BMD

INTEGRATED PROJECT MANAGEMENT PLAN

Rev: A - Date: 09 AUG 2007

Job Name: **ASCOT CHASE DEVELOPMENT**

Job No: **3-1000**

Client: **ASCOT CHASE JOINT VENTURE**

Authorised ..... Date 9/08/07

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PREFACE

The following report is has been prepared for the environmental management for the Ascot Chase Development and specifically for the control of the bulk earthmoving stage of works.

The following sections have been extracted from the BMD integrated project management plan and are those sections that specifically relate to the environmental protection management required for this project.

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1. INTRODUCTION

1.1 Application

The purpose of this Integrated Project Management Plan (IPMP) is to provide a complete management document to be used on a day to day basis by site staff. The IPMP is a dynamic document subject to ongoing review due to changes to the contract, management practices, legislation, industry best practice, international standards and internal review. Implementing necessary changes to improve the quality of the project forms part of BMD Major Projects' commitment to quality and continual improvement.

1.2 Scope

The use of this integrated management system endeavours to produce work to a high quality, in an environmentally aware manner and with the health and safety of all staff and the public considered. The preparation of the integrated management system follows the belief that these three aspects, quality, the environment and safety are not mutually exclusive entities but must be considered in conjunction with each other and core construction activities to produce the best possible outcomes for all stakeholders.

1.3 Management System

BMD Major Projects Pty Ltd has a documented Management System which meets the requirements of:

- AS/NZS ISO 9001 : 2000 "Quality Systems – Model for quality Assurance in design, development, production, installation and servicing",
- AS/NZS ISO 14001: 2004 "Environmental Management Systems – Specifications with guidance for use", and
- AS 4801 : 2001 "Occupational Health and Safety Management Systems – Specifications with guidance for use".

This Management System has received third party certification by SGS International Certification Services to AS/NZS ISO 9001 : 2000, AS/NZS ISO 14001 : 2004 and AS/NZS 4801:2001.

It is intended that this IPMP be read in conjunction with the BMD Pty Ltd Management System Procedure Manual.

6. PLANNING AND PROCESS CONTROL

6.3 Environment

6.3.1 Environmental Management Plan

Each environmental aspect relevant to the site has been assessed and a management plan has been produced to control those processes that may effect the environment. Environmental aspects assessed will include, but are not limited to:

- Air Quality
- Community Liaison
- Cultural Heritage
- Erosion and Sedimentation
- Native Flora and Fauna
- Noise and Vibration
- Pollution Control and Waste Management
- Water Quality
- Vegetation and Weeds

The significant aspects of each plan will be discussed with each worker during the site induction.

The control measures mentioned in the plan will be monitored as a minimum on a weekly basis and after a rainfall event.

The complete Environmental Management Plans are provided as Appendix K.

6.3.2 Water Extraction

Construction water will be obtained from hydrants using metered standpipes.
If construction water is to be extracted from any waterways a permit from the Department of Infrastructure, Planning and Natural Resources (DIPNR) prior to extraction commencing will be obtained.

6.3.3 Restoration of Site

All areas disturbed by construction, both on-site and off-site, will be restored in accordance with specifications.

Erosion and sediment control measure located with Appendix K must remain in place and be maintained at least until the new vegetation provide sufficient protection to keep erosion to a similar level to that of typical local natural bushland.

On completion of works, areas such as compounds, material storage areas, access roads and haul roads will be restored to conditions similar to their original condition.

9. MONITORING AND REPORTING

9.1 Environmental Monitoring

The results of any monitoring required to be conducted must be recorded and retained as follows.

All records are to be:

- in a legible form, or in a form that can be reduced to a legible from
- kept for at least 4 years after the monitoring or event to which they relate took place
- produced in a legible form to any authorised officer of the EPA who asks to see them

The following information must be kept in respect to any samples required to be collected:

- the date(s) on which the sample was taken
- the time(s) at which the sample was collected
- the point at which the sample was taken
- the name of the person who collected the sample

These requirements relate to noise and vibration monitoring, dust monitoring and water quality monitoring.

9.2 Regular Inspections

9.2.1 Weekly Site Inspections

Weekly inspections will be carried out to review the state of safety and environmental controls implemented on site. The site inspection will be conducted by a member of BMD Site management and a member of the workforce. A member from the Superintendent may also be invited to attend.

A site inspection checklist (Appendix O) will be used to assist and document the inspection. Separate minutes may be taken and distributed to BMD management, the Superintendent and subcontractors as required. Any non-conformances found during the inspection will be documented in accordance with our internal audit procedure. Generally, however communication with relevant parties during the inspection will encourage any discrepancies to be rectified on the spot.

In addition daily spot inspections by BMD site personnel will ensure safety, environmental and quality issues are addressed promptly.

10. PURCHASING AND SUBCONTRACT CONTROLS

10.2 Subcontractors

10.2.2 Environmental Controls

Subcontractors will be required to comply with the environmental requirements of this IPMP. Specific requirements that need to be implemented as part of the subcontractors' works will be discussed with that subcontractor at the site induction or during the discussion of the safe work method statement.

