SITE MANAGEMENT PLAN

DEMOLITION AND SITE PREPARATION WORKS
SAPPHIRE (Formerly Pelican Beach Resort)
740-742 PACIFIC HIGHWAY
SAPPHIRE BEACH, COFFS HARBOUR, NSW

Principal:
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Validity Period:
TBA

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SITE MANAGEMENT PLAN

This Site Management Plan (SMP) outlines the management, environmental control and monitoring measures required for the demolition and site preparation at the former Pelican Beach Resort, 740-742 Pacific Highway, Sapphire Beach, Coffs Harbour. It will cover such issues as, protection of adjoining properties, runoff control, wastewater management, solid waste disposal, dust, odour, vibration, traffic and noise controls, demolition methodology and work hours.

This SMP has taken into account and should be read in conjunction with the *Vegetation Management Plan (VMP) prepared by BushfireSafe.*

We have also included the findings and requirements of the *Hazardous Materials Survey and Register prepared by David Lane & Associates.* (appendix 1)

This SMP has adopted the mitigation measures and recommendations proposed in Sections 16 & 17 of the *Davies Heritage Consultants Pty. Ltd's Archaeological Assessment of Indigenous Values dated March 2007*, should the activities proposed uncover anything which may be interpreted as Aboriginal in origin. (appendix 2)

1.0 SITE ESTABLISHMENT PLAN

Rainbow Group, the preferred contractor will, on the granting of a consent, obtain necessary permits, licenses, and approvals to begin works. Access to and from the site shall be via the Pacific Highway.

Site establishment plan (appendix 3) will consist of the following items:

- Establishment of site office, first aid, equipment storage & meal / rest facility; to be located at the entrance to site where the now closed Seafood Mamas Restaurant is located.
- Fencing of the dune and 7A Environmental Zone to restrict access by contractors in accordance with the requirements of the VMP, and the site boundaries as required, to restrict access to the site by others
- Utility connections & disconnections as required;
- Resource recycling facility (concrete, masonry processing) installation;
- Project signage;
- Environmental controls & truck wheel wash construction

1.1 Utilities

Electricity and, water are to be connected to the site and the site office.

1.2 Health and Safety Equipment Installation

A first aid station is established in the site office with an industrial first aid kit.

1.3 Wheel Wash

Rainbow will construct and maintain facilities for cleaning of the wheels of vehicles leaving the site. The facility will include a 550mm deep concrete pit with two rumble grids at the base

and 100mm aggregate covered by 50mm of clean water (appendix 4). Vehicles leaving the site will be free of gross soil contamination.

To minimise gross contamination of trucks, Rainbow will ensure that the loading areas for trucks is well maintained to minimise the pick up of mud and/or other material. Rainbow will consider the placement of temporary aggregate or other surface covering.

Monitoring will be performed to ensure that contaminants & soils etc are not tracked out of the site with cleaning by hand & power sweeping performed, as necessary.

2.0 TRAFFIC CONTROL PLAN

All truck movements will be controlled to restrict potential impact on the surrounding areas. This will include strict hours of operation and the wash down of trucks on leaving site. Trucks will enter and leave the site via the Pacific Highway, whilst within the site, vehicles will be directed & proceed along designated routes, drivers will be instructed to remain within the vehicle at all times while in the exclusion zone with manual tarpaulin fitting to be performed in an area as designated by the supervisor.

Any laden trucks leaving the site will be required to turn south or left out only. No right turn (northbound) across the southbound carriageway will be permitted for laden trucks.

All trucks will be able to be queued on site before pickup and leaving the site.

All parking will be adjacent the site office which will be located where the now closed Seafood Mamas Restaurant is located immediately opposite the entrance to the site.

3.0 WORK HOURS PLAN

The proposed working hours for the demolition activities are as follows:

Mondays to Friday	7.00am to 5.00pm
Saturday	No work permitted
Sundays & Public Holidays	No work permitted

4.0 DEMOLITION MANAGEMENT PLAN

This section describes the general procedures that will be followed in managing demolition on the site.

