Contaminated sites

Assessment and management of contaminated land and groundwater in Western Australia

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Executive summary

Contaminated sites are a serious environmental issue. On the Swan Coastal Plain, our heavy reliance on groundwater for drinking combined with highly permeable soils emphasises the importance of preventing and managing soil and groundwater contamination.

Contaminated sites also have major economic, legal and planning implications. Already in Western Australia there have been multi-million dollar clean-ups, legal complications concerning liability, and uncertainty in the planning and development process.

The exact number of contaminated sites in Western Australia is not known but it has been estimated that at least 1500 sites exist. While not all of these would necessarily require clean-up, the DEP is currently involved with over twenty five sites that do.

Western Australia does not have a specific system for managing contaminated sites. This is causing uncertainty in the land transfer system, as there is no mechanism for transferring information about sites from vendor to purchaser, and also in the financial sector, as there is a reluctance on the part of financial institutions to lend money on sites that may be contaminated, due to potential difficulties with 'lender liability'.

The current system is reactive — specific sites are addressed only as they arise. The system does not provide incentives to encourage voluntary investigation and/or clean-up. Clean-up or treatment of polluting sites is often delayed or not possible because existing legislative powers are limited, liability for clean-up is sometimes unclear and government responsibilities are not defined. In the absence of specific contaminated sites legislation, the current system is failing because it is unable to manage critical issues not addressed adequately in existing legislation. These issues include:

- liability;
- information transfer, including a register of confirmed contaminated sites;
- a definition of a contaminated site; and
- providing a 'clearance' for sites that have been cleaned up.

A new, co-ordinated "whole of government" approach to contaminated sites management is needed. One capable of meeting the needs of developers, government and the environment, and reflecting the specific requirements of Western Australia.

The objective is to establish a cost-effective means of preventing and removing threats to the environment and public health. There must be clear rules and procedures to ensure responsibilities are defined and confidence in the planning and development industry is maintained.

The proposals put forward in the discussion paper would maximise private sector initiative by encouraging voluntary actions and thereby reduce the need for government intervention in the management of many contaminated sites. At the same time the proposed approach would provide a strong regulatory and enforcement programme.

This paper outlines the deficiencies in the current management system and proposes an alternative approach. If the paper's recommendations were to be implemented, then sections of the *Environmental Protection Act, 1986-1993* would need to be amended, new sections would need to be added, and some procedures would need to be put in place by the Department of Environmental Protection.

This is a discussion paper ONLY. It does not necessarily represent the Government's position nor does it commit the Government to any particular policy direction. Its purpose is to engender informed debate that will contribute to the development of contaminated sites legislation.

1. Introduction

1.1 The problem

Contaminated sites are recognised throughout the world as one of the most pressing concerns for the environment. It is estimated that more than 1500 contaminated sites exist in Western Australia, although the exact number is unknown. The majority of contaminated sites have resulted from unsatisfactory industrial practices for storage of chemicals and for the containment and disposal of wastes.

Contaminated sites are of particular importance in Western Australia because of our heavy reliance on groundwater for drinking and the vulnerability of these resources to pollution due to our highly permeable, sandy soils. The Department of Minerals and Energy, through the Geological Survey of Western Australia, has identified 1100 sites on the Swan Coastal Plain having the potential to contaminate groundwater (Hirschberg, 1991).

In addition to posing a threat to public health and the environment, contaminated sites have significant economic, legal and planning implications. Already in Western Australia there have been delays in the planning and development of sites, multi-million dollar clean-ups and legal complications concerning liability.

1.2 Inadequacies of the current approach in Western Australia

The current approach to contaminated sites management in Western Australia has several deficiencies. Most can be attributed to the absence of either a co-ordinated "whole of government" approach to managing contaminated sites or specific contaminated sites legislation (see Appendix 1).

The major deficiencies are:

- a lack of incentives to encourage voluntary investigation and/or clean-up;
- a heavy reliance on disposal to landfill with no incentives to encourage on-site treatment and/or recycling;
- a lack of co-ordination among government departments, with no single agency having prime responsibility for the issue;
- appropriate facilities for receiving wastes are not always available;
- existing forms of legislation focus on prevention, failing to adequately address the issue of remediation;
- liability issues are unclear, especially with respect to clean-ups;
- no requirement for site identification/referral/assessment;
- no system of information transfer (eg, register, memorials on title);
- no system for defining investigation/clean-up levels; and
- no funding available for orphan sites.

2. Proposed West Australian approach to the management of contaminated sites

2.1 Introduction

There is a need for a new co-ordinated approach to contaminated sites management which addresses the needs of developers, government and the environment, recognises the specific requirements of Western Australia, and provides certainty for all parties including the community.

The approach must create a climate that encourages industry to undertake voluntary investigations and to act on the results of those investigations without undue involvement from government. At the same time, a strong regulatory and enforcement programme will need to be provided.

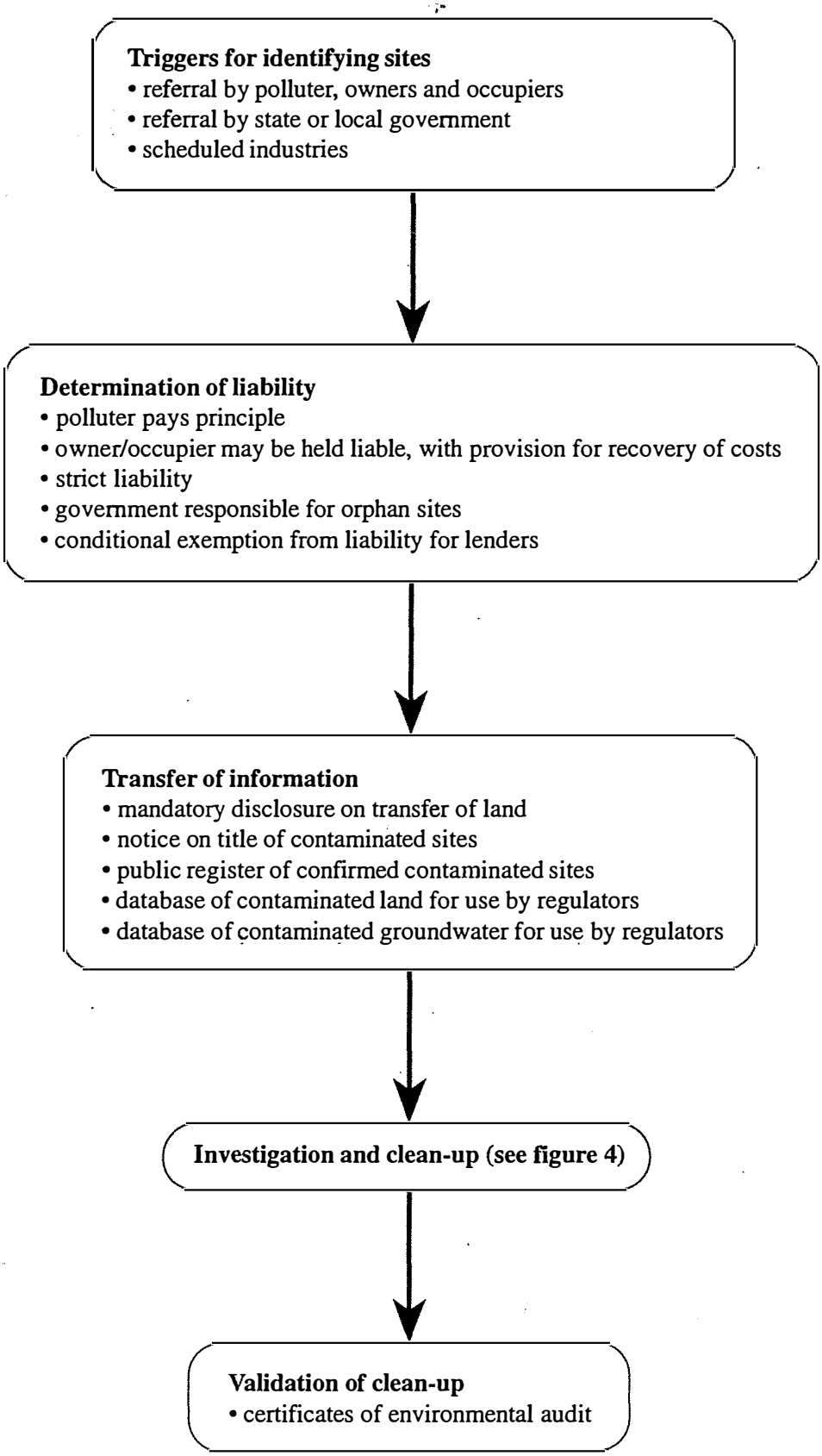
This discussion paper outlines a recommended approach for the management of contaminated sites. It describes the responsibilities of government, polluters, developers and lenders in all aspects of contaminated sites management. Figure 1 outlines the proposed approach.

2.2 Guiding principles

The proposed approach to contaminated sites management reflects the following guiding principles.

- **Prevention** – The creation of new contaminated sites must be avoided.
- **The polluter pays principle** – Those who generate pollution should bear the cost of containment or abatement of that pollution.
- **Effectiveness** – The risk to public health and the environment should be minimised through the timely clean-up of sites. Where public health or the environment is at risk, a site should be cleaned up to the extent necessary to render the site acceptable and safe for continuing the existing landuse. Where there is no threat to public health or the environment, containment and appropriate landuse controls should be required.
- **Equity** – All parties involved, including the polluter, various arms of government, landowners, developers and lenders should be treated fairly and impartially. All parties should be subject to the same rules, standards and criteria.
- **Efficiency** – An administratively simple and transparent system for management of contaminated sites should be developed. It should reduce uncertainty about the management of contaminated sites, increase accountability and minimise the need for litigation to settle disputes.
- **Waste minimisation** – As a preference, contamination should be treated and destroyed on-site, or recycled. Disposal (either to landfill or through 'cap-and-contain' measures) or other release to the environment should be employed only as a last resort, and in an environmentally acceptable manner.

Figure 1 — Overall approach to contaminated sites



2.3 Powers and responsibilities

Figure 2 outlines the powers and responsibilities of the key government agencies in contaminated sites management.

Environment portfolio

Contaminated site management is predominantly an environmental issue. Therefore it is appropriate that the ultimate responsibility for managing the issue on behalf of the government should rest with the Minister for the Environment.

Where another Minister has an interest in a contaminated site, that Minister should be consulted before the Minister for the Environment makes a decision.This approach conforms with existing requirements under the Environmental Protection Act, 1986-1993,

The Environmental Protection Authority (EPA) would have a policy advisory role, and maintain the option of assessing major proposals in accordance with Part IV of the *Environmental Protection Act, 1986-1993,* and providing specific advice to the Government where it considers appropriate.

Responsibility for the administration of legislation dealing with contaminated sites would rest with the Chief Executive Officer (CEO) of the Department of Environmental Protection (DEP).

