



**FRASERS PUTNEY  
VICTORIA ROAD, RYDE, NSW**

**Construction Management Plan**

**Prepared for:**

**Frasers Putney Pty. Ltd**  
Level 11, 488 Kent Street  
Sydney NSW 2000

**Prepared by:**

**Meinhardt Infrastructure & Environment Pty Ltd**  
A.C.N. 100 868 979  
Level 4, 66 Clarence Street, Sydney 2000  
Tel: (02) 9669 3088 Fax: (02) 9319 7508

Project no: 104479-04  
Revision: 02  
Date of Issue: 17 February 2011

## Copyright

© Meinhardt Infrastructure & Environment Pty Ltd 2010

This document is subject to copyright. Use or copying of this document in whole or part without the written permission of Meinhardt Infrastructure & Environment Pty Ltd constitutes an infringement of copyright.

## Disclaimer

Information in this document is current as of November 2010. While all professional care has been undertaken in preparing the document, Meinhardt accepts no liability for loss or damages incurred as a result of reliance placed upon its content.

The mention of any company, product or process in this report does not constitute or imply endorsement by Meinhardt.





WASTE WISE IS A PROGRAM OF  
ECORECYCLE VICTORIA

Meinhardt Infrastructure & Environment Pty Ltd is a Waste Wise office.

This report is printed on 50% recycled content paper.

## Document status

Rev. no.	Document purpose	Project Engineer(s) / Scientist(s)	Reviewer	Approved for issue		
				Approved by	Signature	Date
00	Draft	P Diversi				
01	Stage1 Phase1 PA	E Eroksuz	D Boubli	D Boubli		17/2/11
02	Stage1 Phase1 PA	E Eroksuz	D Boubli	D Boubli		24/3/11

## Table of Contents

<b>1</b>	<b>INTRODUCTION.....</b>	<b>1</b>
1.1	Purpose of Report .....	1
1.2	Structure of the CMP .....	2
1.3	CMP Implementation .....	2
1.4	Limitations .....	2
<b>2</b>	<b>PROJECT INFORMATION.....</b>	<b>3</b>
2.1	Project Background .....	3
2.2	The Site.....	3
2.3	The Development .....	4
2.4	Construction Activities .....	4
2.4.1	General .....	4
2.4.2	Civil infrastructure.....	4
2.4.3	Building works.....	4
2.5	Working Hours.....	5
2.6	Approvals .....	5
2.7	Legislative framework.....	5
<b>3</b>	<b>MANAGEMENT OF THE SITE.....</b>	<b>6</b>
3.1	Management Structure .....	6
3.2	Responsibilities.....	6
3.3	Management Systems.....	6
3.3.1	Planning .....	7
3.3.2	Process Control .....	7
3.3.3	Document control.....	7
3.3.4	Monitoring And Measurement.....	7
3.3.5	Inspection And Test Records .....	8
3.3.6	Control of Non-Conformance .....	8
3.3.7	Corrective And Preventive Action .....	8
3.3.8	Records.....	9
3.3.9	Internal Audits .....	9
3.4	Consultation .....	9
3.4.1	General .....	9
3.4.2	Community Consultation .....	9
3.4.3	Complaints .....	10
3.5	Health and Safety .....	10
3.5.1	General .....	10
3.5.2	Security .....	10
3.5.3	Training .....	10
3.5.4	Emergency and Incident Response.....	11
3.6	Environmental Issues .....	11
<b>4</b>	<b>PROJECT ENVIRONMENTAL CONTROLS .....</b>	<b>12</b>
4.1	Site Safety, Security and Amenity .....	12
4.1.1	Fencing of Site.....	12
4.1.2	Safety and Security .....	12
4.1.3	Signage.....	12
4.1.4	Public Domain.....	13
4.1.5	Street Space Occupation .....	14
4.1.6	Excavation .....	14
4.1.7	Prevent Unsightly Premises.....	14

