



MINISTER FOR THE ENVIRONMENT;
LABOUR RELATIONS

Statement No.

000528

STATEMENT THAT A PROPOSAL MAY BE IMPLEMENTED
(PURSUANT TO THE PROVISIONS OF THE
ENVIRONMENTAL PROTECTION ACT 1986)

REMEDICATION OF THE OMEX CONTAMINATED SITE
BELLEVUE, SHIRE OF SWAN

Proposal:

The proposal encompasses a trial excavation (Stage 1) followed by full remediation of the site via excavation, treatment (where applicable) and removal of contaminated acidic waste oil sludge and soil from waste pits and surrounding lands (Stage 2) at the OMEX contaminated site, Bellevue, as documented in schedule 1 of this statement.

Delineation of OMEX-related wastes at the Adelaide Street Landfill, Hazelmere, Shire of Swan, will also take place.

Proponent:

The Department of Environmental Protection - Waste Management Division.

Proponent Address:

Level 8, Westralia Square, 141 St George's Terrace,
PERTH WA 6000.

Assessment Number: 1180

Report of the Environmental Protection Authority:

Bulletin 951

The proposal to which the above report of the Environmental Protection Authority relates may be implemented in stages subject to the following conditions and procedures:

Note 1: The Environmental Protection Authority may recommend changes and actions in relation to the implementation of Stages 1 and 2 to the Minister for the Environment following consideration of the results of the dioxin testing requested by the Environmental Protection Authority.

Note 2: Implementation of Stage 2 will not take place until the requirements of Stage 1 have been fulfilled.

Stage 1 Implementation

1 Trial Excavation Plan

1-1 Prior to the commencement of full-scale remedial works, the proponent shall prepare a Trial Excavation Plan to the requirements of the Environmental Protection Authority on advice of the Health Department of Western Australia.

Published on

15 DEC 1999

This Plan shall address:

- 1 the collation of site-specific data regarding air emissions (both gaseous and particulate) anticipated during the excavation, handling and treatment of the contaminated waste materials;
 - 2 broad screening of suspected analytes to confirm the nature of air emissions;
 - 3 monitoring for malodorous and nuisance vapours;
 - 4 monitoring parameters;
 - 5 risk to human health and the environment;
 - 6 excavation activities which are likely to increase air emissions; and
 - 7 the overall feasibility of the approach to remediation.
- 1-2 The proponent shall make the Trial Excavation Plan required by condition 1-1 publicly available, to the requirements of the Environmental Protection Authority.
- 1-3 The proponent shall implement the Trial Excavation Plan required by condition 1-1 to the requirements of the Environmental Protection Authority.
- 1-4 The proponent shall report in detail on the findings of the trial excavation required by condition 1-3, including the overall feasibility of the approach to remediation, monitoring, health and safety requirements and any proposed changes to the implementation of Stage 2 which may be required, to the requirements of the Environmental Protection Authority.
- 1-5 The proponent shall make the report required by condition 1-4 publicly available, to the requirements of the Environmental Protection Authority .

Note 3: The Environmental Protection Authority may recommend changes and actions in relation to the implementation of Stage 2 to the Minister for the Environment following consideration of the report required by condition 1-4.

Stage 2 Implementation

2 Environmental Management Plan

- 2-1 Prior to the commencement of full-scale remedial works, the proponent shall develop a comprehensive Environmental Management Plan drawing upon the findings of the trial excavation, to the requirements of the Environmental Protection Authority on advice of the Health Department of WA and the Water and Rivers Commission.

This Plan shall address:

- 1 air emissions (particulate and gaseous);

Air emissions shall be monitored, assessed and actively managed so as to protect both human health and the environment. The trial excavation previously undertaken by the proponent will provide essential site-specific data on which to base the site's air emissions monitoring systems.

2 noise and vibration;

Noise and vibration shall be monitored and managed so as to ensure that impacts on surrounding structures and the public (neighbouring residences and school) are minimised.

3 surface water;

Surface water shall be managed so as to prevent impacts on both human health and the environment. No surface water shall leave the OMEX site.

4 remediation processes (from initial characterisation to final disposal);

The process of implementation and control to be employed by the proponent during remediation will be documented within the Environmental Management Plan.

5 community consultation;

The community is to be kept informed of the progress of remediation at the OMEX site via regular communication and consultation. This process of information exchange will ensure that issues are addressed as they arise and that details regarding progress, timing, impacts and likely completion are effectively communicated between involved parties.

6 health and safety (including emergency or contingency planning).

To protect workers, surrounding residents and the public from possible human health effects of the remediation operation, a health and safety management plan will be developed. The proponent will also prepare emergency / contingency plans to maintain public safety.

2-2 The proponent shall make the Environmental Management Plan required by condition 2-1 publicly available, to the requirements of the Environmental Protection Authority.

2-3 The proponent shall implement the Environmental Management Plan required by condition 2-1 to the requirements of the Environmental Protection Authority.