The DEP would be able to order investigation (including monitoring), clean-up and auditing of contaminated sites, as well as to undertake investigations, clean-ups and audits, and to recover costs for any work it undertakes. Power to obtain reports, records and other information, and to enter premises while carrying out duties, would also be required.

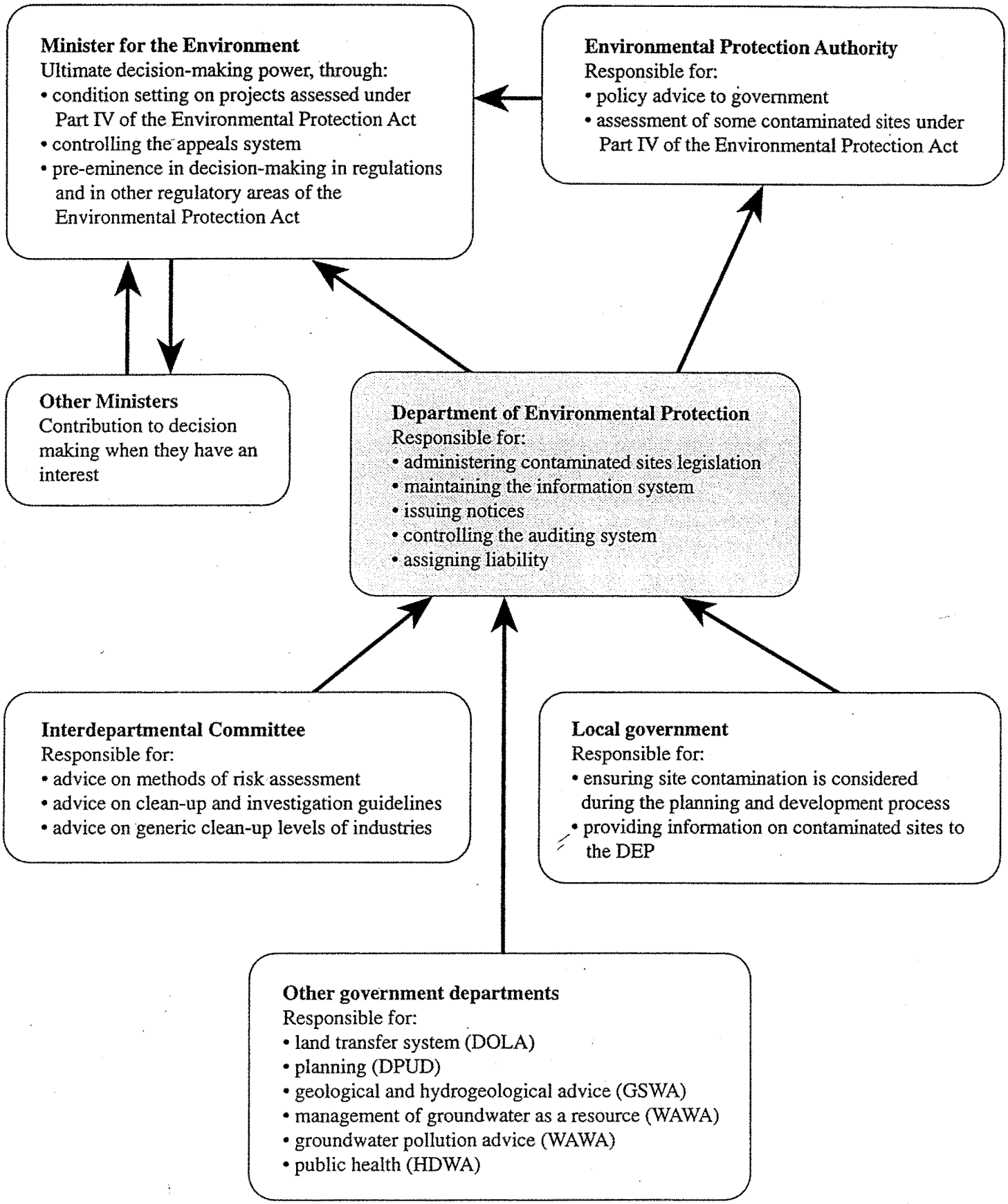
The statutory powers of the Government to require investigation and clean-up of contaminated sites would need to be limited to situations where there is an unacceptable risk to public health or the environment. These powers should be matched by a commitment to allow and encourage industry to undertake voluntary investigations and clean-ups with a minimum of interference.

Interdepartmental advisory committee

An interdepartmental contaminated sites advisory committee would be established, drawing from key government agencies, and chaired by the DEP. The committee would report to the CEO of the DEP and would provide:

- a technical resource to the contaminated site management process;
- dissemination of information on individual sites to relevant government departments;
- comment on complex site assessments; and
- input to the formulation of guidelines and criteria.

Figure 2 — Powers and responsibilities



Other government departments

Other government departments, in addition to being represented on the interdepartmental committee, carry other responsibilities.

The Health Department would maintain responsibility for public health issues. The Ministry for Planning would maintain responsibility for overseeing the planning process, and the Department of Land Administration would continue to manage the land transfer system. The Geological Survey would be the main focus for geological and hydrogeological advice, and may be involved in sampling carried out by Government. The Water Authority would maintain overall responsibility for management of groundwater as a resource, as well as providing expertise in groundwater pollution.

It should be noted that any government departments which take on the responsibility of making decisions regarding contaminated sites may also bear some liability with respect to those sites. This applies not only to the DEP but to other government departments which are involved in the issue (eg. the Health Department).

Local Government

Local government authorities are integral to the planning and development process. They would be responsible for ensuring that contamination issues are considered where appropriate during that process. They would also be responsible for passing on knowledge about contaminated sites to the DEP.

2.4 Definition of a contaminated site

The Australian and New Zealand Environment and Conservation Council and the National Health and Medical Research Council guidelines (ANZECC/NH&MRC, 1992) provide the following definition: "*A contaminated site is broadly defined as a site at which hazardous substances occur at concentrations above background levels and where assessment indicates it poses, or is likely to pose an immediate or long-term hazard to human health or the environment*".

This definition needs to be extended for the West Australian context to explicitly deal with contaminated groundwater. For the purposes of this paper, the term contaminated site is considered to apply to the area of land that has been contaminated *and to any groundwater that has been affected by the contamination.*

3. Contaminated site management

3.1 Prevention

Two priorities of contaminated site management are:
- the prevention of additional sites becoming contaminated; and
- the cessation of practices that have resulted in contamination.

The most effective way of minimising contaminated sites in the future is to establish a system of clear rules and expectations, with certainty of outcome. Most importantly, a

clear message must be given that the party responsible for pollution will be held accountable for the cost of cleaning up that pollution.

More effective auditing, including self monitoring and voluntary auditing, will be an important aspect of preventing additional contamination. Consideration should also be given to financial incentives for preventing contamination and cleaning up when it occurs.

The provision of financial assurances by industry in situations where the risk to public health and the environment warrants can also contribute to prevention of site contamination. A system of financial assurances would also clarify liability issues, reinforce the polluter pays principle and provide a level of equity in contaminated site management.

3.2 Identification

Sites that may be contaminated would be identified in several ways, including:

- voluntary referral by polluters, owners and occupiers;
- referral by state or local government authorities; and
- a scheduled list of potentially contaminating industries.

Responsibility for co-ordinating this task would fall to the DEP. There would be a requirement for State and local governments, and owner/occupiers of sites to refer any known or reasonably suspected contaminated site to the DEP.

Once a site is referred, all relevant parties (owner, occupier, local authority, planning and other relevant State Government authorities) would be notified by the DEP.

Industries and landuses identified as being potentially contaminating (eg. service stations, scrap yards, chemical manufacturing, etc.) would be defined as "scheduled industries", and an investigation into the status of the site, although not now proposed, may be required at some stage in the future. A scheduled list of industries and landuses appropriate to Western Australia would need to be developed.

3.3 Site classification

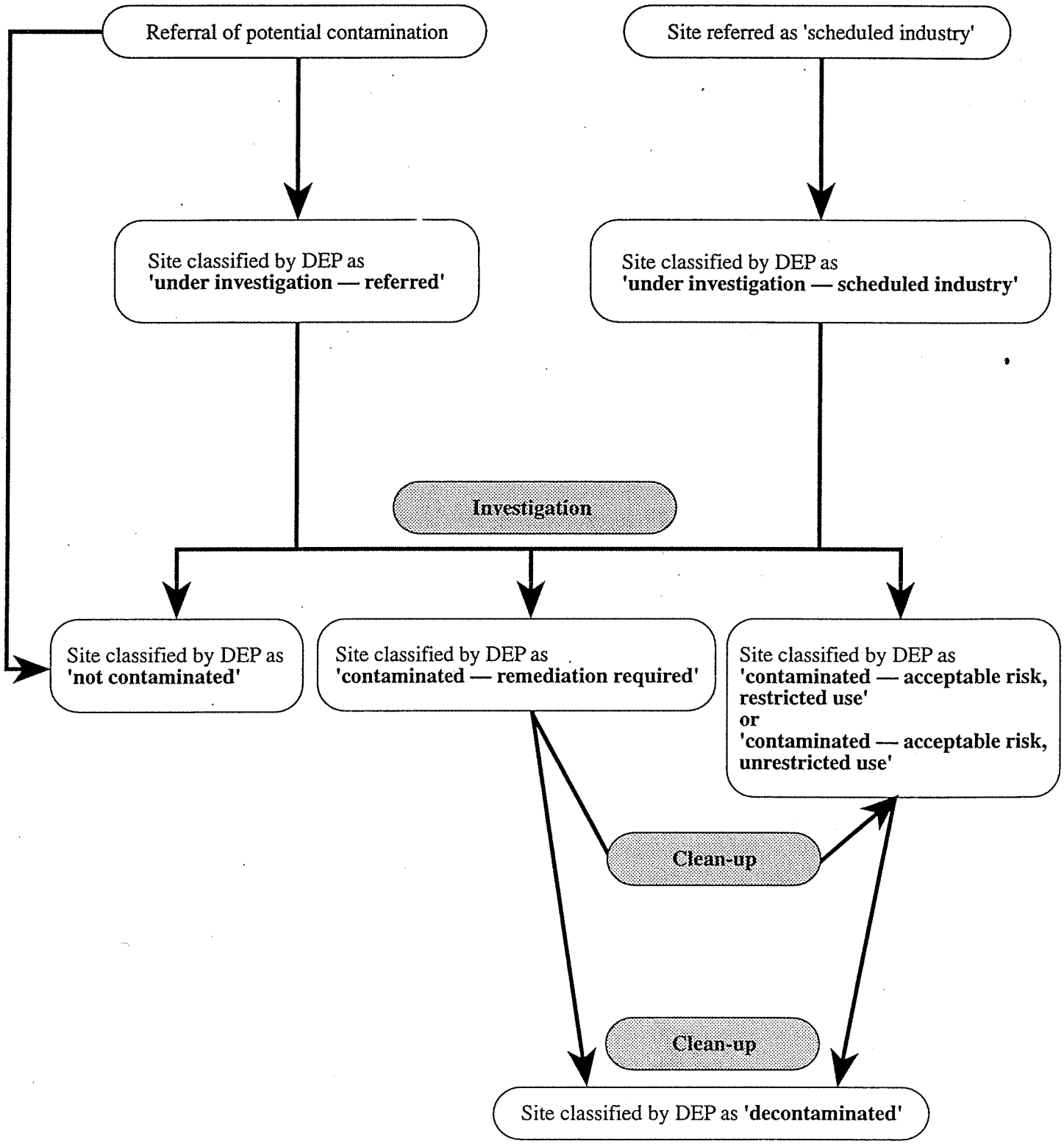
Not all referred sites will require clean-up, but they may require at least an investigation to determine the level of contamination. When a site is referred, a decision would be made by the DEP as to the classification of the site. A classification system for sites would need to be established in legislation and administered by the DEP.