4.2	Stormwater, Erosion and Sediment control .....	14
4.3	Traffic Control / management.....	15
4.4	Noise and Vibration Management .....	15
4.5	Air quality and Dust Management .....	15
4.6	Earthworks .....	16
4.7	Contamination and Hazardous Materials Removal .....	16
4.8	Flora and Fauna Management.....	17
4.9	Heritage and archaeology.....	17
4.10	Construction Waste Management .....	17
<b>5</b>	<b>REFERENCES.....</b>	<b>18</b>

# 1 INTRODUCTION

## 1.1 Purpose of Report

The purpose of this Construction Management Plan (CMP) is to address a range of safety, health, traffic and amenity issues relating to the construction site and adjoining community. In addition its aim is to identify management of broader obligations such as recycling, waste management and environmental initiatives.

The CMP objectives include:

- Identify key environmental issues associated with the construction of the residential component for the Royal Rehabilitation Centre, Sydney (RRCS) redevelopment otherwise know as Frasers Putney;
- Minimise impacts to the environment during construction;
- Achieve compliance with regards to relevant regulatory requirements;
- Identify management procedures to achieve the above.

Specific objectives that the CMP will address will include:

- Ensuring public safety, amenity and site security;
- Minimising disruption to traffic (vehicles, pedestrians and cyclists) caused by construction activities to ensure the safety of all road users.
- Minimise erosion and the movement of sediments during all construction activities.
- Minimise noise and vibration during all construction activities;
- Minimise waste and provide management procedures;
- Management of flora and fauna;
- Ensuring air quality (airborne dust and pollutants) in and around the construction site is maintained at acceptable levels throughout the construction period;

In reference to the term 'minimise' the intent, within this CMP, is for best practice, design, construction and management procedures to be applied in order to mitigate and manage construction impacts.

In addition the CMP includes a monitoring, auditing and reporting regime for determining the effectiveness of the construction management program and identifying any deficiencies.

## **1.2 Structure of the CMP**

The structure of the CMP comprises three (3) key elements namely:

- Description of the site and construction activities
- Management of the Site
- Specific environmental controls to be implemented during construction

## **1.3 CMP Implementation**

This CMP is to be used by all project managers, contract superintendents and contractors responsible for the construction of the proposed Frasers Putney Development. Through its use, compliance with construction and environmental regulatory requirements will be achieved and impact to the public, contractors and environment will be minimised.

## **1.4 Limitations**

This Construction Management Plan has been developed based on an understanding of general construction activities associated with buildings and infrastructure, initial concept designs and preliminary construction site assessments. This CMP will be reviewed/revised following detailed design and prior to construction.

## 2 PROJECT INFORMATION

### 2.1 Project Background

Frasers Putney is located on the former Ryde Rehabilitation Centre Sydney, on Victoria Road Ryde which comprises a site area of around 17.8 hectares. The site has been in operation as a rehabilitation centre since 1899, and RRCS are proposing to relocate into new premises on a 2 hectare facility on the site near Morrison Road.

To date RRCS has undertaken extensive planning and consultation to conceptually plan the site into a residential community with mixed use of medical and community facilities. Concept Plan approval was obtained from the Minister for Planning on 23 March 2006.

Frasers Putney Pty. Ltd have purchased the remainder of the RRCS site which comprises 15.83 hectares of proposed residential development consisting of approximately 791 dwellings. The development of 15.8ha will be known as Frasers Putney and will include residential buildings and infrastructure works for associated future residential occupancy.

### 2.2 The Site

Frasers Putney is located within an area that is bounded by Charles Street, Morrison Road, Princess Street and Victoria Road as shown on the Site Plan shown in Appendix A. Table 2.1 indicates the main features of the site.

**Table 2.1 Summary of general Site Characteristics**

Site Characteristics	Comment
Site Address	600-642 Victoria Road, Ryde
Current Site Zoning	Various, as specified in SEPP Major Projects 2005
Approximate Site	15.8 hectares
General Topography	The regional topographic setting is undulating typically with slopes in the order of approximately 2-5°. The site is also undulating, although typically falls to the central-east section at approximately 5-15°; however, cut and fill layers in the central, north-east and south-west sections fall at up to approximately 45°.

