INDUSTRIAL DEVELOPMENT

Former
Hoxton Park Airport
Hoxton Park

CONSTRUCTION & ENVIRONMENTAL MANAGEMENT PLAN

Revision		Date
A	Issued for Part 3a	9th February 2010

TABLE OF CONTENTS

1.0 INTRODUCTION

This Construction & Environmental Management Plan (CEMP) has been developed by Mirvac Constructions Pty Ltd (Mirvac) to address construction items that relate to the proposed development. In addition, the CEMP outlines the actions and staging of construction deemed necessary to ameliorate possible concerns of neighbouring occupants and tenants whilst maintaining a safe productive and efficient construction site.

Implementation of a CEMP is central to the successful completion of a project. The production of the CEMP is a positive commitment by Mirvac to ensure that all statutory obligations are fulfilled and that the project is delivered to the highest Mirvac quality, safety and environmental standards.

The responsibility for the management of this document and the actions contained therein lies with the Mirvac Senior Management Team for the Project. The Plan will be monitored throughout the project construction phase and amended from time to time to suit construction requirements.

INDICATIVE AREA OF
PROPOSED SITE WORKS

2.0 HOURS OF WORK SOUGHT.

Mirvac is seeking the approval for the following work hours:

1. Between 7:00 am and 6:00 pm, Mondays to Fridays inclusive
2. Between 7:00 am and 4:00 pm, Saturdays,
3. No work on Sundays and public holidays.

2.1 CONTACT DETAILS OF PROJECT MANAGER

The Project Manager for the Hoxton Park Project is Brett Thomson Mobile: 0423 889 034

(site office TBA and site Facsimile TBA)

3.0 TRAFFIC MANAGEMENT PLAN

3.1 Introduction

This Traffic Management Plan has been prepared by Mirvac to deal primarily with construction traffic and its effect on the surrounding environment.

3.2 Ingress & Egress of Vehicles to site

- Construction traffic will enter and exit the site as follows:

  Stage 1
  - The Main Entrance to the site will be situated along Aviator Avenue accessed from Cowpasture Rd which will serve as the main truck / pedestrian access way.
  - Aviator Avenue will be used as shared access way for both construction traffic & traffic to Lots 401, 402 & 403.
  - All traffic will enter the construction site via the Main Entry Gates accessed from Aviator Avenue.

  Stage 2
  - The Primary Access to the construction site and to Lots 401, 402 & 403 will be diverted to the new Access Road upon its completion from the new intersection along Cowpasture road.
  - On handover of the Access Road to vehicular traffic, Aviator Avenue will be decommissioned.
  - The Main Site Entry will be relocated to the end of the access road. All Construction traffic will be met at the entry gates adjacent to the site compound.
  - Secondary entry points will be located along the Access Road for restricted deliveries to the site.
  - All gates will open inwards.

- Relevant statutory signage shall be erected defining the vehicle entry and exit points at all stages of construction.

- Relevant signage will be displayed setting appropriate speed limits on site and during the road construction.

- Notice will be provided to all surrounding landowners, throughout the construction process as to any special circumstance that may arise.

3.3 Loading & Unloading of Materials

- The site will be bound by temporary chain wire fencing and will be maintained accordingly as required throughout the various stages.

- All deliveries and construction activity will be contained with the site boundaries.

- All loading and unloading operations are to comply with Work Cover and relevant authorities requirements.

- No materials will be stored on public footpaths, roads or shared access ways.

- Should any lane closures be required, a relevant traffic management plan will be issued along with any required permits and local resident warning.

- All entry and exiting of vehicles into and out of site shall be in a forward direction and at controlled speeds.

- No parking of vehicles or plant and equipment will be allowed along Aviator Avenue or new access road.

- Restriction of any truck queuing on the Access Road adjacent to Lot 401 to 403 entries will be enforced.

3.4 Truck and Vehicle Routes:

- All trucks and vehicles entering the site shall do so from Cowpasture Road into the Main Entrance situated along Aviator Avenue. On the completion of the new Cowpasture Road intersection & the new Access Road all truck & vehicular entry points will be re-diverted.
- Site entry signage will be installed to direct all deliveries to the correct areas.
- All vehicles prior to entry into the site must complete a truck driver's declaration or complete a site induction to ensure compliance with site rules.
- All vehicles will be required to enter and exit site in a forward direction

3.5 Traffic Flows

- Consideration will be made to the peak traffic times generally 7.30am-9.30am and 4.30pm-5.00pm.
- Non-critical deliveries will be scheduled outside peak traffic periods.
- Traffic management plans will be provided when local authority works are required, such as infrastructure connections & service reticulations.
- Traffic management plans will be produced when works are to be carried out along shared access ways.
- The majority of construction traffic will enter the site for loading and unloading. Truck movements will not be excessive as the import of materials will be minimal however import of road base and construction material inclusive of concrete and construction product will vary
    - Import of road base estimated at 40-50 truck movements /day
    - Concrete trucks during concrete placement 40-50 trucks / day
    - Light vehicle traffic(i.e. cars/ small trucks in and out of site) 100 movements /day
    - Anticipated total movement would be 50 truck movements/day and 100 light car/truck movements/day over a 10hr cycle = 15 truck/car movements/hr which will not burden the Current flow of traffic along Cowpasture Road.

3.6 Pedestrian & Traffic Management

- Signage will be established at the site entry and exit points to alert pedestrians and other drivers to the movement of construction traffic. When required traffic control personnel will be utilised to control the movement of large vehicles to and from the site.
- Parking for site construction staff and construction workers including visitors will be provided within the site compound.
- Visitors to the site will be provided with a defined entry path from the entry point to the site office.
- Chain wire mesh fencing will be utilised around the site to prevent the free access of the public to the building site. The chain wire fencing will also restrict access into the adjacent natural habitats.
- All locations, signage, traffic flow and entry points are outlined by the following management plans.

Refer to Attachment 1 for Traffic Management Plans

4.0 NOISE MANAGEMENT PLAN

4.1 INTRODUCTION

This document presents a discussion on the process which will be followed in order to manage noise from the construction of the proposed Hoxton Park Industrial Development Site in recognition of the requirement to minimise noise emissions from the site to surrounding residential premises.

The principal objective of this study is to undertake an advanced evaluation of all work to be performed during the excavation and construction phase of the project and forecast the potential impact of noise. The noise forecasts will be used to formulate and streamline effective regulation and mitigation measures. As a part of this process on going testing will be used to evaluate the noise regulation strategies and ensure that they are effective.

To further ensure compliance with appropriate standards on going monitoring will be instigated.

Renzo Tonin & Associates have undertaken an Acoustic Assessment Report for the project and in summary the noise emmisions from construction activities during "standard hours" (7am – 6pm weekdays and 8am – 1pm Saturdays) were predicted to generally comply with the noise affected trigger levels. With respect to the proposed construction activities "outside standard levels" (7am - 8am and 1pm – 4pm Saturday), noise emmissions excees the requirements of "noise affected" for the Middleton Grange by 3dB(A) and by up to 7dB(A) at the Hichinbrook location.

The principal issues which will be addressed in this document are:

- Development of a monitoring programme to measure and regulate noise to maintain compliance during "standard hours" of construction at all potentially affected locations.

- Formulation of a strategy for construction to comply with the "Interim Construction Noise Guideline issued by Depatment of Environment and Climate Change NSW" outside standard construction hours to ensure compliance with Mirvacs noise objective.

4.2 PROJECT OBJECTIVE

The objective of this management plan is to minimise noise emissions from the construction work associated with this project and assist in maintaining a satisfactory environment around the site. The implementation of control measures will be put in place to regulate any potential non compliant noise levels.

4.3 NOISE CRITERIA

The criteria for noise from construction activities on this project are aimed at maintaining comfort levels within the surrounding Industrial buildings and places of work and will be controlled in accordance with relevant governing authorities approvals. Residential properties are buffered by both Cowpasture road to the South and East and also by the M7 motorway to the west. The Impact of Noise to existing residents will be negligible based on the location of the site, the surrounding infrastructure and with the implementation of noise mitigation measures.