Where the subcontractor operates under their own environmental management plan they will be required to perform works in accordance with that plan. An audit will be conducted by the Project Manager to verify the subcontractors compliance to the subcontractors environmental plan.

APPENDIX K

ENVIRONMENTAL MANAGEMENT PLANS

APPENDIX R

WEEKLY SITE CHECK

The following have been identified as significant environmental aspects for the site:

- Possible heavy rain occurrences
-
-

These aspects shall be managed with the environmental protection measures outlined on this plan.

Management

1. Responsibilities:

Emergency Contact 1: Site Foreman: Glenn Sheppard 0438 150 161
2: Project Manager: Jeff Gallus 0409 694 132
3: Liason Officer: Nick Eddy 0408 075 162

2. Communication of EMP Requirements:
The site EMP will be displayed in the site shed as well as being communicated during site inductions, and toolbox talks

3. Inspections and Maintenance:
Weekly checks will be carried out on the environmental measures in place while we are working on site. A record of these checks will be kept in the site office. Checks will also be carried out prior to forecast heavy rain events, during rain events and after these rain events occur. Identified issues will be resolved immediately or no later than one week after occurrence.

4. Staging of Works:
Commencement date for these works is yet to be confirmed. Following on from Stage 1, BMD intend to move continuously into stage 2.

5. Informing Residents:
As residents live in close proximity to works, BMD will forward letters explaining the works as well as providing contact phone numbers. Our foreman will also maintain contact with residents and keep them informed of how works may affect them directly. BMD will advise residents that we intend to work in with their requirements.

6. Associated Documents:

Noise

Risk: ~~Significant/Med/Low~~

Requirement: EPA Victoria and Council requirements must be adhered to in relation to the level of noise and working hours, to ensure that residents and other applicable neighbours to the site are not disturbed unreasonably. The generation of noise must be minimised.

7. Working Hours:

7:00 am to 5:00 pm Mon-Fri

7:00 am to 3:00 pm Sat

8. Noise Minimisation Methods:
Machines to be used on site are relatively new and are regularly maintained in accordance with specifications.

9. Other:

Dust

Risk: ~~Significant/Med/Low~~

Requirement: Dust generation must be minimised to ensure there is no health risk or loss of amenity.

10. Minimising Dust Generation:
Amongst the measures we will employ to minimise dust generation will be roughening of the surface used by plant and vehicles on site, restricting movement of machinery to specific paths, encouraging vegetation growth when possible and practical and the application of water on exposed surfaces, including access roads, if required. Additionally the stockpiling of topsoil and other material will be kept to a minimum height.

11. Dust Suppression:
The use of a water cart may be used at times to suppress any dust generated on site.

12. Contingencies:
When it is deemed that the amount of dust being generated is unreasonable, the site shall be made safe and then works which cause dust generation will cease. Where possible, dust generating activities will be re-scheduled when strong winds are predicted.

13. Other:

Erosion and Sediment

Risk: ~~Significant/Med/Low~~

Requirement: Erosion and sediment must be managed in accordance with current best practice environmental management practices, to prevent sediment-laden water from entering any drainage system or natural waterway.

14. Drainage Management:
For the fill platform works, internal drainage paths will change dynamically with the progress of works External drainage paths will be monitored and protected as necessary.

15. Soil Stabilisation:
During Construction:
Where possible, growth of vegetation will be encouraged as a soil stabilisation measure.

Post Works:
Battering is to be done in accordance with approved designs. topsoil may be seeded if and where required.

16. Stockpile Protection:
The size and number of stockpiles on site will be kept to a minimum. Vegetation growth will be encouraged on stockpiles. In addition the topsoil stockpile will be protected against runoff with siltation fencing.

17. Sediment Traps:
Silt protection will be provided for all pits constructed within the estate, as well as on external roads that may be affected by siltation.

18. Dewatering:
Any dewatering activities will ensure that if the water is not re-used, it is dispersed away from drainage systems. Cases where the water is contaminated to the point where it cannot be remedied will be taken to a licensed EPA disposal facility

19. Vehicle and Road Management:
Site Access:
Site access will be from the existing driveways on Doncaster Street.
Cleaning Vehicles: No spray down area will be provided
Street Cleaning:
The site Foreman is to monitor the condition of the roads regularly. In the event that soil is deposited on the street, the material will be physically removed by scraping or sweeping the material off the road by a labourer or backhoe. Once large deposits are physically removed a street sweeper and water cart will be used to dispose of any silt.

20. Other:

Waste

Risk: ~~Significant/Med/Low~~

Requirement: Litter and waste must be contained on site, before disposal in a responsible manner. Waste generation must be minimised.

21. Movement of Soil : Off site/ ~~On Site/ N/A~~
Contaminant Status: Clean fill

22. Waste Minimisation Methods:
Materials required for use on the job will be ordered near the time they are required so they are not stockpiled on site for too long. Quantities required for the job only shall be ordered to minimise unnecessary waste and packaging and off-cuts which cannot be used will be promptly disposed of.

