

# Contaminated Land Management Procedure

## 1. Purpose

The purpose of this Procedure is to provide a summary of tasks, responsibilities, tools and templates applicable to renewals programs delivered by the Project Delivery Group, relevant to Contaminated Land Management.

## 2. Scope

<input type="checkbox"/> Planning	<input checked="" type="checkbox"/> Delivery	<input type="checkbox"/> Handover
<input type="checkbox"/> Program Management	<input type="checkbox"/> Procurement	<input type="checkbox"/> Community & Stakeholder
<input type="checkbox"/> Safety	<input checked="" type="checkbox"/> Environment	<input type="checkbox"/> Quality

This Procedure steps through the processes for Contaminated Land Management on projects and programs delivered by TasWater. This procedure covers:

- Undertaking Contaminated Land Investigations
- Contaminated Soil Classification and Disposal
- Unanticipated Contaminated Soil Discovery

This Procedure should be read in conjunction with the following documents:

- Environmental Management Plan
- Waste Management Procedure
- Erosion and Sediment Control Procedure
- Establishing and Managing Environmental No-Go Zones Procedure

## 3. Definitions

This Procedure should be read in conjunction with the Project Delivery Group Acronyms and Glossary document.

**This is not an exhaustive list. It provides step-by-step guidance. Please refer to the relevant management plan or tools for detailed information.**


## 4. Introduction

Contaminated lands in Tasmania are managed by the Tasmania Environmental Protection Agency (EPA) and local government authorities under the guidance of the *Environmental Management and Pollution Control Act 1994* (EMPCA) and the *National Environment Protection (Assessment of Site Contamination) Measure 1999* (NEPM).

The NEPM sets out the framework for assessment and management of contamination in relation to human health and the environment whereas EMPCA provides the definition of what is classified as a Contaminated Site, notification requirements and regulation of Contaminated Sites.

## 5. Contaminated Land Investigations

The purpose of this procedure is to provide guidance on how to complete Contaminated land assessment required for TasWater PDG projects.

PROCEDURE	RESPONSIBILITY
<b>STEP 1 Desktop Investigation (Screening)</b>	
<ul style="list-style-type: none"> <li>• The first indicator to determine whether contaminated lands could pose a potential risk to a proposed project is to establish the historical and current land use of the project area. This is usually undertaken during the preliminary stages of a project during completion and review of the PDG Environmental Planning and Approvals (PEPA) Checklist. This is generally assessed using a combination of online resources:               <ul style="list-style-type: none"> <li>– The LISTmap '<b>EPA Regulated Premises</b>' layer shows the location of all Level 2 Regulated Premises (which can be associated with contaminating activities) as well as sites that are currently regulated as a Contaminated Site.</li> <li>– The LISTmap '<b>EPA Underground Petroleum Storage Systems</b>' layer shows site associated with underground petroleum storage systems (UPSS).</li> <li>– A <b>Property Information Request (PIR)</b> from EPA Tasmania which essentially requests a search of EPA databases to determine if potentially contaminating activities have or are occurring on a site. At the time of publication this service is currently on hold by EPA Tasmania.</li> <li>– Using a combination of LISTmap layers (e.g. historical aerial photographs, train track locations, industrial zoning) project locations can be assessed for historical or current industrial land use within and adjacent to the project site.</li> </ul> </li> <li>• Project locations in the vicinity of historical or current potentially contaminating activities where ground will be disturbed should be further assessed for contaminants if considered warranted by the project team via completion of a Preliminary Site Investigation (PSI).</li> </ul>	Project Manager  Environmental Advisor
	
<i>Surrounding industries can give obvious clues to the contamination potential of a site</i>	
<b>STEP 2 PRELIMINARY SITE INVESTIGATION (PSI)</b>	
<ul style="list-style-type: none"> <li>• A Preliminary Site Investigation (PSI) is undertaken to establish the contamination potential of the site of interest.</li> <li>• The PSI generally involves both a desktop study and a site visit to establish contamination pathways and site history.</li> <li>• Some preliminary samples can also be collected at this point to broadly screen for potential contaminants of concern (COPC) and to provide an initial assessment of the potential spatial coverage of COPC.</li> <li>• Soil sampling should be undertaken in general accordance with:</li> </ul>	Project Manager  Environmental Advisor

