Attachment AO

Development Site Management Plan

Development Site Management Plan (DRAFT)
Canberra Brickworks
Yarralumla ACT

Prepared for:	DOMA Group
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AGON DOCUMENT CONTROL

Report Title:	Project Reference
Development Site Management Plan Canberra Brickworks	JC0546_DSMP.01 DRAFT
Written	**Approved**

Rev No	Status	Date	Author	Reviewer
01	DRAFT	08/07/2021	J.O	

Rev No	Copies	Recipient
01	1 electronic	**Note** – This is a DRAFT document and is subject to review by the Site Auditor and the ACT Environmental Protection Authority (EPA) prior to finalisation and implementation.

1.0 INTRODUCTION

1.1 Preamble

DOMA Group (DOMA) engaged Agon Environmental Pty Ltd (Agon) to prepare this Development Site Management Plan (DSMP) for the Canberra Brickworks defined as Block 764 Canberra Central and Block 7 Section 102 Yarralumla (the site, see Figure 1). DOMA intend to the redevelop the site as a mixed-use development inclusive of residential, commercial and public space areas.

Previous environmental investigations have been undertaken at the site which have identified a number of Areas of Environmental Concern (AEC) including the presence of uncontrolled filling of various thickness across majority of the site. Accordingly, this DSMP has been prepared to provide guidance regarding the management of known (and potentially) contaminated soils that may be encountered in the uncontrolled fill at the site during intrusive excavation works.

For the purposes of this plan, "intrusive work" includes any activity that involves ground disturbance, including (but not limited to): excavation, piling, scraping, trenching, drilling, hand digging, landscaping and underground services installation and maintenance works. Areas of suspected contamination are identified in this plan, and an Unexpected Finds Protocol (UFP) is included to aid in the identification of contamination types or areas that were not explicitly anticipated in this plan based on the land use history.

For clarity, this DSMP is not a Construction Environmental Management Plan (CEMP). It is strictly focused on identification and management of potentially contaminated soils during intrusive works. However, it is expected that this DSMP will be referred to and adopted within any subsequent CEMP's prepared for redevelopment work at the site.

1.2 Objective

The objective of this DSMP is to specify a management framework for potentially contaminated fill and/or soils during any intrusive works at the Canberra Brickworks. The included UFP details a standardised process in the event that materials suspected to be contaminated are encountered during intrusive works and provides guidance to workers at the site in recognising potentially contaminated material including (but not limited to):

- Visually contaminated or odorous soil and/or groundwater.
- Asbestos containing material (ACM).
- Aesthetically unacceptable material such as ash and soils containing waste (including demolition waste).

1.3 Legislative Framework

The site is located within the ACT and is therefore subject to the statutory requirements, and any revision of the same, listed below in Table 1.

Table 1: Legislation and Guidelines

Discipline	Legislation
Environment	*Environment Protection Act (1997)* *Environment Protection Regulation (2005)* *Planning and Development Act (2007)*
Construction and Land Development	*Environment Protection Guidelines for Construction and Land Development in the ACT (2011)*

Contaminated Land	*ACT Environment Protection Policy (2017) Contaminated Sites Environmental Protection Policy* *ACT EPA (2015) Policy on Institutional Controls and Enforcement of Site Management Plans required for Contaminated Sites* *ACT EPA (2020) Contaminated Sites Information Sheet 11 – Environment Protection Authority Report Submission Requirements* *NSW Environment Protection Authority (2020), Contaminated Land Guidelines: Consultants Reporting on Contaminated Land* *NSW Environment Protection Authority (1995), Sampling Design Guidelines* *NSW Environment Protection Authority (2017) Contaminated Land Management – Guidelines for the NSW Site Auditor Scheme (3rd Edition)* *National Environment Protection Council (NEPC), 1999. National Environment Protection (Assessment of Site Contamination) Measure (the "NEPM"), as amended in 2013 (herein referred to as the ASC NEPM 2013)*
Water	*Water Resources Act (2007)*
Waste	*Environment ACT (2000), ACT's Environmental Standards: Assessment and Classification of Liquid and Non-Liquid Wastes* *ACT EPA (2020) Contaminated Sites Information Sheet 4 – Requirements for the reuse of contaminated soil in the ACT* *ACT EPA (2020) Contaminated Sites Information Sheet 11 – Environment Protection Authority Report Submission Requirements*
Health and Safety	*Work Health and Safety Act and Regulations, 2011*

1.4 DSMP Structure

This DSMP has been structured under these section headings for ease of implementation during redevelopment works at the Site.