The general process for demolition and managing the removal of demolition material from the site will be as follows:

- Stockpile demolition materials in a central location, with controls to ensure minimisation of dust generation;
- Load out demolition materials to be transported to an approved facility;

4.1 Description of the Buildings, Structures and Services to be Demolished and Removed

The buildings, structures and services to be demolished are show on the plan below and include the following;

- The 114 room hotel building which includes the restaurant and conference centre and all back of house facilities.
- All ancillary buildings associated with the hotel primarily located around the existing swimming pool
- Former Seafood Mamas Restaurant at the entrance to the site
- The swimming pool & spa
- The tennis & volley ball courts
- All redundant services either above or below ground
- All bitumen or concrete carparks and footpaths
- Any vegetation outside the dune area and 7A environmental zone not marked for reuse or transplanting

4.2 Measures to Avoid Adverse Impacts on Aboriginal Heritage

Davies Heritage Consultants Pty. Ltd prepared a report for the Environmental Assessment Report titled, *Archaeological Assessment of Indigenous Values dated March 2007*. This SMP has adopted the mitigation measures and recommendations proposed in Sections 16 & 17 of the Davies Report. (appendix 2)

The report states – 'There is only a very low potential that sub-surface archaeological material may be present. The material would primarily be either dispersed midden material or stone artefacts, which would not be *in situ.* There is a very low potential for burials to be present.'

The demolition work is primarily located on parts of the site that have already been heavily disturbed as a result of the construction of the buildings to be demolished and therefore unlikely to contain items of aboriginal heritage. The areas of the site more likely to contain items of aboriginal heritage are the dunes and 7A Environmental Zone both of which are being fenced and excluded from the demolition zone.

However if items of aboriginal heritage are encountered during the demolition works the mitigation measures and recommendations of Sections 16 & 17 will be adopted. Workers on site will be made aware, via an Indigenous Cultural Heritage Induction, of the possibility of uncovering Indigenous items during ground disturbance activities and be advised of the appropriate action that must be taken.

4.3 Vegetation and Tree Removal

105 trees were recorded during the flora survey of the subject land, of these 45 trees will be removed with a further 9 being relocated. The removal of trees is necessary to accommodate the dwellings and provide access; or to limit the spread of Mundulla Yellows syndrome or because they are located in an area where the site will be filled. Additional planting of trees is proposed in the Landscape Plan, including the planting of 11 Hoop Pine trees within an 8m wide area adjacent to the Pacific Highway in compensation for the loss of Mundulla Yellows affected trees. A plan showing the trees to be removed and retained is attached as Appendix 6.

Trees will be retained in 7A Environmental Zone and dune areas other than weed or noxious species. These areas will be fenced to protect trees and vegetation during demolition works.

The trees to be removed will be done by a specialist contractor during the demolition works.

4.4 Scope of Demolition Work

- Provision of appropriate approvals, permits and licences
- Demolition of all buildings and associated internal and external plant and equipment
- Recycle all concrete and masonry onsite for reuse
- All remaining demolition and waste materials to be removed from the site
- Leave the site clear of all waste materials, clean and tidy, with any and all certification required for sign off of the works, ready for civil earthworks associated with the residential subdivision to follow.

4.5 Hazardous Materials

David Lane and Associates conducted a hazardous materials survey to identify the extent and current condition of any remaining asbestos containing materials (ACM), synthetic mineral fibres (SMF), lead or other heavy metal based paint, PCB containing materials, chemicals, pipework or surface dusts and sludges. A copy of David Lane & Associates survey titled *Hazardous Materials Survey and Register* is included in Appendix 1

A summary of the results of the survey includes the following;

- No ACM was observed in the main hotel building
- A limited amount and fragments of ACM was found in the former Seafood Mamas Restaurant sub-floor, ceiling of the eastern portion of the building and within a fill layer within .3m of the surface in a defined area of approximately 150m2 adjacent the restaurant.
- No lead paints were observed within the restaurant or resort buildings during site inspection
- No PCBs were observed within the restaurant or resort buildings during site inspection

4.6 Hazardous Materials Management Strategy

Notwithstanding that the David Lane Survey found very little hazardous material of any sort, this SMP provides a range of methods for dealing with all materials, which have either been recorded in the David Lane Survey or may be encountered during the demolition works, and outlines methodologies for dealing with these. It should be noted that the following hazardous materials management strategies are outline methodologies only. It is expected that Rainbow will develop these strategies in a detailed Work Plan.

The Work Plan is to be completed and submitted to the PCA prior to commencement of demolition works. This document should deal with all site specific activities and should include risk assessments for each activity and also include a Hazardous Materials Plan.

The removal of any ACM within a building or soil, will be undertaken by a professional licensed contractor in accordance with the methods and procedures as outlined in the *Guide to Control of Asbestos Hazards in Buildings and Structures [NOHSC: 3002(1998)]*, the *Code of Practice for the Safe Removal of Asbestos [NOHSC: 2002(1988)]* and *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Dust [NOHSC: 3003 (1988)] and the Waste Guideline (NSW EPA 2008).*

In order to minimise the potential for asbestos contaminated dusts to leave the site via entrainment by demolition equipment, these material must be removed or contained prior to dismantling and demolition of other structures at the site. Suitable filters and industrial vacuum equipment approved (AS 3544-1988) for use in asbestos removal works will be used for this purpose.

