Long-Term Environmental Management Plan for Parks and Playgrounds

Inner West Council, NSW

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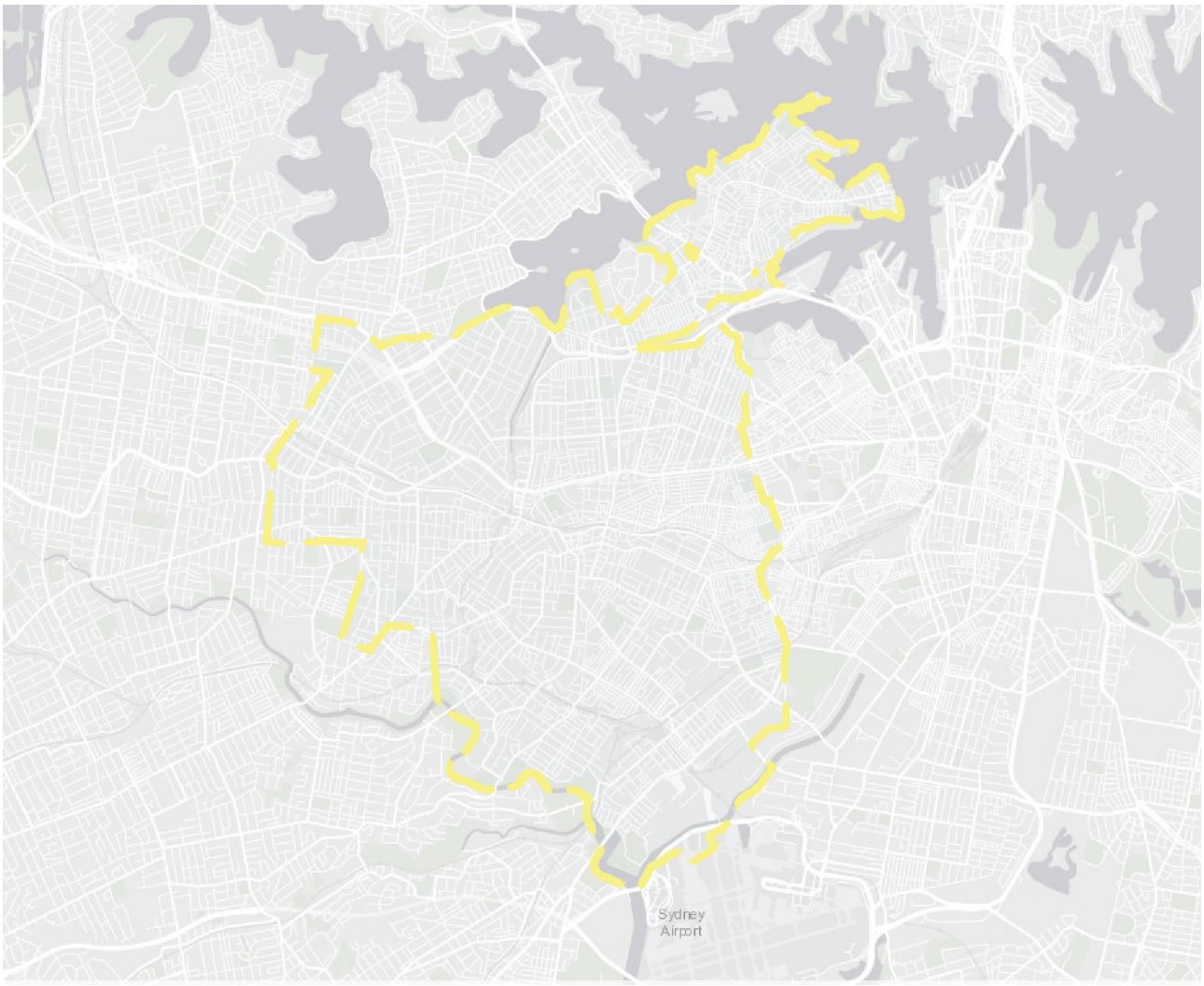
1 Introduction

This Long-term Environmental Management Plan (EMP) has been prepared for Inner West Council (Council) to set out the requirements for the management of the potential risks to human health associated with the presence and potential presence of contamination in fill materials used to establish parts of Council's parks, playgrounds and other open space/recreational areas. The Inner West Council area is located in an area directly to the west and south-west of the Sydney CBD as shown in yellow in Figure 1 below

Figure 1: Inner West Council area



The Council's area covers a region of Sydney that has had a long history of industrial use. Waste materials generated from industrial activities was historically utilised to fill or reclaim land within the Council area. Some of these materials have been identified to contain several types of contaminants.

Due to the size of the Council area and the number of parks, playgrounds and other recreational spaces owned and/or operated by Council, it is not practicable nor feasible for comprehensive assessments of these fill materials to be completed. However, it is known that where present, the typical contaminants in these fill materials can include heavy metals, particularly lead, that was used in paint, pipes and solder, polycyclic aromatic hydrocarbons (PAHs) generated from the partial burning of coal and coke and heavy petroleum that result from use of oils, fuels and lubricants. Asbestos containing materials (ACM) can also be present as fragments of bonded cement

materials within fill materials, particularly where other demolition type materials such as brick, clay pipes and glass are present.

This EMP provides the control measures and procedures that are to be implemented by Council to ensure that the health of the users of the parks, playgrounds and other open space/recreational areas located within the Council area, including the public and maintenance or construction workers, are protected. This EMP relies on the presence and integrity of existing surface coverings across these Council areas to provide an effective physical barrier or cap between the users of these areas and the underlying contained and retained contaminated /potentially contaminated fill materials. The purpose of this EMP is to ensure that surface coverings are retained, maintained, established, repaired or replaced and that where underlying contaminated /potentially contaminated fill materials require disturbance, that those works are undertaken implementing appropriate control measures. Council are responsible for the implementation of this EMP.