3 Post-Remediation Management Plan

3-1 Prior to validation of the remediated site by the Environmental Protection Authority, the proponent shall prepare a Post-Remediation Management Plan to the requirements of the Environmental Protection Authority.

This Plan shall address:

1 final landscaping;

2 geotechnical evaluation of stability of the site;

3 long-term management of the site to protect the integrity of remedial works; and

4 documentation of the remediation process and remaining sub-surface condition via validation results.

3-2 The proponent shall make the Post-Remediation Management Plan required by condition 3-1 publicly available, to the requirements of the Environmental Protection Authority.

- 3-3 Within six months following the completion of the remediation of the site, the proponent shall implement the Post-Remediation Management Plan required by condition 3-1, to the requirements of the Environmental Protection Authority.

General Conditions and Procedures

4 Implementation

- 4-1 Subject to these conditions and procedures, the proponent shall implement the proposal as documented in schedule 1 of this statement.
- 4-2 Where the proponent seeks to change any aspect of the proposal as documented in schedule 1 of this statement in any way that the Minister for the Environment determines, on advice of the Environmental Protection Authority, is substantial, the proponent shall refer the matter to the Environmental Protection Authority.
- 4-3 Where the proponent seeks to change any aspect of the proposal as documented in schedule 1 of this statement in any way that the Minister for the Environment determines, on advice of the Environmental Protection Authority, is not substantial, those changes may be effected.

5 Proponent Commitments

- 5-1 The proponent shall implement the consolidated environmental management commitments documented in schedule 2 of this statement.
- 5-2 The proponent shall implement subsequent environmental management commitments which the proponent makes as part of the fulfilment of conditions and procedures in this statement, and those made following both the dioxin testing and the trial excavation (Stage 1).

6 Proponent

- 6-1 The proponent for the time being nominated by the Minister for the Environment under section 38(6) or (7) of the Environmental Protection Act 1986 is responsible for the implementation of the proposal until such time as the Minister for the Environment has exercised the Minister's power under section 38(7) of the Act to revoke the nomination of that proponent and nominate another person in respect of the proposal.
- 6-2 Any request for the exercise of that power of the Minister referred to in condition 6-1 shall be accompanied by a copy of this statement endorsed with an undertaking by the proposed replacement proponent to carry out the proposal in accordance with the conditions and procedures set out in the statement.
- 6-3 The proponent shall notify the Environmental Protection Authority of any change of proponent contact name and address within 30 days of such change.

7 Commencement

- 7-1 The proponent shall provide evidence to the Minister for the Environment within 18 months of the date of this statement that the proposal has been substantially commenced.

- 7-2 Where the proposal has not been substantially commenced within 18 months of the date of this statement, the approval to implement the proposal as granted in this statement shall lapse and be void. The Minister for the Environment will determine any question as to whether the proposal has been substantially commenced.
- 7-3 The proponent shall make application to the Minister for the Environment for any extension of approval for the substantial commencement of the proposal beyond 18 months from the date of this statement at least six months prior to the expiration of the 18 month period referred to in conditions 7-1 and 7-2.
- 7-4 Where the proponent demonstrates to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority that the environmental parameters of the proposal have not changed significantly, then the Minister may grant an extension not exceeding 12 months for the substantial commencement of the proposal.

8 Compliance Auditing

- 8-1 The proponent shall submit periodic Compliance Reports, in accordance with an audit program prepared in consultation between the proponent and the Environmental Protection Authority.
- 8-2 Unless otherwise specified, the Environmental Protection Authority is responsible for assessing compliance with the conditions, procedures and commitments contained in this statement and for issuing formal, written advice that the requirements have been met.
- 8-3 Where compliance with any condition, procedure or commitment is in dispute, the matter will be determined by the Minister for the Environment.

Note 4: Validation as referred to in these conditions will be undertaken via visual inspection and confirmation analytical sampling. The appropriate Australian Standard is to be maintained during sampling. The criteria applied to validation at the OMEX site are the National Environmental Health Forum (A) criteria for Residential Use or where developed via site-specific health risk assessment. Validation will ensure that the status of the material left in-situ at the OMEX site is adequately defined prior to backfilling or decommissioning of the proposal.

CHERYL EDWARDES (Mrs) MLA
MINISTER FOR THE ENVIRONMENT

15 DEC 1999

Schedule 1

The Proposal (1180)

The OMEX site is located in Bellevue, Shire of Swan, and includes the lands between Purton Place and Clayton Street (Figure 1). This area encompasses Lots 48 to 58 and Lots 60 to 61 (Figure 2). Neighbouring residential and commercial properties are located adjacent to, or directly opposite, the OMEX site (Figure 2).

Of the six remediation options considered by the proponent, landfill disposal, incorporating pre-treatment with an alkaline material (neutralising agent), was deemed the most appropriate. This preferred approach to site remediation is to be undertaken in two separate phases:

Phase I - Containment; and
Phase II - Remediation (Figure 3).