The dust containing asbestos fibres will require disposal as a regulated waste. An on-site containment area for these wastes will also be required prior to disposal.

Appropriate approved PPE, in accordance with NOHSC guidelines will be used for all workers undertaking direct removal works. An airborne fibre monitoring program will be prepared and implemented.

The David Lane & Associates Report indicates a small amount of ACM was found within a fill layer located near the old Seafood Mamas Restaurant. The fill covers an area of 150m2 to a maximum depth of .3m. Soil samples collected from the fill and immediate surrounds did not indicate the presence of either fibrous or bonded asbestos containing materials. The material will be excavated and disposed of in accordance with NSW DECC 2008 Waste Guidelines, prior to a clearance certificate being issued.

ACM cement sheeting and Zelminite backing board is located in the old Seafood Mamas restaurant. The materials were observed to be in good condition. The removal of these materials will be conducted by appropriately qualified and registered asbestos removalists.

Inspection of the ceiling cavity in the restaurant indicated that no insulation material was present.

A Contingency Plan should material be identified during the demolition that are suspected to be ACM, the material will be assumed to contain asbestos, removed accordingly and stored appropriately until further sampling and analysis can be undertaken or disposed as asbestos containing. All appropriate personal protective equipment should be worn when handling these items. Handling of the suspected material should also be undertaken in accordance with the guidelines provided previously.

No Synthetic Mineral Fibres (SMF) were observed or recorded by David Lane and Associates, however if they are encountered during the demolition works the *NOHSC [NOHSC (1990)] National Standard and National Code of Practice for the safe use of SMF* guidelines will be used which requires that materials are stored in suitable containers, which prevents the release of fibres. As a precaution, any SMF materials found present on the site will be disposed of as asbestos waste.

No Polychlorinated Biphenyls (PCBs) were observed or recorded by David Lane and Associates, however if they are encountered during the demolition works they will removed in accordance with the NSW EPA Guidelines *Chemical Control Order for PCB's*.

No heavy metal paints were observed or recorded by David Lane & Associates, however if they are encountered during the demolition works they will be handled and disposed of in accordance *with AS4361.1 - 1995 Guide to Lead Paint Management Part 1: Industrial Applications* and *AS 4361.2-1998 "Guide to Lead Paint Management Part 2: Residential and Commercial Building*.

All demolition material, soil and other materials to be disposed off-site will be classified, transports and disposed of at an appropriately licensed landfill(s) in accordance with the NASW EPA (1999) *Environmental Guidelines: Assessment, Classification*

4.7 Equipment

Conventional demolition equipment such as excavators, dozers, trucks, concrete and masonry recycling machine will be used for site demolition and site preparation operations. Examples of the equipment anticipated to be used are listed in the following table below.

Example Equipment Specifications

Equipment	Purpose	Make/Model[1]	Specification
3 x 35 tonne Excavator	Demolition and loading trucks	Sumitomo SH300	15 metre reach; 2.0 cubic metre bucket; Duty=80tph @ 40 cycles/hr
Truck and trailer combination units	Haul demolition material from demolition zone to recycling facility and to the CHCC waste facility / tip		
Concrete & masonry recycle facility	Process concrete and masonry materials and recycle them for reuse on site	Nordberg Jaw Crusher	12m long by 3m wide
Water Truck	Dust suppression		Minimum 5,000 litre capacity
Ringmain and 20,000 litre storage tank	Dust suppression		50mm blue line ring main feeding sprinklers

5.0 TRANSPORT, HANDLING AND STOCKPILING

The trucks used for hauling demolition materials from the demolition areas to the recycling facility will follow haul routes shown in the attached site plan. The site supervisor will instruct truck drivers as to where these haul routes are located. All trucks leaving the site which have been working in the demolition areas of the site will be inspected at the access gate upon departure to ensure the wheel wash has removed all excess soil from the wheels and undercarriage. Any accumulation of soil will be removed.

Operating practices that prevent spillage from occurring such as not excessively filling trucks, slow driving and careful loading and unloading will be used on the site.

Haul roads leading to and from the demolition and recycling areas will be kept watered down to prevent dust generation.

Rainbow will ensure that the road leading from the site exit is clear from mud, dust and rubbish and arrange for cleaning when required. To achieve this, hand sweeping, power sweeping & as necessary, street sweepers will be used.

5.1 Classification of Impacted Material for Off-Site Disposal

All demolition materials and other materials to be disposed of off-site shall be classified, transported and disposed at an appropriately licensed landfill(s) in accordance with the NSW EPA (1999) *Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-Liquid Wastes.*

5.2 Off-Site Disposal

Rainbow is responsible for disposing of all waste materials that won't be recycled off-site. These include:

- All ACM
- SMF materials (if encountered)
- Any additional identified hazardous materials
- All soft-strip materials
- Any remaining plant items
- Vegetation (where required)
- Any other wastes arising as a result of the demolition works.