As outlined in Figure 3, sites would be classified into one of four main categories:

- not contaminated
- investigation required
- contaminated
- decontaminated

When a site is first referred to the DEP it would be classified as either 'not contaminated' or as 'investigation required'. The 'not contaminated' category would

Figure 3 — Classification system for contaminated land



apply to sites where the concentration of all detected contaminants is within acceptable levels.

Sites categorised as 'investigation required' would include two sub-categories:
- referred; and
- scheduled industry.

'Investigation - referred' sites are those that have been referred, but for which there is not enough information to either clear a site or to confirm contamination. 'Investigation - scheduled industry' applies to sites which have supported an industry on the scheduled list (see Section 3.2). If further investigation is required, it would be carried out by, or at the cost of, the liable party.

After an investigation is conducted a site may be reclassified by the DEP as either 'not contaminated' or 'contaminated'. 'Contaminated' would apply to sites where the contamination has been confirmed. There are three 'contaminated' sub-categories:
- remediation required;
- acceptable risk - restricted use; and
- acceptable risk - unrestricted use.

Sites designated as 'remediation required', would have contamination levels that pose an unacceptable risk to the environment or public health given the site's current landuse. The 'acceptable risk — restricted use' designation would apply to sites having contamination levels that are acceptable for the current landuse. However some decontamination may be required before such a site is suitable for a more sensitive landuse. The 'acceptable risk — unrestricted use' designation would apply where contamination exists but the site is suitable for any use.

The 'decontaminated' category comprises previously contaminated sites where remediation has lowered contaminant levels to the equivalent of background levels.

Setting priorities

A system for assigning priorities needs to be established to ensure the most effective allocation of limited resources. Priority should be assigned to contaminated sites known to be posing an unacceptable risk to public health or the environment ('contaminated — remediation required'), with the highest priority given to sites posing an unacceptable public health risk.

3.4 Investigation

Site investigations would take two forms:
- voluntary investigations; and
- investigations required by government.

Voluntary investigations would be undertaken by industry without any direction from government and would occur outside the regulatory framework (e.g., as a condition of sale, or as part of an environmental audit).

An investigation would be required by government if:

- a site posed an unacceptable risk to public health or the environment (e.g., contamination of a bore, or a wetland); or
- a change of zoning and/or landuse was proposed for a site known to be or reasonably suspected of being contaminated.

If the investigation revealed the site to be contaminated the DEP may require a site management plan detailing the contamination and a proposal for remediating and monitoring the site (see Figure 3).

If this plan is acceptable to the DEP, then implementation of the plan would take place immediately if there is an unacceptable risk to public health or the environment, or it may be delayed until a trigger (e.g. change of landuse) occurs that makes clean-up necessary.

It is recommended that the general procedures for characterising contaminated sites as set forth in the ANZECC/NH&MRC 1992 guidelines be adopted in Western Australia (see Figure 4).

3.5 Notices

Notices would be issued by the DEP where an unacceptable risk to public health or the environment exists, and a satisfactory voluntary plan has not been developed and implemented. A notice would set forth the investigative and remedial works necessary for a specific site and, where appropriate, specify clean-up levels.

A notice would be issued when the following actions are required by the DEP:
- investigation of a site and submission of a report detailing the findings;
- preparation of a site management/clean-up plan; and/or
- implementation of a site management/clean-up plan.

A notice should specify if a trial of the proposed clean-up technology is required before the full scale application of that technology to a site clean-up. The requirement for a trial would be at the discretion of the CEO.

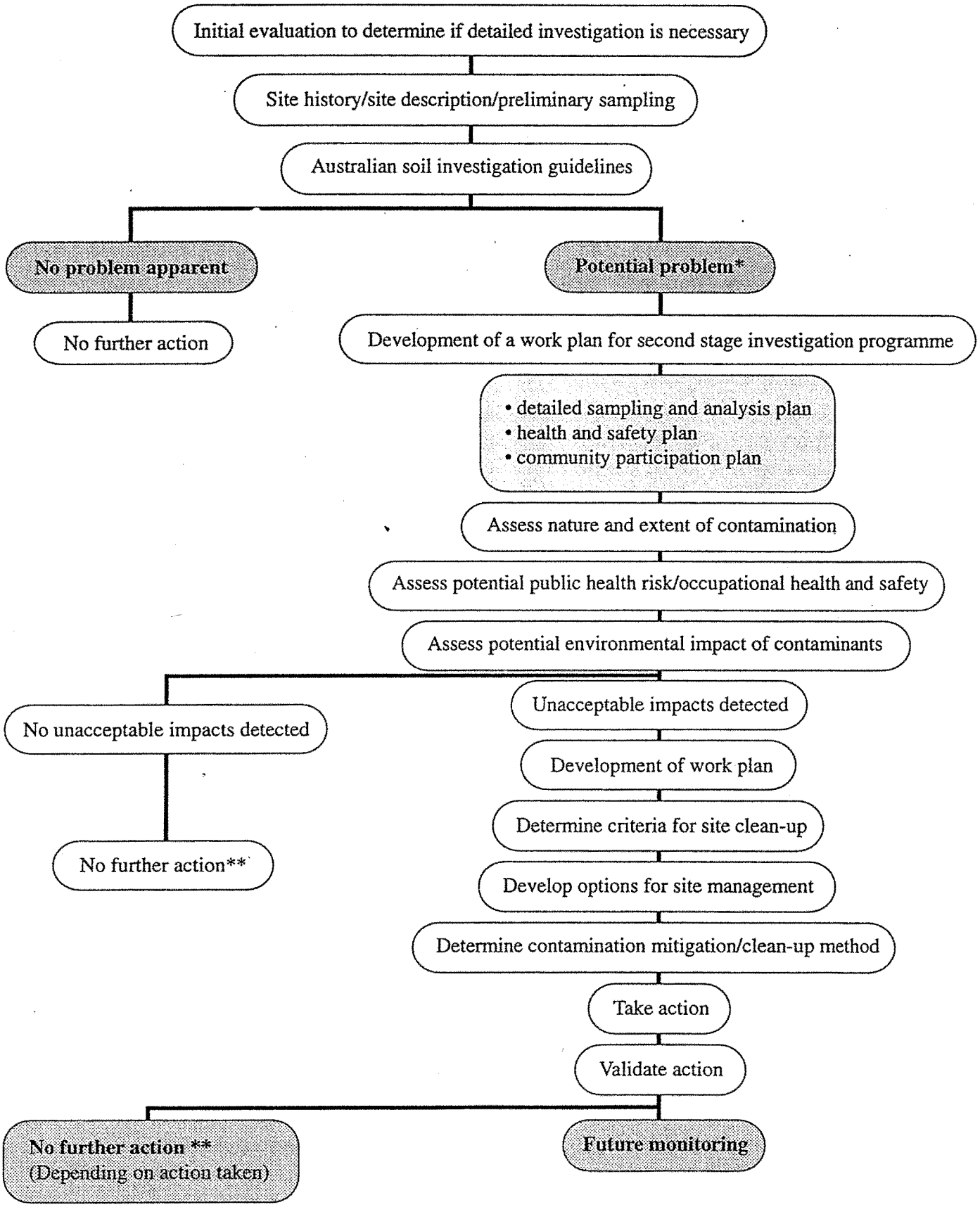
The DEP would be able to guarantee land access to people who have been directed to clean up either contaminated soil or a plume of contaminated groundwater even in cases where the land is not under the direct control of the party carrying out the remediation.

3.6 Site clean-up

To date the main approach to the treatment of site contamination in Western Australia has been to dig up the contaminated material and to cart it away to landfill.

It is proposed that a hierarchy of treatment options, based on waste minimisation principles, be established and enforced. The preferred options would be on-site treatment and/or destruction of contamination and subsequent re-use of the treated soil. The most common current treatment methods, i.e., removal to a landfill and 'cap-and-contain' measures, should be the least preferred options.

Figure 4 — ANZECC/NH&MRC approach to the assessment and management of a potentially contaminated site



* decision to proceed directly to clean-up according to guidelines can be taken at a number of points in the following process sequence

**provided landuse remains as originally proposed

The introduction of measures such as a levy on the off-site disposal of waste to landfill from a known contaminated site would make other options (eg. on-site treatment) more economically attractive.

Another option is the introduction of 'full life cycle costing' for treatment methods. Put simply, this means that the full cost of the treatment method, including a proportion of the cost associated with current and future landfills, should be used to cost out the various treatment options.

3.7 Investigation and clean-up levels

A flexible and transparent scheme needs to be implemented for defining investigation and clean-up levels, based on the ANZECC/NH&MRC guidelines published in 1992.

There are two recognised methods for setting clean-up levels:

- establishing generic clean-up criteria and applying them to every site; and
- using generic criteria as a trigger for further investigation, and, if a clean-up is deemed necessary, developing site specific clean-up criteria.

The first approach of applying generic clean-up criteria is inflexible, and does not recognise that the environmental consequences of contamination vary from site to site. Generic clean-up criteria also tend to be conservative, in some cases requiring a higher level of clean-up than might be necessary. The second approach of developing site specific criteria is difficult, expensive and time consuming, but can result in more easily achieved and less costly clean-up levels.

The recommended approach would allow either approach, or a combination of the two, to be used. Initially, a set of investigation levels for various contaminants and industry classes would be developed by the DEP. These investigation levels would act as a trigger for site investigation.

If an investigation revealed that a site clean-up was needed, a choice would need to be made whether to:

- apply generic clean-up criteria; or
- develop site specific clean-up criteria through the use of a variety of modelling techniques.

Generic clean-up criteria would also need to be developed by the DEP. The decision to use these generic criteria or to develop site specific criteria would in most instances be made by the party carrying out the investigation. There may, however, be circumstances where the DEP would decide which of these approaches is appropriate.

In this way a flexible system would be established capable of providing the most economic and effective strategy for each individual site.