Phase I - Containment (completed)

The Containment Phase at the OMEX site has been completed and was implemented under a public works order in an attempt to isolate the impacted groundwater and limit continuing impact upon the local aquifer systems beneath the site. A sub-surface barrier now surrounds the major waste pit and extends from the surface to the upper confining clay layer of the Lower Leederville Formation. This wall has effectively 'isolated' the waste materials in the Major Pit and has minimised ongoing groundwater impacts.

Phase II - Remediation ("the proposal")

The implementation of Phase II will be carried out in two stages. Stage 1 will be a trial excavation program to obtain sufficient field data regarding the proposed remedial method. Information obtained from Stage 1 as well as from tests being undertaken for the presence of dioxin will be used to identify/modify those procedures associated with implementation of the full-scale remedial program (Stage 2).

Prior to excavation for Stage 2 implementation, the major pit within the containment barrier will be de-watered. The liquid level (liquid wastes and contaminated groundwater) will be lowered to a depth of approximately 10 metres below the ground surface. It is estimated that about 4400 cubic metres of this liquid material will be treated on-site to adjust the pH before being transported to the Forrestdale Liquid Waste Treatment Facility.

Once excess liquids have been removed from the site and materials become spadeable, the solid wastes will be excavated, treated (as required) and removed for off-site disposal. Continuous liquid waste sumps will operate within the pit to manage the seepage of liquids into the open excavations. The facility selected for off-site disposal will be determined based on the results of waste characterisation and on-site treatment.

After site validation, the excavated pit(s) will be backfilled with clean materials up to a depth of three metres below the ground surface. This remaining void will be backfilled with compacted clay in order to allow future property development.

A summary of the key characteristics of the proposal is presented in Table 1.

Table 1: Summary of key proposal characteristics (1180)

Element	Description
Project Name	Remediation of the OMEX Contaminated Site, Bellevue
Site Location	The OMEX remediation site is defined as comprising Lots 57, 58 and 60 Clayton Street, Lot 61 Purton Place and Lots 48 to 56 Henkin Street, Bellevue. Portions of the adjacent Lots 130 Purton Place and 136 Clayton Street may be remediated based on the results of the validation sampling performed during remediation and the source of the contaminants identified.
Approach to Remediation	Excavation, treatment and off-site disposal of both solid and liquid wastes in a manner which will adequately manage the risks and outcomes of the remediation process and remediate the site to a standard appropriate to the intended residential land-use.
Pit Remediation	Wastes from the OMEX pits will be removed and augmented with a neutralising agent to reduce acidity before being transported off-site. All waste materials will be removed from the waste pits. It is estimated that the wastes are present to an average depth of approximately 7 metres below the ground surface.
Soil Remediation	Soil surrounding the OMEX pits will be excavated to a maximum depth of 3.5 metres below the ground surface. Guideline criteria will be used to assess/validate the walls and floors of the resulting voids.
Groundwater Remediation	The groundwater itself will not be the subject of a dedicated remediation program. The previously approved construction of a bentonite containment wall has separated off the waste pits from the surrounding aquifer materials. The containment wall has been keyed into the upper confining layer of the Lower Leederville Formation. Modelling of the movement of the groundwater plume beneath the OMEX site has delineated the expected impact to surrounding users and the natural environment.
Airborne Emissions	The gases released from the waste materials and remediation processes will be managed to prevent the potential for the gases to cause nuisance or represent a human health risk.
Transportation of Wastes	Wastes from the OMEX site will be transported in either solid or liquid forms to an appropriate facility. The impact of increased heavy vehicular transport and the risk of accidental release to the environment from spills will be adequately managed by the proponent.

Element	Description
Environmental Management	<p>The proponent has identified several factors which they will manage during the project:</p> <ul style="list-style-type: none"> • nuisance odours; • chemical vapours; • dust and noise emissions; • vibration from machinery; • handling of waste materials (stockpiling, etc.); • transport of contaminated waste and soil; • stabilisation of earth works; • control of surface run-off; • increased traffic volumes; • public and worker safety; and • site security.
Environmental Supervision	<p>The successful remediation contractor will provide a dedicated site superintendent. This superintendent will ensure that:</p> <ul style="list-style-type: none"> • waste transport records are maintained; • plant and machinery are fit for purpose and strict de-contamination procedures are followed; and • environmental monitoring and reporting is undertaken as required.
Environmental Auditor	<p>An independent auditor will be appointed by the Environmental Protection Authority to verify the success of the site remediation by inspecting works and reviewing analytical results.</p>

Figures (attached)