23. Waste Storage and Disposal :
Lidded bins will be provided on site for general rubbish for employee use and emptied on a regular basis. This will be cleaned out regularly and the waste disposed of appropriately. Bins and Wash out areas are located at the site compound, located on the eastern boundary of the site

24. Other:

Chemicals

Risk: ~~Significant/Med/Low~~

Requirement: Storage and spill management practices must be implemented to ensure that no environmental damage can result from the escape or spillage of chemicals or fuels.

25. Storage:
No Fuel Storage tanks will be kept on site.

26. Spill Management:
A spill kit will be kept within close proximity to site and the use of the material will be demonstrated to the operators and site foreman in case of a spill. The spill kit material is designed for diesel spills and is composed of a substance called *enretech*. The product is EPA approved.

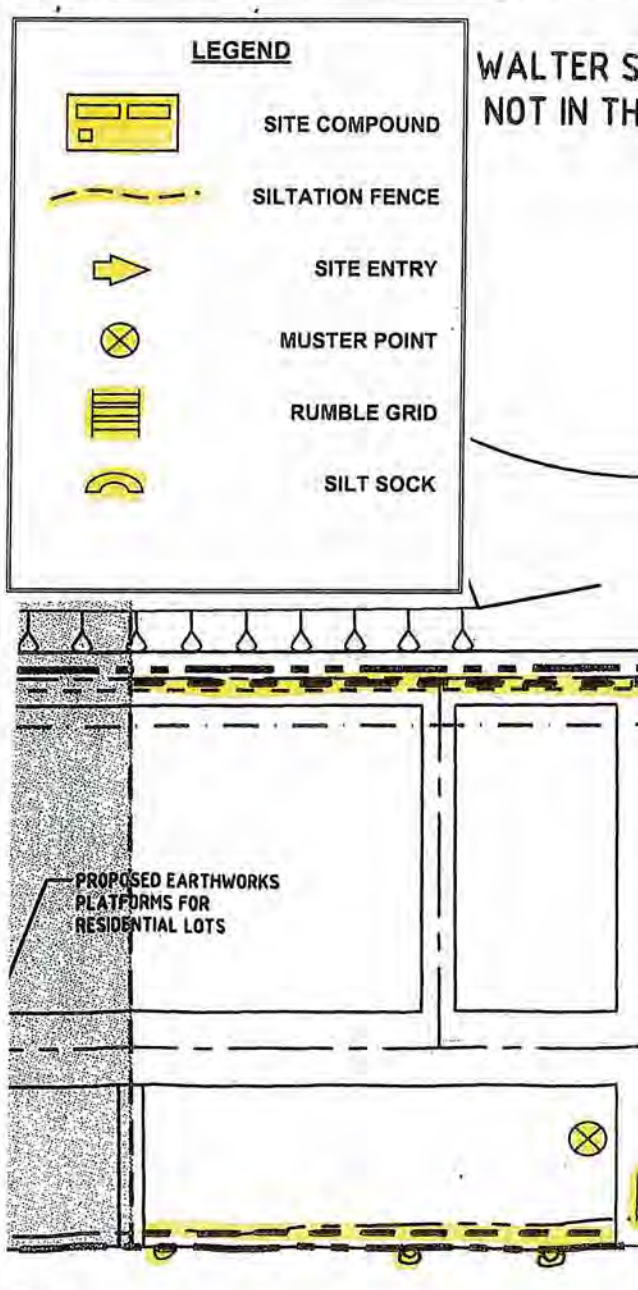
27. Refuelling Procedure:
No refuelling is to occur on site at any time.

28. Other:

Site EMP A1 Plan (1)- Types and Locat

Project Name: ***ASCOT CHASE STAGE 2 FILL PLA***

Date and Revision: ***3 August 2007 – REVISION A***



SILTATION SOCKS PLACED ALONG DONCAS
STREET AS REQUIRED.

Significant Flora/ Fauna

Risk: ~~Significant/Med/Low~~

Requirement: All significant flora and fauna on and adjacent to the site must be protected.

29. Yes/~~No~~. Details:
Tree protection fences will be installed as required.

Archaeol

Requirement: Places protected.

30. ~~Yes~~/No. Details:

I have read this Environmental Management Plan and agree to undertake works and ensure sub-contractors undertake wo

RISK ASSESSMENT CHECKLIST

Noise

Issues:

- Nature of Noise Generating Works: Noise emissions on site generated by earthmoving equipment and construction activities
- Potential Noise Receptors: surrounding residential areas
- Proximity of Works to Noise Receptors: approximately 20m

Likelihood: *Low*

Consequence: *Low*

Overall Risk: *Low*

Dust

Issues:

- Dust Sources: Potential dust emission problems may arise from unsealed roads, hard stand areas and earthmoving operations. Off site nuisance as a result of dust must be controlled
- Potential Dust Receptors: surrounding residential/industrial areas
- Proximity of Works to Dust Receptors: approximately 20 meters
- Extent of Exposed Earth and Duration of Time Exposed: Entire area of site will be exposed from the time earthworks commence until the completion of civil works
- Wind Conditions: Minor

Likelihood: *Medium*

Consequence: *Low*

Overall Risk: *Medium*

Erosion and Sediment

Issues:

