</sup> September 1899 at 2:45  
pm Barry and Company Limited to Bendix Hallenstein  
W. Stewart S.R.

Transfer 34122 of Lease 3431 (Grant of Easement over  
part land Heron) produced 30<sup>th</sup> October 1899 at 2:52 pm  
Andrew Green to Wood Brothers Limited  
W. Stewart S.R.

Transfer (34422) of Lease 365 (Grant of Easement over  
part land Heron) produced 3<sup>rd</sup> October 1899 at 2:52 pm  
Wood Brothers Limited to Andrew Green  
W. Stewart S.R.

Transfer 34507 of Lease 2740 produced 10<sup>th</sup> November 1899 at  
10:25 am Alfred Gibson came to Alfred Gibson  
undivided half share W. Stewart S.R.

Mortgage 29454 produced 21<sup>st</sup> November 1899 at  
1 pm Thomas Grant Mitchell to John Paterson  
and James Barry assign of Lease 3511  
W. Stewart S.R.

Mortgage 29455 produced 21<sup>st</sup> November 1899 at  
1 pm Thomas Grant Mitchell to Patrick Grant Mitchell  
of Lease 3511 W. Stewart S.R.

Transfer (34595) of Lease 2892 (Grant of Easement  
over part land Heron) produced 29<sup>th</sup>  
November 1899 at 2:55 pm Frederick William  
Hay little and others to David Edward Thomson  
W. Stewart S.R.

Transfer (34595) of Lease 363 (Grant of Easement over  
part land Heron) produced 29<sup>th</sup> November  
1899 at 2:55 pm David Edward Thomson to Frederick  
William Hay little, Edward Bolton Dumbell, Frederick  
Dumbell and James Paul W. Stewart S.R.

Transfer (35046) of Lease 2392 (Grant of  
Easement - party wall - over part land Heron)  
produced 19<sup>th</sup> February 1900 at 2:45 pm Frederick  
William Hay little and others to Bendix Hallenstein  
W. Stewart S.R.

Transfer (35046) of Lease 3605 (Grant of Easement  
- party wall - over part land Heron) produced  
Hallenstein to Frederick William Hay little  
Bolton Dumbell, Frederick Dumbell and  
James Paul W. Stewart S.R.

CONTINUED on page 265

224  
Transfers of Leases Nos 1421 and 1796  
produced 12<sup>th</sup> March 1900 at 11.50 a.m. John  
Ross and Robert Glendinning to Ross and  
Glendinning Limited  
W. Kilgour & Co. R.

X<sup>th</sup> Caves N° 1509 by Frederick William Huxtable and  
Edward Bolton Huxtable produced 15<sup>th</sup> March 1900 at  
11 a.m. (affects lease 2392) W. Kilgour & Co. R.  
Y<sup>th</sup> Caves N° 1510 by Darius Townsend and James  
Paul produced 15<sup>th</sup> March 1900 at 11 a.m. (affects lease  
2392) W. Kilgour & Co. R.

Transfer of Lease 3511 produced 29<sup>th</sup> March 1900 at 2.30  
p.m. James Mc Murray to the Mortgage  
27634 to along with 34 by W. Kilgour & Co. R.

Transfer of Lease 3313 produced 29<sup>th</sup> March 1900 at 2.30  
p.m. James Paul Anderson to Walter Smallbone  
W. Kilgour & Co. R.

DISCHARGED  
Transfer of Lease 3315 produced 29<sup>th</sup> March 1900 at 2.30  
p.m. Walter Smallbone to Thomas Smith Rotherham  
W. Kilgour & Co. R.

Grant of Easement Party Wall (Transfer  
35431 produced 9<sup>th</sup> April 1900 at 11.30 a.m.) John  
Alfred Remondore to Walter Smallbone over  
part land in Lease 3215 (appurtenant to  
Lease 3313) W. Kilgour & Co. R.

Lease 4282 produced 15<sup>th</sup> May 1900 at 11.10 a.m. the within  
corporation to James Stephen Keith and John Skutcherson of  
lot 21 Block III plan 540 as tenants in common  
W. Stewart & Co.

Transfer (35707) of Lease 3103 (Grant of Easement  
Party Wall - over part land therein) David Edward  
Heoman to Lavery and Company Limited produced  
17<sup>th</sup> May 1900 at 11.50 a.m. W. Kilgour & Co. R.

Transfer (35707) of Lease 3798 (Grant of Easement  
Party Wall - over part land therein) produced 17<sup>th</sup>  
May 1900 at 11.50 a.m. Lavery and Company  
Limited to David Edward Heoman  
W. Kilgour & Co. R.

Grant of Easement Party Wall (Transfer 35511 -  
produced 31<sup>st</sup> May 1900 at 2.30 p.m.) Andrew Green  
to Lavery and Company Limited over part land in  
Lease 3143 W. Kilgour & Co. R.

Grant of Easement Party Wall (Transfer 35511  
produced 31<sup>st</sup> May 1900 at 2.30 p.m.) Lavery and  
Company Limited to Andrew Green over part  
land in Lease 3798 W. Kilgour & Co. R.

DISCHARGED  
Transfer 35511 produced 11<sup>th</sup> June 1900 at  
11.30 a.m. Lavery and Company Limited to the Wellington  
Building and Investment Company Limited of  
Lease 3143 W. Kilgour & Co. R.

Transfer 2491/249 Subst for Block I Reserve K. 1  
249/250 Block II  
249/251/252 Block III  
249/253 Block IV  
249/254 Block V  
For continuation of Memoranda See folio 1 at end of this volume  
Block I of 269/272 part of Block I

3/24 (P10)  
Grant of Right of Way (Lease 2329 produced 19<sup>th</sup>  
June 1900 at 2.50 p.m. The Wellington Building and  
Investment Company Limited to Robert Thompson and  
Arthur James Sturmer) over part land in Lease  
29549 Term 5 years from 1<sup>st</sup> April 1899  
W. Stewart & Co.

Lease 4529 produced 29<sup>th</sup> June 1900 at 2.50 p.m. The  
Wellington Building and Investment Company Limited  
to Robert Thompson and Arthur James Sturmer  
of part land in Lease 3296 Term 5 years from 1<sup>st</sup> April  
1900 and Right of Way W. Stewart & Co.

Grant of Right of Way (Lease 4338 produced 29<sup>th</sup>  
June 1900 at 2.50 p.m. The Wellington Building and  
Investment Company Limited to Archibald Clark and  
Sons Limited) over land in Lease 29549 Term  
5 years from 1<sup>st</sup> April 1899 W. Stewart & Co.

Lease 4338 produced 29<sup>th</sup> June 1900 at 2.50 p.m. The  
Wellington Building and Investment Company Limited  
to Archibald Clark and Sons Limited of part land  
in Lease 3296 Term 5 years from 1<sup>st</sup> April 1899 with  
Right of Way W. Stewart & Co.

DISCHARGED  
Transfer 3317 produced 1<sup>st</sup> July 1900 at  
11.30 a.m. James Paul Anderson to Walter Smallbone  
of Lease 3315 (Transfer 3315) W. Stewart & Co.

Grant of Easement Party Wall (Transfer  
31451 produced 8<sup>th</sup> August 1900 at 11.30 a.m.)  
James Mc Murray Deane, William George Clyde  
Hickson and William Le Palmer to James Stephen  
Keith and John Skutcherson over part land in  
Lease 3784 (appurtenant to Lease 4332)  
W. Stewart & Co.

DISCHARGED  
Mortgage 31050 produced 8<sup>th</sup> August 1900  
to Stephen Keith and John Skutcherson  
Hickson to the Metropolitan Permanent  
Building and Investment Society of Lease 4332  
and Transfer (or Grant of Easement) W. 31451  
W. Stewart & Co.

Lease 4460 produced 20<sup>th</sup> October 1900 at 11.50 a.m.  
Darius Townsend and James Paul to Lavery and  
Company Limited of part lot 1  
Block III plan 472 (part land in Lease 3798) Term  
6 years from 12<sup>th</sup> May 1900 W. Stewart & Co.

X Caves 1681 by Joseph Thomas Lilly and Revell  
WITHDRAWN  
produced 24<sup>th</sup> November 1900 at  
11.30 a.m. (affects Leases 29549, 2955) W. Stewart & Co.

DISCHARGED  
Mortgage 32232 produced 11<sup>th</sup> November 1900 at 2.30  
p.m. Lavery and Company Limited to the Wellington Building  
and Investment Company Limited of Lease 255  
W. Kilgour & Co. R.

X Caves 1682 by Joseph Thomas Lilly and Revell  
produced 11<sup>th</sup> November 1900 at 2.30 p.m. (affects Lease  
2585) W. Kilgour & Co. R.

Lease 4531 produced 11<sup>th</sup> January 1901 at 2.30 p.m.  
William Henry Green (with consent of Executor) to  
Alfred Ernest Howard of part land in Lease 2555  
Term 5 years from 1<sup>st</sup> January 1901  
W. Kilgour & Co. R.

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3/224(P)

Transfer of Lease 2084 produced 2<sup>nd</sup> February 1902 at 2.50 pm. Standard and Company Limited to Standard and Company Limited

W. Kilgour M.A.

Lease 4152 produced 2<sup>nd</sup> May 1901 at 9 pm. The New Zealand Consolidated Dental Company Limited of Lot 1 Block 211 plan 544 (part land in the 2191) Term 5 years from 21<sup>st</sup> November 1900

W. Kilgour M.A.

Lease 4658 produced 9<sup>th</sup> May 1901 at 11.30 am. The New Zealand Consolidated Dental Company Limited of Lot 27 Block 163 plan 544 (part land in the 2191) Term 5 years from 21<sup>st</sup> November 1900

W. Kilgour M.A.

Lease 4811 produced 17<sup>th</sup> May 1901 at 12.10 pm. The New Zealand Consolidated Dental Company Limited of Lot 15 Block 211 plan 544 Term 21 years from 11<sup>th</sup> April 1900

W. Kilgour M.A.

Transfer of Lease 2084 produced 15<sup>th</sup> May 1901 at 11.15 am. Standard and Company Limited to Robert Campbell & Co. Limited of their interest in the shares common in equal shares

W. Kilgour M.A.

Lease 4170 produced 17<sup>th</sup> May 1901 at 12.30 pm. Charles Owen and Company Limited to Alfred Davidson and Robert Davidson of part land in Lease 4110 - Term 3 years from 1<sup>st</sup> July 1901

W. Kilgour M.A.

Lease 4699 produced 17<sup>th</sup> June 1901 at 10.15 am. The New Zealand Consolidated Dental Company Limited to Robert George Smith of Lot 2 Block 2 plan 451 - Term 21 years from 1<sup>st</sup> July 1900

W. Kilgour M.A.

Lease 4715 produced 1<sup>st</sup> July 1901 at 11.25 am. The Wellington Building and Investment Company Limited to Charles Smith of part land in Lease 3897 with right of way over other part and over part land in Lease 4110 and over land in Block 29549. Term 5 years from 1<sup>st</sup> July 1901

W. Kilgour M.A.

Lease 4781 produced 27<sup>th</sup> August 1901 at 3 pm. Walter Hogg to Philip Benjamin Watts of part land in Lease 4110 - Term 5 years from 2<sup>nd</sup> August 1901

W. Kilgour M.A.

Lease 4805 produced 1<sup>st</sup> September 1901 at 11.15 am. The New Zealand Consolidated Dental Company Limited to Alexander Stronach of Lot 22 Block 111 plan 544

W. Kilgour M.A.

Lease 4801 produced 1<sup>st</sup> September 1901 at 11.15 am. Alexander Stronach of Lot 23 Block 111 plan 544

W. Kilgour M.A.

Lease 4801 produced 1<sup>st</sup> September 1901 at noon. Alexander Stronach of Lot 24 and 255

W. Kilgour M.A.

Mortgage 3452 produced 20<sup>th</sup> August 1901 at 11.30 am. George Henry Jackson and Philip Benjamin Watts to Wellington Building and Investment Company Limited of Lease 4152

DISCHARGED W. Kilgour M.A.

Mortgage 3455 produced 5<sup>th</sup> November 1901 at 11.30 am. George Henry Jackson and Philip Benjamin Watts to Wellington Building and Investment Company Limited of Lease 4152

DISCHARGED W. Kilgour M.A.

Transfer of Lease 4152 produced 5<sup>th</sup> November 1901 at 2.35 pm. Walter Hogg to Philip Benjamin Watts

W. Kilgour M.A.

Lease 4891 produced 1<sup>st</sup> November 1901 at 3 pm. Andrew Gunn with consent of mortgagee to Edward Graham Jackson of part land in Lease 4110 - Term 5 years from 1<sup>st</sup> October 1901

W. Kilgour M.A.

Transfer of Lease 4658 produced 5<sup>th</sup> February 1902 at 2.35 pm. Alfred Falkner to James Reid

W. Kilgour M.A.

Mortgage 36023 produced 15<sup>th</sup> March 1902 at 11.30 am. Metropolitan Permanent Building and Investment Society of Lease 3214

DISCHARGED W. Kilgour M.A.

Lease 5019 produced 22<sup>nd</sup> April 1902 at 11.15 am. Wood Brothers Limited to Frank Horace Woodcock and William Henry Hiving of part land in Lease 3645. Term 7 years from 1<sup>st</sup> August 1899

W. Kilgour M.A.

Grant of Easement - Party Wall (Transfer 411661 produced 30<sup>th</sup> April 1902 at 10.5 am) James Hawken Jackson and George Henry Jackson to Alexander Stronach Paterson and George Shortcliffe over part land in Lease 4805 (appurtenant to Lease 4806)

W. Kilgour M.A.

Grant of Easement - Party Wall (Transfer 411662 produced 30<sup>th</sup> April 1902 at 10.5 am) Alexander Stronach Paterson and George Shortcliffe to James Hawken Jackson and George Henry Jackson over part land in Lease 4806 (appurtenant to Lease 4805)

W. Kilgour M.A.

Transfer of Lease 4805 produced 2<sup>nd</sup> May 1902 at 2.50 pm. George James Hawken Jackson to Walter James Paterson and George Henry Jackson of his interest as tenant in common in equal shares

W. Kilgour M.A.

Mortgage 36408 produced 2<sup>nd</sup> May 1902 at 2.50 pm. George Henry Jackson and Walter James Paterson to James Hawken Jackson of Lease 4805

DISCHARGED W. Kilgour M.A.