- **Section 2** – **Site Setting**: A brief summary of the history, previous investigation and other information related to the site.
- **Section 3** – **Roles and Responsibilities**: Outlines roles and responsibilities to be followed during any intrusive excavation works.
- **Section 4** – **Assessment of Activities**: A brief assessment of activities related to excavation works and relevant management/mitigation measures.
- **Section 5** - **Unexpected Finds Protocol**: Outlines the protocols to follow should unexpected finds be encountered during intrusive works.
- **Section 6** – **DSMP Monitoring and Review**: Procedures for the monitoring, review and updating of the DSMP should here be any significant changes to the scope of the project and/or sub-surface conditions.

1.5 Limitations

This report has been prepared in accordance with industry recognised standards and procedures considered industry standard practice at the time of the work. The aim of this DSMP is to provide DOMA with advice in relation the environmental management of soils during excavation.

The plan has been prepared on a quoted scope of for the specific purposes of the commission agreed between Agon and DOMA. This plan should be read in full and no warranties expressed or implied are offered to any third parties. No liability will be accepted for use of any part of this report in any other context or for any other purpose or by third parties.

Information provided by others has been assumed to be correct and complete. Agon Environmental assumes no liability for misrepresentation of information by others, or for matters not visible, accessible or present on the subject site during any site inspections conducted during the time of the work.

2.0 SITE SETTINGS

2.1 Site Identification

Formal identification of the site is summarised below in Table 2.

Table 2: Site Identification

Site Address	End of Denman Street, Yarralumla, ACT
Allotment Description	Block 7 Section 102, Yarralumla Block 764, Canberra Central and Block 1 Section 102 Yarralumla Blocks 11 & 12 Section 38, Fyshwick, Canberra ACT
Land Zoning	CZ6: Leisure and Accommodation RZ1: Suburban PRZ2: Restricted Access Recreation Zone
Current Land Use	Vacant
Proposed Land Use	Mixed use including residential, commercial and public space. Development Precincts are defined as follows: • Heritage Core – Commercial Land use. • Road and Open Space Network • Precincts 1, 2, 3, 4, 5, 6, 7, 8, 9 – Medium Density Residential. • Individual Housing Block Precinct – Low Density Residential. The development Precincts are shown in Figure 1.
Total Area	16 Hectares or thereabouts

2.2 Physical Setting and Current Land Use

The site is situated in the division of Yarralumla within the Canberra Central district and is bound by the Royal Canberra Golf Course (west and north), Bentham Street (north) and low density residential (south). Access to the site is made via Denman Street (south). The site itself is the former Canberra Brickworks and comprises:

- **Former Brickworks** (western portion of the site), several remnant buildings including 6 kilns, 4 stack houses, office building and amenities, 3 machinery sheds, workshops, boiler house, a substation, a powerhouse, storage sheds and other minor buildings. This portion of the site was previously occupied by Thor's Hammer, a wood recycling business.
- **The Quarry** (eastern portion of the site) includes a large grassed area with several exposed natural siltstone bedrock features which has been levelled with an unknown amount of fill and bricks which have also been formed into mounds.
- The demolished and overgrown **Workers Accommodation Area** (south).
- **Vacant areas** (south).

Figure 1: Site Location and Precinct Plan
Source: ACTmapi (2021)

2.4 Surrounding Land Uses

Surrounding areas comprise the suburb of Yarralumla. These suburbs include commercial, residential, community and open urban land uses as permitted under the Territory Plan Zoning. The immediate surrounding land uses to the site are summarised below in Table 3.

Table 3: Surrounding Land Use

Direction	Land Use
North	Lane Poole Place and Bentham Street, residential properties surrounding the roads and beyond
East	Schomburgk Street, Woollis Street and Bentham Street with associated residential properties
South	Denman Street leads to and bisects the northern and southern portions of the Site, beyond which is Block 7 Section 102 comprising numerous trees and open spaces. Cotter Road lies beyond the trees.
West	Treed area, beyond which lies the Royal Canberra Golf Course

2.5 Site Geology, Hydrology and Hydrogeology

The environmental setting of the site is summarised as follows:

- The Geology of Canberra 1:100, 000 Sheet 8287 (1992) shows that the Canberra brickworks is underlain by calcareous and tuffaceous mudstone and siltstone of the Late Silurian Yarralumla Formation. The formation outcrops within multiple areas within the site.
- Review of the 1:100,000 Hydrology of the Australian Capital Territory and Environs (1984) indicated that the groundwater beneath the Site is generally present in fractured rock. The quality tends to be variable, with salinities between 500 – 1,000 mg/ L TDS, and yield reported at approximately 1.0 L/ s.
- The topography of the Site is variable due to historical brick material extraction works. The site generally slopes to the west north-west. SMEC (2016) identified a total of five catchments in the site.
- The southern areas of the site gradually slope to the southwest, south, and southeast. The topography of this area has been modified to include the Cotter Road and Yarra Glen/ Adelaide Avenue. Surface water flow has been mapped to generally flow south towards Yarralumla Creek which discharges into the Molonglo River.

2.6 General Site History

The Canberra Brickworks was operated between 1913 and 1976. Since its closure, it has remained largely vacant with the exception of a commercial wood working/ recycling business known as Thor's Hammer. The brickworks itself contains a range of structures/ areas associated with the brick production process. A detailed account of the site history is provided in the previous reports.

2.7 Historical Environmental Assessments

A number of environmental investigations have been undertaken at the site; the Agon (2021) SESA compiled and presented all the contemporary and historical environmental assessment data with respect to the proposed development Precincts. The intent of the Agon (2021) SESA was to determine which Precincts are suitable, from a contamination perspective, for the proposed redevelopment and if any management and/or remediation strategies are required to render any Precinct suitable for their intended uses.

A total of 11 AECs were identified as being present at the site, these are summarised below in Table 4.

Table 4: Areas of Environmental Concern

AEC	CoCs		Description
AEC#01 Kilns	Metals PAHs TRH	BTEX Dioxins	Sands, dust, surface areas located within the Kilns. This media reported elevated concentrations of Lead and Zinc in excess of the adopted ASC (2013 NEPM HIL D criteria).
AEC#02 Surface Soils Kiln 1 Fan House	Metals		Surface soils west of the fan house for Kiln 1 reported elevated concentrations of Zinc and Lead.
AEC#03 Quarry Fill	Metals TRH BTEX PAHs	OCP/ OPP PCBs Asbestos.	Soil sampling within the infilled quarry has not identified the presence of any gross chemical contamination. However, there is uncertainty in the exact nature, extent and composition of filling activities. Further assessment was recommended to reduce this uncertainty.
AEC#04 Groundwater Quarry Area	Metals TRH BTEX	PAHs PCBs	Defined as the groundwater directly below the former Quarry which has been extensively infilled. Insufficient historical assessment has been performed at this AEC.
AEC#05 Brickworks Soils	Metals TRH BTEX	PAHs PCBs	Defined as general soils around and below the brickworks (i.e., the Heritage Core area). Insufficient historical assessment has been performed at this AEC.
AEC#06 Groundwater Brickworks Area	Metals TRH BTEX	PAHs PCBs	Defined as the groundwater directly below the brickworks (i.e., the Heritage Core area). Insufficient historical assessment has been performed at this AEC.
AEC#07 UST	Metals TRH	BTEX PAHs	A former UST was identified by SMEC (2016).
AEC#08 Asbestos Dump	Metals TRH BTEX PAHs	OCP/ OPP PCBs Asbestos.	A mound of soil, anecdotally identified as containing asbestos building material debris, is present in the northern portion of Precinct 1 and was subject to remedial works by Robson (2015) which removed majority of the asbestos materials.
AEC#09 Fill Whole Site	Metals TRH BTEX PAHs	OCP/ OPP PCBs Asbestos.	Extensive fill material has been identified across the site. There is uncertainty in the exact nature, extent and composition of filling activities. Further assessment was recommended to reduce this uncertainty.
AEC#10 Residential Precincts	Metals TRH BTEX PAHs	OCP/ OPP PCBs Asbestos.	The location of the development areas was not known at the time of SMEC (2016). Accordingly additional targeted locations were proposed.
AEC#11 Benzene in Groundwater	BTEX		SMEC (2016) detected benzene (albeit at low concentrations) in groundwater at monitoring wells M2 and M7.