3.8 Certificates of Environmental Audit

A 'certificate of environmental audit' is a statement of the suitability of a site for a particular purpose. A certificate, issued by the CEO of the DEP, would provide an assurance either that a site has never been contaminated, or that the contamination has been addressed in such a way as to make the site fit for a particular use or uses. It is

recognised that the state may be exposed to liability through the use of a system of this kind, and methods of limiting that liability to a reasonable extent need to be explored.

A certificate would be required by the DEP before:

- land classified as 'contaminated' or 'investigation required' is rezoned or redeveloped; and
- land is reclassified from either 'contaminated' or 'investigation required'.

The certificate system would enable local governments and land developers to make decisions regarding land development with more assurance than currently exists.

Accredited auditors

In most systems for managing contaminated sites, government assumes responsibility for providing 'clearances' for sites that have been cleaned up or were never contaminated (in the proposed system, a certificate of environmental audit). This can lead to delays unless substantial resources are provided, and can result in government being exposed to substantial liabilities in some situations.

A means of reducing the workload on the government system is through the appointment of accredited auditors. In Victoria, accreditation allows a person to issue a certificate of environmental audit which carries the same authority as if it had been issued by the Victorian EPA. Criteria for accreditation are set by the Victorian EPA which chairs a panel that assesses the qualifications of prospective auditors.

Some concerns have been expressed about the transfer of government decision making powers regarding clearances to accredited auditors. An alternative would be to have an accreditation system, but not provide accredited auditors with the power to issue clearances. This system would provide recognition of ability, but would not give any decision-making power to consultants.

Comment is invited on the concept of accrediting auditors, and in particular the two alternatives discussed above.

3.9 Information transfer

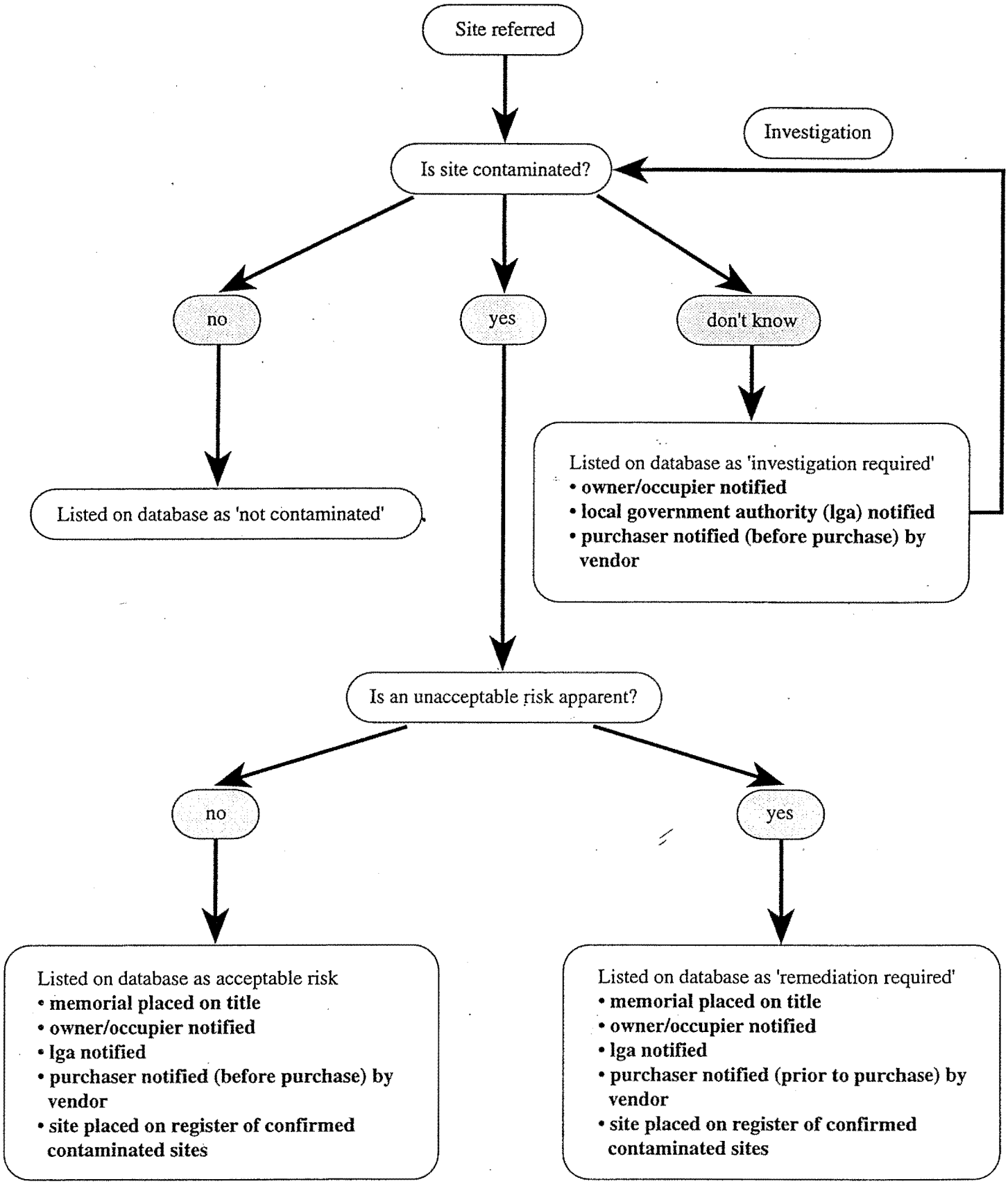
The provision of information on contaminated sites is an important component of any management strategy. It is essential that appropriate information on contaminated sites be available so that land owners, developers, potential purchasers, lenders and government can consider all the costs, benefits and constraints involved in the use of a particular site.

The proposed information transfer system is outlined in Figure 5.

Contaminated land

It is proposed that a combination of information transfer methods be adopted for contaminated land in Western Australia, with the information transfer primarily occurring through the existing planning processes of conveyancing and development.

Figure 5 — Information transfer system



First, mandatory disclosure of information on known or suspected contamination by vendors to potential purchasers would be required. This would apply to all sites — whether they are classified as 'contaminated', 'investigation required', or 'decontaminated'.

Second, memorials would be placed on the title of land where contamination has been confirmed. The owner and occupier of the site would be notified, as would the relevant local authority, planning and other government agencies. If a site is decontaminated and a 'certificate of environmental audit' is issued, the memorial would be lifted.

The combination of these two approaches would ensure information on known and suspected contaminated sites is transferred at the crucial time of conveyancing, while providing information on confirmed contaminated sites to a wider audience through title searches.

Thirdly, there is a need for decision makers involved in the planning and development process to be aware of all known or suspected contaminated sites. A database of all identified sites regardless of classification would be maintained by the DEP as a working record of information for the use of state and local government regulators.

The interaction of the contaminated sites management system and the planning process is outlined in Figure 6.

A list of sites that are confirmed as being contaminated is seen as being desirable. It is therefore proposed that a publicly accessible register of confirmed contaminated sites be maintained by the DEP.

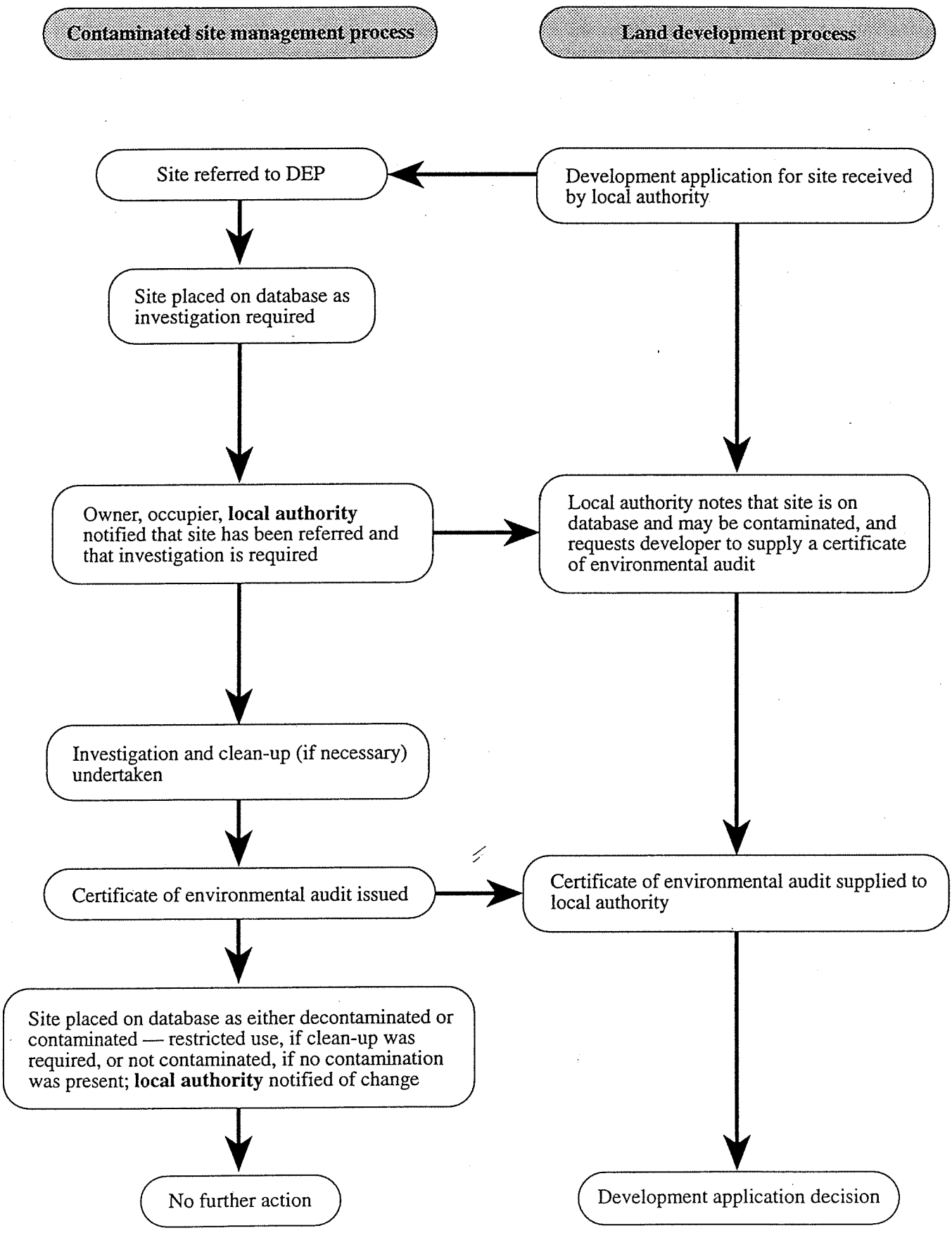
Finally, a system of providing information on trends, regions where contaminated sites are common and other general information would be needed, to satisfy public requirements for information. This information could be provided through DEP annual reports, and through the Government's 'state of the environment' reporting mechanism.