This EMP has been developed with reference to the relevant requirements of the NSW Environment Protection Authority ((EPA) (2020) *Contaminated Land Guidelines Consultants Reporting on Contaminated Land*, the NSW EPA (2022) *Practice Note Preparing environmental management plans for contaminated land*, the National Environment Protection Council (NEPC) (2013) *National Environment Protection Measures* (ASC NEPM), the NSW EPA (2017) *Guidelines for the NSW Site Auditor Scheme – 3rd Edition*, the relevant requirements of the *Work Health and Safety Regulation 2017* (WHS Regulation).

1.1 Enforceability and Applicability of the EMP

The implementation of this EMP will be undertaken by Council who will maintain ultimate responsibility for the management of the parks, playgrounds and other open space/recreational areas within the Council area. This EMP is required to be implemented on an ongoing and continual basis (in perpetuity) to ensure that the parks, playgrounds and other open space/recreational areas within the Council area remain suitable for open space and recreational land use.

It is noted that this EMP is not required to be implemented on sites being used for open space and recreational land use where a long-term environmental management plan specific to that site is in place and is being implemented by Council.

Council are a local government authority under the *Local Government Act* 1993 (the LG Act). The LG Act requires that land owned by a council, such as their parks, playgrounds and other open space/recreational areas, to be classified as operational or community land. Council have generally classified these open space and recreational areas as community land. These classifications preclude Inner West Council from divesting of this land and also requires that these lands be managed and operated for these uses. In combination, the land zoning and classification set out Council's statutory obligations to manage and use the lands for public open space and recreational land use with suitability for those land uses achieved through the implementation of this EMP. Consequently, this EMP forms part of how Council meets its statutory obligations under the LG Act.

It is noted that within this EMP direct reference is made to specific guidelines, regulations and legislation that were in force at the time of preparation of this EMP. Over time it is likely that these references will be superseded by updated and revised versions. In applying this EMP those responsible must ensure that the relevant guidelines, regulations and legislation that are applied are those that are in force at that time.

This EMP dated 29 October 2025, supersedes and replaces the previous version of the EMP dated 7 September 2020. It is noted that this revision of the EMP was undertaken at the end of a 5 year period since the earlier version had been prepared. This EMP's purpose, approach and measures remain consistent with the previous EMPs, with some additional guidance now included along with updated references to guidelines, legislation and regulations that have been issued or revised since the previous EMP.

1.2 Purpose of the EMP

This EMP was prepared to document procedures that are required to be implemented to manage identified risks to users of the parks, playgrounds and other open space/recreational areas within the Council area to ensure that:

- The surface coverings present across these areas are maintained to ensure that users are not exposed to potentially contaminated soils located beneath these surface coverings; and
- Works that require disturbance of surface coverings are undertaken in a manner that protects the health of the workers, users of these areas being the local community and general public and any Council Staff, contractors or workers.

The principal elements of this EMP are to:

- Describe appropriate surface coverings and detail the measures to be undertaken to ensure the integrity of these surface coverings;
- Assign responsibilities for implementation of this EMP;
- Protect the health of users of these areas by ensuring maintenance of the surface coverings to prevent exposure to contaminants that may be present in the sub-surface environment; and
- Protect the health of maintenance/construction workers if the surface coverings are disturbed by their works.

This EMP requires generally 'passive' measures to be implemented, such as inspections and, where required rectification works, to ensure the ongoing integrity of the surface coverings present on the parks, playgrounds and other open space/recreational areas within the Council area. Where works are required to be undertaken that disturb those surface coverings, then the EMP sets out the 'active' measures that need to be implemented to be protective of workers undertaking those works and other users of these areas. The responsibilities for implementation of the EMP are further set out in Section 2.3 and at Table 2.

1.3 Terms used in this EMP

The Terms used in this EMP are defined below:

Table 1: Defined Terms used in this EMP

Term	Definition
EMP	This Long-term Environmental Management Plan
Contaminated Site Consultant	A qualified Contaminated SIte Consultant who is a certified practitioner in contaminated sites under a scheme approved by the NSW EPA
Council	Inner West Council - The local government authority that has legal ownership of the parks, playgrounds and open space recreational areas within the Inner West Council Local Government Area
Minor works	Works that require minimal disturbance of the surface coverings and comprise activities described in Section 3.3.1 of this EMP
Major works	Works that require larger scale disturbance to the surface coverings and the underlying retained landfill materials and comprise activities described in Section 3.3.2 of this EMP

Term	Definition

Surface Coverings	means surface treatments or finishes that cannot be removed readily without the use of tools as follows:
	• Unsealed (permeable)
	  ○ Topsoils or topsoils with grass cover or mulch or wood chips or gravels/stones or similar to a minimum thickness of 50mm;
	  ○ Areas where trees or shrubs are present.
	OR
	• Sealed (impermeable)
	  ○ A durable surface treatment such as synthetic turf, softfall, plasticised matting or similar that is secured to the underlying surface; OR
	  ○ Hardstand surfaces, such as concrete, asphaltic concrete, bitumen, pavers, tiles, stones and their associated sub-grade materials.

1.4 Structure of this EMP

The structure of this EMP is as follows:

- **Section 2 – Implementation of EMP** - Description of how the EMP is to be implemented, the works required and the persons responsible and records that need to be maintained. This section also describes when the EMP is required to be reviewed This section detailed the works to be undertaken to maintain the surface coverings. When works are to be undertaken that disturb the surface coverings they are defined as either Minor works or Major works depending on the nature of the disturbance. Examples of minor works and major works are provided.
- **Section 3** - **Risk Control Measures** - Description of the different contaminants present and the risks to human health and the environment from those contaminants. Control measures are provided for activities that have the potential to result in exposure to these materials and provides specific controls and procedures for Minor works and Major works.. This section also provides requirements for unexpected finds, imported materials and reporting of complaints and incidents

2 Implementation of this EMP

This EMP is required to be implemented to ensure:

- Maintenance of the surface coverings on the parks, playgrounds and other open space/recreational areas within the Council area in the condition described in this EMP; and
- Works that require the disturbance of the surface coverings, described below as 'minor works' and 'major works', are conducted in accordance with the requirements set out in this EMP.