2.7 Current Status of Environmental Assessments

Overall, the revised CSM presented in the Agon (2021) SESA did not identify any complete contaminant-source-pathway-receptor linkages associated with the AECs with exception of the following discrete areas present in the following development Precincts:

- **Precinct 1 (Medium Density Residential)**
    - Asbestos Dump (AEC#08) – The fill mound identified as the Asbestos Dump contains pockets of anthropogenic inclusions which may contain fragments of bonded asbestos. The fill mound is located in Precinct 1 which is proposed to be bulk excavated for the construction of basement carparking. It is recommended a trial be undertaken to determine if mechanical screening be undertaken to determine if asbestos impacts (and other anthropogenic

inclusions) can be removed to enable the offsite reuse of the soils contained in the mound. Screened soil would be subject to further assessment in accordance with ACT EPA (2020) *Information Sheet 4 Requirements for the reuse and disposal of contaminated soils in the ACT*.

- BH110-1.0 - Concentrations of Lead were greater than 2.5x the adopted human health assessment criteria. The source of this impact is unclear and could be anomalous; further assessment and delineation of Lead impacts in this area is recommended.

- **Precinct 2 (Medium Density Residential)**
  - TP243 – Contains bonded asbestos impacts and concentrations of B(a)P greater than 2.5x the adopted human health assessment criteria. Accordingly, this sample location is considered to be a hotspot that warrants further assessment, remediation and validation.

- **Individual Housing Block Precinct (Low Density Residential)**
  - TP223 - Concentrations of Lead were greater than 2.5x the adopted human health assessment criteria. The source of this impact is unclear and could be anomalous, further assessment and delineation of Lead impacts in this area is recommended.

- **Road and Open Space Network**
  - SS6 - Concentrations of Lead were greater than 2.5x the adopted human health assessment criteria. Accordingly, this sample location is considered to be a hotspot that warrants delineation, remediation and validation.
  - UST (AEC#07) – The UST remains a potential source of hydrocarbon impacts to soil and groundwater. The UST must be decommissioned, removed and validation in accordance with ACT EPA (2016) *Information Sheet 1 Decommissioning, assessment and Audit of Sites Containing Above Ground or Underground Fuel Storage Tanks.*

3.0 ROLES AND RESPONSIBILITIES

3.1 Responsible Parties

As it is intended that this DSMP will address the objectives as detailed in Section 1.2, this DSMP has been set up such that the parties will be established at the commencement of each new project. The key roles and responsibilities associated with intrusive works are as follows:

- **Development Manager (DM): DOMA**

  Responsible for initiating projects or authorising any works. This responsibility may be delegated to a primary Project Manager for any related works.

- **Project Manager (PM): TBA**

  DOMA's nominated Project Manager responsible for project management and execution, including but not limited to procurement, design management, contract administration and construction supervision.

- **Principal Contractor (PC) involved with intrusive works: TBA**

  Responsible for the intrusive works, and for ensuring that relevant environmental management measures are implemented during works.

- **Suitably Qualified Environmental Consultant (SQEC): Agon Environmental**

  Responsible for providing environmental consultancy services, as required, to assist with any intrusive works. This may include soil categorisation for reuse and/or disposal, inductions into the requirements of the DSMP and UFP, and management of any unexpected finds.

- **Contaminated Land Auditor: Lange Jorstad of Geosyntec Consultants**

  1. Reviewing and endorsing this DSMP and any revisions thereof, for approval by EPA.
  2. Reviewing and endorsing any proposal to terminate this DSMP, if warranted, for approval by ACT EPA.
  3. Reviewing details of any unexpected find or other contamination issue encountered at the site, if directed by the EPA.

- **ACT EPA, responsible for:**

  1. Approval of this DSMP and any revisions thereof.
  2. Approval for any proposal to terminate this DSMP, if warranted.
  3. Regulating any contamination encountered at the site or requiring assessment by an EPA approved Contaminated Land Auditor.
  4. Reviewing and approving applications for waste disposal and/or beneficial reuse of waste.

Key contact details are to be populated for each new project in Table 5.

Table 5: Contacts

Role	Company	Contact	Phone
DM			
PM			
PC			
Other Contractor(s)			
SQEC			
Contaminated Land Auditor			

3.2 Inductions

All parties involved with intrusive works (e.g. bulk excavation, landscaping, underground service installation/maintenance) must be inducted into the DSMP by the SQEC. Inductions must include specific attention to the UFP (**Section 5.0**) to aid site workers in recognising potentially evidence of contamination including:

- Visually contaminated or odorous soil and/or groundwater.
- Asbestos containing material (ACM).
- Aesthetically unacceptable material such as ash and soils containing waste (including demolition waste).