- Erosion and Sediment Sources: Erosion and sedimentation due to water runoff and resultant increases in downstream turbidity must be controlled. The major potential areas of impact include run off from unsealed roads, cleared areas and unstabilised batters, enhanced scouring at site drainage outfalls and increased site run off turbidity.
- Potential Erosion and Sediment Receptors: Side entry pits on external roads
- Proximity of Works to Erosion and Sediment Receptors: Approximately 10 meters
- Extent of Exposed Earth and Duration of Time Exposed: Pavement construction
- Soil Type and Erosivity: Silty Clay and Sand
- Slope: Minimal
- Rainfall: Medium. Construction will start in winter and works will be subject to winter climate conditions
- Vehicle Movements On and Off Site: External roads are the main concern due to the large number of truck movements

Likelihood: *Medium*

Consequence: *Medium*

Overall Risk: *Medium*

Waste

Issues:

- Nature of Waste to be Generated: General Construction Waste
- Presence of Waste On Site Prior to Work Commencement: Minimal.
- Quantity of Waste Anticipated: Minimal.
- Potential Waste Receptors: All waste generated on site during construction is to be disposed of responsibly and recycling will be encouraged wherever possible.
- Proximity to Potential Waste Receptors: 10 meters

Likelihood: *Medium*

Consequence: *Low*

Overall Risk: *Medium*

Chemicals

Issues:

- Types of Chemicals and Fuels Used and/or Stored On Site: Unleaded Fuel, oil and PVC Solvent
- Quantities of Chemicals and Fuels Used and/or Stored On Site: 10 litres of Unleaded fuel, 2 Litres of oil and 2 tins of solvent. Quantities may vary
- Potential Chemical Receptors: Soils, Stormwater, Wetlands
- Proximity to Potential Chemical Receptors: Immediate

Likelihood: *Medium*

Consequence: *Medium*

Overall Risk: *Medium*

Significant Flora/ Fauna

Issues:

- Types of Flora/ Fauna: Marsupials/Possums
- Vulnerability of Flora/ Fauna: Moderate
- Proximity of Flora/Fauna to Works: 10 metres
- Work Activities Which May Threaten Flora/ Fauna: earthworks and machinery
- Potential Impacts on Flora/ Fauna: Loss of habitat.

Likelihood: *Medium*

Consequence: *Medium*

Overall Risk: *N A*

Archaeological/ Heritage

Issues:

- Traditional Land Owners Consulted? ~~Yes~~/No
- Survey or Assessment Conducted? ~~Yes~~/ ~~No~~/Not required
- Probability of Encountering Archaeological/ Heritage Items During Works: Low
- Types of Archaeological/ Heritage Items On Site: Nil
- Proximity of Archaeological/ Heritage Items to Works On Site: Nil

Work Activities Which May Threaten Archaeological/ Heritage Items: Earthworks.

- Potential Impacts on Archaeological/ Heritage Items: Low

Likelihood: *N A*

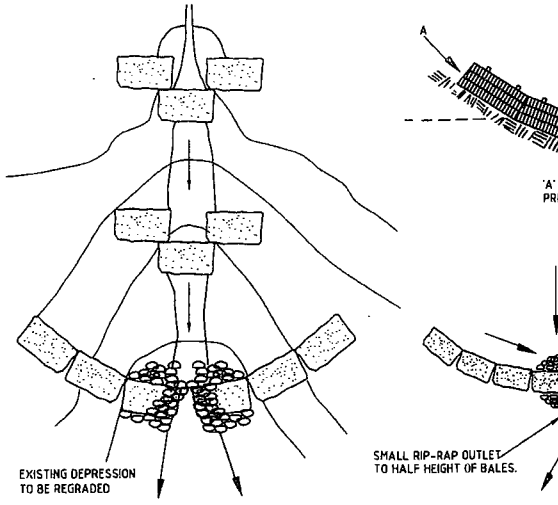
Consequence: *N A*

Overall Risk: *N A*

Site EMP A1 Plan - Risk Assessme

Project Name: ***ASCOT CHASE STAGE 2 FI***

Date and Revision: ***3 August 2007 – REVISIO***



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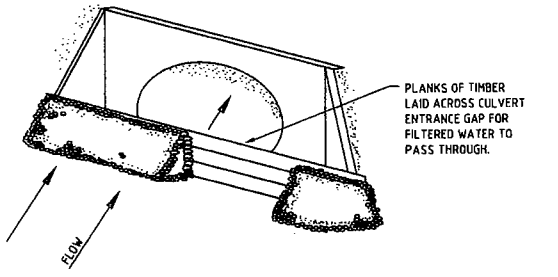
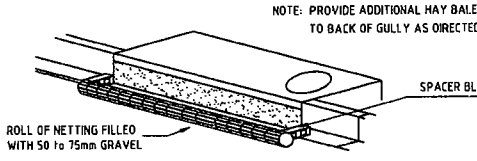
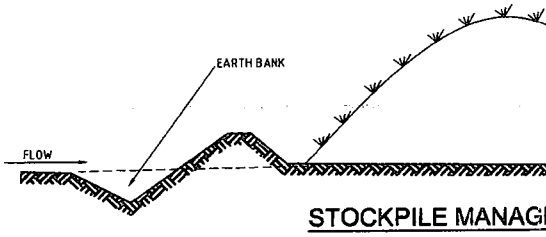


HEADWALL INLET PROTECTION



KERB INLET PROTECT



STOCKPILE MANAG

N.T.S

Issues:

-
-
-
-
-

PROJECT: _____ JOB No.: _____

Objective: To provide a strategic framework to enable the construction of the project with minimal impact on the environment during the construction period. Construction and material handliing strategies, performance criteria, testing, monitoring and quality control procedures adopted will be acceptable to Statutory requirements and established best practice techniques.