2.1 Maintenance of Surface Coverings

For the purpose of this EMP, the surface coverings are defined in Section 1.3 and comprise concrete, pavements, roadways or slabs constructed of concrete, bitumen, asphaltic cement, softfall or other materials such as bricks, paving stones, growing mediums (topsoils, mulch or similar) vegetation etc, that cannot be readily removed without the use of tools.

2.1.1 Sealed Area Maintenance

The integrity of sealed surfaces such as hardstand surfaces (comprised primarily of concrete, asphaltic concrete and/or brick paving on mortar base or covered by building footprints, synthetic turf, softfall or similar) must be maintained to prevent contact with potentially contaminated soils. Inspections must be undertaken on a 12 monthly basis to ensure that the sealed surfaces are not showing signs of deterioration.

Should a pothole or cracking area wider than 300 mm be observed in a sealed surface, such that workers or users of this area could be practicably exposed to the underlying sub-surface materials present beneath the pavement (such as through dermal (skin) contact) then repairs are required to be undertaken following the protocol set out below for minor or major works as appropriate. At the time that such compromises of the integrity of the sealed surfaces are identified an exclusion zone must be established, by cordoning off using physical barriers such as bollards, high visibility mesh, fencing or similar, to restrict access to the impacted area until repairs can be undertaken. Guidance on determining the period of time in which repairs must be made is as follows:

- Areas which are regularly used and occupied by users (such as footpaths, paved areas, other hardstand surfaces in sports court, playgrounds, access walkways, entrances to buildings) – Repairs to hardstands must be made within a 4 week period or as otherwise determined by Council to be reasonable;
- Areas which are not regularly used or occupied – Repairs to hardstands to be made within a timeframe considered to be reasonable by Council but no longer than a 6 month period.

2.1.2 Unsealed Area Maintenance

The unsealed areas must be maintained to ensure the integrity of the surface coverings and to prevent contact with potentially contaminated soils. Inspections must be undertaken on a 6 monthly basis to ensure that no large scale erosion or removal of the surface coverings such as sands, soils, grasses, mulches, gravels etc has occurred that exposes the near surface or sub-surface materials present beneath the surface coverings.

Should such erosion or similar be observed then an exclusion zone must be established, by cordoning off using physical barriers such as bollards, high visibility mesh, fencing or similar, to restrict access and repairs are required to be undertaken within 2 weeks or as reasonably determined by Council to ensure re-establishment of the surface covering in these areas. Inspections must be undertaken to ensure that the surface covering has been appropriately re-established prior to users being able to re-gain access to these areas.

2.2 Disturbance of the Surface Coverings

For the purpose of this EMP:

- **Minor works** comprise works that require minimal disturbance of the surface coverings and comprise activities such as:
    - Hardstand or pavement maintenance works at surface level only such as filling in of cracks, patching of holes or small scale replacement of sections of hardstand pavement or similar where sub-surface soils are not required to be disturbed;
    - Landscaping works such as mowing, shallow planting, mulching, raking leaves, maintenance of gravel pathways or similar, where direct contact with the materials used in the surface treatment is possible, but no contact with the underlying near surface or sub-surface soils (beneath the surface coverings) is possible.
- **Major works** comprise larger scale disturbance to the surface coverings and the underlying materials and comprise activities such as:
    - Any works across hardstands/concrete slabs during which direct contact with the near surface or sub-surface soils is possible;
    - Any works that directly affect or disturb materials present at depths greater than 0.1 metres below ground surface or where direct contact with the near surface or sub-surface soil materials present beneath the surface coverings (whichever is greatest);
    - Construction and/or maintenance of sub-surface services, such as gas, electricity, stormwater, surface drainage, telephone, cabling and water supply where works require the disturbance of soil materials at depths greater than 0.1 metres below ground surface or where direct contact with the near surface or sub-surface soil materials will occur;
    - Installation of equipment or undertaking of construction or development works that requires excavation of the sub-surface where direct contact with soils is possible;
    - Installation and/or maintenance of features or equipment that require off-site disposal of the surface and/or sub-surface soils where direct contact with the sub-surface soils is possible.
    - The control measures required to be implemented during the completion of Minor works or Major works, are provided in further detail in Section 3.3.

2.3 Responsibilities

The Council is responsible for the overall implementation and maintenance of this EMP and for ensuring that owners, occupiers, tenants and contractors working on Council's parks, playgrounds and other open space/recreational areas have been informed of the requirements of the EMP prior to commencement of works.

The Council is responsible for ensuring that the requirements of this EMP are implemented prior to, during and at the completion of any works that fall into the "Minor" or "Major" categories as defined. The specific responsibilities of the Council and the supervisor or person in-charge of the works are outlined in Table 2 below.