Lease 5053 produced 12<sup>th</sup> May 1902 at 11 am. The New Zealand Consolidated Dental Company Limited (with consent of mortgagee) to Miller Wilson and company limited of part land in Lease 4671 with right of way over other part Term 14 years from 1<sup>st</sup> February 1902

W. Kilgour M.A.

Lease 5054 produced 12<sup>th</sup> May 1902 at 11 am. The New Zealand Consolidated Dental Company Limited (with consent of mortgagee) to Nelson Hoate and company limited of part land in Lease 4671 with right of way over other part Term 2 years from 18<sup>th</sup> March 1902

W. Kilgour M.A.

Lease 5055 produced 12<sup>th</sup> May 1902 at 11 am. The New Zealand Consolidated Dental Company Limited (with consent of mortgagee) to Josiah Dawson of part land in Lease 4671 with right of way over other part Term 10 years from 1<sup>st</sup> May 1902

W. Kilgour M.A.

3/224 (P12)

Transfer of Lease 3643 produced 6<sup>th</sup> June 1902 at 12.15 pm Andrew Given to James Cook also affects easements in 422 and 423 by W. Kilgour shh

Transfer of Lease 3811 produced 6<sup>th</sup> May 1903 at noon Mary Ellen Derby to Martin Kennedy W. Stewart shh

Lease 5076 produced 29<sup>th</sup> May 1902 at 2.30 pm The Wellington Building and Investment Company Limited to Arthur John George of part land in Lease 3297 together with Right of way over part land in Leases 3296 and 3297 and over the land in Transfer 29549 Term - Balance of term of 21 years created by Leases 3214, 3296 and 3297, from 1<sup>st</sup> February 1901. W. Kilgour shh

Grant of Easement - Party Wall - (Transfer 45219 produced 28<sup>th</sup> May 1903 at 12.40 pm) Clifton Henry Dickerson and others to George Winder over part land in Lease 3215 (as appurtenant to Lease 29549) W. Stewart shh

DISCHARGED

Mortgage 36868 produced 24<sup>th</sup> June 1902 at 11.20 am George to The Wellington Building and Investment Company Limited of Lease 5076 W. Kilgour shh

Mortgage 40112 produced 15<sup>th</sup> June 1903 at 2.40 pm Robert Macintyre and John Birtie (with consent of Clifton Henry Dickerson) to The Wellington Building and Investment Company Limited of Lease 3586 W. Stewart shh

DISCHARGED

Transfer of Lease 1640 produced 6<sup>th</sup> August 1902 at 10.35 am David Ross Leases to Ross and Glendinning Limited W. Kilgour shh

Mortgage 40324 produced 2<sup>nd</sup> July 1903 at 11 am The Trustees of Wellington Working Men's Club and Institute to The Colonial Mutual Life Assurance Society Limited of Lease 1970 W. Stewart shh

DISCHARGED

Lease 5167 produced 6<sup>th</sup> August 1902 at 2.50 pm The within corporation to James Cook of lot 24 Block III plan 640 Term 21 years from 1<sup>st</sup> March 1901. W. Kilgour shh

Lease 5531 produced 18<sup>th</sup> July 1903 at 11 am Martin Kennedy to The Garden and Pottery Proprietary Limited Term 7 years from 1<sup>st</sup> May 1903 of Lease 3511 W. Stewart shh

Cancelled as to part of Reg. R. noted in the Upper Hunter Board by the 17<sup>th</sup> of 18<sup>th</sup> of 1903 in the 1903 Act 1898 Vol. 126 folio 92

Grant of Easement - Party Wall - (Transfer 43084 produced 13<sup>th</sup> October 1902 at noon) Alexander Stronach Paterson and George Shirlcliffe to James Cook over part land in Lease 4806 (appurtenant to Lease 5167) W. Kilgour shh

Lease 5550 produced 29<sup>th</sup> July 1903 at 2.55 pm Evans Atlas Roller Flour and Oatmeal Milling Company Limited to The Helbach Light Company of Australia Limited of Lease 3644. Term 5 years from 28<sup>th</sup> April 1903 W. Kilgour shh

Grant of Easement - Party Wall - (Transfer 43084 produced 13<sup>th</sup> October 1902 at noon) James Cook to Alexander Stronach Paterson and George Shirlcliffe over part land in Lease 5167 (appurtenant to Lease 4806) W. Kilgour shh

Mortgage 40112 produced 15<sup>th</sup> June 1903 at 2.40 pm Robert Macintyre and John Birtie (with consent of Clifton Henry Dickerson) to The Wellington Building and Investment Company Limited of Lease 3586 W. Stewart shh

DISCHARGED

Transmission 3935 Notice of death on the 17<sup>th</sup> September 1895 of Andrew Young passed 15<sup>th</sup> November 1895 at 10.45 am (affects Mortgage 15195) W. Kilgour shh

Mortgage 41433 produced 5<sup>th</sup> October 1903 at 3 pm George Henry Jackson and Walter James Petherick to The National Bank of New Zealand Limited of Lease 4805 W. Stewart shh

DISCHARGED

Transfer of Lease 5167 produced 2<sup>nd</sup> November 1902 at noon James Cook to Charles Palliser W. Kilgour shh

Transmission 4261 The Syndicate granted in Leases 3308, 3954, and 3953 and 5343 is now known as The City of Wellington Electric Light and Power Company Limited Evidence of Change of name produced 30<sup>th</sup> October 1903 at 2.32 pm W. Kilgour shh

Lease 5373 produced 17<sup>th</sup> February 1903 at 12.10 pm The within corporation to The New Zealand Electrical Syndicate Limited of lot 12 and part lot 13 Block 3 plan 540 Term 21 years from 1<sup>st</sup> October 1902 W. Stewart shh

Mortgage 41820 produced 7<sup>th</sup> November 1903 at 10.20 am James Stephen Keith and John Stutcherson of The Bank of New Zealand Limited of Leases 4282 and 4283 Grant of Easement 36451 W. Stewart shh

DISCHARGED

Transmission 4043 Probate of will of John Alfred Jamieson who died on the 11<sup>th</sup> October 1902 granted to Clifton Henry Dickerson, William Allan and Frederick Elizabeth Dickerson of Lease 3215 W. Stewart shh

No. C issued for part Vol 129 folio 117 see W.L.R. 1903/101

Proclamation 293 produced 3<sup>rd</sup> April 1903 at 10 am taking lot 6 Block V plan 951 for Electric Tramway purposes and vesting same in the Wellington City Corporation W. Stewart shh

Grant of Easement - Party Wall - (Transfer 47786 produced 23<sup>rd</sup> December 1903 at 3 pm) Martin Kennedy to Robert Ferguson Smith over lot 5 Block I plan 951 (appurtenant to Lease 4699) affects Lease 3811 W. Stewart shh

DISCHARGED

Transmission 4306 Probate of will of Thomas Rothmann who died 11<sup>th</sup> September 1903 granted to Thomas William Shlop produced 18<sup>th</sup> December 1903 at 11 am (affects M 30296) W. Stewart shh

Transmission 4306 Probate of will of Thomas Rothmann who died 11<sup>th</sup> September 1903 granted to Thomas William Shlop produced 18<sup>th</sup> December 1903 at 11 am (affects M 30296) W. Stewart shh

CONTINUED

a page 13 701B



Transmission 5321 Probate of Will of Frederick Charles Brailford who died 25<sup>th</sup> June 1909 granted to Clifton Henry Dickerson and Alfred Wilson Brailford and Mary Lilian Brailford produced 16<sup>th</sup> October 1906 at 3 pm with consent of caveator (affidavit dated 24/5/06) M. Wilgus attk

Transfer of lease 2588 produced 4<sup>th</sup> June 1907 at 10 am Willi Fels and Sidor Samuel de Beer to Storer, Mack and Company Limited M. Wilgus attk

Transfer of lease 2450 produced 16<sup>th</sup> October 1906 at 3 pm Clifton Henry Dickerson, Alfred Wilson Brailford and Mary Lilian Brailford (with consent of caveator) to Alfred Walton Brailford M. Wilgus attk

Mortgage 58279 produced 4<sup>th</sup> June 1907 at 10 am Storer Mack and Company Limited to Willi Fels and Sidor Samuel de Beer (of lease 2588) M. Wilgus attk

Mortgage 58697 produced December 1906 at noon Lany and Company Limited to Joseph Jameson (of Grant of Easement 3316, 34090 and 33857 and lease 3798) M. Wilgus attk

Transmission 5347 Probate of Will of Rudolph Kallenstein who died 6<sup>th</sup> January 1905 granted to Willi Fels and Sidor Samuel de Beer produced 29<sup>th</sup> July 1907 at 10 am (Affects grant of Easement lease 2588) M. Wilgus attk

Transfer of lease 3645 produced 4<sup>th</sup> April 1907 at 2.47 pm Wood Brothers Limited to Frank Colan Brodbeck and William Alfred Mowbray as tenants in common in equal shares M. Wilgus attk

Transfer of lease 2988 produced 25<sup>th</sup> July 1907 at 10 am Storer Mack and Company Limited M. Wilgus attk

H.C. issued under the Wellington Harbour Board and Corporation Empowering Act 1898 (Vol 161 P. 151) for part

Mortgage 58279 produced 4<sup>th</sup> July 1907 at 10.20 am Storer Mack and Company Limited to Willi Fels and Sidor Samuel de Beer (of Easement of Grant of Easement lease 2588) M. Wilgus attk

WITHDRAWN

Transfer of lease 3313 and Easement 35431 produced 22<sup>nd</sup> May 1907 at 2.30 pm Walter Smallbone to Henry James Guthrie, George William Rowson, John Hugh Bethune and James Templeton Gilmore M. Wilgus attk

Transmission 5740 The Wellington Building and Investment Company Limited (known as The Wellington Investment Trustee and Agency Company Limited) produced 3<sup>rd</sup> August 1907 at 11.50 am (Affects mortgage 24152) M. Wilgus attk

Mortgage 58128 produced 22<sup>nd</sup> May 1907 at 2.30 pm Henry James Guthrie and others to Walter Smallbone and Walter Smallbone Grace and Co. Limited (of lease 3313) M. Wilgus attk

Transfer of lease 3215 produced 3<sup>rd</sup> August 1907 at 11.50 am Clifton Henry Dickerson and others to the said Clifton Henry Dickerson M. Wilgus attk

Mortgage 58129 produced 22<sup>nd</sup> May 1907 at 2.30 pm Henry James Guthrie and others to Walter Smallbone and Walter Smallbone Grace and Co. Limited (of lease 3313) M. Wilgus attk

Caveat 2925 by The Wellington Investment and Agency Company Limited produced 23<sup>rd</sup> August 1907 at 11.15 am (affects part lot 2 block III part of land in lease 5076) M. Wilgus attk

Mortgage 58130 produced 22<sup>nd</sup> May 1907 at 2.30 pm Walter Smallbone Grace and Co. Limited and Walter Smallbone to Thomas William Bishop (of mortgage 58128) M. Wilgus attk

Transfer of lease 3784 produced 23<sup>rd</sup> August 1907 at 2 pm William Lee Palmer to Frederick John Gooder of his interest M. Wilgus attk

Mortgage 58131 produced 22<sup>nd</sup> May 1907 at 2.30 pm Walter Smallbone Grace and Co. Limited and Walter Smallbone to Agnes Mary Grace (of mortgage 58129) M. Wilgus attk

Mortgage 59701 produced 23<sup>rd</sup> August 1907 at 2.30 pm M. Laren Limited to William Fookson and Frederick John Gooder to The Metropolitan Permanent Building and Investment Society of lease 2784 M. Wilgus attk

Mortgage 58132 produced 22<sup>nd</sup> May 1907 at 2.30 pm Henry James Guthrie and others to Hugh Kern Gilmore (of lease 3313 and Easement 35431) M. Wilgus attk

Lease 7464 produced 25<sup>th</sup> September 1907 at 2.55 pm Philip Benjamin Watts to His Majesty the King. Term 7 years from 1<sup>st</sup> June 1907. (part lease 6497) M. Wilgus attk

Lease 7608 produced 28<sup>th</sup> October 1907 at 2.55 pm Alfred Walton Brailford (with consent of caveator) to The Central Agency Limited term 5 years and 6 months from 1<sup>st</sup> July 1906 of lease 2450 M. Wilgus attk

Transfer of Lease 6497 produced 29<sup>th</sup> October 1907 at 2:05 pm Philip Benjamin Walls to Walter Hope Mowah and the said Philip Benjamin Walls tenants in common  
Lease 7678 produced 10<sup>th</sup> March 1908 at 1:00 pm Leary and company limited to Leary and company Proprietary Limited by special order with other rights affects lease 3795  
M. Matheson B.L.R.

Lease 8044 produced 12<sup>th</sup> November 1908 at 11:55 am Martin Kennedy to Gordon and John Proprietary Limited - Term 7 years from 1<sup>st</sup> May 1910 affects lease 3511  
M. Matheson B.L.R.

Lease 7100 produced 3<sup>rd</sup> April 1908 at 2:55 pm, William Henry Green to Alfred Ernest Kennet of part land in Lease 2555. Term = 5 years from 1<sup>st</sup> January 1906. - Cavater consenting -  
M. Matheson B.L.R.

Transfer of Leases 2075 and 496 produced 6<sup>th</sup> May 1909 at 2:50 pm Judah Myers to Solomon Byrnie Myers John Myers and Philip Myers  
M. Matheson B.L.R.