The DM has primary responsibility for ensuring that inductions to this DSMP are performed for the relevant personnel, however this responsibility may be delegated to the PM or PC. Personnel inducted into the DSMP directly by the SQEC will be considered qualified to induct others into the DSMP. Inductions into this DSMP must be recorded in an induction register (**Appendix A**), and records of inductions must be maintained by the Responsible Party (DM or delegate).

4.0 ASSESSMENT OF ACTIVITIES (DRAFT)

A preliminary assessment of activities has been undertaken with reference to the ACT EPA (2013) '*Environmental Guidelines for preparation of Environmental Management Plan'* and is summarised in Table 6.

Note - The assessment of activities will be revised based further assessment and/or remediation works as they occur at the site prior to redevelopment activities.

Table 6: Assessement of Activities

Consideration	Mitigation/Management Measures	Responsibility
General Site Safety	All workers and visitors to the Site are to comply with project specific safety plans prepared for the project. All contractors are required to provide a copy of Safe Work Method Statement (SWMS) to the Project Manager for review prior to works beginning.	DM PC
Contaminated Soil (General)	• All site personnel involved with intrusive works must be inducted into this DSMP including the UFP in accordance with **Section 3.2**. • Excavated soils must be screened for unexpected finds of contamination by a SQEC or personnel inducted into this DSMP and UFP. • **Unexpected Finds** - if contamination is encountered in an area that was not expected to have contamination, all intrusive works in that location must cease, access to the location must be restricted and advice sought from the SQEC (refer **Section 5.0**). • **Appropriate PPE** may be required if visual/olfactory observations indicate the presence of contamination, or if contamination is suspected of being present at the location (i.e. an unexpected find). The SQEC will provide advice on the PPE requirements. If known or suspected asbestos containing materials are encountered, the PPE advice must be provided by a Worksafe ACT licensed Asbestos Assessor. • Work areas where known or suspected contamination is present must have restricted access, and only be accessed by inducted personnel operating in accordance with (or under the direct supervision of) a SQEC. • All contamination issues must be managed in accordance with the advice from a SQEC. The SQEC must document the management of the contamination issue, including any characterisation, remediation and validation works. The documentation must be provided to the Contaminated Land Auditor for review, or to the EPA directly for works conducted after the Audit is completed.	PM PC SQEC
Waste Handling, Classification and Disposal	Regarding spoil from intrusive works: • Excavated soil that is free of evidence of contamination may be reused in the same excavation from which the soil originated. • Soil with potential evidence of contamination or unexpected finds (refer **Section 5.0**) must be assessed by a SQEC to provide advice as to the suitability of excavated soils for reuse. • Potentially contaminated excavated soil must be stockpiled separately from uncontaminated soil (to the extent practicable), bunded to prevent erosion and sediment transport, and if advised by a SQEC potentially wetted, stabilised and/or covered to prevent potential dust transport of contamination (especially if asbestos contamination is identified or suspected). • If surplus excavated soils cannot be reused on site, waste classification of the material must be performed by a SQEC in accordance with ACT EPA (2019) Information Sheet 4 - Requirements for the Reuse and Disposal of Contaminated Soil in the ACT. The waste classification report must be submitted to EPA for review and approval prior to the removal of any material from the site. • For the purposes of the statutory audit of the contamination issues at the site, a waste tracking protocol must be implemented and documented, including recording the source location and volume of the material removed from site, the waste classification and reuse or disposal approval from EPA, and weighbridge dockets from the landfill (for material disposed at landfill) demonstrating that the amount of material received at the landfill is 1) equivalent to the amount of material removed from the site, and 2) consistent with the amount of material approved for disposal under the EPA approval.	PC SQEC

