ENVIRONMENT & APPROVALS MANAGEMENT PLAN

Garvan St Vincent's Campus Cancer Centre

WASTE MANAGEMENT, REUSE AND SPOIL SUB-PLAN

Scope	Garvan St Vincent's Campus Cancer Centre
Locations	Victoria St, Darlinghurst
Timing	
DPDA	
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Other Ref	

Issue	Date	Prepared By	Approved By	Remarks
1	14.04.09			

1 OBJECTIVES

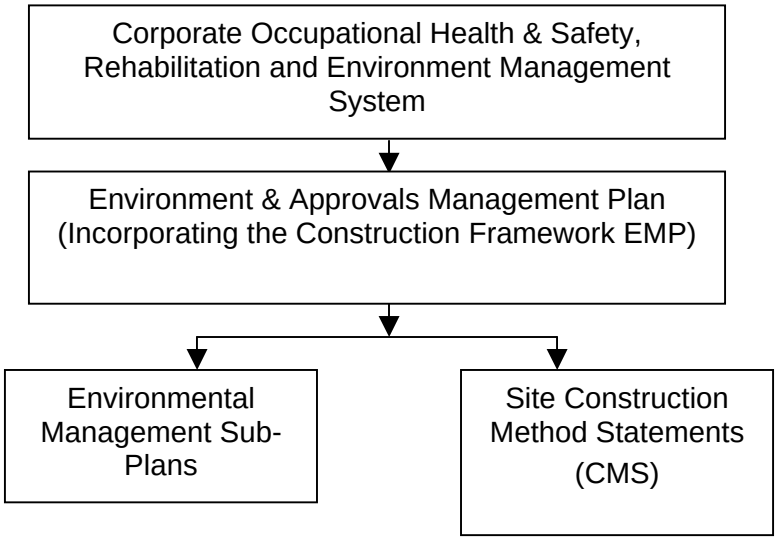
A W Edwards is committed to ensuring appropriate methods of waste minimisation, recycling and disposal and spoil management.

The objective of the Waste Management, Reuse and Spoil Sub-Plan is to:

- Ensure that waste generation is avoided as a priority;
- Ensure that environmentally sensitive work practices are followed within waste minimisation programs;
- Ensure that, wherever practicable, waste materials are recycled/re-used;
- Ensure that the disposal of all liquid and non-liquid wastes is in accordance with the EPA regulations;
- Ensure that spoil from sites is managed appropriately to minimise environmental and health risks;
- Ensure that the air quality surrounding sites is appropriately managed;
- Ensure that all spoil is disposed of to prevent contamination of any lands.

2 SCOPE

This Sub-Plan has been developed as part of the Garvan St Vincent's Campus Cancer Centre (GSVCCC) Environment and Approval Management Plan (to be developed). The relationship between environmental management documentation can be summarised in the flow chart below:



The scope of this Sub-Plan is to provide Project information regarding waste management, re-use and spoil management. It is to be applied at the following site:

- Garvan St Vincent's Campus Cancer Centre

Further information will be required at site, detailing specific site requirements and mitigation measures. This information will be attached to the CMS for the site.

3 STATUTORY REQUIREMENTS

Documents and references relevant to the implementation of the Waste Management, Reuse and Spoil Sub-Plan include:

- GSVCCC Works Construction Documentation;
- Protection of the Environment Operations Act 1997;
- Environment Protection Authority's (EPA) "Environmental Guidelines: Assessment, Classification and Management of Liquid and No-Liquid Wastes" (2004);
- Contaminated Land Management Act 1997 & Regulation;
- Guidelines for Consultants Reporting on Contaminated Sites, NSW EPA, 1997;
- National Environment Protection (Assessment of Land Contamination) Measure, National Environment Protection Council, 1999.

4 RISK ASSESSMENT

A site specific risk assessment is to be developed, that will determine the sources and risks associated with waste management, reuse and spoil. Details of this risk assessment, including mitigation measures, are to be included in the For Construction version of the Environment and Approvals Management Plan for the project.

The risk assessment process will be reviewed for this aspect at the following times:

- Every six months during a site audit, and including comments from personnel and sub-contractors on site;
- Following high monitoring results;
- Following a complaint;
- If new work processes that have not been previously addressed start on site; &
- Should new requirements for the project or new legislation take effect.

5 MANAGEMENT AND TRAINING

5.1 Waste Identification & Minimisation

All construction areas shall identify waste streams and minimisation methods in the following ways:

- Identify all activities likely to produce waste;
- Identify waste minimisation strategies including staging of activities and the purchase of cut-to-length and pre-fabricated products where practicable;
- Identify type and quantity of waste;
- Separate excavation from demolition and/or construction waste and provide separate storage locations and/or destinations for both;
- Liaise with suppliers to minimise packaging and product damage.