The structures that currently exist on the site include:

- Timber, brick and concrete buildings;
- Internal asphaltic concrete paved roads;
- Paved carparks;
- Vacant grass areas;
- Detention basin with relatively steep batter slopes;
- RRCS facilities in buildings spread across the site.

## 2.3 The Development

The proposed development comprises residual land of 15.8 hectares being developed into a residential subdivision for up to 791 dwellings including roads, parkland, community and recreation centre and infrastructure services.

The residential component will:

- Apartment buildings
- Townhouse developments:
- Detached Houses

It is envisaged the development will be constructed in several stages with stage 1 being the eastern precinct located between Victoria Road and the central park. This stage will further then be developed in 4 phases. Construction of the first stage of the residential development will include about 118 dwellings comprising 60 apartments, 58 townhouses/semi detached/detached dwellings.

## 2.4 Construction Activities

The development of the site will include a variety of civil infrastructure and building construction activities such as:

### 2.4.1 General

- Site establishment including installation of site sheds and amenities and connection of temporary services

### 2.4.2 Civil infrastructure

Civil infrastructure works will include:

- Demolition
- Clearing and grubbing
- Bulk earthworks
- Stormwater drainage / trenching
- Road pavements i.e. laying gravels, asphalt and concrete
- Footpaths i.e. concrete and segmental pavers
- Utility services such as:
  - Water reticulation
  - Sewer mains
  - Gas mains
  - Electrical reticulation and street lighting
  - Telecommunication mains
- Traffic line marking and signage
- Street furniture
- Landscaping

### 2.4.3 Building works

Building works will include:

- Demolition
- Detail Earthworks / excavation
- Trenching

- Laying of services such as potable water, fire services, gas services, electrical services, telecommunication services
- Concreting and steel fixing
- Timber frames construction
- Structural steel
- Brick and block works
- Walling cladding and roofing
- Glazing
- Plastering
- Tiling
- Plumbing
- Electrical
- Carpentry and joinery
- Internal fitouts and furnishing

## **2.5 Working Hours**

The intended normal work hours for construction activities will be 7:30am to 5.00pm Monday to Friday and 8:00am to 1:00pm Saturdays. No construction works will occur on Sundays or Public Holidays. The Contractor may seek variations to these working hours and will obtain approval from the relevant authorities as required and provide a formal submission demonstrating that due to the nature of the work being undertaken, or the location of the site, residents in the vicinity of the construction site will not be adversely affected.

## **2.6 Approvals**

The consent plan approval for the total site was issued on the 31 July 2006 however subsequent approvals for developments sites and staging of works is likely to be required.

## **2.7 Legislative framework**

All activities carried out during the development will generally comply with the concept plan consent dated 31 July 2006, and the relevant provisions of legislation.

### **3 MANAGEMENT OF THE SITE**

#### **3.1 Management Structure**

It is envisaged the construction management of the site will be undertaken by Frasers and then selected Head Contractors will be engaged to construct selected works and buildings proposed.. The contractor will appoint and manage subcontractors and trades as required to undertake the works.

#### **3.2 Responsibilities**

Management responsibilities referred to in this CMP are applicable to the design and construction of Frasers Putney. Handover of responsibilities to operational managers will occur at the completion of the contractual maintenance periods for construction works.

Responsibility allocations noted within this document are abbreviated as follows:

PM = Project Manager,  
C = Contractor,  
SR = Superintendents Representative

Note numerous procedures in this CMP have more than one allocated responsible position.

Responsibilities generally apply as follows:

- The Project Manager is responsible for the design and construction program issues. Project Managers are responsible for carrying out risk assessments, and for setting up and ensuring the implementation of the management system on every project as appropriate;
- The Contractor is responsible for construction site management issues;
- The Superintendents Representative is responsible for monitoring activities and ensuring the Contractor fulfils construction management responsibilities.

#### **3.3 Management Systems**

It is intended that where possible the Contractors will have a certified quality system of operation. In particular the system will comprise but not be limited to:

- Planning
- Process control
- Document control
- Monitoring and measurement
- Control of Non conformances
- Corrective and Preventative Actions
- Records
- Internal Audits

### **3.3.1 Planning**

Prior to commencing works on site the Contractor will review and revise this CMP to suit revised construction methodologies and construction approval requirements.