Management Requirement	Action	Responsibility	Timing
Performance Criteria	* pH of discharge waters to be between 6.5 and 8.5 * Turbidity shall not increase by more than 10%. * Disolved Oxygen shall not increase by more than 10% or decrease by more than 10%.	Foreman Engineer / CA	For duration of construction
Monitoring for presence of potential acid sulphate material.	* Visual inspections will be carried out following each rainfall event and/or on a monthly basis during dry periods to determine the presence of and assess the extent of: * Any unexplained scalding, degeneration or death of vegetation * Any unexplained death or disease in aquatic organisms * The formation of the mineral jarosite in exposed or excavated soils * Areas of green-blue water or extremely clear water * Rust coloured deposits on plants and on the banks of drains, water bodies and water courses Records of visual inspections will be kept detailing observations, corrective actions, etc.	Foreman Engineer / CA	As specified
Contain and neutralise potential acidic water	* Any water runoff from P.A.S.S. material is to be tested and treated prior to discharge for Acidity.	Foreman Engineer / CA	For duration of construction
Treatment of Potential Acid Sulphate Soil	* This material will be neutralised by throughly mixing with sufficient lime to neutralise the acid production potential of the material. The liming rate will be determined by preliminary assessment testing and neutralisation will be verified by additional testing following mixing the lime. Runoff from teh drying/mixing area will be contained, collected and neutralised prior to discharging	Foreman Engineer / CA	Duration
Corrective Action	* Equipment found to be unsatisfactory for use with respect to vehicle emmissions shall be removed from use immediately * If pH lower than 6.5 is detected, then discharge water shall be contained and neutralised by addition of hydrated lime to within range of 6.5 to 8.5. * Details of detected non-conformances shall be recorded including course of action and person responsible. * Determine course of action in response to complaint * An Environmental Complaint Register will be established to record the full details of any complaints received. All bona fide complaints are to be investigated and the course of action and person responsible to carry out the corrective action also be recorded.	Foreman	Immediately as required

PROJECT: _____ JOB No.: _____

Objective: To control sources of dust and other emissions to air that affect nearby residents, pedestrians, vehicular traffic of sensitive receiving environments.

Management Requirement	Action	Responsibility	Timing
Performance Criteria	* Dust levels are to be kept to a minimum. * Exhaust emissions are to be kept to a minimum.	Foreman	During construction
Implementation Strategy	* Apply water truck to minimise potential dust source areas (hardstand areas, temporary stockpiles); water trucks to be available while work is being carried out and will be used as required. * Retain existing vegetation, where possible, to act as a natural barrier and assist in limiting the transport of dust from the site. * Landscaping of completed works to be ensure limit exposed areas. * Plant and vehicles are to comply with Australian design standards and maintained in good order to minimise nuisance vehicle emissions. * Cover vehicles hauling materials which may generate undue dust and rubbish.	Foreman	Duration of construction
Monitor Performance	* Daily visual check that dust generation is not excessive * Ensure completed areas have been Landscaped as required. * Visual check that equipment used on site is in good working order and has been maintained in accordance with manufacturer's specifications. * All complaints will be recorded; bona-fide complaints will be investigated and acted upon as necessary.	Foreman	Duration of construction
Emergency Procedure	* Apply water to areas causing dust problems.	Foreman	During construction
Corrective Action	* Equipment found to be unsatisfactory for use with respect to vehicle emmissions shall be removed from use immediately * Where assessment of dust generation proves unsatisfactory operations will cease and water cart will be employed to supress dust before resumption of operations * Landscaping in completed areas is to be undertaken as soon as practical * Determine course of action in response to complaint * Environmental Complaint Register to be completed and Corrrective Action report prepared.	Foreman	Immediately as required

ENVIRONMENTAL MANAGEMENT PLAN - COMMUNITY LIAISON

PROJECT: _____ JOB No.: _____

Objective: To provide a strategic framework to enable the construction of the project with minimal impact to traffic and the community.