Dust Generation	Dust management measures to comply with *Environment Protection Guidelines for Construction and Land Development in the ACT (2011*). Nominal measures to include: • Dust generating activities should be limited during unfavourable conditions (e.g. windy days) and dust suppression measures (i.e. water spraying, covering stockpiles) should be used where necessary. • All plant and equipment will be regularly serviced and well maintained to reduce emissions of greenhouse gases. • Water spraying will be utilised as required to dampen dust on working areas and/or access routes, if required. • Monitor wind conditions to assist with daily management of windblown dust from unconsolidated soil surfaces. • All loads/ material arriving onto/ leaving site should be covered.	PM PC Contractors
Dust Generation (Asbestos in Soil)	In the case of soils containing asbestos materials, identified or encountered unexpectedly, a Worksafe ACT licensed Asbestos Assessor must be engaged to advise on mitigation measures during the handling and/or removal of impacted soils. In addition to the general dust generation mitigation measures the following will also apply: • Oversight of all handling and removal of asbestos impacted soils by a Worksafe ACT licensed Asbestos Removalist. • Provision of air monitoring for asbestos fibres is to be in accordance with ACT Work Safety (National Code of Practice for the Safe Removal of Asbestos) Code of Practice 2010 and Guidance Note for Membrane filter method for estimating airborne asbestos dust, 2nd Edition [NOHSC: 3003 (2005)] – the requirement, nature and extent of air monitoring to be advised by the Asbestos Assessor and will be dependent on the nature of asbestos material being handled.	PM PC SQEC Asbestos Assessor
Hazardous Materials	All hazardous materials should be stored and used in accordance with relevant regulation and licensing requirements, noting: • Fuels, chemical and other hazardous materials should be stored in a designated area, which may include an impervious base and surrounded by a bund. • Any spills of hazardous materials should be contained to the extent practicable to minimise the potential for impacts to health and the environment. Spills on unsealed ground should be excavated immediately and placed on an impervious tarp or hardstand for assessment by the SQEC.	PC Contractors SQEC

5.0 UNEXPECTED FINDS PROTOCOL

5.1 Purpose

In general, environmental assessments are based on results from a desktop review of land use history and a statistically designed investigation program; actual conditions may vary from those expected during intrusive excavation works, and evidence of contamination may be encountered where it was not previously reported. Unexpected finds may include soils that are observed to have a visual impact (staining, discoloration), olfactory impact (odour) and/or may be impacted with anthropogenic inclusions (demolition waste, asbestos, etc.).

Previous environmental assessments at the site identified hydrocarbon impacts around a former service station in the northern portions of the site (subsequently remediated, but with potential residual contamination remaining), EPA-reported areas of historical landfilling (still pending investigation to confirm or deny) and uncontrolled filling containing demolition waste has been reported on site. In consideration of the historical observations and data gaps in the investigation of the contamination status of the property, this UFP is to be implemented in the event unidentified or unexpected conditions are encountered during intrusive works to ensure potentially contaminated soil is identified and managed appropriately.

Unexpected finds (typical to Canberra, in general) may include (but are not limited to) the following:

- **Fill incorporating demolition wastes**: Historically, poor demolition and waste disposal practices has led to the unsystematic occurrence of fill incorporating demolition wastes (also known as “builders waste”) being present throughout Canberra. This may be indicated by the presence of anthropogenic material, such as concrete rubble, bricks, plastic, metal, sheeting and other materials associated with demolished built structures.

  Of concern was the prevalence of asbestos in domestic building materials until their use was banned in the 1980s (and later complete ban in 2003 of asbestos in all products). Bonded asbestos (i.e. cement sheeting, eaves, cladding, roof tiles/shingles) and to a lesser extent fibrous asbestos (i.e. pipe lagging, boiler insulation, sprayed insulation) can be co-located with demolition wastes, particularly those from buildings pre-dating the 1980s.

- **Fill incorporating municipal wastes**: The potential presence of municipal wastes in uncontrolled fill, anecdotally reported in EPA records, has not yet been fully assessed. Municipal waste may include domestic, industrial or commercial wastes in addition to “builders waste”. The distinction would typically include organic wastes (such as paper, cardboard, food scraps, green waste), textiles, furniture, household refuse, tyres and car parts, machinery, and potentially drums or other liquid waste containers. Nearby areas to the site (i.e. the Causeway and Railway) were known to have been used for waste disposal, this includes the PCA01 and PCA02 areas of the site which were also identified as potential waste disposal locations.

- **Hydrocarbon-impacted soil and groundwater**: A service station previously operated in the northern portion of the site, and a hydrocarbon release into soil and groundwater was identified. The impact was largely remediated by excavation of hydrocarbon-impacted soil around the storage and filling areas, but it is possible that some residual hydrocarbon contamination remains in soil and groundwater on the periphery of the remediated areas. This material is typically identified by a hydrocarbon odour (which may be subtle due to weathering) and discolouration/staining (typically grey, black or even green).