In particular prior to works commencing, the Contractor will prepare a Project Plan, which will generally contain but not limited to Safety Inspection and Test Plans and Work Methodology Statements for the works.

A Site Plan attached will be developed for each stage and reviewed, revised and amended by the Contractor as appropriate prior to work commencing and displayed in key locations on site.

Environmental risk management is to be implemented on site where a significant environmental risk has been identified in the Project Plan.

Part of the CMP is to identify the environmental impacts of the activities, products and services used on the site that the site staff can control, or can be expected to have an influence during the course of the project. The CMP will incorporate appropriate risk control measures and preventive actions identified as part of the planning process. These may include such programs as prevention of pollution by the use of processes, practices, materials or products that eliminate, reduce or control pollution, for example: recycling, treatment, or process changes. It will also document contingency plans to meet foreseeable emergencies such as spillages etc.

### **3.3.2 Process Control**

At the commencement of the project, all significant risks associated with the activities, products and services used on the site that have or could have an impact on the environment, will be identified in this CMP. As such prior to commencing works the Contractor will prepare a Project Risk Register for the works. Where those identified risks can be controlled or minimised on site, procedures, together with their objectives, are sought from the list of management procedures specified in this CMP.

These identified risks could include various forms of pollution which could be controlled by the use of processes, practices, materials or products that avoid, reduce or control pollution which may include recycling, treatment, process changes or control mechanisms.

### **3.3.3 Document control**

Document control processes are addressed in the sections below and relate to specific procedures such as maintaining material safety data sheets (MSDS's), maintaining registers of dangerous goods / hazardous substances, keeping records of construction and maintenance checks, tests and inspections, lodging and recording of incidents, and non conformances etc. These procedures will be specific to each contractor and contractor's management system procedures manual.

### **3.3.4 Monitoring And Measurement**

#### **a) Monitoring Of Deliveries To Site**

All plant, equipment and materials delivered to the site will be inspected and checked to ensure they are in accordance with the design documentation. Furthermore they

will be inspected and or tested to ensure they, or their packaging has not deteriorated to an extent that may have an impact on the environment.

### **b) Monitoring In-Process**

Surveillance on the site will be conducted regularly to detect any site issues and to provide a mechanism for improving quality or environmental controls and detect any non-compliant impacts to the environment due to construction activities and ensure that air, water, soil and noise pollution is below regulatory limits. Regular construction, inspection and surveillance will be undertaken to ensure that work processes are being carried out on site, and environmental risk control measures are monitored on a pre-determined regular basis throughout the duration of the project. A site Environmental Management Plan (EMP) will be completed prior to construction certificate application being lodged.

### **3.3.5 Inspection And Test Records**

Inspection and Test Plans and Record Sheets will be developed by the Contractor prior to commencing work as required and will be used, reviewed and revised during the course of the works.

### **3.3.6 Control of Non-Conformance**

Should a non-conformance be identified in the works the Contractor will:

- Identify, locate and define the non-conformance
- Identify the probable cause
- Recommend the remedial action to be taken to rectify the non-conformance
- Implement the remedial action
- Re-inspect the non-conformance
- Record the action taken

### **3.3.7 Corrective And Preventive Action**

In the event of an incident, which impacts on the project quality, safety or environment, procedures for corrective action shall be followed.

This action shall include:

- Investigating the cause of the action (Refer to 3.3.6 Control of Non-Conformance)
- Initiating corrective actions to deal with the cause of the problem to ensure that there will be no recurrence.
- Documenting the remedial procedure and reporting the actions taken to appropriate levels of management.
- Providing a follow-up investigation to ensure the integrity of the corrective action taken.
- Establishing records and communication outcomes within the company to ensure that preventive actions will be taken to ensure that there will be no occurrence on future works.