Transfer of Lease 7700 produced 15<sup>th</sup> April 1908 at 3 pm. Alfred Ernest Kennet to Richard Morris Griffiths.  
M. Matheson B.L.R.

Lease 2630 by Judah Myers produced 6<sup>th</sup> May 1909 at 2:51 pm - affects Leases 2075 and 496  
M. Matheson B.L.R.

DISCHARGED Mortgage 63793 produced 29<sup>th</sup> April 1908 at 11:30 am Walter Charles Guthrie to The Bank of New South Wales  
M. Matheson B.L.R.

Lease 8424 produced 4 August 1908 at 11:50 am. The New Zealand Consolidated Dental Company limited to Jacques Ernest Scholors of part Lease 7671 with right of way over other part and use of lift  
M. Matheson B.L.R.

Lease 7715 produced 13<sup>th</sup> April 1908 at 2:50 pm Leary and company limited to John Keir of Wellington. Carrier and forwarding agent of the goods and other rights affects lease 3795  
M. Matheson B.L.R.

Mortgage 72316 produced 1<sup>st</sup> October 1908 at 11:40 am James Allan Mackay and John Mackay to The Health Properties Investment Buildings and Stores Limited  
M. Matheson B.L.R.

Lease 7752 produced 14<sup>th</sup> May 1908 at 2 pm Bessie Ballenstein to William John Thompson, Robert Charles Keiser and Herbert Joseph Thompson. Term 14 years from 16<sup>th</sup> December 1899 (of Lease 3605)  
M. Matheson B.L.R.

Transfer 77213 produced 2<sup>nd</sup> September 1910 at 2:55 pm. Saira Samra Thomson to David W. Blawney of Leases 3603 and 3604 and Basements 200000 under Transfer 35003 and 35004  
M. Matheson B.L.R.

Transfer of Lease 7752 produced 14<sup>th</sup> May 1908 at 2 pm. Saira Samra Thomson to David W. Blawney of Leases 3603 and 3604 and Basements 200000 under Transfer 35003 and 35004  
M. Matheson B.L.R.

Lease 8977 produced 15<sup>th</sup> September 1910 at 2 pm. The Mayor Councillors and Citizens of the City of Wellington to Edward French Reid and Walter Edward Reid of Rooms 18 & 20 on ground floor of building erected on certain land with right of passage over part. Term 4 years 5 months and 16 days from 1<sup>st</sup> May 1909. (affects Lease 7752)  
M. Matheson B.L.R.

Transmission 6148 produced 19<sup>th</sup> May 1908 at 12:15 pm vesting the Leases 2308, 3754, 3755 and 3756 in the Mayor Councillors and Citizens of the City of Wellington.  
M. Matheson B.L.R.

Lease 9076 produced 1<sup>st</sup> November 1910 at 12:10 pm. The New Zealand Consolidated Dental Company limited to Australian Trade Limited - of part right of way over other part and use of lift - Term 5 years from 1<sup>st</sup> July 1909 - with right of renewal - Term 28 February 1911 - affects lease 4671.  
M. Matheson B.L.R.

DISCHARGED Mortgage 65567 produced 1<sup>st</sup> August 1908 at 2:00 pm Alfred Lilston Brailsford to Alice Jane Brailsford (Cavater consenting).  
M. Matheson B.L.R.

Transmission 6280 Probate of the Will of James Cook who died 15 August 1906 granted to John Cook produced 17<sup>th</sup> August 1908 at 2:30 pm Affects Grants of Easement T. 54422, 35816 and Lease 2643  
M. Matheson B.L.R.

Lease 9181 produced 1 February 1911 at 12:30 pm Clifton Henry Dickerson to Francis Joseph Miller William Augustus Millars and Harold Hector Henry of term 5 years from 19 January 1911 - of part Lease 3215.  
M. Matheson B.L.R.

Mortgage 66832 produced 16<sup>th</sup> October 1908 at 11:55 am George Winder to Mary S. Graham of Leases 2764 and 2961  
M. Matheson B.L.R.

Lease 9211 produced 17<sup>th</sup> February 1911 at 4 pm Alexander Shonash Peterson and George Timothy to George Erickson Anderson and William Henry Lee of part ground floor and part first floor of building on land having right of way and other rights. Term 7 years from 1<sup>st</sup> December 1910. affects Lease 1500  
M. Matheson B.L.R.

DISCHARGED Mortgage 66957 produced 1<sup>st</sup> October 1908 at 12:55 pm reversionary lease in the currency of Mortgage 40328 Lease 1970  
M. Matheson B.L.R.

Lease 8015 produced 23 October 1908 at 1 pm do within Capitation to Alexander Brock Peterson and George Smith of part lot 19 Block III plan 510. Term = 10 years from 1 March 1908  
M. Matheson B.L.R.

Lease 9238 produced 6th March 1911 at 3:25 pm. The within Corporation to Ross and Blenching Limited - of Lot 1 Block 2 D. T. 472. Term 14 years from 1st February 1911 - renewable.

Transfer 87554 produced 22nd November 1912 at 10:40 am. Philip Benjamin Watts and Walter George Morris to Frederick Charles Saphir and Thomas Wilson affects Mortgage Book 6437.

DISCHARGED. Lease 91654 produced 13th June 1911 at 11:30 a.m. Philip Benjamin Watts to Thomas Scott - affects...

Lease 10119 produced 4th December 1912 at 3:00 pm. Frank Horace Broadrich and William Alfred Mowbray to Collins Newspaper Company Limited, of ground floor of building with use of cart tracks, cart in house and...

Substituted C.T. for Jts 1, 3, 4. Plan 2428 issued 10th Feb 1913. Substituted C.T. for Jts 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

Transfer 87597 produced 15th February 1913 at 3:50 pm. John Hutcherson to Thomas Wilson assigns named of one kind of the interest of the said John Hutcherson of Lease 4282.

Mortgage 9282 produced 12th August 1913 at 2:50 pm. John Hutcherson and Frederick Charles Saphir to John Hutcherson of Lease 2112.

Lease 91638 produced 9th January 1912 at 1:50 pm. The within Corporation to Humphrey Prosser and Company New Zealand Drapery Company Limited of Lot 9 plan 505. Term 14 years from 1st December 1911 with provision for renewal.

Transfer 87114 produced 18th March 1913 at 3:10 pm. The within named Corporation to Trustees of the King of part of Reserve 216/140.

Transmission 2040 to William Russell Grace John Gavin Dimeon and Frederick George Pabst entered 22nd July 1913 at 11 am. affects Mortgage 87557.

Lease 91615 produced 23rd February 1912 at 12:50 pm. The within Corporation to Pastoral Gardening Limited of Lot 2 Block II plan 472. Term 14 years from 27th January 1912 - renewable.

Lease 101477 produced 26th August 1913 at 3:50 pm. The within named Corporation to the Trustees of the Wellington Working Men's Club and Literary Institute of Section 15 Block III plan 472. Term 14 years from 1st September 1913.

Transfer 86200 produced 15th July 1912 at 12:10 pm. Thomas William Ewins to Frederick Ewing Moore, William Luther Moore and Robert Nichol. Affects Mortgage 53132.

Transfer 92933 produced 16th December 1913 at 11 am. William Alfred Mowbray to Frank Horace Broadrich above named - of his interest. Affects Lease 3645.

Transfer 86201 produced 15th July 1912 at 12:10 am. John Joseph Williams and James Templeton - Ewins to Frederick Ewing Moore and George William Bowron. Affects Lease 3313 and Easement 35431.

Mortgage 95082 produced 24th February 1914 at 10:15 am. Frank Horace Broadrich to The National Bank of New Zealand Limited of Lease 3645.

Mortgage 87556 produced 15th July 1912 at 12:10 pm. Henry James Ewins and George William Bowron to Frederick Ewing Moore. Affects Lease 3313 and Easement 35431.

Lease 11002 produced 15th August 1914 at 10:40 am. The within named corporation to Frederic Townsend and James Paul of Lot 1 Block III plan 472. Term 14 years from 1st August 1914.

Transfer 86202 produced 15th July 1912 at 12:10 pm. Frederick Ewing Moore to Andrew Wilson and Margaret Wilson as tenants in common in equal shares. Affects Mortgage 87556.

Lease 11015 produced 25th August 1914 at 2:30 pm. The within named corporation to Thomas Wilson and Frederick Charles Saphir of Lot 6 Block III plan 540. Term 14 years from 1st August 1914.

Mortgage 57537 produced 15th July 1912 at 12:10 pm. Henry James Ewins and George William Bowron to Harry Grace. Affects Lease 3313 and Easement 35431.

Lease 11084 produced 17th October 1914 at 10 am. The within named corporation to William Arthur Briscoe, George Briscoe and Alexander MacNeil of Lots 5 and 6 Block II, and Lot 8 Block II plan 540. Term 14 years from 15th May 1914.

Mortgage 87558 produced 15th July 1912 at 12:10 pm. Henry James Ewins and George William Bowron to Joseph Kerr Eilmour. Affects Lease 3313 and Easement 35431.

Lease 10057 produced 18th October 1912 at 11 am. Ewins and Company Limited to The British Empire Trading Company Limited. Term from 1st October 1912 till 1st February 1914. Affects Lease 3313.

Mortgage 87557 produced 15th July 1912 at 12:10 pm. Henry James Ewins and George William Bowron to Harry Grace. Affects Lease 3313 and Easement 35431.

Mortgage 87558 produced 15th July 1912 at 12:10 pm. Henry James Ewins and George William Bowron to Joseph Kerr Eilmour. Affects Lease 3313 and Easement 35431.

Lease 10057 produced 18th October 1912 at 11 am. Ewins and Company Limited to The British Empire Trading Company Limited. Term from 1st October 1912 till 1st February 1914. Affects Lease 3313.

Lease 10057 produced 18th October 1912 at 11 am. Ewins and Company Limited to The British Empire Trading Company Limited. Term from 1st October 1912 till 1st February 1914. Affects Lease 3313.

Lease 11119 produced 15 November 1914 at 2.45 pm Frederic Townsend and James Paul to Hugh Wright, Arthur Rodley East Dixon and Thomas William Hill (as tenants in common in equal shares) of part reserving rights over part thereof. Term 7 years from 1 August 1914 - affects lease 11002.

Grant of easement - Party Wall) Transfer 11108 produced 24 March 1915 at 2.30 pm Sharland and Company Limited to Ross and Glendinning Limited - over part of land in lease 11267 adjacent to lease 11243

Mortgage 98913 produced 21 December 1914 at 3 pm Andrew Aitken and Margaret Aitken to James Dick. Affects Mortgage 87556.

Lease 11268 produced 24 March 1915 at 2.30 pm Sharland and Company Limited to British Empire Trading Company Limited - Term from 1 February 1914 to 1 October 1919. Affects Lease 11267 with right of purchase

Lease 11177 produced 12th January 1915 at 3 p.m. Frederic Townsend and James Paul to M. Athol & Co. of part of Lot 1 Block III plan 542 Term 5 years from 1st August 1914. (Affects lease 11002).

Mortgage 99664 produced 24 March 1915 at 2.30 pm Sharland and Company Limited to Martin Kennedy & Co. Limited Collins and Maurice O'Connor Affects Lease 11267

Lease 11243 produced 27th February 1915 at 10.40 a.m. The within named Corporation to Ross and Glendinning Limited of Lot 7 Block II plan 540. Term 10 years from 18th May 1912.

Lease 11638 produced 7th December 1915 at 11.30 a.m. the within named corporation to Frederick William Haykittle, Edward Dolan, Priscilla, Helen Townsend and James Paul of Lots 10 and 15 Block II plan 540. Term 10 years from 1st June 1915.

L 11270 / T. 98108 (See head of next column) L. 11267 - (See below)

Mortgage 10594 produced 19th September 1914 at 3 pm James Charles Turnbull William Stiecher and Frederick John Gordon to the Metropolitan Permanent Building and Investment Society. Affects Lease 3794

Lease 11270 produced 25th March 1915 at 2.45 pm Sharland and Company Limited to Leo Blake of part of building on land in Lease 3798 with right of way. Term 7 years from 1st October 1913.

Q 5243/120 substituted for 35, p 124 plan 374.

Redemption of Mortgage 10000 produced 5th August 1915 at 12.20 pm. Affects Lease 11002 (L 11267) + 282

Transfer 10699 of lease 3794 produced 12th February 1914 at 2.40 pm James Charles Turnbull William (Edward called) Stiecher and Frederick John Gordon to James Stiecher and Gordon Limited.

Transfer 99824 of Mortgage 90282 produced 5th August 1915 at 12.20 pm. Affects Lease 11002. Substituted for 35, p 124 plan 374.

Transfer 10226 of lease 11005 produced 1st August 1914 at 10 am George Henry Jackson to Hutchison Wilson and Company Limited.

Transfer 101309 of L 11015 produced 15 November 1913 at 12.30 pm. Frederic Townsend and Charles Saphir to the within named Thomas Wilson of Wellington Street Chandelier of his interest.

Mortgage 10719 produced 1st August 1914 at 10 am Hutchison Wilson and Company Limited to George Henry Jackson. Affects Lease 11005.

Extension of Term and Increase in Rate of Interest of Mortgage 11297 produced 12 November 1915 at 2.50 pm. Affects easements (Transfers) 33903, 34595, 35707 and leases 3604 & 3609.

Transfer 10226 of lease 11005 produced 1st August 1914 at 10 am John Hutchison and Thomas Wilson to Hutchison Wilson and Company Limited.

Transmission 10215 to Martin Kennedy and Robert Joseph Collins - Entered 24th March 1915 at 2.30 pm. Affects mortgage 42482.

C/T 249/249 Substituted for Block I Reserve K 249/250 Block II "V"

Lease 11267 produced 24 March 1915 at 2.30 pm. The within named Corporation to Sharland and Company Limited - of Lot 9 plan 332. Term 14 years from 23 February 1914.