- **Visual or olfactory signs of soil contamination**: This may include a hydrocarbon odour, ash, cinders or slag, or soil staining. These signs of contamination may be associated with disposal of industrial/ commercial wastes (i.e. incinerator wastes) or spills or leaks (e.g. from storage of hydrocarbon fuels or lubricants).

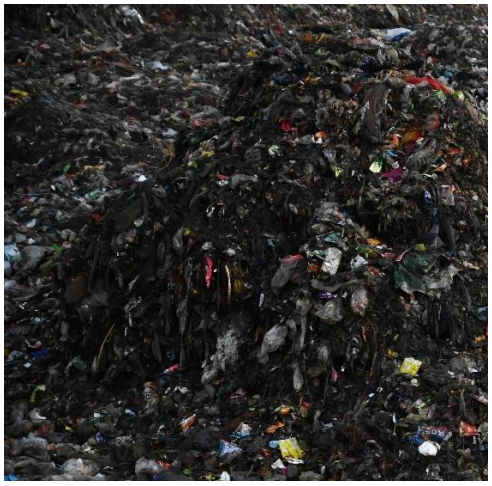
Typical types of contamination that may be encountered during bulk excavations works are shown below.

Photograph 1: Ash layer in soil

Photograph 2: Stained soils

Photograph 3: Bonded asbestos

Photograph 4: Solid inert wastes in soil



Photograph 5: Landfill wastes

Photograph 6: Landfill wastes

5.2 Protocol

It is the responsibility of the Development Manager to ensure that all personnel involved with intrusive works are inducted to the site-specific DSMP and UFP. Where applicable, additional training to deal with unexpected finds may be required, for example the Asbestos Awareness Course which is mandatory for the construction industry in the ACT.

In the event that unexpected finds of potential contamination are identified during works, the following procedure must be adopted.

Table 7: Unexpected Finds Protocol

Action	Responsibility
AWARENESS All site workers involved with intrusive works are to be inducted into the DSMP and UFP. DSMP inductions may be undertaken by a SQEC, or someone inducted into the DSMP directly by a SQEC.	DM PM PC Contractors SQEC
UNEXPECTED FIND ENCOUNTERED 1. **STOP WORK –** All excavation in the immediate area to cease to minimise further disturbance of any contaminated soil which may increase an exposure risk to nearby workers. **2. MAKE SAFE –** Following cessation of nearby works, the area should be made safe by the implementation of an '**EXCLUSION AREA**'. This must include physical demarcation using safety cones, hazard tape (or similar) at a minimum. If a larger area of contamination is identified, where works will occur over longer timeframes, the area should be protected by fencing. Site workers to be notified and advised not to disturb the find. If safe to do so, the unexpected finds may be covered with clean soil to limit the risk of exposure. This may be discussed with the SQEC on a case by case basis. **3. NOTIFY** – Notify the Site Supervisor, Foreman or similarly responsible persons who will contact the SQEC to inspect the find.	PC Contractors
ASSESSMENT OF THE FIND SQEC to undertake an assessment to determine the nature and extent of the find including any interim management measures.	SQEC
NOTIFICATION Notify the relevant regulatory authorities of the find. **Note**: If asbestos containing materials are encountered, the DM (or delegate) to notify Worksafe ACT and submit a Dangerous Occurrence Report (DS-238) within 48 hours. The SQEC to assist with describing the occurrence and any implemented management measures.	DM PM SQEC
REMEDIATION Manage, remove or treat the contamination in accordance with the applicable EPA regulations, laws, guidelines and industry practice in accordance with advice from the SQEC. Depending on the nature and extent of the find, a Remediation Action Plan (RAP) may need to be prepared and submitted to the Auditor (if still under Audit) or the EPA for review and approval. If the management approach includes off-site disposal of contaminated soil, EPA approval will be required and will be managed by the SQEC.	PC Contractors SQEC
VALIDATION Validation demonstrating the successful removal or management of the find may be required. The SQEC to advise what may be appropriate depending on the nature of the find. The identification, assessment, management and validation of the unexpected find(s) must be documented by the SQEC in the form of a validation report (or letter/memorandum for minor finds), which should be submitted for review by the Contaminated Land Auditor (if still under Audit) or the EPA.	SQEC
RESUME INTRUSIVE WORK Following successful validation, or as advised by the SQEC (and potentially the Auditor/EPA), excavation works can resume subject to the ongoing implementation of the UFP.	PC Contractors SQEC

6.0 DSMP MONITORING AND REVIEW

6.1 Monitoring Responsibility – Internal Auditing

The DM (or delegate) will be responsible for the overall implementation of the DSMP during excavation works, and as part of this will undertake discussions/consultations with the Contractors to ensure all workers involved with intrusive works are inducted into this DSMP.