Management Requirement	Action	Responsibility	Timing
Performance Criteria	* Number of complaints from community no more than one a week * All complaints to be followed up within two working days * Disruption to daily traffic is minimised * Access to properties to be maintained at all times	Foreman	Duration of construct
Implementation Strategy	* Proactively inform all parties on issues which may affect the community * Correspondence media to include direct contact, leaflets, radio, etc. as appropriate * Implement Traffic Management Plan * Implement Community Liaison Plan * Develop and maintain courteous relations with all community members.	P/A Manager Engineer / CA Foreman	Duration of construction
Monitor Performance	* Daily visual checks of impact on traffic due to operations * Daily visual traffic management checks * All complaints will be recorded, investigated and acted upon as necessary * Ensure that unnecessary disruption to daily activities is avaided where possible. * Reporting to the Superintendent on a weekly basis	Foreman P/A Manager Engineer / CA	Duration of construction
Emergency Procedure	* See Corrective Action		
Corrective Action	* Unnecessary disruptions to be rectified immeditaly as required * Investigate complaints and determine appropriate course of action in response to complaint * Environmental Complaint Register to be completed and Corrective Action Report prepared as applicable	Foreman Engineer / CA	Immediately as required

ENVIRONMENTAL MANAGEMENT PLAN - CONTAMINATED MATERIAL MANAGEMENT

PROJECT: _____ JOB No.: _____

Objective: To ensure responsible disposal of identified contaminated material offsite in accordance with EPA requirements.

Management Requirement	Action	Responsibility	Timing
Performance Criteria	* Suitable disposal of contaminated material identified in tender documentation including supporting documentation and verification of suitable disposal methods.	Engineer C/A Foreman	
Implementation Strategy	* Material locations to be identified and cordoned off from surrounding works * Superintendants representative to confirm scope of works onsite to for works to be carried out under the appropriate provisional item in the schedule. * Material to be loaded and carted offsite to suitable facility in accordance with EPA requirements for the level of contamination present.	Foreman	
Monitoring, Recording and Reporting	* BMD to retain and present to Vicroads all relevant documentation providing evidence of correct disposal methods. * Suitably qualified persons to be engaged to provide validation that works carried out in appropriate manner.	Engineer	

Issued: JG/DC

PROJECT: _____ JOB No.: _____

Objective: To protect any items of cultural significance identified during construction.

Management Requirement	Action	Responsibility	Timing
Performance Criteria	* To identify and maintain items of cultural significance both of Euopean and Aboriginal heritage once discovered.	Engineer C/A Foreman	Duration of construction
Implementation Strategy	* No items of cultural heritage are expected to be discovered during construcion works.		
Monitoring, Recording and Reporting	* If items of cultural heritage are discovered the Superintendent shall be notified as soon as the discovery is made.	Foreman	Duration of construction
Emergency Procedures	* Once a discovery is made: * Works will cease in the immediate vicinity. * The area will be barricaded off. * The Superintendent and the Manager of Cultural Heritage Program within the EPA will be notified. * A toolbox meeting will be conducted informing workers of the cultural heritage area.	Engineer C/A Foreman	During emergency
Corrective Action	* Corrective action will be determined as required.	Foreman	Duration of construction

PROJECT: _____ JOB No.: _____

Objective: To develop and maintain procedures to minimise the impacts of erosion and sedimentation during construction and for ensuring that site drainage does not cause an increase in downstream turbidity.
To minimise the run-off from the site, to ensure no adverse affects on the water quality of the downstream system.

Management Requirement	Action	Responsibility	Timing
Performance Criteria	* Ensure no sediment laden water enters waterways. * No erosion of exposed surfaces, batters or drainage paths	Engineer C/A Foreman	Duration of construction
Implementation Strategy	* Prepare erosion and sediment control plan (ESCP) prior to commencing works on site. * Implement control devices as per the ESCP. * Locate stockpiles in locations away from drainage channels. Place diversion channels and silt fencing around stockpiles as required. * Instruct workers and subcontractors of erosion and sediment control requirements at the site induction. * Amend and maintain controls as required. * Landscaping of completed works to be established as soon as practical.	Foreman	Prior and duration construction
Monitoring, Recording and Reporting	* Visually inspect silt fencing and other controls on a weekly basis and after a rainfall event. *Conduct independent aduit on a monthly basis. Report environmental incident to the Superintendent as soon as practicable.	Foreman	Duration of construction
Emergency Procedures	* Cut diversion drains on exposed batter slopes to direct sheet flows. * Place emergency silt fence, straw bales, diversion drains or check dams to minimise impact.	Foreman	During emergency
Corrective Action	* Inadequate erosion and sediment control measures are to be reviewed and alternative/additional control measures determined and implemented. * Landscaping in completed areas is to be undertaken as soon as practical * Where sediment control structures are not in place operations are to cease and measures taken prior to resumption of operations. * Sediment control structures with less than 70% capacity shall be cleaned and sediment disposed appropriately. * Treatment of water quality as directed prior to discharge to surrounding environment.	Foreman	Duration of construction

PROJECT: _____ JOB No.: _____

Objective: To minimise the impact on native flora and fauna on site.