### **3.3.8 Records**

A system will be maintained for filing both hard copy and electronic media records, which allows their easy access and which allows them to be stored in facilities that provide a suitable environment to minimise deterioration, damage and loss. The same filing system will be used for records filed on site and in the contractor's offices. Unless otherwise specified, CMP records will be held in the contractor's office or off-site storage centre for a period of seven (7) years from the date of Practical Completion.

Contractors will have a specific records management procedure, which will be included in their Management System Procedures Manual

### **3.3.9 Internal Audits**

To ensure that the project CMP is being followed correctly, project implementation will be monitored daily by the Contractor. However internal audits will be conducted periodically all projects, unless situations arise or the complexity and risk are such that they are necessitated during construction. Monitoring and audit requirements will be set out in the Project Plan.

## **3.4 Consultation**

### **3.4.1 General**

The planning and implementation of any construction works will be completed in consultation with the following relevant authorities where applicable:

- Department of Planning (DoP)
- Ryde City Council (RCC)
- Road and Traffic Authority (RTA)
- Sydney Water Corporation (SWC)
- Other State Agencies
- Energy Australia (EA)
- AGL or Agility
- Telstra
- Work Cover Authority (WCA)

### **3.4.2 Community Consultation**

To accompany the public announcement of the project, Frasers Putney Pty Ltd will issue a Communications and Consultation Plan, based on the Communications and Consultation Framework for the project.

A main component of this plan is for the Developer/ Contractor to keep the local community informed of the project's progress at all stages of construction.

Key communication techniques proposed include:

- Web based information. The developer will update quality information on either their or a project based website to relay progress on their project(s).
- A Community Relations contact telephone number, to allow questions and complaints to be answered and managed early and efficiently as well as providing an avenue for issue identification.
- Displays and Information sessions. At regular intervals from immediately pre-construction through to completion, community information sessions provide a forum for dissemination of more detailed project information and access to the project team to progress particular concerns or issues.
- A community newsletter will be published every month to provide updated information on the project.
- Media releases and advertorials will be placed in the local media monthly to provided the latest information on the project.
- A Consultation Database. A comprehensive database that can manage all project contacts, be interrogated thoroughly and provides a tracking mechanism for issues.

### **3.4.3 Complaints**

All complaints will be managed and resolved as quickly and efficiently as possible. A set of Complaint Management Protocols and Procedures will be set out in the Communications and Consultation Plan, and will facilitate a comprehensive and equitable approach to managing issues as they arise.

## **3.5 Health and Safety**

### **3.5.1 General**

The construction works will be undertaken in accordance with the OHS Act 2000 and Regulation 2001. As such prior to construction the Contractor will prepare a Safety Plan for the site.

### **3.5.2 Security**

Prior to work commencing on site the Contractor will fence the stage of works on site with a secure chainwire fence 1.8m high to prevent uncontrolled access to the site by the public and other parties. Notices lettered in accordance with AS 1319 and displaying the appropriate notices to warn the public will be fixed to the fencing where required.

Builder identification signage will be displayed indicating the builder's or contact person's name and contact phone number. A contact telephone number will be provided on the sign which will be available 24 hours a day and 7 days per week.

### **3.5.3 Training**

All staff and contractors working on site will be required to have a Work Cover "Green Card" accredited construction training card.

Prior to staff and subcontractors entering site they will be inducted into the site. The site induction will advise them of, but not limited to:

- Entry and exit locations
- Location of amenities and ablution facilities
- First aid officer and facilities
- Emergency muster location
- Site plan & important items
- Personnel Protective Equipment (PPE)
- Site specific risks and requirements
- Other OHS matters

#### **3.5.4 Emergency and Incident Response**

Prior to commencing works on site the Contractor will prepare emergency and incident response procedures to ensure that all incidents will be managed and resolved as quickly as possible and with the minimum impact to the human health and the environment.

#### **3.6 Environmental Issues**

Prior to commencing work on site an Environmental Management Plan will be prepared for the works and submitted to the relevant consent authority for approval prior to issue of the Construction Certificate. The EMP will provide control procedures and checklists so as to prevent construction adversely impacting on the environment.