DISCHARGED

X Cancelled 6/17/75 by Robert (New Zealand) Island  
 produced 6/11/75 1975/1/20 - Office Lease 5795  
 Transmission 1956 to E. G. Litch, Governor and James  
 Tompkins, Governor. Entered 29/1/75 at 10:15 am  
 Office - Mortgage 57555  
 Transmission 12493 to the Wellington Harbour Board  
 produced 2/1/75 at 10:15 am  
 Kennedy, Minister Charles Perrin, Sheriff  
 Kings, Sheriff and Albert P. H. Morgan  
 Merchant of Wellington entered 15/1/75  
 October 1975 at 2:30 pm. Office lease 5811  
 5/15/79

Transmission 12442 to the Wellington Harbour Board  
 produced 2/1/75 at 10:15 am  
 Evidence of destruction of Casso's duplicate of  
 lease 4282 having been lodged. A provisional lease  
 & provisional lease has been issued.  
 Mortgage 115617 produced 5th May 1979 at 10 a.m.  
 Hutchison, Wilson and Company Limited to  
 The National Bank of New Zealand, Office 4252.

DM 519913  
 21-12-79  
 L15775  
 A14723  
 Transfr 125565 produced 6<sup>th</sup> February 1980 at  
 10:30 am. Thomas Wilson & William Stuart  
 Wilson of Wellington, Inspector. Office lease 11015  
 Mortgage 121062 produced 6<sup>th</sup> February 1980 at  
 10:30 am. William Stuart Wilson to Thomas Wilson.  
 Office lease 11015.

GT 269/78 substituted for lots 1 & 13 Block 11  
 269/79 " " for lots 14 to 25 same block  
 269/80 " " for Section 2 Block 11  
 269/81 " " for lots 1, 5 & 8 to 15  
 269/82 " " for lots 1, 2, 3, 4 & 11, 15  
 Block 7

R 4228 91-2-71 L 12778

Transmission 14723 to the Wellington City  
 Improvements Loan Sinking Fund Commissioners  
 entered 12th April 1971 at 2pm. affects mortgage  
 5964.

Transmission 15546 of mortgage 6587 to Alfred Walton  
 B. Ailsford as Administrator. Entered 16th February  
 1982 at 10 am.

Cancelled as to part lot 36 and whole lot 37 plan  
 394. see Vol 316 folio 33  
 33  
 33

Cancelled as to balance except the parts  
 registered in Vol. 316 folio 33  
 A.C.O. 11/81  
 33  
 33

3/224 (119) 3/224  
 33300 men under the 45 ages Protection and  
 DISCHARGED  
 may 1926 at 2:30 pm  
 W.O. 12/23

Cancelled as to lot 1 to 32 plan  
 986 & 30 Volume 418 folio 119  
 (Rideau plan)  
 A.C.O. 8/83  
 27.6.83

THIS REPRODUCTION (ON A REDUCED SCALE)  
 CERTIFIED TO BE A TRUE COPY OF THE  
 ORIGINAL REGISTER FOR THE PURPOSES OF  
 SECTION 215A LAND TRANSFER ACT 1952.  
 Skinner D.L.R.

No. 337538.1 Certificate pursuant to Section  
 110(d) Public Works Act 1928 declaring part  
 of the within land (3630 m2 marked "A" on  
 S.O. 30723) to be a public street -  
 18.9.1979 at 9.32 a.m.

762916.1 Gazette Notice acquiring the  
 parts (4804m<sup>2</sup>) and (955m<sup>2</sup>) for harbour  
 works and shall vest in The Wellington  
 Harbour Board on the 23rd day of January  
 1986 - 20.2.1986 at 11.50 a.m.

NOTE  
 ALL WORKING PAPERS re-  
 balance held in Team 3  
 letter file

1/5/6/3 - 9/3/83  
 17/7/84

- OVER -

Having returned to  
 the geotechnical office 3/2/84  
 11/12/83  
 Date of the last assembly taken  
 (the meeting of the Planning Committee) still  
 appears still to remain in 1/2/84 3/2/84

~~833712.1 Certificate pursuant to Section  
121(1)(d) Public Works Act 1981 declaring  
parts herein (marked A and B on S.O.  
34477) as legal road - 17.2.1987 at 1.31 p.m~~

A.L.R

833712.1 Plan of road pursuant  
to Section 121(1)(d) whereby  
parts herein are now legal  
road - 17.2.1987 at 1.31 p.m

*[Handwritten signature]*  
A.L.R

~~944948.5 Transfer to Lambton Harbour  
Overview Limited at Wellington - 1.9.1988  
at 2.58 p.m.~~

*entered in error*

A.L.R.

B.033933.1 Plan of Road pursuant to  
Section 121(1)(d) whereby part herein  
marked "A" on S.O. Plan 36002 is now  
legal road - 26.9.1989 at 10.15 a.m.

*[Handwritten signature]*  
A.L.R:





# COMPUTER FREEHOLD REGISTER UNDER LAND TRANSFER ACT 1952



## Historical Search Copy

  
R. W. Muir  
Registrar-General  
of Land

**Identifier** **WN269/81**  
**Land Registration District** **Wellington**  
**Date Issued** 01 July 1920

### Prior References

WN3/224

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<b>Estate</b>	Fee Simple
<b>Area</b>	6692 square metres more or less
<b>Legal Description</b>	Lot 1-5, 8-15 Deposited Plan 951 and Part Lot 7 Deposited Plan 951
<b>Purpose</b>	Public utility

### Original Proprietors

Wellington City Council

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### Interests

13205 CAVEAT BY MINISTER OF PUBLIC WORKS - 24.4.1942 at 3:00 pm (AFFECTS LOTS 9, 10, 11 AND 12 DP 951)

8384042.2 Departmental Dealing converting the within title into Landonline - 22.12.2009 at 1:31 pm

10275837.1 CERTIFICATE PURSUANT TO SECTION 77 BUILDING ACT 2004 THAT THIS COMPUTER REGISTER IS SUBJECT TO THE CONDITION IMPOSED UNDER SECTION 75(2) (ALSO AFFECTS WN18D/503) - 3.12.2015 at 2:35 pm (affects Lots 1 - 5 DP 951, Part Lot 7 DP 951 and Lot 8 DP 951)

10349208.1 Lapse of Caveat 13205 pursuant to Section 145A Land Transfer Act 1952 - Produced 26.2.2016 at 4:23 pm and entered 23.3.2016 at 7:00 am

REGISTER

NEW ZEALAND.

[Land and Deeds-4.

[Form B.

Vol. 3, Folio 224

Reference: Transfer Book Substituted.  
Application No.  
Order for N/C No. 1499



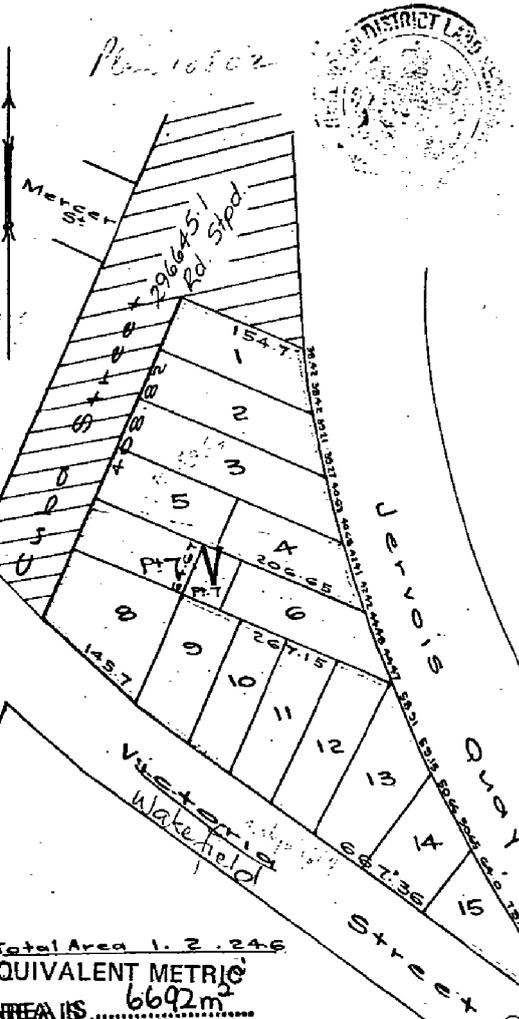
Register-book,  
Vol. 269, folio 81.

CERTIFICATE OF TITLE UNDER LAND TRANSFER ACT.

This Certificate, dated the first day of July, one thousand nine hundred and twenty  
under the hand and seal of the District Land Registrar of the Land Registration District of Wellington Witnesseth that

The Mayor Councillors and Citizens of the City of Wellington are  
seised of an estate in fee simple for purposes of public utility

seised of an estate in fee simple (subject to such reservations, restrictions, encumbrances, liens, and interests as are notified by memorial under written or endorsed hereon, subject also to any existing right of the Crown to take and lay off roads under the provisions of any Act of the General Assembly of New Zealand) in the land hereinafter described, as the same is delineated by the plan hereon bordered red, be the several admeasurements a little more or less, that is to say: All that parcel of land containing one acre two roods twenty four and six tenths perches more or less, situate in the City of Wellington being part of the reclaimed land known as Reserve K and comprising Lots 1 to 5 and 8 to 15 inclusive and part of Lot 7 of Block V on deposited plan No 951.



Total Area 1.2.246  
EQUIVALENT METRIC  
AREA IS 6692m<sup>2</sup>

Scale 120 links to an inch

see register  
District Land Registrar.  
Mortgage 8966 produced 23rd March 1888 at 12.10 p.m.  
the above named corporation to Joseph Elliott Page  
and Thomas Frederic Martin of part. DISCHARGED  
Lease 1316 produced 2nd May 1892 at 3 p.m.  
the above named Corporation to John Galbraith  
Wood Atkin, William Allan Charles Colli's,  
Arthur Hobbs, Sidney George Martin, Thomas  
McLennor McKenzie and James Petherick of  
Lot 9. Term 42 years from 1st January 1892.  
Lease 4679 produced 17th June 1901 at 10.15 a.m.  
the above named Corporation to Robert Fergus  
Smith of Lot 7. Term 21 years from 27th July 1900.  
Crown vested in Smith and Smith Limited.  
Lease 13998 produced 15th February 1921 at 12 noon  
The Mayor Councillors and Citizens of the City  
of Wellington to Anastatia Christina Kennedy  
Agnes Ann Kennedy, Charles Perren Sherrett  
and Albert Arthur Barrigan term years from  
14th October 1919 of Lot 5. 16.27.11 acre  
Transmission 14723 to the Wellington City  
Improvements Loan Sinking Fund Commission  
dated 12th April 1921 at 2 p.m. affected by  
Mortgage 5964

CONTINUED

REGISTER

Declaration lodged as to loss of original of this certificate. Advertisements and Provisional certificate of title issued this 26<sup>th</sup> day of August 1932.

Lease 10762 of lots produced 31<sup>st</sup> August 1922 at 10.50 am. The Mayor, Councillors and Citizens of the City of Wellington to Smith and Smith Limited. Term 21 years from 3<sup>rd</sup> September 1918.

Lease 15582 of part lot 7 produced 26 January 1922 at 10.50 am. The Mayor, Councillors and Citizens of the City of Wellington to Smith and Smith Limited. Term 21 years from 27 July 1921.

Mortgage 186549 of Leases 14762 and 15582. Smith and Smith Limited to The National Bank of New Zealand Limited. Produced 8<sup>th</sup> May 1928 at 10.20 am.

The outstanding duplicate of this certificate having been found the above mentioned Provisional certificate of title is now cancelled. Entered 13<sup>th</sup> March 1929 at 10.10 am.

Transmission 22763 of lease 13998 to Anastata Christina Kennedy, James John Kennedy and Albert Arthur Corrigan. Produced 10<sup>th</sup> March 1929 at 10.10 am.

Transfer 201935 of lease 13998 the registered lessee to Anastata Christina Kennedy, Albert Arthur Corrigan, David William Madden and William Perry. Produced 10<sup>th</sup> March 1929 at 10.20 am.

Transfer 211333 of lease 13998 the registered lessee to Nellie John Bromie, David William Madden, Albert Arthur Corrigan and William Perry. Produced 5<sup>th</sup> March 1931 at 10.24 am.

Transmission 258140 of lease 13998 to David William Madden, Albert Arthur Corrigan and William Perry as survivors. Entered 13<sup>th</sup> June 1932 at 11.50 am.

Transfer 220494 of lease 13998. David William Madden, Albert Arthur Corrigan and William Perry to David William Madden, Albert Arthur Corrigan, William Perry and George Leonard Cooper. Produced 16<sup>th</sup> February 1934 at 2.56 pm.

Lease 22640 of lot 4 plan 10802. The Mayor, Councillors and Citizens of the City of Wellington to Smith and Smith Limited. Term 21 years from 3<sup>rd</sup> September 1924. Produced 16<sup>th</sup> May 1944 at 11.18 am.

Mortgage 251816 of Lease 22640 Smith and Smith Limited to The National Bank of New Zealand Limited. Produced 23<sup>rd</sup> May 1941 at 11.18 am.

Lease 13205 against Section 11.12.13.14.15.16.17.18.19.20.21.22.23.24.25.26.27.28.29.30.31.32.33.34.35.36.37.38.39.40.41.42.43.44.45.46.47.48.49.50.51.52.53.54.55.56.57.58.59.60.61.62.63.64.65.66.67.68.69.70.71.72.73.74.75.76.77.78.79.80.81.82.83.84.85.86.87.88.89.90.91.92.93.94.95.96.97.98.99.100. Produced 2<sup>nd</sup> June 1942 at 3.30 pm.