Agon may conduct audits to ensure that all operations conform to the requirements of the DSMP, in particular that the UFP outlined in **Section 5.0** is being followed.

6.2 Non-Conformance and Corrective Action Reports

Non-conformances must be recorded in a Non-Conformance/Corrective Action Report. An example copy of a Non-Conformance/Corrective Action Report is provided in **Appendix B**. Details of the non-conformance, including any immediate corrective actions undertaken, are to be recorded by the Contractor. Once completed, the Contractor will provide details of the actions undertaken on the Non-Conformance/Corrective Action Report and sign, date and file the report.

6.3 Environmental Complaint and Incident Management Reports

Records will be kept of any complaints, environmental incidents, accidents, hazardous situations, unusual events and unsafe health exposures and the corrective action taken. For environmental aspects the SQEC must be engaged to investigate the cause of any emergency so that necessary changes in work practices can be made to prevent the incident recurring. A copy of all incident reports and subsequent investigations must be provided to the land custodian for filing. It is noted that:

- All notifiable incidents (as required by WorkSafe ACT) require reporting to WorkSafe ACT within the required timeframes for the specific incident.
- All environmental incidents that have the potential to cause pollution (as defined by the ACT EPA) including details on the appropriate corrective actions are to be reported to the EPA, within the EPA specified reporting timeframes.

Details of the environmental complaint and/or incident reports are to be documented in the register provided in **Appendix C**. If an environmental complaint and/or incident identifies a non-conformance, a Non-Conformance and Corrective Action Report must be initiated (**Appendix B**).

6.3 Review and Control of the DSMP

The DSMP will remain present at the site at all times during development works; however, it is a live document and, as such, may require updating based on change in project scope, unexpected finds or to address an unforeseen environmental issue.

Agon will be responsible for reviewing and updating the SMP to the meet the objectives outlined above. Any proposed changes will be agreed and approved by the Development Manager (or delegate), and by the Contaminated Land Auditor (if still under Audit) or the EPA prior to implementation.

Update of the DSMP may occur, under the following circumstances:

- This version of the DSMP does not adequately address the environmental management requirements of the proposed works.
- Construction works are significantly altered, and new environmental risks are identified.
- The site inspections and internal audit process has indicated significant shortcomings in the DSMP or requires changes to be made to ensure better uniformity.

- The DSMP is considered to no longer be necessary, for example based on additional site investigation results or remediation and validation of contamination sources.

Any proposed revisions to the DSMP, including a proposal to terminate the DSMP, must be documented and supported by clear lines of evidence, and must be endorsed by the Contaminated Land Auditor (if the site is still under audit), and/or approved by the EPA prior to implementation.

This DSMP shall remain in force until a proposal to terminate the DSMP is approved by the EPA.

7.0 INDUCTION REGISTER

Project personnel and contractors involved with intrusive works as part of project are required to sign the Induction Register prior to commencement of any works

Agreement and Acknowledgment Sheet prior to conducting activities at this site.

Name	Date	Company	Signature

8.0 COMPLAINTS/NON-CONFORMANCE REGISTER

A Complaints/ Non-Conformance Register has been prepared to record all complaints and/or non-conformances during intrusive works. All complaints to be acknowledged within a reasonable timeframe and a detailed response generated accordingly.

Issue	Description	Response

APPENDIX A: DSMP INDUCTION RECORD

Operational staff must sign the master copy of this document, indicating they have read and understood it. The employee's signature indicates acceptance and compliance with the requirements of the SMP Copies of this document must be made available for their review and readily available at the Site.

Employee Name Employer	Date	Signature	Inductor Name & Company	Signature

APPENDIX B: NON-CONFORMANCE ACTION REPORT

Date:	
Reporter:	Name: Sign:
Time:	
Site / Area:	
Problem:	
Cause:	
Report to:	Project Manager (Name):
Corrective Action:	
Signed by Project Manager upon Completion:	
Feedback Response to Prevent Future Occurrences:	
Date:	

APPENDIX C: COMPLAINT AND ENVIRONMENTAL INCIDENT REGISTER

Date	Details of Incident/Complaint (Type, nature, details, location etc.)	Response to Incident/Complaint (Corrective action, response	Date	Signature / Position