None of the above materials will be disposed of on-site by burning / filing or similar demolition practices.

The disposal of all materials off-site will be undertaken in accordance with current Waste Disposal / Management and Duty of Care Regulations.

Machine equipment may contain oils, grease or lubricants. Rainbow has allowed for appropriate handling and disposal of these.

Although no CFCs or other refrigerants associated with air-conditioning units were identified during David Lane's hazardous materials survey, if these substances are encountered they will be removed / degassed by Rainbow prior to demolition.

5.3 Preparing Waste Materials for Disposal Off-Site

In order to maintain a safe and tidy demolition site it is important to clear all potentially contaminated wastes, hazardous substances and demolition materials away from the working area as demolition progresses.

The movement of waste materials away from the working demolition zone to other safe temporary designated areas also enables waste materials to be further sampled and chemically tested, if required, in preparation for final waste disposal. Such designated areas would be temporary holding facilities only to facilitate the safe working and controlled waste disposal of materials generated from demolition activities. The operation of such areas will be included within Rainbow's Work Plan.

5.4 Temporary Holding Area For Metals

During demolition it will be necessary to allow for heavy plant and equipment to access the buildings, to enable removal of any plant equipment.

The clearance of external areas prior to building demolition will also be required to give free, ready, access to plant and equipment. A quantity of scrap metal will be generated for transfer to the scrap recovery chain. Use of bulk / skip containers for holding such scrap metal is

considered to be a feasible and workable way forward in managing these scrap metals. The metal containers may be strategically located throughout the site and then moved to the edges of the working demolition site once full. Alternatively, they may be moved directly to the scrap metal merchants vehicles from the working areas straight to off-site scrap handling facilities as required.

5.5 Temporary Holding for Dusts, Sludges or Product Residue

The receptacles for recovered dusts and sludges must be manageable and practical. The use of 205 litre steel drums for this purpose is possible, but such containers can be awkward to handle and store. As an alternative, Intermediate Bulk Containers (IBCs) offer several benefits. They are palletised and too large to be effectively man-handled yet can easily be handled by a forklift truck, preventing manual handling issues. They are also sealable and the type and quantity of material maybe quickly observed from the outside if clear / white plastic IBCs are used. Once filled they maybe easily moved to a temporary holding area until a large enough number is collected to make a waste shipment. Rainbow will evaluate the extent of storage facilities that maybe required for such materials.

All IBCs temporarily stored on site should be controlled by temporary bunding in accordance with AS-NZS 3833:1998.

5.6 Residual Products in Lines and Contaminated Waters (Liquids)

Rainbow will also include a provision for pipelines, being mainly sewer lines, to be drained and decontaminated prior to the full-scale demolition works.

The product, where present, will be collected and placed in 205 litre steel drums for subsequent disposal to suitably licensed external facilities. Alternatively, the washings may be passed through the existing wastewater collection treatment system, subject to agreement with Sapphire Beach Development P/L.

Rainbow must identify how these products / waters are to be safely managed and removed as part of the decontamination works during the demolition should they be encountered

5.7 Brick Rubble and Concrete Construction Materials

These will be produced as part of the final demolition of the buildings within the site. The volume of this hard-fill to be generated is expected to be in the range of 10,000 to 12,000 tonnes. The material is to be recycled on-site with the end product being re-used on site for fill as good granular drainage medium. The recycling of such materials is industry best environmental practice reducing the carbon footprint of the demolition by;

- significantly reducing the number of trucks on the road transporting the material to landfill, and
- significantly reducing the volume of material to landfill.

Prior to commencement of demolition and the use of a concrete and masonry recycling facility, Sapphire Beach Development P/L will have prepared a noise and vibration report to the satisfaction of PCA in accordance with the *NSW Waste Management Act* and *The Protection of the Environment Operations Act* and technical requirements of the *NSW EPA Environmental Noise Control Manual.*

5.8 Internal Building Fabric *(Soft-Strip Materials)*

These include the soft materials inside the buildings, such as wooden and plastic benches, tables and doors, timber /board partitioning, false ceilings, internal walls, plastic fittings etc. While the majority of these have already been removed from the buildings and sold, any remaining will be disposed of via skip containers to suitably licensed landfill facilities as assessed by the results of the contamination testing of these materials.

6.0 DEMOLITION OBJECTIVES, SEQUENCE AND PROGRAM

The working area in and around the demolition site is not generally limited but in some areas the site is restricted. On any construction / demolition site, a clean and debris-free working area presents fewer hazards and therefore reduces the risks to demolition workers.