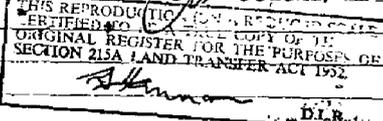
Lease 13332 of lot 2 plan 10802. The Mayor, Councillors and Citizens of the City of Wellington to David William Madden, Albert Arthur Corrigan, William Perry and George Leonard Cooper. Term 21 years from 27 July 1921. Produced 3<sup>rd</sup> March 1943 at 11.20 am.

Lease 23539 of lots 3 and 4 plan 10802. The Mayor, Councillors and Citizens of the City of Wellington to David William Madden, Albert Arthur Corrigan, William Perry and George Leonard Cooper. Term 21 years from 27 July 1921. Produced 18<sup>th</sup> August 1943 at 12.52 pm.

Lease 263878 of part section 33550. Smith Limited to The National Bank of New Zealand Limited. Produced 9<sup>th</sup> July 1944 at 2.36 pm.

Transmission 23332 of lease 23332 to William Perry and George Leonard Cooper as survivors. Entered 6.10.47 at 11.53.

Lease 24848 of lots 3 and 4 Plan 10802. The Mayor, Councillors and Citizens of the City of Wellington to Smith and Smith Limited. Term 15 years from 27<sup>th</sup> July 1943. Produced 13<sup>th</sup> May 1949 at 12.00 pm.



No. 337538.1 Certificate pursuant to Section 110(d) Public Works Act 1928 declaring part of the adjoining street (between Block 100000) to be a public street - 18.9.1979 at 9.32 a.m.

A.L.R.

No. 296645.1 Notice whereby that portion of  
Cuba Street adjoining hereto (3630 m<sup>2</sup>  
hatched black hereon) has been stopped and  
is now known as Section 1325 Town of  
Wellington situated in Block VII Port  
Nicholson Survey District - 11.1.1980 at  
10.35 a.m.

See C.T. 18 D | 503 *[Signature]*

A.L.R.



**COMPUTER FREEHOLD REGISTER  
UNDER LAND TRANSFER ACT 1952**



**Historical Search Copy**

  
R. W. Muir  
Registrar-General  
of Land

**Identifier** **WNC1/1333**  
**Land Registration District** **Wellington**  
**Date Issued** 30 April 1964

**Prior References**

WN125/1

---

**Estate** Fee Simple  
**Area** 501 square metres more or less  
**Legal Description** Lot 6 Deposited Plan 951

**Original Proprietors**

The Wellington City Council

---

**Interests**

10489371.1 Departmental dealing to add a purpose of Electric Tramway Purposes - 5.7.2016 at 9:10 am

Reference:  
Prior C/T. 125/1

Land and Deeds 69

No. C1 / 1333



# REGISTER

Transfer No.  
N/C. Order No.  
Loose Leaf Conversion

## CERTIFICATE OF TITLE UNDER LAND TRANSFER ACT

This Certificate dated the 30th day of April one thousand nine hundred and sixty-four under the seal of the District Land Registrar of the Land Registration District of WELLINGTON

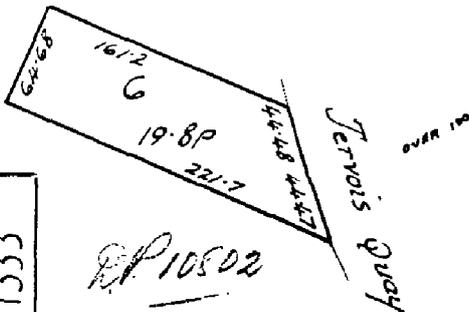
WITNESSETH that THE MAYOR COUNCILLORS and CITIZENS OF THE CITY OF WELLINGTON --

is seized of an estate in fee-simple (subject to such reservations, restrictions, encumbrances, liens, and interests as are notified by memorial underwritten or endorsed hereon) in the land hereinafter described, delineated with bold black lines on the plan hereon, be the several admeasurements a little more or less, that is to say: All that parcel of land containing 19.8 PERCHES more or less situate in the City of Wellington being part of Reserve K Town of Wellington and being also Lot 6 on Deposited Plan 951



Assistant Land Registrar

*Duplicate held in team 4*



*R.P. 10802*

No. C1 / 1333

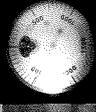
Scale: 1 inch = *1 chain*

EQUIVALENT METRIC  
AREA IS 5.01 m<sup>2</sup>



3185

4235, 13



AL 119  
1525  
209.72

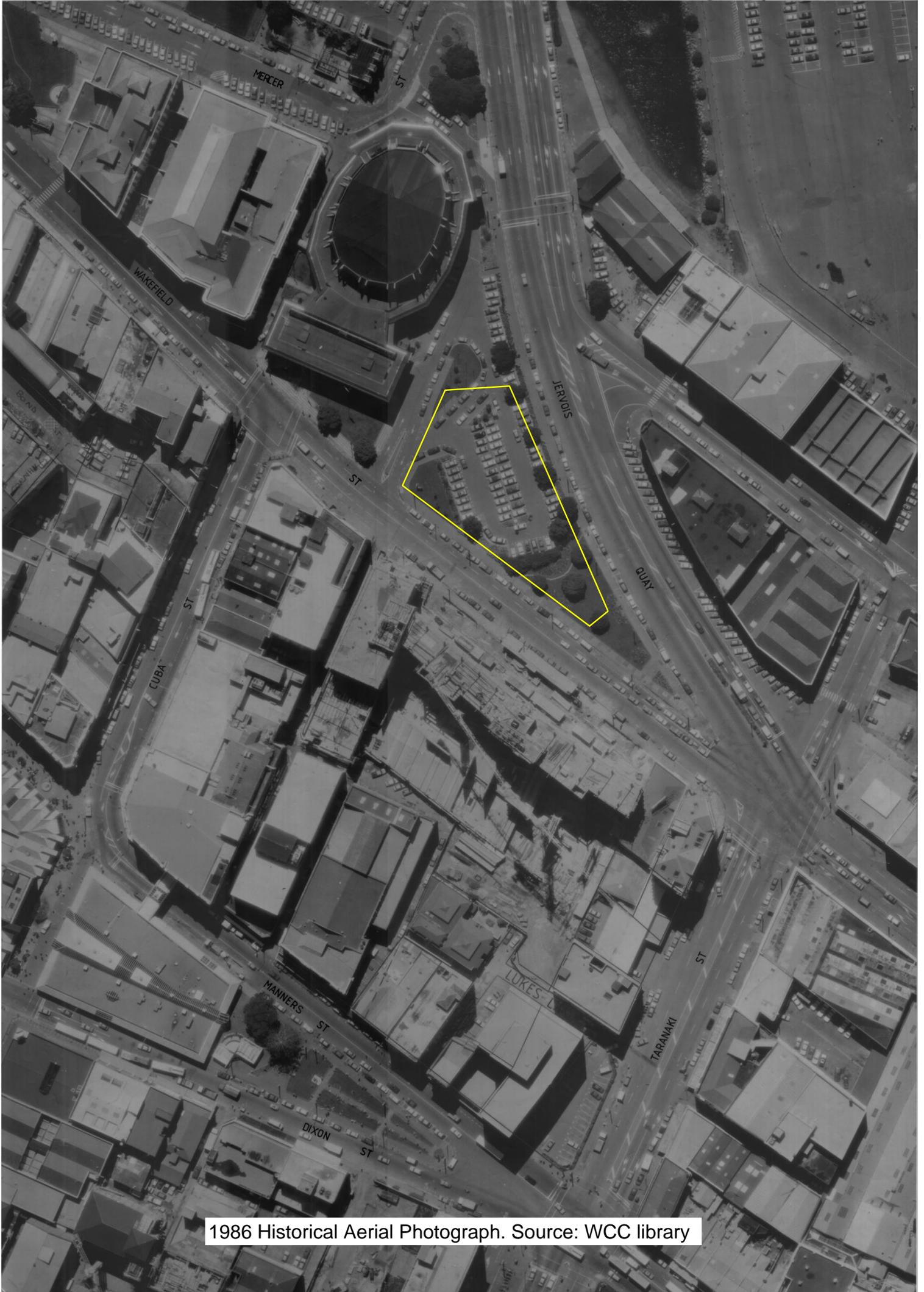


1969 Historical Aerial Photograph. Source: T+T library



1977 Historical Aerial Photograph. Source: WCC library

This photograph is from  
the original 1966 400 mm  
Kodak Ektachrome negative.  
Copyright Reserved  
DATE FLOWN 22-10-86  
FOR REORDERING PLEASE QUOTE S.N. 8421-0/26



1986 Historical Aerial Photograph. Source: WCC library



1996 Historical Aerial Photograph. Source: WCC Webmap

1/182-28/182

16

169

26-33

18

1001/1-1007/1

901/1-907/1

801/1-808/1

701/1-708/1

601/1-607/1

14

Market Lane

Wakefield St

Dimple Ave

Jarvis Quay

Operathouse Lane

110

132

25

136

138

142

148

170

150

178

107

124

126

128

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View showing the site of the tramway power house on the corner of Jervois Quay and Wakefield Street, Wellington



Date: ca 1930

Ref: EP-2496-1/2-G

View showing men clearing debris from the site of the tramway power house on the corner of Jervois Quay and Wakefield Street after it had been demolished. Taken by an unidentified photographer, circa 1930.

From box containing EP-2461 to 2497

Note on back of file print reads: Site of tramway power house, corner of Jervois Quay and Wakefield Str. 1930 Demolition was well underway 19 Feb 1930 (EP). Here the site is in the last stages of being cleared. The site was beautified with a concrete edged lawn. At the time it was intended that this would eventually be the site for a new Central Library.

Quantity: 1 b&w original negative(s).

Physical Description: Glass plate negative

Access restrictions: Partly restricted - Please use surrogate in place of original

## Wakefield Street and buildings on Jervois Quay, Wellington



Date: [ca 1930]

Ref: 1/1-024783-G

Wakefield Street (foreground), Wellington, with the premises of John Chambers and Son, and Inglis Bros and Co, on Jervois Quay. Photograph taken circa 1930 for the Wellington City Council, probably by F G Barker.

Source of descriptive information - Notes on file print

Quantity: 1 b&w original negative(s).

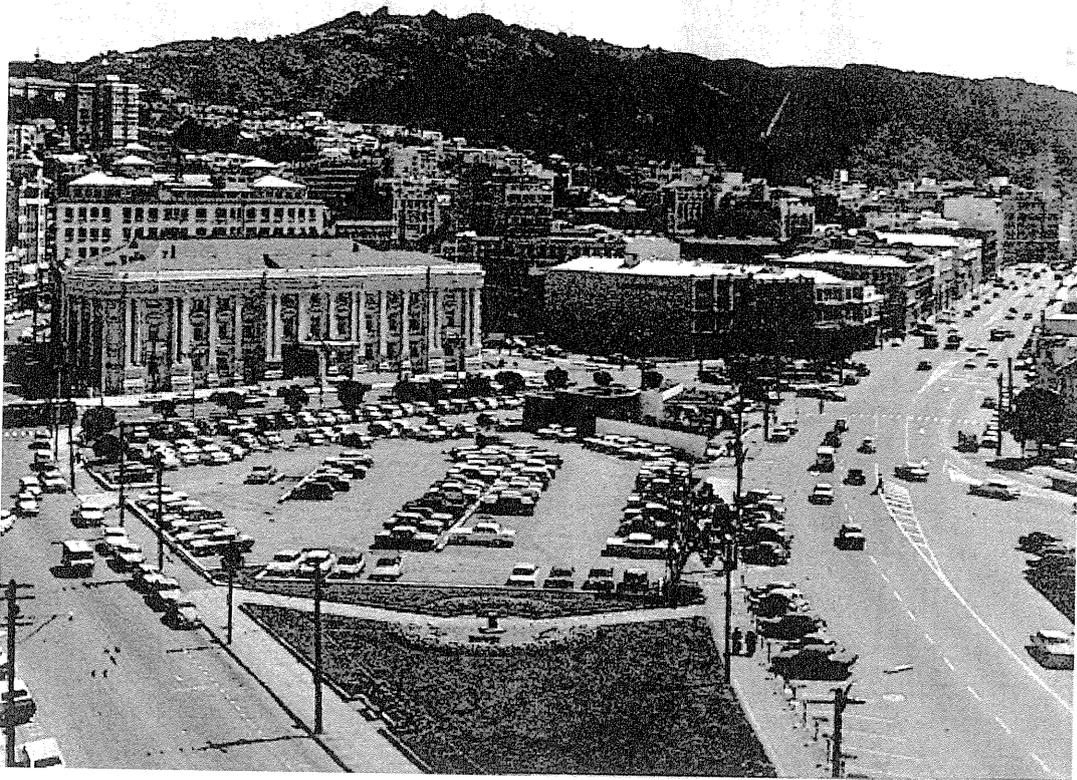
Physical Description: Dry plate glass negative

Access restrictions: Partly restricted - Please use surrogate in place of original

Part of: Wellington City Council :Negatives of Wellington taken for the Wellington City Council, chiefly by Frank Giles Barker

Format: 1 b&w original negative(s), Negatives, Dry plate glass negative, Orientation: Horizontal image

[See original record](#)



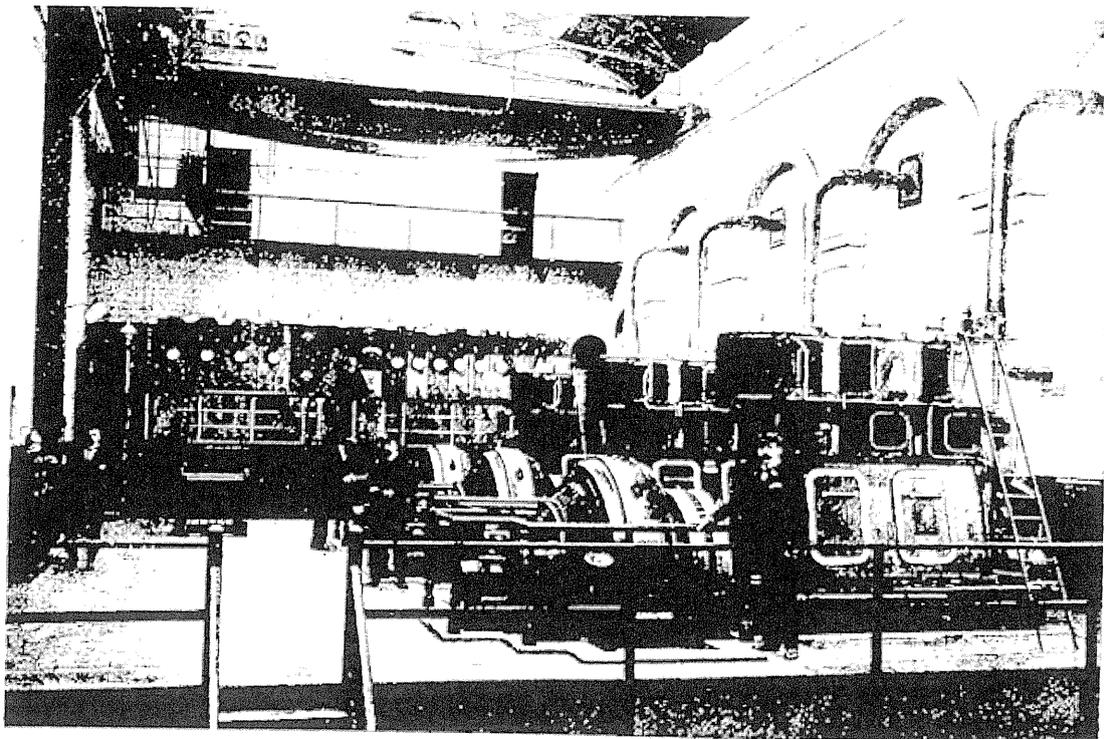
The newly cleared area in front of the Town Hall at the intersection of Wakefield Street and Jervis Quay.