Table 2: Roles and Responsibilities

Position	Responsibilities
Council (OR its nominated representative)	• Advise persons occupying and working in the Council area of the requirements of the EMP; • Ensure implementation of the EMP requirements; • Ensure appropriate consents and licences (if and as required) are obtained for the works; • Provide a copy of the EMP to the occupiers, supervisor or person-in-charge of occupier/tenant employees and/or contractor/s who are undertaking the works; • Procure/undertake the training and induction of employees and contractors before and during works, as appropriate and relevant (see Appendix A for pro-forma of Induction Register); • Ensure occupiers, supervisor or person-in-charge of occupier/tenant employees and/or contractor/s clearly understands the requirements of the EMP and ensure that compliance with the EMP is a condition of any agreement with these parties; • Obtain advice if there are significant changes to WHS legislation, Council ownership and operation of areas to which the EMP applies or similar, and, if necessary, arrange for a Contaminated Site Consultant (as defined in Table 1) to update the EMP, informing other relevant and appropriate parties, including tenants, of the changes; • Ensure that the Council's parks, playgrounds and other open space/recreational areas are maintained in accordance with the EMP; • Ensure records required to be completed and maintained under this EMP are being kept; • Ensure corrective action is undertaken where verified complaints are made;
Site Manager, Supervisor or person in charge of works (Occupier/Site Manager/Contractor/ Sub-Contractor/Contaminated Site Consultant)	• Implement the EMP to ensure compliance; • Ensure relevant and appropriate project/occupier/tenant staff and contractors are inducted under the EMP and comply with the requirements of the EMP; • Ensure relevant and appropriate project/occupier/tenant staff and contractors clearly understand the requirements of the EMP and ensure that compliance with the EMP is a condition of any agreement with these parties; • Provide a copy of the EMP to contractor/s who are undertaking the works; • Complete the registers, databases and records required by the EMP; • Conduct works in an environmentally responsible manner; • Meet relevant Work Health and Safety regulatory requirements; • Implement the works in a safe and responsible manner;

Position	Responsibilities
	• Immediately notify the Council if suspected contaminated materials are encountered during works; • Complete non-conformance and corrective action reports as required and undertake follow-up corrective actions, as required; • Undertake audits of activities in accordance with the requirements of the EMP; • Ensure non-conformance and/or complaints are reported to Council without delay; • Undertake corrective actions in response to requests made by Council regarding specific environmental or safety issues without delay; • Ensure all works comply with relevant regulatory requirements; • Inform the Council if conditions change significantly from those documented in the EMP. • Contaminated Site Consultant to provide advice and guidance to Council in respect to any works that they undertake or wish to undertake that may disturb the surface coverings as required by this EMP

2.4 Record of Implementation of the EMP

Records of the implementation of this EMP must be completed and maintained by Council and include, but may not be limited to, the following:

- EMP Induction Register – Register of persons inducted under the EMP. This register must include the name of the person, their employer, the date of induction, the nature of works being completed, whom the inductee is working on behalf of, the person that provided the induction and signatures of both the instructor and the inductee – an example of an appropriate induction register is provided at Appendix A;
- Inspection Records – Records of inspections of the integrity of the surface coverings as required by Section 2.1 - an example of an appropriate inspection record is provided at Appendix B;
- Asbestos Materials Handling or Removal Records – Records of any works requiring the handling and removal of asbestos or other hazardous building materials as set out in Section 3.4;
- Waste Disposal Records – Records of any works requiring the off-site disposal of excavated soils or similar as set out in Section 3.6;
- Unexpected Finds Register – Records of any unexpected finds as set out in Section 3.7 - – an example of an appropriate unexpected finds register is provided at Appendix C; and
- Complaints Register – Records of complaints and response works as set out in Section 3.8 an example of an appropriate complaints register is provided at Appendix D.

These records must be maintained by the Council such that they are available to any external auditor for review on request.

2.5 Document Revision

This EMP is required to be reviewed in the event of a change of local government area or jurisdictional changes for the Council. Council may also choose to undertake a revision or update to the EMP to reflect changes in guidelines, regulations or similar. Any amendments or revisions or similar of the EMP must be controlled by the Council and be completed by a Contaminated Sites Consultant (as defined in Table 1).

It is the responsibility of Council to ensure the EMP supplied to any person is the current updated or amended version.

The up-to-date version of the EMP will be available from Council.

The EMP is required to be continually implemented (in perpetuity) to ensure that Council's parks, playgrounds and other open space/recreational areas remains suitable for open space and recreational use.

3 Risk Control Measures

This section provides summary information on mechanisms whereby exposure to the contamination potentially present in the surface and sub-surface soils could occur (known as exposure pathways) and guidance on precautionary control measures for activities that have the potential to result in exposure to these materials.

It should be noted, however, that this EMP provides general guidance only and does not constitute a work health and safety plan, job safety analysis, risk assessment or any other considerations under the *Work Health and Safety* Act 2011 (WHS Act) and Work Health and Safety Regulation 2017 (WHS Regulation) (or relevant legislation current at the time of the proposed works).

Potential human health risks associated with the presence or potential presence of polycyclic aromatic hydrocarbons, heavy fraction petroleum hydrocarbons, lead and/or asbestos in soils are from:

- Exposure to vapours, dust, soils or groundwaters generated during the completion of works that disturb the soils present in the near surface and sub-surface; and
- Inappropriate handling and waste management of excavated or excess soil materials or groundwaters.

3.1 Exposure Pathways

The presence and potential presence of polycyclic aromatic hydrocarbons (PAHs), heavy fraction petroleum hydrocarbons (TPH), lead and asbestos within the near surface and sub-surface soils does not affect the present safe use of the Council's parks, playgrounds and other open space/recreational areas under the current land use scenarios whilst surface coverings are undisturbed.

However, if these surface coverings are disturbed through Minor or Major works as defined in Section 2.2, it is possible that a risk of exposure may result. In order to develop appropriate measures to control this increased exposure, it is necessary to understand the potential exposure pathways.

A summary of the potential health affects and the exposure pathway for these potential contaminants is summarised in Table 2 below.