Demolition works, by their very nature, are high-risk activities. Rainbow is aware of routine and site-specific demolition substances at the site and are capable of safely and actively managing those issues with adequate resources during the project.

A major objective is to maximise the resource recovery to satisfy Sapphire Beach Development's internal recycle goals by recycling as much concrete and masonry material as possible by first stripping back the building leaving the concrete and masonry shell and framework for reprocessing.

6.1 The demolition sequence will be as follows;

- Confirm hazardous materials register
- Confirm structural design and mark load bearing walls
- Isolate services
- Decommission and degas refrigeration and A/C equipment
- Remove Soft-Strip Materials including carpets
- Remove plant and equipments – chillers, A/C units, lifts and motors, electrical switch boards & wiring, plumbing piping
- Remove hazardous materials
- Remove bathroom fittings, windows, sliding balcony doors (leaving balcony handrails in place)
- Remove non-masonry walls and ceilings
- Remove internal non-loading bearing masonry walls
- Remove roof
- Roll up insulation, consolidate in plastic wrap of possible reuse.
- Remove trusses for recycling
- Final check of structural stability and safety
- Load building with heavier machinery
- Starting at the top level, commence recovery of masonry and reinforced concrete structure for recycling

Throughout the demolition activities dust containment and dust suppression measures will be used, not only to protect the demolition workers, but also to contain the dusts within the demolition site and to minimise the potential for dusts reaching surrounding residential areas.

The demolition activities will require metal pipe work and equipment to be dismantled and cut into smaller pieces. Cold cutting techniques are preferable to hot cutting for the following reasons;

- No ready sources of ignition is presented via naked flames or torches
- Compress, flammable gas supplies are not required
- Metal fumes from hot cutting procedures are not produced
- Hotting cutting is a manual task, with additional risks for the demolition worker undertaking the actual hot work

Whilst the use of cold cutting techniques is preferable, it may be reasonable to permit the use of hot cutting techniques at the site, subject to appropriate risk assessment evaluation and permit to work systems for such activities. A Hot Work Permit may be required.

A vast array of specialist demolition plant and equipment is available to undertake many demolition tasks which remove many of the direct manual handling of more traditional demolition techniques. Appropriate plant for the task-in-hand will be used.

Larger machines enable greater reach and have higher working levels. However, as working heights for plant increase, the degree of control and capability of high reach plant is reduced.

The use of hydraulic breakers, push-poles and pulveriser attachments to demolition plant is expected. The use of ball and chain methods for demolition is not expected, but could be a viable option so it can't be ruled out. Rainbow will make an assessment to the techniques to be used as part of their Work Plan development.

Such demolition techniques must bear-in-mind the location of nearby residences and the potential for concrete and rubble dusts to be generated from these demolition activities. This must be evaluated as part of the Health and Safety Work Plan development, by risk assessment, method statements and permit to work systems. Appropriate demolition plant and equipment will be used in the execution of the work. Rainbow will seek to minimise nuisance in respect of noise, dust, fumes etc. arsing out of the demolition activities in view of the proximity of the demolition site to the surrounding residential area.

6.2 Unforseen Eventualities

In the event of an unforseen hazard or risk occurring during the work, the following process is to be followed;

- If the incident is immediately life threatening, Rainbow must take the appropriate steps to insure the hazard is made safe; and
- The event must be reported to Development Manager and a meeting may be called to discuss the matter further and agree what changes are required to rectify the situation

6.3 Risk Assessment

The aim of the project is to complete the required demolition in as safe ane effective manner as possible. Rainbow must carry out its own assessments, to establish any risks and hazards prior to any operation on site and for each phase of the demolition process. Following assessments, Rainbow is required to complete a Health and Safety Plan as part of the demolition Work Plan.

6.4 Health and Safety Plan (HSP)

The HSP shall include;

- Arrangements for ensuring Health and Safety of all who may be affected by the work process;
- Arrangements for monitoring compliance with Health and Safety Legislation and Regulations
- Information about welfare and emergency procedures
- Site inductions process and procedure for signing the health and safety plan; and
- Method Statements / Risk Assessments

In addition to the HSP Rainbow must display on site;

- A copy of their Health and Safety Policy and safe working procedures
- The Workcover Notification of Project
- All relevant health and safety posters and documentation
- Visitors book
- Emergency Procedures

Rainbow will prepare a Health and Safety File. The Health and Safety File will contain the following information, which is to be collected by the Site Manager;

- A list of the works carried out, identifying any structure, material etc. known to be buried on site;
- A list of sub-contractors along with contact names, addresses, telephone numbers, and any permits or licences required for the works;
- As-built drawings of the works, including all services that were installed (if available), moved or encountered;
- Services – certificates for all the work;
- Construction materials – manufacturer's material safety data sheets (MSDSs) for all hazardous substances identified by the hazardous substances survey.
- Consignment notes including tonnages for all waste disposal of materials off-site;
- Relevant staff qualification and training records;
- Relevant equipment certification / calibration records.