Management Requirement	Action	Responsibility	Timing
Performance Criteria	* To maintain as much as possible of the existing habitat. * No deterioration of the existing habitat.	Engineer / CA Foreman	Duraing construction
Implementation Strategy	* Define clearing limits before operations begin by marking trees within the limits and setting survey pegs. * Discuss clearing limits with operators before operations begin. * Areas of natural habitat shall be identified and communicated to all personnel. * Silt fencing shall be installed around areas of natural habitat where necessary. * Protection of the branches and roots of trees identified by the principal shall be undertaken. * A 10m buffer zone shall be established around areas of natural habitat where native fauna is found. Clearing shall not commence until the animal has moved on its own accord or is relocated by a suitably qualified person. * Trees with hollows to be salvaged and placed at strategic locations on site for creation of nest boxes.	Foreman	Duration of construction
Monitor Performance	* Check clearing is done within clearing limits as per quality system. * Weekly visual check of natural habitat areas for signs of disturbance. * All complaints will be recorded, bona-fide complaints will be investigated and acted upon as necessary.	Foreman Engineer / CA	Duration of construction as necessary
Emergency Procedure	* If clearing is found to be outside limits, the Superintendent is to be notified and corrective action implemented. * Where fauna is inadvertently injured they are to be treated as advised by a native fauna hospital/refuge or carer.	Foreman	In the event of emergency
Corrective Action	* Natural habitat areas that show signs of distrubance shall be barricaded off and works will stop in the immediate vicinity of the habitat. * Any trees that become damaged repairs shall be undertaken by a qualified tree surgeon. * Environmental Complaint Register to be completed and Report prepared.	Foreman	Immediately as required

PROJECT: _____ JOB No.: _____

Objective: To minimise potential nuisance to the local community from noise and vibration during the construction phase of this project.

Management Requirement	Action	Responsibility	Timing
Performance Criteria	* Noise levels are kept to a minimum so as not to cause an environmental nuisance.	Foreman	Duration of construction
Implementation Strategy	* Working hours are to be between 7:00am and 6:00pm Monday to Friday and between 7:00am and 6:00pm Saturdays. No works shall take place on Sunday / Public Holidays. * Issue workers with appropriate PPE if work activity requires workers to be near construction plant for an extended period of time.	Foreman	Duration of construction
Monitoring, Recording and Reporting	* Inspect noise and vibration of plant on a daily basis. * Noise complaints to be forwarded to the Superintendent for review.	Foreman Engineer / CA	During construction
Emergency Procedure	* Source of excessive noise to be shut down, inspected by a competent person and repaired.	Foreman	As required
Corrective Action in response to bona-fide complaints	* Noise and vibration output in response to bona fide complaints will be monitored. * Determine course of action in response to complaint. * Environmental Complaints to be registered on Report Register and Report to be completed.	Engineer / CA Foreman	As soon as practical after complaint.

PROJECT: _____ JOB No.: _____

Objective: To ensure responsible disposal of all waste and appropriate control of pollution generated on site during construction.
To encourage recycling where practicable.

Management Requirement	Action	Responsibility	Timing
Performance Criteria	* Minimise construction and green waste as much as possible. * Replace, reduce, reuse and recycle whenever possible. * Waste Minimisation (Part 6 EGMCS) EPA Pub 1996.	Engineer C/A Foreman	Durating Construction
Implementation Strategy	* All site personnel and subcontractors to minimise generation and disposal of waste * All domestic garbage and industrial waste is to be disposed of into proper industrial bins for collection. No open or ground rubbish is permitted. * Appropriate waste contractors shall be used to remove waste from site. * Major maintenance and repairs will be carried out off-site. * All green mulch to be tub ground and reused during landscaping works. * Any formwork to be reused as appropriate. * Any regulated waste to be disposed of to a regulated waste facility. * Maintenance and repair of plant conducted off site where possible. * Cover pre-coated aggregate if rain is imminent.	Foreman	Duration of construction
Monitoring, Recording and Reporting	* Visual check that no rubbish has been left on ground. * Visual check that fuels stored correctly * Visual check that site is free of contamination from spillage of fuel/oil after maintenance of equipment * Ensure site personnel and subcontractors minimise generation and disposal of waste * All complaints will be recorded, bona-fide complaints will be investigated and acted upon as necessary.	Foreman	Duration of construction
Emergency Procedures	* Waste from spills to be bunded.	Engineer / CA Foreman	During construction
Corrective Action	* Any spills of fuels and other dangerous goods are to be treated with 1 part gypsum to 5 parts soil and disposed to an authorised disposal site. * Any site contamination is to be immediately remedied. * Rubbish left on ground to be immediately placed into proper industrial bins for disposal * Determine course of action in response to complaints. * Environmental Complaint Register to be completed and Non-conformance Report prepared.	Foreman Engineer / CA	Immediately as required As soon as practical after complaint

PROJECT: _____ JOB No.: _____

Objective: To minimise the impacts of erosion and sedimentation during construction and for ensuring that site drainage does not have a detrimental effect on waterways.