## TRAMWAY POWER

### SERIOUS EFFECT OF A LOW TIDE

To say that an exceptionally low tide in Wellington yesterday made it exceedingly difficult to run the tramcars at certain hours might be regarded by many as incredulous. Yet it is a fact. The tramway authorities had a very anxious day, and the public was considerably inconvenienced during the rush hours from 5.30 o'clock up to 8 o'clock. The supply of current was very meagre owing to the fact that sea-water could not be secured for the condensers. The water is conveyed to the power-house by means of a culvert which, it seems, has been put in too high to be effective when the tide drops below normal. Last evening the barometer was very high, and the tide unusually low. On top of that a strong southerly wind drew the water away from the culvert, and there was scarcely any available for the condensers. The position was much better to-day, although it was feared that stoppage might be necessary about half-past four.

The new boiler at the tramway power-house has been installed, and the fire has been started. It is expected that the boiler will be running on Thursday night, and in consequence the position will be considerably relieved. On Good Friday no cars whatever will be run, and on Saturday there will be a limited service only. Advantage will be taken of this opportunity to overhaul all the boilers and machinery at the power-house. Considerable progress has been made with the setting up of the new turbine at the power-house—a turbine of much greater power than any now in use. Unfortunately the pump intended to lift water for condensing purposes did not come to hand with the turbine, and this will occasion considerable delay. No word has yet been received of the shipping of the pump from England.



THE ENGINE ROOM OF THE WELLINGTON ELECTRIC TRAMWAYS  
POWER HOUSE.

---

*This article displays in one automatically-generated column. View the full page to see article in its original form.*

Architect unknown :Site plan of the Cable Street area / K.B.C.  
11/5/1942. 

Date: 1942

Ref: Plans-2002-058-014-066

Site plan of the Cable Street area, showing a concrete culvert, and the relative positions of the Odflins building, Harbour Board building, John Chambers, Inglis Brothers, Magnus Motors.

Quantity: 1 plan(s).

Physical Description: Ink drawings on tracing paper, 375 x 520 mm.

Provenance: Deposited by Mr Rob Mitchell in 2002.

Access restrictions: Partly restricted - Curator required

Format: 1 plan(s). Plans, Ink drawings, Architectural drawings, Ink drawings on tracing paper, 375 x 520 mm

[See original record](#) 

Copyright: Unknown

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< Catalogue 1

Sort: None



Search:

Title:

Creator:

Description:

Library Reference:

Date From:

YYYY

Date To:

YYYY

Level:

(any)

Language of Material:

(any)

Search

Includes Digital Content:

Only Born Digital Content:

Only Digitised Content:

[Search Tips](#)

## Road grader doing preparatory work for the building o

### Summary

**Title:** Road grader doing preparatory work for the building of  
**Reference:** PAColl-5927-22  
**Date(s):** [ca 21 February 1942]

*Earliest*

1942

### Extent:

Quantity	Type
1	b&w original photographic print(s)

### Digital Content:

Yes - [View Digital Copy](#)

### Level:

Item

### Repository:

Alexander Turnbull Library, Wellington, New Zealand

### Access and Use

### Access Restriction:

Partly restricted - Please use surrogate in place of or

### Details

### Scope and Contents:

Road grader doing preparatory work for the building o

### Physical Facet:

Type	Details
Orientation	Horizontal ir

### Indexing Terms

### Subjects:

[Graders \(Earthmoving machinery\)](#)

[Air raid shelters - New Zealand - Wellington Region](#)

### Places:

[Wakefield Street](#)

### Genre/Form:

[Photographs](#)

### Related Items

### Parent Object:

[PAColl-5927. Evening Post original photographic pri  
newspaper \(PA-Group-00287\). \[Item\]](#)

[Copyright And Privacy](#)

[Contact Us](#)

[Ask A Librarian](#)



**Title** Road grader doing preparatory work for the building of an air raid shelter, Wakefield Street, Wellington  
**System Reference** Tiaki : PAColl-5927-22

This image is provided for research purposes and must not be reproduced without the permission of the Alexander Turnbull Library and, where appropriate, the copyright holder.



< Catalogue 1

Sort: None



Search: \_\_\_\_\_

Title: \_\_\_\_\_

Creator: \_\_\_\_\_

Description: \_\_\_\_\_

Library Reference: \_\_\_\_\_

Date From: \_\_\_\_\_

YYYY

Date To: \_\_\_\_\_

YYYY

Level: \_\_\_\_\_

(any) ▾

Language of Material: \_\_\_\_\_

(any) ▾

Search

Includes Digital Content:

Only Born Digital Content:

Only Digitised Content:

[Search Tips](#)

## Constructing an air raid shelter.

### Summary

**Title:** Constructing an air raid shelter.

**Reference:** PAColl-0783-2-0063

**Date(s):** 1942

<i>Earliest</i>	<i>Latest</i>
1942	1942

**Extent:**

<i>Quantity</i>	<i>Type</i>
1	b&w original photographic print(s)

**Digital Content:** Yes - [View Digital Copy](#)

**Level:** Piece

**Repository:** Alexander Turnbull Library, Wellington, New Zealand

### Access and Use

**Access Restriction:** Partly restricted - Please use surrogate in place of or

### Details

**Scope and Contents:** Group of men putting up the walls of an air raid shell

### Indexing Terms

**Subjects:**

[Air raid shelters - New Zealand - Auckland Region](#)

[Men](#)

[World War, 1914-1918](#)

**Places:** [Auckland City](#)

**Genre/Form:** [Photographs](#)

### Related Items

**Parent Object:** [PAColl-0783-2. Industrial war effort photographs. 19](#)

[Copyright And Privacy](#)

[Contact Us](#)

[Ask A Librarian](#)



Title Constructing an air raid shelter.  
System Reference Tiaki : PAColl-0783-2-0063

# TANGLE CONTINUES SKATING, BUT NO GAMES

## GOODS TO BE SHIFTED

After eight months of delay, confusion, and cross purposes over the provision of a skating rink and an indoor sports stadium for members of all the Services, it has been decided by a sub-committee of the Wellington Patriotic Committee, with the Mayor as chairman, not to proceed with the sports stadium and that skating is to be provided in the former Civic Rink (old tramway power-house) and not in the Glide Rink (known as Kenner's Building), as formerly decided by the Patriotic Committee.

For some time both buildings have been used by the Government as emergency stores for bulk foodstuffs built up when the Pacific threat was serious, and it has been the impossibility of getting these goods removed which has till now prevented the buildings being reopened to provide badly-needed active recreation.

Some months ago the American authorities offered to convert, equip, and manage the power-house building as a sports centre for the benefit of all the Services, American and New Zealand, and to hand the revenue to the Patriotic Committee. The American authorities, furthermore, provided transport for the greater part of the New Zealand-owned goods stored in the power-house, but for many weeks there has been no further movement. The American authorities have, because of delay and changed circumstances, now withdrawn their offer to equip

now withdrawn their offer to equip and operate the indoor sports centre.

### **PRIME MINISTER'S INSTRUCTION.**

Following recent discussions, the Prime Minister (Mr. Fraser) gave definite instructions that the goods were to be removed from both buildings without more delay. The instruction has been carried out as regards the Glide Building, but 900 tons of food-stuffs remain in the old power-house.

Both buildings are in Wakefield Street, on opposite sides of the street. The Glide has a low stud, and as regards entertainment is suitable for skating and no other purpose. The power-house has a very high stud, and is the only existing building which can be adapted for sports purposes. The floor of the Glide would require some attention, and that and other brightening up would cost about £300. The power-house floor is in good order.

The decision of the sub-committee of the Patriotic Committee is that the 900 tons of goods still in the power-house building shall be shifted across the street into the Glide Building. While one consequence of that decision will be that skating may be provided a fortnight earlier, another consequence is that there will be no present possibility of providing a full-time indoor sports stadium, because the power-house is the one existing building capable for conversion for that purpose.

The cost of shifting the goods from one rink and restacking them in another across the street will be £400.

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*This article displays in one automatically-generated column. [View the full page](#) to see article in its original form.*

## **TANGLE CONTINUES**

EVENING POST, VOLUME CXXXVI, ISSUE 39, 14 AUGUST 1943

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23rd Aug, 1929

I.E.

Dear Sir,

Dear Sir,-

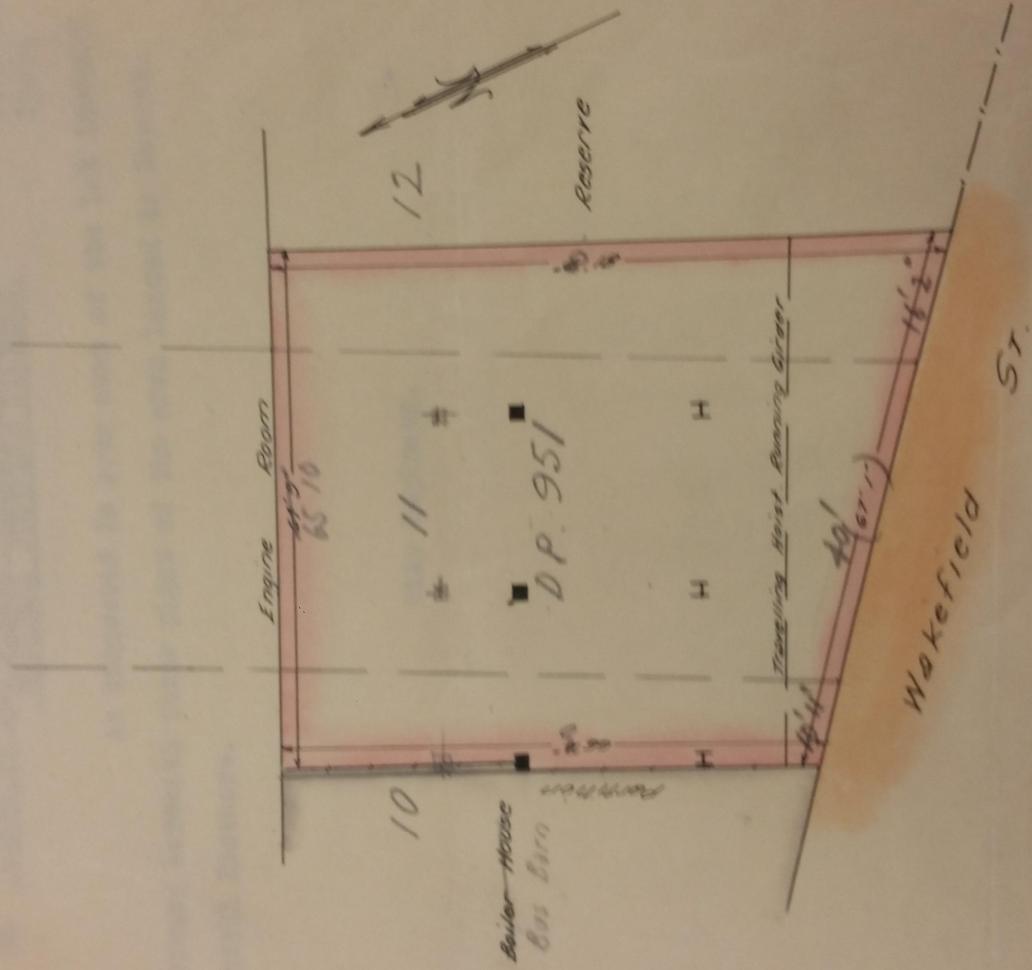
In reply to your letter re demolition of the Brick Chimney Stack at the Old Framway Power House, Jervais Quay, I have to inform you that the Council have accepted the tender of Messrs. White and Brook.

I am, however, to thank you for your tender, and return herewith your deposit cheque for £5. It will not be necessary for you to furnish a receipt to the City Corporation.