It is Rainbow's responsibility to ensure the accuracy of all as built information prepared or issued on its behalf, for incorporation in the Health and Safety File.

6.5 Health and Safety Reporting Procedures

In the event of an accident or near-miss event, Rainbow will implement its own Preliminary Incident Reporting (PIR) procedure. The client must be advised accordingly of all PIR notifications which occur during the execution of the demolition works. There should also be a no-blame policy for reporting accidents / near-misses and encourage feedback from the client, staff and contractors.

6.6 Health and Safety Provisions

Qualified first aiders with adequate first aid kits will need to be provided at all times by Rainbow.

Appropriate personal protective equipment (PPE) will be worn during all demolition work. The minimum PPE will include safety helmet, gloves, coveralls or long sleeved drill cotton shirt and pants, safety footwear and as required eye protection and respiratory protection.

Eating, drinking and smoking will not be permitted on-site within the demolition exclusion area.

Site access will be controlled by Rainbow. All personnel entering the site will be required to read, sign and abide by the HSP. After gaining access to the site, the site gates will be closed and reopened for departure. When large numbers of vehicle movements are taking place a member of staff will operate as vehicle logger for all movements in and out of the site. This log will be maintained for the duration of the site works.

During working hours the gates will be kept closed to the area. Rainbow staff will have a presence on-site between routine working days. The site boundaries will be fenced and maintained to restrict any unauthorised entry for the duration of the site works. Appropriate warning signage to warn of the demolition hazards will be placed around the site perimeter. At the end of each working day the site will be made safe to minimise the risk to other people should they trespass onto the site.

Rainbow will provide amenities during the site works. These will include site offices, washing and eating areas. Additional decontamination and wash facilities will be brought to site as required to ensure the safety and well-being of site staff, in particular during removal of hazardous substances.

Rainbow will carry out safety audits of all aspects of its work on-site at least once per week and submit a written report to the Development Manager.

Rainbow will carry out daily inspections of its work site and hold available written reports of these inspections for review.

6.7 Program

Rainbow is to submit a timed project program that is to be approved by the Development Manager prior to commencement of the works.

The program must allow for all Health and Safety procedures to be applied and included.

The program must allow for sub-contractors familiarisation with the site services, identification of electrical mains, water mains and sewage runs which might serve adjacent properties.

Contract duration is anticipated to between 10 & 12 weeks.

7.0 STORMWATER CONTROL PLAN (appendix 5)

Runoff will be prevented from leaving the site by an earthen bund constructed within the perimeter fence.

The use of straw bails and silt control fencing will back up the earthen bund between the site and earthen bund at the down slope location where overtopping potential exists.

There are two potential sources of surface water at the site. These are stormwater that comes in contact and water used for dust suppression. The latter is required to minimise dust generation during the remedial works. The former must be controlled and the management of this potential source relies firstly on preventing contamination of water and secondly on containment, assessment and disposal of stormwater.

Stormwater at the site will be directed to lined retention ponds to ensure appropriate environmental management of surface waters, a range of actions will be implemented including:

- Control of drainage outside the site by diverting outside runoff away from the site;
- Control of on-site drainage by intercepting and redirecting runoff in a controlled manner, protecting exposed areas from erosion damage. Runoff from the site that does not contact the demolition or recycling areas will be considered to be uncontaminated and will be diverted into the stormwater system without treatment;
- Precipitation that contacts the demolition and recycling areas will be considered as potentially contaminated and will be collected in ponds, assessed and (if required) treated before being allowed into the stormwater system.
- Settling ponds used for wet weather run-off containment will be routinely cleaned of silt in order that their capacity is not reduced more than l0 percent by volume. These ponds will be regularly inspected for storm damage and where necessary cleaning and/or repairs will be undertaken as soon as practicable.

In addition, the existing stormwater system may have to be modified to ensure that it cannot inadvertently act as a contaminant pathway. Remedial options for the existing stormwater drainage system may include:

- Temporarily sealing stormwater pits; and
- Tracing and removing or sealing stormwater pipes that are encountered during demolition activities.

In addition, any overland and diffuse drainage paths will be addressed by the following controls:

- Silt fences will be located across overland flow areas, as well any other areas where surface waters may flow from the site; and
- Earthen bunds and similar diversion drains will be constructed around the perimeter of the demolition and recycling zones to prevent surface water entering these areas.