Figure 1 - Site location

Figure 2 - Site layout

Figure 3 - Remediation area - elevation

Figure 4 - Remediation area - plan

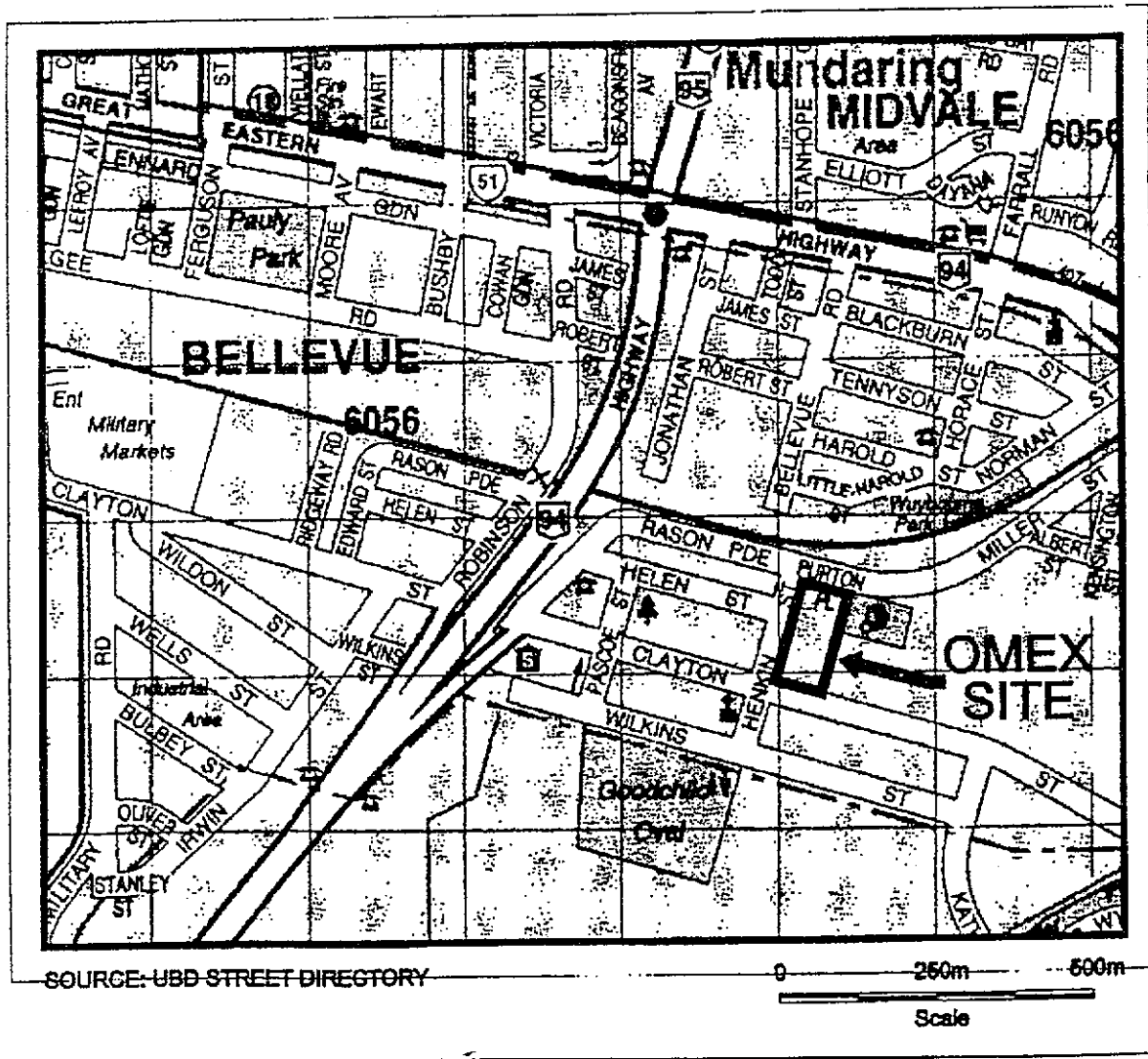
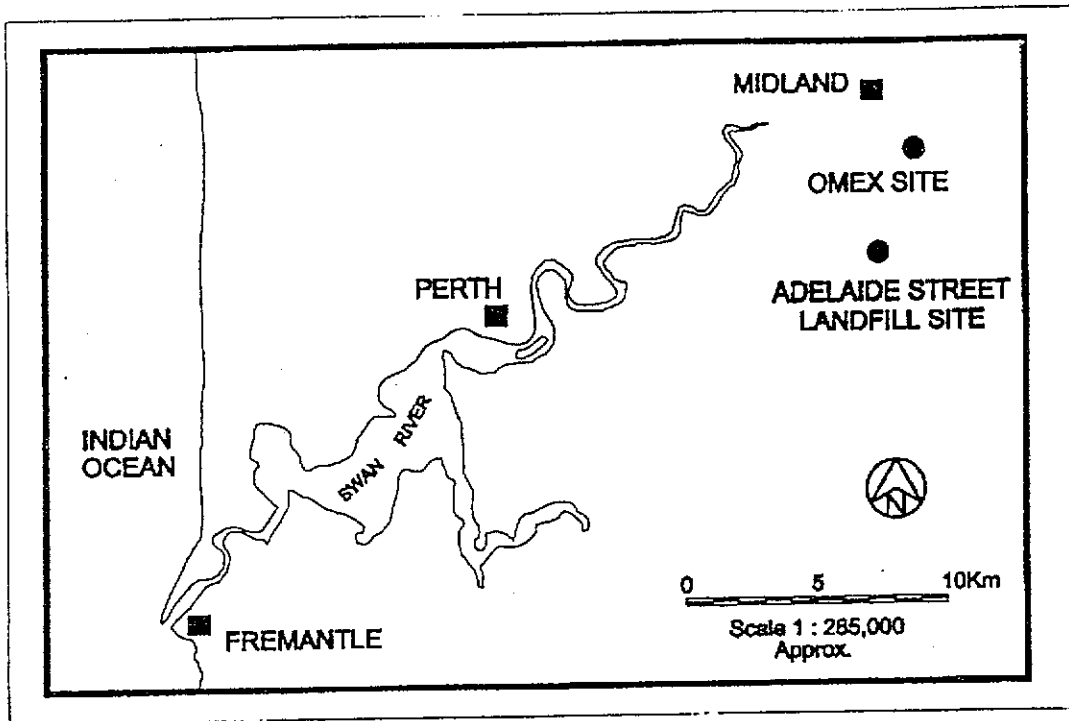