Contaminated groundwater

In many cases, given the nature of soils over much of the highly developed area of Western Australia, contaminated land will have associated with it some level of contaminated groundwater. In some cases, the 'plume' of groundwater contamination will extend off-site, ie. the plume will extend beyond the boundary of the contaminated property.

It is proposed that a method of tracking groundwater plumes be developed and a database of contaminated groundwater plumes maintained by the DEP.

Figure 6 — Contaminated site management and the planning process



4. Administration

4.1 Appeals

It is recommended that appeal rights be made available to the owner and occupier of a site and to the polluter, at points in the process where decisions may affect the rights of these parties.

It is proposed that appeal rights would exist at the following points:

- when a site is classified as "investigation required";
- when a site is classified as "contaminated";
- when a site is classified as "decontaminated"; and
- when a notice of any kind is issued.

All appeals, whether against an action taken by the DEP or against the terms or conditions of a notice, would be made to the Minister for the Environment, in the same way that appeals are currently made in accordance with the *Environmental Protection Act, 1986-1993.* Figure 7 summarises the key appeal points.

4.2 Enforcement

Part of the strategy for managing contaminated sites would be the definition of several offences. These could include:

- contamination of land or groundwater;
- failure on the part of a polluter to notify the DEP upon contamination;
- failure on the part of a vendor to declare all knowledge of contamination to a purchaser;
- failure on the part of an owner or occupier to notify the DEP once that person(s) becomes aware of contamination;
- failure to comply with a condition placed on a notice;
- disposing of contaminated material at a place other than that approved for that purpose; or
- giving false or misleading information in regard to contaminated sites.

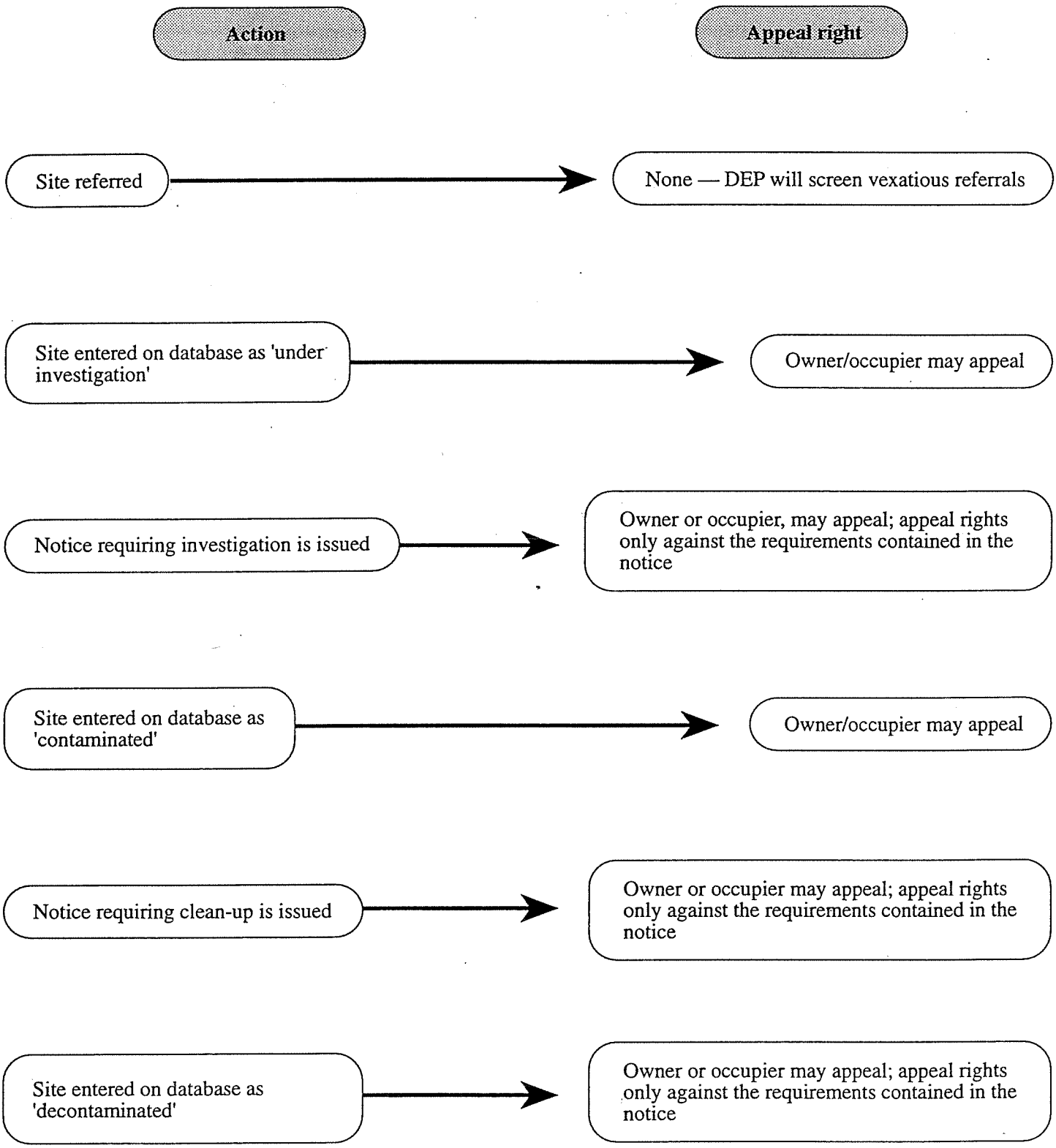
Other offences should be defined, if it is considered appropriate.

4.3 Liability

There is increasing concern about financial liability for contaminated sites – that is, who should pay for investigation, monitoring and other clean-up related activities if it is decided that a site should be cleaned up. Already in Western Australia there have been multi-million dollar clean-ups and legal complications concerning liability.

In dealing with liability in this section the paper is primarily concerned with financial liability for remediation of contaminated sites. The proposals herein are confined to the establishment of a statutory scheme to enable effective remediation of contaminated where the scheme dictates such remediation would be required. The proposals are not intended to apply to broader questions of criminal or civil liability.

Figure 7 — Appeal points



It is not intended in the resulting legislation, to affect civil remedies and a provision such as is contained in section 111 of the Environmental Protection Act 1986 (WA) will be incorporated.

Fortunately most contaminated sites will not result in arguments about liability. The majority of sites will be investigated and cleaned up voluntarily, and thus there will be no need for any formal assignment of liability to take place.

However, some contaminated sites cases will lead to contention about liability. Therefore a hierarchy of liability is proposed which, while applying the polluter pays principle as a cornerstone, is flexible enough to accommodate the different situations that may arise with contaminated sites.

Figure 8 provides an outline of the proposed liability regime.

The polluter pays principle

Consistent with the Polluter Pays Principle, the party whose activities caused the contamination, where able to pay and identifiable, should ultimately pay for any necessary works on the site. This should be the case even where those activities were in accordance with the law and accepted practice at the time of the contamination.

Where the liability of the polluter has been transferred to another party by contract, the Government would usually direct the current owner or occupier (assuming that this is the party to whom responsibility was transferred) to carry out any required work.

Transfer of liability to a company with inadequate assets would need to be addressed in any legislation to ensure it is not a barrier to attaching liability. Financial guarantees should be considered as part of the solution.

Mandatory disclosure and memorials on titles would be linked to liability for remediation. If a purchaser obtains land in full knowledge of the contamination that is or may be present, then liability for any future remediation transfers to the purchaser. Transfer of liability would not occur where disclosure does not take place.

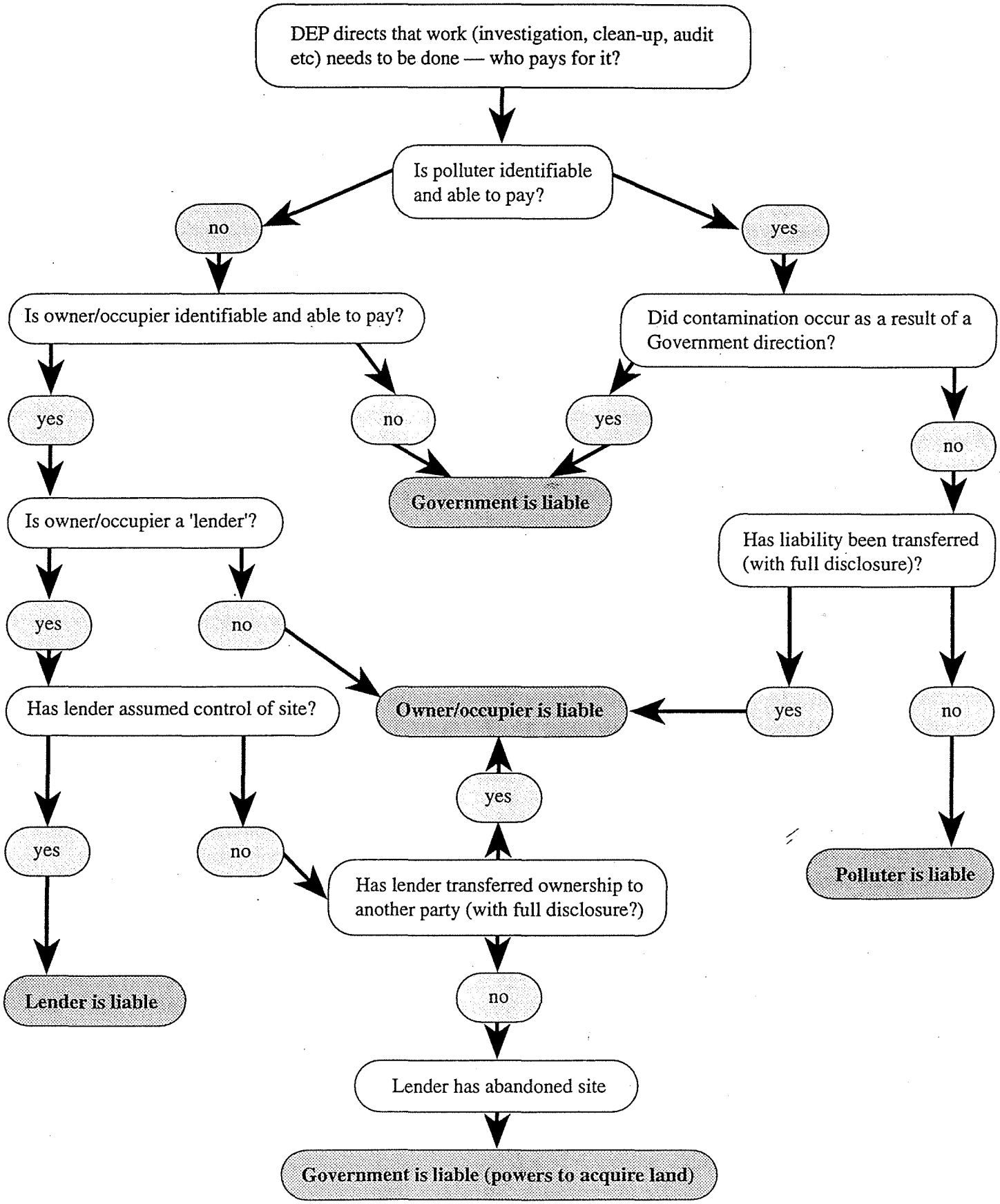
Where the polluter is insolvent or unidentifiable, the owner or occupier would be liable. Statutory provision would be made for cost recovery by the owner or occupier from the polluter or other liable parties subject to the work being undertaken.