Silt fences and diversion drains will be erected around any stockpile areas to prevent the migration of fines from the stockpile areas. Disposal of collected surface waters will take the following forms, depending on the condition of these waters:

- Uncontaminated surface waters will be diverted away from the site and will be allowed to drain directly into the existing stormwater system or infiltrate into the on-site soils;

- Surface waters collected in stormwater retention basins, seepage pits and may, as directed by the superintendent be allowed to evaporate or naturally seep into groundwater provided this does not adversely impact on groundwater quality;

As well as these specific surface water management procedures, all care will be taken to prevent uncontrolled discharges of any contaminated materials, detritus, rubbish, soil, any demolition wastes or other wastes arising from the site.

8.0 SOLID WASTE DISPOSAL PLAN

The solid waste streams listed below will be dealt with in the following manner.

8.1 Green Waste

Green waste will be disposed off-site or used on-site within landfarm soils as biomass / mulch.

8.2 Solid Waste

Solid waste such as garbage will be collected, stored & disposed of at a licensed landfill.

9.0 DUST CONTROL PLAN

The remedial actions will be performed in such a way as to minimise the production of fugitive emissions emanating from the site. Suppression of dust will be of primary importance during all phases of the demolition. Rainbow will ensure emissions are minimised and within regulations. All due care will be taken to ensure that dust is not evident outside the site boundaries. The following dust control procedures will be strictly adhered to:

- All loads of demolition material leaving the site will be securely covered with a tarpaulin;
- Only one access road will be used for demolition material transport vehicle use;
- There will be no burning of any material on-site;
- Water sprays will be used as required across the site to suppress dust. The water will be applied by water cart across ground surfaces whenever the surface has dried out and has the potential to generate visible levels of dust either by the operation of equipment over the surface or by wind. The water cart will be equipped with a pump and sprays capable of spraying water at the rate of not less than three (3) litres per second and not less than 700 kPa pressure. Spray nozzles or equivalent may also be used to deploy dust suppression waters. The water spray equipment will be on-site and available for use from the first earthworks phase until the demolition works have reached practical completion;
- Plastic sheeting (VLDPE or PVC) or other dust mitigating measures (Geotextile covers) may be used to address dust generation over, stockpiles and any unsealed surfaces:
  - during non-working hours ;
  - if nuisance odours can be detected at site boundaries;
  - if dust is being generated from a given surface; and
  - if fugitive emissions have the potential to cause the ambient air quality to fail the EPA agreed goals;
- All materials processing equipment will have dust attenuation measures which make the

equipment suitable for use in urban areas and which comply with regulatory requirements. The protection measures will include the covering of feed openings with rubber curtains where applicable.

The following dust monitoring response criteria will be used to address dust issues.

Dust Monitoring Response Criteria	
Threshold Level mg/m^3	Determine if Action Required
Wind direction is toward local residents.	Assessment of potential for dust to be generated and released and extra precautions taken to prevent dust generation.
Visual observation of dust release.	Stop work and assess cause.
<0.3	Continue to work.
0.3 to 0.5	Trigger Level: • Investigate source; and • Assess performance of dust suppression systems.
0.5 to 1.0	Work to be phased down while source is being actively investigated.
1.0 and above	Work to cease until source is identified. Interim cover or other short-term containment options need to be implemented.

10.0 NOISE AND VIBRATION CONTROL PLAN

The demolition will be performed in such a way as to minimise unnecessary noise and vibration. Regulatory limits for noise and vibration will be strictly adhered by applying the following controls:

- All equipment will be selected on the basis of its noise attenuation performance;
- All equipment will comply with regulatory standards for noise attenuation;
- Noisy equipment will be located in such a way as to minimise the acoustic impacts;
- Stockpile areas will be positioned to account for their acoustic barrier properties but equally taking into consideration the noise generated during stockpile access;
- If necessary, temporary acoustic barriers may be considered to address specific noise problems;
- Attention will be given to siting of overnight parking bays to minimise start-up and end-of-day disturbances;
- Hours of operation will be strictly adhered to, including prevention of noise occurring from the early arrival of equipment to the site prior to agreed operating hours. Trucks will not arrive on site before 6:30 am for a 7:00 am start. Similarly, trucks will have to leave the area by 5:00pm.

11.0 ENVIRONMENTAL MONITORING PLAN

An environmental monitoring program will be initiated prior to the commencement of the following four remedial actions to establish background conditions. This monitoring will consist of seven components.

11.1 Inspection

The following routine inspections will be conducted during demolition activities:

- Equipment;
- Water conveyance systems;
- Stormwater diversion structures (berms, ditches, and hay bales); and
- Dust monitoring.