Figure 1. Site location (Source: Egis Consulting Australia).

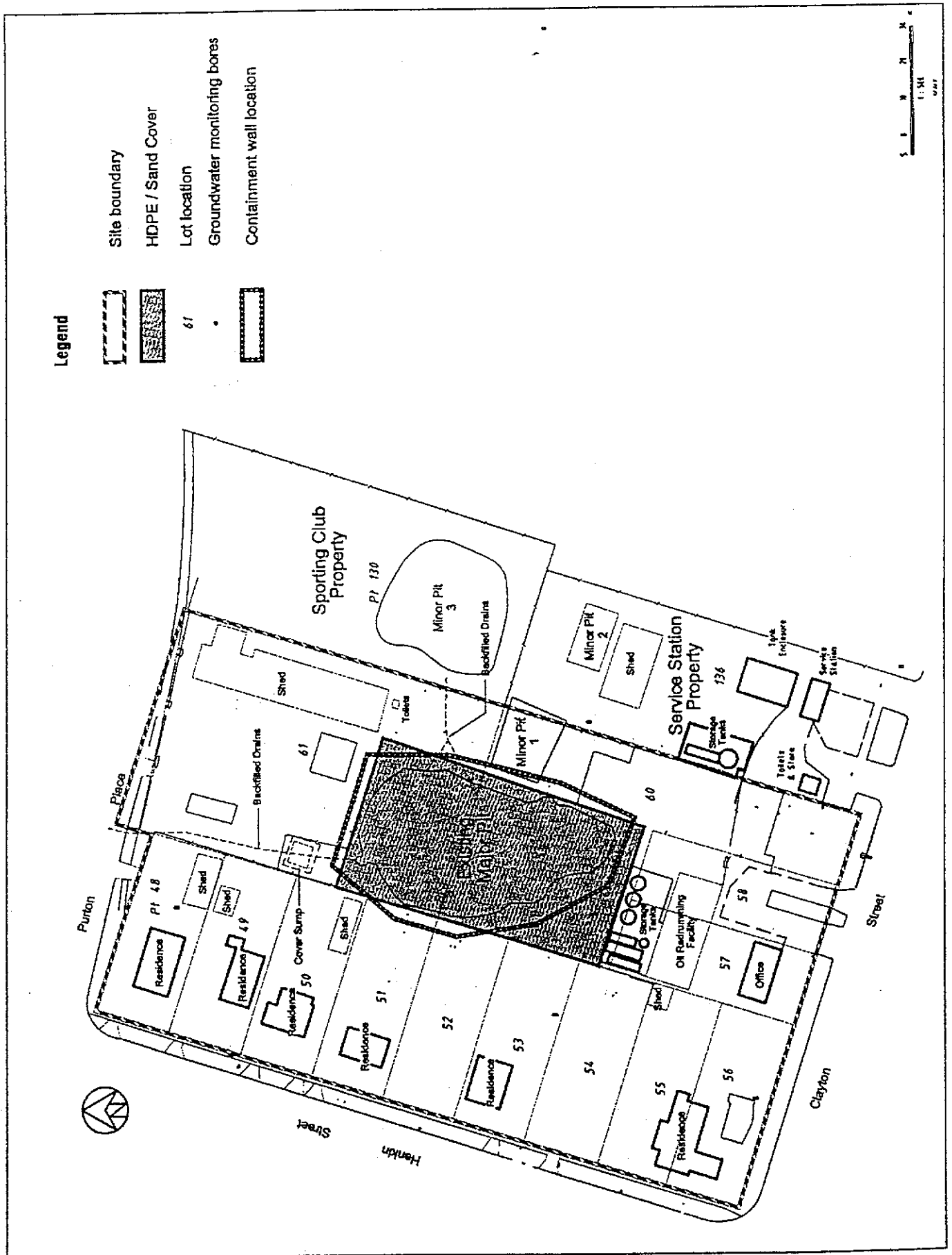


Figure 2. Site layout (Source: Egis Consulting Australia).