Table 3: Exposure Pathways

Contaminant of Concern	Source	Chemicals/Substances	Physiological Effect	Exposure Pathway
Polycyclic Aromatic Hydrocarbons (PAHs) – Carcinogenic PAHs and heavy fraction petroleum hydrocarbons (TPHs)	Soils present in surface and sub-surface beneath surface coverings	PAHs, including benzo(a)pyrene (B(a)P) TPH (C10 to C40 Fraction)	Inhalation/ingestion of PAHs/TPHs (as dusts with PAHs/TPHs are not very volatile) may cause bronchitis and possibly cancer of the respiratory system and different types of tumours. B(a)P is a genotoxic carcinogen. Repeated skin contact may result in allergic dermatitis and skin cancer	Inhalation of vapours or contaminated dust and ingestion of contaminated soil/dust are the primary pathways for exposure. Dermal absorption is also considered but it is generally considered to be a low to negligible exposure pathway

Contaminant of Concern	Source	Chemicals/Substances	Physiological Effect	Exposure Pathway
Metals (Lead,)	Soils present in surface and sub-surface beneath surface coverings	Lead	Inhalation/ingestion of Lead can be toxic to a wide range of organs and tissues, and variety of toxicological end points – reproductive toxicity, neurotoxicity, carcinogenicity	Ingestions of soil and dust is considered to be the most significant pathway of exposure for lead in soil. Dermal absorption is also considered but is generally considered to be negligible
Asbestos	Soils present in surface and sub-surface beneath surface coverings	Asbestos Containing Materials (ACM) and/or Asbestos fibres	Inhalation of asbestos fibres can cause asbestosis, lung cancer and mesothelioma. The risk of contracting these diseases increases with the number of fibres inhaled and the risk of lung cancer from inhaling asbestos fibres is also greater if you smoke. People who get health problems from inhaling asbestos have usually been exposed to high levels of asbestos for a long time. The symptoms of these diseases do not usually appear until about 20 to 30 years after the first exposure to asbestos	Inhalation of loose/friable asbestos from disturbed soils.

3.2 Control Measures for Current Activities

Under the current land use there is low to negligible risk of harm to the human health of users of Council's parks, playgrounds and other open space/recreational areas due to the presence of materials beneath surface coverings that contain or may contain the above listed potential contaminants. The surface coverings are required to be maintained for the lifetime of this EMP to ensure that this low to negligible risk of exposure is maintained.

The surface coverings are required to be regularly inspected, in accordance with the frequency set out in Section 2.1 of this EMP. It is the responsibility of Council to ensure that these inspections are undertaken. As a conservative measure the inspections are to be undertaken as a walkover across the surface of these area and can be completed as part of routine works undertaken by Council.. Given the size of the Council area and the number of parks and playgrounds to be managed under this EMP, it is considered impractical and unnecessary for detailed

records of inspection works to be kept and maintained for each area inspected. As such Council are required, at a minimum, to keep a register of inspections completed and only keep a detailed record of inspections in which the findings of the inspections require rectification or other management controls required by this EMP. Such inspection records must include a written and photographic record of the following:

- General condition of sealed surfaces and unsealed surfaces;
- Presence of any subsidence, cracks, openings, degradation, erosion or similar in the surface coverings – the nature, extent and location needs to be recorded and rectification works are required to be implemented;
- Presence of any obvious repair/maintenance works to the surface coverings– the nature, extent and location needs to be recorded;
- Presence of any excavation works into the sub-surface and the control measures being undertaken; and
- Any other observations on the condition and/or integrity of the surface coverings.

A proforma template for inspection records is provided at Appendix B.

Where rectification works are required to be implemented or where repair/maintenance works are being undertaken, the Council must ensure that these works are undertaken in accordance with the measures set out in this EMP. On completion of such works, the Council must conduct an inspection to ensure that the surface coverings have been adequately re-instated/restored/replaced/maintained.

The register of the required inspections is required to be kept and maintained by Council.

3.3 Control Measures for Minor works and Major works

Minor works do not require specific controls and as long as the near surface and sub-surface soils beneath the surface coverings are not disturbed then no specific controls are required.

Where Major works are required to be undertaken (where contaminated or potentially contaminated near surface or sub-surface soils are disturbed) additional control measures may be required depending on the scope of the works. Council must consider (acting reasonably) whether they need to seek advice from a Contaminated Site Consultant when designing and planning for Major works where larger scale disturbance of surface coverings and the sub-surface environment is required. Examples include upgrading of playgrounds, construction of new hard and soft landscaping, upgrades to sporting fields, construction of new buildings or facilities or where the Major works will result in a change of land use to a more sensitive use than open space and recreational uses. If Council determines that advice is to be obtained then the Contaminated Sites Consultant must be provided with this EMP prior to providing their advice.

Further guidance for specific scenarios as well as some general controls measures for Minor works and Major works is set out in Section 3.3.1 and 3.3.2, respectively. It is noted that whilst it is not possible for this EMP assess the impacts from all future activities, it is possible to consider exposure scenarios likely to be associated with a range of general maintenance and intrusive works as set out in these sections below.

3.3.1 Minor works Control Measures

Minor works comprise activities that only require disturbance at surface to depths below the surface coverings where near surface or sub-surface contaminated/potentially contaminated soils will not be disturbed. Examples of Minor Works include:

- Sealed (hardstand, pavement, concrete, asphalt or similar) surface maintenance works:
    - Filling in of cracks, patching of holes;

- Small scale replacement of sections of hardstand/sealed surface coverings where underlying sub-surface fill materials are not required to be disturbed.

- Minor landscaping works:
  - Raking or placing of additional growing medium on top of existing growing mediums
  - Removal of surface weeds or similar;
  - Mowing of grasses, lawns or similar (including areas where grasses/lawn are sparse or degraded such that limited areas of exposed soils are present as occurs from time to time on sporting fields and large lawn/grassed areas); and
  - Shallow planting that does require disturbance of soils present at depths greater than 100 mm.
- Internal or External Building façade works:
  - Painting, pointing, plastering.
  - Internal fitouts aboveground only.

Minor Works DO NOT include:

- Planting or any similar landscaping activity that requires excavation into the sub-surface at depths greater than 100 mm;
- Maintenance of underground utilities or other construction/maintenance works where soil materials at depths greater than 50 mm are required to be disturbed.

Minor works do not require specific controls and as long as the near surface and sub-surface soils not disturbed. The control measures required to be implemented for "Minor works" are generally WHS based requirements as set out in Table 4 below.