Yours faithfully,

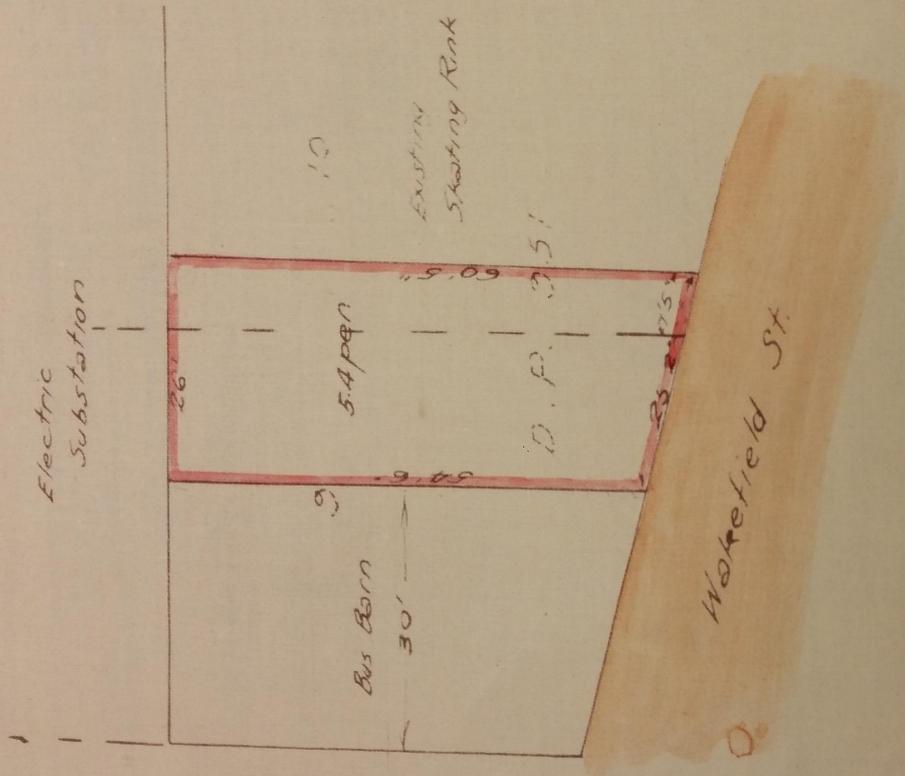
The City Solicitor will be instructed to provide Town Clerk.

Messrs. Hunter and Matteson, 13 Henry Street,  
Mr. James Hargrave, 212 Rintoul Street



Note: Permit alterations  
by T.A. Survey 2/10/37

P. 100 showing...



Plan showing portion of Old Boiler House: Wakefield St. to be leased

Scale: 20ft. to an Inch.

JWL, ML

Memorandum for

The City Engineer,

Wellington.

Lease of Old Boiler House: Valesfield Street: Blundell Brothers Limited:

Herewith I forward plan of the area leased to Blundell Brothers. Would you please prepare three further copies of the plan similarly coloured as soon as possible and return all four copies to me.

*John Blundell*

City Solicitor.



*John Blundell*  
*Blundell Brothers*  
*1/12/13*  
*Blundell Brothers*

40  
 19-2-84  
 20-2-84  
 21-2-84  
 22-2-84  
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 25-2-84  
 26-2-84  
 27-2-84  
 28-2-84  
 29-2-84  
 30-2-84  
 31-2-84

Inspector: Mason SR 83  
 House No. 29 Lot Sec. 15 D.P. Wood Street  
 Description: Household Colls.  
 Dwelling 25/7H

Occupier: Mrs. M. King  
29 Glenmore Road

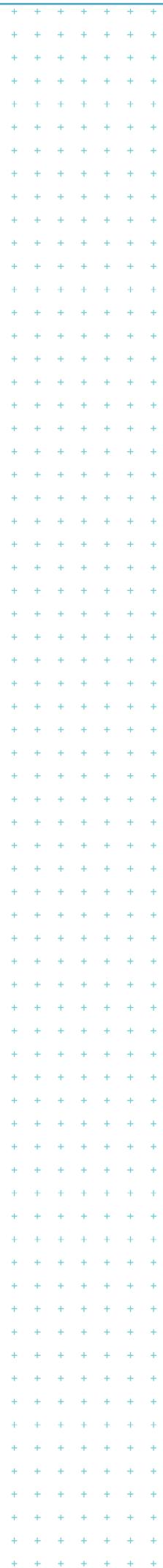
Inspection Dates 19-2-84 29-2-84 29-2-84 29-2-84  
843-393 843-393 843-393 843-393  
main sewer - brings up into water could be seen  
due to. Please contact Mr. Barker - 843-393.

29-2-84 A Mrs (S) male high bank on the location  
boundary of 29 Glenmore Rd. has a  
sprayed concrete covering which after  
some years has cracked and fallen away  
while the clay surface appears to be  
in some places that was no sign of  
any constant water flow.

The sewer main is ~~broken~~ in all the  
the bank was well tested for 2-3 h  
there is no reason to suspect the area  
sewer is contributing to the damage on  
face of bank.

Discussed findings with Mr. Barker and no  
for the moment repaired.

SR 83  
SR 83





---

## **Michael Fowler Centre Carpark Development Structural/Geotechnical Effects & Construction Methodology**

### **Statement of Structural & Geotechnical Effects as Relating to Wellington Water Infrastructure**

The purpose of this report is to identify likely effects on Wellington Water infrastructure arising from the proposed redevelopment of the Michael Fowler Centre Carpark (MFCC) site, and to identify appropriate mitigation, for the purpose of assisting with the Resource Consent application for the site.

#### **Geological profile of site**

The site's geological profile (top to bottom) comprises:

- Reclamation Fill
- Marine Deposits
- Alluvium
- Bedrock (varies across the site, possibly between 50-80 metres depth).

The Reclamation Fill and Marine Deposits (below groundwater level) have a potential for widespread liquefaction resulting in lateral spreading towards the Whairepo Lagoon. The upper zones of the Alluvium have a potential for localised pockets of liquefaction but lateral spreading within the Alluvium is unlikely.

#### **Proposed development**

The proposed development involves removal of the existing, temporary ballet building and construction of an 8-level office building of irregular plan form. The new building structure will be base-isolated to provide seismic life-safety protection coupled with Low Damage Design, and protection of contents, in excess of Building Code expectations.

The ground floor slab level of the new building will be set approximately 1m above existing ground levels to mitigate potential local inundation and sea-level rise flooding hazards as recommended in the **Aurecon Civil Infrastructure Report**.

## Piling strategy

The building structure will likely be founded on driven piles founded in the dense Alluvium at a minimum depth of 12m, expected to range down to 20m below ground. Specialist geotechnical engineering input is being provided by Tonkin & Taylor.

Piles are likely to be bottom-driven steel tubes which are then filled with concrete. These piles will:

- a) Transmit the vertical loads from the building, through the potentially liquefiable materials, down to competent founding.
- b) Transmit the lateral (seismic) loads from the building into the surrounding supporting soils.
- c) Resist the effects of potential liquefaction-induced lateral ground movement including ground lurch and lateral spreading.

Bottom-driven, steel-tube piles have been recently installed at the nearby Tākina (Wellington Convention Centre) site and Victoria Lane Apartments (161 Victoria Street) with the noise and vibration during installation successfully managed. The mitigation of the effects of the pile installation at the MFCC site, including noise and vibration, will be managed in a similar manner. Refer to Appendix A: *MFCC Driven Piling – Rationale & Mitigation*, and also to the **Marshall Day Associates Report XXXXX**.

## Protection of existing infrastructure

Within the site are two existing items of public utility infrastructure:

- 1) A large, underground, sewerage storage/detention tank, at the western end of the site; and
- 2) An old, buried, brick and concrete ovoid stormwater culvert running across the south-eastern corner of the site.

The proposed new building structure will be built over 50% of the tank plan area and over the culvert for a length of approximately 16m. The design intent is to:

- a) Protect the infrastructure from damage during construction.
- b) Protect the infrastructure from damage resulting from movement of the new MFCC building during a seismic event.
- c) Ensure that permanent building loads transmitted to the infrastructure are minimal.
- d) Make provision for future operations and maintenance of the infrastructure.

Refer to Appendix B: *Tank and Culvert – Protection and Access Protocols*

## Construction Methodology

The MFCC development permanent foundations will be constructed fully within the site. In-ground construction activities will include demolition, excavation, removal of existing foundations, piling, minor local de-watering and construction of the reinforced concrete foundation beams, concrete slabs and lift pits. The following

steps outline, in concept, the construction methodology that will be used. Refer also to the **LT McGuinness DSMP**.

1. Additional proof-drilling to determine depths for piles.
2. Site establishment, hoardings, protective footpath gantries, site sheds etc.
3. Storm-water protection/diversion etc. Temporary filters, kerbs etc. to prevent construction and excavation materials entering the storm-water system.
4. Pruning (by arborist) and protection of trees to be retained.
5. Designation/marketing of 'light-traffic' zones over tank and culvert.
6. Removal/demolition of the existing structures on the site. Note this includes the temporary ballet building, the elevated pedestrian bridge across Wakefield Street and an existing sculpture.
7. Site-wide bulk-excavation generally as shown on the bulk excavation plans, attached. This is likely to expose remaining foundations from previously demolished structures on the site. The excavated/demolished material shall be treated if required and disposed to landfill/cleanfill as appropriate.
8. Driving and pouring piles with protection measures and noise/vibration monitoring/management as necessary. Refer also to Appendices A and B.
9. Additional localised excavation together with temporary shoring works, as required, to form the pilecaps and foundation beams. The excavated material shall be assessed, treated if required and disposed to landfill/cleanfill as appropriate.
10. Installation of underground services as required.
11. Construction of concrete tidy slabs under pilecaps and the sub-ground floor slab.
12. Construction of the pilecaps, lift-pit, foundation beams and reinforced-concrete sub-ground floor slab.
13. Installation of the base-isolator bearings.
14. Construction of the superstructure.

## APPENDIX A - MFCC Driven Piling – Rationale & Mitigation

It is proposed to found the new building on ~150 bottom-driven, steel-tube piles. This technology involves driving hollow steel tubes, typically 450mm or 600mm in diameter, through poor overlying material into dense, competent founding strata at depth. The pile-driving hammer, instead of hitting the top of the pile, runs up and down inside the tube and typically hits a gravel plug at the base of the tube/pile.

The decision to utilise a driven pile type, rather than a drilled/bored pile is based on a comparative pile study carried out by Tonkin & Taylor and Dunning Thornton Consultants and more generally on Recommendation Number 26 issued by the Canterbury Earthquakes Royal Commission (Volume 1) that states: *Because driven piles have significant advantages over other pile types for reducing settlements in earthquake-resistant design, building consent authorities should allow driven piles to be used in urban settings where practical.*

The structural advantages can be summarised as follows:

- a) By displacing the surrounding soil as it is driven, it improves the soil around and more importantly below the pile.
- b) As it is driven to a 'set' (a prescribed maximum penetration for each blow of the driving hammer) it is effectively self-proving.
- c) The compaction of the ground through driving improves the overall bearing capacity of the pile. In particular, it improves the end bearing capacity, reduces the length of the pile and provides increased dependability (confidence) in variable soil such as the Alluvium. Additionally, they can be easily tested to verify their load carrying capacity compared to a bored pile.
- d) As it is driven, rather than drilled, it does not create large volumes of spoil that has to be disposed of, as occurs with a bored pile. However, it is common to pre-drill a limited depth (typically 3m) to pitch the piles prior to driving. At contaminated sites, the much-reduced soil removal is a particular advantage.
- e) The alternative drilled pile solution in these ground conditions is likely to involve a 1.2-1.8m diameter pile in the range of 35-45m deep (instead of 4-600mm diameter driven piles). The drilled option would require approximately 3 times the volume of concrete and the disposal of 50 cubic meters of spoil.
- f) Compared to screw-piles in the given founding conditions, the driven pile provides significantly enhanced vertical capacity, lateral capacity, stiffness and dependability. Note that the uncertainty of a screw pile founding condition is the same as a bored pile. Additionally, it is likely that there will be difficulty in advancing screw piles to the required founding depths and consequently augering will be required which increases the volume of contaminated soils excavated.

We do note that, pending developed design, there may also be a need for some drilled piles. They also may be utilised for the contractor's temporary tower crane foundations.

The perceived disadvantages of driven piles are noise and vibration. Conventionally, driven piles are top driven, precast concrete. The driving (the hammer hitting the top of the pile) occurs above ground creating a high level of noise. For bottom-driven,

steel-tube piles the driving impact occurs below ground reducing the audible sound by approximately 10 dB.

In relation to ground-transmitted vibration, the difference between top-driven and bottom-driven piles is not significant. Human perception of ground vibration/acceleration is acute and people may perceive vibration despite it not being of a magnitude which would initiate structural damage. Previous trial piling works within the Te Aro Basin indicate that average vibrations can be limited to around 10-15mm/s when piling is carried out close to a building. According to the German Standard, DIN 4150-3, levels below 20mm/s should not damage a building to the extent which affects the serviceability of a building.

Recent experience of bottom-driven piling in the vicinity of the MFCC has shown that the effects of vibration can be effectively managed. Management protocols will include:

- Identification of surrounding buildings where occupants may feel the vibration.
- Early and ongoing communications with potentially affected occupants.
- Precondition photographic surveys of closely adjacent buildings.
- Attachment of 3-D survey targets to nearby buildings and structures.
- The driving of test piles at different locations around the site coupled with measurement of vibration magnitude in potentially affected surrounding buildings and infrastructure.
- Setting of vibration maximums, measured at neighbouring buildings, that would be prescribed to the piling contractor.
- Pre-augering through upper stiff gravels layers, if required.
- During production piling, monitoring of vibration magnitude, in the surrounding buildings and infrastructure, on a real-time basis with pile driving energy inputs adjusted as required.
- Regular survey monitoring, of the targets, during production (and test) piling.

Projects where these piling protocols have been successfully implemented include:

- Tākina (Wellington Convention Centre)
- Victoria Lane Apartments

Both projects had close neighbours, both residential and commercial office.

Bottom-driven steel-tube piles were also successfully installed in the John Chambers Building and NZX, sites immediately to the north of the MFCC site.