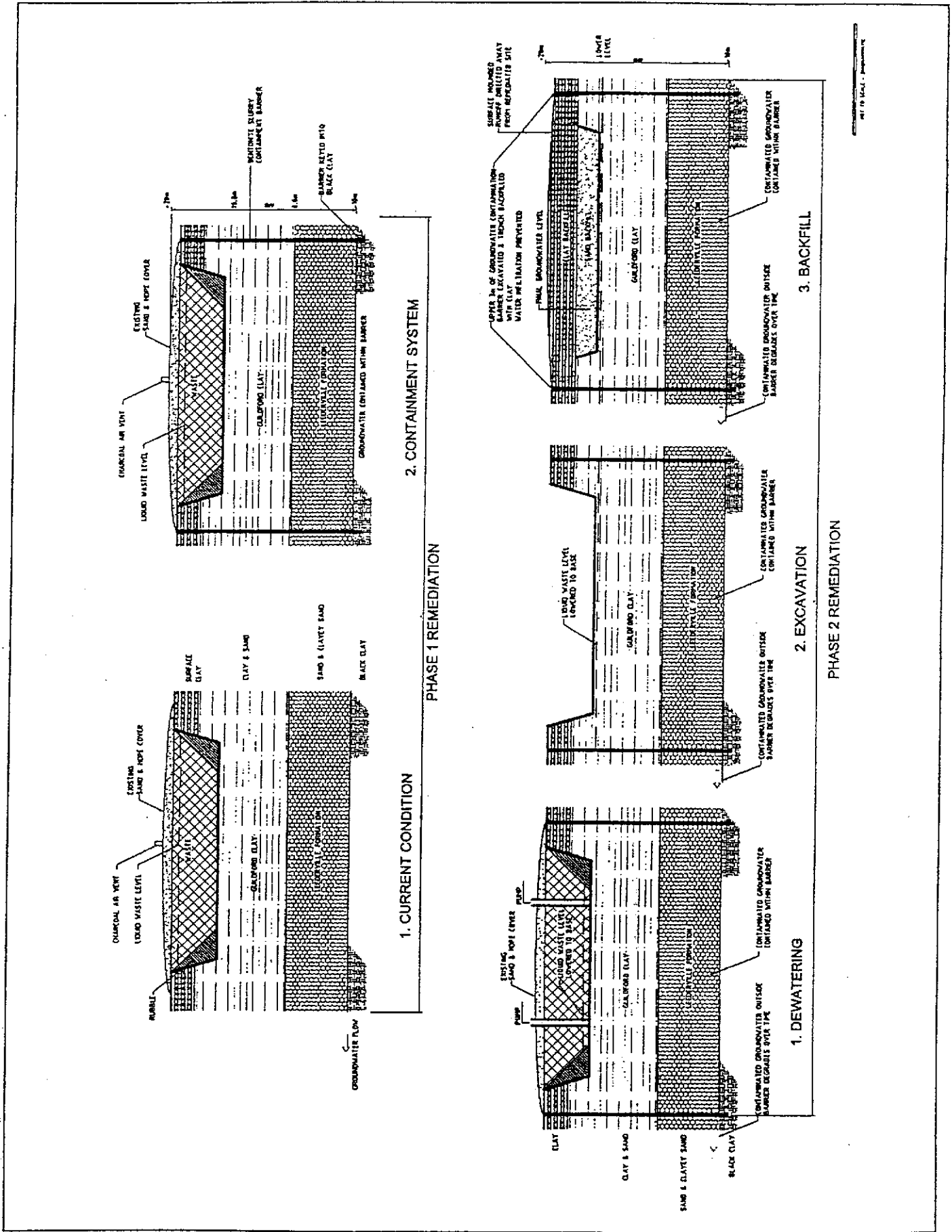


Figure 3. Proposed Remediation Area (Source: Egis Consulting Australia).