Table 4: Minor works – Potential Risks and Control Measures

Possible Risks to Users	Possible Risks to the Environment	Control Measures Required
Inhalation of vapours or dusts potentially containing PAHs, TPHs, lead, asbestos (though considered unlikely to be generated during Minor Works)	Low risk of runoff. May impact stormwater system if not appropriately contained.	**WHS and General Requirements** -No eating, drinking, smoking; avoid contact with soil (wear gloves) -Minimise dust generation where possible by dampening any soils prior to disturbance -Wash hands and clothes after work **Repairs/Maintenance to Surface Coverings** - Where repairs/maintenance to the surface coverings are required that are considered to be Minor works, Council must determine whether an exclusion zone is required to be established around the area subject to the repair or maintenance to preclude further compromise of the surface coverings and/or exposure to the sub-surface of the area by users until such time that repairs/maintenance can be completed. Where an exclusion zone is required then: -The diameter of the exclusion zone is to be determined by those undertaking the works and establishing the exclusions zone as part of those works (project manager, contractors) and must be sufficient to prevent access by normal users of the area;

Possible Risks to Users	Possible Risks to the Environment	Control Measures Required
		-The exclusion zone is to be established by using physical barriers such as bollards, cones, tape or mesh. Timeframes in which the repairs are required to be completed are provided in Table 1 and Section 2.1 of this EMP.

3.3.2 Major works Control Measures

Major works comprise activities that require disturbance of the of the surface coverings such that the underlying contaminated/potentially contaminated soils may be exposed and/or disturbed. Examples of Major works are as follows:

- Landscaping, Maintenance or Other Works:
  - where disturbance and direct contact with the near surface and sub-soils is possible –this is likely at depths of greater than 50 mm below the surface coverings;
  - construction and/or maintenance of sub-surface services such as gas, electricity, stormwater, surface drainage, telephone, cabling and water supply where soil materials at depths greater than 50 mm are required to be disturbed.
- Other
  - Installation of equipment or undertaking of construction of any type that requires excavation to depths greater than 50 mm beneath the surface coverings and where disturbance and/or direct contact to the contaminated/potentially contaminated fill materials is possible;
  - Installation and maintenance of features or equipment (such as lighting or fencing) that require disturbance and/or disposal of soils present at depths greater than 50 mm beneath the surface coverings and where disturbance and/or direct contact to the contaminated/potentially contaminated fill materials is possible.

Control Measures for Major works

The control measures required to be implemented for "Major works" are set out in Table 5 below.

Table 5: Major works– Potential Risks and Control Measures

Possible Risks to Users	Possible Risks to the Environment	Control Measures Required
Inhalation of vapours or dusts potentially containing PAHs, TPHs, asbestos. Dermal exposure to soils potentially containing PAHs,TPHs, lead	Low to Medium risk of runoff. May impact stormwater system if not appropriately contained.	**Council Approval** -Any works to be conducted that are considered to be Major works and that may compromise the integrity of the surface coverings must be approved by Council -Council must not approve such works until they have considered (based on the location and scale of the Major works and acting reasonably) whether consultation with a Contaminated Site Consultant (defined in Table 1) is required to obtain advice on whether:

Possible Risks to Users	Possible Risks to the Environment	Control Measures Required
Ingestion of dusts, soils potentially containing PAHs,TPHs, lead, asbestos Unexpected finds		1) there is a requirement for a Construction Environmental Management Plan (CEMP) to be prepared and implemented for the works; 2) the surface coverings to be established/reestablished as the completion of the Major works meet the definition of surface coverings set out in Table 1 and Section 2.1 of this EMP; 3) excess soil materials are to be generated by the works that will be contaminated/potentially contaminated and whether these soil materials can be retained on the same site/property from which they were generated (either beneficially re-used or placed for containment) and the requirements for retention or whether they will require off-site disposal; 4) the works will result in a change of land use from open space and recreational uses to a more sensitive use. If Council determines that advice for 1) and/or 2) and/or 3) and/or 4) above is to be obtained then the Contaminated Sites Consultant must be provided with this EMP prior to providing their advice. If a CEMP is determined to be required to be prepared and implemented it must detail the works to be undertaken, including materials handling and management and to set out the specific control measures that are required to be implemented during those works to be protective of the health of the workers undertaking the works and the surrounding community/users and the environment. The CEMP must confirm that the surface coverings that will be in place at completion of the Major works are consistent with the types of surface coverings set out in Table 1 and Section 2.2 of this EMP. **WHS Requirements** -Workers/contractors undertaking the works are appropriately licenced in accordance with the requirements of the relevant WH&S regulations and Safework NSW. -Develop and implement safety documentation for works that include the establishment of works exclusions zones, donning of appropriate PPE and appropriate work methodologies to mitigate exposure pathways to be formed, as required; -No eating, drinking, smoking; avoid contact with soils or waters (wear gloves); -At minimum Level D PPE must be worn during works including long sleeved shirts and long pants, steel-toed boots, gloves, high-visibility vest and safety glasses and a P3 dust mask/respirator be available during manual handling of soils and/or waters; -Wash hands and clothes after work