The EMP will form part of the CMP. In particular the EMP will include controls for, but not be limited to:

- Site Safety, Security and Amenity
- Erosion and Sediment control
- Traffic Control / management
- Noise and Vibration Management
- Air quality and Dust
- Flora and Fauna Management
- Earthworks
- Contamination and Hazardous Materials Removal
- Heritage and archaeology
- Construction Waste management

## **4 PROJECT ENVIRONMENTAL CONTROLS**

### **4.1 Site Safety, Security and Amenity**

Site Safety, Security and Amenity measures will be provided to ensure the general public is adequately protected from activities occurring on site.

In particular the site will be kept neat and tidy to maintain public safety and local amenity. Consultation will be undertaken with the council in the area should the proposed works have any likely impact on their local amenity.

#### **4.1.1 Fencing of Site**

Prior to works commencing on each stage of the development, the site will be secured by a fence, hoarding or other suitable barrier.

Before and during building work, all excavations will be fenced so they do not pose a danger to life or property.

Hoardings, barriers and other perimeter fencing will be suitably lined to limit public viewing to designated viewing areas. This will ensure pedestrian flow is not impeded and adequate site-public interaction is accommodated.

#### **4.1.2 Safety and Security**

Adequate lighting, safety signage and traffic controls will be provided during the works. In particular traffic controls and a traffic management plan will comply with AS 1742 Series Manual of Uniform Traffic Control Devices and/or Council requirements.

Security measures will be provided by the contractor to prevent construction work or protective measures from facilitating unauthorised access to an adjoining building(s) or work sites and to safeguard site materials and equipment.

The contractor will provide adequate storage facilities for the dangerous chemicals which will be properly stored in secure areas located away from emergency exits, other safety measures or stormwater pits. Required quantities of chemicals will be nominated for use on site and procedures implemented for the location of storage facilities, secure access and spillage procedures.

#### **4.1.3 Signage**

Signage specifying any security measures and key contact details will be erected on the perimeter of the building site (i.e. attached to the building, fence or hoarding). This signage will provide a 24-hour contact name and phone number.

Signage of the work site should include, but not limited to:

- Provision of adequate warning of changes in the road surface or in driving conditions and of personnel or plant engaged in work on the road;
- Safely guiding road users such as pedestrians and cyclists through, around or past the work site; and

- Protect workers on site.

Any sign, road markings, street furniture, etc, affected by the works shall be relocated or protected as required and, or, kept in good repair.

Traffic control devices will be provided to satisfy to the minimum standards outlined in AS 1742.3-1996 "Traffic Control Devices For Work On Roads".

#### **4.1.4 Public Domain**

Prior to construction commencing the contractor will undertake a dilapidation survey and report of all public domain areas adjacent to the site. Any damage to the footpath, road, kerb and gutter, stormwater drains and street furniture that results from excavation, demolition and building work will be repaired following completion of the works. Any works, which may impact on pedestrians, cyclists and motorists' safety, shall be repaired immediately and in accordance with the Ryde Council's requirements.

Bicycle paths will be maintained where existing bicycle accesses are provided adjacent to the construction site.

The contractor will ensure trip hazards are prevented from the hoarding or perimeter fencing on nearby footpaths. Electrical, plumbing and other services extending over footpaths will be covered over, and pedestrian and disability access facilitated by a ramp. Ramps will have a non-slip surface, a handrail, and a minimum gradient of 1:14 unless the existing topography of the street or road requires some variation to this ratio.

In order to protect the general public from construction, all loading and unloading of vehicles will be undertaken on site. Further all construction materials will be stored onsite and not in the street or public space.

Should any skips or rubbish bins be required in public areas, these shall be installed in accordance with the following procedures:

- Skips or rubbish bins will be placed away from public thoroughfares, pedestrian and bicycle access areas
- Application will be made to council, fees paid and written approval granted prior to any container or skip being placed on the footpath section of any public road.
- These applications are to include times and methods for loading and unloading of bins or skips, and indicate location and height of any chutes (if proposed)

It is envisaged that cranes or mobile lifting equipment will be required for the construction of apartment buildings. Should works be required in public roads, the Contractor will provide the following details to the relevant authorities for their approval. The contractor will provide details of:

- Location, type and size of crane to be used
- Lifting zones for medium to long term use of the equipment
- Procedures and lifting techniques to ensure safety on adjoining streets and footpaths
- Traffic management controls and signage.