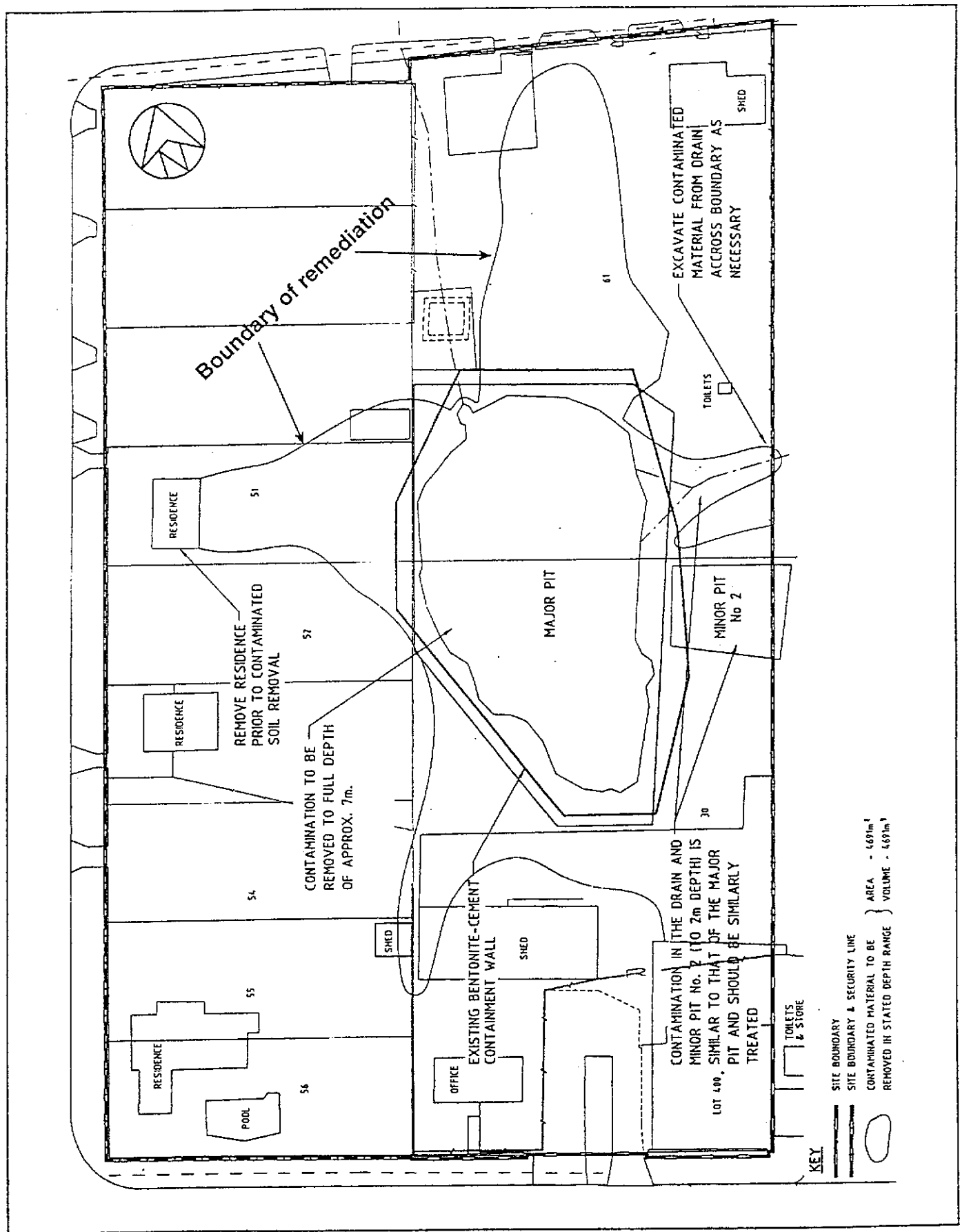


Figure 4. Proposed Remediation Area (Source: Egis Consulting Australia).

**Proponent's Consolidated Environmental Management
Commitments**

8 December 1999

REMEDICATION OF THE OMEX CONTAMINATED SITE
BELLEVUE, SHIRE OF SWAN (1180)

DEPARTMENT OF ENVIRONMENTAL PROTECTION
- WASTE MANAGEMENT DIVISION

**ENVIRONMENTAL MANAGEMENT COMMITMENTS -
REMEDICATION OF OMEX CONTAMINATED SITE
ASSESSMENT No. 1180**

Topic	Commitment	Action	Timing	Objectives	On advice from	To the satisfaction of
Environmental Sampling	1	Undertake testing of waste material, site soil and off-site soil in accordance with the dioxin testing program issued by the EPA dated 20/7/99.	Prior to remedial works.	To assess the pit waste and surrounding soil for the presence of dioxin. Review the risk to human health and the environment based on data gained from the testing program.	HDWA	EPA
Pre-remediation Air Monitoring Exercise	2	Undertake further laboratory testing of the air emissions generated from the waste material. Prepare a trial excavation program (methodology and objectives) for approval by the EPA. Perform a trial excavation into the major pit and monitor air emissions. Undertake treatment trials of the waste material and monitor air emissions. Collate site specific data regarding air emissions (gaseous and particulates) experienced during the excavation and treatment trials.	Prior to remedial works.	Confirm the nature of potential air emissions. To assess the likely level of air emissions generated during pit remediation. To assess the likely level of air emissions generated during waste treatment. Review the risk to human health and the environment based on the data gained from the excavation and treatment trials. Assess the performance of the proposed remediation approach.		EPA
Adelaide Street Landfill Environmental Sampling	3	Undertake soil and groundwater sampling.	Prior to remedial works at this site.	To assess the nature and extent of Omex waste contamination at the Adelaide Street landfill facility.		EPA
Level of Remedial Works	4	Remediate the Omex site to the response levels nominated in the CER.	During remedial works.	To ensure contaminated land is remediated to the NEHF Health Investigation Level or where determined by site specific health risk assessment.	HDWA	EPA
On-site Remedial Works	5	Remediate any contamination identified outside the pit area to a depth of 3.5 metres.	During remedial works.	To ensure contaminated land is remediated to the NEHF Health Investigation Level or where determined by site specific health risk assessment.	HDWA	EPA