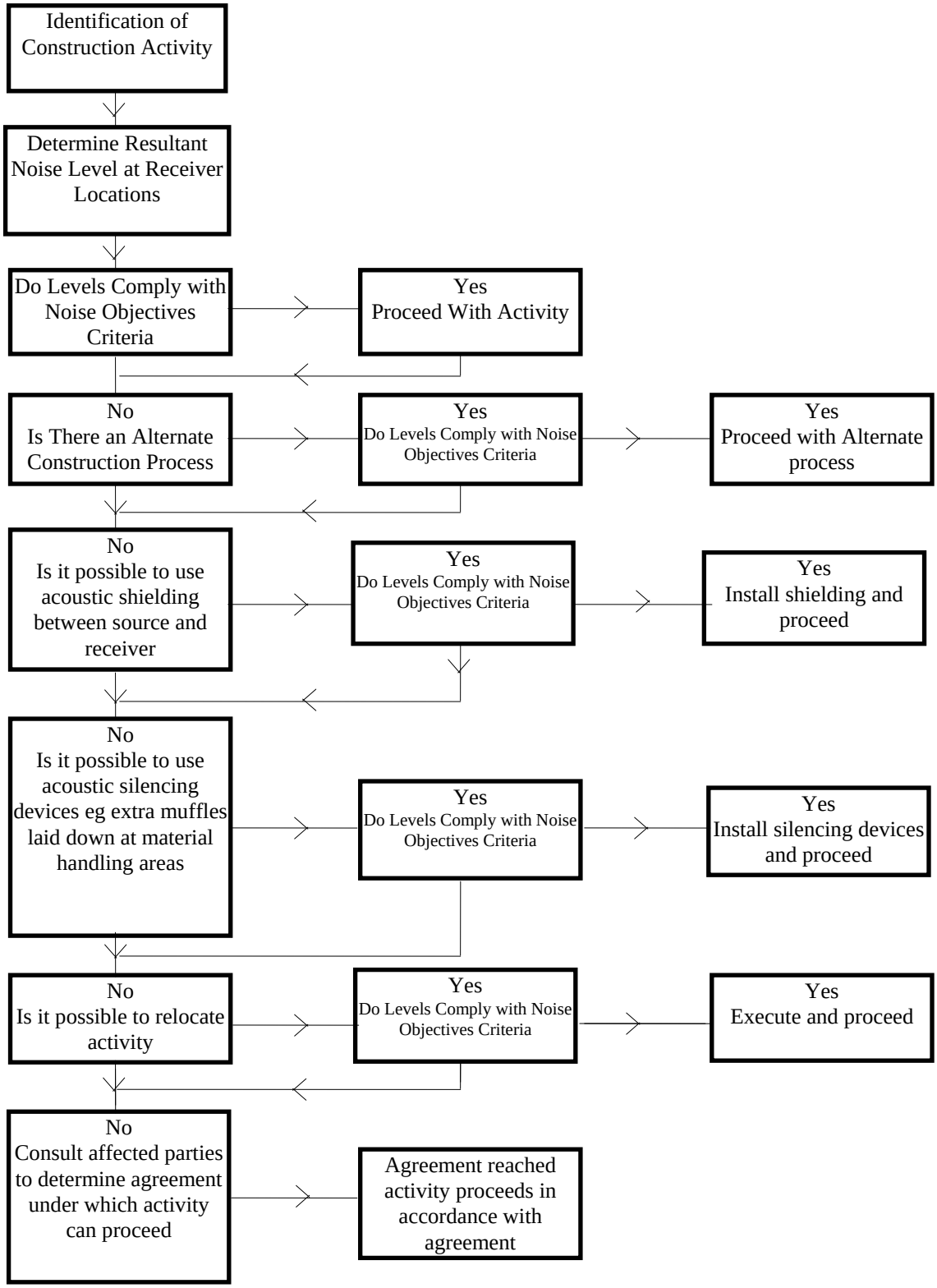
4.4 CONTROL OF CONSTRUCTION NOISE

As a part of the noise management plan a detailed study will be undertaken to each of the proposed activities which will occur as a part of the excavation and construction works on this project.

The execution of this work will facilitate the formulation of noise control strategies for this project.

The flow chart which follows illustrates the process which will be followed in assessing construction activities.

CONTROL OF NOISE



4.5 NOISE CONTROL METHODS

The determination of appropriate noise control measures will be dependant on the particular activities and construction appliances. This section provides an outline of available methods.

4.5.1 SUBSTITUTION BY ALTERNATIVE PROCESS

Where a particular activity or construction appliance is found to generate excessive noise levels, it may be possible to select an alternative process. For example; the use of electric motors in preference to diesel or petrol motors.

4.5.2 SCREENING

Installation of acoustic barriers such as earth mounds or temporary noise barriers to shield noise at the potential noise sensitive receivers. The fast tracking of permanent noise barriers or structures as early as possible in the construction process.

4.5.3 ENGINE SILENCING

Where construction process or appliances are noisy, the use of silencing devices may be possible. These may take the form of engine shrouding, or residential class mufflers fitted to exhausts.

4.5.4 EMISSION RESTRICTIONS

During the constuction process stringent noise emission limits will be established for specified plant and equipment. The implementation of a noise monitoring audit program to ensure equipment remains within the specified limits

4.5.5 EQUIPMENT LOCATIONS

The location of equipment will be considererd during construction such that noisy plant & equipment will be located as far as possible from noise sensitative areas, optimising attenuation effects from topography, natural and purpose built barriers and material stockpiles.

4.5.6 EQUIPMENT MAINTENANCE

To determine the requirement for silencing devices on machinery it is proposed to undertake fortnightly noise checks. Noise levels of all machines on site will be measured and if they are found to be higher than nominated for that equipment type, items such as mufflers and engine shrouds will be examined to ensure they are in good working order.

4.5.7 NOISE MONITORING

Random noise monitoring will be undertaken throughout the construction phase. Noise monitoring will be undertaken to determine the effectiveness of measures which have been implemented. The results of monitoring can be used to devise further control measures.

4.5.8 COMBINATION OF METHODS

In some cases it may be necessary that two or more control measures be implemented to minimise noise.
Further to this, hazard identifications for noisy equipment/work practices will be undertaken by Mirvac to ensure best practice and subsequent lower noise levels at residents.

4.6 ESTABLISHMENT OF DIRECT COMMUNICATION WITH AFFECTED PARTIES

In order for any construction noise management programme to work effectively, continual communication is required between all parties which may be potentially impacted upon, the builder and the regulatory authority. This establishes a dynamic response process which allows for the adjustment of control methods and criteria for the benefit of all parties.
The objective in undertaking a consultation processes is to:

- Inform and educate the groups about the project and the noise controls being implemented.
- Increase understanding of all acoustic issues related to the project and options available.
- Identify group concerns generated by the project, so that they can be addressed.
- Ensure that concerned individuals or groups are aware of and have access to the Mirvac Complaints Register which will be used to address any construction noise related problems should they arise.

To ensure that this process is effective, regular scheduled meetings will be required for a finite period, until all issues have been addressed and the evidence of successful implementation is embraced by all parties.

"Refer to the following Noise & Dust impact statements "
"Refer to the following Mirvac noise Control Policy"

4.7 EXCAVATION & CONSTRUCTION NOISE & DUST IMPACT STATEMENT

Stage	Plant type	Noise	Dust	Controls
Earthworks	scrapers	engine	yes	Water cart for dust suppression, acoustic silencing for engine noise
Earthworks	excavators	Engine	yes	Water cart for dust suppression, acoustic silencing for engine noise
Earthworks	Vibrating rollers 10 tonne sheep foot rollers	engine	N/a	Operator to use appropriate hearing protection and silencing for engine noise
Earthworks	Truck movements	engine	yes	Trucks to manoeuvred through site slowly to control dust, water cart to suppress dust and silencing for engine noise
Earthworks	Truck movements	Engine breaking	yes	Trucks to use low gear and reduce engine breaking and silencing for engine noise
Earthworks	Plate compactors	Engine noise and impact noise	Yes	Operator to wear appropriate hearing protection Water cart for dust suppression and stict compliance with approved hours of work
Earthworks	Backhoes/ bobcats	Engine/ impact	yes	Water cart for dust suppression silencing for engine noise
Earthworks	All plant	Reverse beepers	N/A	Safety requirement, reverse beepers and audible warning systems to be maintained and monitored strict compliance with approved hours of work
Earthworks	Plant floats	Early deliveries and late pick ups	N/A	All plant floated to site out of hours must take appropriate routes not to affect residential arteries. All plant to be floated wherever possible during work hours unless required outside these times by RTA.
Earthworks	Material importation	Truck movements engine	yes	Water cart for dust suppression Truck order management to maintain traffic flows and minimise noise silencing for engine noise
Building structure	Excavation of pads and footings	Engine noise from excavators	yes	Water cart for dust suppression Ensure plant has acoustic insulation to engine
Building structure	Placement of concrete	Concrete trucks entering site	yes	Water cart for dust suppression silencing for engine noise
Building structure	Placement of concrete	Concrete equipment vibrators and concrete pumps	yes	Noise generated from concrete vibration and finishing equipment ensure equipment is fitted with silencing for engine noise and comply with approved hours of work
Building structure Service trades Cladding trades	Structural steel erection	cranes	Minor dust	silencing for engine noise Ensure strict compliance with approved hours of work
Building structure Service trades Cladding trades	Access equipment Scissor lifts and knuckle booms	Engine noise and reverse beepers audible warning devices	Minor dust	Ensure equipment fitted equipment ensure equipment is fitted with silencing for engine noise
Internal and external concrete trades	Concrete pumps	Engine noise / piston noise	Minor dust	Water cart for dust suppression Ensure equipment equipment is fitted with silencing for engine noise

Stage	Plant type	Noise	Dust	Controls
Internal and external concrete trades	Concrete truck movements	Engine noise / engine breaking	yes	Water cart for dust suppression silencing for engine noise
Internal and external concrete trades	Concrete finishing equipment vibrators	Engine noise	N/A	Audible noise from concert vibrators whilst concrete placement. Ensure strict compliance with approved hours of work
Internal and external concrete trades	Concrete finishing equipment	Engine noise	N/A	Concrete ride on finishing equipment, usually 2-3 machines used to burnish concrete surface (double headed trowel machines) Ensure strict compliance with approved hours of work
Roadways and external areas	graders	Engine noise and audible warning devices(beepers)	yes	Ensure equipment fitted with silencing for engine noise Ensure strict compliance with approved hours of work
Roadways and external areas	Concrete saw cutting	High pitch of concrete saw cutting	N/A	Water used to control dust / operator to wear appropriate hearing protection Ensure strict compliance with approved hours of work
General (duration of construction)	Materials handling Forklift/ Manitou	Engine noise And audible reverse warning systems	yes	Ensure equipment fitted with silencing for engine noise
General	generators	Engine noise	N/A	Engine noise of generators used in remote locations of site where no temporary power is available acoustic enclosures to be used to minimise noise
General power tools	Jack hammers/ ratchet guns/ grinders etc…	Noise from general plant and equipment used on construction sites	Yes to all	All site plant and equipment to be inspected to conform with industry governing body requirements. Mirvac to ensure operators wear appropriate hearing protection compliance with approved working hours
General	Private vehicles entering and leaving site	Engine noise, loud music	yes	Vehicles entering site to be corralled into delegated car park areas. No parking on site. No radios on site

mirvac

Noise Control Policy

As an Employer or Controller at workplaces Mirvac is committed to ensuring that noise and vibration levels, to which employees, contractors or visitors may be exposed, remain at levels that will not affect human health. This commitment includes the monitoring of noise exposure and peak noise levels at temporary, new or existing workplaces where noise is identified as a risk and the implementation of noise control measures where adverse levels are identified.