#### **4.1.5 Street Space Occupation**

Adequate barriers will be installed to prevent the public from accessing the construction area. Any occupation or activity presenting a hazard to the public will be provided with suitable barriers and signage.

During the works, provision will be made for pedestrians to pass the work site safely. As such a desirable footpath width of 2m will be maintained where appropriate however an absolute minimum width of 1.2m will be provide at local constrictions. Where possible, two way passing bays 1.8m wide should be provided at not more than 20m intervals. Where it is necessary to direct pedestrians onto the road carriageway, adequate warning signs and barricades will be provided.

#### **4.1.6 Excavation**

Excavations adjacent to or in close proximity to a road or pathway will be designed to support the road or pathway.

Prior to obtaining a Construction Certificate for each stage of works on site, an Earthworks Plan will be prepared and submitted to the relevant authority for their approval. The Earthworks Plan will show proposed excavation and fill levels.

#### **4.1.7 Prevent Unsightly Premises**

Raw materials stored on the site will be adequately secured to prevent unnecessary and unsightly dispersal of the materials around the site and public areas (streets and footpaths).

Trucks leaving the site will be adequately cleaned to ensure soil, mud and other site debris is prevented from spilling onto adjoining roads and footpaths. Roads and footpaths will be cleaned on a regular basis and not less than daily using brooms, mechanical street sweepers or other similar equipment with consideration to limiting water usage and pollution.

### **4.2 Stormwater, Erosion and Sediment control**

Stormwater, Erosion and Sediment controls will be implemented to prevent contamination of, or damage to, stormwater drains and waterways and to ensure sediment from the building site is retained on-site during construction work.

Prior to works commencing, a Stormwater Management Plan (SMP) will be developed for each separate stage of the development and submitted to the consent authority for approval. The SMP will demonstrate the following:

- Site water retention will not cause structural damage to excavations or retaining walls
- Drainage of the site to the legal point of discharge throughout construction
- Prevention of stormwater entering adjoining properties or into the sewerage system
- Capture and filtering of stormwater in sediment control points before entering the legal point of discharge.

### **4.3 Traffic Control / management**

Traffic Controls will be implemented during the works to minimise disruption to traffic (vehicles, pedestrians and cyclists) caused by construction activities.

Prior to works commencing in Victoria Road a Traffic Management Plan (TMP) will be prepared and issued to the consent authority and obtain their approval. The TMP shall be prepared in accordance with RTA guidelines and show:

- Location and extent of the proposed works
- Staging and timing of the proposed works
- Requirements of any Site Security and Safety Plan
- Emergency arrangements
- Traffic flows and movements
- Road safety issues
- Speed zones (including times)
- Pedestrian access and crossings
- Site and adjoining access
- Special audit/inspection provisions and/or recording methods requirements

### **4.4 Noise and Vibration Management**

Noise emissions from construction activities will be managed in accordance with EPA noise control guidelines (TG302/92) unless otherwise specified.

In order to limit noise impact on surrounding properties, construction, delivery and maintenance activities will be undertaken within the approved working hours obtained in the development consent.

All noise complaints will be acknowledged and responded to within 24 hours.

Noise monitoring will be conducted in response to complaints if necessary, and appropriate action taken as required. Measurements of noise levels will be carried out according to the procedures laid down by Protection Of The Environment Operations (Noise Control) Regulations 2000 Schedule 2.

Music noise will be managed in accordance with Protection Of The Environment Operations (Noise Control) Regulations 2000 Schedule 2.

### **4.5 Air quality and Dust Management**

Air quality and dust management will be implemented during the works to limit airborne dust and pollutants in and around the construction site at acceptable levels throughout the construction period.

In particular the Contractor will implement dust suppression techniques/equipment where required and consider:

- Weather and wind conditions
- Exposure/proximity to the public and surrounding buildings

- Proximity to air intake vents on adjacent buildings. Intake from these vents must be prevented through the installation of adequate filters or other approved measures.