Management Requirement	Action	Responsibility	Timing
Performance Criteria	Prior to release of any water from the site the water is to be tested and conform to the following criteria: * pH to be in range of 6.5 - 8.5 * Non-Filterable Residue to be less than 50 mg/L * Oil and Grease be less than 10 mg/L * Residual Chlorine Level to be less than or equal to 0.5 mg/L	Foreman	Duration of construction
Implementation Strategy	* Develop erosion and sediment control plan (ESCP) to minimise sediment. * Implement control devices as per the ESCP. * Construct diversion channels and ponds to prevent runoff from directly entering the waterways. * Place rock check dams in diversion channels where necessary. * Amend controls as required. * Ensure control measures are in place before exposing earthworks to rainfall events. * Potential pollutants (e.g. oil, solvents) not to be used at waterways or natural drainage lines where practicable.	Engineer / CA Foreman Foreman	Prior to Construction
Monitoring, Recording and Reporting	* Visually inspect silt fencing and drainage channels for blockages on a weekly basis. * Conduct independent audit on a monthly basis. * Monitor effectiveness of controls after a rainfall event. * Report environmental incident to the Superintendent as soon as practicable. * Water quality monitoring and reporting at set locations by BMD or specalist.	Engineer / CA Foreman Independent Auditor	During construction
Emergency Procedure	* In case of an oil or other contaminant spill, bund off immediate area. Soak up contaminent with sand and dispose of contaminated material to an approved disposal site.	Foreman	During emergency
Corrective Action	* Cease opertions in areas where relevant sediment controls are not in place. * Clean out controls as required. * Amend ESCP to suite the conditions. * Modify work activity procedures to prevent environmental incident.	Foreman Engineer / CA	Immediately as required.

PROJECT: _____ JOB No.: _____

Objective: To identify and control any noxious declared weeds on site.

Management Requirement	Action	Responsibility	Timing
Performance Criteria	* Declared weeds removed/sprayed as appropriate. * No weeds or weed seeds to enter site due to construction activities.	Engineer C/A Foreman	During construction
Implementation Strategy	* Stripped topsoil to be stored on site and reused in the area it was remived from. * All vehicles and organic materials to be visually inspected for signs of weeds before entering site. * Physical, biological and/or chemical control measures to be implemented on detection.	Foreman	Prior to construction Duration of Construction
Monitor Performance	* Weekly visual check for new weed growth.	Foreman	Duration of construction
Emergency Procedure	* See corrective actions		
Corrective Action	* Physical, biological and/or chemical control measures to be implemented on detection. * Plant and materials to be washed down in a designated areas.	Foreman	Duration of construction

APPENDIX R

WEEKLY SITE CHECK, WEEKLY PLANT CHECK, ELECTRICAL EQUIPMENT REGISTER

SAFETY AND ENVIRONMENT CHECKLIST

BMD

Project: ..... **Date:** ..... **Time:**.....

SITE AREA	ITEM	✓ / × / NA	PROPOSED ACTIONS	DATE
Site Entry / Boundaries	• BMD signs displayed • Safety signs placed • Boundary fence maintained • Footpath clear • Vehicle movements controlled • Traffic management plan in place • Traffic Controllers provided • Traffic barricades erected			
Compound	• Amenities are clean • No trip hazards in the area • Stockpiles clearly defined • General waste removed • Const. waste removed • Drinking water provided • Electrical equipment tested & tagged			
Plant and Equipment (including subcontractors and hire equipment)	• Checklists complete this week • Haul roads clear and well defined • Plant operators tickets obtained			
Excavations and Trenches	• Unattended holes barricaded • Benching and shoring of trenches over 1.5m • Ladders provided and in good order • Dewatering required • Helmets worn in trench			
Power Tools / Electrical (Quickcut, electrical tools)	• Dust Masks & eye protection provided/used • Safe techniques used • Guards fitted • Tools & leads tested & tagged • No double adaptors • Residual current devices used			
Lifting objects-	• Chains tested & tagged (12mths) • Crane used with Dogger • Workers standing clear of load			
Hazardous Substances (HS)	• MSDS provided for each HS entered on register • Worker training provided • Correct PPE used • HS clearly labelled and stored correctly			

See over for the rest of the checklist

SAFETY AND ENVIRONMENT CHECKLIST

Project: ..... **Date:** ..... Time:.....

SITE AREA	ITEM	✓ / × / NA	PROPOSED ACTIONS	DATE
Working at Heights **>2.0m** (Bridges, retaining walls, large culverts, etc)	• Ladders tied off • Scaffolds checked • Edge protection provided • Harnesses supplied and used • Elevated work platforms are on stable ground & locked off • Barricades provided around large drops			
Confined Spaces	• Risk assessment complete • Worker training provided • Entry permits used • Gas detector used • Tripod & harness provided • Other PPE provided			
Subcontractors	• Check all controls are in place and working safely • Work Method Statements • Workers comp. received • Public liability received			
General Items	• First Aid Kit up-to-date • Inductions for all workers • Emergency procedure established and staff trained • All workers wearing vests & boots • Adequate PPE available • Emergency numbers displayed • Safety Plan on site • Weekly checks conducted and proposed actions complete • Incident investigations conducted			
Environmental	• Silt fences and silt traps in place/adequate • No signs of sediment/dirt in waterways or on roads • No general waste around site • Dust levels acceptable • Noise levels acceptable • Vibration levels acceptable • Known weeds removed • Spill kit available • Cultural Heritage issues addressed • Public complaints addressed			

Comments.....

Signed:.....