Strict liability

Where the Government directs an action to be taken, the party directed would be strictly liable to comply with the direction. It would not be necessary to establish fault in attaching liability, but simply to establish the act of causing contamination, or actual ownership or occupation. The decision as to who is liable would not always be obvious, and the Government would retain the option of directing either the polluter, owner or occupier, or leaving ultimate resolution to the courts.

When strict liability is applied in this manner, it entrenches the polluter pays principle, and also allows the determination of liability to be more timely and cost

Figure 8. Who is liable?



effective than other regimes such as fault and risk based schemes (see Appendix 3). Retrospective application of the liability regime would be limited to sites posing an unacceptable risk and requiring immediate action.

Cost recovery

Situations will exist where the party directed to take action on a site should, on the basis of equity, be afforded the right to recover costs from another party. Examples include an owner or occupier who did not cause the contamination of a site, multiple polluters, and where the Government undertakes work.

There should be a statutory right to recover costs incurred as a result of a government direction from the polluter and any other party who may have exacerbated the situation. The right to join other parties should also be given to the parties from whom recovery is sought.

A statutory right of recovery would be subject to the works being undertaken first.

Apportionment

Where there are multiple polluters, then costs should be apportioned on the basis of each party's contribution to the contamination. In addition, other parties which have contributed to the damage or costs incurred, or have been negligent, also should bear a portion of the cost.

Orphan sites

It is recognised that there would be sites that are abandoned, or sites where the polluter is unidentifiable or cannot be made to pay and the current owner or occupier cannot be made to pay. These sites are known as orphan sites.

The Government would be responsible for ensuring the required remediation is undertaken on orphan sites. Where the Government funds remediation work, it would be able to place a priority charge on the site or take possession of the land and later sell it to recover some of the costs of remediation.

State and local government liability

The management of the scheme for dealing with contaminated sites will create new administrative responsibilities for State and local government. These will include the conduct of the information system relating to contaminated sites, the investigation of contamination issues in conjunction with rezoning or development processes, and the issues of a certificate of environmental audit.

Each of the matters gives rise to an important associated question as to the protection of the State and local government from the risk of legal liability. In particular, the potential for legal liability to become indirectly shifted to government from those actually culpable for any contamination will have to be addressed.

In circumstances where the State Government or a local government authority caused contamination, or owns or occupies contaminated land, they would have the same

responsibilities and be treated in the same manner as any other party involved with a contaminated site.

In regard to the liability of State and local governments in performing their functions, the principles of common law of negligence apply, in particular where governments may be subject to a duty of care in carrying out their functions. Some protection may need to be written into legislation to ensure that liability does not impose an unfair burden on state and local governments.

Where government simply provides statutory approvals for activities carried out by third parties, liability would not attach to the Government.

Also, where the Government issues a 'certificate of environmental audit' stating that a site is fit for any use, liability would not attach to the Government even if standards subsequently change. While the Government has an important role providing as much certainty as possible in the area of standard setting, it should not be liable for the cost to parties of changes in standards.

Lender liability

Similar to the approach adopted in Victoria, passive lenders, (i.e., lenders who provide finance but are not involved in site management), would not be liable for costs associated with site clean-up. However they can become liable if they voluntarily assume the role of owner/occupier or they have caused the contamination.

Exemptions

In the liability scheme outlined, it is proposed that parties be exempted from liability when contamination has occurred as a direct and inevitable result of an instruction given by a government agency. The community, through the Government, would bear the cost for remediation of these sites if no other liable party can be found. Carrying out activities in accordance with the law and accepted practice at the time would not however provide an exemption from liability in the future.

National discussion paper

In June 1993, ANZECC released a discussion paper Financial Liability for Contaminated Site Remediation. The paper outlines the options available for allocating liability (Appendix 2) and provides information on the current situation in different jurisdictions. Appendix 3 summarises the approaches to liability that are followed in the other states of Australia. The recommendations of ANZECC's subsequent position paper are reproduced in Appendix 4.

It is recommended that both of these papers are examined if a more detailed review of the principles and potential approaches is desired. Both are available from ANZECC.

4.4 Government funding

Clean-up

Any contaminated sites management scheme must include provisions for Government funding of contaminated sites clean-ups. The Government may decide to provide funding in the following circumstances:

- Orphan sites — Where contaminated land is abandoned and forfeited to the State, no party can be held responsible for remediation, and the site poses an unacceptable risk to public health or the environment ('contaminated — requires remediation'). Government should be empowered to sell abandoned orphaned sites for which funding for clean-up has been provided to recover as much of the costs as possible;

- Government polluted/owned sites — Where the Government polluted or owns the site and liability has not been transferred to another party, and the site poses an unacceptable risk to public health or the environment ('contaminated — requires remediation'); and

- Strategically important sites — Where remediation of contaminated land is regarded by the State as strategically important (other than above).

In general, there are three approaches to raising money for funding government remediation:

- Levy — A levy could be imposed on a particular section of society. For example, the 'Superfund' in the United States is funded in part by excise taxes on petroleum and feedstock chemicals, a tax on certain imported chemical derivatives, and an environmental tax on corporations. The use of a levy system is not favoured by some groups because it makes some sectors of industry pay for the poor environmental performance of other sectors of industry.

- Annual Government allocation — An annual allocation from the Consolidated Revenue Fund could be made to a trust fund administered by the regulatory agency. Sites would be managed on the basis of priority, and once cleaned-up those sites forfeited to or owned by the Government could be redeveloped or sold to recoup some of the costs. This approach of spreading the cost over the whole community is considered by some groups to be deficient in terms of equity, and provides no incentive for industries to improve their environmental performance.

- Individual Government allocation — On application to the Government, individual funding allocations would be made to clean-up specific sites. The difficulty of this approach is the time it may take for decisions on each site to be made. Also, decision-making may not be consistent, nor based on priorities for management.

Of the three approaches, an annual government allocation to a dedicated trust is recommended as the most equitable and efficient method of managing funding for contaminated sites clean-ups.

Administration

Effective implementation of the approach recommended in this paper will depend on adequate resourcing by the State Government. In other states of Australia, inadequate resourcing has resulted in a large backlog of sites waiting to be investigated and assessed.

The main areas of resourcing will be a specialist unit and computerised information system in the Department of Environmental Protection, and technical expertise and resources in other government agencies.

4.5 Legislation

If the recommendations of this discussion paper were to be implemented, then sections of the *Environmental Protection Act, 1986-1993* would need to be amended, new sections would need to be added, and some procedures would need to be put in place by the Department of Environmental Protection. Below is a summary of the various actions that the paper recommends, and the most likely method of enacting them.

Amendment to existing sections of Act

- Notices to be issued by the Department of Environmental Protection requiring:
  — Investigation of a site;
  — Preparation of a site management plan; and/or
  — Implementation of a site management plan,
  potentially through changes to the existing Pollution Abatement Notice mechanisms.
- Amendment to the current 'appeals' section, allowing for appeals against site classification and against notices issued by the Department of Environmental Protection.

New sections of Act

- A definition of a contaminated site, which should specifically include groundwater affected by the contamination, needs to be included in the Act.
- Establishment of the 'polluter pays' principle.
- A requirement for State and local governments and owner/occupiers to refer known or reasonably suspected contaminated sites.
- A scheduled list of potentially contaminating industries needs to be defined in legislation to assist in identifying potentially contaminated sites.
- A system of categorising sites.
- Creation of a 'certificate of environmental audit', to be issued by the Department of Environmental Protection.
- A requirement for a certificate to be obtained if rezoning or redevelopment of a site on the register or database is proposed, or reclassification is sought.
- Notification on the title of confirmed contaminated land.
- Mandatory disclosure of known or suspected site contamination by the vendor to potential purchasers.
- Publicly accessible register of confirmed contaminated sites.

- Definition of specific offences, including contamination of land and groundwater.
- Inclusion of procedures for assigning liability.

Procedures to be put in place

- Interdepartmental advisory committee to provide technical advice on guidelines, criteria and some individual sites.
- State and local government agencies to ensure information flow and site assessment occurs through the conveyancing, planning and development processes.
- Priorities for management determined by site classification, with priority given to sites posing an unacceptable risk to public health or the environment.
- Investigations to be based on ANZECC/NH&MRC guidelines.
- Established hierarchy of treatment options, with on-site treatment preferred.
- 'Full life cycle costing' of treatment options.
- Establish investigation levels for specific contaminants and industry classes.
- Establish generic clean-up levels and allow for development of site specific levels.
- Database of suspected contaminated land, land that has been decontaminated, and land that has been investigated and cleared, with access restricted to regulatory agencies.
- Database of contaminated groundwater plumes, with access restricted to regulatory agencies.

5. Glossary

Background levels	Levels of substances or chemicals that are commonly found in the local environment.
Clean-up	The removal, treatment or containment of contaminated soil or groundwater by various methods.
Contaminated	A condition or state which represents or potentially represents an adverse public health or environmental impact because of the presence of potentially hazardous substances.
Groundwater	Any water contained in, or occurring in, a geologic formation.
Investigation level	The concentration of a contaminant above which further appropriate investigation and evaluation is required.
Lender	A person or persons whose main business is not the activity that caused the contamination, and who holds a security over the business that caused the contamination as a result of providing finance to the business.
Occupier	The person in actual occupation or control of a place.
Orphan site	A site for which no party can be held responsible for contamination investigation and/or clean-up.
Owner	The person who has the freehold estate in the land or is entitled to possession of the land.
Remediation	The clean-up or mitigation of pollution of contaminated soil or groundwater by various methods.

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Appendix 1

Existing legislation in Western Australia

Existing legislation in Western Australia

Legislation which has some relevance to contaminated sites can be divided into four categories (Gardner, 1993):

- planning and development controls;
- pollution controls;
- hazardous material controls; and
- remediation of polluted land.

Planning and development controls

State Planning Commission Act, 1985
Metropolitan Region Town Planning Scheme Act, 1959
Town Planning and Development Act, 1928

There are three 'planning' Acts in Western Australia, and in relation to contaminated sites they could be used in a variety of ways. In particular they could be used to isolate potentially contaminating activities from other uses (eg, through zoning), restrict the use of land known to be contaminated, identify potentially contaminated land requiring assessment, and prepare plans for remediation of contaminated land. However, to date these Acts have not been used in this way, presumably because of the limited information which exists on contaminated sites.