## APPENDIX B - MFCC Tank & Culvert - Protection and Access Protocols

These protocols are intended to establish the principles for protection and maintenance access for the sewage holding tank and the stormwater culvert that will be partially covered by the proposed MFCC development building. Prior to the commencement of construction the contractor shall prepare a detailed site management plan that incorporates these protocols. Refer also to the attached drawings.

### Tank

- The new building shall be designed to span across the tank i.e. only minimal, permanent, vertical building loads shall be to be transmitted into the tank.
- A nominal, minimum pile clearance of 500mm from tank (base slab edge) shall be maintained. This will limit lateral load transference between piles and tank during seismic shaking.
- Piles within 4m of tank shall be pre-augered to 1m below base of tank.
- Tank to be assessed for liquefaction up-lift and, if necessary, additional hold-down provided. Initial indication from Tonkin & Taylor is that widespread liquefaction below the tank causing liquefaction-induced uplift is unlikely.
- Existing access point at western end of tank will be covered by the new building footprint. A new access point to be created at western edge of building plinth. This will lie outside of proposed driveway service access to the MFC.
- No heavy construction traffic (i.e. heavier than that already entering the MFC car park area) shall be permitted to pass-over/operate above tank. (Service traffic will continue to drive over tank.)
- Vibration levels at the tank will be monitored during pile driving – refer to *APPENDIX A - MFCC Driven Piling – Rationale & Mitigation*. No vibration issues are anticipated in relation to the tank.
- Existing fill above tank will be excavated, within the area of the new building footprint, to enable easier access to roof of tank for future maintenance.
- A pre-construction condition/damage survey of the tank shall be carried out. *Note: This has already been completed, refer to **Aurecon Civil Infrastructure Report**.*
- A post-construction condition/damage survey shall be carried out, following completion of the ground floor of the new building.

### Culvert

- The new building structure shall be designed to span across culvert i.e. only minimal, permanent, vertical building loads shall be to be transmitted into the culvert.
- Approximately 16m length of culvert will be covered by the new building.
- The extent/dimensions of the culvert shall be confirmed prior to the commencement of piling.

- Piles within 4m of culvert centreline shall be pre-augered to 3m below the base of the culvert and shall have permanent casings, larger in diameter than the driven piles, from underside of pilecap to 1m below base of culvert. This will limit lateral load transference between piles and culvert during seismic shaking. Refer to preliminary piling plan.
- A nominal, minimum clearance of 600mm from the face of culvert to the face of the permanent casing shall be maintained.
- The new building sub-ground floor slab and foundations will be designed to span over the culvert without applying loads to culvert and will be separated with compressible material.
- No heavy construction activities or traffic (i.e. heavier than that permitted over the adjacent road-covered sections of culvert) shall be allowed above the culvert within the MFCC site.
- Vibration levels at the culvert shall be monitored during pile driving (with allowable levels pre-determined through programme of test-driving). Refer to *APPENDIX A - MFCC Driven Piling – Rationale & Mitigation*.
- A pre-construction condition/damage survey of the culvert shall be carried out. *Note: This has already been completed, refer to **Aurecon Civil Infrastructure Report**.*
- A post-construction condition/damage survey of the culvert shall be carried out, following completion of ground floor of new building.

Attachments:

- 7952 S01-01 Pile Plan – Rev B
- 7952 S02-01 Excavation Plan - Rev B
- 7952 S02-03 Tank and Culvert Cross Sections – Rev A

**Dunning Thornton Consultants Ltd  
Tonkin & Taylor**

220127 – For Issue to Wellington Water

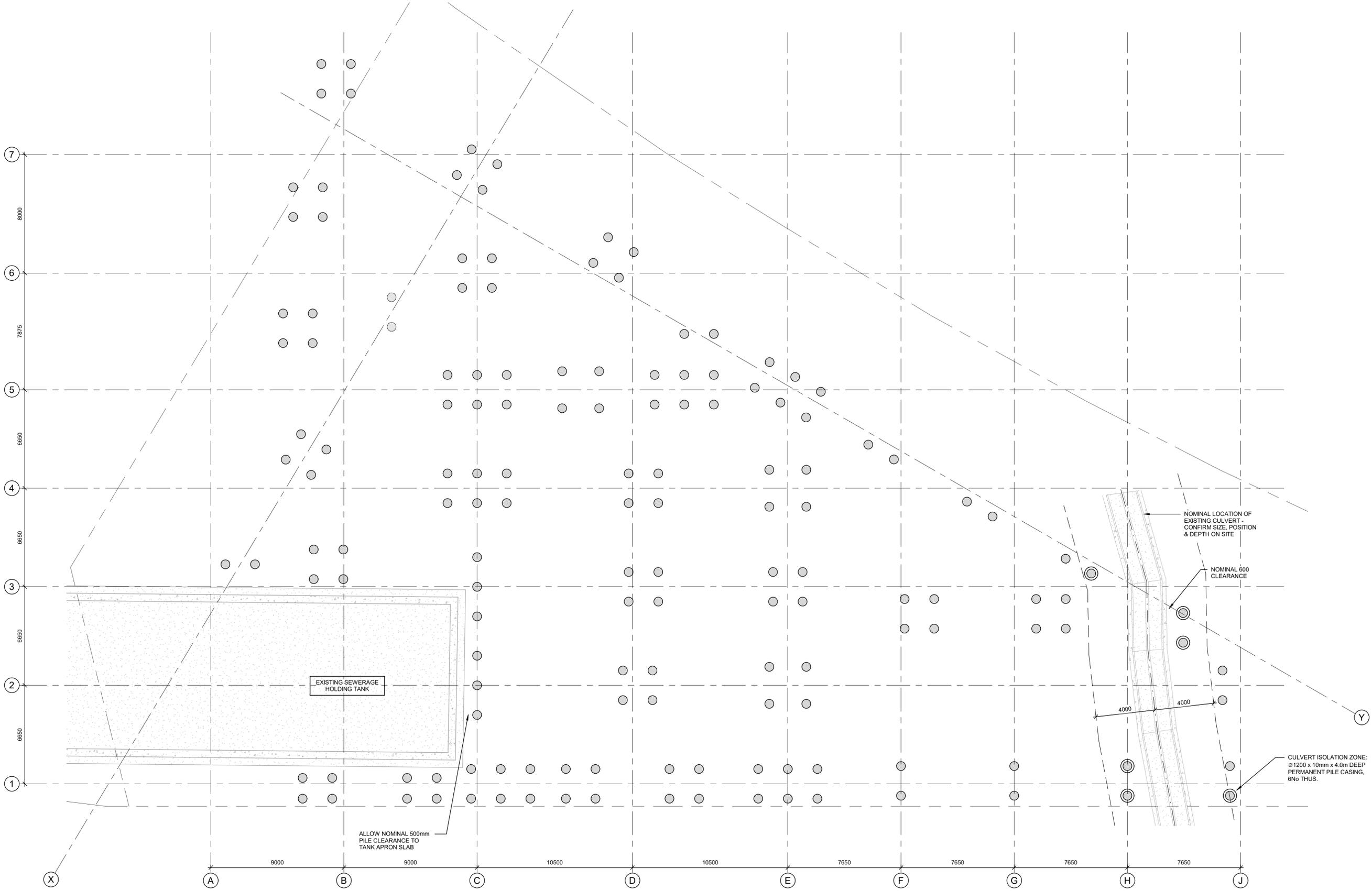
**General Notes (Do not scale off drawing)**  
 ALL PILE BOTTOM DRIVEN 610x10 CHS.  
 AVERAGE LENGTH 15.0m BELOW PILE  
 CAP LEVEL.

ORIGINAL SIZE A1

100

Original Scale

ORIGINAL SIZE A1



EXISTING SEWERAGE HOLDING TANK

ALLOW NOMINAL 500mm PILE CLEARANCE TO TANK APRON SLAB

NOMINAL LOCATION OF EXISTING CULVERT - CONFIRM SIZE, POSITION & DEPTH ON SITE

NOMINAL 600 CLEARANCE

CULVERT ISOLATION ZONE: Ø1200 x 10mm x 4.0m DEEP PERMANENT PILE CASING, 6No THUS.

WILLIS BOND & Co

MFC CARPARK

PILE PLAN

**REVISIONS**

Rev	Description	Date
B	RESOURCE CONSENT	
A	80% PRELIM DESIGN	26/11/2021

Scales 1:125  
 A3 Scales 1:250  
 Designed Chris Speed  
 Drawn Maurice Beckers  
 CAD Reference

Job Number 7952  
 Drawing Number S01-01  
 Rev B





ORIGINAL SIZE A1

100

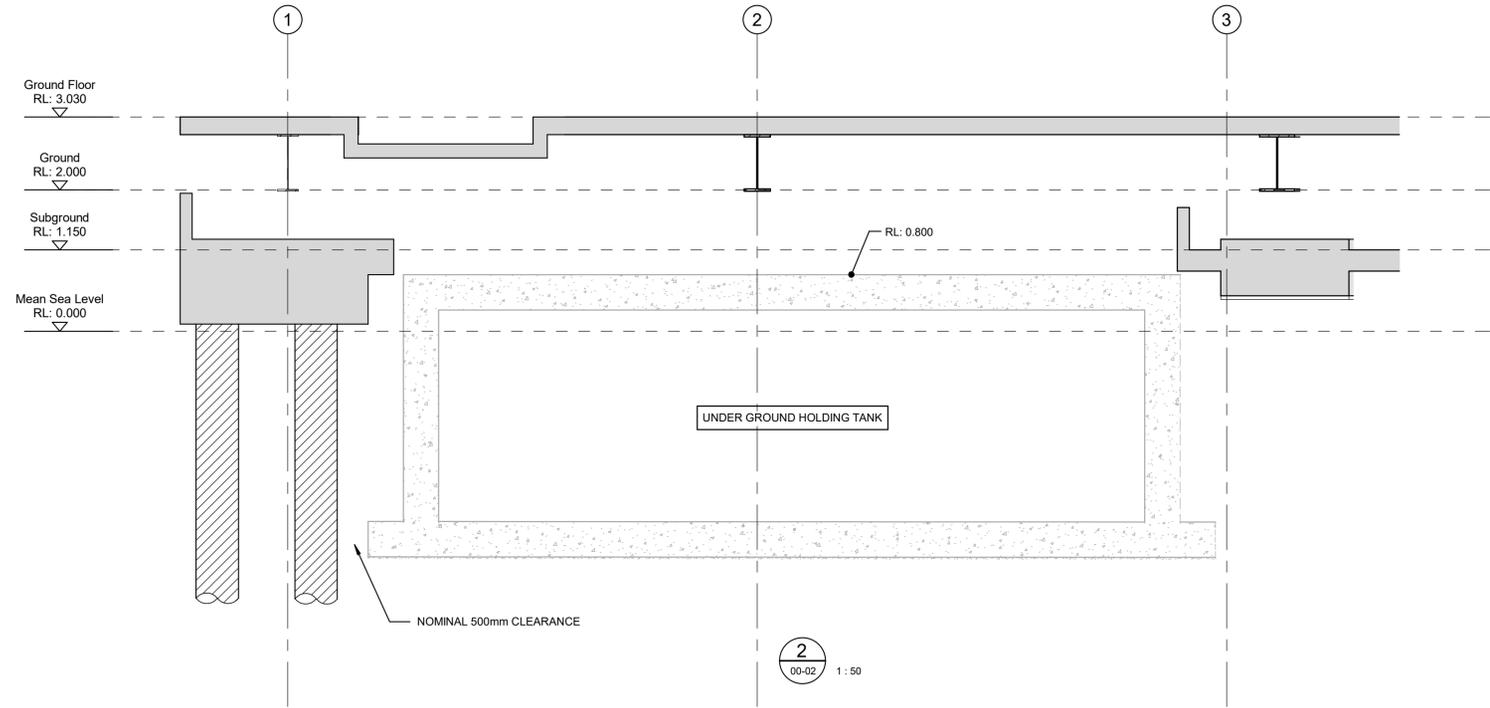
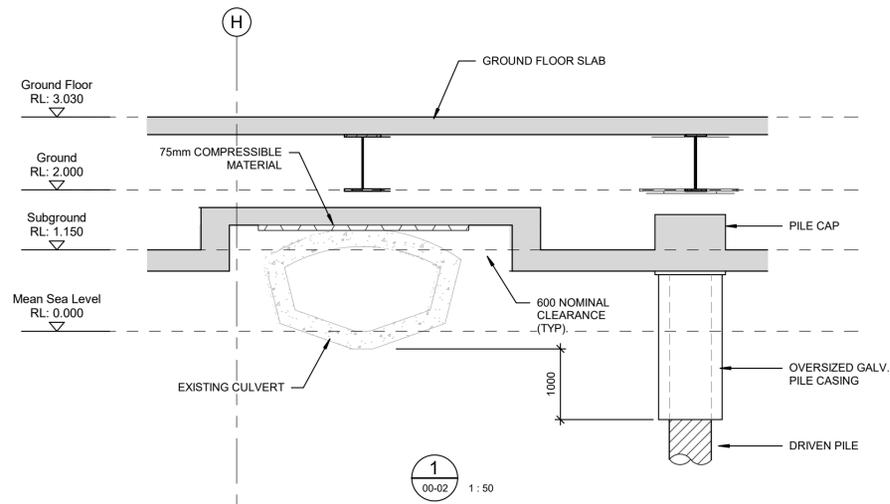
50

0

10

Original Scale

ORIGINAL SIZE A1



ORIGINAL SIZE A1

WILLIS BOND & Co

MFC CARPARK

TANK AND CULVERT  
CROSS SECTIONS

REVISIONS

NO.	DESCRIPTION	DATE
A	RESOURCE CONSENT	10/12/2021

Scales 1:50  
A3 Scales 1:100  
Designed Chris Speed  
Drawn Maurice Beckers  
CAD Reference

Job Number 7952  
Drawing Number S02-03  
Rev A