PROCEDURE	RESPONSIBILITY
<ul style="list-style-type: none"> <li>– AS 4482.1-2005 Guide to the investigation and sampling of potentially contaminated soil. Part 1: Non-volatile and semi-volatile compounds; and</li> <li>– AS 4482.2-1999 Guide to the sampling and investigation of potentially contaminated soil. Part 2: Volatile substances (and any subsequent editions)</li> </ul> <ul style="list-style-type: none"> <li>• The PSI should be undertaken by an experienced contaminated land consultant, preferably by a Certified Environmental Practitioner (CEnvP) (Site Contamination). Consult Information Bulletin No. 114 (<b>Attachment A</b>) for further Information on engaging a contaminated lands consultant.</li> <li>• The PSI should be able to demonstrate that either:               <ul style="list-style-type: none"> <li>a) the land is not contaminated or does not pose a significant risk to human health or the environment for the intended future land use or</li> <li>b) further information is warranted in the form of a detailed site investigation to further determine risk and management/mitigation strategies.</li> </ul> </li> </ul>	
<b>STEP 3 DETAILED SITE INVESTIGATION (DSI)</b>	
<ul style="list-style-type: none"> <li>• Where the PSI finds that there is a contamination risk to human health or the environment, a Detailed Site Investigation (DSI) is usually undertaken to quantify the level of contamination and its spatial extents.</li> <li>• The DSI should be undertaken in accordance with a Sampling &amp; Analysis Plan (SAP), which should list the location, number and type of samples, sampling methodologies, lists of analytes for each sample, quality control/quality assurance samples/protocols, and the stages of sampling.</li> <li>• The DSI should be detailed enough to spatially delineate the contamination in three dimensions and provide enough detail to assess the risk of the contamination to human health and/or the environment and whether site remediation is required.</li> <li>• The NEPM Field Checklist, part of the NEPM Toolbox, is available at <a href="http://www.nepc.gov.au/nepms/assessment-site-contamination/toolbox">http://www.nepc.gov.au/nepms/assessment-site-contamination/toolbox</a> and is a useful tool to develop an SAP.</li> <li>• The DSI should be undertaken by an experienced contaminated land consultant and must be undertaken by a Certified Environmental Practitioner (CEnvP) (Site Contamination) in some cases if required by the EPA. Consult Information Bulletin No. 114 (<b>Attachment A</b>) for further Information on engaging a contaminated lands consultant.</li> </ul>	Project Manager Environmental Advisor

## 6. Contaminated Soil Classification and Disposal

The purpose of this procedure is to provide guidance on obtaining approval for the disposal of contaminated soils, in accordance with EPA Tasmania's *Information Bulletin No. 105: Classification and Management of Contaminated Soil for Disposal*.

PROCEDURE	RESPONSIBILITY
<b>GENERAL INFORMATION</b>	
<ul style="list-style-type: none"> <li>• The disposal of contaminated soils is regulated by the Tasmanian EPA under the <i>Environmental Management and Pollution Control (Waste Management) Regulations 2010</i>.</li> <li>• Information Bulletin No. 105: Classification and Management of Contaminated Soil for Disposal is the guiding reference to be used by the waste generator for disposal of contaminated soils.</li> <li>• The EPA consider disposal of contaminated soils to landfill as a last resort and promote alternative waste management strategies, such as remediation and reuse, ahead of disposal.</li> </ul>	