Topic	Commitment	Action	Timing	Objectives	On advice from	To the satisfaction of
Execution of Remedial Works	6	Removal of contaminated material in accordance with the site management techniques described in the CER All contaminated material removed from the site will be disposed of in accordance with Landfill Waste Classification and Waste Definitions.	During remedial works.	To minimise the exposure of workers, the public and the environment to contaminated materials	Worksafe WA	EPA Worksafe-WA
Public Consultation	7	Manage the community consultation and communication process by regular newsletters, information sessions for the public, and liaison directly with residents adjacent to the Omex site.	Prior and during remedial works.	To facilitate communication between the residents and the proponent on the performance of the remedial works.		EPA
Contaminated Material Transport	8	In liaison with Main Roads WA, the WA Police Service, the Shire of Swan and the Bellevue Primary School, prepare a Transport Management Plan for the safe and effective transport of materials to and from the Omex site. All contaminated material transported from the site will be carried in appropriately equipped and labelled trucks in a manner consistent with the Dangerous Goods Regulations.	During remedial works.	To minimise any risks associated with the transportation of contaminated material from the site.	DME MRWA	EPA DME
Disposal of Contaminated Material	9	Prepare a waste management plan identifying methods for disposing of solid and liquid waste material and contaminated soil. The ultimate destination of all contaminated material will be selected on the basis of criteria set by the Landfill Waste Classification and Waste Definitions.	Prior and during remedial works.	To ensure all contaminated material from the site is managed and disposed in a manner which reduces environmental impact and risk to human health.		EPA
Dust Discharges	10	Dust discharges from the site will be kept within EPA criteria.	During remedial works.	To ensure that dust discharges during implementation of the project comply with regulatory standards.		EPA

Topic	Commitment	Action	Timing	Objectives	On advice from	To the satisfaction of
Noise Emissions	11	Noise emissions from the site will be kept within the Noise Regulations. Undertake noise monitoring to demonstrate compliance. Noise management if values exceeded.	During remedial works.	To ensure that noise emissions during implementation of the project comply with regulatory standards.		EPA
Air Emissions	12	Air emissions from the site will be kept within the guidelines. Undertake air monitoring to demonstrate compliance.	During remedial works.	To ensure air emissions during implementation of the project comply with criteria set for the protection of human health.	HDWA	EPA HDWA
Drainage	13	Surface water drainage will be kept on site and disposed of appropriately.	During remedial works.	To ensure surface water drainage from contaminated areas of the site is contained and treated if required.		EPA
Vibration	14	Vibration will be kept to a minimum and comply with the Australian Standard. Maintain adequate communication with stakeholders in relation to vibration levels.	During remedial works.	To ensure that vibration does not unreasonably affect residents or damage nearby properties.		EPA
Occupational and Public Health	15	An Operational Health and Safety Plan will be developed and implemented prior to remedial works commencing. The plan is to include emergency/contingency planning.	Prior to remedial works.	To ensure remedial works are carried out in a safe manner so as to prevent risks to site personnel and the public.	Worksafe WA HDWA	EPA Worksafe WA
Performance of Remedial Works	16	Prepare a validation program of remedial works to demonstrate compliance with EPA site clean-up criteria.	Prior to remedial works.	To ensure compliance with EPA approved clean-up criteria.		EPA

Groundwater Management	17	The proponent will negotiate with relevant government agencies to develop an agreed long term approach to groundwater management at and down hydraulic gradient of the Omex site.	Following remedial works.	To ensure future groundwater quality is managed to protect human health and the environment.	WRC	EPA WRC
Performance Review	18	The EPA will advise on the success of the remediation in meeting the conditions of approval for this project.	At completion of remedial works.	To ensure the conditions of approval for the project have been achieved.		EPA
Validation Report	19	A report at the completion of the validation program will be submitted to the EPA, which will provide evidence of conformance to the commitments, and Ministerial Conditions for the project.	At completion of remedial works.	To document site clean-up has been performed in accordance with EPA requirements		EPA

Legend:

CER	Consultative Environmental Review
DME	Department of Minerals and Energy
EPA	Environmental Protection Authority
HDWA	Health Department of Western Australia
MRWA	Main Roads WA
NEHF	National Environmental Health Forum
WRC	Water and Rivers Commission