5.2 Disposal

All identified waste streams shall dispose of non-recyclable waste materials in the following ways:

- Make arrangements for waste materials to be disposed of at appropriately licensed waste disposal facilities;
- Provide waste collection facilities at the construction site;
- Ensure the disposal of chemical, fuel and lubricant containers, solid and liquid wastes in accordance with EPA guidelines.

5.3 Energy

Energy usage shall be monitored and areas of high usage analysed to determine if consumption could be reduced. This may involve process change where current operations do not allow for a reduction in energy consumption. Where required, procedures shall be developed to assist operations in reducing the amount of energy used.

Energy audits may be conducted to ensure the efficient use of energy at sites. The results of audits shall be communicated to personnel during toolbox meetings, to increase personnel awareness of the importance of energy conservation.

6 RECYCLING STRATEGY

6.1 Goal

A W Edwards have a goal to achieve a recycling rate of 50% of all waste streams where possible.

6.2 Strategy

All construction areas shall adhere to a recycling strategy where practicable in the following ways:

- Identify all recyclable materials. Items to be considered include, but are not limited to:
  - Spoil
  - Concrete;
  - Vegetation;
  - Timber;
  - Bricks;
  - Metal/glass;
  - Cardboard Packaging/paper.
- Ascertain whether materials can be re-used on-site and provide a designated area for storing such materials;
- Install segregated bins for recyclable materials;
- If material cannot be re-used on-site establish a collection service for the recyclable materials;
- Erect signs within the construction areas to encourage employees to reduce, re-use, and recycle.

Specific strategies for the above-identified materials are as follows;

- Spoil – Any contaminated spoil will be disposed of waste material. A suitable location for clean spoil will be sought, and haulage organised.
- Concrete – Waste concrete shall be disposed of at an appropriately licensed facility where separation and recycling can take place. Surplus concrete and concrete washings shall be transported to an appropriate recycling facility.
- Vegetation – Vegetation shall be reused where possible, either by mulching or composting. Any weed waste generated during works shall be disposed of to landfill.
- Timber – The following procedures shall occur regarding timber wastes:
  - Pallets and other packaging shall be returned to the supplier for reuse where possible;
  - Where practical, wood off-cuts and waste shall be reused;
  - Timber products that are not suitable for reuse, but that may be suitable for recycling, shall be stored in a designated area, and removed to an appropriate recycling facility as required.

- Bricks – Where possible, bricks shall be reused on site. Where a large number of bricks are generated from demolition works, they shall be stored in a designated area and removed to an appropriate facility as required.
- Metal/Glass - The following procedures shall occur regarding metal and glass wastes:
    - Drums and other metallic packaging shall be returned to the supplier for reuse where possible;
    - Reinforcing steel shall be sold to scrap metal merchants for recycling;
    - Metal unsuitable for reuse shall be stored in a designated are and removed to an appropriate facility as required;
    - Glass items shall be placed in appropriate recycling bins.
- Cardboard/paper – cardboard and paper wastes shall be placed in appropriate recycling bins. Should quantities exceed bin capacities, the materials shall be placed in a designated area and removed to an appropriate facility as required.

6.3 General Spoil Management

Spoil shall be stockpiled on site only where haulage cannot be arranged. Stockpiles will undergo management as detailed in the Air Quality and Dust Management Sub-Plan, including minimising the size and slope gradient, and wetting if required.

Haulage of spoil shall occur within the following hours, and the rate shall not exceed 10 truck movements per hour, unless otherwise agreed with the RTA and Principal's Representative:

Days	**Hours of Haulage**
Monday to Friday	7am to 10am 4pm to 7pm
Saturday	8am to 1pm
Sunday and Public Holidays	Not permitted

Spoil shall be reused where possible. Reuse shall not be limited to the site where the spoil has been extracted, provided the use of material is appropriate and does not contravene any laws.

Prior to disposal from site, spoil shall be classified, as per the NSW EPA *Environmental Guidelines: Assessment, Classification & Management of Liquid & Non-liquid Wastes*, 1999. Spoil will then be disposed appropriately, dependent on the classification. Details of the waste classification shall be passed on to any party reusing the spoil material.

6.4 Substantial Excavations

Prior to substantial excavations a Spoil Management Report may be prepared and incorporated into the site CMS and Traffic Management Report. The Spoil Management Report will include, as a minimum:

- Volume and rates of spoil to be removed from the site;
- Stockpile requirements, including the maximum duration;
- Proposed haulage hours;
- Spoil disposal locations and proposed haulage routes;
- Maximisation of use and recycling;
- Measures to minimise dust, sedimentation and noise;
- Measures to minimise impacts on threatened species, populations, ecological communities or their habitats; &
- Procedures for managing contaminated materials.