Part IV of the *Environmental Protection Act* interfaces with the planning legislation and has been used in recent times to assess proposals for redevelopment of contaminated land and set environmental conditions on the remediation programmes. However the assessments have been restricted to land redevelopment, and where the contamination is well known. Also, Part III of the *Environmental Protection Act,* has been used to enact policies which, in part, control activities in sensitive areas to prevent contamination. The draft Environmental Protection Policies covering groundwater mounds in the metropolitan area are examples.

The *Town Planning and Development Act* is being reviewed, and any legislative approach to contaminated sites will need to take changes to the Act into account.

Pollution controls

Environmental Protection Act, 1986-1993
Metropolitan Water Supply, Sewerage and Drainage Act 1909
Country Areas Water Supply Act 1947

The *Environmental Protection Act* regulates emissions through Part III policies, Part IV environmental approvals and Part V licensing provisions. The Act provides general offences of pollution and specific offences of breaching authorisations and orders under the Act. However, it does not specifically address the problem of managing land after it has become contaminated, and issues such as liability and the definition of pollution are unclear.

The *Metropolitan Water Supply, Sewerage and Drainage Act* and the *Country Areas Water Supply Act* give the Water Authority of Western Australia the power to

regulate activities that may contaminate public drinking water supplies. By-laws have been made which prohibit some high risk activities and allow the WAWA to place conditions on others.

Hazardous material controls

Aerial Spraying Control Act, 1966
Agricultural Produce (Chemical Residues) Act, 1983
Agriculture and Related Resources Protection Act, 1976
- s106A provides for regulations controlling the storage, use and transport of agricultural chemicals
Explosives and Dangerous Goods Act, 1961
- The Act regulates the manufacture, storage and transport of explosives and dangerous goods
Radiation Safety Act, 1975
Health Act, 1911
- Regulations control the use of pesticides
Environmental Protection Act, 1986-1993
- Various regulations, eg, control of organotin anti-fouling paint

The above legislative provisions contribute to prevention of land contamination, and a basis for coercive action is provided if there is a breach. They do not however address management of contaminated land after there has been a breach.

Clean-up of polluted land

There is no specific legislation dealing with clean-up. However, the following legislation offers some scope for clean-up and control once contamination has occurred.

Environmental Protection Act, 1986-1993
Health Act, 1911
Metropolitan Water Supply, Sewerage and Drainage Act, 1909
Mining Act, 1978
Radiation Safety Act, 1975
Explosives and Dangerous Goods Act, 1961

The provisions of the *Environmental Protection Act* are aimed at the prevention, control and abatement of pollution and can in limited areas extend to clean-up. It does not however provide an exhaustive scheme for dealing with contaminated sites, and there are significant limitations and uncertainties with the legislation. In particular:

- pollution and contaminated land are not necessarily equivalent;
- the legislation is not retrospective and cannot adequately deal with pre-1987 contamination;
- the potential of pollution abatement notices and directions to require clean-up is limited;
- there is no scheme for identifying contaminated sites;
- there is no provision for assigning liability for clean-up and apportioning costs between parties; and

- using licences to require clean-up has problems because of their short-term nature and because many contaminated sites are not 'prescribed' (i.e., those premises that are required to obtain a licence).

The environmental impact assessment provisions in Part IV of the *Environmental Protection Act* have the potential to ensure clean-up and management of developments on known contaminated sites, as long as the development is referred to the EPA and constitutes a 'proposal' under the Act.

The *Health Act* allows houses to be declared unfit for occupation, and provides for administrative powers of inquiry and for analytical services. The Act is being reviewed, and any legislative approach to contaminated sites will need to take changes to the Act into account.

The *Metropolitan Water Supply, Sewerage and Drainage Act* by-laws include provisions requiring offenders to restore damage caused in committing an offence under that Act.

The *Mining Act* allows for conditions for prevention or reduction or making good of injury to land. Financial assurances are required in case the company does not comply with the conditions.

Appendix 2

Interstate approaches to the management of contaminated sites

Interstate approaches to the management of contaminated sites

Victoria

In October 1989, the Minister for Environment and Planning issued a directive to all councils and Planning Authorities to "satisfy themselves that land is suitable for its intended use" when approving planning amendments which permit a change in use from industrial to residential. This is achieved by requiring applicants to appoint an environmental auditor to issue a Certificate or Statement of Environmental Audit, in accordance with Section 57AA of the *Environment Protection Act 1970* (Victorian Ministry for Planning and Environment, 1989; Victorian Ministry for Planning and Housing, 1991; VEPA, 1991(a) and (b)).

Under the *Environment Protection Act 1970*, the Victorian Environment Protection Authority (VEPA) has the power to issue a Section 62A Clean-up Notice to direct the owner/occupier of a site to sample and analyse for contaminants, as well as clean-up to acceptable levels.

The VEPA maintains a register of sites that are potentially contaminated or confirmed to be contaminated. Only the confirmed register is available to the public. Currently, neither register has statutory support.

A system of accrediting auditors has been set up under the *Environmental Protection Act, 1970* to allow consultants to carry out assessments of the status of suspect land and land which has been cleaned up. Supporting legislation includes sections which impose severe penalties for auditors who falsify information.

To date in Victoria, the VEPA has been notified of approximately 180 site clean-ups and assessments under the statutory audit system. A considerable number of sites are cleaned up outside the statutory system, particularly service station sites that are continuing in that use. The number of these clean-ups is likely to exceed 200.

Approximately 20,000 sites are suspected of being contaminated in Victoria. The State Register of Confirmed Contaminated Sites currently lists 78 sites, 14 of which are considered to require action in terms of clean-up or the putting in place of management plans to protect human health or the environment.

Approximately 90 per cent of confirmed contaminated sites in Victoria require only minimal effort (and expense) with respect to assessment, management and remediation. The VEPA has estimated that the remediation of contaminated sites could cost Victoria more than $2 billion.

New South Wales

In May 1991, the Department of Planning issued a circular to councils which alerted them to Section 90(1)(g) of the Environmental Planning and Assessment Act 1979 (NSW Department of Planning, 1991). This Section requires councils to consider "whether the land to which that development by reason of its being, or being likely to be, [is] subject to flooding, tidal inundation, subsidence or bush fire or to any other risk". The circular itself alerts councils to the need to consider the possibility of contamination of land in the planning and development control processes. The

circular provides advice on the types of uses which are likely to result in contamination of land.

Section 35 of the Environmentally Hazardous Chemical Act 1985 allows the New South Wales Environment Protection Authority (NSWEPA) to issue a notice to the occupier of premises where there are grounds to believe that the site is contaminated. The Section 35 notice can require the occupier to ascertain the nature and extent of the contamination, prepare a long-term management plan and clean-up until contaminants are reduced to acceptable levels. Section 36 of this Act allows the Authority to clean-up or to direct another public authority to clean-up premises and to recover costs incurred from the responsible party.

The NSWEPA maintains an administrative register of contaminated sites. Material in this register originates from several sources and the information is provided to the public on a specific inquiry basis.

The funding of remediation of orphan sites has been assisted in NSW by the Environmental Restoration and Rehabilitation Trust Fund (SPCC, NSW, 1990 (a) and (b)).

Following release of the paper entitled *Financial Liability for Contaminated Site Remediation — a Position Paper* (ANZECC, 1994), the NSWEPA has begun a legislative and administrative review of contaminated site management. This review may result in amended or new legislation.

Queensland

The Local Government (Planning and Environment) Act 1990 requires the Department of Environment and Heritage (DEH) to prepare a report on any contamination of a site used for a prescribed purpose if there is a request to re-zone the site (Queensland Bureau of Emergency Services, 1991 (a)). The DEH report is prepared on the basis of studies of the site conducted by an environmental consultant acting on behalf of the proponent. This requirement allowed potentially contaminated land to be assessed before a change in landuse thereby reducing the chances of inappropriate developments (housing) over potentially contaminated land.

The Contaminated Land Act, 1992 provides legislative support for issues of definition, prevention, notification, investigation, registration, cost allocation, remediation and the clearance of contaminated land.

Heavy penalties may be imposed on any person contaminating land. Individuals, owners or occupiers of land, local authorities or Government agencies are required to report land which is, or is likely to be contaminated. This provision is intended to allow the extent of the problem to be better understood and managed. Land which has been used for a prescribed purpose, defined under the legislation, is deemed to be land which is likely to be contaminated. Some examples of prescribed purposes are service stations, tanneries, wood treatment works and livestock dips. The Act establishes a register of contaminated sites which is available to the public, and mechanisms to address the clean-up of a contaminated site.

The Contaminated Land Act is being reviewed.

South Australia

A Planning Practice Circular was distributed by the Department of Environment and Planning to local councils, planners and consultants in October 1990. This circular emphasised the need for planning authorities to consider the previous uses of sites when considering development applications or when proposing the rezoning of land, particularly where a more sensitive landuse may result. The planning practice circular establishes a procedure for the assessment of sites with a history of use which includes any prescribed potentially contaminating activities.

The South Australian Waste Management Commission and the Department of Environment and Planning produced a discussion document titled "Contaminated Land – A South Australian Legislative Approach, September 1991". This document addresses the issues of definition, prevention, discovery, remediation standards, cost recovery, risk assessment, legal implications, registration, administration, and funding.

The document also proposed that planning or commercial transactions relating to certain types of landuse (which are to be prescribed by the relevant legislation) be frozen until an audit has been produced to the EPA and the land has been either cleared of contamination, or has been remediated where contamination is found to exist.

A large number of sites found to be contaminated in South Australia are in Government ownership. As a result the Department of Environment and Planning has introduced a procedure which ensures that Government agencies investigate the previous use of sites before their purchase or sale. The Department of Environment and Planning has decided not to sell such land until an approach to the assessment and management of contaminated sites has been formally adopted.

The South Australian Department of Environment and Planning has a database of potentially contaminated and confirmed contaminated sites. This database is not available to the public.

Tasmania

In August 1992 the Division of Environmental Management organised a conference for the release of a discussion paper on contaminated sites entitled *"Contaminated sites: their identification, assessment, management and remediation in Tasmania"*. The division also restructured, creating a Contaminated Sites Unit in the Waste Management Branch.

The major piece of legislation that will be used to manage contaminated sites is the *Environmental Management and Pollution Control Act 1984*, to be enacted in early 1995. This will enable the issuing of environment protection notices to enforce site assessment and clean-up and allow environmental infringement notices to be issued. The Act will also allow environmental agreements to be entered into which will provide incentives to landowners to assess and remediate their sites. The opportunity to appeal will be provided in the Act as will a system detailing financial liability for contaminated site assessments and clean-up.

The overall structure for the management of contaminated sites will be provided in a State Policy on Contaminated Sites. This is being prepared by a taskforce using the discussion paper (August 1992) and submissions received as a basis. The draft State Policy will be released for public comment in early 1995.

In conjunction with the State Policy on Contaminated Sites various codes of practice will be developed and adopted. These will provide detailed guidance on issues such as site history reports, environmental investigation thresholds, assessing sites that have hosted underground storage tanks, soil disposal requirements, details on contaminated site assessments, and various other issues.