Noise can result in hearing loss based on either the intensity of the noise level, i.e. a peak of more than 140dB(lin); or noise levels which exceed an 8-hour noise level equivalent of 85dB(A). As an Employer or Controller at workplaces where these levels may be exceeded Mirvac recognises it Duty of Care to its workforce and will instigate a noise control program that includes:

- the identification of actual and potential exposure to noise in the workplace by conducting noise assessments or monitoring where identified as a risk;
- assessment of the risks to health and safety of potential or actual exposure to noise
- the potential impact of noisy works on nearby neighbours or the surrounding community;
- strict adherence to any hours of operation imposed by local government or other conditions;
- outline of the responsibilities for noise control and information on the risk of noise exposure in workplace inductions;
- procurement of plant and equipment which does not adversely impact on noise levels;
- wherever practicable the implementation of controls such as encapsulation or isolation of noisy works or plant equipment to minimise reliance on personal protective equipment and the impact of noise on the surrounding workforce or others;
- use of personal protective equipment by employees, visitors or contractors who undertake or are situated close to noisy work;
- the identification of noisy areas or plant equipment with warning signage to alert personnel of the requirement for use of personal protective equipment; and
- where considered necessary employees or contractors exposed to potential risk areas or activities are monitored through audiometric testing.

Mirvac is committed to assisting industry sectors in which its divisions operate to reduce the instance of noise related hearing loss through ongoing funding and implementation of a noise control program at Mirvac workplaces. Implementation by Mirvac personnel of the intent of this policy and a noise control program is unconditional and the basis of the program will be reviewed whenever legislation, guidelines or industry innovation in noise abatement occurs.

Greg Paramor
Managing Director

1 November, 2006

Living Quality
Integrity • Diversity • Creating Connections • Sharing Success

5.0 WASTE MANAGEMENT PLAN

A Waste Management Plan has been developed and submitted by Mirvac's proposed Waste Contractor Dial a Dump for the removal of all waste from this project. Continual review of this waste management plan will be undertaken to ensure compliance with environmental regulations and standards.

Waste types likely to be generated on the site include the following:

- General Waste
- Putrescible waste (lunch room waste from site personnel)
- Cardboard & White Paper, amended plans & drawings
- Bottles, Cans & Plastics
- Concrete / Bricks / Tiles / Timber & Gyprock
- All the above conform to Australian Standard AS 2601-2001

Dial Dump will supply builder's waste bins for the on site collection and storage of general waste material. The material from this project at Hoxton Park will be transported to St Peters Recycling and landfill for sorting. The St Peters facility currently recycles 80% of the material bought to their recycling depot.

Upon arrival at the facility, the waste is emptied on the ground and sorted. Once the product has been sorted into its various commodities (as listed above). The facility then processes the individual recyclable waste streams into reusable products available for re-sale to the public as described below.

- Concrete is crushed, pulverized and sold as recycled aggregate
- Bricks are also crushed, pulverized and sold as recycled road base
- Timber is chipped and sold as mulch for garden beds and ground cover
- Steel is sent to either Metalcorp or Simsmetal for recycling
- Plasterboard is broken down to a gypsum product and sold to farmers as a soil additive
- Cardboard & White Paper Recycling to Amcor for recycling
- Bottles, Cans & Plastics Recycling to Visy for recycling

To ensure the correct product is placed into the appropriate bins, suitable signage will be displayed on all the bins.

Refer to Attachment 4 for the Waste Management Plan preparred by Dial a Dump.

6.0 AIR QUALITY

Air quality and visual monitoring is to be maintained through the various construction phases. Generally the dust created by construction related activities is more prominent in windy conditions and will be dealt generally with water suppression.

- Water carts will be used throughout the construction phases to maintain a damp surface to areas likely to create dust.
- The construction site will be maintained and kept clean with the use of mechanical sweepers, and covered waste bins to minimise air borne matter.
- In windy conditions the frequency of dust suppression such as watering would be increased appropriately.
- All materials transported to and from site in trucks will be appropriately covered to eliminate dust or airborne matter.
- Construction activities that result in dust being mobilised by winds will be avoided (if required) until such time as either winds subside or effective safeguards can arrest the airborne movement of dust.
- No burning of any material is allowed on site.
- Earthworks are to be controlled and areas capped as early as practically possible to minimise dusts.
- Appropriate speed limits have been set (refer traffic & pedestrian management plans) for all construction traffic to limit the generation of dust.
- Completed surfaces are to be kept clean and the use of road sweepers are to be implemented to maintain access roads and approaches to site.
- Controlled site access to be maintained with truck / vehicle wash down facilities available at all exit points to ensure no mud is carried out into public areas which may latter dry out and create dust.

Local residents immediately adjacent to the Proposal site potentially affected by air quality deterioration would be included in any community consultation programme. Any complaints in relation to dust generation from the works would be promptly addressed.

"Refer to Noise and Dust impact statement on previous pages for list of plant likely to cause dust"

7.0 HAZARDOUS MATERIALS

Mirvac have engaged Douglas Partners to undertake a targeted "Phase 2 Contamination Assessment" of the proposed Site. Previous environmental site assessments have been carried out by other consultants and are also addressed in the Douglas Partners report. ***Ref: Project 71500 Rev1 dated February 2010***

The conclusion of the Douglas Partners and previous consultant's reports summarises that "*there are no issues of unacceptable environmental concern that warrant remediation actions were noted, and the site is considered compatible with the proposed development and may proceed from a contamination management standpoint."*

Douglas partners have further assessed that whilst, as in all cases of investigation, there may be potential for presence of relatively localised sources/issues at various areas of the site, for example in the footprints of the current structures, and in areas of past activities (e.g. demolition of old buildings, use of filling of unknown origin, may result in isolated impacts such as pockets of asbestos contamination), it is envisaged that such impacts would be minor and localised in nature, and can be managed in a straightforward manner during the construction of the proposed development.

Prior to construction the development of "Unexpected Finds Protocols" will be implemented to provide clear guidance to site workers for the management of unexpected findings during the site development process.

During construction Mirvac will implement as part of the Work Risk Management Plans and audit procedures, a hazardous materials register which will include the following materials/ procedures:

- Fuels required for running of plant and equipment, these fuels will include: unleaded petrol, diesel and gas. All fuel will be contained and bounded as required under EPA guidelines, Department of Environment Climate Change and Work Cover requirements.

- Refuelling procedures and designated areas will be implemented and allocated to eliminate risks associated with spills and also identify procedures to contain spills.

- Spill kits and adequate training will be provided to relevant construction staff and at locations identified as storage and refuelling.

Dangerous Goods

Dangerous goods to be stored on site will also include; oxyacetylene, epoxy paints, thinners etc and as per the fuels listed above, these will also be stored as required under EPA guidelines, Department of Environment Climate Change and Water, Work Cover requirements and Industry codes of practice.

Mirvac will keep a dangerous goods register and material safety data sheets for each product listed as well as having a procedure to deal with spills.

All relevant fire fighting equipment, first aid facilities and relevant authority contact details i.e. Fire EPA will be displayed at prominent locations and included at site inductions.

8.0 EROSION & SEDIMENT CONTROL

8.1 Introduction

This Erosion and Sediment Control Plan will be implemented during the construction of the project. The purpose of these procedures is to aim to ensure that there is no off site environmental impact caused by overland stormwater flows.

8.2 Scope

The work to be executed under this plan consists of the implementation of measures to control, minimise and trap erosion and sediment on the site. Construction works will be undertaken so as to avoid erosion and sedimentation of the site and the surrounding land.

8.3 General Principles

The attached Soil Erosion & Sediment Controls highlight the principals of soil erosion and sediment control for the site.
It is important to design and install measures that reduce the erosion hazard of any particular construction activity. Once this is achieved, run off water which carries the sediment must be controlled, in such a way as to reduce the amount of sediment leaving the site. Generally, this may be achieved by the following:

- Maintenance of the sediment control installed at base of stockpiles.
- limiting the amount of site disturbance on areas not being developed;
- Installation of sediment controls and water treatment within the site to control any water on site.
- Installation of temporary controlled overland flow paths to direct water to the on site temporary water basins.
- Ensuring water management systems adopted on site will not adversely affect water quality or quantity in the downstream water courses.

8.4 Soil and Water Management Plan - Details

DETAILS OF EROSION AND SEDIMENTATION CONTROLS:

The following general items will be incorporated into the construction management on the site:

1. Temporary sediment basins are to be constructed on the site. Stormwater will be directed into the sediment basins.

2. The staging of earthworks will such that the clearing and exposing of soils are undertaken immediately prior to construction where possible. With the areas of disturbance minimised the volume of 'dirty' surface water runoff is also minimised.