Possible Risks to Users	Possible Risks to the Environment	Control Measures Required
		General Measures -Prevent dust by applying dust suppression prior to and during excavation; -Any materials excavated must be handled with care; - If soil materials are required to be excavated, excavate and stockpile any hardstand materials, sub-grade materials, topsoils or similar materials separately to the contaminated/potentially contaminated fill materials, cover excavated/stockpiled materials with plastic/geofabric or similar (appropriate to prevent runoff from materials, water infiltration and prevent dust generation) then use for reinstatement in same location or placement elsewhere with the same site/property from which they were generated, as approved by Council. Where placement of materials is completed the Council must ensure that once placed, the materials are covered with a surface covering that is consistent with the types of surface coverings described in Table 1 of this EMP. - Excavated soils or waters containing or suspected of containing contamination must not be left unattended. If it is necessary to leave materials unattended, the soils are required to be either placed back in the excavation and the surface cover reinstated so that exposure to these materials cannot be gained by users or must be formed into stockpiles that are covered with plastic/geofabric or similar (appropriate to prevent runoff from materials, water infiltration and prevent dust generation); waters are required to be stored in appropriate containers that can be sealed and secured; -Where off-site disposal is required ensure all excavated materials (soils and/or waters) are handled, managed and disposed off -site in accordance with NSW EPA (2014) *Waste Classification Guidelines* or equivalent and disposal to a facility licensed by NSW EPA to receive the class of waste material. Waste classification works must be completed by a Contaminated Site Consultant. Records of waste classification and disposal must be maintained and recorded in a materials tracking register. **Repair/Maintenance of Surface Coverings** - Where the integrity of the surface coverings has been compromised such that the required repair/maintenance works are considered to be Major work or any works are undertaken that are Major works, an exclusion zone must be established around the impacted area to preclude exposure to the sub-surface by users until such time that repairs or the works can be completed. -The diameter of the exclusion zone is to be determined by those undertaking the works and establishing the exclusions zone as part of those works (Site manager, contractors) and must be sufficient to prevent access by normal users of the GSP Site; -The exclusion zone is to be established by using physical barriers such as secure lockable fencing or similar. Timeframes in which the repairs/maintenance works are required to be completed are provided in Table 1 and Section 2.1 of this EMP.

Possible Risks to Users	Possible Risks to the Environment	Control Measures Required
		Odours, Staining, Sheens or Unexpected Finds -Should odours, sheens or similar or unexpected materials be uncovered works must cease and Council must be immediately notified. Council will determine whether consultation with an appropriately qualified contaminated site consultant is required to determine control measures, which are likely to require the following: - that a Photoionization Detector (PID) with a lamp voltage of at least 10.6 electron volt (eV) be used to monitor operator/ field staff breathing zone for volatile organic contaminants (VOCs) during excavation works conducted where disturbance of the soils will occur; - that Half–face respirators fitted with organic filters and coveralls/tyvex (chemical resistant) be made available for use and/or are used for future works and/or where further significant contamination /odours are encountered. If deemed required Council and/or Contaminated Site Consultant will apply the action levels and personal protective equipment (PPE) requirements for VOCs as presented in Table 6 below for the breathing zone of workers during the works.

Table 6: Breathing Zone Action Levels

Chemical Hazards	Risk: H - High M - Med L - Low	TWA (mg/ m3	TWA (mg/ m3	IE (eV)	MUL Action levels (75% safety margin worked into MUL)				LEL (%)
					No APR	½ face APR	full face APR	IDLH reached	
☒ Benzene	H	16	-	-	5	37.5	187.5	3000	1.3-

Max Use Limit (MUL) = (Protection Factor x Exposure Limit) x 75%
PF= 10 for ½ face, 50 for full face, 10000 for SCBA

3.4 Control Measures - Asbestos

Should fragments of asbestos containing materials (ACM) and/or bonded fibrous cement materials (potential ACM) and/or any quantity of friable material be encountered during normal operations, Minor Works or Major Works the following procedure is required to be implemented:

- ACM that is encountered, as a precautionary measure, are to be considered as friable (meaning the materials can be reduced to a powder between the fingers), until it is proven not to be friable. However, common sense is required to be exercised. For example, if a few fragments of bonded asbestos cement materials (fibro) are present, it is safe to pick them up if appropriate PPE is utilised (disposable gloves, P3 respirator/dust mask), and to place them in double plastic bags for disposal in a dedicated container and subsequent disposal at a landfill licensed to receive this class of material. Council must be immediately notified of this activity and be provided with disposal documentation or similar. However, if a large number of ACM fragments or friable material is encountered, the possibility of friable asbestos being present is increased. If either a large quantity of ACM fragments and/or friable asbestos are identified or suspected during intrusive activities then the following works are to be undertaken:

- Works must cease and the exposed area should be covered with substantial plastic sheeting that is securely anchored to the ground surface and be enclosed within a barrier to prevent access;
- The Council must be immediately notified;
- The Council must determine if appropriate signage should be displayed to warn of the presence of these materials;
- A suitably qualified Occupational Hygienist or Licenced Asbestos Assessor must be contacted by the Council to provide an assessment of risks and the required management response and control measures;
- No further works are to be undertaken until the Council has provided approval for works to re-commence;
- Asbestos removal works must only be undertaken in accordance with the requirements of the relevant WHS regulations and Safework NSW;
- Where a Class A or Class B licenced asbestos removalist is required they are to prepare and implement an Asbestos Removal Control Plan (ARCP) and to notify Safework NSW of the works. The ARCP would be prepared to detail the works to be undertaken and to set out the specific control measures that are required to be implemented during those works to be protective of the health of the workers undertaking the works and the users of the arear;
- Safework NSW must be notified seven days before removing bonded asbestos and a work site permit from Safework NSW is required to be obtained before removing any friable asbestos. Applications must be lodged at least seven days before the proposed work is due to start.

Should the procedures above be required to be implemented, records of such works will need to be completed and retained by Council. Such records would include the location where materials were found, reason for the works, the type of asbestos, documentation of any monitoring or clearance works completed by the Occupational Hygienist or Licenced Asbestos Assessor, report on waste classification works completed by the Contaminated Sites Consultant on any removed materials and the receiving waste facility dockets.