The Territories

Neither the Australian Capital Territory nor the Northern Territory has specific legislation regarding site contamination.

However, the Northern Territory proposes to address the issue of contaminated site management and assessment in a draft Waste Management and Pollution Control Strategy for the Northern Territory. The draft is likely to call for further investigation into the:

- implementation of the ANZECC/NH&MRC guideline's for the assessment and management of contaminated sites (ANZECC/NH&MRC, 1992);
- the need for new legislation;
- the need for and nature of, a contaminated sites register;
- issue of financial liability; and
- the need for planning controls during the transfer of title and or rezoning of land.

Appendix 3

Approaches to determining liability for clean-up
(taken from the ANZECC document "Financial Liability for Contaminated Site Remediation - a Discussion Paper", released in 1993)

Approaches to determining liability for clean-up
(taken from the ANZECC document "Financial Liability for Contaminated Site Remediation — a Discussion Paper", released in 1993)

Polluter pays principle

The polluter pays principle which may be defined as "*those who generate pollution and waste should bear the cost of containment, avoidance and abatement*". In the case of contaminated sites, the application of this principle would mean that the person or persons responsible for causing the contamination would also be responsible for cleaning it up. There can be a problem with the application of the principle if the responsible persons cannot be found.

Fault-based liability

Fault-based liability is based upon the Common Law notions of tortious liability, where a person or company would only be liable for the costs of environmental damage if there is considered to be a legal duty on them to take reasonable care and they have failed to reach a pre-determined standard of care in relation to environmental harm in exercising this duty, or have ignored it. A problem with this approach is that the duty and standard of care would need to be defined for all situations.

Risk-based liability

Risk-based liability is the method adopted by the United States and several European countries, and advocated at the international level by the OECD. It means that anyone posing a threat to the environment or deriving a benefit from it should, by that fact alone, bear a share of the risk. Duties of care and levels of responsibility displayed are irrelevant under this philosophy, as is the knowledge that an action polluted. In this context, any person/s obtaining a benefit from an operation that contaminates its site bears a proportion of the cost of cleaning up the site. This approach can, of course, include state and local governments, lenders, and the community, in a broad sense.

Combinations of risk and fault-based liability

Simultaneous application of risk and fault-based liability, as applies in the Queensland *Contaminated Lands Act, 1991*, means that anyone involved with a contaminated site, including owners, occupiers, other controlling third parties, can be made liable, but any party heightening the risk of harm through some fault of their own would bear a greater share of liability. When combined with the polluter pays principle, this approach allows for liability to be assigned when the polluter cannot be found, whether that person be the owner, occupier, or whatever. The converse of this approach is, of course, that those who are connected with the site but can demonstrate that they have not contributed to contamination can be exempted from responsibility for clean-up.

Strict liability

Strict liability is part of the civil law of Torts and it appears in statutory law. It does not require that a pre-existing standard of care is intentionally, recklessly or negligently

breached by the polluter, but that their activities have caused the harm, or in this case contamination. It means 'liability without fault' and it reinforces the notion of polluter pays.

General fund

A general fund for remediation costs is the final defined alternative in the paper for funding remediation. This approach eliminates problems with identifying the polluter, as well as delays caused by assigning liability. It also eliminates the polluter pays principle, along with any incentive to run a 'clean' operation, and can result in the 'clean' operations paying for the 'dirty' ones.

Appendix 4

Interstate approaches to determining liability for clean-up
(taken from the ANZECC document "Financial Liability for Contaminated Site Remediation — a Discussion Paper", released in 1993)

Interstate approaches to determining liability for clean-up
(taken from the ANZECC document "Financial Liability for Contaminated Site Remediation — a Discussion Paper", released in 1993)

Queensland

The Queensland Department of Environment and Heritage has not yet had to issue a notice requiring either site investigation or site remediation. If it has to in the future the hierarchy will be the polluter, the owner and/or the local authority if the authority has in some way been responsible for the contamination in its decisions and activities, or any combination of each if liability can be apportioned to the different parties. Costs will be recovered later from the polluter, owner and/or local authority as they relate to the liability.

New South Wales

A notice under section 35 of the *Environmentally Hazardous Chemicals Act 1985* and section 27A of the *Clean Waters Act 1970* entails a civil liability for contamination and remediation. Failure to comply with the notice, however, is a criminal offence.

Remediation costs incurred as a result of a notice under the *Unhealthy Building Land Act 1990* are incurred voluntarily. It is noted also that the effect of a notice would probably be to cause a devaluation of the land and hence a commercial liability.

Victoria

Section 62 of the *Environment Protection Act 1970* provides the legal framework for assigning liability.

Section 62A of the Act deals with clean-up notices and gives the Authority wide powers to require polluters or occupiers to assess and clean-up sites:

- that are polluted or polluting; and/or
- where wastes or potentially hazardous substances have been abandoned.

Section 62B provides the Authority with powers to clean-up where there is "imminent danger to life, or limb or to the environment" and to recoup costs for that clean-up from responsible parties.

Section 62C provides that the occupier of any premises used for a commercial or industrial undertaking and from which a discharge, emission or deposit has occurred which pollutes the environment is deemed to have polluted the environment unless they can demonstrate that the discharge etc. was not related to the commercial or industrial undertaking.

The definition of occupier contained in the *Environment Protection Act 1970* was recently amended to exclude 'lenders', in certain circumstances. This amendment has the effect of exempting 'passive' lenders, i.e., those lenders who do not take an active role in the management of a site, from liability. In a further amendment to the Act, the liability of financial institutions who act as mortgagee in possession, controller or managing controller was limited to:

- making the site safe, i.e., abating any existing hazard; and
- ensuring any further operation does not cause pollution.

Tasmania

There is currently no legislation or policy in place which defines who should be liable for assessment and remediation in Tasmania, other than a recommendation in a discussion paper released by the Division of Environmental Management that the cost recovery hierarchy should be as follows:

- the polluter;
- the owner/occupier; and finally;
- either a State or Nationally funded Remediation Fund.

It should be noted that some exemptions, such as for 'innocent purchasers' have also been suggested.

South Australia

Under the *Water Resources Act* the owner is primarily liable. In the absence of further specific legislation the owner or occupier may bear common law liabilities. In general any clean-up is voluntarily undertaken and funded by the polluter or owner. While liability may not be attached by statute, remediation often occurs because of such factors as the commercial devaluation of the land, the need to redevelop and community pressure.

The Northern Territory

In the most recent cases in the Northern Territory the landowners accepted responsibility and paid for the sampling, testing and the remediation of the land. This approach may not work in the future and procedures for determining liability are being considered.

Appendix 5

ANZECC recommendations on determining liability for clean-up
(taken from the ANZECC document "Financial Liability for Contaminated Site Remediation — a Position Paper", released in 1994)

ANZECC recommendations on determining liability for clean-up
(taken from the ANZECC document "Financial Liability for Contaminated Site Remediation — a Position Paper", released in 1994)

Executive Summary

1.01 In response to concern from landowners and users and the wider community, ANZECC first addressed the issue of contaminated land in Australia in September 1990. A twofold approach was taken. The publication of the ANZECC/NH&MRC Guidelines for the Assessment and Management of Contaminated Sites (the Guidelines) in January 1992 represents the first part of this strategy.

1.02 The second aspect of this strategy is to develop a consistent approach across jurisdictions for addressing the issues associated with financial liability for contaminated site remediation. The aim of this paper is to set out agreed national principles for the attaching of financial liability for the remediation of contaminated sites. ANZECC Ministers are committed to adopting these basic principles within which individual ANZECC members may establish administrative and legal frameworks appropriate to their jurisdictions.

1.03 The Guidelines make a clear distinction between two types of sites:
(i) "risk sites" where human health is at risk, either on-site or off-site, and/or the environment is at risk due to contaminant migration; and
(ii) "non-risk sites" where, although there is contamination, continuation of the existing use poses no threat to human health and the environment is not at risk.

Recommendations

1. Governments should not intervene to direct that remedial action be taken in the case of contaminated sites where the existing landuse poses no threat to human health or the environment. Where it is intended to put land to a more sensitive use for which the present level of contamination poses unacceptable risks, the requisite standard of clean-up should be achieved in a manner determined by the owner or developer.

2. Governments should put in place appropriate mechanisms within the planning process to ensure that potentially contaminated land is not rezoned to allow a more sensitive use without adequate assessment of environmental and human health risks and appropriate remediation where necessary.

3. Where contamination of a site gives rise to risks to human health and/or the environment, Governments should be empowered to intervene to direct remedial action be taken to minimise those risks.

4. Governments should ensure that the polluter, where solvent and identifiable, ultimately bears the cost of any necessary remediation.

5. Where the polluter is insolvent or unidentifiable, the person(s) in control of the site, irrespective of whether that person is the owner or the occupier, should be liable, as a general rule, for the costs of any necessary remediation.

6. Parties directed by government to take remedial action in the case of risk sites should be strictly liable to comply with that direction.

7. There should be a statutory right to recover costs incurred in the clean up of a risk site from the polluter or polluters and any other party who may have exacerbated the situation for:
   - an owner or occupier who is directed to clean-up the site;
   - a polluter who is directed to clean-up the site; or
   - a public authority which undertakes or funds clean-up of the site. The right to join other polluters or parties who may have exacerbated the situation should also be afforded to parties from whom recovery is sought.

8. Governments should be responsible for ensuring that the necessary remedial action to minimise risks is taken in the case of orphan sites posing risks.

9. The same rules for attaching liability should apply to Federal, State and Territory government agencies and local governments which cause contamination, or own or occupy a risk site as apply to private parties.

10. Governments or local governments who have contributed to or exacerbated contamination, or damages suffered as a result of it, by the exercise of their operational functions should be liable on the basis of negligence under the common law.

11. Government agencies should not be liable for the cost of impacts on parties resulting from changes in applicable standards relating to contaminated sites.

12. Means of providing funding for the remediation of orphan sites need to be determined by the governments concerned.

13. Governments should be empowered to sell abandoned orphan sites for which they have funded or undertaken remediation to recover as much as possible of the costs of clean-up.

14. Governments should ensure that information is available to the public in a readily accessible form to enable parties to make informed decisions.

15. Governments should require lenders who merely hold security over a risk site which requires remediation to make a clear choice between the options of:
   (i) assuming control and therefore responsibility for remedial action which may be necessary (as would any other owner or occupier); or
   (ii) transferring ownership to a party who is willing to undertake remedial action and provide financial assurance to that effect; or
   (iii) agreeing that the necessary remedial action be undertaken or funded by the appropriate government authority, which may then recover the costs of that action in priority to the lender's security in the site; or

(iv) abandoning the property as an orphan site and transferring all right, title and interest in the property to the appropriate government authority. Governments would then take the necessary remedial action and sell the site to recover the costs of that action.