3. All transports leaving the site will be checked to ensure all loads are covered and secure to prevent the possibility of material spilling onto the road and into the stormwater system. All trucks are to be covered prior to leaving the site (where applicable). All roads and pedestrian footways surrounding the site will be swept to remove any debris associated with the works on the site.

4. Wash down of concrete trucks will not be permitted on the site where such wash down could enter Council gutters, pits or drains.

5. Appropriate stabilised site access and/or shaker grids will be installed onto the site for the cleaning of trucks.

6. Installation of temporary diversion drains and silt fences to divert flows to the temporary sedimentation basin(s)

7. Install silt fencing to site fencing on the Eastern side of the Access Road (when practical):

    - Silt fences are designed to filter run-off (if any) leaving the site, trapping sediment and allowing filtered water to pass.

Note – All hay bales used in the construction of silt fencing are to incorporate geo-fabric to enhance their effectiveness.

8. Hay bales incorporating geo-fabric all to prevent sediment running off the site will surround all spoil material stored on the site where there is the chance of material washing into council stormwater systems.

9. The handling of soils will be minimised through direct replacement onto landscaped open space areas.

Refer to Attachment 2 for:

- ***Sediment & Erosion Control Plan by Browns Consulting for the Stockpiling Only of Material***
- ***Erosion & Sediment Control Plan by adw Johnson***
- ***Erosion & Sediment Control Standard Details by adw Johnson***
- ***Indicative Site Cut & Fill Drawing by adw Johnson***

9.0 WORKPLACE RISK MANAGEMENT PLAN

9.1 Introduction

The Mirvac Group is fully committed to providing a healthy and safe working environment.

Each Safety policy requires that equipment; workplaces and practices comply with relevant regulations and standards. Regular and ongoing reviews of these standards will be conducted and where higher standards are practical and desirable, they will be adopted. In addition the company will:

- Provide adequate resources to satisfy this policy.
- Identify and reduce work-related hazards and risks that may produce injury, illness or asset damage.
- Identify, quantify and control to safe levels, those chemicals and physical agents in the workplace capable of causing ill health.
- Promote Occupational Health & Safety and the welfare of employees and sub contractors while respecting the privacy of individuals.
- Provide information, instruction and training for employees to increase their personal understanding of workplace hazards, promote safe working practices and ensure contractors are aware of and satisfy the Group Occupational Health & Safety expectations.
- Consult employees and contractors in Occupational Health & Safety to reduce workplace hazards and risks.
- Consult with clients, industry bodies and others in the development of appropriate standards, control strategies and monitoring techniques, which comply, with the requirements of statutory authorities.
- Set short and long term goals in Occupational Health & Safety management, and review performance against these goals.

Mirvac Management is responsible for raising the awareness of the duties of employees and all others on the premises or site managed by Mirvac and the role they play in achieving a safe and healthy workplace. Employees and all others on the premises or site managed by Mirvac are responsible for working towards achieving and maintaining a healthy and safe workplace. The intent of this policy is to foster a culture within Mirvac employees, which is health and safety conscious, and promote their active participation in the Occupational Health & Safety program.

9.2 Safety Plans and Safe Work Method Statements

A key tool in the management of the Project's Safety, will be the preparation, implementation and continued improvement of both Mirvac's Workplace Risk Management Plan and Job Safety Environmental Analysis (ongoing throughout the project). This plan will include the following:

- A description of the work to be undertaken;
- An identification of the hazards associated with the works; and
- A description of the hazard control measures to be used.

A detailed Site Specific Workplace Risk Management Plan shall be implemented by Mirvac prior to commencement of works and updated as required.

10.0 SITE MANAGEMENT PLAN

10.1 Introduction

The following Site Management Plan has been developed to outline the proposed phases of the construction work on site, outline the order of works, the ecological control measures and assess Mirvac's impact and interaction with the surrounding community.

10.2 Construction Phases

The works can be broadly divided into five (5) major stages:

- Earthworks
- Building structure works
- Internal Finishes
- Woolworth's fitout.
- External hardstand and landscaping works

10.3 Program of Works

The project is programmed to commence June 2010 with an estimated duration of 18 months.

10.4 Construction Stages.

** Note all durations are indicative only and may occur concurrently.*

1. Big W: Approximate floor area 89,000m2
2. DSE (Stage 1): Approximate floor area 43,000m2

- Earthworks – Staged Duration 5 months.
  - Staged duration
  - Bulk excavation cut to fill
  - Trimming of sub grades and installation of road base

- Building Structure Works - Staged Duration 8 months.
  - Steel portal frame
  - Roof & wall profiled metal cladding including precast concrete walls
  - Internal concrete slabs

- Internal Finishes - Staged Duration 8 months.
  - Electrical, mechanical, hydraulic & fire services
  - Office construction & fitout

- Woolworths Fitout - 10 months.
  - Materials handling racking & conveyor system
  - Installation of operation equipment

- External Works - Staged Duration 6 months.
  - Rigid concrete
  - Asphalt to carpark areas
  - Soft landscaping.

10.5 Construction General.

Mirvac will employ an Environmental Management Representative (EMR) to undertake the following roles during the construction process.

Fauna Management

To provide a pre-clearance survey prior to clearing of any native vegetation within the proposed extraction area, including for example

- Searches for birds, nests and roosts;
- Active searches for micro bats, including checking under exfoliating bark;
- Identification and marking of habitat trees during pre-clearing surveys and provision of recommendation reports.

The proposed construction would progress in stages. This approach would maintain vegetated corridors as long as possible, maximising opportunities for fauna to escape into remnant vegetation outside the site.

Groundcover Clearance Protocol

To provide a pre-clearing survey addressing the following items:

- A survey for Cumberland Land Snails and if any individuals are found relocate them, along with relevant shelter substrate, to the nearest area of intact habitat outside the disturbance footprint;
- To identify large woody debris with habitat value (excluding exotic weed material) that warrants relocation

Weed and Pest Management

A number of measures will be considered to manage environmental weeds during construction for example:

- The location of stockpiles of fill or vegetation not to be placed in areas of adjoining remnant vegetation but instead within existing cleared areas.

- To limit the spread of weeds into adjoining remnant vegetation the surface disturbance footprint existing fencing around the Hinchinbrook Creek riparian corridor should be maintained and construction activities completely excluded from this area;

- Incorporate control measures in the design of the proposed works to limit the spread of weed propagules downstream of the site;

- Progressive rehabilitation of disturbed vegetation to limit the potential for colonisation by weeds;

- Perform ongoing monitoring of weed infestation on and adjoining the site.

Refer to Attachment 3 for Construction Staging Plans.

11.0 INTERACTION WITH SURROUNDING COMMUNITY

- 1.8 metre high chain wire fencing will surround the site to maintain security and to prevent access to the adjacent remanent vegetation.
- Monitor compliance of the Traffic Management Plan and Noise Management Plan.
- Clearly display contact details for community information and contact in case of emergency.
- Make arrangements for the notification to surrounding properties of activities which may affect their amenity, including the provision of a 24-hour contact point.

12.0 DISPUTE RESOLUTION

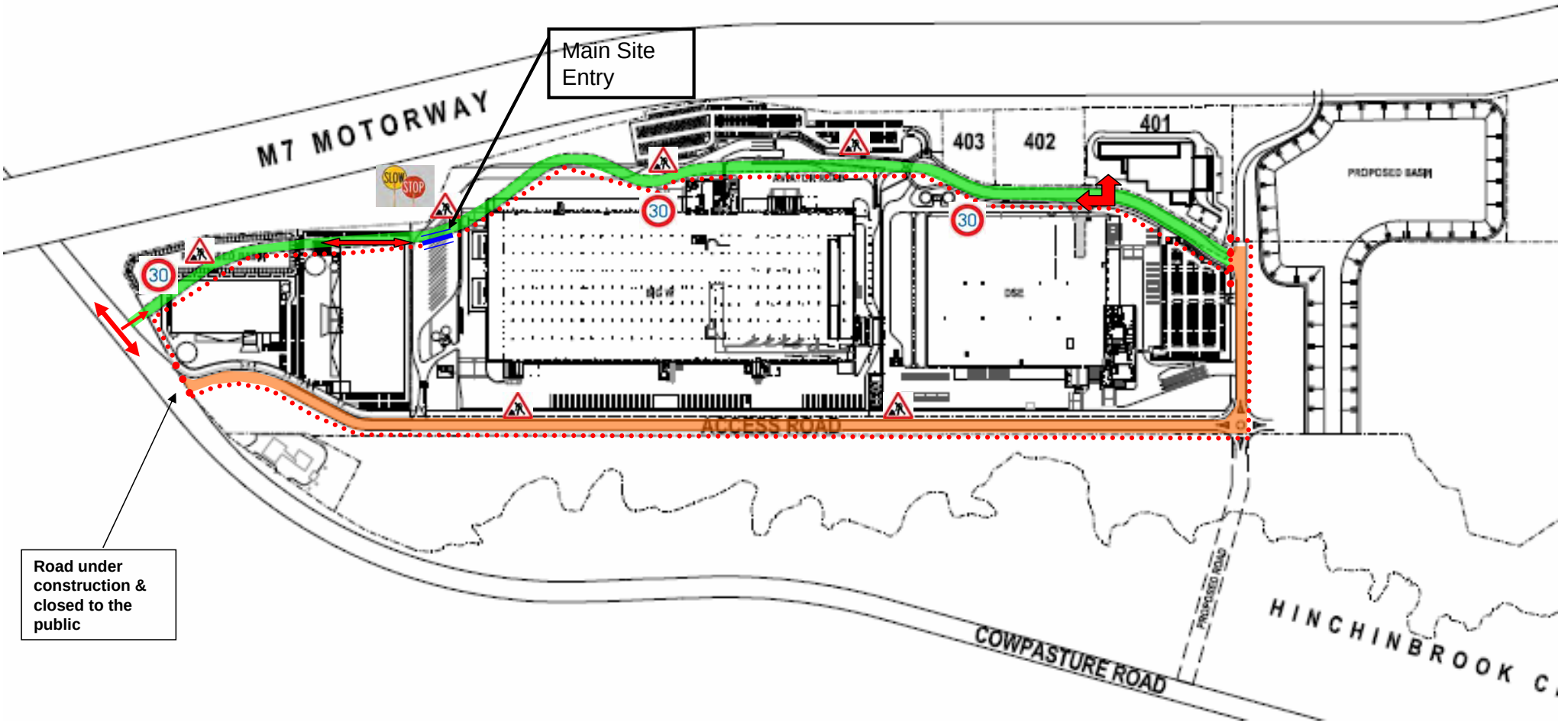
Mirvac acknowledges the potential for disruption as a result of the development and proposes that the following measures be established:

- Complaint procedure / complaint register to be developed. Should a compliant or infringement occur, the following procedures are to be adopted:
- The register and any related complaint or infringement documentation is to be filled within the site office.
- All complaints and infringements are to be brought to the attention of the Mirvac Site Manager immediately upon receipt. The Mirvac Site Manager shall ensure appropriate action is taken to address the complaint or.

Attachment 1

Traffic Management Plans.

TRAFFIC MANAGEMENT DRAWINGS – STAGE 1

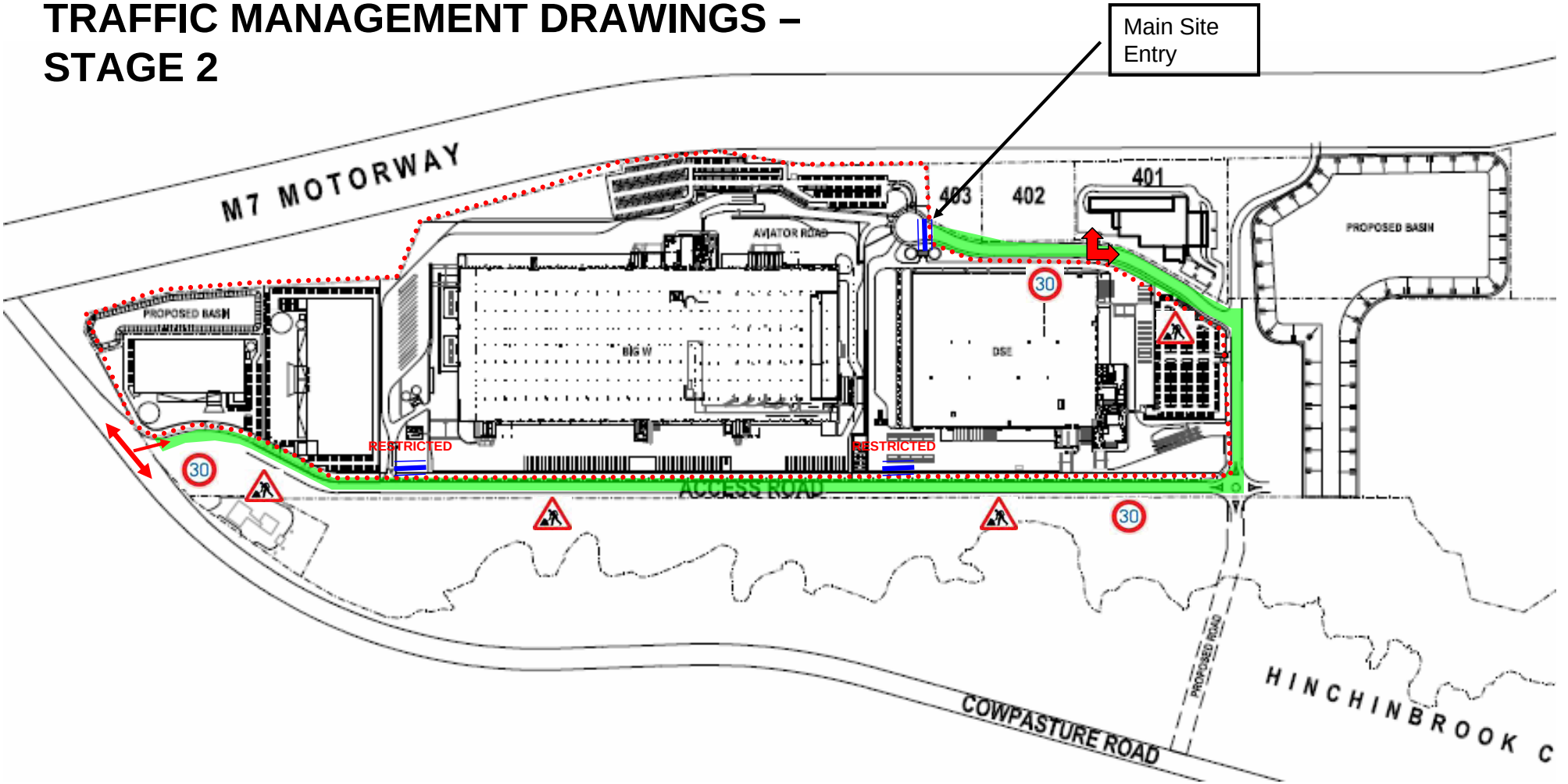


KEY

- Aviator Ave – Shared Access Road
- Access Road – Under Construction
- Speed Signage – Maximum Speeds
- Traffic Controlled Areas (As Required)
- Site Entry
- Perimeter Fencing / Barricades
- Construction Signs

Rev 01 – Dated 09/02/10

TRAFFIC MANAGEMENT DRAWINGS – STAGE 2



KEY

- Access Road – Shared Access Road
- Site Entry
- Speed Signage – Maximum Speeds
- Perimeter Fencing / Barricades
- Construction Signs

Rev 01 – Dated 09/02/10

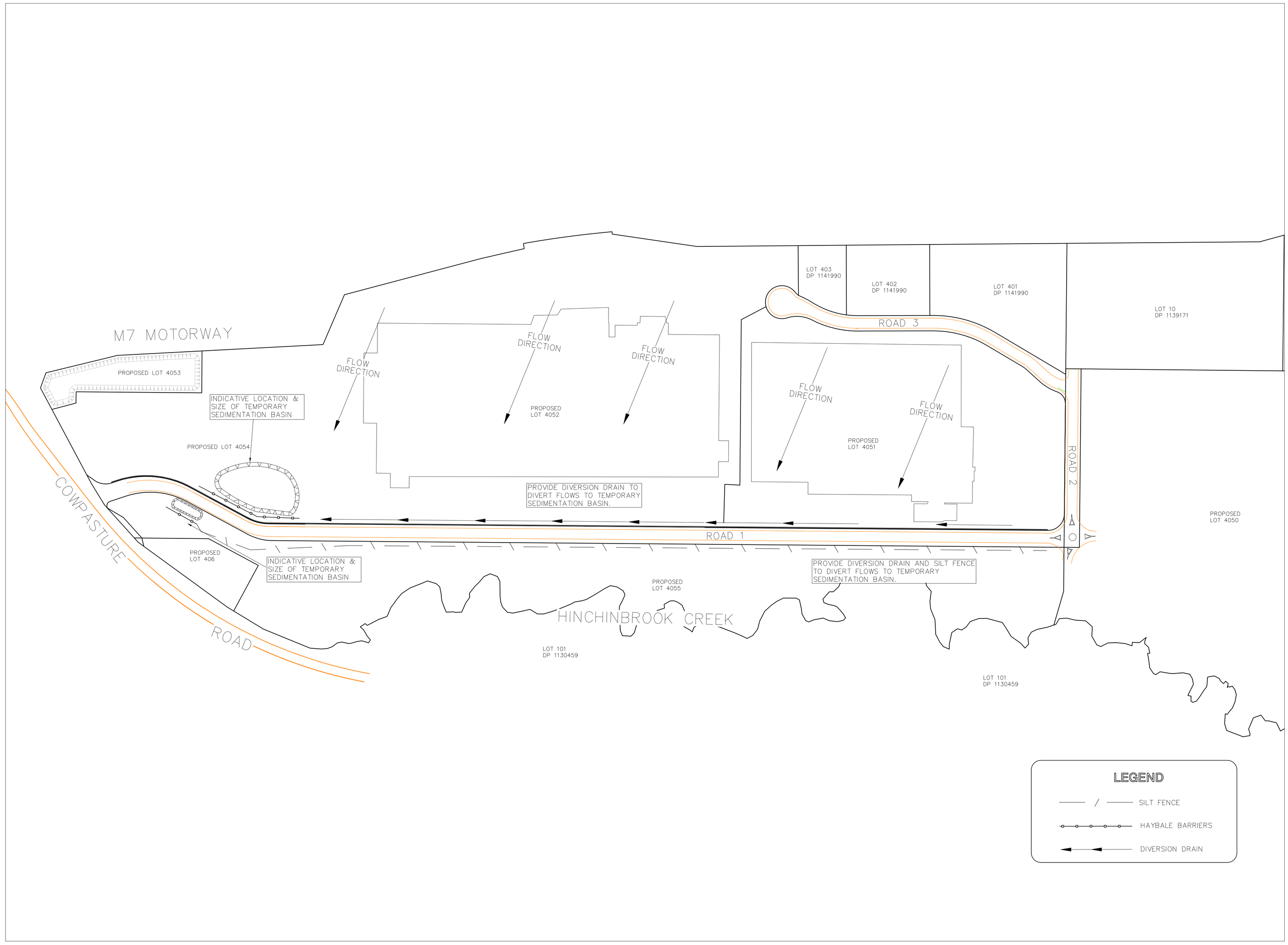
Attachment 2

- *Sediment & Erosion Control Plan by Browns Consulting for the Stockpiling Only of Material*