3.5 Imported Materials

Materials to be imported onto Councils parks, playgrounds and other open space and recreation areas to be used as part of any refurbishment, rectification, repair, maintenance or construction work must satisfy the following criteria:

- Virgin excavated natural materials (VENM) must satisfy the criteria stated in NSW EPA (2014) and NSW EPA (2017) guidelines and be demonstrated to be:
  - Natural material (such as clay, gravel, sand, soil or rock fines);
  - Materials that has been excavated or quarried from areas that are not contaminated with manufactured chemicals or process residues, as a result of industrial, commercial, mining or agricultural activities; and
  - Materials that do not contain any sulfidic ores or soils or any other waste;
- Topsoils, growing media, mulch etc. for landscaping purposes must not contain foreign substances, suspicious staining and/or odours;
- Materials that are permitted to be imported via an exemption issued under the *Protection of the Environment Operations Act* 1997 must meet and comply with the requirements of any such exemption, prior to, during and/or after importation of materials;
- Any materials proposed to be imported must not contain any of the following:

- Marine mud, peat, soluble or perishable materials,
- Dangerous or toxic material or material susceptible to combustion;
- Metal, rubber, plastic or synthetic material or other forms of general rubbish;
- Construction/demolition debris; and/or
- Asbestos.

3.6 Handling of Contaminated and Potentially Contaminated Materials

Any solid or liquid materials excavated from the surface and sub-surface of the Council's parks, playgrounds and open space and recreational areas must be handled with care and in accordance with the requirements set out in this EMP or as documented as part of implementation of this EMP.

Any materials that require disposal off-site will require the Contaminated Site Consultant to conduct appropriate sampling and analysis to determine the requirements for off-site disposal in accordance with NSW EPA (2014) guidelines or equivalent. Records of any materials excavated and then subsequently disposed off-site are required to be completed and retained by Council. Such records would include the location where materials were excavated, reason for excavation works, the type of materials excavated, report on waste classification works completed by the Contaminated Site Consultant on the excavated materials and the receiving waste facility dockets.

3.7 Unexpected Finds

In the event of unexpected finds/contamination e.g. presence of an underground storage tank, drums, pipework associated with the storage/transfer of fuels/chemicals or similar, works must cease and the Council must inspect the unexpected find and isolate the area until such time that a Contaminated Site Consultant conducts an inspection and provides a recommendation of what works are required to control/manage the unexpected find in accordance with the relevant NSW EPA endorsed guidelines, NSW regulations and legislation.

Records of any unexpected finds are required to be completed and retained by the Council. Such records would include the location where the unexpected find was uncovered, how it was found, the follow up works undertaken, any reports, advice or similar provided by the Contaminated Sites Consultant, documentation, reports or similar on any rectification/remediation works undertaken and photographic record. An unexpected finds register pro-forma is provided at Appendix C.

3.8 Reporting of Complaints and Incidents

If a complaint is made by a member of the public or by any other person with respect to any environmental management or control issue either during "Minor works" or during "Major works" or at any other time, appropriate corrective action is required to be undertaken as soon as practicable. The Council is responsible for ensuring the corrective action is undertaken.

Similarly, if an environmental incident occurs that has given or may give rise to pollution of soil, air or waters, appropriate corrective action is required to be undertaken as soon as practicable.

In addition to the above, complaints and environmental incidents are required to be notified to the Council as soon as practicable after a complaint has been made or an environmental incident has occurred. If appropriate, and following the Council's instructions, notification may need to be made to the applicable regulatory authority.

Records of complaints and incidents are required to be entered into a register, but only after corrective action has been taken and the Council has been notified. A complaint register pro-forma is provided at Appendix D.

4 Limitations

This Long-term Environmental Management Plan has been prepared for the sole purpose of documenting the procedures that are required to be implemented on Inner West Council's owned and/or operated parks, playgrounds and other open space/recreational areas in accordance with generally accepted consulting practice. No other warranty or guarantee, expressed or implied is made as to the advice indicated in this report.

This report should not be used for any other purpose without prior written consent from CONSARA. Accordingly, neither CONSARA nor any member or employee of CONSARA accepts responsibility or liability in any way whatsoever for the use of this report for any purpose other than that for which it has been prepared.

This report should not be released to any other party, in whole or in part, without the express written consent of CONSARA. CONSARA accepts no liability or responsibility whatsoever for or in respect of any use or reliance upon this report by any third party.

CONSARA has relied upon and presumed accurate information provided by Inner West Council and/or any third party (or absence thereof) in making the assumptions made in this report. Nothing in this report should be taken to imply that CONSARA has verified or audited any of the information supplied to us other than as expressly stated in this report. We have assumed this information to be both adequate and accurate for the purposes of this report.

Where findings, observations and conclusions are based solely upon information provided by Inner West Council and/or a third party and CONSARA do not accept, to the maximum extent permitted by law, any liability for any losses, claims, costs, expenses, damages (whether in statute, in contract or tort for negligence or otherwise) suffered or incurred by Inner West Council or any third party as a result of or in connection with CONSARA's reliance on any such the information to the extent that such information is false, misleading or incomplete and CONSARA give no warranty or guarantee, express or implied as to such findings, observations and conclusions.

If further information becomes available, or additional assumptions need to be made, CONSARA reserves its right to amend any statements or opinions made in this report.

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Appendix A: Induction Register

EMP Induction Register

Person being Inducted		Council/Company	Date of Induction	Person Conducting Induction		Date of EMP
Name	Signature			Name	Signature	

Appendix B: Inspection Record

Inspection Record

Date of Inspection	
Address/Location of Inpsection	
Area subject to Inpsection	
Surface Coverings	
Condition of Surface Coverings	
Rectification Required	
Photographs taken	
Other notes	

Appendix C: Unexpected Finds Register

Unexpected Finds Register

Date of Find	Location of Find	Desscription of Find	Find Identified by Persons/Company		Action Taken By Council			
			Name	Company	Council Personel	Date notified to Council	Action Taken	Date of Action

Appendix D: Complaints Register

Complaints Register

Date of Complaint	Name and Contact of Complainant	Desscription of Complaint	Action Taken By Council					
			Council Personnel	Date notified to Council	Action Taken	Date of Action	Close out of Compliant	Date of Close Out of Complaint