PROCEDURE	RESPONSIBILITY
<ul style="list-style-type: none"> <li>• Whether soil is suitable for reuse, treatment or disposal, this will be assessed and approved by the Director, EPA.</li> </ul>	
<b>STEP 1: SOIL CLASSIFICATION</b>	
<ul style="list-style-type: none"> <li>• The EPA classifies soils in to four (4) levels of increasing contamination, namely:               <ul style="list-style-type: none"> <li>– <b>Level 1:</b> Fill Material</li> <li>– <b>Level 2:</b> Low Level Contaminated Soil</li> <li>– <b>Level 3:</b> Contaminated Soil</li> <li>– <b>Level 4:</b> Contaminated Soil for Remediation</li> </ul> </li> <li>• To classify soils, a sampling and analysis plan (SAP) should be developed aimed at detecting the contaminants of concern that are ‘reasonably’ likely to be present in the soil for disposal.</li> <li>• Table 2 of Information Bulletin No. 105 contains the maximum total concentrations (and leachable concentrations) of contaminants permitted for each waste disposal classification.</li> </ul>	Contractor
<b>STEP 2: SOIL SAMPLING</b>	
<ul style="list-style-type: none"> <li>• Soil sampling should be undertaken in accordance with the Australian Standards identified in <b>Section 1.1</b> of this procedure and Information Bulletin No. 105.</li> <li>• Sampling of stockpiled and homogenised material is preferred over in-situ sampling, however this can still be acceptable if the relevant Australian Standards for sampling density are followed.</li> <li>• Sampling density should be in the vicinity of one sample per 25 m<sup>3</sup> for stockpiled and homogenised material.</li> <li>• To further classify material over and above just a ‘total’ concentration, sampling of the leachable fraction of an analyte can be assessed also. This may bring an otherwise <b>Level 3</b> classification down to a <b>Level 2</b> and so may be worth the additional effort to reduce final disposal costs. This is discussed further in Information Bulletin No. 105.</li> </ul>	Contractor
<b>STEP 3: DETERMINE DISPOSAL/REUSE OPTIONS</b>	
<p>Following the classification of the material, disposal, reuse and treatment options can be assessed. The following presents the basic options available for each material type.</p> <ul style="list-style-type: none"> <li>• <b>Level 1: Fill Material</b> <ul style="list-style-type: none"> <li>– Re-use of material on site or on another TasWater project as fill should be assessed in the first instance.</li> <li>– Material can also be advertised and sold/given to a third party as clean fill.</li> <li>– As a last resort, offsite disposal is not restricted, and this can generally be accepted by all landfills.</li> </ul> </li> <li>• <b>Level 2: Low Level Contaminated Soil</b> <ul style="list-style-type: none"> <li>– Offsite disposal is restricted to a minimum Category B landfill (Putrescible) and Approval must be sought from the landfill operator and the EPA.</li> <li>– Re-use of material on site, on another TasWater project, or on a third party site is plausible and dependent on the assessment of its risk to human and environmental health and approval by the Director, EPA.</li> </ul> </li> <li>• <b>Level 3: Contaminated Soil</b> <ul style="list-style-type: none"> <li>– Offsite disposal is restricted to a minimum Category C landfill (Secure) and approval must be sought from the landfill operator and the EPA.</li> </ul> </li> </ul>	Contractor

PROCEDURE	RESPONSIBILITY
<ul style="list-style-type: none"> <li>– The only landfill in Tasmania capable of accepting this material is the Copping Landfill in its specially lined “C-Cell”.</li> </ul> <p>• <b>Level 4: Contaminated Soil for Remediation</b></p> <ul style="list-style-type: none"> <li>– This material is considered too contaminated for safe disposal at a landfill facility and therefore requires remediation or treatment prior to disposal to bring the material down to at least Level 3 Contaminated Soil.</li> <li>– More information on the management options for this material type can be found in Information Bulletin No. 105 (<b>Attachment B</b>).</li> </ul>	
<b>STEP 4: EPA APPROVALS</b>	
<ul style="list-style-type: none"> <li>• The waste producer, which is considered to be TasWater, is responsible for applying for approval for the various soil management options. All approvals with the EPA must go through the TasWater Environmental Advisor.</li> <li>• An experienced contaminated land consultant is required to be used on behalf of TasWater and its contractors. Contact your TasWater Environmental Advisor for a list of suitable consultants.</li> <li>• The application to dispose of or re-use soil is made electronically through: <a href="https://epa.tas.gov.au/regulation-site/Pages/Regulation-12-Approval-Form.aspx">https://epa.tas.gov.au/regulation-site/Pages/Regulation-12-Approval-Form.aspx</a>.</li> <li>• The details of the information required to be submitted to the EPA are contained in Section 5.2 of Information Bulletin No. 105, including the development of a waste management plan.</li> <li>• For further information, the <b>EPA Waste Management Section</b> can be contacted on <b>(03) 6165 4599</b>.</li> </ul>	Contractor

## 7. Unanticipated Contaminated Land Discovery

The purpose of this procedure is to provide guidance to site personnel on the process to follow should unanticipated contaminated material be discovered onsite.

PROCEDURE	RESPONSIBILITY
<b>POTENTIAL CONTAMINATION DISCOVERED DURING PROJECT ACTIVITIES</b>	
<ul style="list-style-type: none"> <li>• Discovery of the following may indicate the presence of contaminated soil within the project site: <ul style="list-style-type: none"> <li>– Pooled or runoff water or soils of an unusual colour or texture</li> <li>– Pooled or runoff water or soils with a hydrocarbon odour or other unusual smell</li> <li>– Pooled or runoff water or soils with a surface sheen</li> <li>– Pooled or runoff water or soils with a high or low Ph.</li> </ul> </li> </ul>	Contractor

PROCEDURE	RESPONSIBILITY
 <p data-bbox="523 846 887 878" style="text-align: center;"><i>Visible hydrocarbons in a soil profile</i></p> <ul data-bbox="252 907 1123 1003" style="list-style-type: none"> <li>• Should any combination of the above characteristics be identified during construction, works in that area are to cease and the TasWater Environmental Advisor and Project Manager are to be notified.</li> </ul>	