- *Erosion & Sediment Control Plan by adw Johnson*

- *Indicative Site Cut & Fill Drawing by adw Johnson*

150126_SK_024[C]



REV.	DATE	AMENDMENT	DRAWN	CHECK	DESIGN	VERIFY
A	27/01/10	Preliminary issue to Client for Review	GD/ML	GD	GD	PJ
B	12/02/10	General Revision	GD/ML	GD	GD	HW
C	17/02/10	Preliminary Issue for Part 3a	GD/ML	GD	GD	HW

ALL DIMENSIONS ARE IN METRES. DO NOT SCALE

SCALES

0 50 100 150 200

HORIZONTAL SCALE 1:2500 @ A1

adw johnson

Central Coast
2 Bounty Close,
P.O. Box 3717,
Tuggerah N.S.W. 2259
Phone: (02) 4305 4300
Fax: (02) 4305 4399
email: coast@adwjohnson.com.au
www.adwjohnson.com.au
ABN 62 129 445 398

CLIENT

mirvac

PROPERTY DESCRIPTION

PART OF LOT 400 D.P. 1141990
COW PASTURE ROAD
HOXTON PARK

SURVEYED: N\A

DATUM: N\A

PROJECT: FORMER HOXTON PARK AIRPORT

PLAN TITLE: EROSION AND SEDIMENTATION CONTROL PLAN

PROJECT No.		DISCIPLINE		NUMBER	REV.
150126	–	SK	–	024	C

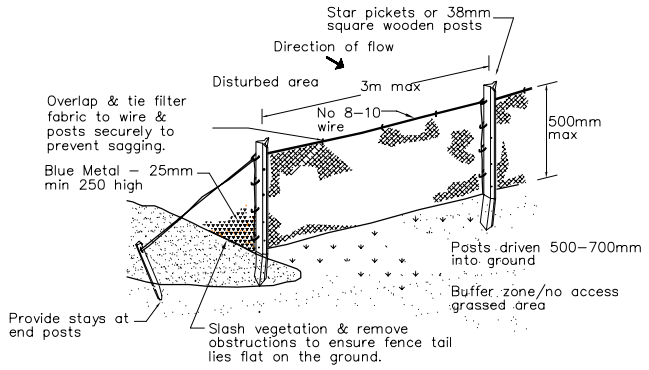
Plotted By: gavind Plot Date: 17/02/10 – 15:09 Cad File: S:\150126 – Hoxton Park\Drawings\PLANNING\Part 3A\150126_SK_024[C].dwg

100mm AT FULL SIZE

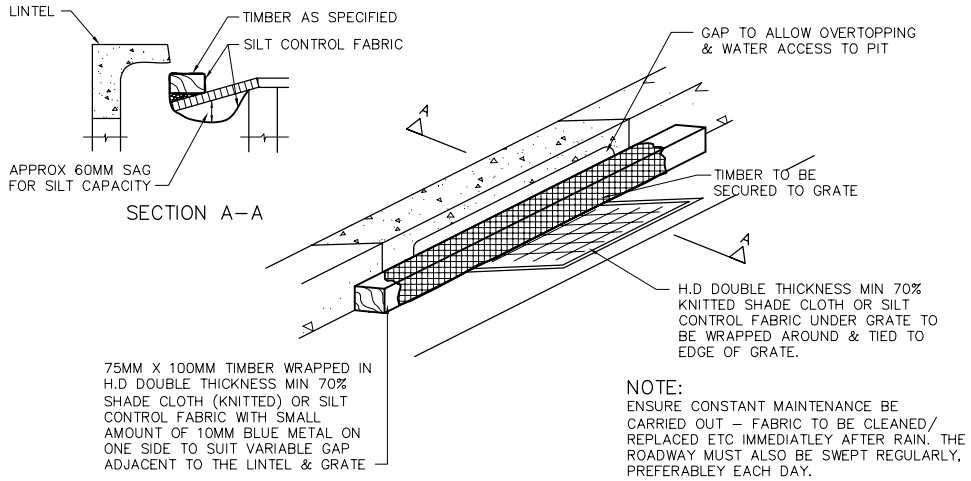
150126_SK_025[B]

NOTES:

1. ALL TOPSOIL IN SITE REGRADING AREAS AND ROAD RESERVES TO BE STOCKPILED ON SITE AS DIRECTED
2. ALL TOPSOIL TO BE REMOVED BY EITHER EXCAVATOR OR SCRAPER AND MOVED DIRECTLY TO STOCKPILE LOCATION
3. STOCKPILE AREA TO BE FULL FENCED WITH SILT PROOF FABRIC AT ALL TIMES
4. IMPORTED MATERIAL TO BE PLACED DIRECTLY INTO SITE REGRADING AREAS. IMPORTED MATERIAL IS NOT TO BE STOCKPILED
5. STOCKPILES ARE TO BE REMOVED AS SOON AS PRACTICABLE AND SITES REINSTATED
6. ALL AREAS DISTURBED DURING CONSTRUCTION ARE TO BE REINSTATED
7. ALL SITE REGRADING IS TO BE CARRIED OUT UNDER THE SUPERVISION OF A QUALIFIED GEOTECHNICAL ENGINEER
8. SILT FENCES AND HAY BAYLING TO BE PLACED WHERE DIRECTED BY COUNCIL'S ENGINEER AND MAINTAINED AT ALL TIMES
9. WHERE PRACTICAL CATCHDRAINS OR SMALL LEVIES ARE TO BE CONSTRUCTED TO MINIMISE EXTERNAL RUNOFF ENTERING THE SITE
10. DISTURBED AREAS TO BE KEPT TO A MINIMUM.
11. CONTROL CLEAN WATER FROM ABOVE THE SITE, THROUGH THE SITE AND AROUND THE SITE.
12. KEEP CLEAN WATER SEPERATE FROM DIRTY WATER.
13. CONSERVE ALL TOPSOIL, STOCKPILE AND PROTECT FOR REUSE ON SITE.
14. PROTECT ALL DISTURBED AREAS FROM EROSION.
15. MINIMISE SEDIMENTATION.
16. MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES UNTIL COMPLETE REHABILITATION IS ACHIEVED.
17. OBTAIN COUNCIL'S PERMISSION BEFORE CLEARING OF ANY TREES.

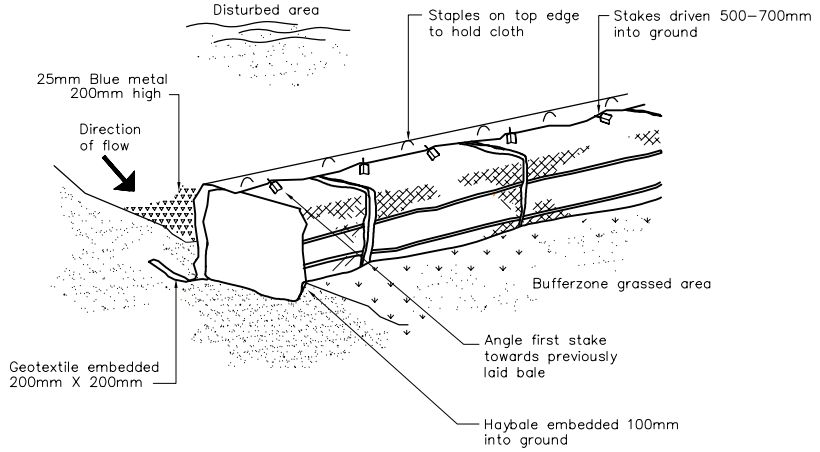


SILT FENCE

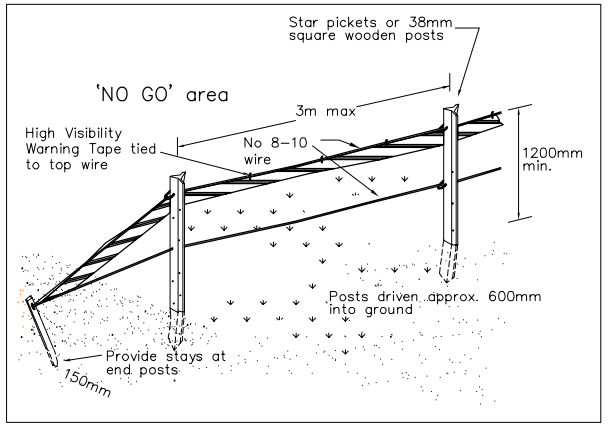


NOTE:
ENSURE CONSTANT MAINTENANCE BE CARRIED OUT – FABRIC TO BE CLEANED/ REPLACED ETC IMMEDIATLEY AFTER RAIN. THE ROADWAY MUST ALSO BE SWEPT REGULARLY, PREFERABLEY EACH DAY.