11.2 Surface water Monitoring

A drainage monitoring program will be developed in the project operation plan for monitoring the quality of surface waters flowing from the site where required. These include the regular assessment of:

- Discharge into the stormwater from uncontaminated and diverted surface waters;
- Waters collected in demolition or recycling areas ponds as a result of wet weather that could potentially be contaminated and may require flocculation before reuse or discharge.

All results from the surface water monitoring program will be logged and made available on request to appropriate personnel as may be required.

11.3 Dust Monitoring

Dust monitoring will initially be by dust deposit gauges on the site boundary and personal air monitor at the excavations in addition - visual inspections will be undertaken daily.

- Ambient Level - a concentration that is representative of local conditions;
- Trigger Level - a concentration that lies between the ambient level and a prescribed action level at which preliminary actions may be appropriate to address possible emission sources; and
- Action Level - a concentration at which action must be taken to identify and if possible address the emission sources. The agreed action level at the excavations is $10mg/m^3$ and at the site boundary is $120m^2$/day.

Wind speed and direction will be assessed visually by site personnel & in conjunction with data from the site weather station – remedial actions will be implemented as appropriate to prevent dust generation.

11.4 Noise and Vibration Monitoring

Weekly noise monitoring would be undertaken in accordance with the *Noise NSW EPA Environmental Control Manual* while equipment is operated on site. A qualified acoustic consultant will perform weekly environmental noise monitoring at the boundaries of the site

during the demolition and recycling operations. A short report on any exceedances will be issued each week to Rainbow. Should exceedances be recorded, Rainbow is to immediately change work practices and notify the client of the proposed modifications.
Additionally, noise emission monitoring of all equipment on site may be required. During weekly environmental monitoring the consultant will onserve equipment on site and seek to measure any equipment that has not been previously documented. A certificate of acoustic performance will be issued with the weekly report.

Appropriately qualified and trained personnel will collect all monitoring which will be conducted in accordance with Australian Standard AS1055-1997. The monitoring equipment will comply with the requirements of Australian Standard AS1259.

If vibration becomes an issue then methods for vibration monitoring may be developed in consultation with EPA and an acoustic consultant may be employed.

12.0 CONTINGENCY PLANNING FOR WORKS

During the demolition and site preparation works conditions may arise which require a specific response to prevent or mitigate an environmental impact. In order to prepare for any such contingency, a range of predetermined contingencies will be planned. The table below titled Contingency Planning summarises anticipated problems, the resulting impacts they may cause and the proposed response actions to be taken.

No contingency plan will substitute for sound environmental practice during the demolition and site preparation works. Accordingly, it is the responsibility of the Site Supervisor to monitor the works at all times and manage all potentially significant activities in a proactive manner. Records of all actions relating to environmental protection measures, contingency events and impacts will be incorporated into the site daily logbook completed by the Site Supervisor.

Contingency Planning		
Anticipated Problem	Potential Impact	Corrective Action
Release of fuel/oil from machinery	Contamination of surface waters and/or soils	Remove source, use adsorbent booms to remove oil, make any repairs as required.
Excessive dust	Nuisance complaints	Use water sprays; or stop dust-generating activity until better dust control can be achieved, or apply interim capping systems.
Excessive noise	Nuisance complaints	Identify source and review noise attenuation equipment, erect temporary acoustic barriers if necessary.
Excessively wet materials	Generation of turbid waters	Stockpile and dewater onsite; or add absorbents.
Flooding by extreme rainfall events	Contamination of stormwaters with	Sediment filters will be installed on the sediment basin overflow, a record will be kept

	soils.	of the estimated water volume bypassing the sediment basin and the time period over which the discharge occurs.
Asbestos is observed during demolition	Health and safety issues	Work in the area of concern is ceased until assessment of the potential extent of problem is conducted. Material may have to be transported to landfill.
Equipment failures		Maintain spare equipment and parts; keep rental options available; shut down affected operations until repairs are made.

13.0 CONTACT INFORMATION

The table below title Site Remediation Contact List provides a detailed contact information schedule, including emergency contact data. This table will be updated as required to ensure the most current information is provided. A contact number for Rainbow will be provided to the relevant parties and will be displayed at key locations across the site prior to commencement of works including the site office and site decontamination facility.

Site Remediation Contact List	
David Pitcher, Rainbow Group, Project Manager	**0407 490 893**
TBA, Rainbow Group, Site Supervisor	**TBA**
WSA Consultant	**TBA**
WSA Free Phone Number	**TBA**
Ambulance	**000**
Fire/Police	**000**
Poisons Information Centre	**13 11 26**