This report will be prepared in consultation with the, RTA and local councils prior to submission to the Principal's Representative for approval.

7 MONITORING AND REPORTING

7.1 Monitoring

Dust monitoring shall occur as per the provisions of the Air Quality and Dust Management Sub-Plan. Specific spoil management for each site shall be included in the dust provisions of each site CMS.

7.2 Dust Suppression

These methods shall be detailed in the Site Construction Method Statement. Mitigation methods include, but are not limited to:

- Stockpiles will be temporarily vegetated if they are to be left undisturbed for a period longer than four weeks;
- The size and number of spoil stockpiles on the site should be minimised. Stockpiles will be removed as soon as practicable, in order to reduce the amount of potential air borne dust produced;
- Wind shields, bunds and other types of temporary barriers may be built around large, main stockpiles and exposed surfaces to help contain dust from spoil handling and construction works that disturb soil surfaces;
- The gradient of stockpiles and cut slopes in erodable material will be minimised;
- During dry weather site surfaces, excavation sites, haul roads and spoil stockpiles should be wetted down;
- Vehicular access will be confined wherever possible to appropriately designed roads (i.e. those with sealed or gravelled surfacing);

- Trucks carrying spoil, sand and/or other loose materials will be covered to the requirements of the EPA to avoid generating wind-blown dust, and tailgates will be securely fastened prior to the vehicle being moved;
- Trucks and machinery leaving sites may be required to pass through a wheel washing bay;
- During periods of extreme climatic conditions when high-level dust episodes are likely extra precautions must be taken to reduce dust production. These measures may include:
    - Adding dust suppressants to water trucks;
    - Covering stockpiles;
    - Cease dust-producing works until normal weather conditions prevail. This measure should only occur if it safe to so and there is no threat to safety, property or environment.

8 TRAINING

A W Edwards Site Manager shall be trained to ensure that they meet the requirements of this procedure. Other personnel shall be trained from time to time to ensure that the requirements of this procedure are met.

9 MONITORING

In order to ensure that the recycling goal is met at all sites the following will be monitored:

- The amount of waste disposed of will be recorded;
- The amount of disposed waste that has been recycled or reused will be recorded;
- The percentage of waste recycled or reused will be determined in order to ensure that it complies with the recycling goal.

In order to ensure that there is no wastage of energy used on site, the following shall be monitored:

- Energy consumption figures will be recorded/monitored;
- Spikes or overuse shall be identified, and the potential source identified;
- Specific monitoring of individual pieces of equipment or processes shall be considered if areas of high usage cannot be accurately determined.

Energy monitoring information shall be used to ensure that energy is used efficiently, and reduced where possible.

10 RECORDS

Records for this Sub-Plan will be maintained in accordance with detailed procedures in the AW Edwards Management System.

All documents requiring sign-off shall be forwarded to the Principal's Representative one month prior to the sign-off being required.

Particular documents required to be maintained in this Sub-Plan include, but are not limited to:

- Disposal receipts for all waste;
- Correspondence with the Principal's Representative and other interested parties regarding waste management control;
- Records of any complaints.

11 AUDITING

The procedure shall be audited during the following audits:

- Six monthly system audits of the EMP, including approvals compliance procedures;
- Monthly on-site and EMP audits;
- Weekly site environmental management audits.

13 NON-COMPLIANCE AND COMPLAINTS

The protocol for the handling, recording and reporting of soil and water related complaints will be in accordance with the A W Edwards GSVCCC Works Environment and Approvals Management Plan (to be developed).

Should it be found that the recycling goal is not met reactive measures will be taken to modify demolition/construction operations and meet the goal. These measures shall include the following:

- An assessment shall be made of sources of waste production during the monitoring period that are likely to be contributing to the higher than acceptable levels
- Controls and/or operational modifications shall be determined that will decrease the levels of waste production from those specific sources, and lean towards recyclable materials. Should the activity have ceased once sampling results are obtained, measures shall be put in place to ensure that similar results are not obtained from the same process at different sites.
- Monitoring results following the reactive measures shall be checked to ensure that actions taken have reduced waste production. Should results still be outside the acceptable limits an assessment shall be made as to the appropriateness of the process. If the process cannot be avoided, and

further modifications cannot be implemented, the Principal's Representative shall be consulted to determine the most appropriate course of action.

14 SUB-CONTRACTOR MANAGEMENT

Subcontractors shall be appropriately managed by A W Edwards to ensure that the requirements of this procedure extend to subcontractor works.

Sub-contractors will be audited at periodic intervals to ensure their compliance with A W Edwards' requirements. Auditing shall be random and based on the length of time sub-contractors are situated on site. Audits may also be the result of non-compliance of the sub-contractor to A W Edwards' requirements.