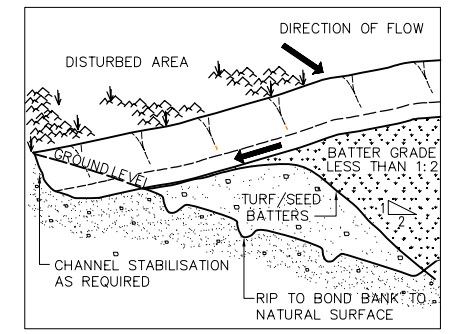
KERB INLET CONTROL
(FOR NARROW STREETS)



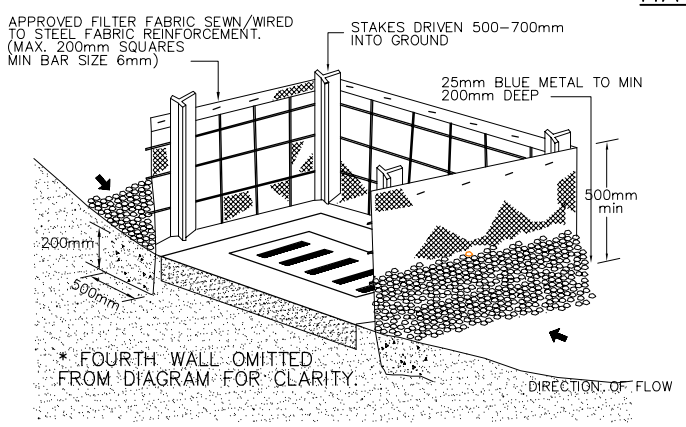
HAYBALE & GEOTEXTILE FENCE



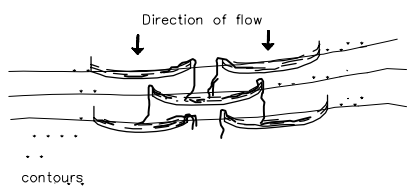
BARRIER FENCE



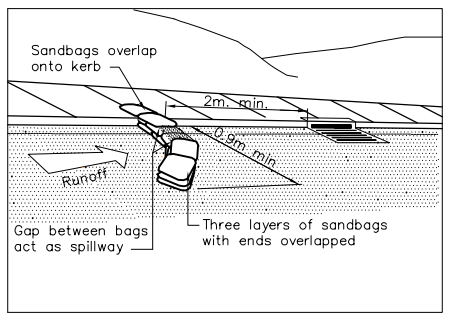
DIVERSION DRAIN



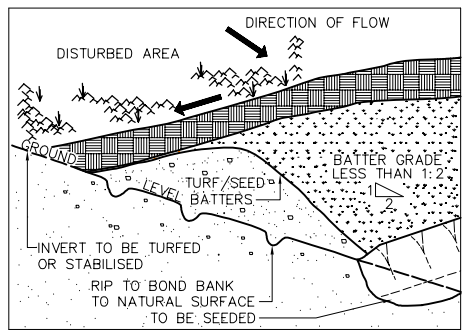
STORM INLET SEDIMENT TRAP



SILT FENCE CONFIGURATION



SANDBAG KERB INLET SEDIMENT TRAP



DIVERSION BANK

REV.	DATE	AMENDMENT	DRAWN	CHECK	DESIGN	VERIFY
A	27/01/10	Preliminary issue to Client for Review	GD/ML	GD	GD	PJ
B	17/02/10	Preliminary issue for Part 3a	GD/ML	GD	GD	PJ

ALL DIMENSIONS ARE IN METRES. DO NOT SCALE

SCALES
0 50 100 150 200
HORIZONTAL SCALE 1:2500 @ A1

adw johnson
Central Coast
2 Bounty Close,
P.O. Box 3717,
Tuggerah N.S.W. 2259
Phone: (02) 4305 4300
Fax: (02) 4305 4399
email: coast@adwjohnson.com.au
www.adwjohnson.com.au
ABN 62 129 445 398

CLIENT
mirvac

PROPERTY DESCRIPTION
PART OF LOT 400 D.P. 1141990
COW PASTURE ROAD
HOXTON PARK

PROJECT
FORMER HOXTON PARK AIRPORT

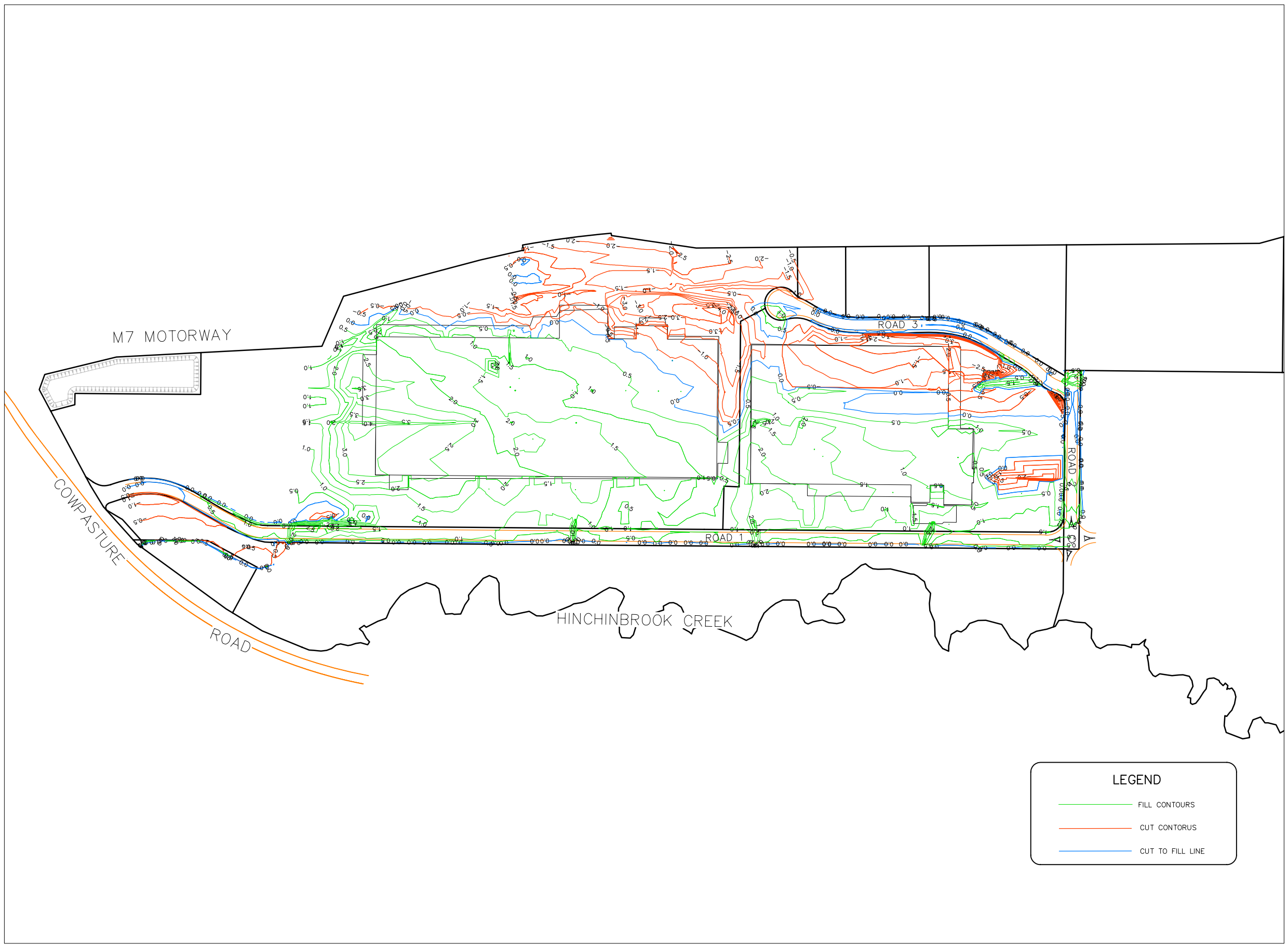
PLAN TITLE
EROSION AND SEDIMENTATION CONTROL STANDARD DETAILS

SURVEYED	DATUM	PROJECT No.	DISCIPLINE	NUMBER	REV.
N\A	N\A	150126	SK	025	B

Plotted By: gavind Plot Date: 17/02/10 – 15:08 Cad File: S:\150126 – Hoxton Park\Drawings\PLANNING\Part 3A\150126_SK_025[B].dwg

100mm AT FULL SIZE

150126_SK_031[A]



DRAFT

REV.	DATE	AMENDMENT	DRAWN	CHECK	DESIGN	VERIFY
A	12/02/10	Preliminary issue to Client for Review	HW	HW	HW	HW

ALL DIMENSIONS ARE IN METRES. DO NOT SCALE

SCALES

0 50 100 150 200

HORIZONTAL SCALE 1:2500 @ A1

adw Johnson
Central Coast
2 Bounty Close,
P.O. Box 3717,
Tuggerah N.S.W. 2259
Phone: (02) 4305 4300
Fax: (02) 4305 4399
email: coast@adwjohnson.com.au
www.adwjohnson.com.au
ABN 62 129 445 398

CLIENT

mirvac

PROPERTY DESCRIPTION

LOT 400 D.P. 1141990
COW PASTURE ROAD
HOXTON PARK

SURVEYED N\A

DATUM N\A

PROJECT HOXTON PARK AIRFIELD

PLAN TITLE PRELIMINARY CUT TO FILL PLAN

PROJECT No.	DISCIPLINE	NUMBER	REV.
150126	SK	031	A

100mm AT FULL SIZE

Plotted By: hughw Plot Date: 12/02/10 – 13:34 Cad File: S:\150126 – Hoxton Park\Drawings\OTHER\ROAD AND EARTHWORK DESIGN\150126_SK_031[A].dwg