Where appropriate, the Contractor will water large exposed earthworks areas to prevent dust generation.

#### **4.6 Earthworks**

The Contractor will excavate and fill the site to the approved levels. Fill will be placed and compacted in layers in accordance with the technical specification for the works. Surplus spoil will be disposed off site at approved locations.

Prior to importing fill onto site, the Contractor will obtain test certificates from the NATA accredited laboratories certifying the material is not contaminated and in accordance with EPA guidelines for use in residential developments.

Prior to commencing of any works, all best endeavours will be undertaken to identify and locate any existing services and take appropriate action for the treatment of such services.

#### **4.7 Contamination and Hazardous Materials Removal**

We note that Frasers have engaged a consult to prepare a Remediation Action Plan (RAP) for the site. As such all remediation works will be undertaken in accordance with the approved RAP. In the event that any suspected contamination is encountered during the works (e.g. buried waste), all work in the vicinity of these areas will cease.

The Contractor will implement measures to minimise water entering the suspected contaminated area (eg. diversion banks around the site) and sediment controls put in place to capture any potentially contaminated sediment.

In the event that unidentified liquids or potentially contaminated leachate are encountered, the area will be bunded if appropriate.

Following these initial measures the potential for contaminated soil, groundwater or leachate will be investigated by suitably experienced and qualified environmental professionals, and appropriate actions taken.

In the event that any materials suspected of containing asbestos are encountered during works (e.g. rubble, sheeting, roofing, pipelines or lagging containing asbestos), all work in the vicinity of these areas will cease and advice shall be sought on appropriate management measures.

The presence of materials potentially containing asbestos will be investigated by suitably experienced and qualified asbestos professionals, and appropriate actions taken if required.

#### **4.8 Flora and Fauna Management**

Prior to works commencing and during the works the Contractor will implement measures to limit and reduce impacts on the natural flora and fauna of the site in accordance with the Arborist Report.

In particular, prior to commencing work on site, the Contractor will mark and protect those trees and other vegetation to be retained in accordance with the Vegetation Management Plan. Prior to obtaining a Construction Certificate a Vegetation Management Plan will be submitted to the relevant authorities and obtain their approval.

#### **4.9 Heritage and archaeology**

Prior to works commencing and during the works, the Contractor will implement measures to limit and reduce impacts on heritage and archaeological elements in accordance with the Heritage and Interpretation Plan. Prior to obtaining a Construction Certificate a Conservation Management Plan will be submitted to the relevant authorities and obtain their approval.

In the event that any suspected relics are encountered during the works, all work in the vicinity of these areas will cease and advice will be obtained from suitably experienced and qualified heritage consultants.

#### **4.10 Construction Waste Management**

The Contractor will implement Waste Management practices in accordance with the Waste Management Plan. In particular the Contractor will:

- Manage waste according to the waste management hierarchy of (in order of preference) avoid, re-use, recycle, recover energy, treat, and dispose.
- Minimise the volume and the potential impact of waste generated on the site.
- Demonstrate waste minimisation through implementation of strategies where Best Practice is targeted.
- Maximise reuse of materials.
- Provide an area on site for the separation and temporary storage of waste, bins or other containment facility.
- Will ensure temporary storage of waste on site does not contaminate the site or surrounding environment.

## 5 REFERENCES

- Environmental Best Management Practice Guideline for Concreting Contractors, Department of Environment and Conservation (NSW) (November 2002)
- Environmental Information for Builders, NSW EPA (November 1998)
- Managing Urban Stormwater: Soils and Construction, NSW Department of Housing, 1998
- Environmental Noise Management - NSW Industrial Noise Policy (December 1999)
- Noise Guide For Local Government, Department of Environment and Conservation (NSW) (November 2002)
- Car Wash Bays (2003), NSW EPA
- Environment Matters #8: Stormwater Pollution from Building Sites (1993). NSW EPA
- Waste Dumping Fact Sheets for: Engineering and Works Officers, NSW EPA
- Waste Reduction & Purchasing Policy. A Guide for Agencies (1997)