Where relevant noise/vibration criteria cannot be met after application of all feasible and reasonable mitigation measures the residual level of noise impact needs to be quantified by identifying:

- locations where the noise level exceeds the criteria and extent of exceedance;
- numbers of people (or areas) affected;
- times when criteria will be exceeded;
- likely impact on activities (speech, sleep, relaxation, listening, etc);
- change on ambient conditions; and
- the result of any community consultation or negotiated agreement.

For the assessment of existing and future traffic noise, details of data for the road should be included such as assumed traffic volume; percentage heavy vehicles by time of day; and details of the calculation process. These details should be consistent with any traffic study carried out in the EA. Alternatively, measured noise levels can be used provided the traffic volume during the period of measurement is demonstrated to be typical of normal volumes etc

Management and mitigation of environmental impacts

The EA must demonstrate how the Proponent will:

- Determine the most appropriate noise mitigation measures and expected noise reduction including noise controls and management of impacts for both construction and operational noise. This will include selecting quiet equipment and construction methods, noise barriers or acoustic screens, location of stockpiles, temporary offices, compounds and vehicle routes, scheduling of activities, etc.
- For traffic noise impacts, provide a description of the ameliorative measures considered (if required), reasons for inclusion or exclusion, and procedures for calculation of noise levels including ameliorative measures. Also include, where necessary, a discussion of any potential problems associated with the proposed ameliorative measures, such as overshadowing effects from barriers. Appropriate ameliorative measures may include:

    - Use of alternative transportation modes, alternative routes, or other methods of avoiding the new road usage;
    - Control of traffic (eg: limiting times of access or speed limitations);
    - Resurfacing of the road using a quiet surface;
    - Use of (additional) noise barriers or bunds;
    - Treatment of the façade to reduce internal noise levels buildings where the night-time criteria is a major concern;
    - More stringent limits for noise emission from vehicles (ie. using specially designed "quiet" trucks and/or trucks to use air bag suspension);
    - Driver education;

- Appropriate truck routes;
- Limit usage of exhaust breaks;
- Use of premium mufflers on trucks;
- Reducing speed limits for trucks;
- Ongoing community liaison and monitoring of complaints; and
- Phasing in the increased road use.

Water Environmental Assessment Requirements

The DEC is concerned about groundwater contamination which may arise once the encapsulation is disturbed. The EA needs to address:

- An accurate representation on the extent of the HCBD "hot spot" in the groundwater adjacent to and underneath the CPWE;
- How contaminated water currently held in the hypalon membrane will be removed prior to disturbance and its subsequent management thereafter;
- How groundwater in the surrounding area will be monitored and how nearby production bores will be managed so as not to exacerbate migration of contaminants from the disturbed area;
- Details of any contaminated soil management arrangements; and
- Details of the installation, operation and maintenance of the sediment and erosion controls associated with the construction works.

In development of the EA and carrying out the works, the proponent should also refer to the following relevant guidelines:

The Department of Housing Document titled "*Managing Urban Stormwater: Soils and Construction*".

Waste & Chemicals Environmental Assessment Requirements

Statutory Requirements Under the Environmentally Hazardous Chemicals Act 1985

The EA must demonstrate how the Proponent will manage all materials and wastes containing scheduled chemical waste, dioxin and/or polychlorinated biphenyls (PCBs) in accordance with the applicable Chemical Control Order, National Management Plan or in accordance with a licence under the Environmentally Hazardous Chemicals Act 1985.

Note: The proposed treatment of HCB using direct thermal desorption is deemed "processing" in accordance with the Scheduled Chemical Waste Chemical Control Order 2004 made under the Environmentally Hazardous Chemicals Act 1985 and must be done in accordance with an EPA licence.

Prior to the issue of any variation of the existing Environmental Protection Licence and Environmentally Hazardous Chemicals Act Licence to permit the proposed works, the proponent must provide the EPA with sufficient and appropriate documentation for a technology assessment to be undertaken by the EPA, in accordance with the following:

- 'National Protocol - Approval/Licensing of Trials of Technologies for the Treatment/Disposal of Schedule X Wastes - July 1994'; and
- 'National Protocol for Approval/Licensing of Commercial Scale Facilities for the Treatment/Disposal of Schedule X Wastes - July 1994'.

The applicant will be expected to operate in accordance with the procedures outlined in the technology assessment documents provided to the EPA, unless otherwise agreed by the EPA.