BOUNDARY OF LOT 400 D.P.1141990
FOLLOWS HINCHINBROOK CREEK

Hinchinbrook Creek

STOCKPILE 1
APPROX 400 x 30 x 3m HIGH

STOCKPILE 2
APPROX 200 x 50 x 3m HIGH

STOCKPILE 3
APPROX 200 x 30 x 3m HIGH

COWPASTURE ROAD

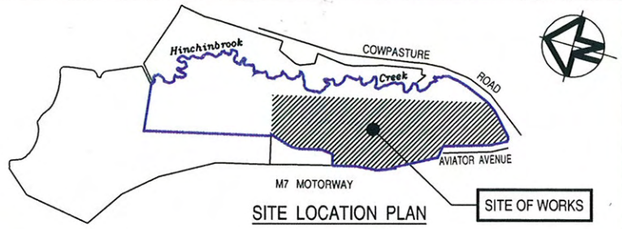
AVIATOR AVENUE

EXISTING SIGNALISED INTERSECTION

STABILISED SITE ACCESS

DP 1141990 — 401, 402, 403

M7 MOTORWAY



SITE LOCATION PLAN
LOT 400 D.P.1141990

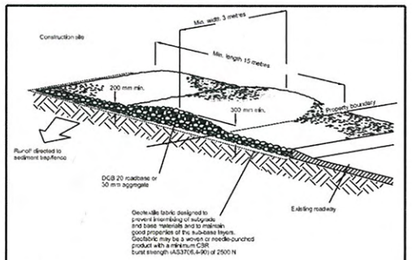
This is the approved plan in respect to Development Application
DA 837/10
LIVERPOOL CITY COUNCIL

SEDIMENT & EROSION CONTROL NOTES

1. THE CONTRACTOR SHALL IMPLEMENT ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO THE COMMENCEMENT OF ANY WORKS BEING CARRIED OUT. ALL SOIL AND EROSION MEASURES SHALL BE MAINTAINED AND KEPT IN PLACE FOR THE FULL DURATION OF THE WORKS AND SHALL ONLY BE REMOVED AT FINAL STABILISATION OF THE WORKS. WHERE IT IS NECESSARY TO UNDERTAKE STRIPPING IN ORDER TO CONSTRUCT A SEDIMENT CONTROL DEVICE ONLY SUFFICIENT GROUND SHALL BE STRIPPED TO ALLOW CONSTRUCTION.
2. ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED AS INDICATED ON THESE DRAWINGS. LOCATION AND EXTENT OF SOIL AND WATER MANAGEMENT DEVICES IS DIAGRAMMATIC ONLY AND THE ACTUAL REQUIREMENTS SHALL BE CONFIRMED ON SITE PRIOR TO COMMENCEMENT.
3. CONFORMITY WITH THIS PLAN SHALL IN NO WAY REDUCE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT AGAINST WATER DAMAGE DURING THE COURSE OF THE CONTRACT. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT ANY NECESSARY CONTROL IS IN PLACE EVEN THOUGH SUCH CONTROL MAY NOT BE SHOWN ON THE PLAN.
4. THE CONTRACTOR SHALL INFORM ALL SUBCONTRACTORS AND ALL EMPLOYEES OF THEIR RESPONSIBILITIES IN MINIMISING THE POTENTIAL FOR SOIL EROSION AND POLLUTION TO DOWNSTREAM AREAS.
5. THE CONTRACTOR SHALL REGULARLY MAINTAIN SEDIMENT AND EROSION CONTROL STRUCTURES AND DESILT SUCH STRUCTURES PRIOR TO THE REDUCTION IN CAPACITY OF 30% DUE TO ACCUMULATED SEDIMENT. THE SEDIMENT SHALL BE DISPOSED OF ON SITE IN A MANNER APPROVED BY THE ENGINEER.
6. THE CONTRACTOR SHALL TEMPORARILY REHABILITATE WITHIN TEN (10) DAYS ANY DISTURBED AREAS PROVIDING A MINIMUM 60% COVER. FINAL REHABILITATION IS TO BE PROVIDED WITHIN A FURTHER 60 DAYS WITH A MINIMUM 70% COVER USING AN APPROVED SEED MIX.
7. DUST AND SITE DISTURBANCE MUST BE KEPT TO A MINIMUM DURING WINDY WEATHER. LARGE, UNPROTECTED AREAS MUST BE KEPT MOIST (NOT WET) BY SPRINKLING WITH WATER TO REDUCE WIND EROSION. ERECT BARRIER FENCING TO MINIMISE LAND DISTURBANCE BY PREVENTING VEHICULAR AND PEDESTRIAN ACCESS TO AREAS BEING REHABILATATED AND LANDS THAT DO NOT NEED TO BE DISTURBED BY THIS PROJECT.
8. STOCKPILE TOPSOILS, SUBSOILS AND OTHER MATERIALS SEPARATELY.
9. TOPSOIL SHALL BE STORED IN LOW MOUNDS NO MORE THAN 2 METRES HIGH AND RE-USED WITHIN TWO MONTHS TO MAINTAIN ACTIVE POPULATIONS OF BENEFICIAL SOIL MICROBES AND SEED.
10. A SELF AUDITING PROGRAM SHOULD BE ESTABLISHED BASED ON A CHECK SHEET DEVELOPED FOR THE SITE. A SITE INSPECTION USING THE CHECK SHEET SHOULD BE MADE BY THE SITE MANAGER AT LEAST WEEKLY, IMMEDIATELY BEFORE SITE CLOSURE AND IMMEDIATELY FOLLOWING RAINFALL EVENTS THAT CAUSE RUNOFF.

LEGEND

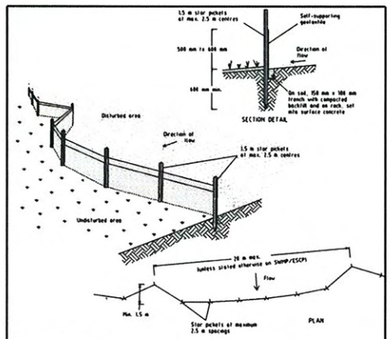
- SEDIMENT FENCE
- INLET SEDIMENT TRAP DURING CONSTRUCTION, KERB INLET CONTROL AFTER CONSTRUCTION
- STABILISED SITE ACCESS
- BARRIER FENCE
- SITE BOUNDARY
- EXISTING CONDITIONS 100 YEAR ARI FLOOD (VIDE URS FIG. 2)



Construction Notes

1. Strip the topsoil, level the site and compact the subgrade.
2. Cover the area with needle-punched geotextile.
3. Construct a 200 mm thick pad over the geotextile using road base or 30 mm aggregate.
4. Ensure the structure is at least 15 metres long or to building alignment and at least 3 metres wide.
5. Where a sediment fence joins onto the stabilised access, construct a hump in the stabilised access to divert water to the sediment fence.

STABILISED SITE ACCESS SD 6-14



Construction Notes

1. Construct sediment fences as close as possible to being parallel to the contours of the site, but with small returns as shown on the drawing to limit the catchment area of any one section. The catchment area should be small enough to limit water flow if concentrated at one point to 50 litres per second in the design storm event, usually the 10-year event.
2. Cut a 150-mm deep trench along the upslope line of the fence for the bottom of the fabric to be entrenched.
3. Drive 1.5 metre long star pickets into ground at 2.5 metre intervals (max) at the downslope edge of the trench. Ensure any star pickets are fitted with safety caps.
4. Fix self-supporting geotextile to the upslope side of the posts ensuring it goes to the base of the trench. Fix the geotextile with wire ties or as recommended by the manufacturer. Only use geotextile specifically produced for sediment fencing. The use of shade cloth for this purpose is not satisfactory.
5. Join sections of fabric at a support post with a 150-mm overlap.
6. Backfill the trench over the base of the fabric and compact it thoroughly over the geotextile.

SEDIMENT FENCE SD 6-8

12000 0 20 40 60 80 100 200 Metres

REV	DATE	DESCRIPTION / ISSUE DESCRIPTION	BY	VER	APP
1	20-01-10	100 YEAR FLOOD LINE ADDED, STOCKPILES RELOCATED	G.M.		
0	17-12-09	ORIGINAL ISSUE	G.M.		

Disclaimer and Copyright:
ALL DIMENSIONS TO BE CHECKED ON SITE BY SUPERINTENDANT PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY, DO NOT SCALE.

Quality Endorsed Company ISO 9001 Lic 4084

Brown Consulting (NSW) Pty Ltd
Level 2, 2 Burbank Place Norwest Business Park NSW Australia 2153
Telephone: 02 8808 5000 Facsimile: 02 8808 5099
BROWN
Sydney Canberra Brisbane Melbourne Singapore

APPROVAL

Client: HPAL FREEHOLD PTY LTD

Project: HOXTON PARK AIRPORT DEVELOPMENT

Drawing: DEVELOPMENT APPLICATION
LOT 400 D.P. 1141990
FILL MATERIAL STOCKPILES
SOIL & WATER MANAGEMENT PLAN

Drawn by: A.C.
Design by: G.M.
Project No: X09244.001
Scale: 1:2000@A1
Drawing No: X09244.001.DA
Revision: 1