Assessment of technologies for treatment of Schedule X Wastes

Note: Technologies for treating or destroying scheduled chemicals are initially assessed in accordance with the 'National Protocols for Approval/Licensing of Trials of Technologies for the Treatment/Disposal of Schedule X Wastes 1994' developed as part of the National Strategy for the Management of Scheduled Waste. If trial data demonstrates the technology can meet specified environmental outcomes for a particular feedstock, the proponent can apply to proceed with commercial-scale treatment. In this case, the proposal would be assessed against the 'National Protocol for Approval/Licensing of Commercial-Scale Facilities for the Treatment/Disposal of Schedule X Wastes 1994'.

Assessment in accordance with such protocols requires a technology that:

- is a viable option meeting best practice standards;
- will not create any additional problematic waste streams;
- will minimise any transfer of POPs or other contaminants of concern to the environment; and
- will meet the strictest air emission criteria.

Within the technology assessment application, the applicant must develop a Commissioning and Proof of Performance Program (CPoP) to demonstrate the technology's capability to meet best practice emission and treatment levels. The CPoP must include the proposed staging of treatment consistent with the requirements of the 'National Protocols'. Consideration should also be given to the Basel General technical guidelines for the environmentally sound management of wastes consisting of, containing or contaminated with persistent organic pollutants (POPs) and Stockholm BAT BEP guidance.

Note: Assessment in accordance with the 'National Protocols' involves applying for a technology assessment under the Environmentally Hazardous Chemicals Act 1985 and paying the assessment fee.

Treatment limits

The EA must demonstrate how the Proponent will:

Process all Scheduled Chemical Waste, dioxin waste and/or Polychlorinated Biphenyls Waste (PCBs), and any wastes generated by the treatment process until the materials/wastes meet:

(a) a statistical average dioxin, furan and dioxin like PCB WHO-TEQ of less than $1ug/kg^{-1}$ (1000 ppt) determined with a methodology acceptable to the EPA;

(b) an aggregate concentration of scheduled chemical waste constituents of less than 2mg/kg;

(c) a polychlorinated biphenyl concentration of less than 2mg/kg;

(d) the requirements that apply in accordance with the Hexachlorobenzene Waste Management 1996; and

(e) best practice limits as demonstrated within the Commissioning and Proof of Performance Program for other principal contaminants of concern.

Excavation, handling, pre-treatment and storage

The EA must demonstrate how the Proponent will:

Demonstrate how excavation, handling, pre-treatment, storage and other activities involving materials and wastes containing scheduled chemical waste, dioxin, polychlorinated biphenyls (PCBs) and other principal contaminants of concern is conducted in accordance with best practice measures to minimise loss to the environment, exposure to humans and maximise destruction through the proposed treatment plant. The applicant should present within the Environment Assessment how this will be achieved and in addition to the NSW statutory requirements should consider the USEPA Best Management Practices (BMPs) for Soils Treatment Technologies - Suggested Operational Guidelines to Prevent Cross-Media Transfer of Contaminants During Cleanup Activities - EPA530-R-97-007. The DEC can provide the proponent with all the application forms, protocols and guidelines covered in relation to the EHC Act and technology assessment.

In development of the EA and carrying out the works, the proponent should also refer to the following guidelines:

The former EPA guidelines titled Environmental Guidelines titled: *Assessment, Classification & Management of Liquid & Non-liquid Wastes.*

Risk assessment

The EA needs to include risk assessment details covering exposure by inhalation and ingestion of contaminated soil if there is to be any loss of dust from the site during the rehabilitation process. However, the risk assessment, should focus on inhalation of possibly higher air concentrations than those existing at present, because of opening the encapsulation.

Additional ambient monitoring using summa canisters on the car park may better inform the risk assessment.

Impacts on threatened species and their habitat

The DEC acknowledges that the site is highly disturbed and therefore the presence of threatened species is unlikely. Nonetheless, the EA should, if applicable, include a brief field survey of the site. If any TS are identified then likely impacts on threatened species

and their habitat need to be assessed, evaluated and reported on. The EA must describe the actions that will be taken to avoid or mitigate impacts or compensate for unavoidable impacts of the project on threatened species and their habitat. This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented.

Impacts on Aboriginal cultural heritage values

The DEC acknowledges that the site is highly disturbed and therefore the presence of Aboriginal cultural heritage artefacts is unlikely. Nonetheless, the EA should if applicable:

- Address and document the information requirements set out in the draft *Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* involving surveys and consultation with the Aboriginal community.
- Identify the nature and extent of impacts on Aboriginal cultural heritage values across the project area;
- Describe the actions that will be taken to avoid or mitigate impacts or compensate to prevent unavoidable impacts of the project on Aboriginal cultural heritage values. This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented; and
- Demonstrate that effective community consultation with Aboriginal communities has been undertaken in determining and assessing impacts, developing options and making final recommendations.